

LINDBERGH/OLD OLIVE IMPROVEMENT PROJECT
FEDERAL PROJECT NUMBER STP-5526(649)
CITY OF CREVE COEUR, MISSOURI

ADDENDUM #1
DECEMBER 2, 2024

Bidders are hereby instructed to make the following three (3) changes to the Bid Documents for the project referenced above and to consider these changes and the responses to the requests for information included herein when making a Bid for the work specified in the Bid Documents:

Item #1: Plan Sheet Correction. Sheet #73 of the construction plans was found to have an error for which type of lighting poles are to be installed, and a replacement Sheet #73 is included in this addendum.

Discussion: Sheet #73 contains lighting quantities, and five (5) "Type AT-45, D3" poles were specified. Type AT-45, D3 poles are 40 feet in length. The Itemized Bid Form specifies five (5) 30 foot lighting poles, which is the correct type. Plan Sheet #73 has been corrected to specify the lighting poles as "Type AT-30" and the corrected sheet is included in this addendum. No other changes were made to the plan sheet.

Item #2: Job Special Provisions (JSPs) Revision. The Job Special Provisions did not include restricted hours for lane closures on 67/Lindbergh Blvd. JSP #3 has been updated to include the restricted hours. An updated set of JSPs is included as part of this addendum for the bidders' use.

Discussion: The bid document did not specifically define work hour restrictions on 67/Lindbergh Blvd. Traffic volume data indicates that lane closures on Lindbergh Blvd between 6:30 a.m. and 8:30 a.m., and 3:00 p.m. and 5:00 p.m., Monday through Friday, will result in traffic queues greater than 10 minutes. Therefore, lane closures will not be allowed during those times.

An updated set of Job Special Provisions is included in this addendum.

Item #3: Federal Wage Rates. The federal wage rates that apply to the project have been updated as of November 29, 2024. These updated wage rates will become part of the contract for the project.

Discussion: The City of Creve Coeur is obligated to use the most up-to-date version of the federal wage rates for the project, with the exception of any changes that occur within ten (10) days of the date that the bids are due to the City. The most recent updates to the applicable federal wage rates occurred on November 29, which was eleven (11) days prior to the date when the bids are due. Therefore, the revised federal wage rates must be included as part of the bid documents and the construction contract.

Item #4: Requests for Information. The City offers the following points of clarification related to questions about the project that have been asked during the bidding process. Some of the questions have been paraphrased and/or condensed:

1. Signal & Lighting Power Supplies.

Question: A question was asked about the quantities shown for power supplies on the signal sheets and the power supplies for lights.

Response: The contractor shall provide and install 2 new power supply cabinets:

- 1 unit for MoDOT 120V signals w/UPS and 240V lighting
- 1 unit for the City of Creve Coeur maintained 120V signal pole mounted illuminated street name signs

The Itemized Bid Forms show the correct quantities for these power supplies.

Addendum Summary

The three (3) changes included in this addendum affect one hundred and twelve (112) pages of the Request for Bid document and one (1) page of the Construction Plans, as summarized below:

Item #1: This addendum includes a replacement page for Sheet 73 of the Construction Plans. Bidders are instructed to consider this replacement page when interpreting the scope of work for the project and when formulating their bid.

Item #2: An updated set of Job Special Provisions impacts seventy-seven (77) pages of the Request for Bid document. This addendum includes replacement pages for the Job Special Provisions section of the Request for Bid (i.e. pages 55-131.) Bidders are instructed to consider these replacement pages as part of their bid for the project.

Item #3: The most recent Federal Wage Rates impact thirty-five (35) pages of the Request for Bid document. This addendum includes replacement pages for the Federal Wage Rate Determination section of the Request for Bid (i.e., pages 166-200). Bidders are instructed to consider these replacement pages with their bid.

Item #4: The clarification regarding power supplies does not alter the bid documents.

END ADDENDUM #1




**Old Olive Street Rd & Lindbergh Intersection Improvements
City of Creve Coeur, Missouri
STP-5526(649)**

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 <i>Paige Martz</i>	<p>MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65102 Phone 1-888-275-6636</p>
	<p>CONSULTANT NAME <i>CBB Transportation</i> 12400 Olive Boulevard, Suite 430 St. Louis, MO. 63141 Certificate of Authority: Consultant Phone: 314-878-6644</p>
	<p>If a seal is present on this sheet, JSP's have been electronically sealed and dated.</p>
	<p>JOB NUMBER: 050-21 ST. LOUIS, MO DATE PREPARED: 11/26/2024 FINAL PLANS</p>

Only the items of the Job Special Provisions (Roadway) marked with a * above are authenticated by this seal.



**JSP – 1
PROJECT CONTACT FOR CONTRACTOR/BIDDER QUESTIONS**

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

*Kevin Mulligan, P.E.
Civil Engineer
City of Creve Coeur
O:314-442-2067
kmulligan@crevecoeurmo.gov*

END OF JOB SPECIAL PROVISION 1

**JSP – 2
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 City’s Project Manager shall also be notified when the contractor requests emergency assistance.

KEVIN MULLIGAN, P.E.
CIVIL ENGINEER
CITY OF CREVE COEUR
300 N. NEW BALLAS RD
CREVE COEUR, MO 63141
O:314-442-2067
kmulligan@crevecoeurmo.gov

Or

PAIGE MARTZ, PE
CBB TRANSPORTATION ENGINEERS
AND PLANNERS
12400 OLIVE BOULEVARD, STE. 430
ST. LOUIS, MO. 63141
PHONE: (816) 643-2408
pmartz@cbbtraffic.com

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 (314-416-2180)		
City of Creve Coeur Police Department Police: 314-432-8000	City of Creve Coeur Fire Department Fire: 314-432-5570	

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.

END OF JOB SPECIAL PROVISION 2

JSP – 3

WORK ZONE TRAFFIC MANAGEMENT JSP-02-06N

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

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

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

2.0 Traffic Management Schedule.

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

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

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

2.4 In order to ensure minimal traffic interference, the contractor shall schedule lane closures for the absolute minimum amount of time required to complete the work. Lanes

shall not be closed until material is available for continuous construction and the contractor is prepared to diligently pursue the work until the closed lane is opened to traffic.

2.5 Traffic Congestion. The contractor shall, upon approval of the engineer, take proactive measures to reduce traffic congestion in the work zone. The contractor shall immediately implement appropriate mitigation strategies whenever traffic congestion reaches an excess of 10 minutes to prevent congestion from escalating to 15 minute or above threshold. If disruption of the traffic flow occurs and traffic is backed up in queues of 15 minute delays or longer, then the contractor shall immediately review the construction operations which contributed directly to disruption of the traffic flow and make adjustments to the operations to prevent the queues from reoccurring. Traffic delays may be monitored by physical presence on site or by utilizing real-time travel data through the work zone that generate text and/or email notifications where available. The engineer monitoring the work zone may also notify the contractor of delays that require prompt mitigation. The contractor may work with the engineer to determine what other alternative solutions or time periods would be acceptable.

2.5.1 Traffic Safety.

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

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

3.0 Work Hour Restrictions.

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

Memorial Day
Labor Day
Thanksgiving
Christmas
New Year's Day

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

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

3.2 The contractor shall not perform any construction operation on the roadway including the hauling of material within the project limits during restricted periods, holiday periods or other special events specified in the contract documents.

3.3 The contractor shall be aware that traffic volume data indicates construction operations on the roadbed during the following hours will likely result in traffic queues greater than 10 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 10 minute queue in traffic. It shall be the responsibility of the engineer to determine if the below work hours may be modified. Working hours for evenings, weekends and holidays will be determined by the engineer.

Restricted Hours for Lane Closures

Route 67 Southbound:

6:30 a.m. to 8:30 a.m. Monday through Friday

3:00 p.m. to 5:00 p.m. Monday through Friday

No restrictions Saturday and Sunday

Route 67 Northbound:

6:30 a.m. to 8:30 a.m. Monday through Friday

3:00 p.m. to 5:00 p.m. Monday through Friday

No restrictions Saturday and Sunday

3.5 The contractor shall not alter the start time, ending time, or a reduction in the number of through lanes of traffic or ramp closures without advance notification and approval by the engineer. The only work zone operation approved to begin 30 minutes prior to a reduction in through traffic lanes or ramp closures is the installation of traffic control signs. Should lane closures be placed or remain in place, prior to the approved starting time or after the approved ending time, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delays, with a resulting cost to the traveling public. These damages are not easily computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of \$1,000 per 15 minute increment for each 15 minutes that the temporary lane closures are in place



and not open to traffic in excess of the limitation as specified elsewhere in this special provision. It shall be the responsibility of the engineer to determine the quantity of unapproved closure time.

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

4.0 Detours and Lane Closures.

4.2 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.

END OF JOB SPECIAL PROVISION 3

**JSP – 4
UTILITIES**

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

<u>Utility Name</u>	<u>Known Required Adjustment</u>	<u>Status</u>
AMEREN MISSOURI ELECTRIC CLARK MCLEMORE 314-830-8917 CMCLEMORE@AMEREN.COM	Yes	
ATT DISTRIBUTION DANNY T. GRAY, JR DG7548@ATT.COM	Yes	
CHARTER COMMUNICATIONS 1-888-438-2427 SUE BANASZEK@CHARTER.COM	Yes	
EXTENET SYSTEMS LLC JAMES HOGAN CONSTRUCTION MANAGER 917-836-0910 JAMES.HOGAN@EXTENETSYSTEMS.COM	Yes	
LEVEL 3 NOW CENTURYLINK SAMANTHA MEYER	Yes	

SAMANTHA.MEYER@LUMEN.COM CJ SHIPWRIGHT OLSSON 913-748-2611 CJSHIPWRIGHT@OLSSON.COM		
MNA-BLUEBIRD JAMIE SCOTT 314-220-8996 JAMES.SCOTT@BLUEBIRDNETWORK.COM	Yes	
MISSOURI AMERICAN WATER MONTE GRIFFITH MONTE.GRIFFITH@AMWATER.COM	Yes	
SPIRE MO EAST NICK EGGERT 314-330-5720 NICHOLAS.EGGERT@SPIREENERGY.COM	No	
MSD STEVE ROBERTS 314-768-6310 SROBERTS@STLMSD.COM	Yes	

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 City at this time. This information is provided by the City "as-is" and the City 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 City 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.

1.2 The contractor agrees that any effects of the presence of the utilities, their relocation, contractor's coordination of work with the utilities and any delay in utility relocation shall not be compensable as a suspension of work, extra work, a change in the work, as a differing site condition or otherwise including but, without limitation, delay, impact, incidental or consequential damages. The contractor's sole remedy for the effects of the presence of utilities, delay in their relocation or any other effects shall be an excusable delay as provided in Section 105.7.3. The contractor waives, for itself, its subcontractors and suppliers the compensability of the presence of utilities, delay in their relocation and any cost to the contractor, its subcontractors and suppliers in any claim or action arising out of or in relation to the work under the contract.

1.3 The contractor shall be solely responsible and liable for incidental and consequential damage to any utility facilities or interruption of the service caused by it or its subcontractors operation. The contractor shall hold and save harmless the City from damages to any utility facilities interruption of service by it or it's subcontractor's operation.

2.0 It shall be noted by the contractor that MoDOT is a member of Missouri One Call (800 Dig Rite). Some work on this project may be in the vicinity of MoDOT utility facilities, which includes but is not limited to traffic signal cables, highway lighting circuits, ITS cables, cathodic protection cables, etc. Prior to beginning work, the contractor shall request locates from Missouri One Call.



The contractor shall also complete the Notice of Intent to Perform Work form located at the Missouri Department of Transportation website:

<http://www.modot.mo.gov/asp/intentToWork.shtml>

The contractor shall submit the form over the web (preferred method) or by fax to the numbers on the printed form. The notice must be submitted a minimum of 2 and a maximum of 10 working days prior to excavation just as Missouri One Call requires.

END OF JOB SPECIAL PROVISION 4

JSP – 5 GENERAL FEDERAL JSP-09-02J

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 2023 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.



END OF JOB SPECIAL PROVISION 5

JSP – 6

ADA COMPLIANCE AND FINAL ACCEPTANCE OF CONSTRUCTED FACILITIES LPA-15-07A

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:

http://www.modot.mo.gov/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-complaint 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 complaint 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-complaint items that are allowed to remain at the end of the construction project. Specific details of the non-complaint 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.

END OF JOB SPECIAL PROVISION 6

JSP – 7

A DISADVANTAGED BUSINESS ENTERPRISE (DBE) PROGRAM REQUIREMENTS

1.0 Description: Insert the following additional program provisions in the Disadvantaged Business Enterprise (DBE) Program Requirements of the General Provisions and Supplemental Specifications to 2011 Missouri Standard Specifications for Highway Construction.

2.0 Factors Used to Determine if a DBE Regular Dealer of Liquid Asphalt is Performing a CUF. The DBE must be responsible with respect to materials and supplies used on a contract perform all of the following, pursuant to 49 CFR § 26.55(c)(1) and 7 CSR 10-8.131:

- (a) Negotiating price.
- (b) Determining quality and quantity.
- (c) Ordering the material.

(d) Paying for the material itself.

(e) 30% of the work must be performed by the DBE's permanent employees (which does not include owner-operators or leased employees) or those hired by the DBE firm for the project from an independent source other than the prime contractor, such as a union hall. For at least 30% of the work the DBE's owned (not leased) equipment shall be used and the DBE must provide documentation that this owned equipment was used on the project as required by this provision.

(f) For up to 70% of the remaining work the equipment used by the DBE must be by long term lease (at least one year) with another DBE or non-DBE but not the prime contractor. The DBE must have absolute priority over other businesses or entities to use the long term leased equipment and must display the name and identification number of the DBE.

(g) The Contractor shall require DBE subcontractors to provide documentation in one of the following formats: bills of lading, hauling tickets, shippers manifest, and/or paid invoices. Regardless of the document format, the document(s) shall include the following information: name of the carrier, full name of the driver, driver ID number(s), truck and tanker ID or VIN number, and reflect the contract number, job number, county and route

The contract number, job number, county and route can be reported through a consignee number or lift number, as long as the DBE Subcontractor has provided the consignee number, or lift number, along with project specific information which shall include contract number, job number, county and route.

The documentation must be submitted and generated by the DBE Subcontractor and be printed on letterhead or other similar documentation outlining the contact information for the DBE Subcontractor. In addition the documentation shall indicate the quantity and amount invoiced to the prime contractor (Such as an invoice). "MoDOT's DBE Contractor/Subcontractor Project Trucker and Equipment List" (Form 1) will be provided by MoDOT and shall be completed and submitted to MoDOT by the DBE Subcontractor or Liquid Asphalt Supplier before Asphalt Operations begin. The DBE Subcontractor shall report all trucks and tankers they currently own and all full time drivers that they employ, including all of the drivers numbers for each terminal the drivers pick up from. In addition the DBE Subcontractor shall include a list of "long term" leased equipment, along with drivers and drivers' numbers to the DBE Subcontractor Project Trucker and Equipment List. The DBE Subcontractor shall attach copies of all current long term lease agreements to the DBE Subcontractor Project Trucker and Equipment List.

(h) DBE Trucking/Hauling regulations do not apply to regular dealers of liquid asphalt.

3.0 When a DBE Regular Dealer of Liquid Asphalt is Not Eligible for DBE Credit.

(a) "If its role is limited to that of an extra participant in a transaction, contract or project through which funds are passed in order to obtain the appearance of DBE participation." 49 CFR § 26.55(c)(2)

(b) If the type of transaction does not allow the DBE subcontractor to perform one of the four required functions, such as a prime contractor deciding the price of a commodity to be supplied by the DBE, that transaction is not eligible for DBE credit.

(c) Work that is performed with trucks that are not owned nor under a lease of at least one year by the DBE will not be eligible for DBE credit.

(d) A lack of documentation verifying that at least one DBE owned (not leased) tractor and tanker/ trailer was used to haul liquid asphalt on the project will result in no DBE credit given on that project.

4.0 This form will be completed by the inspector from the project office during the time of the project. MoDOT will use the *MoDOT DBE Job-Site Review CUF Determination Form* to verify CUF was performed on the project, a copy of which is available on the MoDOT Contractor Resource website.

END OF JOB SPECIAL PROVISION 7

**JSP – 8
SUPPLEMENTAL REVISIONS JSP-18-01Z**

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.



Anti-Discrimination Against Israel Certification

By signing this contract, the Company certifies it is not currently engaged in and shall not, for the duration of the contract, engage in a boycott of goods or services from the State of Israel, companies doing business in or with Israel or authorized by, licensed by, or organized under the laws of the State of Israel, or persons or entities doing business in the State of Israel as defined by Section 34.600 RSMo. This certification shall not apply to contracts with a total potential value of less than One Hundred Thousand Dollars (\$100,000) or to contractors with fewer than ten (10) employees.

Ground Tire Rubber (GTR) Dry Process Modification of Bituminous Pavement Material

1.0 Description. This work shall consist of the dry process of adding ground tire rubber (GTR) to modify bituminous material to be used in highway construction. Existing GTR requirements in Section 1015 pertain to the wet process method of GTR modification that blends GTR with the asphalt binder (terminal blending or blending at HMA plant). The following requirements shall govern for dry process GTR modification. The dry process method adds GTR as a fine aggregate or mineral filler during mix production. All GTR modified asphalt mixtures shall be in accordance with Secs 401, 402, or 403 as specified in the contract; except as revised by this specification.

2.0 Materials. The contractor shall furnish a manufacturer's certification to the engineer for each shipment of GTR furnished stating the name of the manufacturer, the chemical composition, workability additives, and certifying that the GTR supplied is in accordance with this specification.

2.1 Product Approval. The GTR product shall contain a Trans-Polyoctenamer (TOR) added at 4.5 % of the weight of the crumb rubber or an engineered crumb rubber (ECR) workability additive that has proven performance in Missouri. Other GTR additives shall be demonstrated and proven prior to use such as a five-year field performance history in other states or performance on a federal or state-sanctioned accelerated loading facility.

2.2 General. GTR shall be produced from processing automobile or truck tires by ambient or cryogenic grinding methods. Heavy equipment tires, uncured or de-vulcanized rubber will not be permitted. GTR shall also meet the following material requirements:

Table 1 – GTR Material Properties		
Property	Test Method	Criteria
Specific Gravity	ASTM D1817	1.02 to 1.20
Metal Contaminates	ASTM D5603	≤ 0.01%
Fiber Content	ASTM D5603	≤ 0.5%
Moisture Content	ASTM D1509	≤ 1.0%*
Mineral Filler	AASHTO M17	≤ 4.0%

*Moisture content of the GTR shall not cause foaming when combined with asphalt binder and aggregate during mix production

2.3 Gradation. The GTR material prior to TOR or ECR workability additives shall meet the following gradation and shall be tested in accordance with ASTM D5603 and ASTM D5644.

Table 2 – GTR Gradation	
Sieve	Percent Passing by Weight
No. 20	100
No. 30	98-100
No. 40	50-70
No. 100	5-15

3.0 Delivery, Storage, and Handling. The GTR shall be supplied in moisture-proof packaging or other appropriate bulk containers. GTR shall be stored in a dry location protected from rain before use. Each bag or container shall be properly labeled with the manufacturer’s designation for the GTR and specific type, mesh size, weight and manufacturer’s batch or Lot designation.

4.0 Feeder System. Dry Process GTR shall be controlled with a feeder system using a proportioning device that is accurate to within ± 3 percent of the amount required. The system shall automatically adjust the feed rate to always maintain the material within this tolerance and shall have a convenient and accurate means of calibration. The system shall provide in-process monitoring, consisting of either a digital display of output or a printout of feed rate, in pounds per minute, to verify feed rate. The supply system shall report the feed in 1-pound increments using load cells that will enable the user to monitor the depletion of the GTR. Monitoring the system volumetrically will not be allowed. The feeder shall interlock with the aggregate weight system and asphalt binder pump to maintain correct mixture proportions at all production rates.

Flow indicators or sensing devices for the system shall be interlocked with the plant controls to interrupt mixture production if GTR introduction rate is not within ± 3 percent. This interlock will immediately notify the operator if GTR introduction rate exceeds introduction tolerances. All plant production will cease if the introduction rate is not brought back within tolerance after 30 seconds. When the interlock system interrupts production and the plant has to be restarted, upon restarting operations; the modifier system shall run until a uniform feed can be observed on the output display. All mix produced prior to obtaining a uniform feed shall be rejected.

4.1 Batch Plants. GTR shall be added to aggregate in the weigh hopper. Mixing times shall be increased per GTR manufacturer recommendations.

4.2 Drum Plants. The feeder system shall add GTR to aggregate and liquid binder during mixing and provide sufficient mixing time to produce a uniform mixture. The feeder system shall ensure GTR does not become entrained in the exhaust system of the drier or plant and is not exposed to the drier flame at any point after introduction.

5.0 Testing During Mixture Production. Testing of asphalt mixes containing GTR shall not begin until at least 30 minutes after production or per additive supplier's recommendation.

6.0 Construction Requirements. Mixes containing GTR shall have a target mixing temperature of 325 F or as directed by the GTR additive supplier. The additive supplier's recommendations shall be followed to allow for GTR binder absorption/reaction. This may include holding mix in the silo to allow time for binder to absorb into the GTR. Rolling operations may need to be modified.

7.0 Mix Design Test Method Modification. A formal mixing procedure from the additive supplier shall be provided to the contractor and engineer that details the proper sample preparation, including blending GTR with the binder or other additives. Samples shall be prepared and fabricated in accordance with this procedure by the engineer and contractor throughout the duration of the project.

8.0 Mix design Volumetrics. Mix design volumetric equations shall be modified as follows:

8.1 Additional virgin binder added to offset GTR absorption of binder shall be counted as part of the mix virgin binder

8.2 GTR shall be included as part of the aggregate when calculating VMA of the mix.

8.2.1 GTR SPG shall be 1.15

8.3 Mix G_{sb} used to determine VMA shall be calculated as follows:

$$G_{sb (JMF)} = \frac{(100 - P_{bmv})}{\left(\frac{P_s}{G_{sb}} + \frac{P_{GTR}}{G_{GTR}}\right)}$$

where:

$G_{sb (JMF)}$ = bulk specific gravity of the combined aggregate including GTR

P_{bmv} = percent virgin binder by total mixture weight

P_s = percent aggregate by total mixture weight (not including GTR)

P_{GTR} = percent GTR by total mixture weight

G_{sb} = bulk specific gravity of the combined aggregate (not including GTR)

G_{GTR} = GTR specific gravity

8.4 G_{se} shall be calculated as follows:

$$G_{se} = \frac{(100 - P_b - P_{GTR})}{\left(\frac{100}{G_{mm}} - \frac{P_b}{G_b} - \frac{P_{GTR}}{G_{GTR}}\right)}$$

8.5 P_{be} shall be calculated as follows:

$$P_{be} = P_b - \frac{P_{ba}}{100} * (P_s + P_{GTR})$$

9.0 Minimum GTR Amount. The minimum dosage rate for GTR shall be 5 % by weight of total binder for an acceptable one bump grade or 10 % by weight of total binder for an acceptable two bump grade as detailed in the following table. Varying percentage blends of GTR and approved additives may be used as approved by the engineer with proven performance and meeting the specified requirements of the contract grade.

Contract Binder Grade	Percent Effective Virgin Binder Replacement Limits	Required Virgin Binder Grade	Minimum GTR Dosage Rate
PG 76-22	0 - 20	PG 70-22	5 %
		PG 64-22	10 %
PG 70-22	0 - 30	PG 64-22	5 %
		PG 58-28	10 %
PG 64-22	0 - 40*	PG 58-28	5 %
		PG 52-34	10 %
PG 58-28	0 - 40*	PG 52-34	5 %
		PG 46-34	10 %

* Reclaimed Asphalt Shingles (RAS) may be used when the contract grade is PG 64-22 or PG 58-28. RAS replacement shall follow the 2 x RAS criteria when calculating percent effective binder replacement in accordance Sec 401.

Buy America

In addition to Section 106.9 of the Missouri Standard Specifications for Highway Construction, the following requirements will also be in effect for this project.

1.0 Description. The Bipartisan Infrastructure Law (BIL) was enacted on November 15, 2021. The BIL includes Build America, Buy America Act Publication L. No. 117-58. This provision expands the Buy America requirements beyond what is currently only required for steel and iron products. The steel and iron provisions have not changed with the new bill. Cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives are excluded from this requirement. All other materials and manufactured products permanently incorporated into the project will be subject to Buy America requirements. There are three categories requiring Buy America Certification:

- a) Iron and steel – no changes to the current specification requirements.
- b) Manufactured products – these are currently exempted under the 1983 waiver from FHWA.
- c) Construction materials consisting primarily of:
 - Non-ferrous metals;
 - Plastic and polymer-based products (including polyvinylchloride, composite build materials, and polymers used in fiber optic cables);
 - Glass (including optic glass);
 - Lumber; or

- Drywall

1.1 All products and or materials will only be classified under one of these categories and not under multiple categories. It is the prime contractor's responsibility to assure all submittals required for Buy America are submitted to the Engineer prior to the products and or materials being incorporated in the job. The implementation of this policy will be in effect for all projects awarded after November 10, 2022.

1.2 New items designated as construction materials under this requirement will require the prime contractor to submit a material of origin form certification prior to incorporation into the project. The Certificate of Material origin form ([link to certificate form](#)) from the supplier and/or fabricator must show all steps of the manufacturing being completed in the United States. The Certificate of Material form shall be filed with the contract documents.

1.3 Any minor miscellaneous construction material items that are not included in the materials specifications shall be certified by the prime contractor as being procured domestically. The certification shall read "I certify all materials permanently incorporated in this project covered under this provision have been to the best of my knowledge procured and all manufactured domestically." The certification shall be signed by an authorized representative of the prime contractor.

1.4 The National Transportation Product Evaluation Program (NTPEP) compliance program verifies that some non-iron and steel products fabrication processes conform to 23 CFR 635.410 Buy America Requirements and an acceptable standard per 23 CFR 635.410(d). NTPEP compliant suppliers will not be required to submit step certification documentation with the shipment for some selected non-iron and steel materials. The NTPEP compliant supplier shall maintain the step certification documentation on file and shall provide this documentation to the engineer upon request.

2.0 Basis of Payment. Any costs incurred by the contractor by reason of compliance with the above requirements shall be considered as included in and completely covered by the unit price bid for the various items of work included in the contract.

Delete Sec 403.19.2 and substitute the following:

403.19.2 Lots. The lot size shall be designated in the contractor's QC Plan. Each lot shall contain no less than four sublots and the maximum subplot size shall be 1,000 tons. The maximum lot size shall be 4,000 tons for determination of pay factors. Sublots from incomplete lots shall be combined with the previous complete lot for determination of pay factors. When no previous lot exists, the mixture shall be treated in accordance with [Sec 403.23.7.4.1](#). A new lot shall begin when the asphalt content of a mixture is adjusted in accordance with [Sec 403.11](#).

END OF JOB SPECIAL PROVISION 8

JSP – 9
LPA BUY AMERICA REQUIREMENTS JSP-18-08

106.9 Buy America Requirement. On all federal-aid projects, the contractor's attention is directed to Title 23 CFR 635.410 Buy America Requirements and the Bipartisan Infrastructure Law (2021) Build America, Buy America Act Publication L. No. 117-58 regarding Buy America provisions on the procurement of foreign products and materials. Where steel or iron products or construction materials consisting primarily of non-ferrous metals, plastic and polymer-based products, glass, lumber or drywall are to be permanently incorporated into the contract work, these material shall be manufactured in the USA except for "minor usage" as described herein. Furthermore, any coating process of the steel or iron shall be performed in the USA. The use of pig iron and processed, pelletized and reduced iron ore manufactured outside of the USA will be permitted in the domestic manufacturing process for steel or iron material.

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

106.9.2 "Minor usage" of the above products or coating processes will be permitted, provided the cost of such products does not exceed 1/10 of one 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.

106.9.3 Buy America requirements include a step certification for all fabrication processes of all mentioned materials that are accepted per Sec 1000.

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

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

106.9.3.3 Any minor miscellaneous construction material, 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 all materials permanently incorporated in this project covered under this provision have been to the best of my knowledge procured and all manufactured domestically.” The certification shall be signed by an authorized representative of the prime contractor.

106.9.3.4 The National Transportation Product Evaluation Program (NTPEP) compliance program verifies that some non-iron and steel products fabrication processes conform to 23 CFR 635.410 Buy America Requirements and an acceptable standard per 23 CFR 635.410(d). NTPEP compliant suppliers will not be required to submit step certification documentation with the shipment for some selected non-iron and steel materials. The NTPEP compliant supplier shall maintain the step certification documentation on file and shall provide this documentation to the engineer upon request.

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

106.9.5 Basis of Payment. Any costs incurred by the contractor by reason of compliance with the above requirements shall be considered as included in and completely covered by the unit price bid for the various items of work included in the contract.

END OF JOB SPECIAL PROVISION 9

JSP – 10

LIQUIDATED DAMAGES SPECIFIED FOR ENTRANCE CLOSURES LPA-15-10

1.0 Construction and Closure of Paved Approaches. The contractor shall provide ingress and egress at all times for each property owner along the project either by constructing the new approach half at a time or by providing temporary access as approved by the engineer. Businesses with two or more entrances shall have only one entrance closed at a time. However, in the case of a property having one approach used exclusively as an entrance and another approach used exclusively as an exit, the approaches shall be built on half at a time to provide for safe traffic movement into and out of the properties. See special provision “**Work Zone Traffic Management Plan**” for further details. If each entrance, once construction has started, is not completely constructed to plan design within 10 calendar days of beginning construction on the entrance and open to traffic, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delay, with its resulting cost to the traveling public. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified



in the amount of **\$1000 per day per entrance for each full day** that the entrance is not fully complete and open to traffic, in excess of the limitation as specified elsewhere in this special provision. It shall be the responsibility of the engineer to determine the quantity of excess closure time.

1.1 The said liquidated damages specified will be assessed regardless if whether it would otherwise be charged as liquidated damages under the Missouri Standard Specification for Highway Construction

END OF JOB SPECIAL PROVISION 10

**JSP – 11
ADJUST TO GRADE OF IMPROVEMENTS**

1.0 Description. Regardless of type or size, the manholes, inlets, valves and other improvements shown in the plans that require adjustment to match the new grade of roadway, island or sidewalk. The existing manhole shall be adjusted and installed according to Standard Plan 731.00. Adjusting rings shall not exceed 12 inches in height.

Concrete Collars. Damaged concrete collars on manholes shall be replaced as directed by the engineer. The replacement concrete collars shall be 4 inches deep and 18 inches wide around the manhole.

The contractor is advised that utilities boxes are located within the pavement and/or sidewalk that will require adjustments. The Contractor shall adjust these facilities to grade as necessary. The Contractor shall contact the respective utility regarding any questions regarding the adjustment of these facilities.

All adjusted item within the roadway shall meet a H20 load rating.

2.0 Basis of Payment. All costs associated with compliance with this special provision for all material, equipment, and labor shall be completely covered by the contract unit price for Item Number 202-99.01a “ADJUST TO GRADE OF IMPROVEMENTS” per LUMP SUM.

END OF JOB SPECIAL PROVISION 11

**JSP – 12
RELOCATION OF IMPROVEMENTS**

1.0 Description. This work shall consist of relocating existing improvements shown in the plans. The existing improvements shall be removed and stored within the project limits until such time as it shall be reinstalled. Any damage to the existing improvements, either existing or caused by the Contractor, shall be repaired to the satisfaction of the engineer and/or City at the cost of the Contractor.

2.0 Reinstallation. It is the Contractors responsibility to reinstall the existing improvements in accordance to manufacture’s specifications or to the satisfaction of the engineer and/or City.



3.0 Basis of Payment. All costs associated with compliance with this special provision for all material, equipment, and labor shall be completely covered by the contract unit price for Item Number 202-99.01b “RELOCATION OF IMPROVEMENTS” per LUMP SUM.

END OF JOB SPECIAL PROVISION 12

**JSP – 13
TRAFFIC CONTROL**

1.0 Description. This work shall consist of providing traffic control devices such as construction signage, barricades, channelizers and flashing arrow panels in zones where work is to be performed. The desired staging and traffic control layouts are depicted in the traffic control plan however, additional traffic control devices, including flaggers, may be needed in order to appropriately and safely cover the work area or as mandated by the City of St. Charles. Payment for the traffic control devices including all materials, equipment, tools, labor, and work incidental thereto for installation shall be considered incidental to this item. While the contractor is allowed to provide, rent or relocate the equipment as desired, no additional payment will be made.

2.0 Traffic Control Plan Revisions. The plans provide a traffic control plan. The contractor is allowed to propose changes to the traffic control plan if the construction time frame can be shortened, and/or the number of days traffic lanes are restricted can be reduced. If the contractor proposes modifying the traffic control plans, there will be no additional payment for additional traffic control items.

2.0.1 Any modification to the Traffic Control Plans or alternate traffic control plan must meet the minimum requirements of this provision. Modified Traffic Control Plan’s must comply to the current edition of the MUTCD and MODOT standards, whichever is more conservative.

3.0 Basis of Payment. Payment for 616-99.01a “TRAFFIC CONTROL” shall be made of the unit LUMP SUM. 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.

END OF JOB SPECIAL PROVISION 13

**JSP – 14
MAINTENANCE OF TRAFFIC CONTROL ITEMS**

1.0 Description. This work shall consist of installing and removing temporary lane closures, straightening, cleaning, repairing, replacing traffic control devices, and any other maintenance, labor, equipment or supplies associated correcting deficiencies and maintaining the quality of traffic control on the project.

All construction signs and temporary traffic control devices shall be like new, at the beginning of the contract. Work Zone deficiencies could involve missing or damaged signs, faded striping, non-reflective traffic control items, non-standard lane drops, non-functioning changeable message signs or arrow boards, non-functioning work zone lighting, signals

malfunctioning or nonworking, etc. Missing signs with non-typical wording can be replaced with Changeable Message Signs until new signs can be made and installed. The contractor shall have a supply of standard replacement signs and devices available at all times to make needed corrections.

2.0 Basis for Payment. This work shall be paid for at the contract unit price for Item Number 614-99.02b, "Maintenance of Traffic Control Items", lump sum. The payment will be made monthly to the contractor based on the percentage of work completed to date at the discretion of the Engineer.

END OF JOB SPECIAL PROVISION 14

JSP – 15 RELOCATE EXISTING SIGN

1.0 Description. This work shall consist of relocating existing sign panels, as shown in the roadway plans. The existing sign panel shall be removed and stored within the project limits until such time as it shall be reinstalled. Any damage to the sign panel shall be repaired to the satisfaction of the engineer and/or City or replaced in kind at the cost of the Contractor. The reinstallation shall comply with section 903 of the Missouri Standard Specification Book for Highway Construction, 2016 Edition. The relocated sign is to be installed on a new post (breakaway or wooden) per pay item 903-12.40 and 903-12.60. Existing sign post is to be removed as well as any associated foundation.

2.0 Basis of Payment. This work shall be paid for at the contract unit price for Item Number 903-99.02a, "RELOCATE EXISTING SIGN", per EACH.

END OF JOB SPECIAL PROVISION JSP-15

JSP – 16 EXISTING BUSINESS SIGN (TO BE REMOVED AND RELOCATED)

1.0 Description. This item shall consist of removing and relocating an existing business sign. The existing sign shall be relocated to a new location as approved by the Engineer. After removal of the existing sign, the Contractor shall store the existing sign in a secure location that is assessable for the engineer to inspect and is responsible for the condition of the sign while being stored. Should damage occur to the existing sign prior to its relocation, the Contractor shall replace the sign in kind at his own expense. Removal of the existing sign, storage, relocation and installation of the existing sign and concrete bollards, labor, materials, and all miscellaneous hardware necessary to accomplish the task shall be considered incidental to this pay item.

2.0 Basis of Payment. All costs associated with compliance with this special provision for all material, equipment, and labor shall be completely covered by the contract unit price for Item Number 202-99.02b "EX BUSINESS SIGN (TBR&R)", per EACH.

END OF JOB SPECIAL PROVISION JSP-16

JSP – 17 AMENDED SOILS (804-99.05A)

1.0 Description. Soil Amended – Compost This work shall consist of incorporating compost within the root zone to improve soil quantity, plant viability and soil hydraulic conductivity. Work shall include cost of equipment, labor, materials and time required to complete the work, at the location designated on the contract plan set.

2.0 Materials. Compost shall be mature, stable, weed free, and produced by aerobic decomposition of organic matter. Compost feedstock may include, but is not limited to: agricultural, food or industrial residuals: class A biosolids as defined in the EPA CFR Title 40, Part 503; yard trimmings, or source-separated municipal solid waste. The product must not contain any visible refuse or other physical contaminants, substances toxic to plants, or over 5% sand, clay or rock material by dry weight. The product must not contain any visible refuse or other physical contaminants, substances toxic to plants, or possess no objectionable odors. The product must meet all applicable USEPA CFR, Title 40, Part 503 Standards for Class A biosolids. The moisture level shall be such that no visible water or dust is produced when handling the material.

3.0 Testing. The results of compost analysis shall be provided by the compost supplier. Maturity testing should be performed on site after the compost is delivered. Compost maturity test kits can be ordered from a number of commercial sources. Prior to delivery of any compost to the site and as part of shop drawing review, the following documentation shall be provided by the contractor to the [District](#) Inspector:

- Feedstock percentage in the final compost product
- A statement that the compost meets federal and state health and safety regulations
- A statement that the composting process has met time and temperature requirements
- A copy of the lab analysis, less than four months old, performed by a Seal of Testing Assurance Certified laboratory verifying that the compost meets the physical requirements as described in Table 1.

3.1 Soil evaluation. Prior to soil amendment, existing soil must be sampled and evaluated to determine amendment quantities and plan the amending process. In addition to compost, soil analysis may reveal the need for other soil amendments, such as lime, gypsum and specific nutrients. Contact your local Cooperative Extension for soil testing information.

3.2 Determining compost quantity. Compost shall uniformly be applied over the entire area to a depth of two (2) inches, and incorporated into the soil to a minimum depth of six (6) inches. Where tree roots or other natural features limit the maximum depth of incorporation, compost quantities should be adjusted. Required volume of compost may be estimated using the following approximation: one (1) inch compost spread over 1000 square feet = three (3) cubic yards. The Design may specify different compost application rates depending upon soil conditions.

3.3 Compost Application Procedure.

1. Clear surface of obstruction. The soil surface shall be reasonably free of large clods, roots, stones greater than 2 inches, and other material which will interfere with planting and subsequent site maintenance.
2. Rototill to a depth of 6-8". If the soil is too dense for a rototiller, the soil should first be broken up into large aggregates using a soil ripper.
3. If obstructions are unearthed during tilling, clear obstructions and properly dispose of. The soil surface shall be reasonably free of all objects, including stone and rubble, greater than 2 inches, and other material which will interfere with planting and subsequent site maintenance.
4. Distribute compost evenly to a depth of two inches over the soil surface.
5. Re-rototill several times in perpendicular directions to incorporate compost and other soil amendments.
6. Complete with fine grading and sodding.
7. Water thoroughly. Allow soil to settle for one week. If compost is immature, extend settling period to two to five weeks.

3.4 Alternative for deep compactions. If soil is compacted deeper than 6 inches, alternative techniques, such as trenching, may yield better results.

3.5 Slope limitations. On steep slopes, increasing soil moisture could potentially cause soil instability. In general, compost amendment is not recommended for slopes steeper than 3:1 (horizontal:vertical)³. Special care should be taken during installation on steep slopes. Installation should be performed during dry weather, and early enough in the year to permit the establishment of vegetation before the onset of winter.

3.6 Tree and shrub considerations. Care must be taken around existing trees and shrubs to prevent root damage during soil amendment. Soil disturbance should be avoided entirely within the tree's drip line (the out limits of the branches). A tree's roots may extend well beyond the drip line. Some trees and shrubs will recover from a certain amount of root disturbance. It is important to consult with a professional arborist for guidelines regarding specific trees and shrub species.

3.7 Seeding/Vegetation. Vegetation should be installed immediately after compost application. Follow published guidelines for seeding, sodding or planting.

3.8 References.

¹Test Methods for the Examination of Composting and Compost. 2002. USDA and U.S. Composting Council.

²Standard Methods for the Examination of Water and Wastewater. 1992. 18th Edition, American Public Health Association, 1015 Fifteenth Street, NW, Washington, DC 20005

³Chollak, T. and Rosenfeld, R. 1998. Guidelines for Landscaping with Compost-amended Soils. Prepared for Redmond Public Works, Redmond, WA. Available at <http://depts.washington.edu/cwws>

3.9 Soil quality improvements include:

- Ability of soil to enhance biological activity
- Ability of soil to attenuate environmental contaminants
- Increased moisture holding capacity
- Improve soil structure

Micronutrients will be supplied by the compost, but macronutrients (N, P, K, S, Mg and Ca) may need to be supplemented.

If soil pH is below 6.0, pelletized lime dolomite should be incorporated during the amendment process. Typical application rate: 50-100 pounds per 1000 square feet.

If nitrogen is needed, it should be supplied in a slow release, water insoluble form. Compost may supply all necessary nitrogen for at least the first year after application. After the first year, annual nitrogen requirements range from 2 to 8 pounds per 1000 square feet.

Gypsum can be used to add calcium and sulfur to the soil without increasing pH. In salty soils, it can help to displace sodium ions. It can also help to bind clay particles, increasing macropore abundance. 50-100 of gypsum per 1000 square feet should be incorporated into heavy clay soil³.

Table 1. Physical Requirements for Compost

Parameter	Range	Testing Method
pH	5.0-8.5	TMECC 4.11A
Soluble Salt Concentration	< 10dS/m	TMECC 4.10-A
Moisture	30-60% wet weight basis	SMEWW 2540B
Organic Matter	30-65% dry weight basis	TMECC 5.07-A
Total Nitrogen (N)	>1.00% dry weight basis	TMECC 04.02-D
Phosphate (P ₂ O ₅)	>0.50% dry weight basis	TMECC 04.03-A
Potash (K ₂ O)	>0.10% dry weight basis	TMECC 04.04-A
Particle Size	95% pass through 5/8" screen or smaller	TMECC 2.02-B

Stability (Carbon Dioxide evolution rate)	>80% relative to positive control	TMECC 5.08-B
Maturity (Seed emergence and seedling vigor)	>80% relative to positive control	TMECC 5.05-A
Physical contaminants (man made inerts)	<1% dry weight basis	TMECC 3.08-A
Chemical contaminants	Meet or exceed US EPA Class A standard, 40 CFR § 503.13, Tables 1 and 3 levels:	
Arsenic	< 41 ppm	TMECC 4.06-AS
Cadmium	< 39 ppm	TMECC 4.06-CD
Copper	< 1,500 ppm	TMECC 4.05-CU
Lead	< 300 ppm	TMECC 4.06-PB
Mercury	< 17 ppm	TMECC 4.06-HG
Molybdenum	< 75 ppm	TMECC 4.05-MO
Nickel	< 420 ppm	TMECC 4.06-NI
Selenium	< 100 ppm	TMECC 4.06-SE
Zinc	< 2,800 ppm	TMECC 4.06-ZN
Biological contaminants (pathogens)	Meet or exceed US EPA Class A standard, 40 CFR § 503.32(a) levels:	
Fecal coliform	< 1,000 MPN per gram, dry weight basis	TMECC 7.01

Recommended compost testing methodologies and sampling procedures are provided in Test methods for the Examination of Composting and Compost (TMECC)¹, and Standard Methods for the Examination of Water and Wastewater².



4.0 Basis of Payment. This work shall be paid for at the contact unit price for Item Number 804-99.05A “Amended Soils” per square yard.

END OF JOB SPECIAL PROVISION JSP-17

**JSP – 18
HYDRODYNAMIC SEPARATOR**

1.0 Description. A Hydrodynamic Separator will be used on this project at the locations specified on the plans. Contractor shall follow the Metropolitan St. Louis Sewer District Standard Specifications for Sewers and Drainage Facilities (2009 edition) Sewer standard details, material specifications, and construction requirements.

2.0 Basis of Payment. Payment for work associated with the Hydrodynamic Separator will include furnishing and installing the Hydrodynamic Separator and will include all labor and material necessary to perform this task.

The accepted quantity for will be paid for at the contract unit price for:

<u>Item Number</u>	<u>Unit</u>	<u>Description</u>
731-99.02	LF	Hydrodynamic Separator

END OF JOB SPECIAL PROVISION JSP-18

**JSP – 19
MSD DRAINAGE STRUCTURES**

1.0 Description. Metropolitan St. Louis Sewer District (MSD) standard drainage structures will be used on this project at the locations specified on the plans. Contractor shall follow the Metropolitan St. Louis Sewer District Standard Specifications for Sewers and Drainage Facilities (2009 edition) for standard details.

2.0 Basis of Measurement. Measurement will be made for each structure for the vertical distance between the elevation of the top structure and the elevation of the flowline at the structure base and will include all necessary assemblies associated with that structure, such as adapter rings, joints, connectors, grade adjustment rings, waterproofing required to adhere to MSD standards for storm drainage structures.

MSD PCC 42” Short Top Manhole

MSD PCC 48” Manhole includes 1-standard MSD Frame and Cover

MSD PCC 48” Manhole with Locking Cover includes 1-standard MSD Frame and Cover, and Locks

MSD PCC 60” Manhole includes 1-standard MSD Frame and Cover

MSD PCC 60” Manhole with Locking Cover includes 1-standard MSD Frame and Locking Cover, and Locks



- MSD PCC 72” Manhole** includes 1-standard MSD Frame and Cover
- MSD PCC 72” Manhole with Locking Cover** includes 1-standard MSD Frame and Locking Cover, and Locks
- MSD PCC Area Inlet** includes 1-standard MSD base, 4 Way Concrete Unit, Inlet stone and Cover
- MSD PCC Single Street Inlet – 48” Base** includes 1-MSD standard 48” base, single curb inlet unit, Inlet Stone and Cover
- MSD PCC Single Street Inlet – 60” Base** includes 1-MSD standard 60” base, single curb inlet unit, Inlet Stone and Cover
- MSD PCC Double Street Inlet** includes 1- MSD standard double inlet base, PCC Unit “B” and 2- inlet stone and cover.
- MSD PCC Double Trapped Street Inlet** includes 1-MSD standard double inlet trapped base, PCC Unit “B” and 2- inlet stone and cover.
- MSD PCC 2 Grate Inlet – 48” Base** includes 1- MSD standard 48” base, 2 Grate Inlet Seat, and Grates
- MSD PCC 2 Grate Inlet with Side Intake – 48” Base** includes 1- MSD standard 48” base, 2 Grate Inlet seat & cast iron side intake
- MSD PCC 2 Grate Inlet with Side Intake – 60” Base** includes 1- MSD standard 60” base, 2 Grate Inlet seat & cast iron side intake
- MSMSD PCC Trapped 2 Grate Inlet with Side Intake** includes 1-MSD standard trapped base, 2 grate inlet seat & cast iron side intake.

3.0 Basis of Payment. Payment for work associated with these drainage structures will include the entire cost for all assemblies necessary to furnish and install the entire structure, including all materials, equipment, labor and work will be made under the bid items for MSD drainage structures included in the contract.

The accepted quantity for drainage structures will be paid for at the contract unit price for:

<u>Item Number</u>	<u>Type</u>	<u>Description</u>
731-99.02	Pay Depth	MSD PCC 42” Short top Manhole
731-99.02	Pay Depth	MSD PCC 48” Manhole
731-99.02	Pay Depth	MSD PCC 48” Manhole with Locking Cover
731-99.02	Pay Depth	MSD PCC 60” Manhole
731-99.02	Pay Depth	MSD PCC 60” Manhole with Locking Cover
731-99.02	Pay Depth	MSD PCC 72” Manhole
731-99.02	Pay Depth	MSD PCC 72” Manhole with Locking Cover
731-99.02	Pay Depth	MSD PCC Area Inlet – 4 Sides
731-99.02	Pay Depth	MSD PCC Area Inlet – 3 Sides
731-99.02	Pay Depth	MSD PCC Single Street Inlet – 48” Base
731-99.02	Pay Depth	MSD PCC Single Street Inlet – 60” Base
731-99.02	Pay Depth	MSD PCC Double Street Inlet
731-99.02	Pay Depth	MSD PCC Double Trapped Street Inlet
731-99.02	Pay Depth	MSD PCC 2 Grate Inlet – 48” Base
731-99.02	Pay Depth	MSD PCC Trapped 2 Grate Inlet – 48” Base
731-99.02	Pay Depth	MSD PCC 2 Grate Inlet with Side Intake – 48” Base
731-99.02	Pay Depth	MSD PCC 2 Grate Inlet with Side Intake – 60” Base



731-99.02 Pay Depth MSD PCC 2Trapped 2 Grate Inlet with Side Intake – 48”
Base

Class 3 RCP Pipe

1.0 Description. Class 3 RCP Pipe will be used on this project at the locations specified on the plans. Contractor shall follow the Metropolitan St. Louis Sewer District Standard Specifications for Sewers and Drainage Facilities (2009 edition) for standard details, material specifications, and construction requirements.

2.0 Basis of Payment. Payment for work associated with these drainage structures will include furnishing and installing Class 3 RCP Pipe, including all gaskets, joints, materials, equipment, labor and work will be made under the bid items for Class 3 RCP Pipe included in the contract.

The accepted quantity for drainage structures will be paid for at the contract unit price for:

<u>Item Number</u>	<u>Type</u>	<u>Description</u>
725-99.03	Linear Feet	15” Class 3 RCP Pipe
725-99.03	Linear Feet	18” Class 3 RCP Pipe
725-99.03	Linear Feet	24” Class 3 RCP Pipe

8” PVC

1.0 Description. Class 8” PVC Pipe will be used on this project at the locations specified on the plans. Contractor shall follow the Metropolitan St. Louis Sewer District Standard Specifications for Sewers and Drainage Facilities (2009 edition) for standard details, material specifications, and construction requirements.

2.0 Basis of Payment. Payment for work associated with these drainage structures will include furnishing and installing 8” PVC Pipe, including all gaskets, joints, materials, equipment, labor and work will be made under the bid items for 8” PVC Pipe included in the contract.

The accepted quantity will be paid for at the contract unit price for:

<u>Item Number</u>	<u>Type</u>	<u>Description</u>
725-99.03	Linear Feet	8” PVC Pipe

END OF JOB SPECIAL PROVISION JSP-19

JSP – 20
J6S3280 PROJECT COORDINATION

1.0 Description. This project work shall be coordinated with the J6S3280 project.

END OF JOB SPECIAL PROVISION JSP-20

JSP – 21
TOP MOUNT LIGHT POLE

1.0 Description. This work shall consist of furnishing and installing top mount poles as indicated in the plans.

2.0 Construction Requirements. Top mount poles shall conform to the Type AT lighting poles and shall be fabricated with a circumferentially welded top mount and top plate to accept top mounted luminaires. The top mount shall extend 4” above the top of the pole and meet AASHTO loading requirements for the luminaires provided. The top mount shall be made of the same material as the pole shaft, be constructed as a one-piece pole and top mount unit by the manufacturer and have an outside diameter that accepts the appropriate luminaire slip-fitter. Pole and top mount shall conform to all MoDOT specifications and material requirements. Bridge mounted poles shall be constructed to match the existing bolt pattern.

3.0 Basis of Payment. Payment for furnishing and installing top mount poles with top mount assembly for luminaire mounting shall include all excavation, materials, equipment, tools, labor, and work incidental thereto, and shall be considered completely covered by the contract unit price for item “Lighting Pole, 30 Ft, Top Mount”, per each.

END OF JOB SPECIAL PROVISION JSP-21

JSP – 22
TOP MOUNT LUMINAIRE

1.0 Description. This work shall consist of furnishing and installing LED Top Mounted Luminaires as indicated in the plans.

2.0 Construction Requirements. Luminaires shall be vertical top mount type (pole top mount) with a slip-fitter that accommodates a standard 2” top mount. Available types are listed on the MoDOT approved products list and must meet all MoDOT Specifications along with additional requirements noted in the additional sections below. The contractor shall coordinate the pole top mount size with the luminaire mount to ensure compatibility. All luminaires for this project shall allow for a tilt angle to be adjusted in the field dependent upon the placement of the pole. All necessary mounting brackets and hardware shall be included in the payment for the luminaire.

2.1 LED luminaires shall not be equipped with a Photo Control Receptacle.

2.2 LED Luminaires shall have a terminal block for easy installation of a two wire Line/neutral circuit (no wire nuts for termination of field/luminaire circuit).

2.3 LED luminaires shall have an easy access point for future repairs to the driver.

2.4 LED luminaires shall have pole adaptors which are capable of feeding wires through without disassembling the knuckle.

3.0 Basis of Payment. Payment for furnishing and installing top mounted luminaries shall include all materials, equipment, tools, labor, and work incidental thereto, and shall be considered completely covered by the contract unit price for item “Luminaire, LED-A, Top Mount”, per each.

END OF JOB SPECIAL PROVISION JSP-22

**JSP – 23
DRILL PULLBOX & ATG**

1.0 Description. This work shall consist of drilling opening(s) in the existing pullboxes as shown on the plans. The number of openings to be drilled are indicated on the plan sheets. The size of opening shall be drilled only to accommodate the size of conduit; remainder of opening to be filled with waterproof material prior to backfilling the area. Upon completion of the conduit work, the pullbox shall be adjusted to the finished grade. As identified in some locations on the plans, pullboxes may only need to be adjusted to final grade, with no openings drilled.

2.0 Basis of Payment. Payment for this work shall be considered completely covered by the contract unit price for item “Drill Pullbox & ATG”, per each.

END OF JOB SPECIAL PROVISION JSP-23

**JSP – 24
RELOCATE P/S LTG CONTROLLER UNIT**

1.0 Description. This item shall consist of relocating the existing Type 2 power supply and lighting controller unit to provide 240 volt power for existing and proposed intersection lighting. The assembly shall be ground mounted on a new concrete base, powered by existing utility company facilities feeds currently powering the existing cabinet. Any additional cables or conduit necessary to maintain the existing service feeds will be considered incidental to this pay item. Coordination with the utility company for switch-over between existing and new service will be the responsibility of the contractor. The work shall conform to Section 900 of the Missouri Standard Specifications for Highway Construction. Advanced approval shall be sought to ensure relocation of the unit causes minimal disruptions in service. Removal of unused concrete base and installation of a new base and concrete work pad are incidental to this pay item.

2.0 Basis of Payment. All costs for materials, equipment, labor, and installation shall be included in the cost for item “Relocate P/S-Ltg Controller Unit”, and be paid at the contract price, per each.

END OF JOB SPECIAL PROVISION JSP-24



JSP – 25
ATC TRAFFIC SIGNAL CONTROLLER

1.0 Description. The Commission’s St. Louis District is utilizing TransCore’s TransSuite software as their Advanced Traffic Management System (ATMS), therefore all signal controllers must be able to interface with their TCS program.

2.0 Material. All traffic signal controllers purchased and installed on this project shall be selected from the list below and match the cabinet type and connections indicated on the D-37C sheet for each intersection(s). The controllers on the list below are the only controllers that are tested, fully functional, and approved with the version of TransSuite that the St. Louis District is currently operating (TransSuite version 20.4):

Controller/Firmware Type	Firmware Supported	Cabinet Type (Match in field)
Econolite Cobalt	32.65.10 or newer	NEMA TS2 Type 1 or 2
Econolite ASC/3	2.66	NEMA TS2 Type 1 or 2
McCain Omni eX, eX2	1.11	NEMA TS2 Type 1 or 2
Intelight X3	MaxTime 2.1.1	NEMA TS2 Type 1 or 2

3.0 Construction Requirements. Contractor shall ensure that the signal controller as noted above is programmed to be compatible with the previously mentioned version of TransSuite TCS system.

4.0 Acceptance Testing. All controllers shall be tested per the Commission’s specifications. Programming and testing should be done prior to any installation and approved by the Commission’s engineer or representative. The contractor shall provide a copy of the signal programming to the engineer via an USB Flash drive.

5.0 Documentation. Contractor shall provide the engineer with an electronic copy of the manufacturer’s signal controller manual or link to the website where the manual can be downloaded in .pdf format.

6.0 Basis of Payment. Payment included in the cost for pay item 902-99.02 (ATC Traffic Signal Controller) 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.

END OF JOB SPECIAL PROVISION JSP-25

JSP – 26
MODOT TS2 TYPE 1 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. Unless otherwise specified, the cabinet exterior shall be supplied with a natural aluminum finish. 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 affixed 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. This should indicate a Special Status 1 alarm in the signal controller alarm screen.

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: 4inch depth, 4inch width, 5.50inch 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-outlet IP-addressable power strip shall be provided and Commission-furnished. 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 Configuration "A" or "G" as designated on the signal plans. Vehicle phases, overlaps (including FYA configurations), and pedestrian phases shall be wired such that it must work with a Type 16 MMU. The cabinet shall include both a DT panel and a CTB (SDLC) panel with 6 harnesses.

2.14 Detection Configuration.

2.14.1 For all Detector Types. Detection configuration shall be in accordance with the configuration prescribed in the SL District Detection JSP.

2.14.2 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: 2.5 inch depth, 2 inch 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 Prints. 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).

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 Testing.

3.1 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.

3.2 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.

4.0 Warranty and Training.

4.1 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.

4.2 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.

4.3 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.

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

6.0 Basis of Payment. Payment included with cost of pay item "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.

END OF JOB SPECIAL PROVISION JSP-26

JSP – 27 120V POWER SUPPLY W/UPS

1.0 Description. This work shall consist of furnishing and installing combination 120/240-volt signal and lighting power supply and uninterruptible power supply (UPS) at signalized intersections utilizing a TS2 traffic signal control cabinet.

2.0 UPS Requirements. The traffic signals being constructed on the intersections listed below shall include an “Uninterruptible Power Supply” specifically constructed and NEMA approved for traffic signal operations.

2.1 UPS Location and Cabling. The UPS shall be installed separately from the signal cabinet and shall be installed in the same cabinet as the power supply and lighting controller station. In addition to the power cables from the UPS to the signal cabinet, the contractor will route but not connect an outdoor rated CAT-6 cable between the UPS RJ-45 port and the Ethernet switch in the signal cabinet. The contractor shall also install a 7-conductor serial cable and make the appropriate connections from the UPS to the traffic signal cabinet. The **On battery** contact (C-1) on the inverter should be programmed to energize when the UPS provides battery backup. The normally open contact should be wired to provide logic ground to Test Point A when the UPS is in battery backup mode. This should indicate a Special Status 2 alarm in the signal controller alarm screen. The **Low Battery** contact (C-2) on the inverter should be programmed to energize when the UPS drops below a preset voltage level, typically set at 40%. The normally open contact should be wired to provide logic ground to Test Point B when the UPS is in Low Battery mode. This should indicate a Special Status 3 alarm in the signal controller alarm screen. The **Arrestor** contact should be wired to provide logic ground to generate a Special Status 4 alarm in the signal controller alarm screen. The **Timer #1** contact (C-4) on the inverter should be programmed to energize after the UPS is in inverter mode for **three (3)** hours. The normally closed contract should be wired in series with the remote flash output to allow for the circuit to open after **three (3)** hours and bring the signal to flash after the side streets service. The remote flash parameters shall be programmed to red/red flash, unless directed otherwise by the Engineer. The CAT-6 cable and serial cable will be run in a separate conduit from the power cables into the cabinet. All conduits will be internal and not visible from the exterior of either the UPS or signal cabinet. The contractor shall verify all control wiring with the manufacture of the traffic signal cabinet assembly for accuracy and compatibility and perform test to ensure proper operation. The contractor shall be responsible for all controller programming to mask the TS2 features to this setup. Upon completion of all controller programming, contractor shall notify contractor’s or Commission’s traffic engineer (depending on assignment) for uploading into Commission’s central signal control system.

2.2 UPS Input Specifications. Each UPS system shall have the following input requirements:

- (a) A nominal input voltage of 120 VAC.
- (b) An input voltage range of 85 to 175 VAC.
- (c) Two (2) input voltage boost modes.
- (d) Boost-1 shall increase the input voltage from 94 to 115 VAC.
- (e) Boost-2 shall increase the input voltage from 85 to 101 VAC.
- (f) Two (2) input voltages buck modes.
- (g) Buck-1 shall decrease the input voltage from 154 to 124 VAC.
- (h) Buck-2 shall decrease the input voltage from 175 to 142 VAC.

A user configurable power quality (PQ) option with default values of:

- (a) High line disqualify shall be 130 VAC.
- (b) High line qualify shall be 128 VAC.
- (c) Low line qualify shall be 105 VAC.
- (d) Low line disqualify shall be 100 VAC.
- (e) Input current shall be less than 16A with nominal voltage, full load on the output and charger set at 10A.

- (f) 50/60Hz automatic frequency detection with built-in class A EMI filter and transient suppression.

2.3 UPS Output Specifications. Each UPS system shall have the following output requirements:

- (a) The output voltage of the UPS shall be 120 VAC $\pm 10\%$ in line mode.
- (b) The output voltage of the UPS shall be 120 VAC $\pm 6\%$ in backup mode.
- (c) The output frequency of the UPS shall be 60Hz $\pm 5\%$ in line mode.
- (d) The output frequency of the UPS shall be 60Hz $\pm 5\%$ in backup mode.
- (e) The output waveform of the UPS shall be sinusoidal.
- (f) The output voltage total harmonic distortion (THD) shall be less than 3% with a resistive load.
- (g) The efficiency of the UPS at nominal line voltage shall be greater than 98%.
- (h) The efficiency of the UPS in backup mode shall be greater than 84%.
- (i) The step-load response of the UPS shall be full recovery in $\frac{1}{2}$ -cycle @ 50% change with a resistive load.
- (j) The transfer time of the UPS line to back up and backup to line shall be 5ms typical.
- (k) The line qualification time of the UPS shall be user selectable at 3, 10, 20, 30, 40 and 50 seconds.
- (l) The line qualification time of the UPS default shall be three (3) seconds.

2.4 UPS Battery and Charger Specifications. Each UPS system shall have the following specifications for the battery and charger:

- (a) The nominal battery voltage of the UPS shall be 48 VDC.
- (b) The battery charger current of the UPS shall be user programmable for 3, 6, and 10 A.
- (c) The battery charger current default setting for the UPS shall be 6A.
- (d) The battery charger in the UPS shall turn OFF when the battery temperature is 50°C.
- (e) The UPS shall have a user programmable temperature compensated battery charger with setting for -2.5, -4, -5 and -6 mV/°C/Cell.
- (f) The UPS shall have a temperature compensated battery charger with a default setting of -5 mV/°C/Cell.
- (g) The UPS shall have a battery charge with a float voltage of 56VDC maximum.
- (h) The UPS shall have a user configurable low battery warning.
- (i) The UPS shall have a default low battery warning set at 47VDC to indication 40% remaining battery capacity.
- (j) The UPS shall have a low battery shutdown set for 42VDC (10.5VDC per battery).

2.5 UPS Protection Specifications. Each UPS system shall have the following specifications for protection:

- (a) The UPS shall have a 250VAC @ 20A input circuit breaker.
- (b) The UPS shall have a 50A battery circuit breaker.
- (c) The UPS shall have electronic short circuit protection when operating in backup mode.
- (d) The UPS shall indicate an overload warning with a flashing alarm LED when the load is between 95% and 105% of the rated output for the UPS.
- (e) The UPS shall shutdown in two (2) minutes when operating in backup mode when the load is between 106% and 115% of the rated output for the UPS, and the fault LED shall turn ON. The fault LED shall clear when the overload is removed and the utility line power returns.
- (f) The UPS shall shutdown in one (1) minute when operating in backup mode when the load is greater than 115% and the fault LED shall turn ON. The fault LED shall clear when the overload is removed and the utility line power returns.
- (g) The UPS shall disable the backup mode function when operating in line mode if the load

exceeds 115% of the rated output for the UPS. The alarm shall be reset when the overload condition is removed.

(h) The UPS shall display an alarm LED if the battery ambient temperature is greater than 75°C and disable the backup mode function. The alarm shall clear when the battery ambient temperature is less than 70°C.

(i) The UPS shall display a fault LED when operating in backup mode and shutdown the inverter if the internal temperature is greater than 110°C. The fault shall clear when the utility power returns and the internal temperature is less than 90°C.

(j) The UPS shall have output over-voltage protection to electronically shutdown the UPS if the output voltage exceeds 132VAC.

(k) The UPS shall disable the battery charger in two (2) seconds and display an alarm LED if the battery voltage exceeds 59VDC. The alarm shall be cleared and charge enabled when the battery voltage drops to less than 57VDC.

(l) The UPS shall limit the charger voltage to 52VDC in the event the battery probe is not installed.

(m) The UPS shall have a battery circuit breaker with reverse polarity protection. The battery circuit breaker shall trip in the event the battery polarity is wired incorrectly.

(n) The UPS shall have protection for electrical backfeed to the utility that meets UL 1778 and CSA C22.2 No. 107.1.3 requirements.

(o) The UPS shall have user-selectable settings that are password protected.

(p) The UPS shall be cooled by a variable speed fan that is microprocessor and PWM controlled.

(q) The fan shall be OFF when the ambient temperature is less than 40°C.

(r) The UPS shall display an alarm LED to indicate the fan is enabled but not turning.

(s) The UPS shall have a fan that is field replaceable.

2.6 UPS Displays, Controls and Diagnostics Specifications. Each UPS system shall have the following specifications for the noted features:

(a) The UPS shall have a two (2) line/20-character LCD display and control panel that can be rotated for easy user interface.

(b) The UPS shall have event and alarm logging with time/date stamping for up to 100 historical events.

(c) The UPS shall have six (6) independently programmable control relays for control and report functions.

(d) The UPS shall have two (2) independently programmable timers 0 to 8hr with two (2) time-of-day restrictions on each timer.

(e) The UPS shall be equipped with a RS-232 port, which can be connected to a laptop.

(f) The UPS shall be equipped with a SNMP Ethernet card.

2.7 Programmable Dry Contacts. Each UPS system shall have the following requirements for the noted features relating to dry contacts:

(a) The UPS shall have six (6) sets of normally open (NO) and normally closed (NC) single pole double-throw (SPDT) dry contact relays rated for 250VAC @1A.

(b) The UPS shall have five (5) sets of dry contact relays that are user programmable, C1 through C5, and one relay contact that is factory configured, C6.

(c) The UPS shall have dry contact relays that are user programmable via either the RS-232 or (optional) Ethernet communication ports to activate under the following conditions:

(d) ON BATTERY. The relay is energized whenever the UPS switches to battery power.

(e) LOW BATTERY. The relay is energized when the battery has reached a user defined low battery level of remaining useful capacity. This alarm is latched when a qualified line returns

or the inverter shuts down. The default setting is 47VDC (~40%) of remaining useful battery capacity.

- (f) **TIMER 1.** The relay is energized after being in backup mode for a given amount of time. This timer is adjustable from 0 to 8hr. The default setting is two (2) hours.
- (g) **ALARM.** The relay is activated after a specific or general alarm is detected. The alarm conditions include: line frequency, low output voltage, no temperature probe, overload,
- (h) unconnected batteries, high temperature (>55°C) and low temperature (<-20°C).
- (i) **FAULT.** The relay is activated after a specific or general fault is detected. These faults include: short circuit, low battery voltage (<41VDC), high battery voltage (> 59VDC), overload and over temperature (>75°C).
- (j) **OFF.** The relay is disabled and will not activate under any condition.
- (k) **TIMER 2.** Same as TIMER 1.
- (l) **TIMER 3.** Same as TIMER 1.
- (m) **AC/DC FAN CONTROL.** The relay is activated when the battery ambient temperature is greater than 35°C or at a user programmable threshold from 25 to 55°C @ 5°C increments.
- (n) The UPS shall have a default dry contact relay configuration of:

C1	ON BATT
C2	LOW BATT
C3	LOW BATT
C4	TIMER
C5	ALARM
C6	48VDC

2.8 Mechanical. Each UPS system shall have the following mechanical requirements:

- (a) The UPS shall have AC input and AC output terminal blocks mounted on the front panel. The terminal blocks shall be a 3 pole, 35 amp, 300 volt Eurostyle socket terminal strip (22-8 AWG).
- (b) The UPS shall have six (6) user programmable dry contact relay terminal blocks on the front panel. The terminal blocks shall be 3 pole, 35 amp, 300 volt PLUGGABLE TERMINAL BLOCK (12-26 AWG)
- (c) The UPS shall have one (1) user input and one (1) Automatic Transfer Switch (ATS) terminal block on the front panel. The terminal blocks shall be 3 pole, 35 amp, 300 volt PLUGGABLE TERMINAL BLOCK (12-26 AWG).
- (d) The UPS shall have a DE-9 RS-232 connector on the front panel.
- (e) The UPS shall have an RJ45 Ethernet connector on the front panel.
- (f) The UPS shall have a battery connector on the front panel. The battery connector shall be a 50 amp SB® series type battery connector (16-6 AWG).
- (g) The UPS shall have a RJ14 battery temperature probe connector on the front panel.

2.9 Environmental. Each UPS system shall have the following environmental requirements:

- (a) The operating temperature range of the UPS shall be -40° to 55°C with the capability of operating @ 800W for up to 2hr at 74°C ambient.
- (b) The storage temperature range of the UPS shall be -40° to 75°C.
- (c) The operating and storage humidity (non-condensing) range of the UPS is up to 95% RH.
- (d) The altitude operating range of the UPS is up to 12,000ft with a de-rating of 2°C per 1000ft above 4500ft.
- (e) The UPS shall be shipped in materials designed to meet requirements for ISTA program.
- (f) The UPS shall pass electrical safety standards UL1778, CSA 22.2 No. 107.3, EN50091-1-1-2 and EN60950.

(g) The UPS shall pass emission standards FCC Subpart J Level A for conducted and radiated EMI CISPR22, EN55022 Level A for conducted and radiated EMI.

(h) The UPS shall pass Immunity standards:

EN61000-4-2: ESD (Electrostatic discharge).

EN61000-4-3: Radiated immunity.

EN61000-4-4: EFT (Electrical fast transient).

EN61000-4-5: Surge.

EN61000-4-6: Conducted (Power and signal lines).

EN61000-4-8: Power frequency magnetic.

EN61000-3-2: Harmonic distortion.

(i) The UPS shall display agency approval mark “cCSAus” on the manufacturer’s nameplate label.

2.10 Manual Bypass Switch. Each UPS system shall include a manual bypass switch (MPS). UATS assemblies that include items referenced individually need not be duplicated. The MPS shall have the following specifications:

(a) The MPS shall be a self-contained module separate from the UPS

(b) The MPS shall be shelf or rack mountable.

(c) The MPS shall have terminal blocks labeled “AC Input”, “AC Output”, “To UPS” and “From UPS”.

(d) The MPS shall be a Break-Before-Make rotary switch.

(e) The MPS shall be rated at 120VAC @ 20A.

(f) The MPS shall have a 5-15R duplex receptacle connected to utility line.

(g) The MPS shall have a 5-15R receptacle labeled “Optional LA-P” to facilitate a plug-in surge suppressor.

(h) The MPS shall have a 5-15R receptacle labeled “Optional Battery Heater Mat” to provide non-standby power to a battery heater mat.

(i) The MPS shall have two (2) positions: one labeled “UPS” to connect the utility line to the UPS, and one labeled “Bypass” to connect the utility line to the load.

(j) The MPS shall have a 15A circuit breaker labeled “AC Input”.

(k) The MPS shall have a 15A circuit breaker labeled “AC Output”.

2.11 Automatic Transfer Switch. Each UPS system shall include an automatic transfer switch (ATS) with the following requirements:

(a) The ATS shall be rated for 120VAC @ 40A.

(b) The ATS shall be shelf or rack mountable.

(c) The ATS shall transfer the load to UPS when the utility line fails or is unqualified.

(d) The ATS shall transfer the load to utility line when the utility line is available and qualified.

(e) The ATS shall be activated by a 48VDC input from the UPS.

(f) The ATS shall have a terminal block labeled “L IN”, “NEUT”, “GRD” and “L OUT”.

(g) The ATS shall have a six (6) foot line cord labeled “UPS IN”.

(h) The ATS shall have a six (6) foot line cord labeled “UPS OUT”.

(i) The ATS shall have a 5-15R duplex receptacle connected to utility line.

(j) The ATS shall have a 5-15R receptacle labeled “Optional LA-P” to facilitate a plug-in surge suppressor.

(k) The ATS shall have a 5-15R receptacle labeled “Optional Battery Heater Mat” to provide non-standby power to a battery heater mat.

2.12 Automatic Bypass Switch. Each UPS system shall include an automatic bypass switch (ABS) with the following requirements:

- (a) The ABS shall be rated for 120VAC @ 20 amps.
- (b) The ABS shall be shelf or rack mountable.
- (c) The ABS shall connect the UPS to the load to allow the UPS to continuously power the load.
- (d) The ABS shall transfer the load to utility line when there is no UPS output voltage.
- (e) The ABS shall be activated by the 120VAC from the UPS.
- (f) The ABS shall have a terminal block labeled "L IN", "NEUT", "GRD" and "L OUT".
- (g) The ABS shall have a six (6) foot line cord labeled "UPS IN".
- (h) The ABS shall have a six (6) foot line cord labeled "UPS OUT".
- (i) The ABS shall have a 5-15R duplex receptacle connected to utility line.
- (j) The ABS shall have a 5-15R receptacle labeled "Optional LA-P" to facilitate a plug-in surge suppressor.
- (k) The ABS shall have a 5-15R receptacle labeled "Optional Battery Heater Mat" to provide non-standby power to a battery heater mat.
- (l) The ABS dimensions shall be 4.6"H x 4.75"W x 6.5"D.
- (m) The ABS weight shall be 4lbs.

2.13 Generator Transfer Switch. Each UPS system shall include a generator transfer switch (GTS) with the following requirements:

- (a) The GTS shall sense when a portable generator is connected and transfer the load to the generator after a 30s delay.
- (b) The GTS shall be rated for 120VAC @ 20A.
- (c) The GTS shall be shelf or rack mountable.
- (d) The GTS shall have a terminal block labeled "AC INPUT", "AC OUTPUT" and "GENERATOR INPUT".

2.14 UPS Batteries. The batteries for the UPS system shall meet the following requirements:

- (a) The batteries shall be Gel Cell Valve Regulated Lead Acid (VRLA) type specifically designed for outdoor use.
- (b) The batteries shall be designed for "Float Service" to provide 100% out-of-box runtime capacity.
- (c) The batteries shall have Silver Alloy positive plates.
- (d) The batteries shall have a five (5) year full replacement, non-prorated warranty.
- (e) The battery capacity rating at 20hr shall be 94Ah.
- (f) The battery shall be 12VDC.
- (g) The number of batteries in the system shall be four (4) or eight (8).
- (h) The batteries shall be connected to provide 48VDC.
- (i) Batteries for each location shall provide full power for all devices shown on the plans that are powered through the signal cabinet for three (3) hours and then send the signal into all red flash and power that state for an additional three (3) hours.

2.15 Battery Heater Mat.

- (a) The battery heater mats shall be available in four (4) battery and single (1) battery sizes.
- (b) The single battery heater mat shall allow for a Master-Slave configuration so two (2) or more mats can be ganged together.
- (c) The battery heater mats shall plug into a 120VAC/5-15 receptacle.
- (d) The battery mats shall be thermally controlled, turning ON at 5°C and turning OFF at 15°C.
- (e) The battery mats shall be thermally fused for 82°C to prevent thermal runaway.

2.16 Battery Charge Management System. Each UPS system shall have a battery charge

management system with the following requirements:

- (a) The battery charge management system shall spread the charge voltage equally across all batteries.
- (b) The battery charge management system shall compensate for batteries with different internal resistances.
- (c) The battery charge management system shall have a quality of final balance of $\pm 100\text{mV}$ maximum between any two (2) batteries in the string.
- (d) The battery charge management system shall have reversed polarity protection.
- (e) The battery charge management system shall be designed to CSA C22.2 No. 107.1 and UL 1778 Standards for safe unattended operation.

2.17 Surge Suppression. Each UPS system shall have the following requirements for surge suppression:

- (a) The surge suppression shall provide protection from voltage transients appearing on the utility line.
- (b) The surge suppression shall be a plug-in module that is field replaceable.
- (c) The surge suppression shall have a LED indicator that turns OFF when the module is no longer providing protection.
- (d) The surge suppression shall have a clamping voltage of 150VAC.
- (e) The surge suppression shall have a response time of less than one (1) nanosecond.

2.18 Construction Requirements. Construction requirements shall conform to Sec 902. Any exceptions to these requirements will be approved by the engineer before system installation.

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

4.0 Basis of Payment. Payment for furnishing and installing pad mounted combination units shall include all excavation, materials, equipment, tools, labor, CAT-5 cable and work incidental thereto, and shall be considered to be completely covered by the contract unit price for pay item "120V Power Supply w/UPS", paid per each.

END OF JOB SPECIAL PROVISION JSP-27

JSP – 28 TRAFFIC SIGNAL MAINTENANCE & PROGRAMMING

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

2.0 Qualified Traffic Engineer

2.1 The contractor shall have an experienced traffic Engineer with a Professional Engineer's (PE) license in Missouri as well as a Professional Traffic Operations Engineer (PTOE) certification (hereafter referred to as "contractor's traffic Engineer") with the noted experience defined below. MoDOT shall approve the traffic Engineer prior to them being hired.

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

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

2.2.2 Corridor Management: Time/space diagram manipulation in order to successfully adjust offsets and splits for rapidly changing traffic demands.

2.2.3 Controller Programming: Ability to program by hand and by software Phase, TBC, and Coordination levels of Siemens controllers along with NTCIP-compatible controllers.

2.2.4 Intersection Programming: Implementation of adjusted and/or new timing plans as a result of changing traffic demand.

2.2.5 Signal Software: Use and understanding of both Siemens signal software and TransCore traffic control software.

2.3 The contractor shall submit the names(s) of proposed traffic engineer(s) and the name(s) all of other personnel on their proposed staff along with detailed experience in all tasks outlined in Paragraph 2.2 above. The Engineer reserves the right to reject any contractor traffic engineer, before the start of work, who does not have sufficient experience or, at any point during the project, which does not satisfy the requirements set forth within this Job Special Provision. A list of potential traffic engineers shall be submitted for review to the Project Manager and the Commission's Traffic Engineers prior to bid.

2.4 VPN Access. The Commission operates the noted signals through a central signal system which is capable of remote adjustments to controller programming.

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

3.0 Existing Traffic Signals and Communication System

3.1 The contractor shall notify the Engineer 3 weeks prior to the date of ramp bridge closure and detour implementation. The contractor shall meet with the Engineer's representatives to discuss their traffic mitigation plan at least 1 week before the date of the first closure and as needed between construction stages. Traffic mitigation plan should at a minimum include:

- Proposed Timing Plan changes and any models
- Anticipated locations of concern
- A map in electronic format displaying the locations and names of the signals and owning agency as detailed in Paragraphs 3.2 and 3.3 below.
- Other traffic mitigation efforts

3.2 Once a ramp closure has been implemented by the contractor, the contractor shall then be solely responsible for the following signals' controller programming until completion of all closures necessary to complete the contractor's work. Maintenance at these locations for items other than controller programming issues or incidents caused by controller programming or other construction done by the contractor shall remain with the Commission. If any part of an existing traffic signal or its controller within the limits of this project has otherwise been modified or adjusted by the contractor, or the contractor makes any roadway changes to reduce the traffic capacity through a signalized intersection within the limits of the project, or the contractor begins work at an intersection with signals already in operation, the contractor shall then be solely responsible for that signal's controller programming and all signal maintenance as specified in 902.2 and 902.3, except for power costs, until Final Acceptance of the project. Traffic signal maintenance and timing responsibilities shall be broken down in accordance with the below schedules:

Signals Affected:

- Old Olive & Lindbergh

3.3 The Engineer shall provide to the contractor 2 weeks' notice an electronic report on the existing phasing and timing of each traffic signal, which may be the contractor's responsibility to program. The Engineer's representative shall be available to the contractor before any changes are made to a signal or controller to answer any questions about the report. In lieu of the report, the contractor's traffic Engineer may obtain this information from the appropriate agency's central signal control system. Once the contractor has modified a signal or controller for any reason, the contractor shall be solely responsible for the existing timing plans and all subsequent timing changes.

3.4 The contractor shall notify the Engineer or representative of the changes no later than 1 working day after changes are programmed if unable to provide advance notice as specified in 902.2. In addition, the Contractor shall notify the Engineer and the Commission's Traffic Engineers within one (1) hour of successful implementation of the detour plan.

3.5 The contractor shall be solely responsible for maintaining the coordination at any affected signal to the satisfaction of the Engineer or representative until completion of work as set forth in section 3.2 of this provision. Maintenance of coordination may include the synchronization of the affected controller's internal time clocks to the second using an atomic clock, or other means approved by the engineer. If time clock synchronization is used, the contractor shall verify all affected controllers are synchronized at least 1 time per week with a report to the Engineer or representative. This report will be in the form of a documentation record as spelled out in the Work Zone Traffic Management Plan.

4.0 Existing Traffic Signal Maintenance and Response. The contractor shall respond to any signal timing complaints or malfunction complaints for those locations detailed in Section 3.0 of this provision and as specified in Section 902.21.1. Response time shall be 1 hour for complaints received by the contractor between 6 AM and 6 PM on non-holiday weekdays, and 2 hours for all other times. For some cases (due to travel times or other extenuating circumstances) additional time may be acceptable within reason, but must be approved by the engineer. These timeframes will replace the '24 hour' response time in Section 105.14 for any signal-related incidents, where the entire cost of the work, if performed by MoDOT personnel or a third party, will be computed as described in Section 108.9 and deducted from the payments due the contractor.

4.2 The contractor must supply a contact name and phone number who will be responsible for receiving signal timing complaints for the Engineer. These complaints may be forwarded directly to the contractor by someone other than the Engineer's representative and will not relieve the contractor from properly responding based on the response times of this Provision. The contractor shall respond to the Engineer and notify the Commission's Traffic Engineers and the representative within 12 hours of the complaint as to the remedy. The contractor shall submit to the Engineer's representative a weekly report of complaints received and remedies performed throughout the duration of the project.

5.0 Original Signal Controller Programming and Acceptance. The contractor will be responsible for restoring the original signal controller programming at existing intersections and coordination plans for each intersection immediately upon ramp re-opening. The Engineer shall preserve and house the original controller files and provide the contractor with access to those files to perform the restoration of the original plans. Normal plan restoration can be done by a manual command in the signal control system or a preprogrammed time-of-day command change. For any locations rendered offline at the time of re-opening, these locations shall be returned to normal operation by hand. The Contractor shall notify the Engineer and the Commission's Traffic Engineers within one (1) hour of removal of the detour plans. The

contractor will be relieved of signal programming maintenance at an existing restored intersection once 48 consecutive hours have passed without a programming malfunction, including restoring normal signal programming to the satisfaction of the Commission. If an agency desires any changes from an original plan, the agency will assume immediate maintenance of the signal to implement desired changes.

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

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

- Experience submittal
- Preliminary Traffic Mitigation Plan
- Notification of Detour Implementation
- Time Base Reports, As Needed
- Complaint Resolutions
- Notification of Restoration to Normal Operations
- Post Project Report

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

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

10.0 Basis of Payment. Payment will be considered full compensation for all contractor services, installation, and labor to complete the described work under pay item "Traffic Signal Maintenance & Programming, lump sum.

END OF JOB SPECIAL PROVISION JSP-28

JSP – 29 PUSHBUTTON POST

1.0 Description. This work shall consist of furnishing and installing a 62" signal post as shown on the signal plans. A detail of the post, breakaway base and concrete foundation can be found in the plans. The post, breakaway base, base cover and all miscellaneous hardware necessary for a fully usable signal post will be considered incidental to this item.

2.0 Basis of payment. All costs for materials, equipment, labor, and installation shall be included in the cost for Pay Item No. 902-99.02, "Pushbutton Post", and be paid at the contract unit price, per each.

END OF JOB SPECIAL PROVISION JSP-29

JSP – 30

AUDIBLE PEDESTRIAN PUSHBUTTONS AND SIGNING PUSHBUTTON POST

- 1.0 Description.** Audible pedestrian pushbuttons and signing will be required for all pedestrian indications at all the intersections.
- 2.0 Installation.** Audible signals should be installed as part of a pushbutton assembly.
- 3.0 Equipment.**
- 3.1 Walk Indications.** Accessible pedestrian signals shall have both audible and vibrotactile walk indications.
- 3.2 Vibrotactile.** Vibrotactile walk indications shall be provided by a tactile arrow on the pushbutton that vibrates during the walk interval. Tactile arrow shall be located on the pushbutton that vibrates during the walk interval. Tactile arrow shall be located on the pushbutton, have high visual contrast (light on dark or dark on light), and shall be aligned parallel to the direction of travel on the associated crosswalk.
- 3.3 Audible.** Accessible pedestrian signals shall have an audible walk indication during the walk interval only. The audible walk indication shall be audible from the beginning of the associated crosswalk.
- 3.4 Pushbutton signage.** In addition to standard pedestrian sign requirements, all pushbuttons for the locations mentioned in 1.0 shall have additional signage to indicate crosswalk direction by use of a tactile arrow and the name of the street containing the crosswalk served by the audible pedestrian signal. The sign shall be located immediately above the push button mechanism and parallel to the crosswalk controlled by the button. The street name shall be the name of the street or reasonable abbreviation whose crosswalk is controlled by the push button. Signage shall comply with ADA Accessibility Guidelines (ADAAG) 703.2 specifications for Braille and raised print.
- 3.4.1 Arrow.** Signs shall include a tactile arrow aligned parallel to the crosswalk direction. The arrow shall be raised 0.8 mm (.03 inch) minimum and shall be 4 mm (1.5 in) minimum in length. The arrowhead shall be open at 45 degrees to the shaft and shall be 33 percent of the length of the shaft. Stroke width shall be 10 percent minimum and 15 percent maximum of arrow length. The arrow shall contrast with the background.
- 3.4.2 Street Name.** Accessible pedestrian signals (APS) shall include street name information aligned parallel to the crosswalk direction and shall comply with Revised Draft Guidelines for Accessible Public Rights-of-Way R409.3 or shall provide street name information in audible format.
- 4.0 Performance.**
- 4.1 Audible Locator Tone.** Locator tone that tells the pedestrian that the intersection is equipped with APS and where it is. Pushbutton locator tones shall have duration of 0.15 seconds or less, and shall repeat at 1-second intervals. Pushbutton locator tones shall be intensity responsive to ambient sound, and be audible 6 to 12 feet from the

pushbutton, or to the building line. The locator tone shall operate during the DON'T WALK and flashing DON'T WALK intervals only and shall be deactivated when the pedestrian signal is not operative.

4.2 Verbal Wait Message. Acknowledge tone that tells the pedestrian that they have placed a call and informational message that tells the pedestrian to “Wait to cross” street name at intersecting street name.

4.3 Verbal Walk Message. The verbal messages shall provide a clear message that the walk interval is in effect, as well as to which crossing it applies. If available, the audio tone feature will not be used. The verbal message that is provided at regular intervals throughout the timing of the walk interval shall be the term “walk sign,” which will be followed by the name of the street to be crossed.

4.4 Volume. Automatic volume adjustment in response to ambient traffic sound level will be provided up to a maximum volume of 100 dB. The units shall be responsive to ambient noise level changes up to no more than 5 dB louder than ambient sound. Tone or voice volume measured at 36 inches from the unit shall be 2dB minimum and 5dB maximum above ambient noise level. At installation, signal system is to be adjusted to be audible at no more than 5 to 12 feet from the system.

5.0 Documentation and Support.

5.1 Operation and Maintenance Manuals. Two copies of the operation and maintenance manuals for each station shall be included.

5.2 USB with Audible Messages. The Contractor shall provide two copies of USB data card to the Engineer that contains files for the manufacturer’s audible messages for complete operation of all APS signals at all stations.

6.0 Construction Requirements. Construction requirements shall conform to Sec 902, 1061, and 1092.

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

8.0 Payment. Payment shall be made at the contract unit price for item 902-99.02 “APS System (Intersection)”, per each. No direct payment will be made for the software. Payment will be considered full compensation for all labor, equipment, and material to complete the described work.

END OF JOB SPECIAL PROVISION JSP-30

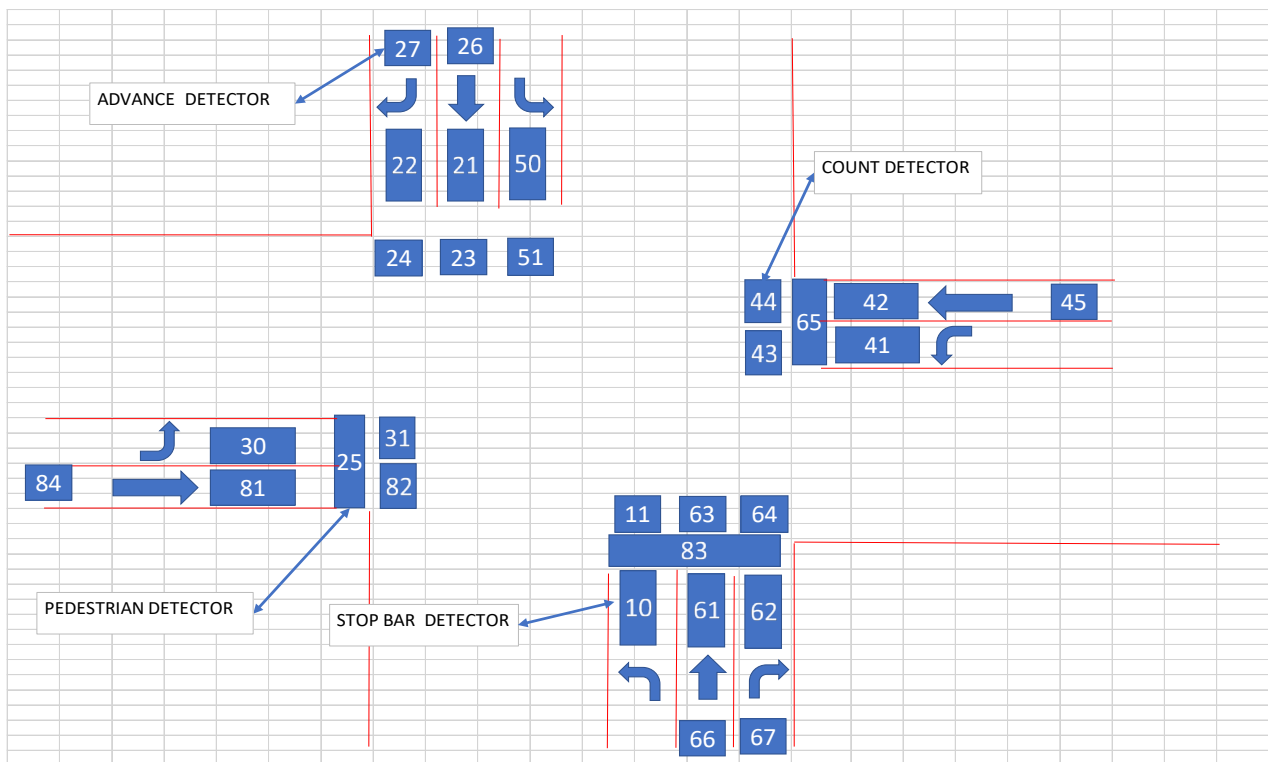
JSP – 31 SL DISTRICT TRAFFIC SIGNAL DETECTION SYSTEM

1.0 Description. This work shall consist of providing detectors for signalized installations that will support advance traffic signal performance measures (ATSPM) on the Commission’s St. Louis District roadways. Detectors shall be in accordance with the Missouri Standard Specifications for Highway Construction (latest version) and installed to provide detection at locations as shown on the plans or as directed by the Engineer in accordance with Section

902. If any information conflicts between Section 902 and this JSP, the JSP shall supersede.

2.0 Detector Zones. The following detector zones shall be placed as shown in the plans:

- Stop Bar Detection
- Advance Upstream (Performance Measures)
- Dilemma Zone
- Turn Counts
- Advance Video Zones (if applicable)
- Radar Zones (if applicable)
- Advance Data Collector (if applicable)
- Bicycle/Pedestrian (see Section 2.2)



2.1 Dilemma Zones. Dilemma zone detection shall be required for the following approaches for high speed dilemma zone detection:

EB Route B
WB Route B

Dilemma zone detectors shall be placed at 5 secs and 8 seconds travel time before stop bar per below Table unless directed otherwise in the plans or by the Engineer.

Approach Speed (MPH)	Advance Detector Placement 5 secs Travel time	Advance Detector Placement 8 seconds travel time
35 mph	260	415

40 mph	295	470
45 mph	330	530
50 mph	370	590
55 mph	405	645
60 mph	440	705

2.2 Bicycle/Pedestrian Zones. Bicycle and/or pedestrian zones (if applicable) shall be provided as directed by the Engineer. Specific zone placement and description as required by vendor shall be reviewed and approved by the Engineer.

3.0 Performance Measures. In addition to presence detection, the detection system shall be capable of providing data to an advanced traffic signal controller that can perform at a minimum the following calculations in real time for each detection zone without the addition of another device:

- Speed
- Volume
- Lane Occupancy
- Vehicle Classification
- Other available performance measures

For speed calculations thru movements are required for all detection installations. Turning movement measurements are required for all detection installations. 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. Other performance measures must be clearly defined. In all cases all performances measures must be ultimately available in an easily usable, exportable format. Turning movement counts shall be installed per the detector setup diagram(s) above to include all lanes. The Contractor shall provide documentation to the Engineer to confirm the volumes are configured and operational through the detection system. The Contractor shall also provide a final schedule of detector assignments in the .pdf format to the Engineer and the Commission's signal maintenance supervisor. Performance measurement data must be configured and fed into the Commission's ATSPM platform with data storage confirmed, see Section 5.0. If utilized on the project, the Contractor's Traffic Engineer shall assist in this task.

4.0 Material. The Contractor can choose from the following list of detector types according to the exceptions noted below:

- Induction Loop
- Video Image
- Radar

Reference each detection type's subsection for specific allowable models. Unless otherwise specified on the plans, the Contractor may supply more than one type of detector and customize the installation based on field conditions, as approved by the Engineer.

4.1 Induction Loops. Induction loops, if selected, shall be in accordance with the Missouri Standard Specifications for Highway Construction (latest version) and shall be installed to provide detection at locations as shown on the plans or as directed by the Engineer in

accordance with Section 902. Detector channels shall be assigned as per the layout in this JSP or as directed by the Engineer.

4.2 Video Detection. If video detection is selected, the following provisions shall also apply.

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

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

- Autoscope Vision
- Iteris Vantage Next
- Aldis Gridsmart Smart mount Camera (Performance Module to be included)

4.2.3 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 CAT5 cable runs (if used) shall be continuous without splice from the cabinet to the camera. If requested by the engineer, a factory certified representative from the supplier shall be available for on-site assistance for a minimum of one day during installation. The bottom of the video camera shall be mounted a minimum of 30 feet (9.0 m) above the pavement, unless otherwise indicated on the plans or approved by the Engineer.

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

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

4.2.5 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.

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

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

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

For TS2 systems, the video detection system shall be equipped with a TS2 Type 1 detector interface, where detector information is transmitted serially via an RS-485 data path. A 15-pin subminiature "D" connector, meeting the requirements of the TS2 standard, shall be used for the serial detector output. A minimum of 32 detector outputs is required, with the capability of expansion to 64 outputs if required based on the design plans.

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

4.2.9 Documentation. The contractor shall provide one bound copy and one electronic version (.pdf format) of the user’s manual.

4.3 Radar Detection. If radar detection is selected, the following provisions shall also apply.

4.3.1 Description. Provide, install and test continuous tracking advance detector (CTAD) units and cabinet interface to detect range, speed, and vehicle estimated time of arrival (ETA) to the stop bar for vehicles or clusters of vehicles moving in the user selected direction of travel. The CTAD shall also detect instantaneous roadway efficiency. This specification sets forth the provisions for a radar detection system that detects vehicles, pedestrians, bicycles, and motorcycles on roadways and provides vehicle presence and full-motion tracking.

4.3.2 Material

4.3.2.1 Advance Detector. The radar detection systems in the list below are the only systems approved for use in the St. Louis District. Installation of radar detection systems shall follow both the below specifications and the manufacturer's instructions.

- WAVETRONIX SmartSensor
 - Matrix
 - Advance
 - Advance Extended
- Iteris Vector

Provide a radar advance detection system with the following features.

- Shall be able to track/detect a minimum of 64 objects
- Shall be able to operate in a temperature range between -30 degrees and 165 degrees F
- The detection range shall cover the dilemma zone distances covered in section 2.1
- The detection zones shall be configurable based off several factors' such as classification, ETA, speed, presence and delay.
- The radar sensor shall be forward fire
- The sensor shall operate in the 25 GHz band
- The sensor shall be housed in a sealed IP-67 enclosure

4.3.2.2 Power and Communications.

- Power and communications cabling shall be installed per manufacturer specifications
- The radar sensor shall operate at 24 VDC
- Power consumption shall be no more than 38 watts
- If required, the advance detection System shall include all equipment to communicate wirelessly.

4.3.2.3 Contact Closure Card. Any contact closure card shall be compatible with a NEMA detector rack and shall be installed per manufacturer specifications.

4.3.2.4 Lightning Surge Protection. The CTAD shall include surge protection hardware installed per manufacturer specifications. The hardware shall be accepted by the engineer before installation in the cabinet.

4.3.4 Construction Requirements.

4.3.4.1 Mounting Location. All mounting hardware shall be installed per manufacturers specifications. The CTAD shall be mounted as follows:

- at a height that is within the manufacturer's recommended mounting heights.
- The radar shall be positioned so that all detection zones needed for an approach can be captured.
- in a forward-fire position, looking towards either approaching or departing traffic.

4.3.4.2 Induction Card Rack Interface. Install a 4-position induction card rack with power supply and configure based on manufacturer's instructions to provide all needed detection outputs. Any power supply cards for the induction card rack needed for proper operation of the CTAD shall be provided and installed by the contractor.

4.3.4.3 Support. A factory certified representative from the supplier shall be available for on-site assistance for a minimum of one day during installation and shall provide two (2) days of local training after the CTAD has been installed and are operational.

4.3.4.4 Acceptance Testing. The contractor shall develop a proposed test procedure for the CTAD and submit it to the Engineer for approval. It must include visual verification of vehicle detections being received. Each detector shall be tested separately. Revise the proposed test procedure until it is acceptable to the Engineer. Provide all equipment and personnel needed to safely conduct the tests. Arrange for the Engineer's representative to witness the tests. Give the Engineer a report documenting the result of the tests.

4.3.5 Documentation and Software.

4.3.5.1 Prior to purchasing the CTAD system, the contractor shall submit five copies of catalog cut sheets and the environmental testing results to the Engineer for approval.

4.3.5.2 The contractor shall provide five copies of the operation and maintenance manuals for the CTAD system.

4.3.5.3 Contractor shall provide one copy of the software and any cables needed to interface with the system.

4.3.5.4 Contractor shall provide the CTAD installation kit, if applicable, to the Commission upon completion and acceptance of the project.

5.0 Communication with Advanced Transportation Management System (ATMS). The detection systems and all performance measure data should be fed directly into the Commission's current ATSPM platform (currently through TransSuite). All data must be online and verified by contractor to be fully operational and available for data output reporting via the Commission's ATSPM platform. In addition, the data storage for long-term storage use should be configured properly on the Commission's ATSPM platform. The Contractor shall be responsible for ensuring the firmware of all detection works with the Commission's ATSPM platform. If utilized on the project, the Contractor's Traffic Engineer shall assist in this task.

6.0 Technical Support for Detection System. The detection system(s) chosen for installation shall be free of defects in material and workmanship. For five (5) years, technical support from factory certified personnel or factory certified installers shall be available from the supplier. Ongoing software support by the supplier shall include updates for the processor unit and computer software and shall be provided at no cost during this two-year period. The update of



the processor unit software to be NTCIP compliant shall be included. Detection system(s) must not be within 5 years of end of support or sale by manufacturer.

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

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

9.0 Basis of Payment. Measurement and payment for work covered by this specification shall include all equipment, materials, tools, labor, programming, testing, and documentation necessary to provide a detection system **per intersection** and shall be paid at the contract unit price for item 902-99.02 “Stop Bar Detection System”, per each.

END OF JOB SPECIAL PROVISION JSP-31

JSP – 32
MMU/NETWORK CONNECTED SIGNAL MONITOR

1.0 Description. The Commission’s signal cabinet shall have a flashing yellow arrow compatible monitor installed with an internal RJ-45 plug for 10/100 Ethernet communication that is connected to the Commission’s computer network through Commission furnished Ethernet switch and allow a remote user running the monitor’s software to interface with any specific monitor.

2.0 Performance.

2.1 Inputs. If video detection is used, inputs into controller shall be via SDLC port. Signal cabinet to be TS2 Type 2 setup with 3 ea. SDLC connectors and the monitor to be a Malfunction Management Unit (MMU).

2.2 Status and Event Logging. Monitor shall be able to remotely communicate, at a minimum, active status, current faults, and event logs for at least the previous 7 days.

2.3 Flashing Yellow Arrow. Monitor shall be capable of operating a flashing yellow arrow for left turns by utilizing unused yellow channels on the pedestrian load switches.

2.4 Software and Configuration. Software needed to communicate to any network-enabled monitor shall be provided to the Commission for an unlimited number of users.

3.0 Construction Requirements.

3.1 Requirements. Construction requirements shall conform to Sections 902 and 1092.

3.2 Setup and Training. A minimum of one day of training shall be provided in the operation, setup communication and maintenance of the monitors.

3.3 Acceptance Testing. Contractor shall demonstrate that all network-connected monitors are remotely communicating and individually addressable via supplied software and Commission furnished devices from the Commission’s St. Louis Traffic Management Center in order to satisfy the requirements of this provision. No direct payment will be made for this testing.

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

5.0 Basis of Payment. Payment included with cost of pay item “MMU/Network Connected Signal Monitor”, paid per each. No direct payment will be made for the software. Payment will be considered full compensation for all labor, equipment, and material to complete the described work other than Commission furnished devices needed to complete the network connections.

END OF JOB SPECIAL PROVISION JSP-32

JSP – 33 FIBER OPTIC CABLE

1.0 Description. This work shall consist of installing, splicing, and terminating fiber optic cables. The fiber optic cable may be new or existing cable relocated as shown on the plans. Fiber optic cable relocation requires existing cable to be removed from an existing conduit system and installed in a new or existing conduit system per plans. Relocated cable must be carefully removed from the existing conduit system without being damaged. No direct pay shall be paid for relocating the existing fiber optic cable into new ITS or signal cabinet. If the existing fiber cable is removed, that length shall be paid separately per plans.

2.0 Materials. Some of the below noted materials may not be applicable on this project. See the plans and below quantities for applicable materials.

2.1 Cable. Fiber optic cable shall be of loose tube construction. Provide certification by an independent testing laboratory that the cable meets all requirements of Rural Utilities Service Bulletin 1753F-601a Minimum Performance Specification for Fiber Optic Cables (https://www.rd.usda.gov/files/UTP_Bulletins_1753F-601a.pdf). The cable shall be gel free, all dielectric, and have 12 fibers per tube. The cable sheath shall have length markings in feet, and shall indicate that the unit of measure is feet. The cable shall have single mode fibers whose attenuation does not exceed 0.35 dB/km and 0.25 dB/km for 1310 nm and 1550 nm signals, respectively. The optical fibers used in the cable shall meet or exceed the International Telecommunication Union ITU-T G.652.D requirements.

2.2 Splice Tray. Splice trays shall be 11.7” long, 3.9” wide, and 0.2” tall. They shall be aluminum with clear plastic covers, designed for outdoor use. Each shall accommodate 24 fusion splices. The trays shall have a black powder coat finish. The trays shall have both perforations for cable ties and crimpable metal tabs for buffer tube strain relief.

2.3 Connector. Connectors shall be the LC type with ceramic ferrules, unless a different connector is required to mate with the equipment or an existing panel. They shall be suitable for use in traffic cabinets and shall be designed for single mode fibers.

2.4 Pigtail. Pigtails shall be factory-made, buffered, and strengthened with aramid yarn to reduce the possibility that accidental mishandling will damage the fiber or connection. Pigtails shall be yellow. Each must contain one fiber. Length shall suffice to provide two feet of slack after installation.

2.5 Jumper. Jumpers shall meet the requirements for pigtails, but shall have a connector on each end. Length shall suffice to provide approximately five feet of slack after installation.

2.6 Interconnect Center. An interconnect center is a splice enclosure that has a patch panel built into one of its walls. Within the interconnect center, fibers in cables are spliced to pigtails and the pigtails are plugged into the patch panel from the inside. This allows jumper cables (not part of the interconnect center) to plug into the patch panel from the outside, connecting the fibers to equipment in the cabinet or to other fibers on the patch panel. Within an interconnect center, some fibers may be spliced to the corresponding fiber in a mating cable, rather than to a pigtail. Still other fibers may be coiled, un-terminated.

The enclosure shall be made of powder-coated metal. It shall have provisions for cable strain relief and for connector labeling. The enclosure's patch panel shall have at least 24 positions. Provide enough splice trays for all splices made in the interconnect center. Provide patch panel modules that are compatible with the connectors specified in section 2.3 of this provision.

2.6.1 Wall-Mounted Interconnect Center. The enclosure shall be designed for wall or panel mounting and occupy no more than 350 square inches of wall space. It shall have a gasketed, hinged door. It shall hold at least six splice trays. These enclosures are typically used in signal cabinets.

2.6.2 Rack-Mounted Interconnect Center. The enclosure shall have brackets and all other hardware required for rack mounting in an EIA standard 19-in. equipment rack. It shall take up no more than three rack units (1¾ inch each) in the cabinet. It shall have front and rear doors. It shall hold at least four splice trays. These enclosures are typically used in ITS device cabinets.

2.7 Rack-Mounted Splice Enclosure. The enclosure shall have brackets and all other hardware required for rack mounting in an EIA standard 19-in. equipment rack. However, alternate forms of mounting will be permitted if more practical at a particular location. The enclosure shall take up no more than five rack units (1¾ inch each) in the cabinet. It shall be made of powder-coated aluminum. These enclosures are typically used in network node cabinets.

2.7.1 The enclosure shall have provisions for cable strain-relief. It shall have hinged front and rear doors.

2.7.2 The enclosure shall include splice trays as specified in section 2.2 of this provision. The contractor shall provide enough splice trays for all the splices made in the enclosure. The enclosure shall include a splice tray holder with capacity for 22 trays. It shall be mounted on a sliding shelf inside the enclosure so that individual trays can be removed from the enclosure without disturbing the other trays or removing the enclosure itself from the cabinet.

2.8 Rack-Mounted Patch Panel Enclosure. The enclosure shall have brackets and all other hardware required for rack mounting in an EIA standard 19-in. equipment rack. However, alternate forms of mounting will be permitted if more practical at a particular location. The enclosure shall take up no more than five rack units (1¾ inch each) in the cabinet. It shall be made of powder-coated aluminum. Provide patch panel modules that are compatible with the connectors specified in section 2.3 of this provision, as needed. These enclosures are typically used in network node cabinets.

2.9 Underground Splice Closure. Closures for underground fiber splices include all materials necessary to make, organize, and protect the splices.

2.9.1 The closure shall supply environmental protection of cable and splices from water and dirt. It shall be designed for splicing fiber-optic cables underground in pull boxes and to be submersed in water.

2.9.2 Provide certification by an independent testing laboratory that the closure meets all requirements of Telcordia GR-771 for environmentally sealed closures for buried installation.

2.9.2 The closure shall be re-enterable without any special tools.

2.9.3 The closure shall be able to accommodate at least four fiber optic cables.

2.9.4 The closure shall accommodate 144 single mode fiber splices.

2.9.5 It shall be possible to remove any splice tray without disturbing the others.

2.9.6 Splice trays in the closure need not be of the type specified in 2.2, above.

2.9.7 Designed for butt splicing.

2.9.8 No encapsulated materials shall be allowed.

2.10 Tracer Wire. A jacketed #14 AWG XHHW-2 standard blue tracer wire (also known as the locator wire) shall be provided in the conduit within the project limits unless it exists.

3.0 Construction Requirements.

3.1 Pre-Installation Cable Inspection and Testing. Prior to installation, confirm that the cable is in good condition and complies with the specifications. The contractor shall perform fiber testing (see below requirements) of new fiber on the reel and existing fiber before it is removed. Notify the SLITS Group about any fiber anomalies and submit fiber testing reports to the SLITS Group for review and approval. Any defects found after installation will be deemed the fault of the contractor.

3.2 Cable Installation.

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

3.2.2 In case of fiber optic cable replacement, all new fiber cable must be installed, spliced, terminated and go online before removing the old cable.

3.2.3 Remove existing cable to be relocated and install cable such that the optical and mechanical characteristics of the fiber are not degraded. Do not violate the minimum bend radius or the maximum tension, both during and after installation.

3.2.4 Before any cable installation is performed, provide the engineer with four copies or an electronic copy, as required by the engineer, of the cable manufacturer's recommended maximum pulling tensions for each cable size. These pulling tensions shall be specified for pulling from the cable's outer jacket. Also, provide a list of the minimum allowable cable bending radius and the cable manufacturer's approved pulling lubricants. Only those lubricants approved by the cable manufacturer will be permitted.

3.2.5 If the cable is pulled by mechanical means, use a clutch device to ensure the allowable pulling tension is not exceeded. Also, attach a strain gauge to the pulling line at the cable exit location, and at a sufficient distance from the take-up device, such that the strain gauge can be read throughout the entire cable pulling operation.

3.2.6 Do not leave the let-off reel unattended during a pull, in order to minimize the chance of applying excess force, center pull, or back feeding.

3.2.7 Use an approved lubricant, in the amount recommended by the cable manufacturer, to facilitate pulling the cable. After the cable has been installed, wipe the exposed cable in a pull box, junction box, or cabinet clean of cable lubricant with a cloth before leaving the pull box, junction box, or cabinet.

3.2.8 When installing new fiber optic cable store 30 feet of slack fiber in every intermediate pull box, unless otherwise noted on plans. Additional slack storage, as indicated on the plans, is required in designated pull boxes. At cabinet locations, where cable runs from the pull box directly to an equipment cabinet, store 60 feet of slack fiber optic cable in the pull box, unless otherwise noted on plans. Additionally, treat the cable returning from the cabinet to the pull box as a separate cable, and store 60 feet of slack for these links, unless otherwise noted on plans. Store slack cable neatly on the walls of the pull box using racking hardware acceptable to the engineer. If the length of fiber optic cable being relocated does not allow for fully meeting these slack requirements, maximize fiber slack at cabinets before providing slack in pull boxes.

3.2.9 While pulling and until splicing seal the fiber optic cable ends to prevent the escape of filling compound and the entry of water.

3.3 Splicing. Splice all optical fibers, including spares, to provide continuous runs. Splices shall be allowed only in equipment cabinets except where shown on the plans.

3.3.1 Make all splices using a fusion splicer that automatically positions the fibers using the Light Injection and Detection (LID) system or the High-resolution Direct Core Mounting (HDCM) system. Provide all equipment and consumable supplies.

3.3.2 Secure each spliced fiber in a protective groove. Completely re-coat bare fibers with a protective room temperature vulcanizing (RTV) coating, gel or similar substance, prior to insertion in the groove, so as to protect the fiber from scoring, dirt, or microbending.

3.3.3 Prior to splicing to a fiber installed by others, measure and record the optical loss over that fiber. See section 4.0 of this provision.

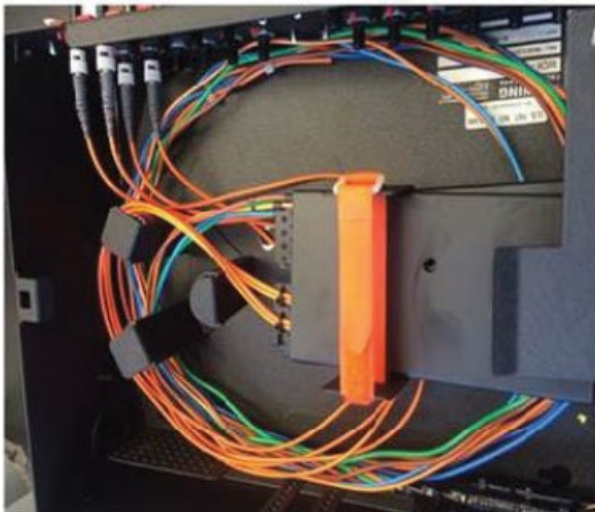
3.3.4 Use a different splice tray for each buffer tube color. If an enclosure contains multiple buffer tubes of the same color, but none of the fibers in one of the tubes are spliced to fibers in other tubes of the same color, use a separate splice tray for that tube.

3.4 Termination. Terminate fibers by splicing them to factory-made pigtails. Cap all connectors that are not connected to a mating connector.

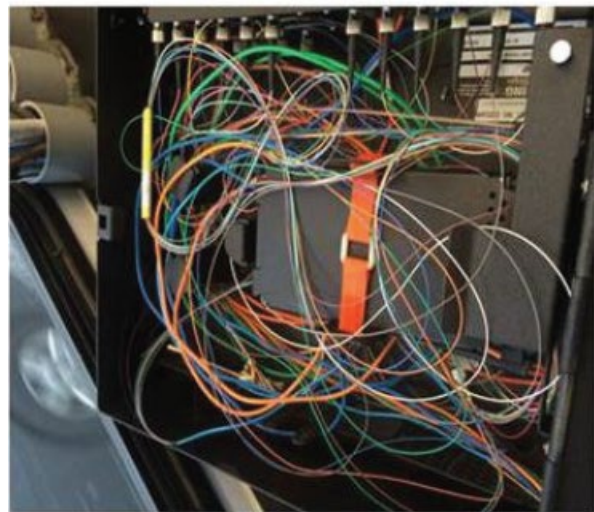
3.5 Tracer Wire. The contractor shall install a jacketed #14 AWG XHHW-2 standard blue tracer wire (also known as the locator wire) in conduit with new or replaced fiber optic cable(s). In the pull box nearest to the ITS or signal cabinet connect the tracer wire to a ground rod with a ground rod clamp and provide five feet of slack, as shown on the ITS pull box detail. In other fiber pull boxes provide five feet of slack, but a ground rod shall not be installed. Secure the tracer wire slack in individual coils to the inside wall of each pull box. If the tracer wire already exists, the contractor shall ensure it is connected to the ground rod properly in the pull box nearest to the ITS or signal cabinet and demonstrate a locate signal will transmit along the tracer wire. When fiber optic cable is relocated, existing tracer wire may be reused.

Prior to final acceptance and transition of ownership, the contractor shall meet with the Engineer to demonstrate the tracer-wire and locate system is working properly throughout the entire fiber, tracer wire and locate system.

3.6 Fiber Management. Fiber in splice trays along with pigtails and buffer tubes in the interconnect center or splice closures shall be neatly looped and restrained following telecom industry standard fiber and cable management practice and enclosure manufacturer's recommendations. Shown below are examples of acceptable and unacceptable fiber and cable management. Work will not be accepted unless good fiber management practices are followed.



Acceptable



Unacceptable

3.7 Required Fiber Splicing, Installation and Testing Experience. Submit resumes, certificates and references detailing fiber installation, splicing and testing for on-site personnel to the engineer for approval. Subcontractors used on the project are considered part of the contractor's team and are also required to submit resumes, certificates and references. Submit

to the engineer references including client project manager, phone number and project experience. Demonstrate successful completion of fiber optic cable installation and splice training courses by providing certificates of completion. Failure to comply may result in a declaration of noncompliance.

In addition, ensure a number of the contractor's team approved by the engineer that has at least two years of experience in the installation, splicing and testing of the fiber optic cable is on site at all times during the fiber optic cable installation and fiber optic splicing work until successful completion of the work. Receive approval from the engineer for any substitution of this individual. The engineer may stop the work activity on this project as a result of the absence of these on-site personnel from the project and may continue to charge time to the contractor and will not grant a time extension.

3.8 Existing Fiber Replacement. When plans show new fiber being installed to replace existing fiber, the existing fiber should remain in service until the new fiber is installed and is ready for splicing to minimize network downtime.

3.9 Fiber Relocation. The fiber optic cable is a crucial part of the traffic operation system. It is imperative that the downtime be kept to a minimum when relocating fiber optic cable. When existing fiber is disconnected for relocation, the relocation and fiber splicing of the relocated fiber shall progress continuously to minimized downtime.

4.0 Acceptance Testing.

4.1 General. Test the fiber after installation, including all splicing and termination, is complete. Note, however, that this test procedure involves measuring the loss of fiber installed by others before splicing to it. For each fiber optic link, including spare fibers, determine whether the optical loss is within the limits permitted by these specifications. A link is a continuous segment of fiber between one connector (or unterminated end) and another connector (or unterminated end). When testing links that do not have connectors on both ends, use a mechanical splice to attach a pigtail to the unterminated fiber for the duration of the test.

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

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

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

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

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

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

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

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

7.0 Basis of Payment. Measurement and payment for items covered by this specification include items listed below, acceptance testing, trace wire within new/existing/relocated conduit used for fiber optic cable, in addition to all materials, labor, and equipment necessary for a fully operational system. Payment will be made as follows:

Item No.	Type	Description
910-99.02	Each	Fiber Optic Fusion Splice
910-99.02	Each	Fiber Optic Pigtail
910-99.02	Each	Fiber Optic Jumper
910-99.02	Each	Wall-Mounted Interconnect Center
910-99.02	Each	Rack-Mounted Interconnect Center
910-99.02	Each	Rack-Mounted Splice Enclosure
910-99.02	Each	Rack-Mounted Patch Panel Enclosure
910-99.02	Each	Underground Splice Closure
910-99.03	Linear Foot	Fiber Optic Cable, 72 Strand, Single Mode
910-99.03	Linear Foot	Fiber Optic Cable, 24 Strand, Single Mode
910-99.03	Linear Foot	Relocate Fiber Optic Cable, 72 Strand, Single Mode
910-99.03	Linear Foot	Relocate Fiber Optic Cable, 24 Strand, Single Mode

END OF JOB SPECIAL PROVISION JSP-33

**JSP – 34
CCTV CAMERA ASSEMBLY**

1.0 General.

1.1 Description. The contractor shall install a Commission furnished IP (Internet Protocol) closed circuit television (CCTV) assembly on a new 4” x 20’ extension metal pole which will be mounted to the signal up-right pole (see detail drawing), and install a Contractor furnished power supply and surge protection in the new signal cabinet. Provide cable connecting the camera to the equipment in the cabinet and to ground, set up the camera assembly, and test for proper operation.

1.2 Compatibility. The St. Louis District is utilizing TransSuite as their Advanced Traffic Management System (ATMS) and all CCTV cameras must be able to integrate with the software and its related interfaces.

2.0 Materials.

2.1 Camera assembly, mounting bracket, power supply, and surge suppressors will be provided by the Contractor. The cable connecting the camera to the cabinet will also be provided by the contractor.

2.2 CCTV Camera. All CCTV cameras purchased and installed on this project shall be selected from the list below. These are the only CCTV cameras that are tested and fully functional with the version of TransSuite that the St. Louis District is currently operating (TransSuite version 19.4):

2.3 POE Injector. The Power Over Ethernet (POE) injector shall be of a make and model produced by the manufacturer of the camera. The POE injector shall operate on standard 120 VAC at 60 Hz electrical service and shall not be affected by transient voltages, surges, and sags normally experienced on commercial power lines. The POE injector shall have an operating temperature range of -40 degrees F (-40 degrees C) to 158 degrees F (70 degrees C).

CCTV Manufacturer	Model	Connection Type
CostarHD (formerly known as Cohu)	4220HD RISE Dome	Outdoor cat5e
Axis	Q6155-E Dome	Outdoor cat5e
Bosch	Autodome 7000i	Outdoor cat5e

2.4 Surge Protection. The cable between the POE injector and the camera assembly shall be protected by a surge protection device in the cabinet that meets the following requirements:

- a) UL listed and labeled to current editions of UL 497B and UL 497C
- b) Operating Temperature: -20 degrees F (- 28 degrees C) to 122 degrees F (50 degrees C)
- c) Operating Humidity: 95% RH non-condensing
- d) Wall, DIN rail or 19” rack mountable
- e) Three stage protection
- f) Maximum Continuous Operating Voltage: 44-52 V
- g) Data Rate: >100 Mbps

- h) Frequency: 125 MHz
- i) Surge Capacity: 10kA per mode (8x20 μ s)
- j) Maximum Let-Through Voltage <90Vpk

2.5 Cables. Provide CAT 5e outdoor rated cable to carry power, video, and camera control between the camera and POE injector. Between the POE injector and the Ethernet switch an outdoor rated CAT 5e patch cable with factory terminated connectors shall be used. These cables shall meet requirements of applicable manufacturers listed in Section 2.2 above.

2.6 Banding. Provide stainless steel bands to affix the mounting bracket to the pole. The banding shall be 1-inch wide, 0.044-inch thick, stainless steel.

3.0 Construction Requirements.

3.1 The contractor shall coordinate this work as well as any ITS (Intelligent Transportation System) network changes with MoDOT St Louis District ITS Group in advance via an email to SLITS@modot.mo.gov.

3.2 The contractor shall use the latest manufacturer's camera firmware.

3.3 Install the dome so that the pole does not block the camera's view of traffic. Unless directed differently by the engineer, install the camera in the same position as the existing camera.

3.4 To confirm the existing camera pole is properly grounded, use a device that measures resistance to ground using the three-point fall-of-potential method to ensure that the resistance from the pole to ground does not exceed 8 ohms. If resistance exceeds the 8 ohms threshold report to the engineer.

3.5 Terminate all the cables on surge protectors, install the Contractor furnished power supply in the cabinet, and connect the camera power circuit to the power supply. Connect POE injector port to the existing Ethernet switch in the cabinet.

3.6 Restrict the camera's field of view, if necessary, so that a user cannot use the cameras to look in the windows of dwellings. To the extent that it does not interfere with the use of the camera for traffic management purposes, ensure that a camera cannot be used to view residential property. The camera should have clear view of all approaching traffic lanes. Prior to creating these restrictions, submit to the engineer a written description of the proposed restrictions to be installed at each camera, and the proposed method of achieving them. It shall not be possible for an operator to override these restrictions without intervention by his or her supervisor. Affixing a mask to the inside of the clear dome shall be an acceptable method to achieve this. Highlight situations in which there is a conflict between the need to protect privacy and the need to know about traffic situations. Revise the field of view restrictions as directed by the engineer.

3.7 Apply a rain repellent coating to the outside of the lower dome, following the coating manufacturer's instructions. The coating must be recommended by the CCTV manufacturer for use on their equipment.

4.0 Acceptance Testing.

4.1 Upon delivery of a shipment of camera assemblies, the Contractor shall conduct a visual inspection and test of the camera assemblies to check for manufacturing defects and shipping damage. The camera assembly shall be powered during this testing, and tests shall follow procedures developed by the manufacturer and approved by the engineer. The engineer will witness this testing and the contractor may witness this testing if he or she chooses. The Contractor shall be responsible for replacing all defective units uncovered by this testing.

4.2 After installing the camera assembly, test it using the same procedures used when the camera assemblies were delivered. In addition, demonstrate that the agreed upon viewing restrictions have been implemented. If the installed camera assembly fails to operate properly, and the problem cannot be fixed by changing the wiring or setup parameters, the camera assembly will be deemed defective and the contractor shall return it to the manufacturer for replacement at Contractor's expense. Except for costs borne by the manufacturer under their warranty agreement, the cost of replacement shall be borne entirely by the contractor.

4.3 SLITS Group shall inspect this CCTV assembly installation as well as the related network devices for proper operations prior to acceptance.

5.0 Basis of Payment. Measurement and payment for furnishing and installing the camera assembly installation includes testing, grounding testing, cabling, extension post, and all miscellaneous hardware required for a safe, fully operational camera assembly. Payment shall be made at the contract unit price for item "CCTV Camera Assembly (Commission Furnished)", per each.

END OF JOB SPECIAL PROVISION JSP-34

JSP – 35 ITS ASSET MANAGEMENT TOOL

1.0 Description. For all locations where any MoDOT and other agency's ITS (Intelligent Transportation System) components are modified or added, the contractor shall be responsible for populating and updating Commission's ITS Asset Management Tool to reflect the final condition of the entire ITS system within the project limits as shown on the plans. Updating shall be performed by Commission approved staff (currently NexusWorx).

2.0 Construction Requirements.

2.1 Contractor shall provide any relevant notes to a specific location that can be entered into the tool to aid in the understanding of the device configuration and location. At a minimum, this will include providing the required latitude and longitude coordinates of each pull box, DMS, CCTV, node cabinet, conduit, cable, and fiber, along with any serial numbers and/or identification information. The Contractor shall locate the conduit every 100 feet using a GIS locating device that is accurate to the nearest foot. The Contractor shall provide a GIS based map of the conduit route and a complete listing of all of map coordinates in an electronic format. Population of the fiber management tool will be required for all devices that have been installed to date as well as any devices installed under this contract.

2.2 Other agency's ITS assets such as conduit, fiber cable, Cat-E cable, cabinet, pull box, etc. within MoDOT Right-Of-Way shall be highlighted including in a polygon in the ITS Asset Management Tool so it can be clearly identified for future references.

2.3 The contractor shall furnish to Commission approved staff a copy of the final plans relevant to all of the ITS components in Visio and/or Microstation formats, if relevant.

2.4 The contractor shall be provided one licensed read-only access login by Commission before work begins.

3.0 Acceptance Testing.

3.1 All entries and updates shall be completely entered and available for use within 30 days from final acceptance of the project.

3.2 Commission staff shall verify population of the fiber management tool, including accuracy and completeness of details for each component prior to acceptance and payment.

6.0 4.0 Measurement and Payment. Measurement and Payment for items covered by this specification include the population and acceptance testing, in addition to all materials and equipment necessary for a fully operational system. Payment shall be made at the contract unit price for item “ITS Asset Management Tool, lump sum.

END OF JOB SPECIAL PROVISION JSP-35

JSP – 36 ITS PULLBOX W/CONCRETE PAD

1.0 Description. Furnish and install ITS Pull Boxes with concrete pads as shown on the plans.

2.0 Materials.

2.1 Pull Box. ITS pull box shall meet the requirements in Section 1062 of the Missouri Standard Specifications for Highway Construction.

2.2 Ground Rod. Ground rods shall be listed according to UL requirements as detailed in the Standard UL 467, Grounding and Bonding Equipment, and meet the requirements of NEC 250. Use electrodes that are solid copper or copper-bonded steel.

2.3 Concrete Pad. The contractor shall install a non-reinforced concrete pad around the ITS pull box as shown in the plans. The concrete used shall be a class ‘B’ concrete as described within Section 501 of the Standard Specifications.

Basis of Payment. Measurement and payment for ITS Pull Boxes includes excavation, materials, construction, backfill and all miscellaneous hardware required for a fully operational system. Payment shall be made at the contract unit price for items “ITS Pullbox W/Concrete Pad, Class 2” and “ITS Pullbox W/Concrete Pad, Class 5”, per each.

END OF JOB SPECIAL PROVISION JSP-36

JSP – 37

ITS IP POWER STRIP

1.0 Description. The contractor shall install the Commission furnished and programmed IP-Addressable Power Strip(s) in the ITS and/or Signal Cabinets as shown of the plans.

2.0 Installation Requirements. The contractor shall mount the power strip on the back side of the ITS Type 7 ITS cabinet (or any open space of other ITS cabinets away from the door) and on any open space of the signal cabinet with the power cable facing away from the door or other devices. The old power strip as well as any other inactive devices, if present, should be removed to make room. If the contractor has any question regarding the inactive devices, they should contact MoDOT signal shop supervisor. The power source shall be hardwired to cabinet auxiliary breaker with no plug in to any cabinet outlet allowed.

3.0 Acceptance Testing. The Contractor shall contact MoDOT St. Louis ITS staff to verify remote communication to the power strip upon installation and while still on-site. They also shall provide a list of devices and designated port assignments to the ITS group so they can update that port description in the Power Strip software.

4.0 Basis of Payment. Measurement and payment for Power Strip Installation includes the removal of the old and inactive power strip or other devices to make space for new power strip, installation of new power strip, grounding, testing and all miscellaneous hardware required for a safe, fully operational Power Strip. Payment shall be made at the contract unit price for item “ITS IP Power Strip”, per each.

END OF JOB SPECIAL PROVISION JSP-37

JSP – 38

BURIED CABLE DRIVABLE DELINEATOR

1.0 Description. The contractor shall install a MoDOT ‘Buried Cable’ delineator post next to each ITS pull box within the project limits as indicated on the plans.

2.0 Materials. See detail in the plans. The post shall be supplied in orange color and incorporate a premium UV inhibitor package to resist harmful effects to the sun. The post shall withstand multiple directional impacts and provide a long lasting and extremely durable product requiring little field maintenance. The post shall have a minimum 0.20” wall thickness and shall stand up straight in all weather conditions and self-right to straight upon impact. Top of post shall be permanently sealed and partially flattened and transition to round to afford 360 degree visibility. The post materials shall include an anchor, a non-mechanical flexible joint, and a round delineator post.

The post assembly should allow for easy change-out of any one part if necessary.

3.0 Construction Requirements. Construction requirements shall conform to the delineator post manufacturer’s recommendations and engineer’s approval. If the plans show the post near a pull box, put it next to the box as an aid to finding the box. Do not drive it through the conduit.

4.0 Basis for Payment. Payment for the ‘Buried Cable’ delineator post shall be considered full compensation for all contractor-provided equipment items, labor, and material to complete the



described work. Payment shall be made at the contract unit price for item “Buried Cable Drivable Delineator”, per each.

END OF JOB SPECIAL PROVISION JSP-38

JSP – 39 COORDINATION WITH SIGNAL SHOP

11.0 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.

1.0.1 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).

1.0.2 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. Contact the signal shop via email at sltrs@modot.mo.gov to coordinate which padlocks are to be used.

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

END OF JOB SPECIAL PROVISION JSP-39

JSP – 40 COORDINATION WITH ITS STAFF AND UTILITY LOCATES

1.0 Description. Any work that will impact the existing communications network must be coordinated with the Commission’s St. Louis District ITS staff. This includes but not limited to removal and replacement of any existing communications equipment, adding new devices and changes to power sources or disconnects. Minor modifications to the existing communications network can have significant impacts on the system and operation of other ITS and traffic signal systems.

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

2.0 Contact. The contractor shall notify the ITS group via an email to SLITS@modot.mo.gov at least 2 days before any work that may impact the existing network communications. The contractor shall include the Job#, location and brief scope of work in the email's subject line. The engineer shall be notified prior to making contact with ITS staff. For MoDOT Utility location updates, the contractor must contact MoDOT TMC at 314-275-1500 and ask for Utility Locate Section at least seven calendar days before performing any work.

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

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

END OF JOB SPECIAL PROVISION JSP-40

JSP-41 CONDUIT

1.0 Description.

1.1 Furnish and install conduits as shown on the plans and as described within this section. The plans depict conduit routing in schematic form only. Determine final routing based on actual field conditions at each site, including utility locator service markings, to assure no conflicts with existing utilities.

2.0 Materials.

2.1 Use PVC conduit meeting the requirements of Sec 1060.

2.2 Use HDPE conduit meeting the requirements of Sec 1060. Use orange conduit for communication cable and black for power cable.

2.3 Pull ropes or tapes shall be polypropylene with a minimum tensile strength of 600 pounds.

3.0 Construction Requirements.

3.1 General. The contractor shall comply with Sec 902.16, except as noted in this special provision.

3.1.2 Pull ropes shall be furnished and installed in all empty conduit cells.

3.1.3 HDPE duct shall not be spliced. All runs shall be continuous.

3.1.4 Use an impact mole to install conduit under existing sidewalk unless otherwise indicated or unless the crossing is part of a longer bore or unless otherwise indicated in the plans. The portion installed using a mole will be paid for at the same price per foot as trenched conduit.

3.2 Directional Drilling.

3.2.1 Preliminary Site Work. Determine all utility locations near the path of the proposed bore, including depth. Use this information to avoid damage to utilities and/or facilities within the work area. Provide this information, including the sources, to the engineer a minimum of five working days prior to boring. Do not bore until the engineer approves that submittal. Prior to boring, expose all utilities for which it is customary and safe to do so.

3.2.2 Boring. The diameter of the drilled hole shall conform to the outside diameter of the conduit as closely as practical. Pressure grout as directed by the engineer, to fill any voids, which develop during the installation operation. Remove and replace any conduit damaged in directional drilling operations at no expense to the project.

3.2.3 Drilling Fluid (“Slurry”). The use of water and other fluids in connection with the drilling operation will be permitted only to the extent necessary to lubricate cuttings. Jetting will not be permitted, and the use of water alone as a drilling fluid will not be permitted. Use a drilling fluid consisting of at least 10% high grade, processed Bentonite to consolidate excavated material, seal the walls of the hole, and furnish lubrication for subsequent removal of material and immediate installation of the pipe.

Provide a means of collecting and containing drilling fluid that returns to the surface, such as slurry pit, or a method approved by the engineer. Provide measures to prevent drilling fluids from entering storm sewer systems. Prevent drilling fluid from accumulating on or flowing onto sidewalks, other pedestrian walkways, driveways, or streets. Immediately remove any slurry that is inadvertently deposited on pedestrian walkways. Transport waste drilling slurry from the site and dispose of it. Do not allow slurry to enter wetlands. Protect wetlands using appropriate soil erosion control measures approved by the engineer. This requirement also applies to slurry resulting from vacuum excavation to locate underground utilities.

3.2.4 Drilling Control. Use a digital walkover locating system to track the drill head during the bore. At minimum, the locating system shall be capable of determining the pitch, roll, heading, depth, and horizontal position of the drill head at any point along the bore. During each drilling operation, locate the drill head every 10 feet along the bore and prior to crossing any underground utility or structure. Upon completion of the drilling operation and conduit installation, furnish the engineer with an as-built profile drawing and plan drawing for the drilled conduit showing the horizontal and vertical locations of the installed conduit.

3.3 Intercept Existing Conduit with Proposed Pull Box.

3.3.1 Determine whether the conduit is occupied. If so, disconnect the cables at one end of the cables and pull them back so that they are not damaged when the conduit is cut. Alternatively, they can be removed entirely and replaced with new, identical cables. Notify the engineer if any of the cables appear to be in poor condition.

3.3.2 Excavate a pit big enough for the pull box and drain material, with at least an additional foot on each side with conduit.

3.3.3 Install the drain material. From the top of the drain material, measure the vertical distance to the bottom the conduit at the points corresponding to the walls of the box.

3.3.4 If the conduit is PVC or metal, cut it in two places such that the distance between the cuts is longer than the box. Be sure the ends are cut squarely. If the conduit is HDPE, cut it in the center of the pit. Ensure that the pit is long enough that the conduit can be bent out of the way when the box is installed, and can be bent enough to insert the conduit through the wall of the box.

3.3.5 Make a hole in the wall of the box at each point that the conduit will enter. Use the distances measured earlier to determine how far from the box’s bottom to make the holes.

3.3.6 Set the pull box in the pit with the holes aligned with the conduits.

3.3.7 Pass the conduits through the wall of the box so that they end about one inch inside the wall. For PVC conduit, extend the existing conduit using a short length of new PVC conduit that includes a socket end. For metal conduit, thread the existing conduit, apply a threaded coupling, and add a short length of new conduit. For HDPE, bend the existing conduit to pass through the box wall, then cut it to length inside the box.

- 3.3.8 Use non-shrink grout to completely fill the space between the conduit and box wall.
- 3.3.9 Backfill the pit and restore the area as with any pull box installation.
- 3.3.10 Reinstall, reconnect, and test the cables that were pulled back at the beginning of the procedure. Alternatively, replace them in kind and test them.

3.4 Install Conduit into Existing Pull Box.

- 3.4.1 Carefully expose the outside of the existing pull box without disturbing any existing conduits or cabling.
- 3.4.2 Make the appropriate sized hole for the entering conduit at a location within the pull box that will not disturb the existing cabling and that will not hinder the installation of new cabling within the installed conduit.
- 3.4.3 Install the conduit.
- 3.4.4 Fill any void area between the drilled hole and the conduit with an engineer-approved filling material to protect against conduit movement and the entry of fill material.
- 3.4.5 Backfill shall be carefully tamped in place. All disturbed areas shall be restored.

4.0 Basis of Payment.

- 4.1 All surface-mounted junction boxes, fittings, liquid-tight flexible conduits, hangers, supports, resin anchor systems, and all hardware are incidental to the cost of conduit.
- 4.2 Conduit may be installed by directional boring at locations shown as trenched on the plans. Such conduit will be paid for as if it had been installed by trenching.
- 4.3 Payment for Intercept Conduit with Pull Box includes only that work that would not be incurred in a normal pull box installation. The cost of the box and its installation will be paid for separately.
- 4.4 Measurement and payment for work covered by this specification includes equipment, tools, materials, necessary to install conduit. It includes excavation and site restoration. Payment shall be made at the contract unit price per lineal foot for "Conduit" pay items .

END OF JOB SPECIAL PROVISION JSP-41

JSP-42 ILLUMINATED STREET NAME SIGN

1.0 Description. The contractor shall provide and install LED illuminated signs at all locations shown on the plans, to the satisfaction of the City of Creve Coeur. All new signs shall have a green background and white lettering with both background and lettering illuminated, and the City of Creve Coeur logo as it appears in the plans. Catalog cuts of the signs shall be approved by the City prior to procurement. All work, sign mounting equipment, cables, labor, and miscellaneous hardware necessary to complete this task shall be included with this pay item. Mounting brackets and miscellaneous hardware shall be powder coated black to match the signal pole.

Cables powering the illuminated streetname signs shall be appropriately tagged as they will be maintained by the City, and routed directly to the 120 volt breaker in the power supply cabinet, bypassing the signal cabinet in the shared signal conduit system.



2.0 Basis of Payment. Payment shall be made at the contract unit price for item “Illuminated Street Name Sign”, per each.

END OF JOB SPECIAL PROVISION JSP-42

JSP-43
INSTALL OR RELOCATE EXISTING COMMUNICATION EQUIPMENT

1.0 Description. The contractor shall install MoDOT furnished ethernet network switch(s) or relocate all existing network equipment from existing ITS or signal cabinet into new cabinet, make necessary connections and test for proper network connection. This work shall be coordinated with MoDOT SLITS Group via an email to SLITS@modot.mo.gov.

2.0 Materials.

2.1 The Contractor shall install MoDOT furnished Ethernet network switch(es) or relocate the existing Ethernet network switch(es), video encoders, cellular modem and other existing or new network devices inside the new ITS or signal cabinet as shown on the detail communication plans. These will include power cables and network device surge arresters. Relocating the existing CCTV camera(s) and network radios(s) shall be paid under separate pay items.

2.2 The Contractor shall furnish and install any other cables such as Category 5E patch cords, coax patch cords, and short serial cables, etc. as required for the new location connections.

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.

3.4 Cisco Ethernet Switch. Prior to the beginning of the project, the Contractor shall verify the correct switch type and model including any additional necessary Cisco supported equipment with MoDOT St. Louis ITS department. Additional equipment may include but is not limited to the power supply, DIN rails, and any applicable Cisco supported SFPs (Small Form-factor Pluggable transceivers), or expansion modules. For signal cabinets, the switch shall be mounted on the left side panel above the 120V IP Power Strip. Attach unit to 2 rails of the side panel, with the power



cable facing away from the cabinet door. The Cisco switch shall be powered from the 120V IP Power Strip. The Cisco Ethernet Switch including the additional Cisco supported equipment shall be delivered to Commission's ITS Engineer for programming at least 2 weeks prior to the field installation.

3.5. Cellular Modem. If present, the contractor shall provide before and after documents on cellular modem signal strength. The new cellular modem signal strength shall be equivalent or better than existing. Contractor shall be responsible for installation or relocation of cellular antenna to achieve acceptable signal strength.

3.6 Other Agency's Devices on MoDOT Right-Of-Way and Facilities. If other agency's devices such as emergency pre-emption system, CCTV Camera, etc. exist within MoDOT Right-Of-Way and must be relocated onto the new MoDOT facilities, the contractor must notify MoDOT SLITS Group via an email to SLITS@modot.mo.gov and MoDOT area traffic engineer in the early stage of the construction. MoDOT SLITS Group and MoDOT area traffic engineer will coordinate the removal and re-installation of those devices with responsible agency.

4.0 Basis of Payment. Measurement and payment for communication equipment installation will be on a per cabinet basis. The unit price shall include patch cords, cabling, assistance to Commission staff in getting the equipment operational, documentation, and all miscellaneous hardware required for a safe, fully operational system. Payment shall be made at the contract unit price for item "Install Commission Furnished Network Switch", per each.

END OF JOB SPECIAL PROVISION JSP-43

JSP-44

POWDER COAT SIGNAL & LIGHTING EQUIPMENT (INTERSECTION)

1.0 Description. This work shall consist of furnishing and installing powder coated signal and lighting equipment as indicated in the plans and project documents (Valmont Ebony Black #334 or approved equivalent). All banding, hardware and miscellaneous items necessary to attach equipment shall be powder coated to match the poles to which they are attached. Powder coating must be done by the manufacturer with warranty information supplied to the City of Creve Coeur; no painting on or off site will be allowed.

2.0 Basis of Payment. Payment shall be made at the contract unit price for item "Powder Coat Signal & Lighting Equipment (Intersection)", per each.

END OF JOB SPECIAL PROVISION JSP-44

Superseded General Decision Number: MO20230001

State: Missouri

Construction Types: Heavy and Highway

Counties: Missouri Statewide.

HEAVY AND HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2024.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/05/2024
1	01/19/2024
2	02/23/2024
3	03/08/2024
4	04/19/2024
5	05/24/2024
6	07/05/2024
7	07/12/2024
8	08/02/2024
9	08/09/2024
10	08/30/2024
11	10/11/2024
12	10/18/2024
13	11/08/2024
14	11/22/2024
15	11/29/2024

* CARP0002-002 05/01/2024

ST. LOUIS COUNTY AND CITY

	Rates	Fringes
Carpenters.....	\$ 41.71	21.85

* CARP0005-006 05/01/2024

CASS (Richards-Gebauer AFB ONLY), CLAY, JACKSON, PLATTE AND RAY COUNTIES

	Rates	Fringes
Carpenters:		

CARPENTERS & LATHERS.....\$ 44.63 22.40
MILLWRIGHTS & PILEDRIVERS...\$ 44.63 22.40

* CARP0011-001 05/01/2024

Rates Fringes

Carpenter and Piledriver

ADAIR, AUDRAIN (West of Hwy 19), BOONE, CALLAWAY, CHARITON, COLE, COOPER, HOWARD, KNOX, LINN, MACON, MILLER, MONITEAU, MONROE, OSAGE, PUTNAM, RANDOLPH, SCHUYLER, SHELBY AND SULLIVAN COUNTIES.....\$ 35.61 22.40
ATCHISON, ANDREW, BATES, CALDWELL, CARROLL, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HENRY, HOLT, LIVINGSTON, MERCER, NODAWAY, ST. CLAIR, SALINE AND WORTH COUNTIES.....\$ 34.98 22.40
AUDRAIN (East of Hwy.19), RALLS, MARION, LEWIS, CLARK AND SCOTLAND COUNTIES.\$ 35.61 22.40
BARRY, BARTON, CAMDEN, CEDAR, CHRISTIAN, DADE, DALLAS, DOUGLAS, GREENE, HICKORY, JASPER, LACLEDE, LAWRENCE, MCDONALD, NEWTON, OZARK, POLK, STONE, TANEY, VERNON, WEBSTER AND WRIGHT COUNTIES.\$ 33.25 22.40
BENTON, MORGAN AND PETTIS...\$ 34.98 22.40
BOLLINGER, BUTLER, CAPE GIRARDEAU, DUNKLIN, MISSISSIPPI, NEW MADRID, PEMISCOT, PERRY, STE. GENEVIEVE, SCOTT, STODDARD AND WAYNE COUNTIES.....\$ 35.37 22.40
BUCHANAN, CLINTON, JOHNSON AND LAFAYETTE COUNTIES.....\$ 34.98 22.40
CARTER, HOWELL, OREGON AND RIPLEY COUNTIES.....\$ 34.04 22.40
CRAWFORD, DENT, GASCONADE, IRON, MADISON, MARIES, MONTGOMERY, PHELPS, PULASKI, REYNOLDS, SHANNON AND TEXAS COUNTIES.....\$ 35.37 22.40
FRANKLIN COUNTY.....\$ 42.19 22.40
JEFFERSON AND ST. CHARLES COUNTIES.....\$ 42.19 22.40
LINCOLN COUNTY.....\$ 38.04 22.40
PIKE, ST. FRANCOIS AND WASHINGTON COUNTIES.....\$ 36.13 22.40
WARREN COUNTY.....\$ 38.04 22.40

ELEC001-002 06/02/2024

BOLLINGER, BUTLER, CAPE GIRARDEAU, CARTER, DUNKLIN, FRANKLIN, IRON, JEFFERSON, LINCOLN, MADISON, MISSISSIPPI, NEW MADRID, PEMISCOT, PERRY, REYNOLDS, RIPLEY, ST. CHARLES, ST. FRANCOIS, ST. LOUIS (City and County), STE. GENEVIEVE, SCOTT, STODDARD, WARREN, WASHINGTON AND WAYNE COUNTIES

Rates Fringes

Electricians.....\$ 47.04 18.196

ELEC002-001 09/04/2022

ADAIR, AUDRAIN, BOONE, CALLAWAY, CAMDEN, CARTER, CHARITON, CLARK, COLE, COOPER, CRAWFORD, DENT, FRANKLIN, GASCONADE, HOWARD, HOWELL, IRON, JEFFERSON, KNOX, LEWIS, LINCON, LINN, MACON, MARIES, MARION, MILLER, MONITEAU, MONROE, MONTGOMERY, MORGAN, OREGON, OSAGE, PERRY, PHELPS, PIKE, PULASKI, PUTNAM, RALLS, RANDOLPH, REYNOLDS, RIPLEY, ST. CHARLES, ST. FRANCOIS, ST. LOUIS (City and County), STE. GENEVIEVE, SCHUYLER, SCOTLAND, SHANNON, SHELBY, SULLIVAN, TEXAS, WARREN AND WASHINGTON COUNTIES

Rates Fringes

Line Construction:

Equipment Operator.....\$ 44.16 23.14
Groundman & Truck Driver...\$ 33.74 19.34
Lineman & Cable Splicer....\$ 51.45 25.81

ELEC0053-004 01/01/2024

Rates Fringes

Line Construction: (ANDREW,

ATCHINSON, BARRY, BARTON,
 BUCHANAN, CALDWELL, CEDAR,
 CHRISTIAN, CLINTON, DADE,
 DALLAS, DAVIES,, DEKALB,
 DOUGLAS, GENTRY, GREENE,
 GRUNDY, HARRISON, HICKORY,
 HOLT, JASPER, LACLEDE,
 LAWRENCE, LIVINGSTON,
 MCDONALD, MERCER, NEWTON,
 NODAWAY, OZARK, POLK, ST.
 CLAIR, STONE, TANEY, VERNON,
 WEBSTER, WORTH AND WRIGHT
 COUNTIES)

Groundman Powderman.....	\$ 35.71	1.5%+9.04
Groundman.....	\$ 32.32	1.5%+18.25
Lineman Operator.....	\$ 48.73	1.5%+23.33
Lineman.....	\$ 54.02	1.5%+25.08

Line Construction; (BATES,
 BENTON, CARROLL, CASS, CLAY,
 HENRY, JACKSON, JOHNSON,
 LAFAYETTE, PETTIS, PLATTE,
 RAY AND SALINE COUNTIES)

Groundman Powderman.....	\$ 33.58	18.34
Groundman.....	\$ 31.33	17.60
Lineman Operator.....	\$ 45.60	22.48
Lineman.....	\$ 50.31	24.11

 ELEC0095-001 06/01/2024

BARRY, BARTON, CEDAR, DADE, JASPER, LAWRENCE, MCDONALD, NEWTON,
 ST CLAIR, AND VERNON COUNTIES

Rates Fringes

Electricians:

Cable Splicers.....	\$ 25.40	12.19
Electricians.....	\$ 31.09	8%+18.04

 ELEC0124-007 08/28/2023

BATES, BENTON, CARROLL, CASS, CLAY, COOPER, HENRY, JACKSON,
 JOHNSON, LAFAYETTE, MORGAN, PETTIS, PLATTE, RAY AND SALINE
 COUNTIES:

Rates Fringes

Electricians.....	\$ 47.37	25.89
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 ELEC0257-003 03/01/2024

AUDRAIN (Except Cuivre Township), BOONE, CALLAWAY, CAMDEN,
 CHARITON, COLE, CRAWFORD, DENT, GASCONADE, HOWARD, MARIES,
 MILLER, MONITEAU, OSAGE, PHELPS AND RANDOLPH COUNTIES

Rates Fringes

Electricians:

Cable Splicers.....	\$ 30.42	16.085
Electricians.....	\$ 38.50	17.515

 ELEC0350-002 12/01/2023

ADAIR, AUDRAIN (East of Highway 19), CLARK, KNOX, LEWIS, LINN,
 MACON, MARION, MONROE, MONTGOMERY, PIKE, PUTNAM, RALLS,
 SCHUYLER, SCOTLAND, SHELBY AND SULLIVAN COUNTIES

Rates Fringes

Electricians.....	\$ 36.60	20.96
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 ELEC0453-001 09/01/2023

Rates Fringes

Electricians:

CHRISITAN, DALLAS, DOUGLAS, GREENE, HICKORY, HOWELL, LACLEDE, OREGON, OZARK, POLK, SHANNON, WEBSTER and WRIGHT COUNTIES..	\$ 36.08	17.91
PULASKI and TEXAS COUNTIES..	\$ 36.08	17.91
STONE and TANEY COUNTIES...	\$ 26.62	17.11

 ELEC0545-003 06/01/2024

ANDREW, BUCHANAN, CLINTON, DEKALB, ATCHISON, HOLT, MERCER,
 GENTRY, HARRISON, DAVIESS, GRUNDY, WORTH, LIVINGSTON, NODAWAY,
 AND CALDWELL COUNTIES

Rates Fringes

Electricians:.....\$ 39.61 20.59

ELEC0702-004 01/01/2024

BOLLINGER, BUTLER, CAPE GIRARDEAU, DUNKLIN, MADISON,
MISSISSIPPI, NEW MADRID, PEMISCOT, SCOTT, STODDARD AND WAYNE
COUNTIES

Rates Fringes

Line Construction:

Groundman - Class A.....	\$ 36.89	30%+8.60
Groundman-Equipment Operator Class II (all other equipment).....	\$ 44.92	30%+8.60
Heavy-Equipment Operator Class I (all crawler type equipment D-4 and larger)...	\$ 50.37	30%+8.60
Lineman.....	\$ 63.30	30%+8.60

ENGI0101-001 05/01/2020

ANDREW, ATCHISON, BATES, BENTON, BUCHANAN, CALDWELL, CARROLL,
CHARITON, CLINTON, COOPER, DAVIESS, DEKALB, GENTRY, GRUNDY,
HARRISON, HENRY, HOLT, HOWARD, JOHNSON, LAFAYETTE, LINN,
LIVINGSTON, MERCER, NODAWAY, PETTIS, SALINE, SULLIVAN AND WORTH
COUNTIES

Rates Fringes

Power equipment operators:

GROUP 1.....	\$ 34.73	18.20
GROUP 2.....	\$ 34.33	18.20
GROUP 3.....	\$ 32.33	18.20

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Asphalt roller operator, finish; asphalt paver and spreader; asphalt plant operator; auto grader or trimmer or sub-grader; backhoe; blade operator (all types); boilers - 2; booster pump on dredge; bulldozer operator; boring machine (truck or crane mounted); clamshell operator; concrete mixer paver; concrete plant operator; concrete pump operator; crane operator; derrick or derrick trucks; ditching machine; dragline operator; dredge engineman; dredge operator; drill cat with compressor mounted (self-contained) or similar type self-propelled rotary drill (not air tract); drilling or boring machine (rotary-self-propelled); finishing machine operator; greaser; high loader-fork lift-skid loader (all types); hoisting engineer (2 active drums); locomotive operator (standard guage); mechanics and welders (field and plants); mucking machine operator; pile drive operator; pitman crane or boom truck (all types); push cat; quad track; scraper operators (all types); shovel operator; sideboom cats; side discharge spreader; skimmer scoop operators; slip form paver operator (CMI, Rex, Gomeco or equal); la tourneau rooter (all tiller types); tow boat operator; truck crane; wood and log chippers (all types).

GROUP 2: A-frame truck operator; articulated dump truck; back filler operator; boilers (1); chip spreader; churn drill operator; compressor; concrete mixer operator, skip loader; concrete saws (self-propelled); conveyor operator; crusher operator; distributor operator; elevating grader operator; farm tractor (all attachments); fireman rig; float operator; form grade operator; hoisting engine (one drum); maintenance operator; multiple compactor; pavement breaker, self-propelled hydra-hammer (or similar type); paymill operator; power shield; pumps; roller operator (with or without blades); screening and washing plant; self-propelled street broom or sweeper; siphons and jets; straw blower; stump cutting machine; siphons and jets; tank car heater operator (combination boiler and booster); welding machine; vibrating machine operator (not hand held); welding machine.

GROUP 3: (a) Oiler;
(b) Oiler driver
(c) Mechanic.

HOURLY PREMIUMS:

THE FOLLOWING CLASSIFICATIONS SHALL RECEIVE (\$.25) ABOVE
GROUP 1 RATE: Dragline operator - 3 yds. & over; shovel
3 yds. & over; clamshell 3 yds. & over; Crane, rigs or
piledrivers, 100' of boom or over (incl. jib.), hoist -
each additional active drum over 2 drums

THE FOLLOWING CLASSIFICATIONS SHALL RECEIVE (\$.50) ABOVE
GROUP 1 RATE: Tandem scoop operator; crane, rigs or
piledrivers 150' to 200' of boom (incl. jib.)

THE FOLLOWING CLASSIFICATIONS SHALL RECEIVE (\$.75) ABOVE
GROUP 1 RATE: Crane rigs, or piledrivers 200 ft. of boom

or over (including jib.)

ENGI0101-005 04/01/2022

CASS, CLAY, JACKSON, PLATTE AND RAY COUNTIES

	Rates	Fringes
Power equipment operators:		
GROUP 1.....	\$ 38.42	20.44
GROUP 2.....	\$ 37.38	20.44
GROUP 3.....	\$ 32.91	20.44
GROUP 4.....	\$ 36.26	20.44

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Asphalt roller operator, finish; asphalt paver and spreader; asphalt plant operator; auto grader or trimmer or sub-grader; backhoe; blade operator (all types); boilers-2; booster pump on dredge; boring machine (truck or crane mounted); bulldozer operator; clamshell operator; concrete cleaning decontamination machine operator; concrete mixer paver; concrete plant operator; concrete pump operator; crane operator; derrick or derrick trucks; ditching machine; dragline operator; dredge engineman; dredge operator; drillcat with compressor mounted (self-contained) or similar type self propelled rotary drill (not air tract); drilling or boring machine (rotary - self-propelled); finishing machine operator; greaser; heavy equipment robotics operator/mechanic; horizontal directional drill operator; horizontal directional drill locator; loader-forklift - skid loader (all types); hoisting engineer (2 active drums); locomotive operator (standard gauge); master environmental maintenance mechanic; mechanics and welders (field and plants); mucking machine operator; piledrive operator; pitman crane or boom truck (all types); push cat; quad-track; scraper operators (all types); shovel operator; side discharge spreader; sideboom cats; skimmer scoop operator; slip-form paver (CMI, REX, Gomaco or equal); la tourneau rooter (all tiller types); tow boat operator; truck crane; ultra high perssure waterjet cutting tool system operator/mechanic; vacuum blasting machine operator/mechanic; wood and log chippers (all types)

GROUP 2: "A" Frame truck operator; back filler operator; boilers (1); chip spreader; churn drill operator; concrete mixer operator, skip loader; concrete saws (self-propelled); conveyor operator; crusher operator; distributor operator; elevating grader operator; farm tractor (all attachments); fireman rig; float operator; form grader operator; hoisting engine (1 drum); maintenance operator; multiple compactor; pavement breaker, self-propelled hydra- hammer (or similar type); power shield; paymill operator; pumps; siphons and jets; stump cutting machine; tank car heater operator (combination boiler and booster); compressor; roller operator (with or without blades); screening and washing plant; self-propelled street broom or sweeper; straw blower; tank car heater operator (combination boiler and booster); vibrating machine operator (not hand held)

GROUP 3: Oilers

GROUP 4: Oiler Driver (All Types)

FOOTNOTE:

HOURLY PREMIUMS FOLLOWING CLASSIFICATIONS SHALL RECEIVE (\$1.00) ABOVE GROUP 1 RATE:
 Clamshells - 3 yd. capacity or over; Cranes or rigs, 80 ft. of boom or over (including jib); Draglines, 3 yd. capacity or over;
 Piledrivers 80 ft. of boom or over (including jib);
 Shovels & backhoes, 3 yd. capacity or over.

ENGI0101-022 05/01/2019

BARRY, BARTON, CAMDEN, CEDAR, CHRISTIAN, DADE, DALLAS, DOUGLAS, GREENE, HICKORY, JASPER, LACLEDE, LAWRENCE, MCDONALD, NEWTON, OZARK, POLK, ST. CLAIR, STONE, TANEY, VERNON, WEBSTER AND WRIGHT COUNTIES and CITY OF SPRINGFIELD

	Rates	Fringes
Power equipment operators:		
GROUP 1.....	\$ 31.72	14.88
GROUP 2.....	\$ 31.37	14.88
GROUP 3.....	\$ 31.17	14.88
GROUP 4.....	\$ 29.12	14.88

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Asphalt finishing machine & trench widening

spreader; asphalt plant console operator; autograder; automatic slipform paver; backhoe; blade operator - all types; boat operator - tow; boilers-2; central mix concrete plant operator; clamshell operator; concrete mixer paver; crane operator; derrick or derrick trucks; ditching machine; dozer operator; dragline operator; dredge booster pump; dredge engineman; dredge operator; drill cat with compressor mounted on cat; drilling or boring machine rotary self-propelled; highloader; hoisting engine - 2 active drums; launch hammer wheel; locomotive operator; - standard guage; mechanic and welders; mucking machine; off-road trucks; piledriver operator; pitman crane operator; push cat operator; quad trac; scoop operator - all types; shovel operator; sideboom cats; skimmer scoop operators; trenching machine operator; truck crane.

GROUP 2: A-frame; asphalt hot-mix silo; asphalt plant fireman (drum or boiler); asphalt plant man; asphalt plant man; asphalt plant mixer operator; asphalt roller operator; backfiller operator; barber-greene loader; boat operator (bridges and dams); chip spreader; concrete mixer operator - skip loader; concrete plant operator; concrete pump operator; crusher operator; dredge oiler; elevating grader operator; fork lift; greaser-fleet; hoisting engine - 1; locomotive operator - narrow gauge; multiple compactor; pavement breaker; powerbroom - self-propelled; power shield; rooter; side discharge concrete spreader; slip form finishing machine; stumpcutter machine; throttle man; tractor operator (over 50 h.p.); winch truck.

GROUP 3: Boilers - 1; chip spreader (front man); churn drill operator; clef plane operator; concrete saw operator (self-propelled); curb finishing machine; distributor operator; finishing machine operator; flex plane operator; float operator; form grader operator; pugmill operator; roller operator, other than high type asphalt; screening & washing plant operator; siphons & jets; sub-grading machine operator; spreader box operator, self-propelled (not asphalt); tank car heater operator (combination boiler & booster); tractor operator (50 h.p. or less); Ulmac, Ulric or similar spreader; vibrating machine operator, not hand;

GROUP 4: Grade checker; Oiler; Oiler-Driver

HOURLY PREMIUMS:

The following classifications shall receive \$.25 above GROUP 1 rate:

Clamshells - 3 yds. or over; Cranes - Rigs or Piledrivers, 100 ft. of boom or over (including jib); Draglines - 3 yds. or over; Hoists - each additional active drum over 2 drums; Shovels - 3 yds. or over;

The following classifications shall receive \$.50 above GROUP 1 rate:

Tandem scoop operator; Cranes - Rigs or Piledrivers, 150 ft. to 200 ft. of boom (including jib); Tandem scoop.

The following classifications shall receive \$.75 above GROUP 1 rate:

Cranes - Rigs or Piledrivers, 200 ft. of boom or over (including jib.).

ENGI0513-004 05/06/2024

FRANKLIN, JEFFERSON, LINCOLN, ST CHARLES, AND WARREN COUNTIES

	Rates	Fringes
Power equipment operators:		
GROUP 1.....	\$ 43.46	30.22
GROUP 2.....	\$ 43.46	30.22
GROUP 3.....	\$ 42.16	30.22
GROUP 4.....	\$ 41.72	30.22

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Backhoe, Cable; Backhoe, Hydraulic (2 cu yds bucket and under regardless of attachment, one oiler for 2 or 3, two oilers for 4 through 6); Backhoe, Hydraulic over 2 cu yds; Cableway; Crane, Crawler or Truck; Crane, Hydraulic - Truck or Cruiser mounted, 16 tons and over; Crane, Locomotive; crane with boom including jib over 100 ft from pin to pin; Crane using rock socket tool; Derrick, Steam; Derrick Car and Derrick Boat; Dragline, 7 cu yds and over; Dredge; Gradall, Crawler or tire mounted; Locomotive, Gas, Steam & other powers; Pile Driver, Land or Floating; Scoop, Skimmer; Shovel, Power (Electric, Gas, Steam or other powers); Shovel, Power (7 cu yds and over); Switch Boat; Whirley; Air Tugger with air compressor; Anchor Placing Barge; Asphalt Spreaker; Athey Force Feeder Loader, self-propelled; Backfilling Machine; Boat Operator - Push Boat or Tow Boat (job site); Boiler, High Pressure Breaking in Period; Boom Truck, Placing or Erecting; Boring Machine, Footing Foundation; Bullfloat; Cherry Picker; Combination

Concrete Hoist and Mixer (such as Mixermobile); Compressor, Two 125 CFM and under; Compressor, Two through Four over 125 CFM; Compressor when operator runs throttle; Concrete Breaker (Truck or Tractor mounted); Concrete Pump (such as Pumpcrete machine); Concrete Saw (self-propelled); Concrete Spreader; Conveyor, Large (not selfpropelled) hoisting or moving brick and concrete into, or into and on floor level, one or both; Crane, Climbing (such as Linden); Crane, Hydraulic - Rough Terrain, self-propelled; Crane, Hydraulic - Truck or Cruiser mounted - under 16 tons; Drilling machine - Self-powered, used for earth or rock drilling or boring (wagon drills and any hand drills obtaining power from other sources including concrete breakers, jackhammers and Barco equipment no engineer required); Elevating Grader; Engine Man, Dredge; Excavator or Powerbelt Machine; Finishing Machine, self-propelled oscillating screed; Forklift; Generators, Two through Six 30 KW or over; Grader, Road with power blade; Greaser; Highlift; Hoist, Concrete and Brick (Brick cages or concrete skips operating or on tower, Towermobile, or similar equipment); Hoist, Three or more drums in use; Hoist, Stack; Hydro-Hammer; Lad-A-Vator, hoisting brick or concrete; Loading Machine such as Barber-Greene; Mechanic on job site

GROUP 2: Air Tugger with plant air; Boiler (for power or heating shell of building or temporary enclosures in connection with construction work); Boiler, Temporary; Compressor, One over 125 CFM; Compressor, truck mounted; Conveyor, Large (not self-propelled); Conveyor, Large (not self-propelled) moving brick and concrete (distributing) on floor level; Curb Finishing Machine; Ditch Paving Machine; Elevator (outside); Endless Chain Hoist; Fireman (as required); Form Grader; Hoist, One Drum regardless of size (except brick or concrete); Lad-A-Vator, other hoisting; Manlift; Mixer, Asphalt, over 8 cu ft capacity; Mixer, one bag capacity or less; Mixer, without side loader, two bag capacity or more; Mixer, with side loader, regardless of size, not Paver; Mud Jack (where mud jack is used in conjunction with an air compressor, operator shall be paid \$.55 per hour in addition to his basic hourly rate for covering both operations); Pug Mill operator; Pump, Sump - self powered, automatic controlled over 2"; Scissor Lift (used for hoisting); Skid Steer Loader; Sweeper, Street; Tractor, small wheel type 50 HP and under with grader blade and similar equipment; Welding Machine, One over 400 amp; Winch, operating from truck

GROUP 3: Boat operator - outboard motor, job site; Conveyors (such as Con-Vay-It) regardless of how used; Elevator (inside); Heater operator, 2 through 6; Sweeper, Floor

GROUP 4: Crane type

HOURLY PREMIUMS:

Backhoe, Hydraulic 2 cu yds or less without oiler - \$2.00;
 Crane, climbing (such as Linden) - \$.50;
 Crane, Pile Driving and Extracting - \$.50
 Crane with boom (including job) over 100 ft from pin to pin - add \$.01 per foot to maximum of \$4.00);
 Crane, using rock socket tool - \$.50;
 Derrick, diesel, gas or electric hoisting material and erecting steel (150 ft or more above ground) - \$.50;
 Dragline, 7 cu yds and over - \$.50;
 Hoist, Three or more drums in use - \$.50;
 Scoop, Tandem - \$.50;
 Shovel, Power - 7 cu yds and over - \$.50;
 Tractor, Tandem Crawler - \$.50;
 Tunnel, man assigned to work in tunnel or tunnel shaft - \$.50;
 Wrecking, when machines are working on second floor or higher - \$.50

 ENGI0513-006 05/06/2024

ADAIR, AUDRAIN, BOLLINGER, BOONE, BUTLER, CALLAWAY, CAPE GIRARDEAU, CARTER, CLARK, COLE, CRAWFORD, DENT, DUNKLIN, GASCONADE, HOWELL, IRON, KNOX, LEWIS, MACON, MADISON, MARIES, MARION, MILLER, MISSISSIPPI, MONITEAU, MONROE, MONTGOMERY, MORGAN, NEW MADRID, OREGON, OSAGE, PEMISCOT, PERRY, PHELPS, PIKE, PULASKI, PUTNAM, RALLS, RANDOLPH, REYNOLDS, RIPLEY, ST. FRANCOIS, STE. GENEVIEVE, SCHUYLER, SCOTLAND, SCOTT, SHANNON, SHELBY, STODDARD, TEXAS, WASHINGTON, AND WAYNE COUNTIES

	Rates	Fringes
Power equipment operators:		
GROUP 1.....	\$ 43.46	30.22
GROUP 2.....	\$ 43.46	30.22
GROUP 3.....	\$ 42.16	30.22
GROUP 4.....	\$ 41.72	30.22

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Asphalt finishing machine & trench widening spreader, asphalt plant console operator; autograder; automatic slipform paver; back hoe; blade operator - all types; boat operator tow; boiler two; central mix concrete plant operator; clam shell operator; concrete mixer paver; crane operator; derrick or derrick trucks; ditching machine; dozer operator; dragline operator; dredge booster pump; dredge engineman; dredge operator; drill cat with compressor mounted on cat; drilling or boring machine rotary self-propelled; highloader; hoisting engine 2 active drums; launchhammer wheel; locomotive operator standrad guage; mechanics and welders; mucking machine; piledriver operator; pitman crane operator; push cat operator; guad-trac; scoop operator; sideboom cats; skimmer scoop operator; trenching machine operator; truck crane, shovel operator.

GROUP 2: A-Frame; asphalt hot-mix silo; asphalt roller operator asphalt plant fireman (drum or boiler); asphalt plant man; asphalt plant mixer operator; backfiller operator; barber-greene loader; boat operator (bridge & dams); chip spreader; concrete mixer operator skip loader; concrete plant operator; concrete pump operator; dredge oiler; elevating graded operator; fork lift; grease fleet; hoisting engine one; locomotive operator narrow guage; multiple compactor; pavement breaker; powerbroom self-propelled; power shield; rooter; slip-form finishing machine; stumpcutter machine; side discharge concrete spreader; throttleman; tractor operator (over 50 hp); winch truck; asphalt roller operator; crusher operator.

GROUP 3: Spreader box operator, self-propelled not asphalt; tractor operator (50 h.p. or less); boilers one; chip spreader (front man); churn drill operator; compressor over 105 CFM 2-3 pumps 4" & over; 2-3 light plant 7.5 KWA or any combination thereof; clef plane operator; compressor maintenance operator 2 or 3; concrete saw operator (self-propelled); curb finishing mancine; distributor operator; finishing machine operator; flex plane operator; float operator; form grader operator; pugmill operator; riller operator other than high type asphalt; screening & washing plant operator; siphons & jets; subgrading machine operator; tank car heater (combination boiler & booster); ulmac, ulric or similar spreader; vibrating machine operator; hydrobroom.

GROUP 4: Oiler; grout machine; oiler driver; compressor over 105 CFM one; conveyor operator one; maintenance operator; pump 4" & over one.

FOOTNOTE: HOURLY PREMIUMS

Backhoe hydraulic, 2 cu. yds. or under Without oiler - \$2.00
 Certified Crane Operator - \$1.50;
 Certified Hazardous Material Operator \$1.50;
 Crane, climbing (such as Linden) - \$0.50;
 Crane, pile driving and extracting - \$0.50;
 Crane, with boom (including jib) over 100' from pin to pin add \$0.01 per foot to maximum of \$4.00;
 Crane, using rock socket tool - \$0.50;
 Derrick, diesel, gas or electric, hoisting material and erecting steel (150' or more above the ground) - \$0.50;
 Dragline, 7 cu. yds. and over - \$0.50;
 Hoist, three or more drums in use - \$0.50; Scoop, Tandem - \$0.50;
 Shovel, power - 7 cu. yds. or more - \$0.50;
 Tractor, tandem crawler - \$0.50;
 Tunnel, man assigned to work in tunnel or tunnel shaft - \$0.50;
 Wrecking, when machine is working on second floor or higher - \$0.50;

 ENGI0513-007 05/06/2024

ST. LOUIS CITY AND COUNTY

	Rates	Fringes
Power equipment operators:		
GROUP 1.....	\$ 43.46	30.22
GROUP 2.....	\$ 43.46	30.22
GROUP 3.....	\$ 42.16	30.22
GROUP 4.....	\$ 41.72	30.22

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Backhoe, cable or hydraulic; cableway; crane crawler or truck; crane, hydraulic-truck or cruiser mounted 16 tons & over; crane locomotive; derrick, steam; derrick car & derrick boat; dragline; dredge; gradall, crawler or tire mounted; locomotive, gas, steam & other powers; pile driver, land or floating; scoop, skimmer; shovel, power (steam, gas, electric or other powers); switch boat; whirley.

GROUP 2: Air tugger w/air compressor; anchor-placing barge; asphalt spreader; athey force feeder loader (self-propelled); backfilling machine; backhoe-loader; boat operator-push boat or tow boat (job site); boiler, high pressure breaking in period; boom truck, placing or erecting; boring machine, footing foundation; bull- float; cherry picker; combination concrete hoist & mixer (such as mixer mobile); compressor (when operator runs throttle); concrete breaker (truck or tractor mounted); concrete pump, such as pump-crete machine; concrete saw (self-propelled), concrete spreader; conveyor, large (not self-propelled), hoisting or moving brick and concrete into, or into and on floor level, one or both; crane, hydraulic-rough terrain, self-propelled; crane hydraulic-truck or cruiser mounted-under 16 tons; drilling machines, self-powered use for earth or rock drilling or boring (wagon drills nd any hand drills obtaining power from other sources including concrete breakers, jackhammers and barco equipment-no engineer required); elevating grader; engineman, dredge; excavator or powerbelt machine; finishing machine, self-propelled oscillating screed; forklift; grader, road with power blade; highlift. greaser; hoist, stack, hydro-hammer; loading machine (such as barber-greene); machanic, on job site; mixer, pipe wrapping machines; plant asphalt; plant, concrete producing or ready-mix job site; plant heating-job site; plant mixing-job site; plant power, generating-job site; pumps, two through six self-powered over 2"; pumps, electric submersible, two through six, over 4"; quad-track; roller, asphalt, top or sub-grade; scoop, tractor drawn; spreader box; sub-grader; tie tamper; tractor-crawler, or wheel type with or without power unit, power take-offs and attachments regardless of size; trenching machine; tunnel boring machine; vibrating machine automatic, automatic propelled; welding machines (gasoline or diesel) two through six; well drilling machine

GROUP 3: Conveyor, large (not self-propelled); conveyor, large (not self-propelled) moving brick and concrete distributing) on floor level; mixer two or more mixers of one bag capacity or less; air tugger w/plant air; boiler, for power or heating on construction projects; boiler, temporary; compressor (mounted on truck; curb finishing machine; ditch paving machine; elevator; endless chain hoist; form grader; hoist, one drum regardless of size; lad-a-vator; manlift; mixer, asphalt, over 8 cu. ft. capacity, without side loader, 2 bag capacity or more; mixer, with side loader, regardless of size; pug mill operator; pump, sump-self-powered, automatic controlled over 2" during use in connection with construction work; sweeper, street; welding machine, one over 400 amp.; winch operating from truck; scissor lift (used for hoisting); tractor, small wheel type 50 h.p. & under with grader blade & similar equipment; Oiler on dredge and on truck crane.

GROUP 4: Boat operator-outboard motor (job site); conveyor (such as con-vay-it) regardless of how used; sweeper, floor

HOURLY PREMIUMS:

Backhoe, hydraulic	
2 cu. yds. or under without oiler	\$2.00
Certified Crane Operator	1.50
Certified Hazardous Material Operator	1.50
Crane, climbing (such as Linden)	.50
Crane, pile driving and extracting	.50
Crane, with boom (including jib) over 100' (from pin to pin) add \$.01 per foot to maximum of	4.00
Crane, using rock socket tool	.50
Derrick, diesel, gas or electric, hoisting material and erecting steel (150' or more above ground)	.50
Dragline, 7 cu. yds. and over	.50
Hoist, three (3) or more drums in use	.50
Scoop, Tandem	.50
Shovel, power - 7 cu. yds. or more	.50
Tractor, tandem crawler	.50
Tunnel, man assigned to work in tunnel or tunnel shaft	.50
Wrecking, when machine is working on second floor or higher	.50

IRON0010-012 04/01/2024

Rates Fringes

Ironworkers:

ANDREW, BARTON, BENTON,
CAMDEN, CEDAR, CHARITON,
CHRISTIAN, COOPER, DADE,
DALLAS, DAVIESS, DE KALB,
GENTRY, GREENE, GRUNDY,
HARRISON, HICKORY, HOLT,
HOWARD, LACLEDE, LINN,
LIVINGSTON, MERCER,

MONITEAU, MORGAN, NODAWAY,
 PETTIS, POLK, PUTNAM,
 RANDLOPH, ST. CLAIR,
 SULLIVAN, TANEY, VERNON,
 WEBSTER, WRIGHT and WORTH
 Counties and portions of
 ADAIR, BOONE, MACON,
 MILLER and RANDOLPH

Counties.....	\$ 35.00	33.56
ATCHISON, BATES, BUCHANAN, CALDWELL, CARROLL, CASS, CLAY, CLINTON, HENRY, JACKSON, JOHNSON, LAFAYETTE, PETTIS, PLATTE, SALINE, AND RAY COUNTIES....	\$ 38.00	33.56

 IRON0321-002 08/01/2023

DOUGLAS, HOWELL and OZARK COUNTIES

	Rates	Fringes
Ironworker.....	\$ 27.00	20.96

 IRON0396-004 08/07/2024

ST. LOUIS (City and County), ST. CHARLES, JEFFERSON, IRON,
 FRANKLIN, LINCOLN, WARREN, WASHINGTON, ST. FRANCOIS, STE.
 GENEVIEVE, and REYNOLDS Counties; and portions of MADISON,
 PERRY, BOLLINGER, WAYNE, and CARTER Counties

	Rates	Fringes
Ironworker.....	\$ 41.67	31.25

 IRON0396-009 08/07/2024

AUDRAIN, CALLAWAY, COLE, CRAWFORD, DENT, GASCONADE, MARIES,
 MONTGOMERY, OSAGE, PHELPS, PIKE, PULASKI, TEXAS and WRIGHT
 Counties; and portions of BOONE, CAMDEN, DOUGLAS, HOWELL,
 LACLEDE, MILLER, MONROE, OREGON, SHANNON and RALLS Counties

	Rates	Fringes
Ironworker.....	\$ 41.67	31.25

 IRON0577-005 06/01/2024

ADAIR, CLARK, KNOX, LEWIS, MACON, MARION, MONROE, RALLS,
 SCHUYLER, SCOTLAND, AND SHELBY COUNTIES

	Rates	Fringes
Ironworker.....	\$ 34.05	25.30

 IRON0584-004 06/01/2023

BARRY, JASPER, LAWRENCE, MCDONALD, NEWTON AND STONE Counties

	Rates	Fringes
Ironworkers:.....	\$ 29.00	16.20

 IRON0782-003 08/01/2023

CAPE GIRARDEAU, MISSISSIPPI, NEW MADRID, SCOTT, & STODDARD
 Counties; and portions of BOLLINGER, BUTLER, CARTER, DUNKLIN,
 MADISON, PEMISCOT, PERRY, RIPLEY, and WAYNE Counties

	Rates	Fringes
Ironworkers:		
Locks, Dams, Bridges and other major work on the Mississippi and Ohio River only.....	\$ 38.77	29.51
All Other Work.....	\$ 33.47	24.12

 LAB00042-003 03/01/2023

ST. LOUIS (City and County)

	Rates	Fringes
LABORER Plumber Laborer.....	\$ 36.65	17.12

 LAB00042-005 03/01/2023

ST. LOUIS (City and County)

	Rates	Fringes
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LABORER		
Dynamiter, Powderman.....	\$ 36.65	17.12
Labors, Flaggers.....	\$ 36.65	17.12
Wrecking.....	\$ 36.65	17.12

LAB00110-005 05/01/2023

Jefferson and Washington Counties

	Rates	Fringes
LABORER (Jefferson County)		
GROUP 1.....	\$ 35.49	15.62
GROUP 2.....	\$ 36.09	15.62
LABORER (Washington County)		
GROUP 1.....	\$ 32.98	15.62
GROUP 2.....	\$ 32.98	15.62

LABORERS CLASSIFICATIONS

GROUP 1 - General laborer-flagman, carpenter tenders; salamander Tenders; Dump Man; Ticket Takers; loading trucks under bins, hoppers, and conveyors; track man; cement handler; dump man on earth fill; georgie buggy man; material batch hopper man; spreader on asphalt machine; material mixer man (except on manholes); coffer dams; riprap pavers rock, block or brick; scaffolds over ten feet not self-supported from ground up; skip man on concrete paving; wire mesh setters on concrete paving; all work in connection with sewer, water, gas, gasoling, oil, drainage pipe, conduit pipe, tile and duct lines and all other pipe lines; power tool operator; all work in connection with hydraulic or general dredging operations; form setters, puddlers (paving only); straw blower nozzle man; asphalt plant platform man; chuck tender; crusher feeder; men handling creosote ties or creosote materials; men working with and handling epoxy material; topper of standing trees; feeder man on wood pulverizers, board and willow mat weavers and cabelee tiers on river work; deck hands; pile dike and revetment work; all laborers working on underground tunnels less than 25 ft. where compressed air is not used; abutement and pier hole men working six (6) ft. or more below ground; men working in coffer dams for bridge piers and footing in the river; barco tamper; jackson or any other similar tamp; cutting torch man; liners, curb, gutters, ditch lines; hot mastic kettlemen; hot tar applicator; hand blade operator; mortar men or brick or block manholes; rubbing concrete, air tool operator under 65 lbs.; caulker and lead man; chain or concrete saw under 15 h.p.; signal Gan; Guard rail and sign erectors.

GROUP 2 - Skilled laborers - Vibrator man; asphalt raker; head pipe layer on sewer work; batterboard man on pipe and ditch work; cliff scalers working from bosun's chairs; scaffolds or platforms on dams or power plants over 10 ft. high; air tool operator over 65 lbs.; stringline man on concrete paving; sandblast man; laser beam man; wagon drill; churn drill; air track drill and all other similar type drills, gunite nozzle man; pressure grout man; screed man on asphalt; concrete saw 15 h.p. and over; grade checker; strigline man on electronic grade control; manhole builder; dynamite man; powder man; welder; tunnel man; waterblaster - 1000 psi or over; asbestos and/or hazardous waste removal and/or disposal

LAB00579-005 05/01/2023

	Rates	Fringes
LABORER (ANDREW, ATCHISON, BUCHANAN, CALDWELL, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LIVINGSTON, MERCER, NODAWAY and WORTH COUNTIES.)		
GROUP 1.....	\$ 29.04	16.59
GROUP 2.....	\$ 29.39	16.59
LABORER (BARRY, BARTON, BATES, BENTON, CAMDEN, CARROLL, CEDAR, CHRISTIAN, DADE, DALLAS, DOUGLAS, GREENE, HENRY, HICKORY, JASPER, JOHNSON, LACLEDE, LAWRENCE, MCDONALD, MORGAN, NEWTON, OZARK, PETTIS, POLK, ST. CLAIR, SALINE, STONE, TANEY, VERNON, WEBSTER and WRIGHT COUNTIES)		
GROUP 1.....	\$ 28.23	15.60
GROUP 2.....	\$ 28.78	15.60
LABORER (LAFAYETTE COUNTY)		
GROUP 1.....	\$ 29.78	15.85
GROUP 2.....	\$ 30.13	15.85

LABORERS CLASSIFICATIONS

GROUP 1: General Laborers - Carpenter tenders; salamander tenders; loading trucks under bins; hoppers & conveyors; track men & all other general laborers; air tool operator; cement handler-bulk or sack; dump man on earth fill; georgie buggy man; material batch hopper man; material mixer man (except on manholes); coffer dams; riprap pavers - rock, block or brick; signal man; scaffolds over ten feet not self-supported from ground up; skipman on concrete paving; wire mesh setters on concrete paving; all work in connection with sewer, water, gas, gasoline, oil drainage pipe, conduit pipe, tile and duct lines and all other pipe lines; power tool operator, all work in connection with hydraulic or general dredging operations; puddlers (paving only); straw blower nozzle man; asphalt plant platform man; chuck tender; crusher feeder; men handling creosote ties or creosote materials; men working with and handling epoxy material or materials (where special protection is required); rubbing concrete; topper of standing trees; batter board man on pipe and ditch work; feeder man on wood pulverizers; board and willow mat weavers and cable tiers on river work; deck hands; pile dike and revetment work; all laborers working on underground tunnels less than 25 feet where compressed air is not used; abutment and pier hole men working six (6) feet or more below ground; men working in coffer dams for bridge piers and footings in the river; ditchliners; pressure groutmen; caulker; chain or concrete saw; cliffscalers working from scaffolds, bosuns' chairs or platforms on dams or power plants over (10) feet above ground; mortarmen on brick or block manholes; toxic and hazardous waste work.

GROUP 2: Skilled Laborers - Head pipe layer on sewer work; laser beam man; Jackson or any other similar tamp; cutting torch man; form setters; liners and stringline men on concrete paving, curb, gutters; hot mastic kettleman; hot tar applicator; sandblasting and gunite nozzle men; air tool operator in tunnels; screed man on asphalt machine; asphalt raker; barco tamper; churn drills; air track drills and all similar drills; vibrator man; stringline man for electronic grade control; manhole builders-brick or block; dynamite and powder men; grade checker.

LAB00660-004 05/01/2023

Clark, Knox, Lewis, Marion, Pike, Ralls, Scotland, Shelby Counties

	Rates	Fringes
LABORER		
GROUP 1.....	\$ 32.98	15.62
GROUP 2.....	\$ 32.98	15.62

LABORERS CLASSIFICATIONS

GROUP 1 - General laborer-flagman, carpenter tenders; salamander Tenders; Dump Man; Ticket Takers; loading trucks under bins, hoppers, and conveyors; track man; cement handler; dump man on earth fill; georgie buggy man; material batch hopper man; spreader on asphalt machine; material mixer man (except on manholes); coffer dams; riprap pavers rock, block or brick; scaffolds over ten feet not self-supported from ground up; skip man on concrete paving; wire mesh setters on concrete paving; all work in connection with sewer, water, gas, gasoling, oil, drainage pipe, conduit pipe, tile and duct lines and all other pipe lines; power tool operator; all work in connection with hydraulic or general dredging operations; form setters, puddlers (paving only); straw blower nozzle man; asphalt plant platform man; chuck tender; crusher feeder; men handling creosote ties or creosote materials; men working with and handling epoxy material; topper of standing trees; feeder man on wood pulverizers, board and willow mat weavers and cabelee tiers on river work; deck hands; pile dike and revetment work; all laborers working on underground tunnels less than 25 ft. where compressed air is not used; abutement and pier hole men working six (6) ft. or more below ground; men working in coffer dams for bridge piers and footing in the river; barco tamper; jackson or any other similar tamp; cutting torch man; liners, curb, gutters, ditch lines; hot mastic kettlemen; hot tar applicator; hand blade operator; mortar men or brick or block manholes; rubbing concrete, air tool operator under 65 lbs.; caulker and lead man; chain or concrete saw under 15 h.p.; signal Gan; Guard rail and sign erectors.

GROUP 2 - Skilled laborers - Vibrator man; asphalt raker; head pipe layer on sewer work; batterboard man on pipe and ditch work; cliff scalers working from bosun's chairs; scaffolds or platforms on dams or power plants over 10 ft.

high; air tool operator over 65 lbs.; stringline man on concrete paving; sandblast man; laser beam man; wagon drill; churn drill; air track drill and all other similar type drills, gunite nozzle man; pressure grout man; screed man on asphalt; concrete saw 15 h.p. and over; grade checker; strigline man on electronic grade control; manhole builder; dynamite man; powder man; welder; tunnel man; waterblaster - 1000 psi or over; asbestos and/or hazardous waste removal and/or disposal

LAB00660-006 03/04/2024

Lincoln, Montgomery, St Charles and Warren Counties

	Rates	Fringes
LABORER (Common or General).....	\$ 36.91	15.62
Lincoln, Monntomery, and Warrner Counties.....	\$ 37.69	15.97
St. Charles County.....	\$ 39.11	15.97

LAB00662-001 05/01/2023

Callaway, Cole, Miller and Moniteau Counties

	Rates	Fringes
LABORER		
GROUP 1.....	\$ 32.98	15.62
GROUP 2.....	\$ 32.98	15.62

LABORERS CLASSIFICATIONS

GROUP 1 - General laborer-flagman, carpenter tenders; salamander Tenders; Dump Man; Ticket Takers; loading trucks under bins, hoppers, and conveyors; track man; cement handler; dump man on earth fill; georgie buggy man; material batch hopper man; spreader on asphalt machine; material mixer man (except on manholes); coffer dams; riprap pavers rock, block or brick; scaffolds over ten feet not self-supported from ground up; skip man on concrete paving; wire mesh setters on concrete paving; all work in connection with sewer, water, gas, gasoling, oil, drainage pipe, conduit pipe, tile and duct lines and all other pipe lines; power tool operator; all work in connection with hydraulic or general dredging operations; form setters, puddlers (paving only); straw blower nozzle man; asphalt plant platform man; chuck tender; crusher feeder; men handling creosote ties or creosote materials; men working with and handling epoxy material; topper of standing trees; feeder man on wood pulverizers, board and willow mat weavers and cabelee tiers on river work; deck hands; pile dike and revetment work; all laborers working on underground tunnels less than 25 ft. where compressed air is not used; abutement and pier hole men working six (6) ft. or more below ground; men working in coffer dams for bridge piers and footing in the river; barco tamper; jackson or any other similar tamp; cutting torch man; liners, curb, gutters, ditch lines; hot mastic kettlemen; hot tar applicator; hand blade operator; mortar men or brick or block manholes; rubbing concrete, air tool operator under 65 lbs.; caulker and lead man; chain or concrete saw under 15 h.p.; signal Gan; Guard rail and sign erectors.

GROUP 2 - Skilled laborers - Vibrator man; asphalt raker; head pipe layer on sewer work; batterboard man on pipe and ditch work; cliff scalers working from bosun's chairs; scaffolds or platforms on dams or power plants over 10 ft. high; air tool operator over 65 lbs.; stringline man on concrete paving; sandblast man; laser beam man; wagon drill; churn drill; air track drill and all other similar type drills, gunite nozzle man; pressure grout man; screed man on asphalt; concrete saw 15 h.p. and over; grade checker; strigline man on electronic grade control; manhole builder; dynamite man; powder man; welder; tunnel man; waterblaster - 1000 psi or over; asbestos and/or hazardous waste removal and/or disposal

LAB00663-002 04/01/2024

CASS, CLAY, JACKSON, PLATTE AND RAY COUNTIES

	Rates	Fringes
LABORER		
GROUP 1.....	\$ 35.24	15.57
GROUP 2.....	\$ 36.45	15.57

LABORERS CLASSIFICATIONS

GROUP 1: General laborers, Carpenter tenders, salamander tenders, loading trucks under bins, hoppers and conveyors, track men and all other general laborers, air tool

operator, cement handler (bulk or sack), chain or concrete saw, deck hands, dump man on earth fill, Georgie Buggies man, material batch hopper man, scale man, material mixer man (except on manholes), coffer dams, abutments and pier hole men working below ground, riprap pavers rock, black or brick, signal man, scaffolds over ten feet not self-supported from ground up, skipman on concrete paving, wire mesh setters on concrete paving, all work in connection with sewer, water, gas, gasoling, oil, drainage pipe, conduit pipe, tile and duct lines and all other pipelines, power tool operator, all work in connection with hydraulic or general dredging operations, straw blower nozzle man, asphalt plant platform man, chuck tender, crusher feeder, men handling creosote ties on creosote materials, men working with and handling epoxy material or materials (where special protection is required), topper of standing trees, batter board man on pipe and ditch work, feeder man on wood pulverizers, board and willow mat weavers and cable tiers on river work, deck hands, pile dike and revetment work, all laborers working on underground tunnels less than 25 feet where compressed air is not used, abutment and pier hole men working six (6) feet or more below ground, men working in coffer dams for bridge piers and footings in the river, ditchliners, pressure groutmen, caulker and chain or concrete saw, cliffscalers working from scaffolds, bosuns' chairs or platforms on dams or power plants over (10) feet above ground, mortarmen on brick or block manholes, signal man.

GROUP 2: Skilled Laborer - spreader or screed man on asphalt machine, asphalt raker, grade checker, vibrator man, concrete saw over 5 hp., laser beam man, barco tamper, jackson or any other similar tamp, wagon driller, churn drills, air track drills and other similar drills, cutting torch man, form setters, liners and stringline men on concrete paving, curb, gutters and etc., hot mastic kettelman, hot tar applicator, hand blade operators, mortar men on brick or block manholes, sand blasting and gunnite nozzle men, rubbing concrete, air tool operator in tunnels, head pipe layer on sewer work, manhole builder (brick or block), dynamite and powder men.

 LAB00840-011 05/01/2023

Crawford, Dent, Franklin, Gasconade, Howell, Maries, Oregon, Osage, Phelps, Pulaski, Shannon and Texas Counties

	Rates	Fringes
LABORER (Crawford, Dent, Gasconade, Howell, Maries, Oregon, Osage, Phelps, Pulaski, Shannon and Texas Counties)		
GROUP 1.....	\$ 32.98	15.62
GROUP 2.....	\$ 32.98	15.62
LABORER (Franklin County)		
GROUP 1.....	\$ 35.44	15.62
GROUP 2.....	\$ 36.04	15.62

LABORERS CLASSIFICATIONS

GROUP 1 - General laborer-flagman, carpenter tenders; salamander Tenders; Dump Man; Ticket Takers; loading trucks under bins, hoppers, and conveyors; track man; cement handler; dump man on earth fill; georgie buggy man; material batch hopper man; spreader on asphalt machine; material mixer man (except on manholes); coffer dams; riprap pavers rock, block or brick; scaffolds over ten feet not self-supported from ground up; skip man on concrete paving; wire mesh setters on concrete paving; all work in connection with sewer, water, gas, gasoling, oil, drainage pipe, conduit pipe, tile and duct lines and all other pipe lines; power tool operator; all work in connection with hydraulic or general dredging operations; form setters, puddlers (paving only); straw blower nozzle man; asphalt plant platform man; chuck tender; crusher feeder; men handling creosote ties or creosote materials; men working with and handling epoxy material; topper of standing trees; feeder man on wood pulverizers, board and willow mat weavers and cable tiers on river work; deck hands; pile dike and revetment work; all laborers working on underground tunnels less than 25 ft. where compressed air is not used; abutment and pier hole men working six (6) ft. or more below ground; men working in coffer dams for bridge piers and footing in the river; barco tamper; jackson or any other similar tamp; cutting torch man; liners, curb, gutters, ditch lines; hot mastic kettlemen; hot tar applicator; hand blade operator; mortar men on brick or block manholes; rubbing concrete, air tool operator under 65 lbs.; caulker and lead man; chain or concrete saw under 15 h.p.; signal Gan; Guard rail and sign erectors.

GROUP 2 - Skilled laborers - Vibrator man; asphalt raker; head pipe layer on sewer work; batterboard man on pipe and ditch work; cliff scalers working from bosun's chairs; scaffolds or platforms on dams or power plants over 10 ft. high; air tool operator over 65 lbs.; stringline man on concrete paving; sandblast man; laser beam man; wagon drill; churn drill; air track drill and all other similar type drills, gunite nozzle man; pressure grout man; screed man on asphalt; concrete saw 15 h.p. and over; grade checker; strigline man on electronic grade control; manhole builder; dynamite man; powder man; welder; tunnel man; waterblaster - 1000 psi or over; asbestos and/or hazardous waste removal and/or disposal

LAB00955-012 05/01/2023

Adair, Audrain, Boone, Chariton, Cooper, Howard, Linn, Macon, Monroe, Putnam, Randolph, Schuyler and Sullivan Counties

	Rates	Fringes
LABORER		
GROUP 1.....	\$ 32.98	15.62
GROUP 2.....	\$ 32.98	15.62

LABORERS CLASSIFICATIONS

GROUP 1 - General laborer-flagman, carpenter tenders; salamander Tenders; Dump Man; Ticket Takers; loading trucks under bins, hoppers, and conveyors; track man; cement handler; dump man on earth fill; georgie buggy man; material batch hopper man; spreader on asphalt machine; material mixer man (except on manholes); coffer dams; riprap pavers rock, block or brick; scaffolds over ten feet not self-supported from ground up; skip man on concrete paving; wire mesh setters on concrete paving; all work in connection with sewer, water, gas, gasoling, oil, drainage pipe, conduit pipe, tile and duct lines and all other pipe lines; power tool operator; all work in connection with hydraulic or general dredging operations; form setters, puddlers (paving only); straw blower nozzle man; asphalt plant platform man; chuck tender; crusher feeder; men handling creosote ties or creosote materials; men working with and handling epoxy material; topper of standing trees; feeder man on wood pulverizers, board and willow mat weavers and cabelee tiers on river work; deck hands; pile dike and revetment work; all laborers working on underground tunnels less than 25 ft. where compressed air is not used; abutement and pier hole men working six (6) ft. or more below ground; men working in coffer dams for bridge piers and footing in the river; barco tamper; jackson or any other similar tamp; cutting torch man; liners, curb, gutters, ditch lines; hot mastic kettlemen; hot tar applicator; hand blade operator; mortar men or brick or block manholes; rubbing concrete, air tool operator under 65 lbs.; caulker and lead man; chain or concrete saw under 15 h.p.; signal Gan; Guard rail and sign erectors.

GROUP 2 - Skilled laborers - Vibrator man; asphalt raker; head pipe layer on sewer work; batterboard man on pipe and ditch work; cliff scalers working from bosun's chairs; scaffolds or platforms on dams or power plants over 10 ft. high; air tool operator over 65 lbs.; stringline man on concrete paving; sandblast man; laser beam man; wagon drill; churn drill; air track drill and all other similar type drills, gunite nozzle man; pressure grout man; screed man on asphalt; concrete saw 15 h.p. and over; grade checker; strigline man on electronic grade control; manhole builder; dynamite man; powder man; welder; tunnel man; waterblaster - 1000 psi or over; asbestos and/or hazardous waste removal and/or disposal

LAB01104-005 05/01/2023

Bollinger, Butler, Cape Girardeau, Carter, Dunklin, Iron, Madison, Mississippi, New Madrid, Pemiscot, Perry, Reynolds, Ripley, Scott, St Francois, Ste Genevieve, Stoddard and Wayne Counties

	Rates	Fringes
LABORER		
GROUP 1.....	\$ 32.98	15.62
GROUP 2.....	\$ 32.98	15.62

LABORERS CLASSIFICATIONS

GROUP 1 - General laborer-flagman, carpenter tenders; salamander Tenders; Dump Man; Ticket Takers; loading trucks under bins, hoppers, and conveyors; track man; cement handler; dump man on earth fill; georgie buggy man;

material batch hopper man; spreader on asphalt machine; material mixer man (except on manholes); coffer dams; riprap pavers rock, block or brick; scaffolds over ten feet not self-supported from ground up; skip man on concrete paving; wire mesh setters on concrete paving; all work in connection with sewer, water, gas, gasoling, oil, drainage pipe, conduit pipe, tile and duct lines and all other pipe lines; power tool operator; all work in connection with hydraulic or general dredging operations; form setters, puddlers (paving only); straw blower nozzleman; asphalt plant platform man; chuck tender; crusher feeder; men handling creosote ties or creosote materials; men working with and handling epoxy material; topper of standing trees; feeder man on wood pulverizers, board and willow mat weavers and cabelee tiers on river work; deck hands; pile dike and revetment work; all laborers working on underground tunnels less than 25 ft. where compressed air is not used; abutement and pier hole men working six (6) ft. or more below ground; men working in coffer dams for bridge piers and footing in the river; barco tamper; jackson or any other similar tamp; cutting torch man; liners, curb, gutters, ditch lines; hot mastic kettlemen; hot tar applicator; hand blade operator; mortar men or brick or block manholes; rubbing concrete, air tool operator under 65 lbs.; caulker and lead man; chain or concrete saw under 15 h.p.; signal Gan; Guard rail and sign erectors.

GROUP 2 - Skilled laborers - Vibrator man; asphalt raker; head pipe layer on sewer work; batterboard man on pipe and ditch work; cliff scalers working from bosun's chairs; scaffolds or platforms on dams or power plants over 10 ft. high; air tool operator over 65 lbs.; stringline man on concrete paving; sandblast man; laser beam man; wagon drill; churn drill; air track drill and all other similar type drills, gunite nozzle man; pressure grout man; screed man on asphalt; concrete saw 15 h.p. and over; grade checker; strigline man on electronic grade control; manhole builder; dynamite man; powder man; welder; tunnel man; waterblaster - 1000 psi or over; asbestos and/or hazardous waste removal and/or disposal

 PAIN002-002 09/01/2007

CLARK, FRANKLIN, JEFFERSON, LEWIS, LINCOLN, MARION, PIKE, RALLS, ST. CHARLES, ST. LOUIS (CITY & COUNTY), AND WARREN COUNTIES

	Rates	Fringes
Painters:		
Brush and Roller; Taper.....	\$ 28.61	10.24
High work over 60 feet.....	\$ 29.11	10.24
Lead Abatement.....	\$ 29.36	10.24
Pressure Roller; High work under 60 ft.....	\$ 28.86	10.24
Spray & Abrasive Blasting; Water Blasting (Over 5000 PSI).....	\$ 30.61	10.24
Taper (Ames Tools & Bazooka).....	\$ 30.21	10.24

 PAIN002-006 04/01/2023

ADAIR, AUDRAIN, BOONE, CALLAWAY, CHARITON, COLE, GASCONADE, HOWARD, KNOX, LINN, MACON, MONROE, MONTGOMERY, OSAGE, PUTNAM, RANDOLPH, SCHUYLER, SCOTLAND, SHELBY AND SULLIVAN COUNTIES and the City of Booneville.

	Rates	Fringes
Painters:		
Bridges, Dams, Locks or Powerhouses.....	\$ 28.49	15.03
Brush and Roll; Taping, Paperhanging.....	\$ 26.49	15.03
Epoxy or Any Two Part Coating; Sandblasting; Stage or other Aerial Work - Platforms over 50 feet high; Lead Abatement.....	\$ 27.49	15.03
Spray; Structural Steel (over 50 feet).....	\$ 27.49	15.03
Tapers using Ames or Comparable Tools.....	\$ 27.24	15.03

 PAIN003-004 04/01/2019

CASS, CLAY, CLINTON, JACKSON, JOHNSON, LAFAYETTE, PLATTE & RAY COUNTIES

	Rates	Fringes
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Painters:

Bridgeman; Lead Abatement;		
Sandblast; Storage Bin &		
Tanks.....	\$ 33.41	17.76
Brush & Roller.....	\$ 30.54	17.76
Drywall.....	\$ 31.74	17.76
Paper Hanger.....	\$ 31.04	17.76
Stageman; Beltman;		
Steelman; Elevator Shaft;		
Bazooka, Boxes and Power		
Sander; Sprayman; Dipping...	\$ 32.41	17.76
Steeplejack.....	\$ 36.98	17.76

PAIN003-011 04/01/2019

BATES, BENTON, CALDWELL, CARROLL, COOPER, DAVIESS, GRUNDY,
HARRISON, HENRY, LIVINGSTON, MERCER, MONITEAU, MORGAN, PETTIS &
SALINE COUNTIES

Rates Fringes

Painters:

Bridgeman; Lead Abatement;		
Sandblast; Storage Bin &		
Tanks.....	\$ 26.73	17.76
Brush & Roller.....	\$ 24.43	17.76
Drywall.....	\$ 25.39	17.76
Paper Hanger.....	\$ 24.83	17.76
Stageman; Beltman;		
Steelman; Elevator Shaft;		
Bazooka, Boxes and Power		
Sander; Sprayman; Dipping...	\$ 26.35	17.76
Steeplejack.....	\$ 29.58	17.76

PAIN1185-008 04/01/2024

CAMDEN, CRAWFORD, DENT, LACLEDE, MARIES, MILLER, PHELPS,
PULASKI AND TEXAS COUNTIES

Rates Fringes

Painters:

Brush and Roller.....	\$ 32.25	16.86
Floor Work.....	\$ 33.25	16.86
Lead Abatement.....	\$ 33.25	16.86
Spray.....	\$ 33.25	16.86
Structural Steel,		
Sandblasting and All Tank		
Work.....	\$ 34.25	16.86
Taping, Paperhanging.....	\$ 33.25	16.86

* PAIN1292-002 09/01/2024

BOLLINGER, BUTLER, CAPE GIRARDEAU, CARTER, DUNKLIN,
MISSISSIPPI, NEW MADRID, OREGON, PEMISCOT, PERRY, REYNOLDS,
RIPLEY, SCOTT, SHANNON, STODDARD and WAYNE COUNTIES

Rates Fringes

Painters:

Bridges, Stacks & Tanks.....	\$ 35.30	17.65
Brush & Roller.....	\$ 27.85	17.65
Spray & Abrasive Blasting;		
Waterblasting (over 5000		
PSI).....	\$ 31.95	17.65

Height Rates (All Areas):

Over 60 ft. \$0.50 per hour.
Under 60 ft. \$0.25 per hour.

* PAIN1292-003 09/01/2024

IRON, MADISON, ST. FRANCOIS, STE. GENEVIEVE and WASHINGTON
COUNTIES

Rates Fringes

Painters:

Bridges, Stacks & Tanks.....	\$ 35.30	17.65
Brush & Roller.....	\$ 29.95	17.65
Spray & Abrasive Blasting;		
Waterblasting (Over 5000		
PSI).....	\$ 33.95	17.65

Height Rates (All Areas):

Over 60 ft. \$0.50 per hour
Under 60 ft. \$0.25 per hour.

PAIN2012-001 04/01/2023

ANDREW, ATCHISON, BUCHANAN, DE KALB, GENTRY, HOLT, NODAWAY & WORTH COUNTIES

	Rates	Fringes
Painters:		
Brush & Roller.....	\$ 34.22	19.13
Sandblaster.....	\$ 38.46	19.13
Steeplejack.....	\$ 42.03	19.13

PAIN2015-001 04/01/2012

BARRY, BARTON, CEDAR, CHRISTIAN, DADE, DALLAS, DOUGLAS, GREENE, HICKORY, HOWELL, JASPER, LAWRENCE, MCDONALD, NEWTON, OZARK, POLK, ST. CLAIR, STONE, TANEY, VERNON, WEBSTER, and WRIGHT COUNTIES

	Rates	Fringes
Painters:		
Finisher.....	\$ 20.18	11.33
Painter.....	\$ 19.75	11.76
Sandblaster, High Man, Spray Man, Vinyl Hanger, Tool Operator.....	\$ 21.18	11.33

PLAS0518-006 03/01/2023

BARRY, BARTON, CEDAR, CHRISTIAN, DADE, DALLAS, DOUGLAS, GREENE, HICKORY, JASPER, LACLEDE, LAWRENCE, MCDONALD, NEWTON, OZARK, POLK, ST. CLAIR, STONE, TANEY, VERNON, WEBSTER, AND WRIGHT COUNTIES

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 26.57	12.43

PLAS0518-007 04/01/2024

CASS (Richards-Gebaur AFB only), CLAY, JACKSON, PLATTE AND RAY COUNTIES

	Rates	Fringes
Cement Masons:.....	\$ 37.61	18.71

PLAS0518-011 04/01/2023

ANDREW, ATCHISON, BATES, BUCHANNAN, CLINTON, DEKALB, GENTRY, HENRY, HOLT, JOHNSON, LAFAYETTE, NODAWAY & WORTH COUNTIES

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 36.03	20.50

PLAS0527-001 04/01/2023

	Rates	Fringes
CEMENT MASON FRANKLIN, LINCOLN AND WARREN COUNTIES.....	\$ 37.29	20.23
JEFFERSON, ST. CHARLES COUNTIES AND ST. LOUIS (City and County).....	\$ 38.46	20.13

PLAS0527-004 06/01/2023

CRAWFORD, DENT, IRON, MADISON, MARION, PHELPS, PIKE, PULASKI, RALLS, REYNOLDS, ST. FRANCOIS, STE. GENEVIEVE, SHANNON, TEXAS, WASHINGTON COUNTIES

	Rates	Fringes
CEMENT MASON.....	\$ 32.00	19.72

PLAS0908-001 05/01/2023

BOLLINGER, BUTLER, CAPE GIRARDEAU, CARTER, DUNKLIN, HOWELL, MISSISSIPPI, NEW MADRID, OREGON, PEMISCOT, PERRY, RIPLEY, SCOTT, STODDARD, AND WAYNE COUNTIES

	Rates	Fringes
CEMENT MASON.....	\$ 32.30	18.38

PLAS0908-005 05/01/2023

BENTON, CALDWELL, CALLAWAY, CAMDEN, CARROLL, COLE, DAVIESS,
 GASCONADE, GRUNDY, HARRISON, LIVINGSTON, MACON, MARIES, MERCER,
 MILLER, MONTGOMERY, MORGAN, OSAGE, PETTIS & SALINE COUNTIES

	Rates	Fringes
CEMENT MASON.....	\$ 32.30	18.38

PLUM0008-003 06/01/2024		

CASS, CLAY, JACKSON, JOHNSON, AND PLATTE COUNTIES

	Rates	Fringes
Plumbers.....	\$ 56.63	24.54

PLUM0008-017 06/01/2024		

BATES, BENTON, CARROLL, HENRY, LAFAYETTE, MORGAN, PETTIS, RAY,
 ST. CLAIR, SALINE AND VERNON COUNTIES

	Rates	Fringes
Plumbers.....	\$ 56.63	24.54

PLUM0045-003 08/01/2024		

ANDREW, ATCHISON, BUCHANAN, CALDWELL, CLINTON, DAVIESS, DEKALB,
 GENTRY, HARRISON, HOLT, NODAWAY AND WORTH COUNTIES

	Rates	Fringes
Plumbers and Pipefitters.....	\$ 47.45	26.15

PLUM0178-003 11/01/2023		

BARRY, CEDAR, CHRISTIAN, DADE, DALLAS, DOUGLAS, GREENE,
 HICKORY, LACLEDE, LAWRENCE, POLK, STONE, TANEY, WEBSTER AND
 WRIGHT COUNTIES

	Rates	Fringes
Plumbers and Pipefitters.....	\$ 37.15	15.42

PLUM0178-006 11/01/2022		

BARTON, JASPER, MCDONALD AND NEWTON COUNTIES

	Rates	Fringes
Plumbers and Pipefitters		
Projects \$750,000 & under...	\$ 32.78	15.32
Projects over \$750,000.....	\$ 35.75	15.32

PLUM0533-004 06/01/2024		

BATES, BENTON, CARROLL, CASS, CLAY, HENRY, HICKORY, JACKSON,
 JOHNSON, LAFAYETTE, MORGAN, PETTIS, PLATTE, RAY, SALINE, ST.
 CLAIR AND VERNON COUNTIES

	Rates	Fringes
Pipefitters.....	\$ 55.56	25.80

PLUM0562-004 07/01/2023		

ADAIR, AUDRAIN, BOLLINGER, BOONE, BUTLER, CALLAWAY, CAMDEN, CAPE
 GIRARDEAU, CARTER, CHARITON, CLARK, COLE, COOPER, CRAWFORD,
 DENT, DUNKLIN, FRANKLIN, GASCONADE, GRUNDY, HOWARD, HOWELL,
 IRON, JEFFERSON, KNOX, LEWIS, LINCOLN, LINN, LIVINGSTON, MACON,
 MADISON, MARIES, MARION, MERCER, MILLER, MISSISSIPPI, MONITEAU,
 MONROE, MONTGOMERY, NEW MADRID, OREGON, OSAGE, PEMISCOTT,
 PERRY, PHELPS, PIKE, PULASKI, PUTNAM, RALLS, RANDOLPH,
 REYNOLDS, RIPLEY, ST. CHARLES, ST. FRANCOIS, STE. GENEVIEVE, ST.
 LOUIS, SCHUYLER, SCOTLAND, SCOTT, SHANNON, SHELBY, STODDARD,
 SULLIVAN, TEXAS, WARREN, WASHINGTON, AND WAYNE COUNTIES.

	Rates	Fringes
Plumbers and Pipefitters		
Mechanical Contracts		
including all piping and		
temperature control work		
\$7.0 million & under.....	\$ 46.66	21.99
Mechanical Contracts		
including all piping and		
temperature control work		
over \$7.0 million.....	\$ 46.66	21.99

PLUM0562-016 07/01/2023		

CAMDEN, COLE, CRAWFORD, FRANKLIN, JEFFERSON, MARIES, MILLER, MONITEAU, OSAGE, PHELPS, PULASKI, ST. CHARLES, ST. LOUIS (City and County), WARREN and WASHINGTON COUNTIES

	Rates	Fringes
Plumbers		
Mechanical Contracts including all piping and temperature control work \$7.0 million & under.....	\$ 46.66	21.99
Mechanical Contracts including all piping and temperature control work over \$7.0 million.....	\$ 46.66	21.99

TEAM0013-001 05/01/2024

	Rates	Fringes
Truck drivers (ADAIR, BUTLER, CLARK, DUNKIN, HOWELL, KNOX, LEWIS, OREGON, PUTNAM, RIPLEY, SCHUYLER AND SCOTLAND COUNTIES)		
GROUP 1.....	\$ 34.29	15.75
GROUP 2.....	\$ 34.44	15.75
GROUP 3.....	\$ 34.56	15.75
GROUP 4.....	\$ 34.45	15.75
Truck drivers (AUDRAIN, BOLLINGER, BOONE, CALLAWAY, CAPE GIRARDEAU, CARTER, COLE, CRAWFORD, DENT, GASCONADE, IRON, MACON, MADISON, MARIES, MARION, MILLER, MISSISSIPPI, MONROE, MONTGOMERY, NEW MADRID, OSAGE, PEMISCOT, PERRY, PHELPS, PIKE, PULASKI, RALLS, REYNOLDS, ST. FRANCOIS, STE. GENEVIEVE, SCOTT, SHANNON, SHELBY, STODDARD, TEXAS, WASHINGTON AND WAYNE COUNTIES)		
GROUP 1.....	\$ 35.02	15.75
GROUP 2.....	\$ 35.17	15.75
GROUP 3.....	\$ 35.29	15.75
GROUP 4.....	\$ 35.18	15.75
Truck drivers (FRANKLIN, JEFFERSON and ST. CHARLES COUNTIES)		
GROUP 1.....	\$ 37.38	15.75
GROUP 2.....	\$ 37.53	15.75
GROUP 3.....	\$ 37.60	15.75
GROUP 4.....	\$ 37.49	15.75
Truck drivers (LINCOLN and WARREN COUNTIES)		
GROUP 1.....	\$ 36.03	15.75
GROUP 2.....	\$ 37.18	15.75
GROUP 3.....	\$ 36.25	15.75
GROUP 4.....	\$ 36.14	15.75

TRUCK DRIVERS CLASSIFICATIONS:

GROUP 1: Flat Bed Trucks, Single Axle; Station Wagons; Pickup Trucks; Material Trucks, Single Axle; Tank Wagon, Single Axle

GROUP 2: Agitator and Transit Mix Trucks

GROUP 3: Flat Bed Trucks, Tandem Axle; Articulated Dump Trucks; Material Trucks, Tandem Axle; Tank Wagon, Tandem Axle

GROUP 4: Semi and/or Pole Trailers; Winch, Fork & Steel Trucks; Distributor Drivers and Operators; Tank Wagon, Semi-Trailer; Insley Wagons, Dumpsters, Half-Tracks, Speedace, Euclids and other similar equipment; A-Frame and Derrick Trucks; Float or Low Boy

TEAM0056-001 05/01/2024

	Rates	Fringes
Truck drivers (ANDREW, BARTON, BATES, BENTON, CALDWELL, CAMDEN, CARROLL, CEDAR, CHARITON, CHRISTIAN, CLINTON, COOPER, DADE, DALLAS, DAVIESS, DEKALB, DOUGLAS, GREENE, HENRY, HICKORY, HOWARD, JASPER, LACLEDE, LAWRENCE, LINN, LIVINGSTON, MONITEAU, MORGAN,		

NEWTON, PETTIS, POLK,
 RANDOLPH, ST. CLAIR, SALINE,
 VERNON, WEBSTER AND WRIGHT
 COUNTIES)

GROUP 1.....	\$ 34.72	15.75
GROUP 2.....	\$ 34.88	15.75
GROUP 3.....	\$ 34.87	15.75
GROUP 4.....	\$ 34.99	15.75

Truck drivers: (ATCHISON,
 BARRY, GENTRY, GRUNDY,
 HARRISON, HOLT, MCDONALD,
 MERCER, NODAWAY, OZARK,
 STONE, SULLIVAN, TANEY AND
 WORTH COUNTIES)

GROUP 1.....	\$ 33.99	15.75
GROUP 2.....	\$ 34.15	15.75
GROUP 3.....	\$ 34.14	15.75
GROUP 4.....	\$ 34.26	15.75

Truck drivers; (BUCHANAN,
 JOHNSON AND LAFAYETTE
 COUNTIES)

GROUP 1.....	\$ 35.93	15.75
GROUP 2.....	\$ 36.04	15.75
GROUP 3.....	\$ 36.08	15.75
GROUP 4.....	\$ 36.08	15.75

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Flat bed trucks single axle; station wagons; pickup trucks; material trucks single axle; tank wagons single axle.

GROUP 2: Agitator and transit mix-trucks.

GROUP 3: Flat bed trucks tandem axle; articulated dump trucks; material trucks tandem axle; tank wagons tandem axle.

GROUP 4: Semi and/or pole trailers; winch, fork & steel trucks; distributor drivers & operators; tank wagons semi-trailer; insley wagons, dumpsters, half-tracks, speedace, euclids & other similar equipment; A-frames and derrick trucks; float or low boy.

 TEAM0245-001 03/26/2012

BARRY, BARTON, CAMDEN, CEDAR, CHRISTIAN, DALLAS, DENT, DOUGLAS,
 GREENE, HICKORY, HOWELL, JASPER, LACLEDE, LAWRENCE, MCDONALD,
 MILLER, NEWTON, OZARK, PHELPS, POLK, PULASKI, SHANNON, STONE,
 TANEY, TEXAS, VERNON, WEBSTER AND WRIGHT COUNTIES

Rates Fringes

Truck drivers:

Traffic Control Service Driver.....	\$ 20.45	0.00
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PAID HOLIDAYS: New Year's Day, Decoration Day, July 4th,
 Labor Day, Thanksgiving Day, Christmas Day, employee's
 birthday and 2 personal days.

 TEAM0541-001 04/01/2024

CASS, CLAY, JACKSON, PLATTE AND RAY COUNTIES

Rates Fringes

Truck drivers:

GROUP 1.....	\$ 37.81	15.65
GROUP 2.....	\$ 37.24	15.65
GROUP 3.....	\$ 36.72	15.65

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1: Mechanics and Welders, Field; A-Frame Low Boy-Boom ruck Driver.

GROUP 2: Articulated Dump Truck; Insley Wagons: Dump Trucks, Excavating, 5 cu yds and over; Dumpsters; Half-Tracks: Speedace: Euclids & similar excavating equipment Material trucks, Tandem Two teams; Semi-Trailers; Winch trucks-Fork trucks; Distributor Drivers and Operators; Agitator and Transit Mix; Tank Wagon Drivers, Tandem or Semi; One Team; Station Wagons; Pickup Trucks; Material Trucks, Single Axle; Tank Wagon Drivers, Single Axle

GROUP 3: Oilers and Greasers - Field

 TEAM0682-002 05/01/2024

ST LOUIS CITY AND COUNTY

Rates Fringes

Truck drivers:

GROUP 1.....	\$ 36.64	8.86+a+b+c
GROUP 2.....	\$ 36.64	8.86+a+b+c
GROUP 3.....	\$ 36.64	8.86+a+b+c

a. PENSION: 5/1/2012 - \$182.20 per week.

b. HAZMAT PREMIUM: If Hazmat certification on a job site is required by a state or federal agency or requested by project owner or by the employer, employees on that job site shall receive \$1.50 premium pay.

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1 - Pick-up trucks; forklift, single axle; flatbed trucks; job site ambulance, and trucks or trailers of a water level capacity of 11.99 cu. yds. or less

GROUP 2 - Trucks or trailers of a water level capacity of 12.0 cu yds. up to 22.0 cu yds. including euclids, speedace and similar equipment of same capacity and compressors

GROUP 3 - Trucks or trailers of a water level capacity of 22.0 cu. yds & over including euclids, speedace & all floats, flatbed trailers, boom trucks, winch trucks, including small trailers, farm wagons tilt-top trailers, field offices, tool trailers, concrete pumps, concrete conveyors & gasoline tank trailers and truck mounted mobile concrete mixers

FOOTNOTE FOR TRUCK DRIVERS:

c. PAID HOLIDAYS: Christmas Day, Independence Day, Labor Day, Memorial Day, Veterans Day, New Years Day, Thanksgiving Day

d. PAID VACATION: 3 days paid vacation for 600 hours of service in any one contract year; 4 days paid vacation for 800 hours of service in any one contract year; 5 days paid vacation for 1,000 hours of service in any one contract year. When such an employee has completed 3 years of continuous employment with the same employer and then works the above required number of hours, he shall receive double the number of days of vacation specified above. When such an employee has completed 10 years of continuous employment with the same employer and then works the above required number of hours, he shall receive triple the number of days of vacation specified above. When such an employee has completed 15 years of continuous employment with the same employer and then works the above required number of hours, he shall receive 4 times the number of days of vacation specified above.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.
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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local),

a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

State Adopted Rate Identifiers

Classifications listed under the ""SA"" identifier indicate that the prevailing wage rate set by a state (or local) government was adopted under 29 C.F.R. 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 01/03/2024 reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the

Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"