

JOB SPECIAL PROVISIONS TABLE OF CONTENTS (ROADWAY)

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

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Job No.: JSL0076

Route: 340

County: St. Louis

| | |
|--|---|
|  <p>10/10/2024 8:04:51 AM STUART ROBINSON McNEIL - CIVIL MO-PE-2006019687</p> | MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65102 Phone 1-888-275-6636 |
| | If a seal is present on this sheet, JSP's have been electronically sealed and dated. |
| | JOB NUMBER: JSL0076 St. Louis County, MO DATE PREPARED: 8/19/2024 |
| | ADDENDUM DATE: |
| Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: All | |

JOB
SPECIAL PROVISION

A. General - Federal JSP-09-02K

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

1.1 This contract requires payment of the prevailing hourly rate of wages for each craft or type of work required to execute the contract as determined by the Missouri Department of Labor and Industrial Relations and requires adherence to a schedule of minimum wages as determined by the United States Department of Labor. For work performed anywhere on this project, the contractor and the contractor's subcontractors shall pay the higher of these two applicable wage rates. State Wage Rates, Information on the Required Federal Aid Provisions, and the current Federal Wage Rates are available on the Missouri Department of Transportation web page at www.modot.org 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 2024 Missouri Standard Plans
For Highway Construction

These supplemental bidding documents contain all current revisions to the published versions and have important legal consequences. It shall be conclusively presumed that they are in the bidder's possession, and they have been reviewed and used by the bidder in the preparation of any bid submitted on this project.

B. Contract Liquidated Damages JSP- 13-01D

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

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

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

Notice to Proceed: January 6, 2025
Contract Completion Date: October 15, 2025

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

| | | |
|---------|---------------|----------------------|
| Project | Calendar Days | Daily Road User Cost |
| JSL0076 | N/A | \$5,400.00 |

3.0 Liquidated Damages for Contract Administrative Costs. Should the contractor fail to complete the work on or before the contract completion date specified in Section 2.0, or within the number of calendar days specified in Section 2.1, whichever occurs first, the contractor will be charged contract administrative liquidated damages in accordance with Sec 108.8 in the amount of **\$2,000.00** per calendar day for each calendar day, or partial day thereof, that the work is not fully completed. For projects in combination, these damages will be charged in full for failure to complete one or more projects within the specified contract completion date or calendar days.

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

C. Work Zone Traffic Management JSP-02-06N

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

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

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

2.0 Traffic Management Schedule.

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

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

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

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

2.5 Traffic Congestion. The contractor shall, upon approval of the engineer, take proactive measures to reduce traffic congestion in the work zone. The contractor shall immediately implement appropriate mitigation strategies whenever traffic congestion reaches an excess of **10 minutes** to prevent congestion from escalating beyond this delay threshold. If disruption of the traffic flow occurs and traffic is backed up in queues equal to or greater than the delay time threshold listed above, then the contractor shall immediately review the construction operations which contributed directly to disruption of the traffic flow and make adjustments to the operations to prevent the queues from reoccurring. Traffic delays may be monitored by physical presence on site or by utilizing real-time travel data through the work zone that generate text and/or email notifications where available. The engineer monitoring the work zone may also notify the contractor of delays that require prompt mitigation. The contractor may work with the engineer to determine what other alternative solutions or time periods would be acceptable. When a Work Zone Analysis Spreadsheet is provided, the contractor will find it in the electronic deliverables on MoDOT's Online Plans Room. The contractor may refer to the Work Zone Analysis Spreadsheet for detailed information on traffic delays.

2.5.1 Traffic Safety.

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

2.5.1.2 Non-Recurring Congestion. When traffic queues extend to within 1000 feet of the ROAD WORK AHEAD, or similar, sign on a divided highway or to within 500 feet of the ROAD WORK AHEAD, or similar, sign on an undivided highway infrequently, the contractor shall deploy a means of providing advance warning of the traffic congestion, as approved by the engineer. The

warning location shall be no less than 1000 feet and no more than 0.5 mile in advance of the end of the traffic queue on divided highways and no less than 500 feet and no more than 0.5 mile in advance of the end of the traffic queue on undivided highways.

2.6 Transportation Management Plan. The contractor Work Zone Specialist (WZS) shall review the Transportation Management Plan (TMP), found as an electronic deliverable on MoDOT's Online Plans Room and discuss the TMP with the engineer during the preconstruction conference. Throughout the construction project, the WZS is responsible for updating any changes or modifications to the TMP and getting those changes approved by the engineer a minimum of two weeks in advance of implementation. The WZS shall participate in the post construction conference and provide recommendations on how future TMPs can be improved.

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

3.0 Work Hour Restrictions.

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

Memorial Day
Labor Day
Thanksgiving
Christmas
New Year's Day

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

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

3.2 The contractor shall not perform any construction operation on the roadway 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 within the restricted hours will likely result in traffic queues greater than 10 minutes. Based on this, the contractor's operations will be restricted accordingly. 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. The contractor may work during the following listed hours:

Working Hours for Eastbound and Westbound Route 340:

Single Lane Closure from 9:00 a.m. to 3:00 p.m. Monday through Friday.

Single Lane Closure from 8:00 p.m. to 6:00 a.m. Monday through Friday.

No restrictions on Saturday and Sunday.

Pavement operations shall be performed during nighttime hours only.

3.4 Paving operations requiring a reduction in the number of through lanes of traffic shall be completed during nighttime hours. Nighttime hours shall be considered to be 8:00 p.m. to 6:00 a.m. for this project.

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 **\$1,000.00 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.

4.1 When a changeable message sign (CMS) is provided, the contractor shall use the CMS to notify motorists of future traffic disruption and possible traffic delays one week before traffic is shifted to a detour or prior to lane closures. The CMS shall be installed at a location as approved or directed by the engineer. All messages planned for use in the work zone shall be approved and authorized by the engineer or its designee prior to deployment. When permanent dynamic message signs (DMS) owned and operated by MoDOT are located near the project, they may also be used to provide warning and information for the work zone. Permanent DMS shall be operated by the TMC, and any messages planned for use on DMS shall be approved and authorized by the TMC at least 72 hours in advance of the work.

4.2 At least one lane of traffic in each direction shall be maintained at all times except for brief intervals of time required when the movement of the contractor's equipment will seriously hinder

the safe movement of traffic. Periods during which the contractor will be allowed to interrupt traffic will be designated by the engineer.

5.0 Basis of Payment. No direct payment will be made to the contractor to recover the cost of equipment, labor, materials, or time required to fulfill the above provisions, unless specified elsewhere in the contract document. All authorized changes in the traffic control plan shall be provided for as specified in Sec 616.

D. Emergency Provisions and Incident Management JSP-90-11A

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

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

| | | |
|---|----------------------|--|
| Missouri Highway Patrol 1-800-525-5555 Cellular: *55 | | |
| St. Louis County Police 314-615-0111 | | |
| MoDOT Traffic Management Center (TMC) Gateway Guide: 314-275-1513; Jim Connell 314-565-6717 Risk Management: Daytime (314) 453-1721; After Hours 314-594-SAFE (7233) Equipment Damage: Rico Fennewold Day 314-624-2921; After hours 314-205-7391 | | |
| City of Creve Coeur | City of Olivette | |
| Fire: 314-432-0403 | Fire: 314-993-0408 | |
| Fire: 314-432-6330 | Police: 314-983-5279 | |
| Police: 314-432-8000 | | |

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

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

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

E. Utilities JSP-93-26F

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

| <u>Utility Name</u> | <u>Known Required Adjustment</u> | <u>Type</u> |
|--|--|-------------------------|
| Ameren Missouri Construction Hotline Phone: (866) 992-6619 Email: constructionhotline@ameren.com | None | Power Communications |
| AT&T Distribution Terry Rogers Phone: (636) 949-1330 Email: tr5397@att.com | None | Communications |
| Bluebird Terry Harrison Phone: (314) 737-3343 Email: terry.harrison@bluebirdnetwork.com | None | Signals Lighting |
| Charter Communications Cedric Gillespie Phone: (314) 393-2970 Email: Cedric.Gillespie@chater.com | None | Communications |
| Edward Jones Tim Agler Phone: (314) 220-2768 Email: tagler@tsi-global.com | None | Communications |
| Everstream Sydney Price Phone: (636) 375-4844 Email: sprice@everstream.net | None | Communications |
| Lumen Richard Prescott Phone: (720) 567-7033 Email: richard.prescott1@lumen.com | None | Communications |
| Missouri American Water Co. Dave Pruitt Phone: (314) 996-2396 Email: dave.pruitt@amwater.com | None | Water |

| | | |
|--|------|----------------|
| MCI Ryan Tasker Phone: (314) 565-6946 Email: ryan.tasker@verizon.com | None | Communications |
| Spire Brian Langenbacher Phone: (314) 713-6572 ext.902 Email: Brian.Langenbacher@spireenergy.com | None | Gas |
| Windstream Sam Watts Phone: 417-761-7152 Email: Samuel.watts@windstream.com | None | Communications |

1.1 The Contractor shall be aware there are numerous utilities present along the routes in this contract. Utility locates were not performed during the design phase of the project. Therefore, the extent of conflicts with utilities are unknown. It is the inherent risk of the work under this contract that the contractor may encounter these utilities above and/or below the ground or in the vicinity of any given work item which may interfere with their operations. The contractor expressly acknowledges and assumes this risk even though the nature and extent are unknown to both the contractor and the Commission at the time of bidding and award of the contract. It is, therefore, the responsibility of the contractor to comply with Missouri CSR 319 to get utilities marked and verify the existence, location, and status of any marked utility prior to any excavations. Such verification may require direct contact with the listed utilities.

1.2 Spire: The contractor is advised that Spire has an existing gas main that runs underneath the sidewalk at in the NW quadrant of MO 340 and Dielman, as shown on plans sheet 19. Spire's facility records indicate that the main is at a depth of 5' – 7' at this location. Spire does not anticipate any conflicts with eh proposed improvements on this project. The Contractor shall be aware of and take measures to protect in place Spire's existing facilities during construction.

2.1 Ameren Overhead Power lines: The proposed scope of work for this project will require working in the vicinity Ameren's overhead power lines, which run the length of the project. Contractors and their employees working in the vicinity of Ameren's power lines will adhere to the Missouri Overhead Power Line Act as set forth in Missouri Revised Statutes section 319, particularly the safety requirements in sections 319.075 through 319.090.

2.1 The contractor shall discuss the planned work as it relates to any energized power lines with Ameren Missouri and coordinate with Ameren Missouri for the installation of any insulation covers over the lines and/or any other designated requirements. The contractor is advised to contact Ameren Missouri regarding the current policy and so the anticipated cost to the contractor can be estimated and when payment is required. The Contractor shall contact Ameren Missouri at least two weeks in advance of when construction work is scheduled to begin to request covers to be placed at a given location. The contractor will need to contact Ameren at (314) 992 -6619 to coordinate this work with their schedule. **The contractor is responsible for any charges from Ameren Missouri for this provision and payment will be directly to Ameren Missouri.**

3.0 Guardrail and Signpost Locations: The contractor shall be aware there are numerous utilities present along the route in this contract. The full extent of conflicts with utilities are unknown. There may be underground utilities that run parallel or cross the route that are in close proximity to proposed work locations. The contractor shall take necessary precautions and measures to verify locations and depths of utilities by any necessary means to determine exact impacts to their work.

4.0 If utility facilities are discovered the contractor shall contact the MoDOT Area Utility Coordinator, Steve Belcher at (314) 624-7382. District Utility staff will determine whether adjustment of the utility is necessary, if alternate construction methods will be required, or if the work can be installed in accordance with Missouri Standard Plans for Highway Construction for the work item specified.

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

F. Project Contact for Contractor/Bidder Questions JSP-96-05

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

Stuart McNeil, Project Contact
MoDOT, St. Louis District
1590 Woodlake Drive
Chesterfield, MO 63017

Telephone Number: 314-453-5042
Email: stuart.mcneil@modot.mo.gov

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

G. Contractor Quality Control NJSP-15-42

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

2.0 Quality Control Plan.

- (a) The name and contact information of the person in responsible charge of the QC testing.
- (b) A list of the QC technicians who will perform testing on the project, including the fields in which they are certified to perform testing.
- (c) A proposed independent third-party testing firm for dispute resolution, including all contact information.
- (d) A list of Hold Points, when specified by the engineer.

- (e) The MoDOT Standard Inspection and Testing Plan (ITP). This shall be the version that is posted at the time of bid on the MoDOT website (www.modot.org/quality).

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

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

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

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

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

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

4.0 Work Planning and Scheduling.

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

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

4.3 Pre-Activity Meeting. A pre-activity meeting is required in advance of the start of each new activity, except when waived by the engineer. The purpose of this meeting is to review construction details of the new activity. At a minimum, the discussion topics shall include: safety precautions, QC testing, traffic impacts, and any required Hold Points. Attendees shall include

the engineer, the contractor superintendent and the foreman who will be leading the new activity. Pre-activity meetings may be held in conjunction with the weekly project meeting.

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

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

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

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

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

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

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

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

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

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

2.1 The ADA Checklist is not to be considered all-inclusive, nor does it supersede any other contract requirements. The ADA checklist is a required guide for the contractor to use during the construction of the pedestrian facilities and a basis for the commission's acceptance of work. Prior to work being performed, the contractor shall bring to the engineer's attention any planned work that is in conflict with the design or with the requirement shown in the checklist. This notification shall be made in writing. Situations may arise where the checklist may not fully address all requirements needed to construct a facility to the full requirements of current ADA law. In

those situations, the contractor shall propose a solution to the engineer that is compliant with current ADA law using the following hierarchy of resources: 2010 ADA Standards for Accessible Design, Draft Public Rights of Way Accessibility Guidelines (PROWAG) dated November 23, 2005, MoDOT's Engineering Policy Guidelines (EPG), or a solution approved by the U.S. Access Board.

2.2 It is encouraged that the contractor monitor the completed sections of the newly constructed pedestrian facilities in attempts to minimize negative impacts that his equipment, subcontractors or general public may have on the work. Completed facilities must comply with the requirements of ADA and the ADA Checklist or have documented reasons for the non-compliant items to remain.

3.0 Coordination of Construction.

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

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

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

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

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

5.0 Basis of Payment. The contractor will receive full pay of the contract unit cost for all sidewalk, ramp, curb ramp, median, island, approach work, cross walk striping, APS buttons, pedestrian heads, detectable 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.

I. ADA Curb Ramp – St. Louis District Version 01-17-24

1.0 Description. This work shall consist of constructing new concrete curb ramps that are compliant with current Americans with Disabilities Act (ADA) and MoDOT guidelines at locations shown on the plans and as directed by the engineer.

1.1 The contractor shall ensure that the persons establishing the grades of the ADA facilities have a copy of ADA related provisions at hand for reference. If it is found that written provisions for ADA facilities are not at hand, the engineer may cause ADA work to be ceased until a copy arrives.

2.0 Construction Requirements. Except as noted herein, all applicable provisions in Sec 608 of the Standard Specifications shall apply to the construction of the curb ramps.

2.1 The following shall be included in the cost of a new ADA ramp:

- (a) Excavation and preparing of the subgrade prior to placement of the aggregate base
- (b) 4" Type 5 Aggregate Base underneath the new ramp
- (c) Everything shown in the various figures of ADA ramp curb types on Standard Plan 608.50 shall be poured as 7" concrete. This includes all area of ramp, level landing pads and any flares included in the per each ADA Ramp.
- (d) Variable height curb along the roadway within the limits of the new ADA ramp
- (e) Variable height curb along the backside of the new ADA ramp
- (f) Concrete median used to separate direction of travel within a dual perpendicular ramp
- (g) Furnishing and installing any reinforcement needed as shown in the plans for curbs taller than 8"
- (h) Tinting of concrete surface as required in the plans
- (i) Sod next to the curb ramp
- (j) Saw Cuts needed for the removal of the existing concrete area where the new ADA ramp is being constructed
- (k) Removal of the existing concrete area where the new ADA ramp is being constructed

2.1.1 Regardless of the number of ramp areas or surfaces having a maximum ramp slope of 1V:12H (8.33%) that are constructed for a particular type of ADA Curb Ramp, the contractor **will not** be paid for additional number of ramps at that location. See special sheet for curb ramp pay limits. Exception: **Dual Perpendicular Ramps and Blended Transitions** will be paid as 2 each.

2.2 The following shall be paid for separately in the cost of a new ADA ramp:

- (a) Truncated Domes

2.2.1 Detectable warning surfaces shall be provided, where a curb ramp, landing, or blended transition connects to a street. Where commercial or private driveways are provided with traffic control devices or otherwise are permitted to operate like public streets, detectable warnings should be provided at the junction between the pedestrian route and the street. See plans for additional details.

2.2.2 The truncated domes shall come from Materials' Pre-Qualified List FS-1067 Table 1 from the following link:

<https://www.modot.org/materials>

2.3 Gutter Correction. The contractor shall establish the grade of the flow line of the gutter before establishing the grades of ADA facilities. The gutter line shall be free flowing with no ponding next to the curb. Under-performing gutters shall be replaced with a concrete curb and gutter or a minimum 1.75-inch-thick asphalt mill and fill. Running or standing storm water shall not be pushed out into the roadway where it may be splashed on pedestrians by passing vehicles or cause a hydroplaning hazard. An asphalt mill and fill shall be a minimum of 1.75 inches thick and the edges shall be at a smooth milled butt joint. The contractor shall use an approved BP-1 mix for all corner asphalt mill and fill work unless another surface asphalt mix is specified elsewhere in the contract. Asphalt mill and fill is included in the work of ADA Curb Ramps. If asphalt mill and fill is needed at a corner without any other ADA work, it will be found as a separate line item in this contract.

2.4 Design Plans

2.4.1 Recommendations for the design type of each curb ramp to be built on this project are shown on the plans. Curb ramps constructed by the contractor may vary from the original design, with approval from the engineer, in size, shape, and location as necessary to comply with ADA laws. It is the contractor's responsibility to inspect locations in the field before bidding to verify quantities needed to satisfy this provision. No additional pay will be made to the contractor if the original design is adjusted, and a different ramp type is constructed instead of the recommended/suggested in the plans.

2.4.2 ADA provides some exceptions to ramp slope where space limitations exist. The apparent construction limits shown on the plans are not considered a space limitation. The contractor shall not place any ADA exceptions without consulting the Engineer on a case-by-case basis.

2.4.3 Special Sheet. A special sheet shows the pay limits for each standard ADA ramp type used by MoDOT. This special sheet is not intended to replace the Standard Plans, Standard specifications or MoDOT's ADA checklist but is intended only to provide consistency regarding pay lengths/limits within the St. Louis District.

As shown on this special sheet, 15 feet beyond the landing is considered part of the ADA ramp. Payment for the ramp will be 15 feet beyond the landing and no adjustment in sidewalk length/quantity will be made if this 15-foot ramp length is adjusted by the contractor in the field.

2.4.4 When a project is only replacing ADA Curb Ramps at intersections, a warping panel shall be included and considered incidental to the cost of the new ADA Curb Ramp. When a project is also constructing new sidewalk tied into the new ADA Curb Ramp, this warping panel shall be

paid for within the sidewalk pay item. A warping panel consists of tying in an ADA compliant cross slope to an existing cross slope.

2.5 Median or Median Island Cut-throughs. If there is an actual ramp with a slope not exceeding 8.33% (1V:12H) that provides access to the **raised portion** of the island or median instead of cutting through a portion of the island or median, then that area of concrete will be paid for separately as an ADA Curb Ramp, per each, as noted below. If the pedestrian path cuts through an island or median, then this area is not considered a ramp and will be paid for with individual items necessary to construct this pedestrian path.

2.6 Prosecution of Work. The contractor shall have all necessary personnel, equipment, and materials at hand for all work at each location before the work begins so that work may proceed without delay.

3.0 Method of Measurement. Final measurement will not be made for each ramp except for authorized changes during construction or where appreciable errors are found in the contract quantity. The revision or correction will be computed and added to or deducted from the contract quantity.

J. ADA Material Testing Frequency Modifications JSP-23-01

1.0 Description. This provision revises the Inspection and Testing Plan (ITP) for the construction of ADA compliant features to better match the nature of the work. The Quality Control (QC) testing frequency for the Sections identified below are to be revised as specified.

2.0 Compaction Test on Base Rock Under Sidewalk, Curb Ramps and Paved Approaches. (Revises ITP Sec 304.3.4) The required test frequency will be one per 600 tons.

3.0 Gradation Test on Base Rock Under Sidewalk, Curb Ramps and Paved Approaches. (Revises ITP Sec 304.4.1) The required frequency will be one per 500 tons.

4.0 Concrete Plant Checklists. (Revises ITP Sec 501) Submittal of the 501 Concrete Plant Checklist will be once per week when the contractor is only pouring curb, sidewalk, paved approaches, and curb ramps.

5.0 Concrete Median, Median Strip, Sidewalk, Curb Ramps, and Curb. (Revises ITP Sec 608) The required frequency will be the first truckload for the project and each 100 CUYDs for air and slump thereafter. Strength will be verified by use of cylinders or maturity meters at a minimum rate of one per 100 CUYD.

6.0 Paved Approaches. (ITP Sec 608) The required testing of one test from the first truckload per day and each 100 CUYDs for air and slump will remain per ITP. Strength will be verified by use of cylinders or maturity meters at a minimum rate of one per 100 CUYD.

7.0 Curb Concrete. (Revises ITP Sec 609) The required frequency will be the same as Sec 5.0 above.

8.0 Basis of Payment. No direct payment will be made to the contractor to fulfill the above requirements.

K. ADA Compliant Movable Barricade

1.0 Description. This work shall consist of providing movable barricades to satisfy the requirements of the pedestrian traffic control plans as shown in the bidding documents. The contractor will be responsible for providing adequate quantity of pedestrian barricades, or moving them to coincide with their planned order of work.

2.0 Construction Requirements. The contractor shall use a movable barricade that meets the requirements as established by the ADA. The pedestrian barricades shall be of self-supporting type having a minimum length of 6 feet per unit. The face of the barricade shall not extend into adjacent sidewalk considered open for pedestrian use. The contractor will be responsible for setting and maintaining the pedestrian barricades until all proposed improvements have been constructed.

3.0 Method of Measurement. No measurement for ADA Compliant Movable Barricade will be made. The contractor shall determine the quantity needed based on their progression of work.

4.0 Basis of Payment. Payment for all work necessary to fulfill the requirements noted above shall be considered completely covered in the contract unit price for the following. No direct payment will be made for any necessary relocation of ADA Compliant Barricades.

| Item Number | Unit | Description |
|-------------|----------|--|
| 616-99.01 | Lump Sum | Misc. Lump Sum Temporary Traffic Control |

L. Additional Aggregate Base for Sidewalks Around Curb Inlets

1.0 Description. The contractor shall install a thicker rock base material adjacent to all utility structures within the width of the sidewalk and curb ramps to limit differential settlement of the pedestrian path over the structure. Structures include but are not limited to stormwater inlets, manholes, and valves.

An additional two-inch depth of rock base shall be placed for 12 feet on either side of each structure totaling six inches over the 4 inch pay quantity.

2.0 Method of Measurement. Final measurement will not be made except for authorized changes during construction or where appreciable errors are found in the contract quantity. The revision or correction will be computed and added to or deducted from the contract quantity.

3.0 Basis of payment. The accepted quantity of Additional Aggregate Base for Sidewalks Around Curb Inlets will be paid at the contract unit price for the pay items in the plan. No additional payment will be made to fulfill the requirements above.

| Item Number | Unit | Description |
|-------------|-------|---|
| 304-05.06 | Sq Yd | Type 5 Aggregate for Base (6 in. Thick) |
| 608-99.02 | Each | ADA Concrete Curb Ramp |

M. Median Island Cut-Throughs

1.0 Description. This work shall consist of providing a median or median island cut-through that is compliant with current Americans with Disabilities Act (ADA) and MoDOT guidelines at locations shown on the plans and as directed by the Engineer.

2.0 Construction Requirements. The contractor shall be responsible for removing the existing median and if necessary, the existing pavement and base prior to installing the new cut-through as shown in the plans and as per Section 608 in both the Standard Plans and Standard Specifications. If new pavement/sidewalk is to be installed, it shall be minimum 7" Concrete Sidewalk on a 4" Type 5 Aggregate Base with new median island doweled into this new sidewalk. Truncated domes installed within the island or median cut-throughs shall be placed flush with the face of the curb/island.

2.1 ADA Ramps. If there is an actual ramp that provides access to the raised portion of the island or median instead of cutting through a portion of the island or median, then that area of concrete will be paid for separately as an ADA Curb Ramp, per each, and not per quantities noted below.

2.2 Cross Slope through Cut-Throughs. The contractor shall meet ADA requirements regarding cross slope through the cut-through.

3.0 Method of Measurement. Final measurement will not be made except for authorized changes during construction or where appreciable errors are found in the contract quantity. The revision or correction will be computed and added to or deducted from the contract quantity for each item listed in the Basis of Payment.

4.0 Basis of Payment. Payment for furnishing and installing a new median or median island cut-through shall include all excavation, base compaction, saw cuts, removal of existing pavement and median island, new sidewalk and base, new median island, new truncated domes, and all materials, equipment, tools, labor, and work incidental thereto, and shall be considered to be completely covered by the contract unit price for items listed below as indicated in the plans.

| Pay Item Number | Type / Description | Unit |
|-----------------|---|----------|
| 202-20.10 | Removal of Improvements | Lump Sum |
| 304-05.04 | Type 5 Aggregate for Base (4 In. Thick) | S.Y. |
| 608-10.12 | Truncated Domes | S.F. |
| 608-30.06 | 6 In. Concrete Median Strip | S.Y. |
| 608-60.04 | Concrete Sidewalk, 4 In. | S.Y. |

N. Variable Height Curb

1.0 Description. This work shall consist of furnishing and installing 30-inch max height concrete curbs at the locations shown on the plans.

2.0 Material Requirements. All materials shall be in accordance with Sec 609 and Sec 706 except as noted in the plans.

3.0 Construction Requirements. All work performed shall be done in accordance with Sec 604 except as noted in the plans.

4.0 Method of Measurement. This curb will be measured to the nearest whole linear foot. The sidewalk and aggregate base in front of the curb shall be measured and paid for separately.

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

| Item Number | Unit | Description |
|-------------|-------------|----------------------|
| 609-99.03 | Linear Foot | Variable Height Curb |

O. Construction Impacts to Privately Owned Sprinkler Systems

1.0 This work includes relocation or replacement of all sprinkler heads and sprinkler system pipes that are impacted by construction activities and installation of improvements.

2.0 The contractor is advised that various properties along the project length have irrigation systems whose sprinkler heads and associated pipe systems are located within or in close proximity to the proposed sidewalk. The contractor shall relocate undamaged sprinkler heads or replace damaged sprinkler heads as directed by the engineer.

2.1 The contractor shall check with individual property owners to shut off watering as necessary and be aware of the location of said systems. Any damage to the watering system, sprinkler heads, etc. will be repaired or replaced at the contractor's expense and at no direct cost to MoDOT.

2.2 The contractor is strongly advised to field check the project to determine the extent of impact to the existing sprinkler systems located along the route and adjust the bid accordingly.

3.0 Method of Measurement: No measurement shall be made.

4.0 Basis of Payment: No direct payment will be made for the relocation or replacement of sprinkler systems located along the project limits. All costs associated with this work shall be considered incidental to other pay items provided in the contract.

P. Site Restoration

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

2.0 If the contractor elects and receives approval from the engineer for alternate trench and/or pull box locations, any areas of concrete slope protection, sidewalk, pavement, shoulders, islands

and medians – as well as any similar improvements consisting of asphaltic concrete materials – removed in conjunction with their construction shall be replaced with improvements of similar composition and thickness. Removals shall be achieved by means of full depth saw cuts, the resulting subgrade compacted to minimum density requirements and topped with 4 inches of compacted aggregate base course prior to replacement of surface materials. Concrete materials used in replacement, shall be approved by the engineer. A commercial asphalt mix may be used for replacement of asphaltic surfacing upon approval of the engineer.

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

2.2 Sidewalks and sidewalk ramps that are disturbed as described in this provision shall be replaced to meet current ADA standards.

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

2.4 All guardrail post holes remaining from the removal of existing guardrail posts in existing concrete or asphalt pavement, or ditch shall be backfilled with a granular material and sealed with a ½ inch hot-poured elastic type material in accordance with Section 1057 or as approved by the Engineer. Any concrete or asphalt pavement or ditch damaged in the process of fulfilling this provision shall be replaced in kind and considered incidental to the installation of the new guardrail at the disturbed location.

3.0 Basis of Payment. The cost of restoration of disturbed areas will be incidental to the unit price of guardrail, pole base, conduit, and/or pull box. No direct payment will be made for any materials or labor, which is performed under this provision.

Q. Backfilling of Utility Locates

1.0 Description. This work shall consist of backfilling all areas excavated for the purpose of locating underground utilities.

2.0 Construction Requirements. The contractor shall be responsible for backfilling all cavities and voids in areas excavated for the purpose of locating underground utilities in paved areas with flowable backfill as per Section 621.

2.1 If the excavated area is less 2 square foot, any existing asphalt or concrete removed from the existing roadway, islands, shoulders, sidewalks, or medians, including underlying pavement, for the purpose of locating underground utilities shall be completely replaced in like kind by the contractor as directed by the engineer.

2.2 If the excavated area is larger than 2 square foot, the contractor shall repair it as directed by the engineer.

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

R. Access to Commercial and Private Entrances

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

2.0 Construction Requirements.

2.1 Commercial Entrances. On all commercial entrances, the contractor shall keep one-half of the entrance open at all times. On commercial entrances less than 20' wide, it may be necessary for the contractor to provide temporary aggregate to provide access to the property. The contractor shall remove and dispose of the temporary aggregate following the completion of the entrance. For properties with more than one entrance, the contractor may construct one entire entrance at a time with the approval of the property owner and the engineer. No additional right of way has been acquired for the construction of this project.

2.1.1 The contractor shall complete the entrances as quickly as possible and shall take **no longer than 4 Weeks** to complete any one entrance.

2.2 Private Entrances. The contractor shall complete the entrances as quickly as possible and shall **take no longer than seventy-two (72) hours** to complete any one entrance, unless otherwise approved by the engineer and the property owner. This may require the use of concrete strength accelerators.

2.2.1 Entrances 20 feet or wider may be constructed half at a time. One half of the entrance shall be open at all times and the contractor shall take **no longer than 10 days** to complete the entrance.

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

S. Coordination with Bi-State

1.0 Description. The contractor shall be required to coordinate with Bi-State where construction operations will involve work on or around existing Metro Bus Stops.

2.0 Construction Requirements.

2.1 The contractor shall submit their tentative construction schedule to Bi-State prior to the Preconstruction conference to begin coordination efforts.

2.2 All Metro Bus stops within the project limits shall remain open and operation throughout the duration of the project. In locations where the contractor's operations will involve work at or near a bus stop location, the contractor shall notify Bi-State through the contacts listed below, not later than 72 hours prior to beginning work at that location. The contractor shall also take care to minimize exposure of Metro users to construction hazards near all bus stops that are in service during and outside of work operations.

2.3 Project Contacts. The contractor shall notify the following contacts at Bi-State and coordinate with them through the duration of the project or their designated representative(s).

Ms. Natalie Siebert, Senior Planner Transit Operations

Office: (314) 982-1400 x1816

Cell: (314) 497-4916

Email: nsiebert@metrostlouis.org

Mr. Lance Peterson, Director of Service Planning

Office: (314) 982-1520

Cell: (314) 220-6756

Email: llpeterson@metrostlouis.org

3.0 Temporary Facilities. In locations where the contractor's operations may affect a bus stop location, a temporary stop may be required. Signage of the temporary stop shall be in accordance with Specification Section 104.10.2, and placement of the temporary stop shall be coordinated with Bi-State. All temporary bus stops shall be located near the existing stop it is representing, accessible, clear, and conspicuous to both the bus rider and operator, and be located where it is safe from hazards.

4.0 Permanent Facilities

4.1 Bus Stop Landing Pad. Locations for proposed bus stops are identified on the contract plans. The contractor shall construct the new landing pads as shown on the plans with 8-in concrete sidewalk. Bi-State or Bi-State's contractor shall furnish and install the new bus stop sign and post.

5.0 Basis of Payment. No direct payment shall be made to the contractor for the labor, equipment, material, or time required to comply with this provision unless otherwise provide in the plan.

T. Property Owner Notification

1.0 Description. It shall be the contractor's responsibility to inform and notify the adjacent property owner or tenant 48 hours prior to starting any construction activities that may impact driveway access or occur along the frontage of the property owner's parcel. Notification shall be in written form and include the contractor's contact information, the engineer's contact information, and an estimated schedule of work and the associated impacts.

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

U. Liquidated Damages Specified for Entrance Closures

1.0 Construction and Closure of Paved Approaches. The contractor shall always provide ingress and egress 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 one half at a time to provide for safe traffic movement into and out of the properties. See special provision “**Access to Commercial and Private Entrances**” for further details. Commercial entrances shall be completed within 4 weeks from when construction of the entrance begins. Private entrances shall be completed within seventy-two (72) hours from when construction of the entrance begins. Private entrances that can be constructed half at a time, entrances 20 feet or wider, shall be completed within 10 days from when construction of the entrance begins. If each entrance, once construction has started, is not completely constructed to plan design within the fore mentioned times, of beginning construction on the entrance and open to traffic, the City, 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 **\$500 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 of whether it would otherwise be charged as liquidated damages under the Missouri Standard Specification for Highway Construction.

V. Liquidated Damages for Pedestrian Impacts

1.0 Description. Providing work zone protection for pedestrians will be a primary component of this project. This work shall consist of staging/managing construction timelines to minimize the project's impacts to pedestrian traffic where construction activities make walkways impassible. Nothing in this provision shall be construed to limit contractor innovation in mitigating pedestrian traffic impacts.

2.0 Prosecution of Work. At locations where construction makes walkways impassible, the contractor shall have all necessary personnel, equipment, and materials at hand for all work at each location before the work begins so that work may proceed without delay. Work requiring the mitigation of pedestrian traffic impacts includes, but shall not be limited to, removal of sidewalk, curb ramp, or other paved pedestrian pathway.

3.0 Time of Disruption of Pedestrian Facilities. Regardless of construction methods chosen, once a section of sidewalk has been closed to pedestrian traffic, the contractor shall prosecute

the work as to minimize delays and inconvenience to the traveling public. The contractor, with approval from the engineer, shall specify the length of a given sidewalk section to be reconstructed. Once a corner has been closed to pedestrian traffic, the contractor shall have a maximum of three weeks, regardless of weather or other delays, to reopen that corner/section to pedestrian traffic.

4.0 Work Area Safety. The contractor shall maintain a work area that is safe for pedestrians. In order to provide this, the contractor shall work on only one side of Route AB at a given time to improve the sidewalks along either the north or south sides and to allow a walkable path on the other side during construction. The areas adjacent to the contractor's physical work site shall also be maintained to provide access to adjoining properties, regardless of whether a detour route is in place. All holes shall be covered with secured plywood or steel plates, and the work area walkways shall be free of trip hazards, loose debris, vehicles, materials, and equipment when the contractor is not in the work area. A 3' minimum path shall be maintained on any used-in-place walkway needed for access. The contractor shall not be permitted to park on any walkway.

5.0 Liquidated Damages. If work associated with new sidewalk or curb ramps along a given side of Route AB begins, but is not complete and open to pedestrian traffic within 3 weeks of commencement, 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, and pedestrian 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 **\$500.00 per day** of delay that closes a walkway in excess of **3 weeks**. The contractor's superintendent and the engineer shall be on site at the time of any closures and shall both record an agreed time when the walkway was closed. It shall be the responsibility of the engineer to determine the quantity of excess closure time.

5.1 The said liquidated damages specified will be assessed regardless of whether it would otherwise be charged as liquidated damages under the Missouri Standard Specification for Highway Construction. There shall be no permitted excuse for delay of the work, including weather.

6.0 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.

W. Linear Grading Class 2 – Modified

1.0 Description. Modified Linear Grading, Class 2 shall consist of any necessary clearing and grubbing in accordance with Sec 201, preparing the subgrade for shoulder, pavement widening, sidewalk, curb and gutter, paved approaches, roadside retaining wall, or other roadside appurtenance by excavating, compacting, fine-grading, and shaping existing shoulder and ditch fore-slope, conforming to the typical section shown on the plans. It may be necessary to haul material.

2.0 Construction Requirements. The shoulder, pavement widening, sidewalk, curb and gutter, roadside retaining wall, or other roadside appurtenance shall be excavated and graded as shown on the typical section with minimal disturbance of the existing sub-grade and fore slope. Density

shall be obtained from reasonable compactive efforts consisting of no less than three passes with a roller until no further visible compaction can be achieved, or by other methods approved by the Engineer. Subgrade preparation and compaction shall also be in accordance with Sections 203, 209 and 210.

2.1 All ditches shall be graded to drain and maintain existing flow capacity, unless approved by the engineer. If fill material for the shoulder widening work impacts the ditch capacity, the contractor shall re-grade the backslope to maintain the flow capacity of the ditch. Fore slopes and back slopes shall be constructed at a 3:1, except as noted on the plans or approved otherwise by the engineer.

2.2 It may be necessary to go outside the limits of the right of way to obtain additional material or to dispose of excess material. All costs for providing additional material or disposing of excess material shall be included at the contract unit price for pay item 207-99.09, Modified Linear Grading, Class 2. All contractor furnished material shall be approved by the Engineer prior to being incorporated into the project. Quarry screenings will not be considered an approved contractor furnished material.

2.3 Included in this work is any pavement edge treatment that might be necessary to stay in compliance with the Standard Plans. The need for edge treatment is determined by the contractor's method of operations.

3.0 Method of Measurement. Measurement will be made to the nearest 1/10 station separately for the length of pavement edge along each side of the roadway, measured along centerline of the traveled way and totaled to the nearest Station for the sum of all segments in accordance with Section 207.

4.0 Basis of Payment. Payment for Modified Linear Grading, Class 2 as described in this provision will be made at the contract unit price for:

| Item Number | Unit | Description |
|-------------|---------|----------------------------------|
| 207-99.09 | Station | Linear Grading Class 2, Modified |

X. Shaping Slopes Class III (Modified Material Requirements) NJSP-20-03B

215.1.3 Shaping Slopes, Class III, shall consist of providing rock fill material and shaping slopes to construct additional shoulder width for the installation of guardrail and Type A crashworthy end terminals in accordance with Missouri Standard Plans for Highway Construction. The rock fill material used shall meet the requirements specified in Sec 215.1.3.1. The shoulder surface shall be finished smooth such that it is traversable and without significant voids or depressions.

215.1.3.1 Material Requirements. Rock fill material used for Shaping Slopes, Class III, shall consist of a durable crushed stone, shot rock or broken concrete, with a predominant size of 3 inches and a maximum size of 6 inches. Acceptance by the engineer will be made by visual inspection.

215.4 Basis of Payment. The accepted quantity will be paid at the contract unit bid price for **215-99.10 Misc. Shaping Slopes Class III – Modified**, per 100F.

Y. Non-Tracking Tack JSP-24-02

1.0 Description. This work requires application of tack in accordance with Sec 407 and prevention of tack loss from the surface as specified herein. Tack loss prevention shall be accomplished with successful usage of a MoDOT-approved non-tracking tack, or other acceptable non-tracking means, as approved by the engineer.

2.0 MoDOT-Approved Non-Tracking Tack. A list of MoDOT-approved non-tracking tack products is available at MoDOT.org under the Materials Qualified List. Upon request from the contractor, the MoDOT Division of Construction & Materials will consider allowance of other non-tracking products. To be approved, the contractor must successfully demonstrate that the proposed product meets the non-tracking requirements specified in section 3.0. The location of a contractor demonstration will only be allowed in areas approved by the engineer. The engineer will make final determination of product acceptance based on observation of the results of the contractor's demonstration.

3.0 Non-Tracking Requirements. Non-tracking tack shall remain adhered to the pavement surface when exposed to any wheeled or tracked vehicles. The tack shall not track off the surface within 30 minutes of being applied, and shall not stick to the tires, tracks or other parts of paving equipment or vehicles such that the underlying surface becomes visible or void of tack prior to the placement of the hot mix asphalt. The tack shall not track onto any adjacent lanes, pavement markings, driveways, sideroads, etc.

3.1 The contractor shall be responsible for cleaning all tracked tack from adjacent lanes, driveways, sideroads, etc., and shall replace all pavement markings that become coated with tracked tack. This cleaning and replacement requirement applies to both approved and proposed non-tracking products.

4.0 Basis of Payment. Measurement and payment shall be in accordance with Sec 407. The accepted quantity of non-tracking tack coat will be paid for per gallon at the contract unit price for 407-10.07 Tack Coat – Non-Tracking, per gallon. No additional payment will be made for the cost to demonstrate proposed products, for cleaning surfaces due to tracking of tack, or for replacement of pavement marking damaged by tracked tack.

Z. Winter Months Requirements JSP-15-07A

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

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

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

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

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

AA. Optional Temporary Pavement Marking Paint NJSP-18-07F

1.0 Description. This provision provides the contractor with the option to either complete all Permanent Pavement Marking Paint (PPMP) prior to the time limits specified herein or to apply Temporary Pavement Marking Paint (TPMP) in accordance with Sec 620.10.2 (4 in. width) in all locations shown on the plans as PPMP and delay application of the PPMP until the spring of 2026, as allowed herein. PPMP is defined as Standard Waterborne Paint and High Build Waterborne Paint and does not include Sec 620.20.3 Durable Pavement Markings.

1.1 No application of PPMP shall occur between October 1, 2025 and March 1, 2026, both dates inclusive, except as stated herein. When the contractor has begun application of PPMP prior to October 1, 2025, and weather limitations stated in Sec 620.20.2.4 can be met, the contractor may complete the PPMP within the first seven (7) calendar days of October. If all (100%) of the PPMP is not completed on or before October 7, 2025, all previously applied PPMP, including any painted markings applied prior to October 1, shall be considered TPMP, and the contractor shall complete the remaining marking with TPMP, and then re-apply PPMP in all planned locations after March 1, 2026. All PPMP shall be completed prior to June 1, 2026. No additional payment will be made for PPMP that is later determined to be TPMP due to the contractor's failure to complete the PPMP within the time specified.

1.2 Use of TPMP Prior to October 1. The contractor has the option to apply TPMP in lieu of PPMP prior to October 1, 2025, even when there is sufficient time to complete the PPMP prior to October 1, 2025. For example, the contractor may choose to use TPMP as a base coat for the PPMP on open-graded surfaces in order to achieve higher retroreflectivity readings on the surface coat as compared to a single application.

1.2.1 The contractor has the option of using TPMP in lieu of Temporary Raised Pavement Markers if applied each day that existing markings are obliterated.

2.0 Construction Requirements. TPMP shall be accurately placed in the final planned location and shall be completely covered by the final application of PPMP. Any failure to comply with this requirement shall be corrected by removal of the misplaced pavement markings at the contractor's expense and without marring of the pavement surface.

2.1 Prior to application of the PPMP on TPMP, TPMP shall be fully cured in accordance with the manufacturer's recommendation, or for a period of 12 hours, whichever is greater.

3.0 Weather Limitations. All weather limitations specified in Sec 620 for PPMP and TPMP shall apply. Cold Weather Pavement Marking Paint, in accordance with Sec 620.10.6, shall be used for TPMP when specified weather limitations do not allow the use of waterborne paint. No additional payment will be made for the use of Cold Weather Pavement Marking Paint as TPMP. Cold Weather Pavement Marking Paint is not an allowable substitute for PPMP and shall subsequently be covered with PPMP.

4.0 Time Exception. If application of PPMP is to be delayed to the spring of 2026, the contractor shall submit a request to the engineer for a time exception and shall provide a revised work schedule that shows the planned completion of the PPMP.

4.1 Upon receipt of the time exception request in Section 4.0, the engineer will list "Application of Permanent Pavement Marking Paint" as an exception on the Semi-Final Inspection form, thus granting an exception to the count of contract time thru June 1, 2026, solely for the purpose of delaying application of PPMP. This time exception shall not apply to any time needed to complete any other work items. Liquidated Damages, as specified elsewhere in this contract, shall remain in effect for all other work items not completed by the contract time limits, as specified elsewhere in this contract, and for PPMP not completed by June 1, 2026.

5.0 Method of Measurement. No final measurement will be made for TPMP.

6.0 Basis of Payment. Full payment for TPMP will be made at the contract lump sum price even when PPMP is completed prior to the time limitation and TPMP is not used or only partially used.

6.2 If a \$0 bid is entered for TPMP, no payment will be made should TPMP become necessary.

| Item Number | Description | Unit |
|-------------|----------------------------------|------|
| 6209901 | Temporary Pavement Marking Paint | LS |

BB. Pavement Marking Removal within Concrete Surfaces

1.0 Description. The first sentence of Sec 620.50.3.2 shall be removed and replaced with the following:

Where required, measurement for the removal of pavement markings will be made to the nearest linear foot per 4-inches of width. No additional pay factor, based upon 4-inches of width, shall be included for removals unless the striping width is greater than 6-inches. Final measurement will not be made except for authorized changes during construction or where appreciable errors are found in the contract quantity. The revision or correction will be computed and added to or deducted from the contract quantity.

2.0 Pavement Marking Removal shall be in accordance with Section 620.50 and specifically as follows with the exception in Section 1.0 above.

3.0 Construction Requirements. Removal of all pavement marking within the project limits shall be as shown on the plans or as approved by the engineer. Pavement marking shall be completely removed to the satisfaction of the engineer with minimal damage to the pavement. The contractor shall use an approved water blasting method to remove the pavement marking on concrete surfaces. No more than five percent of the existing marking shall remain. The pavement surface shall not be left scarred with an image that might mislead traffic. Any excess damage or scarring of the pavement shall be repaired at the contractor's expense. It shall be the contractor's responsibility to determine what type of material needs to be removed.

4.0 Method of Measurement. Final measurement will not be made except for authorized changes during construction or where appreciable errors are found in the contract quantity. The revision or correction will be computed and added to or deducted from the contract quantity.

5.0 Basis of Payment. The accepted quantity of pavement marking removal including all labor, equipment, and material necessary to remove the existing marking will be paid for at the contract unit price for the following pay item:

| Item Number | Unit | Description |
|-------------|----------|---|
| 620-99.01 | Lump Sum | Pavement Marking Removal within Concrete Surfaces |

CC. Island Tubular Markers

1.0 Description. Tubular markers shall be mounted on raised islands at the locations indicated in the plans.

2.0 Requirements. Island tubular markers shall have a height of 18-inches as noted in the plans, 2 reflective bands with super high intensity prismatic sheeting in accordance to Sec 1042 and be constructed from thermoplastic polyurethane. Color of the island tubular marker and reflective bands shall match the pavement marking in which it is placed. Posts shall be in the shape of a "T" with a width of 3 inches and a depth of 2 inches. Posts shall be capable of recovering from repeated vehicle impacts. Posts shall insert and be secured into the plastic base with horizontal locking pins. When the post is no longer serviceable, it shall be able to be removed and a new post can be manually inserted and locked into the existing base.

3.0 Construction Requirements. Shall be surface mounted on the radius points of the island noses. The roadway shall be cleaned of dirt and gravel before installation. Island tubular markers shall be mounted using proper sized anchor bolts according to manufacturer's specifications.

4.0 Method of Measurement. Measurement for installation of tubular marker with base will be made per each.

5.0 Basis of Payment. All labor, equipment, and materials necessary to install tubular markers will be paid for under:

| Item Number | Unit | Description |
|-------------|------|-------------------------------|
| 903-99.02 | Each | 18 In. Island Tubular Markers |

DD. Curb Reflectors

1.0 Description. This work shall consist of furnishing and installing a curb reflector that provides a continuous ribbon of reflectivity at the nose of each island specified in the plans. All work shall comply with Section 620 of the Standard Specifications.

2.0 Construction Requirements. The surface of the curb to which the reflector shall be applied shall be free of dirt, curing compound, moisture, paint, or any other material which would adversely affect the bond of the adhesive. Cleaning of the surface shall be to the satisfaction of the

Engineer. An adhesive meeting the reflector's manufacturer specification shall be placed on the surface of the bottom of the reflector in sufficient quantity to ensure complete coverage of the contact area with no voids present and with a slight excess after the reflector is pressed firmly in place. The installed height of the prismatic curb reflectors shall be a maximum of $\frac{3}{4}$ inch above the mounting surface or as directed by the manufacturer's specifications. The unit shall provide a continuous reflective surface for the island nose and this surface shall provide reflectivity perpendicular to the mounting surface.

3.0 Basis of Payment. Payment for all labor, equipment, and materials necessary to install the curb reflectors shall be made and considered completely covered by the contract unit price for under line item ***"620-99.02 – Curb Reflectors, per Each"***.

EE. Additional Coldmilling at Curb Inlet Openings

1.0 Description. This work shall consist of milling the existing pavement to an additional depth in the vicinity adjacent to curb opening inlets prior to placing new pavement. The clear opening at the curb line shall provide a minimum of 6 inches depth to allow proper stormwater flow into the inlets.

2.0 Construction Requirements. The contractor shall be responsible for removing an additional depth of pavement to provide the required six-inch minimum clear opening at all inlets within the project limits. The milling shall include a depression leading to and through the curb opening as directed by the Engineer. The milling shall take place prior to the placement of any new asphalt material for paving operations.

2.1 Examples of inlets that do not currently provide an acceptable clear opening are shown below. These photo's are not project specific, and serve as general guidance of an unacceptable clear opening:



3.0 Basis of Payment. The cost of restoring clear opening depth at curb opening inlets will be incidental to the unit price of the items associated with disturbance. No direct payment will be made for materials, equipment, time, or labor, which is performed under this provision.

FF. Concrete Manhole Collar

1.0 Description. The Contractor shall install a reinforced concrete collar around a manhole frame and cover or utility valve as indicated in the plans and as approved by the Engineer.

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

| Item | Section |
|--------------------------------|---------|
| Reinforcing Steel for Concrete | 1036 |

2.1 Concrete used for manhole collars shall be the same used for full depth pavement repairs as specified in Section 613.10 of the Standard Specifications.

3.0 Construction Requirements. Manhole collars shall be provided in locations within the plans or as directed by the Engineer but generally shall be located where a manhole is adjusted to grade due to the cold-milling and overlaying of an existing roadway. The use of a collar can also be considered for new installations within new full depth asphalt pavement.

3.1 Steel Plate. If approved by the Engineer, a steel plate may be installed over the void created by the removal of pavement next to a manhole or utility valve prior to the installation of the manhole collar concrete. Asphalt wedging surrounding the steel plate shall be included when using a steel plate. No direct payment shall be made to provide this steel plate and asphalt wedging.

3.2 Joint Sealing. Per Sec 613.3.3 , the contractor shall seal the joint between the asphalt surface and the new concrete collar along with seal any overcut created from the sawcutting operation when removing the portion of pavement to be replaced with manhole collar concrete. This joint shall be filled with either an expansive mortar, epoxy, polyester, or joint material as approved by the Engineer. In addition, the contractor shall install tar paper between the new concrete and the existing manhole frame and cover as directed by the Engineer.

4.0 Method of Measurement. Measurement for installation of a reinforced concrete manhole collar will be made per each.

5.0 Basis of Payment. Payment for the installation of a reinforced concrete manhole collar, including all materials, equipment, labor, saw cuts before and/or after installation and all necessary work shall be completely covered by the contract unit price paid for the item listed below. Adjusting to grade the actual frame and cover shall be paid for separately. Please see JSP – “Adjust to Grade Items” for additional details regarding the adjustment to grade for those items.

| Item No. | Type | Description |
|-----------|------|-------------------------|
| 604-99.02 | Each | Concrete Manhole Collar |

GG. Grated Inlet Repair/Replacement

1.0 Description. This work shall consist of removing the deteriorated or otherwise unacceptable top of an existing drop inlet as directed by the engineer and rebuilding as per the plans. The work shall include replacement of the frame and grate and any surrounding concrete and rebar in the gutter section.

2.0 Construction Requirements. The contractor shall be responsible for removing the existing grate and bearing plate, and a minimum of 6 inches from the top of the existing inlet, or down to sound material as per the Engineer. The contractor shall then rebuild the inlet top as per the plans to the existing elevation and as per Section 604. The contractor shall field verify the size of the inlet and required grate opening prior to ordering the corresponding curved vane grate, drop inlet top, grates and bearing plates. The contractor shall saw cut the existing pavement or shoulder around the inlet to provide a concrete pad and shall adjust to grade.

2.1 Measurement and payment for grated inlet repair/replacement includes the frame and grate and all concrete work including removal, forming, and reinforcing necessary to replace the inlet top. No direct payment will be made for epoxy coated reinforcing steel, dowel bars, tie bars, or manhole frame and covers and shall be included in the measurement and payment of Grated Inlet Repair/Replacement.

3.0 Basis of Payment. Payment for replacing the top of the inlet shall include all excavation, materials, equipment, tools, labor, and work incidental thereto, and shall be considered completely covered by the contract unit price as indicated in the plans for:

| Item Number | Unit | Description |
|-------------|------|---------------------------------------|
| 604-99.03 | LF | Misc. Grated Inlet Repair/Replacement |

HH. Curb Inlet Top Repair/Replacement

1.0 Description. This work shall consist of removing the deteriorated or otherwise unacceptable top of an existing curb inlet as directed by the engineer and rebuilding as per the plans.

2.0 Construction Requirements. The contractor shall be responsible for removing and replacing the existing inlet top, saw cutting and repairing the existing inlet wall so that it may be adjusted to plan elevation and as per Sec 604. A minimum of 6 inches from the top of the existing inlet structure, or down to sound material as per the Engineer. Items may include repairing part of the structure that will require additional structural steel and dowels to tie the existing structure together.

2.1 The existing inlet top within areas of new sidewalk and curb ramps shall be adjusted to the final grade of the adjacent proposed sidewalk or curb ramp so that the cross-slope of the inlet surface shall be less than 2% in all directions to meet ADA standards.

2.2 Measurement and payment for curb inlet top repair/replacement includes all concrete work including removal, forming, and reinforcing necessary to replace or repair the curb inlet top. Grates and bearing plates in the gutter section shall be included in the measurement and payment of Curb Inlet Top Repair/Replacement.

3.0 Examples of Existing Cast-In-Place Inlets



4.0 Basis of Payment. Payment for repairing the inlet shall include all saw cuts, excavation, materials, equipment, tools, labor, and work incidental thereto, and shall be considered to be completely covered by the contract unit price for:

| Item Number | Unit | Description |
|-------------|------|---|
| 604-99.02 | EACH | Misc. Curb Inlet Top Repair/Replacement |

II. Adjust to Grade Items

1.0 Description. This work shall consist of adjusting basins/inlets, manholes, valves, and pull boxes as well as relocating pull boxes that are within areas where either new sidewalks, curb ramps, approaches or pavements are to be constructed as shown on the plans. The contractor shall verify the type of frame and cover in the field before performing the work. The adjustment shall be made to match the final proposed grade.

2.0 Construction Requirements. Adjusting manholes and adjusting basins or inlets shall be done in accordance with Sec 604 except as modified herein. An acceptable alternative to replacement of an existing pull box is to adjust it to the required position vertically and/or horizontally without damaging its performance including ADA compliance, and structural integrity.

2.1 Adjustments, extensions, and/or lowering of utility and any related excavation and backfill shall be constructed as approved by the Engineer. For MoDOT owned facilities, adjustments shall conform to current Missouri Standard Specifications for Highway Construction. For MSD owned facilities, adjustments shall conform to the 2018 MSD Construction Specifications for Sewer and Drainage Facilities and the 2009 MSD Standard Detail Sheets. Adjustments for inlets require the top lid slopes to be adjusted to less than 2% slope in all directions and some of these inlets need to be raised to the final sidewalk grade. These locations are to be determined in the field by the Engineer. Adjustments shall be completed so that the finished sidewalk, ramp, approach, or pavement meets current ADA standards.

2.2 In the event a pull box must be relocated for example outside the area of a sidewalk and the length of cable is not sufficient to reconnect the system it will be required that the contractor provide a new run of cable/conduit to the next pull box. Any splicing must be within the pull box.

2.3 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.

3.0 The contractor is advised that Metropolitan St. Louis Sewer District, MoDOT, MAWC, and Spire Gas have manholes and valves, located within the islands/roadway/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.

3.1 The contractor shall notify the engineer if manholes or pull boxes belonging to utilities other than Metropolitan St. Louis Sewer District or MoDOT, are encountered that will require adjustment. The contractor shall coordinate work with the affected utility to ensure that the completed facilities meet ADA requirements.

4.0 Basis of Payment. All costs for materials, equipment, labor, and installation shall be included in the cost for adjusting basins/inlets, manholes, and valves including but not limited to cable/conduit, frames, adjusting rings, concrete, reinforcing steel.

| Item Number | Unit | Description |
|-------------|------|-------------------------------|
| 604-99.02 | Each | Adjusting Manholes and Valves |
| 604-99.02 | Each | Concrete Manhole Collar |

JJ. Culvert Cleanout

1.0 Description. The contractor shall clean out culvert pipes and inlets specified in the plans in accordance with the Missouri Standard Specifications for Highway Construction Section 206.

2.0 Construction Requirements. The limits of the cleanout shall include the specified inlet or culvert and any accumulated debris in the downstream pipe to the next structure. If the upstream pipe is not specified as a cleanout, any debris visible in the upstream pipe shall be included in the cleanout quantity.

3.0 Basis of Payment. Payment for "Culvert Cleanout" shall be considered full compensation for all contractor-provided equipment items, labor, and material to complete the described work. Payment will be made by the line item **"206-35.00, Culvert Cleanout, per Each."**

KK. Lump Sum Temporary Traffic Control JSP-22-01A

1.0 Delete Sec 616.11 and insert the following:

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

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

2.0 Delete Sec 616.12 and insert the following:

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

- (a) Incidental items necessary to complete the work, unless specifically provided as a pay item in the contract.
- (b) Installing, operating, maintaining, cleaning, repairing, removing, or replacing traffic control devices.
- (c) Covering and uncovering existing signs and other traffic control devices.

(d) Relocating temporary traffic control devices, including permanent traffic control devices temporarily relocated, unless specifically included as a pay item in the contract.

(e) Worker apparel.

(f) Flaggers, AFADs, PFDs, pilot vehicles, and appurtenances at flagging stations.

(g) Furnishing, installing, operating, maintaining, and removing construction-related vehicle and equipment lighting.

(h) Construction and removal of temporary equipment crossovers, including restoring pre-existing crossovers.

(i) Provide and maintaining work zone lighting and work area lighting.

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

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

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

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

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

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

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

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

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

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

2.0 Disassembly and Delivery.

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

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

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

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

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

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

MM. Coordination with MoDOT Signal Shop for Cabinet Entry

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

1.0.1 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.

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

NN. Countdown Pedestrian Signal Heads

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

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

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

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

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

(c) Lenses shall be constructed of polycarbonate material.

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

(e) All plastic material shall be ultraviolet stabilized.

(f) Indications shall be ITE Class 3 symbol messages. The "Upraised Hand" symbol shall be illuminated with a filled, Portland orange LED module. The "Walking Person" symbol shall be illuminated with a filled, white LED module. The "Countdown" display numbers shall be illuminated with a Portland orange LED module. The LED modules shall be in accordance with applicable portions of Sec 1092.1.

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

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

- (1) Display numbers must be two digits at least 9 inches in height.
- (2) Shall only display the "Countdown" time during the pedestrian change interval. Time displayed shall be in seconds, and begin only at the beginning of the pedestrian change interval. The flashing "Upraised Hand" symbol shall be concurrently displayed during the pedestrian change interval. The total time displayed at the start of the pedestrian change interval shall be automatically adjusted by the pedestrian signal head and not require any manual settings or additional wiring to the signal cabinet.
- (3) Once the "Countdown" display reaches "0", the "Countdown" display shall blank-out until the next pedestrian change interval begins.
- (4) If the pedestrian change interval is interrupted or shortened as part of a transition into a preemption sequence, the "Countdown" display shall go dark immediately upon activation of the preemption transition.
- (5) A test switch shall be provided in order to test the "Countdown" display.

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

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

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

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

OO. Audible Pedestrian Pushbuttons and Signing

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 Basis of Payment. Payment for the audible signals will be for each unit per bid item, 902-99.02, "Audible Pedestrian Pushbutton and Signing with Verbal Walk Message", per each. This will include all wiring, power adaptors, pushbuttons and installation hardware needed. Payment for signing and mounting hardware will be included in the pay item for audible pedestrian pushbutton. All costs incurred for complying with this provision including labor shall be considered completely covered by the contract unit price for:

| Item Number | Type | Description |
|-------------|------|-------------------------------|
| 902-99.02 | EA | Audible Pedestrian Pushbutton |
| 902-08.33 | SF | SH-Flat Sheet – Signal Sign |

PP. ITS Pull Box

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

2.0 Materials.

2.1 Pull Box. ITS pull boxes 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.

3.0 Construction. Install ITS pull boxes as shown in the plans. Install a ground rod in the Class 5 pull boxes nearest to ITS or signal cabinets.

4.0 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 will be made as follows:

| Item No. | Type | Description |
|-----------|------|-----------------------------|
| 910-88.11 | Each | Pull Box, Preformed Class 2 |

QQ. Conduit and Pull Box System Adjustment or Repair

1.0 Description. At locations noted on the plans, the contractor shall adjust the conduit system routing or repair the existing conduit system. Conduit system routing adjustment may involve lowering the conduit in place or minor horizontal adjustments to avoid other construction. Adjustment may require installing new conduit and splicing it to existing conduit. When existing cabling cannot be removed, split duct conduit shall be used. Adjustments to the existing conduit system may also involve removal of existing pull boxes or adjusting existing pull boxes to the new grade. Removal of existing pull boxes, when applicable, will be paid for by the removal of improvement bid item. Existing pull box adjustment to new grade, as shown in plans, is a separate pay item (see below). If applicable, relocating the existing cabling into the adjusted conduit system will be paid for by the fiber installation and relocation pay item.

2.0 Materials. The materials used shall be per MoDOT Approved Product List (APL) and meet all MoDOT Specifications. If the materials are not in the APL, the contractor shall submit the material specification documents to the Engineer and the ITS group (via an email to SLITS@modot.mo.gov) for review and approval before construction.

2.1 Couplings. Coupler used to join new conduits to existing conduits shall be designed by the manufacturer to join conduits of the type and size to be joined.

2.2 Use PVC conduit meeting the requirements of Sec 1060.

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

2.4 Split Duct Conduit. Split duct conduit shall be designed by the manufacturer for repairing damaged conduits in a manner that will protect the cabling. The split duct material shall be approved by the Engineer.

3.0 Construction Requirements.

3.1 Construction requirements shall conform to Sec 902.16.

3.2 The Contractor shall submit in writing his anticipated method of splicing the conduit to the Engineer for approval prior to performing the work.

3.3 Adjust Existing Pull Box to New Grade. As shown on the plans, the contractor shall adjust the existing pull box elevation to match new sidewalk or surrounding surface. This work shall be coordinated with the new sidewalk elevation or surface for a safe condition.

3.4 If the existing conduit system contains fiber optic cable, before and after fiber testing, using the OTDR (Optical Time-Domain Reflectometer) is required to ensure the existing fiber cable is not degraded. The fiber testing reports shall be submitted to the ITS group via an email to SLITS@modot.mo.gov. If the fiber cable is degraded, the fiber optic cable shall be replaced between splice points approved by the Engineer.

3.5 At locations where connection of a new trenched conduit to an existing conduit is shown, or require, a watertight connection shall be made using a mechanical coupler.

3.6 Pull Box Removal. If an existing pull box must be removed, the existing pull box shall be carefully broken up and removed without damaging existing conduits or cabling. Once the new conduit is installed and connected to the existing conduit, the void around the conduit shall be backfilled with Grade A crushed stone or gravel to 6 inches above the conduit. Above the stone or gravel complete backfilling with clean fill free of large stones or rubble.

3.7 If the existing conduit and cabling are shallow to the surface and within new sidewalk construction segment, the contractor shall hand dig or break up the existing sidewalk by hand and carefully without damaging the existing conduit and cable, lower the existing conduit at least 10 inches from bottom of proposed sidewalk, backfilled with Grade A crushed stone or gravel to 6 inches above the conduit and then construct the new sidewalk.

3.8 Before backfilling around the adjusted or repaired conduit, the St. Louis District ITS Group must be contacted and given time to inspect the conduit. Notify the ITS group that the location is ready for inspection via email to SLITS@modot.mo.gov. Send pictures of the adjusted or repaired conduit. Based on the pictures, the ITS Group may approve backfilling or may make a site visit. Do not backfill until email approval is provided.

3.9 The contractor shall backfill excavated areas with clean fill free of large stones or rubble. The finished grade shall match the surrounding grade to maintain existing drainage patterns and the work area will be restored to match the surrounding area.

3.10 The contractor shall exercise reasonable care relocating MoDOT ITS Assets. Damage to any MoDOT facilities within the area of work caused by the contractor will be deemed by the Engineer as either "non-emergency" or "emergency" upon notification of the damages. Repair to damages will be performed as follows:

- (a) Non-Emergency: Contractor will have 4 hours to propose a repair plan to the Engineer for a complete repair within 3 business days.
- (b) Emergency: Upon notification of the damage, Contractor must immediately submit a repair plan to the Engineer which will take no more than 4 hours to respond on-site and complete repairs within 48 hours of notification of damage.
- (c) In either case, if the proposed plan is unacceptable for any reason to MoDOT, repairs will be made by MoDOT with all costs billed to the Contractor.

3.11 The ITS conduit systems located within the project limits are a crucial part of the traffic operation system for this area. It is imperative that the downtime be kept to a minimum when replacing, removing, or modifying any existing ITS facilities.

4.0 Basis of Payment. Measurement and payment for work covered by this specification includes equipment, tools, materials, necessary to install and splice existing conduit sufficient for pulling new cable. Payment will be made as follows:

| Item No. | Type | Description |
|-----------|------|------------------------------|
| 910.99.01 | L.F. | Conduit and Cable Adjustment |

| | | |
|-----------|------|-------------------------------------|
| 910-99.02 | Each | Conduit System Adjustment or Repair |
|-----------|------|-------------------------------------|

RR. MoDOT ITS Equipment Within Project Limits

1.0 Description. . MoDOT owned fiber optic cable and conduit, critical MoDOT power supplies and power cables, and pull boxes for fiber and power cabling and other above and underground ITS (Intelligent Transportation System) facilities are present within the limits of this project. Damage or interruption of these items can cause extensive outages to the MoDOT network.

2.0 Construction Requirements. The contractor shall exercise reasonable care while completing work near these facilities and shall take steps necessary to protect these facilities from damage for all items that are not specifically identified as being removed and/or relocated in the plans. Should any of the existing wiring or conduit be damaged by the contractor, it shall be replaced at the contractor's expense and the system in full operation within **4** hours of when the damage occurred. If it is mutually agreed upon between the Commission and the Contractor that the repairs will require more than **4** hours to complete, a mutually agreed upon time for repairs to be complete will be determined.

2.1 The contractor shall not modify any existing network or electrical connections within equipment cabinets, unless coordinated with MoDOT ITS staff. Existing connections include, but are not limited to, fiber jumpers, CAT5(e) cables, power supplies, and power strips. The connection to specific fiber and copper ports on network equipment shall also not be modified, unless coordinated with MoDOT ITS staff, as the network equipment has been configured specifically for each equipment cabinet. Significant network outages and unnecessary troubleshooting to investigate outages can occur, even with minor changes to existing connections within the cabinet.

3.0 Liquidated Damages. In the event of damage, if the system is not repaired and in full operation within **4** hours of the damage occurring, or within the timeframe agreed upon, the contractor will be charged with a liquidated damage specified in the amount of \$100.00_per hour for each full hour that the system is not fully operational. This damage will be assessed independently of the liquidated damages specified elsewhere in the contract.

3.1 The MoDOT Engineer will also have the option of issuing a work order for MoDOT's on-call ITS Maintenance contractor to make repairs, if it is the Engineer's opinion that the contractor creating the damage will not be able to make repairs in a timely manner. Contractor's reimbursement for MoDOT expense for this option shall be in addition to the liquidated damages.

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

SS. MoDOT ITS Assets Relocation

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

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

3.0 Construction Requirements. The Contractor shall be aware there are numerous utilities present along the route in this contract. Utility locates were not performed during the design phase of the project; therefore, the extent of conflicts with utilities are unknown.

3.1 The contractor shall be aware there are numerous utilities present along the route in this contract. Utility locates were not performed during the design phase of the project; therefore, the extent of conflicts with utilities are unknown.

3.2 The contractor shall exercise reasonable care relocating MoDOT ITS Assets. Damage to any MoDOT facilities within the area of work caused by the contractor will be deemed by the Engineer as either “non-emergency” or “emergency” upon notification of the damages. Repair to damages will be performed as follows:

- a) Non-Emergency: Contractor will have 4 hours to propose a repair plan to the Engineer for a complete repair within 3 business days.
- b) Emergency: Upon notification of the damage, Contractor must immediately submit a repair plan to the Engineer which will take no more than 4 hours to respond on-site and complete repairs within 48 hours of notification of damage.
- c) In either case, if the proposed plan is unacceptable for any reason to MoDOT, repairs will be made by MoDOT with all costs billed to the Contractor.

3.3 The ITS In-Ground Facilities located within the project limits are a crucial part of the traffic operation system for this area. It is imperative that the downtime be kept to a minimum when replacing, removing, or modifying any existing ITS In-Ground Facilities.

3.4 Prior to any in-ground work, the Contractor shall request for utility locates by contacting Missouri One Call (1-800 DIG-RITE or mo1call.com) for any in-ground installation locations as per plans. If there are any conflicts with MoDOT ITS Assets, the Contractor is responsible for relocation to the satisfaction of the Engineer prior to any in-ground work.

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

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

3.7 The contractor shall perform a fiber testing (see below requirements) before and after relocating MoDOT fiber cables at the nearest Node Cabinet at each site as shown on the plans and submit that report to the SLITS Group for review and approval.

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

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

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

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

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

3.7.2 Test Result Documentation. Prepare a diagram showing all of the links tested in this project. For the portions installed in this project, show the equipment cabinets, splices, and pigtails. On each line representing a link, show the maximum allowable loss and the actual loss. The actual loss shall be the one measured after all corrective actions have been taken. Submit 5 copies of this diagram to the engineer, along with the calculations for the maximum allowable loss. Submit the diagrams and calculations in an electronic format acceptable to the engineer.

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

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

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

3.9 Upon completion of this work, the Contractor shall contact the MoDOT ITS group (via email at slits@modot.mo.gov) to verify that all existing MoDOT ITS devices are online and request inspection of this work. Acceptance of this work shall be the sole judgment of the Engineer and the MoDOT ITS group's engineer.

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

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

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

TT. 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.

UU. Supplemental Revisions JSP-18-01DD

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

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

Stormwater Compliance Requirements

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

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

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

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

2.1 Duties of the WPCM:

- (a) Be familiar with the stormwater requirements including the current MoDOT State Operating Permit for construction stormwater discharges/land disturbance activities; MoDOT's statewide Stormwater Pollution Prevention Plan (SWPPP); the Corps of Engineers Section 404 Permit, when applicable; the project specific SWPPP, the Project's

Erosion & Sediment Control Plan; all applicable special provisions, specifications, and standard drawings; and this provision;

- (b) Successfully complete the MoDOT Stormwater Training Course within the last 4 years. The MoDOT Stormwater Training is a free online course available at MoDOT.org;
- (c) Attend the Pre-Activity Meeting for Grading and Land Disturbance and all subsequent Weekly Meetings in which grading activities are discussed;
- (d) Oversee and ensure all work is performed in accordance with the Project-specific SWPPP and all updates thereto, or as designated by the engineer;
- (e) Review the project site for compliance with the Project SWPPP, as needed, from the start of any grading operations until final stabilization is achieved, and take necessary actions to correct any known deficiencies to prevent pollution of the waters of the state or adjacent property owners prior to the engineer's weekly inspections;
- (f) Review and acknowledge receipt of each MoDOT Inspection Report (Land Disturbance Inspection Record) for the Project within forty eight (48) hours of receiving the report and ensure that all Stormwater Deficiencies noted on the report are corrected as soon as possible, but no later than stated in Section 5.0.

3.0 Pre-Activity Meeting for Grading/Land Disturbance and Required Hold Point. A Pre-Activity meeting for grading/land disturbance shall be held prior to the start of any land disturbance operations. No land disturbance operations shall commence prior to the Pre-Activity meeting except work necessary to install perimeter controls and entrances. Discussion items at the pre-activity meeting shall include a review of the Project SWPPP, the planned order of grading operations, proposed areas of initial disturbance, identification of all necessary BMPs that shall be installed prior to commencement of grading operations, and any issues relating to compliance with the Stormwater requirements that could arise in the course of construction activity at the project.

3.1 Hold Point. Following the pre-activity meeting for grading/land disturbance and subsequent installation of the initial BMPs identified at the pre-activity meeting, a Hold Point shall occur prior to the start of any land disturbance operations to allow the engineer and WPCM the time needed to perform an on-site review of the installation of the BMPs to ensure compliance with the SWPPP is met. Land disturbance operations shall not begin until authorization is given by the engineer.

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

5.0 Stormwater Deficiency Corrections. All stormwater deficiencies identified in the Inspection Report shall be corrected by the contractor within 7 days of the inspection date or any extended period granted by the engineer when weather or field conditions prohibit the corrective work. If the contractor does not initiate corrective measures within 5 calendar days of the inspection date or any extended period granted by the engineer, all work shall cease on the project except for work to correct these deficiencies, unless otherwise allowed by the engineer. All impact costs

related to this halting of work, including, but not limited to stand-by time for equipment, shall be borne by the Contractor. Work shall not resume until the engineer approves the corrective work.

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

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

Delete Sec 106.9 in its entirety and substitute the following:

106.9 Buy America Requirements.

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

106.9.1 Buy America Requirements for Iron and Steel.

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

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

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

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

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

106.9.4 Buy America requirements include a step certification for all fabrication processes of all steel or iron materials that are accepted per Sec 1000. The AASHTO Product Evaluation and Audit Solutions compliance program verifies that all steel and iron products fabrication processes

conform to 23 CFR 635.410 Buy America Requirements and is an acceptable standard per 23 CFR 635.410(d). AASHTO Product Evaluation and Audit Solutions compliant suppliers will not be required to submit step certification documentation with the shipment for some selected steel and iron materials. The AASHTO Product Evaluation and Audit Solutions compliant supplier shall maintain the step certification documentation on file and shall provide this documentation to the engineer upon request.

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

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

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

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

106.9.6 Buy America Requirements for Construction Materials other than iron and steel materials. Construction materials means articles, materials, or supplies that consist of only one

of the items listed. Minor additions of articles, materials, supplies, or binding agents to a construction material do not change the categorization of the construction material. Upon request by the engineer, the contractor shall submit a domestic certification for all construction materials listed that are incorporated into the project.

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

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

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

106.9.7 Buy America Requirements for Manufactured Products.

Manufactured products means:

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

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

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

Pavement Marking Paint Requirements for Standard Waterborne and Temporary

1.0 Description. High Build acrylic waterborne pavement marking paint shall be used in lieu of standard acrylic waterborne pavement marking paint for all Standard Waterborne Pavement

Marking Paint items and all Temporary Pavement Marking Paint items. Paint thickness, bead type, bead application rate, retroreflectivity requirements, and all other specifications shall remain as stated in the Missouri Standard Specifications for Highway Construction, except as otherwise amended in the contract documents.

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

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

15.0 Data Collection from Bidders for DBE and Non-DBE Subcontractors, Suppliers, Manufacturers and/or Brokering used and not used in bids during the reporting period. MoDOT is a recipient of federal funds and is required by 49 CFR 26.11, to provide data about its DBE program. The information shall consist of all subcontractor quoting received for actual use and of consideration by the prime bidder. MoDOT will be requesting this information from bidding prime contractors and will provide prime bidders a form to submit the data by the last day of each month for the current letting. The information shall only include the names of both DBE and non-DBE companies that the prime bidders received quotes. MoDOT will then contact the DBEs and non-DBE subcontractors and request additional information from DBE and non-DBE subcontractors including current year of gross receipts and number of years in business. The information provided by the prime bidders shall not include any bid quote pricing regardless if it was used or not. This information will aid MoDOT in the determination of the availability of DBEs and will be used in subsequent availability studies.

VV. Class A Partial Depth Concrete Pavement Repair Using Hot Applied Polymer Modified Repair Material NJSP-19-01

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

2.0 Construction Requirements.

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

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

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

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

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

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

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

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

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

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

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

3.0 Material Requirements.

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

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

4.0 Additional or Reduced Work. If additional repair work is necessary beyond what is specified in the work order or the required repair is not as extensive as originally viewed, the contractor shall contact the engineer for authorization to proceed with the additional or reduced work. The contractor shall note that with this authorization to proceed with additional or reduced work may

change which unit bid item is used to calculate final payment depending on final repair quantities. Any work performed without authorization of the engineer shall be at the contractor's expense.

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

6.0 Basis of Payment. Payment shall be paid by the pound and shall be full compensation for all repair work including removal of loose materials, cleaning of concrete surface, and furnishing and placing material for Class A Partial Depth Pavement Repair using flexible, hot polymer-modified repair material. All cost for the repair work, including labor, equipment, materials, and containment and disposal of material shall be included in the following item.

| Item No. | Unit | Description |
|-----------|-------|---|
| 613-99.11 | Pound | Class A Partial Depth Concrete Pavement Repair Using Flexible, Hot Polymer Modified Repair Material |