Job No.: JKU0226
Route: 24
County: Jackson

JOB SPECIAL PROVISIONS TABLE OF CONTENTS (ROADWAY)

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

Job No.: JKU0226
Route: 24
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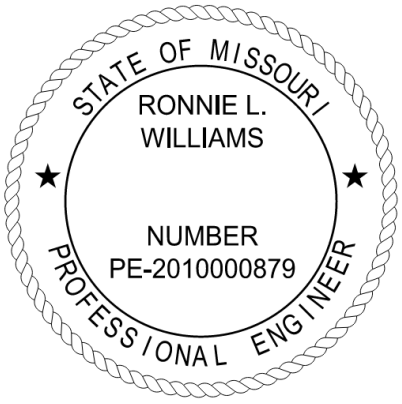

THIS SHEET HAS BEEN SIGNED, SEALED, AND DATED ELECTRONICALLY

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 W. CAPITOL AVE.
JEFFERSON CITY, MO 65102
Phone 1-888-275-6636

Burns & McDonnell Engineering Co
9400 Ward Parkway
Kansas City, MO 64114

Certificate of Authority: 000165
Consultant Phone: 816-363-7231

If a seal is present on this sheet, JSP's have been electronically sealed and dated.

JOB NUMBER: JKU0226
JACKSON COUNTY, MO
DATE PREPARED: 12/09/2024

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

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

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

Notice to Proceed: November 3, 2025
Completion Date: December 15, 2026

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

Job Number	Calendar Days	Daily Road User Cost
JKU0226	283	$3,200

3.0 Liquidated Damages for Contract Administrative Costs. Should the contractor fail to complete the work on or before the completion date specified in Section 2.0, or within the number of calendar days specified in Section 2.1, whichever occurs first, the contractor will be charged contract administrative liquidated damages in accordance with Sec 108.8 in the amount of **$2000** per calendar day for each calendar day, or partial day thereof, that the work is not fully completed. For projects in combination, these damages will be charged in full for failure to complete one or more projects within the above specified completion date or calendar days.

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

C. 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:

Utility Name	Known Required Adjustment	Type
AT&T Distribution Mark Manion (816) 214-2322 (816) 772-0267 mm256t@att.com	Yes Section 2.1	Communications
Bluebird Fiber David Frazier 800 NW Chipman Rd, Suite 5750 Lee's Summit, MO 64063 (816) 237-2125 david.frazier@bluebirdnetwork.com	No	Communications
Charter Communications Beatrice Bernal (816) 222-5449 (913) 660-2487 beatrice.bernal@charter.com	Yes Section 2.2	Communications

Comcast Jesse Plunkett (816) 918-2895 Jesse_Plunkett@comcast.com	Yes Section 2.3	Communications
City of Independence Power and Light Ricky de Aragon 21500 E. Truman Rd Independence, MO 64056 (816) 839-3247 rdearagon@indepmo.org	Yes Section 2.4	Power
City of Independence Water Matthew McLaughlin 17221 East 23rd Street South Independence, MO 64057 (816) 325-7695 mmclaughlin@indepmo.org	Yes Section 2.5	Water
Spire Richi Garcia 3025 SE Clover Drive Lees Summit, MO 64082 (816) 507-0713 Richi.Garcia@spireenergy.com	Yes Section 2.6	Gas

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

2.0 Project Specific Provisions.

2.1 AT&T has existing overhead lines with poles running along Route 24. The lines have been placed underground at a depth of 5 ft minimum, unless otherwise noted on the relocation plans and are within the 6 ft utility corridor. All AT&T poles have been removed. Relocation is currently underway and will be complete by Notice to Proceed.

2.2 Charter has overhead lines attached to AT&T poles and will coordinate with AT&T and Comcast to remove those lines. It is unknown whether relocation will be complete by Notice to Proceed date.

2.3 Comcast has aerial lines along Route 24 that are attached to AT&T poles. Coordination between AT&T and Comcast has taken place and design for relocation is complete. Relocation will be complete by Notice to Proceed.

2.4 Independence Power & Light has aerial power lines along Route 24 and is in the process of relocating them. Bases may be able to be built ahead of Notice to Proceed date to avoid

disruption to the Contractor's timeline. Relocation will not be complete by Notice to Proceed and the Contractor shall coordinate with IPL directly for the installation of the self-supporting poles.

2.5 Independence Water has a relocation of an existing 12" waterline on the south side of Route 24. Relocation will be completed with the plans and the Contractor shall coordinate directly with Independence Water for the relocation of the new 12" waterline.

2.6 Spire has a 12" gas line that needs relocation. It is unknown at this time whether relocation will be complete by Notice to Proceed date. If not, the Contractor shall coordinate with Spire directly for relocation of the existing 12" line.

D. Work Zone Traffic Management

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

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

1.2 Work Zone 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 **15 minutes** to prevent congestion from escalating beyond this delay threshold. If disruption of the traffic flow occurs and traffic is backed up in queues equal to or greater than the delay time threshold listed above then the contractor shall immediately review the construction operations which contributed directly to disruption of the traffic flow and make adjustments to the operations to prevent the queues from reoccurring. Traffic delays may be monitored by physical presence on site or by utilizing real-time travel data through the work zone that generate text and/or email notifications where available. The engineer monitoring the work zone may also notify the contractor of delays that require prompt mitigation. The contractor may work with the engineer to determine what other alternative solutions or time periods would be acceptable. When a Work Zone Analysis Spreadsheet is provided, the contractor will find it in the electronic deliverables on MoDOT's Online Plans Room. The contractor may refer to the Work Zone Analysis Spreadsheet for detailed information on traffic delays.

2.5.1 Traffic Safety.

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

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

3.0 Work Hour Restrictions.

3.1 Except for emergency work, as determined by the engineer, and long term lane closures required by project phasing, all lanes shall be scheduled to be open to traffic during the five major holiday periods shown below, from 12:00 noon on the last working day preceding the holiday until 6:00 a.m. on the first working day subsequent to the holiday unless otherwise approved by the engineer.

Memorial Day
Labor Day
Thanksgiving
Christmas
New Year's Day

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

12:00 noon July 3, 2026 – 6:00 a.m. July 5, 2026
12:00 noon July 3, 2027 – 6:00 a.m. July 5, 2027

3.2 The contractor shall not perform any construction operation on all active lanes during restricted periods, holiday periods or other special events specified in the contract documents.

3.3 The contractor shall be aware that traffic volume data indicates construction operations on the roadbed between the following hours will likely result in traffic queues greater than 15 minutes. Based on this, the contractor's operations will be restricted accordingly unless it can be successfully demonstrated the operations can be performed without a 15 minute queue in traffic. It shall be the responsibility of the engineer to determine if the above work hours may be modified. Working hours for evenings, weekends and holidays will be determined by the engineer.

Route 24 Eastbound:
4:00 p.m. - 6:00 p.m. Monday through Friday

Route 24 Westbound:
6:00 a.m. - 8:00 a.m. Monday through Friday

Lanes shall remain open when no work is being conducted, unless otherwise permitted by the resident 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.

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.

E. Emergency Provisions and Incident Management

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

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

Missouri Highway Patrol: 816-622-0800
Jackson County Police: 816-541-8017
City of Independence Police: 816-325-7300
City of Independence Fire Department: 816-325-7123

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

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

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

F. Project Contact for Contractor/Bidder Questions

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

Christopher West, PE – MoDOT Project Manager
MoDOT, Kansas City District
600 NE Colbern Rd.
Lee's Summit, MO 64086

Telephone Number: 816-607-2211
Email: christopher.west@modot.mo.gov

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

G. Supplemental Revisions JSP-18-01HH

- 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 and Steel.
On all federal-aid projects, the contractor's attention is directed to Title 23 CFR 635.410 *Buy America Requirements*. Where steel or iron products are to be permanently incorporated into the contract work, steel and iron material shall be manufactured, from the initial melting stage through the application of coatings, in the USA except for "minimal use" as described herein. Furthermore, any coating process of the steel or iron shall be performed in the USA. Under a general waiver from FHWA the use of pig iron and processed, pelletized, and reduced iron ore manufactured outside of the USA will be permitted in the domestic manufacturing process for steel or iron material.

106.9.1.1 Buy America Requirements for Iron and Steel for Manufactured items.
A manufactured item will be considered iron and steel if it is "predominantly" iron or steel. Predominantly iron or steel means that the cost of iron or steel content of a product is more than 50 percent of the total cost of all its components.

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

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

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

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

domestically and all manufacturing processes, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410.

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

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

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

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

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

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

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

106.9.7 Buy America Requirements for Manufactured Products.
Manufactured products means:

(a) Articles, materials, or supplies that have been:

(i) Processed into a specific form and shape; or
(ii) Combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies.

(b) If an item is classified as an iron or steel product, a construction material, or a section 70917(c) material under § 184.4(e) and the definitions set forth in this section, then it is not a manufactured product. However, an article, material, or supply classified as a manufactured product under § 184.4(e) and paragraph (1) of this definition may include components that are construction materials, iron or steel products, or section 70917(c) materials.

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

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

- 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.

- ***Delete Sec 102.1 - 102.2.5 and substitute the following:***

102.1 Notice of Bid Opening. After the date is fixed for the receipt of bids, the notice of bid opening will be posted on MoDOT's website and published as required by law. The notice of bid opening will contain a description of the proposed work, instructions and information to the potential bidder regarding bid forms, plans, specifications, combination bids and the reservation of the right of the Commission to reject any and all bids.

102.2 Contractor Questionnaire. Each prospective bidder, including a joint venture, shall file a contractor questionnaire on the form furnished by the Commission, which is available on MoDOT's website. The contractor questionnaire shall be furnished to the Commission as a separate document apart from any other document submitted. A bid will not be opened and read unless a fully responsive contractor questionnaire is on file with the Commission at least seven days prior to the time set for the opening of the bids. A new contractor questionnaire shall be filed as described in **Title 7 CSR 10-15.010**, except the Commission reserves the right to request a contractor questionnaire from any contractor as of any date if the Commission has shown reason to believe that the contractor's experience data may have changed from that shown on the questionnaire on file. This document shall include a record of the bidder's experience data. The Commission will use this information as an aid to determine in each instance the lowest responsible bidder and nothing contained herein shall be construed as depriving the Commission of the Commission's discretion in the matter of determining the lowest responsible bidder.

102.2.1 At any time prior to award, as a condition of award and for a period of three years after the date of final acceptance, the Commission may request true copies of the bidder's financial data, including the bidder's balance sheet, profit and loss statement and similar financial data, as of the close of the bidder's most recent fiscal year prior to submission of the bid, and for each fiscal year between the contract award and final acceptance of the contract work. Unless specified otherwise by the Commission, financial data shall be prepared by an accountant and audited financial data shall be provided if it is available to the bidder for the fiscal period

requested. A bidder who has not closed the first fiscal year prior to the date of the request shall supply the last periodic balance sheet, profit and loss statement and similar data.

102.2.2 Each prospective bidder shall sign the contractor questionnaire acknowledging that such bidder will fully comply with all written requests by the Missouri Department of Labor and Industrial Relations, Division of Labor Standards, to provide information for the purpose of establishing a prevailing wage.

102.2.3 The prospective bidder doing business in the State of Missouri shall submit the charter number with the contractor questionnaire. The entity must be in good standing on file with the Corporation Division of the Missouri Secretary of State's Office to be approved and successfully awarded a bid. Each corporation that is a party to a joint venture shall submit the same required report with the corporation's joint venture contractor questionnaire.

102.2.4 All prospective bidders who are corporations organized in states other than Missouri or countries other than the USA shall furnish, at the prospective bidder's cost, a certified copy of a current certificate of authority to do business in Missouri, with said certificate to remain on file with the Commission. Such a certified copy may be secured from the corporation supervisor in the Office of the Secretary of State, Jefferson City, Missouri. The prospective bidder agrees to cause the prospective bidder's authority to do business as a foreign corporation to be continued and extended throughout the life of any contract awarded and until all claims thereon and thereunder shall have been finally settled. All prospective bidders shall have a valid certificate of authority to transact business in Missouri at the time of bid opening as a condition of responsiveness.

- ***Delete Sec 108.13.1 and substitute the following:***

108.13.1 The acts, omissions and liabilities of persons or firms affiliated with the contractor or of persons that are principals of the contractor, are those of the contractor, unless the circumstances clearly negate that conclusion. Persons or firms are "affiliates" of each other if, directly or indirectly, either one controls or has the power to control the other or a third person controls or has the power to control both. Examples of control include, but are not limited to: interlocking management or ownership, identity of interests among family members, shared facilities and equipment, common use of employees on projects or a new business entity organized following the determination of ineligibility or non-responsibility of a person or firm which has the same or similar management, ownership or principal employees as the ineligible person. A "principal" will be defined as an officer, director, owner, partner or other natural person within a firm with primary management, supervisory or contracting responsibilities, including participating in, or formulating, bids.

H. Optional Pavements JSP 06-06H

1.0 Description. This work shall consist of a pavement composed of either Portland cement concrete or asphaltic concrete constructed on a prepared subgrade. This work shall be performed in accordance with the standard specifications and as shown on the plans or established by the engineer.

2.0 The quantities shown reflect the total square yards of pavement surface designated for each pavement type as computed and shown on the plans.

2.1 No additional payment will be made for asphaltic concrete mix quantities to construct the required 1:1 slope along the edge of the pavement, or for tack applied between lifts of asphalt.

2.2 No additional payment will be made for aggregate base quantities outside the limits of the final surface area as computed and shown on the plans. When A2 shoulders are specified, payment for aggregate base will be as shown on the plans.

2.3 The grading shown on the plans was designed for the *thinner* pavement option. For projects with grading in the contract, there will be no adjustment of the earthwork quantities due to adjusting the roadway subgrade for optional pavements.

2.4 The contractor shall comply with Sections 401 through 403 for the asphalt option and Sections 501 and 502 for the concrete option.

2.5 Pavement options composed of Portland cement concrete shall have contrast pavement marking for intermittent markings (skips), dotted lines, and solid intersection lane lines. The pavement markings shall be in accordance with Section 620. No additional payment will be made for the contrast pavement markings.

3.0 Method of Measurement. The quantities of concrete pavement will be measured in accordance with Section 502.14. The quantities of asphaltic concrete pavement will be measured in accordance with Section 403.22.

4.0 Basis of Payment. The accepted quantity of the chosen option will be paid for at the contract unit bid price for Item 502-99.05, Optional Pavement, per square yard.

4.1 For projects with previously graded roadbeds, any additional quantities required to bring the roadway subgrade to the proper elevation will be considered completely covered by the pay item for Subgrading and Shouldering.

4.2 Price Adjustment for Fuel. If the contractor accepts the option for fuel adjustment in the bid proposal, a fuel adjustment will be applied in accordance with Sec 109.14 for the type of pavement constructed.

I. Modified Bonded Asphaltic Concrete Pavement NJSP-15-11C

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

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

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

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

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

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

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

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

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

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

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

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

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

3.3 Requirements of Performance Graded (PG) Asphalt Binder

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

3.3.2 Application. The target application rate of the PG Asphalt Binder shall be 0.15 gallons per square yard. The application rate shall be within +/- 0.02 gallons per square yard of the

target application rate during construction. The average application rate used within the entire area of the job limits shall be within +/- 1% of the target application rate.

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

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

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

4.0 Method of Measurement. Measurement of the Polymer Modified Emulsion Membrane or PG Asphalt Binder shall be based on the volume in gallons in accordance with Sec 1015. Where required, measurement for coldmilling existing asphalt materials and cleaning the underlying pavement will be computed to the nearest square yard.

5.0 Basis of Payment. The accepted quantity of Polymer Modified Emulsion Membrane (PEM/CPEM) or PG Asphalt Binder shall be paid for as incidental payment to the optional pavement concrete option.

J. Damage to Existing Pavement, Side Roads and Entrances

1.0 Damage Description. This work shall consist of repairing any damage to existing pavement, curb ramps, 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 Damage 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.

3.0 Method of Measurement. No measurement of damaged pavement, 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, side roads, or entrances damaged by the contractor operations.

K. Right of Way Commitments

1.0 Description. It is the responsibility of the contractor to coordinate all entrance work and entrance closures with each property owner. The contractor shall give notice the property owners at least two weeks before the entrance work begins unless specified in this JSP otherwise. Owner and Tenant contact information will be given to the contractor by the Engineer for each affected parcel.

2.0 Basis of Payment. No direct payment will be made to the contractor for the labor, equipment, material, or time required to comply with this provision.

L. Access to Commercial and Private Entrances

1.0 Description. While working on entrances or adjacent properties, the contractor shall make every reasonable effort to minimize and interference to the properties and to complete the work diligently. Under no circumstances shall the contractor block ingress/egress to and from businesses during the normal business hours of each business unless as approved by the property owner and the Engineer.

2.0 Construction Requirements. On all entrances the contractor shall keep one-half of the entrance open at all times. On narrow entrances it may be necessary for the contractor to provide temporary aggregate for property access. The contractor shall remove and dispose of the temporary aggregate following completion of the entrance. For properties with more than one entrance the contractor may construct one entire entrance at a time with the approval of the property owner and the Engineer.

3.0 Basis of Payment. No direct payment will be made to the contractor for the labor, equipment, material, or time required to comply with this provision.

M. Contractor Quality Control and Daily Reporting

1.0 The contractor shall perform Quality Control (QC) testing and reporting 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.

3.3 Contractor Daily Work Reporting. The contractor shall submit to the engineer a Contractor Daily Work Report (CDWR) for each calendar day that work is performed. The CDWR shall include all information listed in 3.3.2.

3.3.1 The CDWR information may be provided on the MoDOT-provided form or an approved contractor form. Each CDWR shall be digitally signed by the contractor and uploaded to the MoDOT SharePoint® site no later than two (2) business days following the end of each week.

3.3.2 CDWR information:

(a) Date and Contract Identification Number
(b) Weather conditions, rainfall amounts, high/low ambient temperatures
(c) List of subcontractors who performed work
(d) Description of all work performed, including general location (ex. Sta, offset, log mile, etc.), and any testing performed.
(e) Date range of days when no work was performed since the previous DWR
(f) Pertinent traffic control information (changes, delays, accidents, etc.)
(g) Statement: “All items installed meet or exceed contract requirements.”

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. Discussion topics should include: safety precautions, QC testing, traffic impacts, and any required Hold Points.

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.

N. Site Restoration

1.0 Description. Restore to its original condition any disturbed area at sites including, but not limited to, guardrail, pull box, conduit, and pole base installations. Restoration shall be accomplished by placing material equivalent to that of the adjacent undisturbed area. Disturbed unpaved areas shall be fertilized and either seeded and mulched or sodded as directed by the engineer. The engineer will have the final authority in determining the acceptability of the restoration work.

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

2.1 Unless quantities and pay items for removal and subsequent replacement of improvements are contained in the plans for a specific location of removal work, no direct payment will be made for full depth saw cutting and the removal and subsequent replacement of asphalt or concrete slope protection, sidewalk, pavement, shoulders, islands, medians, sod and the required dowel and tie bars removed and replaced by the contractor as a result of his election to vary the location of conduit runs and pull boxes. This work will be considered as included in the various unit bid prices for conduit and pull boxes established in the contract, and no additional payment will be made.

2.2 Sidewalks and sidewalk ramps that are disturbed as described in this provision shall be replaced to meet current ADA standards at the contractor's expense.

2.2 Areas that are used by the contractor for jobsite trailers, equipment and materials storage, or used for project staging areas that are disturbed shall be cleaned up and restored to a condition that is both acceptable to the engineer and, at a minimum, equivalent to the existing site condition.

3.0 Basis of Payment. The cost of restoration of disturbed areas will be incidental to the associated unit price. No direct payment will be made for any materials or labor, which is performed under this provision.

O. ADA Compliance and Final Acceptance of Constructed Facilities JSP-10-01C

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

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

www.modot.org/business/contractor_resources/forms.htm

2.1 The ADA Checklist is not to be considered all-inclusive, nor does it supersede any other contract requirements. The ADA checklist is a required guide for the contractor to use during the construction of the pedestrian facilities and a basis for the commission's acceptance of work. Prior to work being performed, the contractor shall bring to the engineer's attention any planned work that is in conflict with the design or with the requirement shown in the checklist. This notification shall be made in writing. Situations may arise where the checklist may not fully address all requirements needed to construct a facility to the full requirements of current ADA law. In those situations, the contractor shall propose a solution to the engineer that is compliant with current ADA law using the following hierarchy of resources: 2010 ADA Standards for Accessible Design, Draft Public Rights of Way Accessibility Guidelines (PROWAG) dated November 23, 2005, MoDOT's Engineering Policy Guidelines (EPG), or a solution approved by the U.S. Access Board.

2.2 It is encouraged that the contractor monitor the completed sections of the newly constructed pedestrian facilities in attempts to minimize negative impacts that his equipment, subcontractors or general public may have on the work. Completed facilities must comply with

the requirements of ADA and the ADA Checklist or have documented reasons for the non-compliant items to remain.

3.0 Coordination of Construction.

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

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

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

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

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

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

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

P. Temporary Bituminous Pavement

1.0 Description. Temporary Bituminous Pavement shall be used as directed by the Engineer. The temporary bituminous pavement will be used to improve paved approach transitions to driveways, parking lots, side street transitions and similar applications.

2.0 Material. Temporary Bituminous Pavement shall be Bituminous Pavement Mixture PG64-22, (BP-1) mix or equivalent approved by the Engineer.

2.1 Material testing and construction acceptance testing shall be based upon Sec 402, Plant Mix Bituminous Surface Leveling.

3.0 Basis of Payment. Payment for Temporary Bituminous Pavement shall be at contract unit price per ton.

Item No.	Type	Description
401-99.10	Ton	Temporary Bituminous Pavement

Q. 6 Inch PCCP Shared Use Path

1.0 Description. This work shall consist of constructing 6 inch PCCP Shared Use Path.

2.0 Material and Construction Requirements. Material and construction requirements for the 6 inch PCCP Shared Use Path bid item shall conform to the material and construction specifications associated with Section 642 in the MoDOT EPG and Section 608.10P & 608.50A of the Standard Plans.

3.0 Basis of Payment. Payment for 6 Inch PCCP Shared Use Path shall be at contract unit price per SY.

Item No.	Type	Description
608-99.05	SY	6 in. PCCP Shared Use Path

R. Truncated Domes in Median Island or Median Cut-Through

1.0 Description. This work shall consist of installing truncated domes at raised island or median cut-throughs.

2.0 Construction Requirements. The contractor shall be responsible for installing truncated domes in island or median cut-throughs as shown in the plans and as per Section 608. Truncated domes installed within island or median cut-throughs shall be placed flush with the face of the curb.

3.0 Basis of Payment. Payment for furnishing and installing truncated domes within island or median cut-throughs shall include all excavation, materials, equipment, tools, labor, and work incidental thereto, and shall be considered to be completely covered by the contract unit price for Item Number 608-10.12, “Truncated Domes”, per square foot, as indicated in the plans.

Item Number	Type / Description	Unit
608-10.12	Truncated Domes	Sq. Ft.

S. Contractor Verification of Signal Base Locations

1.0 Description. The Contractor shall field verify that the proposed traffic signal base locations will not need to be shifted to avoid utilities prior to ordering the traffic signal equipment. The Contractor shall be proactive in the discovery of potential utility conflicts. The Contractor shall directly contact the utility companies to verify the location of facilities, and coordinate with the utility company and the Engineer to determine if a conflict will be encountered due to the work proposed in the contract. If a conflict is anticipated, the Contractor shall perform test holes to field verify no conflicts exist with proposed traffic signal base locations.

1.1 If a conflict is determined, the Contractor shall shift the signal base location, as approved by the Engineer. The Contractor shall coordinate construction activities with the utilities and take measures to ensure the integrity of the existing facilities are not disturbed during construction.

1.2 The contractor will be compensated for the additional mast arm length if required. The Contractor shall not order materials until measurements are field verified.

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

T. Disposition of Existing Signal/Lighting and Network Equipment

1.0 Description. All controllers, cabinets, cabinet equipment, network equipment, antennas, radios, modems, and other equipment noted in the plans shall be removed by the contractor.

2.0 Signal Equipment. All equipment are to be transported to the Commission's maintenance lot located 9101 E. 40th Terrace, Kansas City, MO 64086. The contractor shall notify the Commission's representative 24 hours prior to each delivery by calling:

Mr. Christopher Divine
Phone: (816) 564-3123

4.0 The contractor shall exercise reasonable care in the handling of the equipment during removal and transportation. Should any of the equipment be damaged by the contractor's negligence, it shall be replaced at the contractor's expense. The contractor shall dispose of any other equipment. Delivery shall be within 2 working days of removal. All items returned shall be tagged with the date removed, project number and location/intersection.

5.0 Basis of Payment. Payment for removal, handling and transportation of all equipment specified shall be considered completely covered by the contract unit price for "Removal of Improvements" per lump sum.

U. Countdown Pedestrian Signal Head, Type 1S

1.0 Description. This work shall consist of furnishing, installing and placing into operation any countdown, pedestrian signal heads.

2.0 System Requirements. Delete Sec. 1092.1.9 in its entirety and substitute the following:

1092.1.9 Pedestrian Signal Heads. Pedestrian signal heads shall be in accordance with ITE specifications and standards for pedestrian traffic control signal indications and the following:

(a) Pedestrian signal head housings shall be constructed of a one-piece, 0.250-inch (6 mm) thick, polycarbonate material as shown on the plans. The housing shall include an integral mounting bracket designed for side-of-pole mounting on all makes of signal poles with a terminal compartment and minimum 5-position, double-row terminal block.

(b) The door, lens and any openings in the housing shall have gaskets or seals to exclude dust and moisture from the inside of the compartment.

(c) Lenses shall be constructed of polycarbonate material.

(d) Pedestrian signal head units shall be provided with a manufactured preformed rectangular visor or screen-type louver.

(e) All plastic material shall be ultraviolet stabilized.

(f) Indications shall be ITE Class 3 symbol messages. The "UPRAISED HAND" symbol shall be illuminated with a filled, Portland orange LED module. The "WALKING PERSON" symbol shall be illuminated with a filled, white LED module. The “Countdown” display numbers shall be illuminated with a Portland orange LED module. The LED modules shall be in accordance with applicable portions of Sec 1092.1.

(g) Pedestrian traffic control signal faces shall be constructed such that all messages are displayed from the same message-bearing surface having a black opaque background. The "Countdown" display shall be located to the right of the "UPRAISED HAND" and “WALKING PERSON” symbols, which will be overlaid.

(h) Pedestrian signal heads require “Countdown” displays and shall have the following features:

(1) Display numbers must be two digits at least 9 inches in height.

(2) Shall only display the “Countdown” time during the pedestrian change interval. Time displayed shall be in seconds and begin only at the beginning of the pedestrian change interval. The flashing “UPRAISED HAND” symbol shall be concurrently displayed during the pedestrian change interval. The total time displayed at the start of the pedestrian change interval shall be automatically adjusted by the pedestrian signal head and not require any manual settings or additional wiring to the signal cabinet.

(3) Once the “Countdown” display reaches “0”, the “Countdown” display shall blank-out until the next pedestrian change interval begins.

(4) If the pedestrian change interval is interrupted or shortened as part of a transition into a preemption sequence, the “Countdown” display shall go dark immediately upon activation of the preemption transition.

(5) A test switch shall be provided in order to test the “Countdown” display.

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

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

5.0 Basis of Payment. Payment for pedestrian signal heads, including all materials, equipment, labor and tools shall be made and considered completely covered by the contract unit price bid for:

Item Number	Type	Description
902-99.02	Each	Countdown Pedestrian Signal Head, Type 1S

V. Coordination with MoDOT Signal Shop for Cabinet Entry

1.0 Description. Commission-furnished color-coded pad locks have been placed on all of MoDOT’s signal cabinets in addition to the key used to unlock the door handle. To gain access to the appropriate cabinets during the project all contractors shall coordinate with MoDOT’s signal shop to obtain the proper keys and locks.

1.1 Keys & Locks. Red locks & keys are provided when a contractor has modified the signal cabinet and MoDOT staff shall not have access to the cabinet until it is accepted for maintenance. The blue keys are provided for entry into the cabinet where MoDOT’s Signal Shop group deems the access to be minor in nature (entry to the cabinet to make a simple network switch connection, for example).

1.2 Completion of Project. At the completion of the project all keys and pad locks distributed to contractor during the project shall be returned to the Signal Shop supervisor or their representative and keys shall not be reproduced.

2.0 Contact. Initial contact must be made at least seven calendar days before work begins, preferably when the project has the notice to proceed or during the pre-construction meeting, if applicable. MoDOT’s Signal Shop supervisors shall be notified prior to work beginning.

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

W. Coordination with MoDOT and MARC OGL

1.0 Description. Any work that will impact the existing traffic signal monitoring and communications network must be coordinated with the Mid-American Regional Council Operation Green Light (OGL) staff. This includes but not limited to removal and replacement of

any existing communications equipment, adding new devices and changes to power sources or disconnects.

1.1 MoDOT is a member of MO-One-Call System. Prior to any excavation or work within MoDOT Right-Of-way, the contractor must contact MO-One Call at 1-800-DIG-RITE and request for Utility Locates within noted project limits. If the scope of work contains modification, addition and/or expansion of existing underground MoDOT lighting, or signal facilities, the contractor must notify the MoDOT Utilities Locate staff prior to any work, in order for MoDOT to update MoDOT utility location records with Missouri One Call.

2.0 Contact. Initial contact must be made at least seven calendar days before work that may impact the existing communications network commences. Contact Ray Webb with OGL via email at rwebb@marc.org or 816-701-8300.

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

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

X. Relocate Existing Traffic Signal Equipment

1.0 Description. The contractor shall relocate existing traffic signal equipment as shown in the plans, make necessary connections and test for proper network connection. This work shall be coordinated with MARC OGL Contact Ray Webb with OGL via email at rwebb@marc.org or 816-701-8300.

2.0 Materials.

2.1 Existing traffic signal equipment shown to be relocated will be removed by the Contractor from their existing location with approval from the engineer. These devices include wireless radio devices, CCTV cameras, and video detection cameras.

2.2 The Contractor shall furnish and install any requires to provide for functioning relocated equipment.

3.0 Construction Requirements.

3.1 Provide to the engineer a detailed schedule of installation of Contractor furnished communications equipment, at least thirty (30) days before commencing this type of work. Additionally, coordinate such work with the engineer.

3.2 The Contractor shall NOT move any cables from port to port on the network switches without prior MoDOT approval. For equipment installed in cabinets, mount the equipment in the rack as shown in the approved cabinet layout diagram or, for existing cabinets, as directed by the engineer, and connect the power cables and ground wires. If there are insufficient outlets in existing cabinets, provide Commission approved power strips as required. Connect the

communication cables as shown on the connection diagrams in the plans. The equipment will be configured by the Commission, and therefore do not change any configuration settings.

3.3 Assist Commission staff in making the installed equipment operational. This may entail having a person with a cellular telephone at the cabinet reporting on results and making changes as directed by Commission staff. It may also entail installing replacement equipment when a unit cannot be made to work properly.

4.0 Basis of Payment. Measurement and payment for traffic signal equipment installation will be on a per item basis. The unit price shall, cabling, assistance to Commission staff in getting the equipment operational, documentation, and all miscellaneous hardware required for a safe, fully operational system. Payment will be made as follows:

Item No.	Type	Description
902-99.02	Each	Wireless Radio System Relocation

Y. MoDOT TS2 Cabinet Assembly

1.0 Description. The cabinet assembly shall meet, as a minimum, all applicable sections of the latest revisions as found in the NEMA TS2 Standard Publication and sections 902 and 1092 of the Missouri Standard Specifications for Highway Construction Manual. Where differences occur, this specification shall govern.

2.0 Materials.

2.1 Cabinet. The cabinet shall be constructed from aluminum with a minimum thickness of 0.125 inches. The cabinet shall be designed and manufactured with materials that will allow rigid mounting, whether intended for pole, base or pedestal mounting. All mounting points where the cabinet is bolted to the foundation shall be reinforced at the factory by welding in an additional layer of material equal to the thickness of the material that the cabinet is constructed from. Triangular gussets are also required when the base plate and cabinet walls are welded together vs. continuous rolled material. A rain channel shall be incorporated into the design of the main door opening to prevent liquids from entering the enclosure. All external hardware shall be stainless steel. The cabinet exterior shall be supplied with a natural aluminum finish. Unless otherwise specified**,** the interior of the cabinet shall be white. Sufficient care shall be taken in handling to ensure that scratches are minimized. All surfaces shall be free from weld flash. Welds shall be smooth, neatly formed, free from cracks, blowholes and other irregularities. All sharp edges shall be ground smooth. The cabinet shall be equipped with (2) lifting brackets for installation and removal purposes.

2.2 Cabinet Doors. The cabinet shall include front and rear doors of NEMA type 3R construction with rain tight gaskets. A stiffener plate shall be welded across the inside of the main door to prevent flexing. Doors shall include a mechanism capable of holding the door open at approximately 90 and 165 degrees under windy conditions. Manual placement of the mechanism shall not be required by field personnel. Only the main door shall have ventilation louvers. A plaque designation “Traffic Control” shall be affix to each main cabinet door.

2.3 Door Alarm. The front and rear doors shall be equipped with switches wired to the traffic signal controller alarm with 1 input for logging and reporting of a door open condition.

2.4 Shelves. No less than (2) shelves shall be provided and each shall have the ability to be independently removed, relocated, and adjusted. The front edge of each shelf shall have holes predrilled at a spacing of no greater than 8 inches to accommodate tie-wrapping to secure cables/harnesses.

2.5 Mounting Rails. A minimum of one set of vertical "C" channels shall be mounted on each interior wall of the cabinet for the purpose of mounting the cabinet components. The channels shall accommodate spring mounted nuts or studs. All mounting rails shall extend to within 7 inches of the top and bottom of the cabinet.

2.6 Pull-out Drawer. The cabinet shall be equipped with a pull-out drawer/shelf assembly. A 1½ inch deep drawer shall be provided in the cabinet, mounted directly beneath the controller support shelf. The drawer shall have a hinged top cover and shall be capable of accommodating one complete set of cabinet prints and manuals. This drawer shall support 50 pounds in weight when fully extended. The drawer shall open and close smoothly. The drawer dimensions shall make maximum use of available depth offered by the controller shelf and be a minimum of 18 inches wide.

2.7 Police Door. The police door shall contain only (1) switch used for flash/auto operations. The ability to turn field indications off from the police panel will not be permitted.

2.8 Lighting. The cabinet shall include no less than (3) field replaceable LED light assemblies along the top and sides of the cabinet. The LED panels shall be controlled by a manually activated toggle switch on the tech panel.

2.9 Fans/Ventilation. The components of the system as well as the CFM requirements shall be in compliance with the MoDOT 902 & 1092 specifications.

2.10 Heater. The cabinet shall be supplied with a 200 Watt fan heater with thermostat control that is designed to protect electronics from the effects of low temperatures such as corrosion, freezing or condensation, which can damage critical components within a control enclosure. Housing shall be constructed of aluminum. Overall dimensions including mounting areas shall be approximately: 4 inch depth, 4 inch width, 5.50 inch height.

2.11 Switch Guards. All switches shall include switch guards. All switches shall be clearly labeled.

2.12 Receptacles and power strip(s). One 8-outletIP addressableindustrial surge protected power strip shall be provided. The installation of the power strip shall be included in the cost of the cabinet assembly. The main door tech panel shall contain a 15 amp duplex GFI receptacle. A separate grounded service outlet shall be provided in the controller cabinet for supplying power to the video detection monitor. 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. The use of the grounded service outlet located on the cabinet door will not be permitted for this function. A manual on/off switch shall also be provided and mounted to the main door tech panel.

2.13 16-Position Back Panel Wiring. All new signal cabinets shall have a 16-position load switch back panel and conform to the following specifications. Regardless of the number of phases specified on the plans, all load switch positions shall be completely wired for use. The load switch back panel shall be configured for NEMA Configurations designated on the signal plans. All wiring of FYA should be wired in mode G. The MMU2 should be configured in mode G also.Vehicle phases, overlaps (including FYA configurations), and pedestrian phases shall be

wired such that it must work with an MMU2. The MMU2 must come with an ethernet port. The cabinet shall include both a DT panel and a CTB (SDLC) panel with 6 harnesses.

2.14 Intersections with Video Detection. For intersections with video detection, the cabinet shall be wired to automatically power on the video monitor when the cabinet door is open.

2.15 Load Switch. The front of the load switch shall be provided with (3) indicators to show the input signal from the controller to the load switch and (3) indicators to show the output to the field devices. The full complement of load switches shall be supplied with each cabinet to allow for maximum phase utilization for which the cabinet is designed.

2.16 SDLC. All connection points shall be protected by a BIU 15 pin surge suppressor used for the protection of any devices on Port 1 Synchronous Data Link Control (SDLC). Each cabinet shall be provided with a SDLC hub assembly and (6) SDLC cables unless otherwise noted on the order form. All mechanical connections shall be soldered.

2.17 Surge Protection. Surge protection shall be a modular plug in type product as listed in the MoDOT Traffic APL.

2.18 AC line filter. The AC line filter shall protect equipment from malfunctions due to conducted interference coming into the equipment from line, especially line to ground (common mode) noise and transients. Overall dimensions including mounting areas shall be approximately: 4.17inch width and 3.53inch height.

2.19 Signal Buss Relay. The relay shall be a direct “drop-in” replacement for existing mercury displacement relays. The relay shall be a single pole solid state or hybrid relay. Overall dimensions including mounting areas shall be approximately: 2.5inch depth, 2inch width, 5 inch height.

2.20 Field Wiring termination. All field wires shall be attached to the back panel terminal strips via a mechanical copper lug, which can accommodate wire sizes from 14AWG - 6AWG. Lugs shall be provided for all field outputs to maximize the cabinet design.

2.21 Flash Transfer Relays. The full complement of relays shall be supplied with each cabinet to allow for maximum phase utilization for which the cabinet is designed.

2.22 Cabinet Wiring. Paper cabinet prints as well as electronic media shall be provided with each cabinet. (4) paper copies shall be provided (22” X 34”) and (1) electronic copy in pdf and dgn format. All flash program wiring configurations shall be represented on the cabinet print (Red, Amber, No Flash, FYA, Ped, FYA & Ped). Wiring configuration shall be a red-red flash, unless otherwise specified by plans or Traffic Engineer.

2.23 Generator Attachment. A generator plug shall be installed on each cabinet unless otherwise noted. The access door shall be hinged, lockable and watertight. The plug shall conform to the (NEMA L5-30 configuration). An automatic transfer switch shall be provided which will switch power to/from “line”, “UPS” or “generator” when power from one of the sources has been lost or gained. The unit shall be rated for 30 amps and shall contain either a LCD display or indicator lights that validate the following: Line in, Line out, UPS in, UPS out and “from” generator. The unit shall contain a main breaker (on/off switch), a UPS bypass breaker (switch) and a Generator breaker (switch). To minimize the impact of the presence of the auto transfer switch, the dimensions shall be no greater than 12” wide X 6” deep X 4” high. The unit shall be constructed of either aluminum or stainless steel.

3.0 Signal Turn ON.

3.1 Turn on Date. Traffic engineer shall be given a minimum of two weeks' notice for signal turn on date. Signal turn on date shall not occur on any Friday, unless previously approved by traffic engineer.

3.2 Traffic Control. Contractor shall provide a minimum of two Changeable Message Signs (CMS) in advance of new signal location for mainline traffic, unless determined that all legs of intersection require advance notice. The CMS boards shall be in place a minimum of two week prior to signal turn on date, and left in place a minimum of one week after signal turn on. Messages will be provided by traffic engineer for the CMS boards.

3.3 Time. Signal shall not be turned on during morning or evening rush hour times. This varies by location, and shall be preapproved by traffic engineer and the lead construction inspector.

4.0 Testing.

4.1 Each controller and cabinet assembly shall be tested as a complete entity under signal load in accordance with Missouri Standard Specifications Section 902 for a minimum of 30 days after installation. The traffic engineer is to determine if the 30 days has been accomplished with no functionality issues.

4.2 Each assembly shall be delivered with a signed document detailing the cabinet final tests performed. The cabinet shall be assembled and tested by the controller manufacturer or authorized local distributor to ensure proper component integration and operation.

5.0 Warranty and Training.

5.1 If a Controller and/or Malfunction Management Unit are ordered with a cabinet assembly, the Controller and Malfunction Management Unit shall be warranted by the manufacturer against mechanical and electrical defects for a period of 2 years from date of shipment. The manufacturer's warranty shall be supplied in writing with each cabinet and controller. Second party extended warranties are not acceptable.

5.2 The cabinet assembly and all other components shall be warranted for a period of one year from date of shipment. Any defects shall be corrected by the manufacturer or supplier at no cost to the owner.

5.3 MoDOT may require training on the maintenance and operation of NEMA TS2 cabinet assemblies. Maintenance and operation personnel shall be trained on troubleshooting, maintenance and repair of cabinets and all serviceable equipment. Training shall include field level troubleshooting and bench repair. This training shall be for a minimum of sixteen hours over two days. Training shall be conducted at a time and location mutually agreeable by the contractor and the signal shop traffic supervisor or as directed by MoDOT.

6.0 Method of Measurement. Method of measurement shall conform to Sections 902 and 1092 of the Standard Specifications.

7.0 Basis of Payment. Payment included with cost of pay item 902-42.83 (Controller Assembly Housing, NEMA TS2 Controller) paid per each. Payment will be considered full compensation for all labor, equipment and material to complete the described work as shown on the plans. No additional payment will be made to provide conformance.

Z. KC District 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 bicycle and vehicular 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 (mouse or keypad;), software and license for system control via a computer or USB (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 Kansas City District:

1. **Autoscope Vision**
2. **Autoscope Rackvision Terra**
3. **Iteris Vantage Vector**

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 and ethernet cable runs (if used) shall be continuous without a 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.

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.

3.1 Detection Zones. The detection zones shall be created by drawing the detection zones on the video image (minimum 2 zones). 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.

The video detection system shall have a method to send and receive communications from the system to a central location. It should be able to obtain a live video image and configured detection zones. The user should have the ability to change detection zones and detection settings in real time from the central location. The system shall be able to have re-addressable IP address or addresses.

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 Data. 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 (USB, Ethernet, or built Wi-fi Computer). 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, HDMI, VGA, and BNC video in-out connections built into the housing. The unit shall be compact and lightweight, with a stand on 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 high definition (HD) color video image of vehicles during daylight hours, with an optional production of black and white images during nighttime hours. The camera shall be able to detect a minimum of 500 ft in advance of the signal. Detection shall work properly during night hours without the need of additional luminaire lighting at the signal. The video shall produce a clear image for scenes. 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, as well as 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. The system must be able to connect through computer or mouse/video for configuring the detection zones. The equipment shall be provided with a NEMA TS2 interface as shown on the plans.

At a minimum, each lane of traffic shall be able to have its own output. A minimum of 32 detector outputs is required for the system but should be capable of expanding to 64 outputs if required based on the geometry of the intersection.

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, 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 Warranty of Video Detection System. The video detection system including cameras shall be warranted to be free of defects in material and workmanship for a minimum of 3 years. During the warranty period, 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 the warranty 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 for the signal cabinet and one pdf version of the user's manual.

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

7.0 Training. MoDOT may require training on the maintenance and operation of the detection system. Maintenance and operation personnel shall be trained on troubleshooting, maintenance and repair of cameras and all serviceable equipment. Training shall include field level troubleshooting and bench repair. This training shall be for a minimum of sixteen hours over two days. Training shall be conducted at a time and location mutually agreeable by the contractor and the signal shop traffic supervisor or as directed by MoDOT.

7.1 Basis of Payment. Measurement and payment for work covered by this specification shall include all equipment, tools, labor, programming and materials necessary and shall be paid at the contract unit price as follows:

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

AA. Accessible Pedestrian Signals

1.0 General. Furnish weatherproof, vandal resistant Accessible Pedestrian Signals (Pushbuttons) that are secure from electrical shock to the user and conform to the following:

A. Manual on Uniform Traffic Control Devices (MUTCD) Chapter 4E.
B. PROWAG 2007 R306.

2.0 Materials. The items furnished and installed under this contract shall be new and the latest product in production for commercial trade, and shall be of the highest quality as to materials used and workmanship. Manufacturer(s) furnishing these items shall be experienced in design and construction of such items and shall furnish evidence of having supplied similar items which have been in successful operation. The bidder shall be an established supplier of the items bid.

Service information shall be furnished consisting of schematics, parts locators, parts lists and trouble-shooting guide.

3.0 System Operations Requirements.

3.1 Shall have confirmation of button activation (Push) via latching LED, sound, and vibrotactile bounce.

3.2 Shall have a standard locating tone with a nominal duration of 0.15 seconds repeated at 1 second intervals which automatically adjusts to ambient background noise.

3.3 Shall be able to program the device to broadcast a beaconing tone during the pedestrian clearance phase.

3.4 Shall broadcast a percussive tone which consists of multiple frequencies with dominant component at 880Hz or broadcast a standard voice message during the walk interval.

3.5 Shall have a Vibrating button during the walk interval.

3.6 Shall be capable of a standard locating tone, custom sound, or verbal count down during the pedestrian clearance phase.

3.7 Shall support custom voice messages, tones and sounds.

3.8 Shall support up to two (2) languages for speech messages.

3.9 Shall have all sounds adjust automatically to ambient noise levels up to a maximum volume of 100dBA.

3.10 Shall have minimum and maximum levels independently set for all audible features on each button.

3.11 Shall have all sounds emitted by the APS at an intersection synchronized.

3.11.1 Push button locate tones are exempt from this requirement.

3.12 May provide the capability that an extended button push can turn on, boost and /or mute all sounds except those on activated crosswalk.

3.13 Shall provide for emergency messages.

3.14 The tone or voice message shall be provided during the walk display as indicated on the plans or as directed by the Traffic Engineer.

3.15 The bolt pattern of the push button station shall be compatible with older push buttons.

4.0 Mechanical Requirements Push Button Station.

4.1 Shall have a housing constructed of aluminum.

4.2 Actuator shall be of the pressure-activated type with essentially no moving parts.

4.3 Shall be black in color, shaped to fit the curvature of the post to which it is attached and shall provide a rigid installation.

4.4 Actuator shall be a minimum of 2 inches in diameter, raised, contrast visually with the housing, and be made of brass or corrosion-resistant metal alloy or non-metallic material.

4.5 Tactile arrows shall be located on the pushbutton, have high visual contract, shall be aligned parallel to the direction of travel and be made of brass or corrosion-resistant metal allow or non-metallic material.

4.6 Maximum force of 3.5 pounds shall be required to activate the switch.

4.7 Shall have a solid state, piezo type switch rated at a minimum of 20 million actuations.

5.0 Environmental Requirements Push Button Station.

5.1 Shall be fully operational between -30° F to +165°F (-34° C to +74° C).

5.2 Shall not allow ice to form such to impede the operation of the button.

5.3 Shall have a weatherproof speaker.

5.4 Shall have been field tested in a traffic signal application for a period of at least one (1) Year.

6.0 Electrical Requirements Push Button Station.

6.1 Shall operate at a voltage no greater than 24 volts.

6.2 Shall require only 2 wires to connect to the traffic signal cabinet.

7.0 Pedestrian Information Sign.

7.1 Shall have a pedestrian information sign that is integral to the Pedestrian Push Button Station.

7.2 Shall be 9''x15" R10-3e.

7.3 Shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) and the Standard Highway Signs and Markings publication.

7.4 Shall be fabricated in accordance with all applicable sections of MoDOT's Standard Specifications for Construction and Standard Plans.

7.5 Shall use flat sheet SH sheeting

8.0 Interface Connection Panel.

8.1 Shall have an interface panel located in the traffic signal cabinet for connecting external APS button connecting wires to the traffic signal cabinet.

9.0 Method of Measurement.

9.1 The work performed and materials furnished in accordance with this item will be paid at the unit price bid for 902-49.21, "Accessible Pedestrian Signal", per each. This price shall be full compensation for furnishing, assembling, and installing the Accessible Pedestrian Signal

(Pushbutton) and associated sign, and for all mounting attachments, labor, tools, equipment, and incidentals necessary to complete the work.

BB. Emergency Vehicle Pre-Emption

1.0 Description. The Contractor shall furnish and install an Optical Pre-Emption and Priority Control System for emergency pre-emption as shown in the plans and as specified in the Traffic Signal Quantities.

2.0 Material and Construction Requirements. The cable shall be run continuous from the detector to the controller cabinet with no splices. The detector shall be installed as shown in the plans or by a method approved by the Engineer. The Contractor shall be responsible for the proper alignment of the detector to ensure maximum detection time for the emergency preemption equipment. It shall be the responsibility of the contractor to deliver, install and test a system in which all individual components and the system as a whole is working to its optimum to meet the design

3.0 Basis of Payment.

Measurement and payment for work covered by this specification shall include all equipment, tools, labor, programming and materials necessary and shall be paid at the contract unit price as follows:

Item No.	Type	Description
902-99.02	Each	Emergency Vehicle Pre-Emption System

CC. Drainage Maintenance During Construction

1.0 Description. The contractor's attention is called to the drainage construction. The Contractor is required to maintain drainage during construction and to ensure that the existing drainage system continues to convey all storm water until the new structures and pipes are in place.

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.

DD. Contractor Designed, Furnished, and Installed Shoring for Excavation

1.0 Description. This Section addresses sheeting, bracing, and all operations necessary for the preparation of trenches for bedding of pipes and pipe appurtenances, conduit, and buried cable.

2.0 Materials. All materials shall be in accordance with Division 1000.

3.0 Execution. Where selecting an option for excavation, trenching, and shoring in compliance with local, state, or federal safety regulations such as "OSHA Part 1926" or successor regulations, which require design by a registered professional engineer, submit (for information only and not for Engineer approval) the following:

A. Copies of design calculations and notes for sloping, benching, support systems, shield systems, and other protective systems prepared by or under the supervision of a professional engineer legally authorized to practice in the jurisdiction where the Project is located.

B. Documents provided with evidence of registered professional engineer's seal, signature, and date in accordance with appropriate state licensing requirements.

C. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards that could develop during excavation support and protection system operations.

D. Shore, support, and protect utilities encountered.

E. Install excavation support and protection systems to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.

F. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Engineer and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.

G. Locate excavation support and protection systems clear of permanent construction so that forming and finishing of concrete surfaces are not impeded.

H. Monitor excavation support and protection systems daily during excavation progress and for as long as excavation remains open. Promptly correct bulges, breakage, or other evidence of movement to ensure that excavation support and protection systems remain stable.

I. Promptly repair damages to adjacent facilities caused by installing excavation support and protection systems.

4.0 Quality Assurance. The contractor shall conduct a pre-installation meeting at the project site to review methods and procedures related to excavation support and protection systems including, but not limited to:

a. Existing utilities and subsurface conditions.
b. Proposed excavations.
c. Proposed equipment.
d. Monitoring of excavation support and protection system.
e. Working area location and stability.
f. Coordination with traffic control movements of general public.

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.

EE. Misc. Storm Sewer Pipe and Structures

1.0 Description. Non-standard size precast concrete curb drop inlets and pipe are specified in the project plans.

2. Material and Construction Requirements. Material and construction requirements for the indicated precast concrete curb drop inlets and pipe bid items shall conform to the material and construction specifications associated with Sec 731 and Division 1000 and MoDOT standard plans.

3.0 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 other than the direct payment identified for each bid item. This shall apply to following non-standard bid items.

Item Number	Type / Description	Unit
731-99.03	Precast Concrete Drop Inlet 7.5 ft. by 3 ft.	Ln. Ft.
731-99.03	Precast Concrete Drop Inlet 10 ft. by 3 ft.	Ln. Ft.

FF. Pipe Connection to Existing Storm Structures (Includes Any Excavation)

1.0 Description. Work shall consist of connecting drainage pipe to an existing reinforced concrete box culvert or inlet. The contractor should refer to standard drawing 703.60 for connection details.

2.0 Material and Construction Requirements. All materials and construction specifications shall conform to Sec 703 and Division 1000.

3.0 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.

GG. 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.

HH. Tree Clearing Restriction

1.0 Description. The project is within the known range of the federally endangered Indiana bat and threatened northern long-eared 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. Upon Request, the trees can be marked with either a spray painted "X" or a pink ribbon on their trunks. Suitable roost trees have been GPS located.

1.2 To avoid negative impacts to roosting Indiana and northern long-eared bats, removal of suitable roost trees will only be allowed between November 1 and March 31.

2.0 Basis of Payment. No direct pay shall be provided for any labor, equipment, time, or materials necessary to complete this work.

II. Remove and Reset Ground Mounted Signs

1.0 Description. The contractor shall remove and reset all ground mount signs as noted in the plans. Existing signs fall into the following categories:

1.1 Remove & Reset. The contractor shall remove the post and reuse the existing sign on a new post at a location designated in the plans.

1.3 (R) or Remove – The contractor shall remove the sign and post.

1.4 (U.I.P.) – Use in Place.

2.0 RideKC Signing

2.1 Description. The contractor shall be informed that numerous RideKC Bus Signs are located within the limits of this project. The plans include quantities to relocate the existing signs onto new posts as shown in the plans. As part of the requirements, these signs shall be visible at all times during construction of this project.

2.2 Should any damage be inflicted on the existing RideKC Bus signs by reason of the contractor's action during the removal, transportation, or re-installation of existing signs, it will be the contractor's responsibility to replace or repair said items. The engineer shall have the final determination on whether the said signs should be replaced or repaired.

2.3 Temporary Ground Mount Signing. Temporary ground mounting of signs, including RideKC Signs will be paid for as no direct pay.

3.0 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 other than the direct payment identified for each bid item.

JJ. Adjusting Meter or Valve Box

1.0 Description. Adjusting Meter or Valve Boxes shall consist of adjusting existing utility meter boxes or valve boxes shown in the plans to new finished grade elevations.

2. Material and Construction Requirements. Use methods for the adjustment of meter or valve boxes according to the requirements of the utility company involved.

3.0 Basis of Payment. Payment for Adjusting Meter or Valve Boxes shall be made at the contract set price and is full compensation for the specified work.

KK. Notice to Bidders of Funding by Third Party JSP-18-02A

1.0 Bidders are advised that the City of Independence is required to provide substantial funds for construction of Job No. JKU0226.

2.0 Bidders acknowledge that their bids are made with knowledge of and subject to the condition of the City of Independence providing substantial funds prior to authorization of any award of a contract for this job by the Commission.

3.0 Bidders agree that they shall be estopped, both in law and equity, to assert any right to award of a contract for this job by the Commission should the City of Independence not provide substantial funds for any reason.

LL. City of Independence Water Line Relocation

1.0 This work shall consist of providing and installing water mains as shown on the plans and shall be in accordance with provisions contained in the City of Independence Water Department Water Main Installation Standards, and as set forth in JSP sections MM-RR in the JSP's for Job No. JKU0226.

2.0 The quantities for the water line relocation work will be measured in accordance with Sec 603.4 and as shown on the plans.

3.0 The accepted quantity will be paid for at the unit price for each of the appropriate pay items included in the contract in accordance with Sec 603.5. All costs incurred by the contractor by reason of compliance to satisfy the above requirements shall be considered incidental to and completely covered by the contract unit price of pay Items as following:

Item No. 603-99.01 "Water (Mobilization)", LS
Item No. 603-99.01 "Water (Site Work)", LS
Item No. 603-99.02 "Water (6" MJ Gate Valve)", EACH

Item No. 603-99.02 “Water (8” MJ Gate Valve)”, EACH
Item No. 603-99.02 “Water (Remove Existing Fire Hydrant)”, EACH
Item No. 603-99.02 “Water (Fire Hydrant)”, EACH
Item No. 603-99.02 “Water (Blowoffs)”, EACH
Item No. 603-99.02 “Water (Connection to Existing 8”)”, EACH
Item No. 603-99.02 “Water (Service Reactivation)”, EACH
Item No. 603-99.02 “Water (Marker Post)”, EACH
Item No. 603-99.02 “Water (Abandon In Place Valve Box)”, EACH
Item No. 603-99.02 “Water (Connection to Existing 6”)”, EACH
Item No. 603-99.03 “Water (Abandon In Place Fire Hydrant Line)”, L.F.
Item No. 603-99.03 “Water (ELB 8” DIP CL. 52 – Unrestrained)”, L.F.
Item No. 603-99.03 “Water (Abandon In Place 8” Line)”, L.F.
Item No. 603-99.03 “Water (ELB 6” DIP CL. 52 – Unrestrained)”, L.F.
Item No. 603-99.03 “Water (ELB 6” DIP CL. 52 – Restrained)”, L.F.
Item No. 603-99.03 “Water (ELB 8” DIP CL. 52 – Unrestrained)”, L.F.
Item No. 603-99.03 “Water (16” Steel Pipe - Casing)”, L.F.
Item No. 603-99.03 “Water (14” Steel Pipe – Casing)”, L.F.
Item No. 603-99.03 “Water (Abandon In Place 6” Line)”, L.F.
Item No. 603-99.07 “Water (Remove Asphalt Pavement)”, S.F.
Item No. 603-99.07 “Water (Hot Mix Asphalt Replacement 2”)”, S.F.
Item No. 603-99.07 “Water (Haul Off Asphalt Demo)”, C.Y.
Item No. 603-99.07 “Water (Trench Stabilization Material)”, TON
Item No. 603-99.07 “Water (4” Concrete Base)”, C.Y.

MM. Water Line – Trenching and Backfill for Utilities

1.0 Description. Trenching and backfill for water pipes, fittings, valves, and other appurtenances.

2.0 Material.

2.1 Granular Embedment. The granular embedment shall be select granular material for backfill and structural systems, as specified Division 1000.

2.2 Trench Stabilization Material. The trench stabilization material shall be select granular material for backfill and structural systems, as specified Division 1000.

2.3 Concrete. The concrete in concrete encasements shall be Class B concrete. Concrete used as backfill shall be flowable backfill. Concrete and reinforcing steel shall be in accordance to Division 501.

2.4 Trench Backfill. Trenching Backfill shall be in accordance with Section 725.4.1.

3.0 Construction Requirements. Construction requirements for the trenching and backfill shall conform to the construction specifications associated with Division 200 and Section 725 and MoDOT standard plans and project construction plans.

4.0 Basis of Payment. No direct payment will be made to the Contractor to recover the cost of equipment, labor, materials, or time needed to fulfill the above provisions other than the direct payment identified for each bid item. This shall apply to the following non-standard bid items.

NN. Water Utility Casings

1.0 Description. This Section addresses casing pipe, installed by boring and jacking, carrier pipe spacers, and end seals as called out in the construction plans.

2.0 Materials.

2.1 Casing Pipe. The casing pipe shall be new, smooth wall, welded steel pipe fabricated from ASTM A36 plate or ASTM A570 sheet with a minimum yield point of 36,000 psi, conforming to AWWA C200. Furnish pipe with minimum wall thickness as follows:

a. Minimum Casing Thicknesses:

Under Highways		
Carrier Pipe Nominal Size (in.)	**Casing Diameter (in.)**	**Wall Thickness (in.)**
6	14	0.188
8	16	0.188

b. Minimum casing inside diameter shall exceed outside diameter of carrier pipe joints or couplings by 4 inches.

2.2 Coatings and Linings. Coat exterior and line interior of all casing pipe with iron oxide primer applied at 1.5 mils minimum thickness. Hold coatings back from end joints to be welded at least 2 inches each side of joint.

2.4 Joints. All joints in steel pipe casings shall be field welded to conform to API 1104 or AWWA C206. Clean to SSPC-SP3 and apply iron oxide field coating to all exterior joints after field welding.

2.5 Casing Spacers. The casing spacers shall be CCI Stainless Steel Casing Spacers.

2.6 End Seals. The end seals shall be GPT End Seals Model C or Engineer approved equal.

3.0 Construction Requirements.

3.1 Casing Pipes. Construction requirements shall conform to Section 734.

3.2 Casing Spacers. The casing spacers shall be sized to fit outside diameter of carrier pipe and inside diameter of casing pipe, spaced a maximum of 10 feet apart, with a minimum of two spacers per joint of pipe.

3.3 End Seals. The end seals shall be installed after the carrier pipe has been permanently placed inside the casing, tested, and approved by the City of Independence Water Department, and the inside of the casing has been thoroughly cleaned by the Contractor and approved by the City of Independence Water Department.

4.0 Basis of Payment. No direct payment will be made to the Contractor to recover the cost of equipment, labor, materials, or time needed to fulfill the above provisions other than the direct payment identified for each bid item. This shall apply to following non-standard bid items.

OO. Water Pressure Pipe, Fittings, Specials, and Appurtenances

1.0 Description. This Section addresses water main pressure piping, fittings, specials, and appurtenances as called out in the construction plans.

2.0 Submittals.

a. Submit the following for acceptance prior to fabrication:
    1. Pipe and joint details.
    2. Special, fitting, and coupling details.
    3. Specifications, data sheets, and affidavits of compliance for protective shop coatings and linings.
    4. Manufacturer's design calculations including, but not limited to, wall thickness and deflection under specified live and dead loads.

b. Certificates and Affidavits: Furnish the following prior to shipment:
    1. Affidavit of compliance with applicable standard.
    2. Certificate or origin for all steel flanges. Flanges shall be manufactured in the U.S.A.
    3. Test certificates.

3.0 Delivery, Storage, and Handling.

a. Handle in a manner to ensure installation in sound and undamaged condition.
    1. Do not drop or bump.
    2. Use slings, lifting lugs, hooks, and other devices designed to protect pipe, joint elements, linings, and coatings.

b. Ship, move, and store with provisions to prevent movement or shock contact with adjacent units.

c. Handle with equipment capable of work with adequate factor of safety against overturning or other unsafe procedures.

4.0 Materials. Furnish pipe of materials, joint types, and sizes as indicated or specified. All pipe and fittings shall be marked conforming to the applicable standard specification under which the pipe is manufactured and as otherwise specified.

4.1 Ductile Iron Pipe. The ductile iron pipe shall conform to AWWA C115, C150, and C151 except as otherwise specified. Furnish pipe of materials, joint types, and sizes as indicated or specified. All pipe shall be marked conforming to the applicable standard specification under which the pipe is manufactured and otherwise specified.

Nominal Pipe Size (in.)	Minimum Thickness Class	Metal Thickness (in.)
4	52	0.29
6	52	0.31

8	52	0.33

a. Approved Manufacturers:
    1. U.S. Pipe
    2. McWane
    3. American

b. Provide Tyton® Joint as manufactured by U.S. Pipe or Engineer approved equal for all buried pipe. Joints shall conform to AWWA C111.

c. Provide flanged joints for all interior and exterior pipe except where otherwise specified or indicated. Flanges shall be ductile iron and conform to the applicable provisions of AWWA C110 and C115 and shall be drilled ANSI B16.1 Class 125.

4.2 Restrained Joints. Furnish for all fittings and where joint restraint is required to withstand specified operating or hydrostatic test pressure and where indicated on construction plans. Restrained push-on joints shall be Field Lok Gaskets 350® as manufactured by U.S. Pipe or Engineer approved equal. Mechanical joint retainer glands shall not be used where joint restraint is required unless indicated.

a. Approved Manufacturers:
    1. U.S. Pipe
    2. American
    3. McWane

4.3 Sleeves or Couplings. Provide sleeves and couplings where indicated on construction plans. Furnish pipe ends suitable for receiving style of sleeve or coupling indicated or specified.

4.4 Fittings. The fittings shall be ductile iron, conform to AWWA C110 and shall have a minimum working pressure rating of 350 psi. Fittings for pipe with push-on joints shall be push-on-type joint, Trim Tyton® manufactured by U.S. Pipe or Engineer approved equal. All fittings shall be marked conforming to the applicable standard specification under which the pipe is manufactured and otherwise specified.

a. Approved Manufacturers:
    1. U.S. Pipe
    2. Star
    3. Sigma/Napco
    4. Tyler/Union
    5. SIP Industries

b. Include all specials, taps, plugs, flanges, and wall fittings as required.

c. Provide openings for air release valve, drain, sampling, sensing, testing, and other connections with threaded bosses or flanged outlets sized and located where indicated.

d. Provide tangent blow-off and drain assemblies where indicated. Outlet size shall be 6 inches and have flanged end.

4.5 Lining. All pipe and fittings for water shall be cement-mortar lined in accordance with AWWA C104.

4.6 Coating. All iron pipe and fittings shall be coated with manufacturer's standard bituminous paint coating. Flange faces shall be coated in accordance with AWWA C115.

4.7 Copper Pipe. All pipe used in water service line construction (2 inches in diameter or less) shall be copper.

a. Copper Service Pipe shall be type K soft, conforming to ASTM B88.

b. Ther service line shall be continuous piece (no splices) from the corporation stop to the curb stop, or otherwise approved by the City of Independence Water Department.

4.8 Concrete Thrust Blocks and Straddle Blocks. The concrete in thrust blocks and straddle blocks shall be Class B concrete. Concrete and reinforcing steel shall be in accordance to Division 501.

5.0 Construction Requirements.

5.1 General.

a. Use equipment, methods, and materials ensuring installation to lines and grades indicated.

    1. Maintain within tolerances specified or acceptable laying schedule.

        i. Alignment: ±1 inch per 100 feet in open cut.

        ii. Grade: ±1 inch per 100 feet in open cut.

    2. Do not lay on blocks unless pipe is to receive total concrete encasement.

    3. Accomplish horizontal and vertical curve alignments with bends, bevels, and joint deflections.

        i. Limit joint deflection with ductile iron pipe to conform to AWWA C600.

        ii. Use short specials preceding curves as required.

    4. Obtain acceptance of method proposed for transfer of line and grade from control to the Work.

b. Install pipe of size, materials, strength class, and joint type with embedment indicated for plan location.

c. As possible, commence laying at downstream end of line and install pipe with bell ends in direction of laying. Obtain Engineer approval for deviations therefrom.

d. Clean interior of all pipe, fittings, and joints prior to installation. Prevent entrance of foreign matter during installation and at discontinuance completion of installation.

    1. Close open ends of pipe with snug-fitting closures.

    2. Do not let water fill trench. Include provisions to prevent flotation should water control measures prove inadequate.

    3. Remove water, sand, mud, and other undesirable materials from trench before removal of end cap.

e. Brace or anchor as required to prevent displacement after establishing final position.

f. Perform only when weather and trench conditions are suitable. Do not lay in water.

g. Observe extra precaution when hazardous atmospheres might be encountered.

5.2 Jointing. Jointing shall conform to AWWA C600.

a. Perform jointing in conformance to manufacturer's recommendations.

b. Clean and lubricate all joint and gaskets surfaces with NSF 61 certified lubricant recommended by manufacturer.

c. Use methods and equipment capable of fully seating without damage.

d. Check joint opening and specified deflection limits.

5.3 Cutting.

a. Cut in neat manner without damage to pipe.

b. Observe AWWA C600 regarding joint locations.

c. Cut ductile iron and copper pipe with carborundum saw or other acceptable method per manufacturer's instructions.

    1. Smooth cut by power grinding to remove burrs and sharp edges.

    2. Repair lining as required and approved by Engineer.

5.4 Closure Pieces.

a. Connect two segments of pipeline or a pipeline segment and existing structure with short sections of pipe fabricated for the purpose.

b. Observe AWWA C600 regarding location of joints, type of joints, and pipe materials and strength classifications.

c. May be accomplished with sleeve coupling:

    1. Of length such that gaskets are not less than 3 inches from pipe ends.

    2. Wrap exterior of buried ductile iron couplings with polyethylene encasement conforming to AWWA C105.

5.5 Temporary Plugs. Furnish and install temporary plugs at each end of Work for removal by others when completed ahead of adjacent contract. Remove from pipe laid under adjacent contract to complete pipe connections when work by other contractor is finished prior to work at connection point under this Contract.

a. Plugs:

    1. Test plugs as manufactured by pipe supplier.

    2. Watertight against heads up to 20 feet of water.

    3. Secured in place in a manner to facilitate removal when required to connect pipe.

5.6 Concrete Trust Blocks and Straddle Blocks. Location and size of thrust blocks and straddle blocks will be in accordance with construction plans. Placement of concrete shall conform to the City of Independence Water Department Water Main Installation Standards, section CS-4 and CS-5.

6.0 Quality Assurance. Mark rejected or defective materials and remove them from the work site.

7.0 Basis of Payment. No direct payment will be made to the Contractor to recover the cost of equipment, labor, materials, or time needed to fulfill the above provisions other than the direct payment identified for each bid item. This shall apply to the following non-standard bid items.

PP. <u>Water Utility Valves and Accessories</u>

1.0 Description. This Section addresses utility valves and accessories as called out in the construction plans.

2.0 Submittals.

a. Catalog data or illustrations showing principal dimensions, parts, and materials.
    1. Spare parts list referenced to illustration of parts.
    2. Assembly and disassembly or repair instructions.
b. Certificates and Affidavits: Furnish prior to shipment. Include the following:
    1. Test certificates.
    2. Affidavit of compliance with applicable AWWA Standard.

3.0 Delivery Storage and Handling. Ship all valves with suitable end covers to prevent entrance of foreign material into valve body. Protect valve threads, flanges, stems, and operators from damage.

4.0 Responsibility. Actuators, their controls, and accessories shall be the responsibility of the valve manufacturer for sizing, assembly, certification, field testing, and any adjustments necessary to operate the valve as specified.

5.0 Materials.

5.1 Resilient-Seated Gate Valves. The resilient-seated gate valves shall conform to AWWA C509 and as specified.

a. Acceptable manufactures:
    1. American Flow Control
    2. Clow
    3. Kennedy
    4. Mueller
    5. U.S. Pipe
b. Desing:
    1. All stem seals shall be double O-ring type.
    2. All valves shall be restrained Tyton Joint, with manual actuators and shall be open unless otherwise stated.
c. Actuators: All Valves shall open counterclockwise.
d. Coating: Shall conform to AWWA C550 and be applied to all interior ferrous metal surfaces.
e. Testing: Shall be performed conforming to AWWA C509 and supplier shall furnish affidavit of compliance.

5.2 Fire Hydrants. The fire hydrants shall confrom to AWWA C502 and as specified.

a. Acceptable Manufactures:
    1. American Flow Control, Model Darling
    2. Clow, Model Medallion
    3. Kennedy, Model K-81D
    4. Mueller, Model Super Centurion 250

5. U.S. Pipe, Model M-94

b. Design:

1. Provide compression type main valve designed to open against pressure. Valve facings sall be non-toxic materials suitable for potable water service.
2. Provide internal main valve seat opening of not less than 5-¼ inches diameter.
3. Design to open counterclockwise.
4. Provide dry-type bonnet with lubricant reservoir protected by O- or Quad-ring seals.
5. Provide a flange pipe end on shoe.
6. Furnish for minimum bury depth of 42 inches. Include extensions as required for blow-offs. Furnish with two 2-1/2-inch hose nozzles and one 4-1/2-inch pumper nozzle with NFPA 1963 standard threads. Nozzle caps shall be chained to hydrant. Provide traffic break-off joint located above and near ground surface designed to minimize accident repairs.

c. Shop Painting: Shop paint exterior of hydrants orange with black nozzel caps and chain using Beniamin Moore & Co., Industrial Maint. Coating, Orange M22-65, Black M22-82. Apply interior coat confroming to AWWA C550 to all exposed interior ferrous metal surfaces.

5.3 Taps and Tapping Saddles. Provide tapping saddles for all service lateral connections unless otherwise specified. All taps into the water main shall be at an angle of not more than 45 degrees from the horizontal, and corporation stop shall be installed.

a. Tapping Saddles shall be Mueller Company Style BR2B series or Engineer approved equal.

1. AWWA taper thread (C.C.) Outlet in accordance with AWWA C800-05.
2. Shall have double straps.

5.4 Corporation Stops. Provide corporation stops for all service lateral connection unless otherwise specified and to isolate air release valves or as manual air release. Corporation stops shall be Mueller Company Style H-10003N, H-10013N, H-10045N, or Engineer approved equal.

a. Design:

1. Ground Key Type.
2. In accordance with AWWA C800.
3. AWWA Taper thread (C.C.) inlet.

5.5 Compression Couplings. Acceptable only for sizes ¾-inch to 2-inch. Compression couplings shall be Mueller Company Style H-15403N or Engineer approved equal.

5.6 Meter Boxes. Meter boxes shall be Mueller Company Thermal-coil Box or Engineer approved equal.

a. Design:

1. Minimum diameter of 18-inches.
2. Minimum wall thickness of 0.30-inches.
3. Attached aluminum bottom.
4. Side locking composite meter lid.

5. Inlet angle meter valve with lock-wing.
6. Dual angle check valve at meter outlet.
7. 4-inch-thick insulating pad.
8. Coiled tubing to be class 250 polybutylene meeting ASTM 2666.
9. Meter shall be provided by the City of Independence Water Department.

5.7 Valve Boxes. Valve boxes shall be provided for all buried valves.

a. Approved Manufacturers:
   1. Clay and Bailey Manufacturing Company
   2. Mueller Company
   3. Tyler Union Company

b. Design:
   1. All valve boxes shall be made of cast or ductile iron, as manufactured by Clay & Bailey Manufacturing Company or Engineer approved equal.
   2. All roadway valve boxes shall consist of a base (No. 2260-6), shaft section 6" diameter ductile iron pipe, top section and a lid marked "Water" (No. 2196).
   3. All non-roadway valve boxes shall have a base, 4-¼" diameter shaft with lid marked "Water" and consist of an adjustable slip or screw type two-piece valve box.
   4. Provide extension stem to bring operating nut within 2 feet of valve box top.

6.0 Shop Painting. Prepare surfaces and paint or coat all valves, fire hydrants, floor stands, valve boxes, corporation stops, and all related accessories standard of the manufacturer unless otherwise specified herein. Paint and coatings shall be suitable for the service intended. Submit type of paint or coating proposed with drawings and data for Engineer approval prior to fabrication.

7.0 Construction Requirements. Comply with applicable provisions of AWWA C600 and as specified. The Contractor shall thoroughly clean and remove all shipping materials prior to setting. Operate all valves from fully open to totally closed. Set fire hydrants with lowest nozzle 18 inches above finished grade. Check and fill stem bonnet lubricant reservoir. The Contractor shall equip with anchorage where indicated.

8.0 Basis of Payment. No direct payment will be made to the Contractor to recover the cost of equipment, labor, materials, or time needed to fulfill the above provisions other than the direct payment identified for each bid item. This shall apply to the following non-standard bid items:

QQ. Polyethylene Encasement

1.0 General. Furnish polyethylene encasement to encase all pipe, fittings, valves, and other appurtenances with a polyethylene film as indicated or specified.

2.0 Materials.

2.1 Polyethylene Encasement. The polyethylene encasement shall be Class A (natural color) and conform to AWWA C105.

2.2 Adhesive Tape. The adhesive tape shall be approximately 1 inch wide, plastic backed, and capable of bonding securely to metal surfaces and/or polyethylene material. The adhesive tape shall be Polyken No. 900, Scotchrap No. 50, or Engineer approved equal.

3.0 Construction Requirements.

3.1 Polyethylene Encasement. Wrap pipe, fittings, valves, and couplings per AWWA C105 installation standards and minimize exposure of polyethylene film to sunlight. Use adhesive tape to fasten polyethylene film in place.

RR. Field Testing

1.0 General. Water for preforming hydrostatic tests on the potable water system may be obtained from the City of Independence Water Department existing potable water system. The City of Independence Water Department shall make water for testing available to the Contractor at nearest source (at lowest rate step). The Contractor is responsible for the transfer of water from the supply to point of use.

a. Contractor shall furnish all required materials and equipment for testing pipelines. Including but not limited to, the following:
    1. Hydrostatic Testing and Flushing:
        i. Necessary piping connections.
        ii. Test pumping equipment.
        iii. Water meter.
        iv. Pressure gauge.
        v. Bulkheads, supports, struts, strong backs, etc.
        vi. All miscellaneous items required.
b. Submit proposed methods and procedures for testing to Engineer for review and acceptance prior to performing any flushing or testing operations.
c. Submit lengths and locations of proposed test sections to Engineer for review and acceptance.
d. All testing operations shall be performed by Contractor in the presence of the City of Independence Water Department Representative. Protect all plant equipment, pipe, and structures from damage and leakage during and after the flushing and testing operations. Damage resulting from leakage or failures of bulkheads, plugs, or supports shall be repaired by Contractor at their expense.
e. If any test discloses leakage greater than that specified, Contractor shall, at Contractor's expense:
    1. Locate the defective pipe, joint, joints, or appurtenance.
    2. Submit proposed repair methods and materials to Engineer for review and acceptance prior to making repairs.
    3. Repair.
    4. Repeat the applicable test until the leakage is within the specified allowance.
f. Submit test reports signed by the witnessing City of Independence Water Department Representative. Test reports shall identify the line, line size, station to station, date, type of test, pressure, and test results.

2.0 Hydrostatic. Test all pipe conforming to applicable sections of AWWA C600 as modified herein.

System	Type of Test	Test Pressure (psig)	Duration of Test (hrs)
Potable Water	Hydrostatic	225	2
Service Water	Hydrostatic	225	2

a. Apply after the pipeline has been filled with water.

b. Limit fill rate of line to available venting capacity. Fill rate shall be regulated to limit velocity in lines when flowing full to not more than 1 foot per second (fps).

c. Apply in such a manner that the required pressure can be obtained and maintained for the duration of the tests.

d. All lines shall be tested after backfilling.

e. Test in segments between sectionalizing valves, between a sectionalizing valve and a test plug, or between test plugs as approved by Engineer.

   1. Select test segments such that adjustable-seated valves are isolated for individual checking.
   2. Furnish and install test plugs along with all anchors, braces, and other devices to withstand hydrostatic pressure on plugs.

f. Allowable leakage for piping systems with gasketed joints shall be determined by the following formula:

   L = 0.000035 ND(P)1/2, in which:

   L = Maximum permissible leakage, gallons per hour.

   N = Number of joints in segment under test.

   D = Nominal internal diameter of pipe being tested, inches.

   P = Test pressure, pounds per square inch, gauge (psig).

g. When testing against closed metal-seated valves, leakage per closed valve of 0.0078 gal./hr./inch of nominal valve size shall be allowed.

h. After satisfactory completion of the hydrostatic test, drain the entire system tested of all test water by a method, and in a location, approved by Engineer.

3.0 Flushing. All pipelines shall be flushed prior to the application of the hydrostatic test as specified in this Section. Flushing of the new pipes will be done by the City of Independence Water Department. Should the pipe require excessive flushing, disinfection, or other cleaning procedure necessary prior to satisfactory lab results, such work will be at the expense of the Contractor. Notify Engineer and the City of Independence Water Department at least 96 hours in advance of intended initiation of flushing operation.

4.0 Disinfection.

a. Contractor shall provide all equipment and materials required to disinfect the potable water lines as specified.

   1. Perform in conformance with AWWA C601 as specified.
   2. Include chlorination and final flushing.

b. Submit proposed materials and methods to Engineer for review and acceptance prior to disinfection.

1. Provide High-Test Granular calcium Hypochlorite (HTH) to give a 50 parts per million (PPM) solution when the water main is filled.

c. Disinfection and sampling of the new pipes will be done by the City of Independence Water Department.
    1. During disinfection, all valves shall be operated to ensure disinfection.
    2. Chlorine residual shall be verified using drop dilution method per AWWA C651.

d. The City of Independence Water Department will provide sampling and laboratory testing.
    1. Bacteriological sampling and laboratory testing shall be performed in accordance with AWWA C651 Option A and United States Environmental Protection Agency (EPA) sampling and preservation techniques.
    2. Samples shall be collected at least 24 hours apart.
    3. A copy of the test results shall be submitted to the Engineer.

e. Contractor shall dispose of flushing water without damage to public or private property as approved by Engineer.

f. Repeat disinfection procedure, at no additional cost to Owner, should initial treatment fail to yield satisfactory results.

g. The new pipe shall remain isolated from the existing system until satisfactory laboratory results can be obtained.

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

SS. IPL Provided Materials

1.0 Description. This Job Special Provision (JSP) outlines the responsibilities for the furnishing and installation of light pole screw-in bases in coordination with Independence Power and Light (IPL). This JSP supplements and amends the Missouri Department of Transportation (MoDOT) Standard Specifications for Highway Construction, current edition, including all amendments and supplemental specifications.

2.0 Materials. Independence Power and Light (IPL) will be responsible for furnishing all light pole screw-in bases required for this project. These bases shall be delivered by IPL to a location designated by the Contractor, within the project limits or at a mutually agreed-upon off-site location, at no cost to the Contractor. The Contractor shall coordinate with IPL regarding delivery schedules and specific drop-off points.

3.0 Construction Requirements. The Contractor shall be solely responsible for the proper handling, storage, and installation of all light pole screw-in bases furnished by IPL. This includes, but is not limited to:

- Receiving the bases from IPL.
- Protecting the bases from damage during storage on-site.
- Transporting the bases from the delivery location to the point of installation.

- Installing the screw-in bases in accordance with the plans, MoDOT Standard Specifications, and manufacturer's recommendations, ensuring proper alignment, depth, and stability.
- Providing all necessary equipment, labor, and incidentals required for the installation.
- Repairing or replacing, at no additional cost to the Department, any bases damaged due to the Contractor's negligence or improper handling.

The Contractor shall coordinate all installation activities with IPL to ensure compatibility and proper integration with IPL's electrical system components. Any conflicts or discrepancies shall be brought to the attention of the Engineer and IPL immediately for resolution.

4.0 Measurement and Payment. No direct payment will be made for the furnishing of the light pole screw-in bases, as these items are furnished by Independence Power and Light (IPL).

Payment for the handling, storage, transportation, and installation of the light pole screw-in bases, as described herein, shall be considered incidental to the contract pay item identified as "Pole Foundation (30 FT. OR 9.0 M Mounting Height) [Install Only]" on a per Each basis, and no separate or direct payment will be made for these operations. The cost for all labor, equipment, tools, and incidentals necessary to complete this work shall be included in this bid item.

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

1.0 Description.

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

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

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

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

1.5 After each estimate, when contractor reporting of payments is complete, the subcontractor will receive an email notifying them of the payment and requesting verification of the reported

payment. A subcontractor that has not completed registration with Signet will be prompted to do so at this time.

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

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

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

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

2.2 The payer must report the following information within Signet:

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

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

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

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

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

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