Job No.: J6S3368
Route: MM
County: Franklin

JOB SPECIAL PROVISIONS TABLE OF CONTENTS (ROADWAY)

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

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Appendix A: Union Pacific Railroad Company Grade Separation Construction and Maintenance Agreement

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Route: MM
County: Franklin

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

TREKK DESIGN GROUP, LLC
17 Cassens Court
Fenton, MO 63026
Certificate of Authority: 2002010300
Consultant Phone:314.932.1226

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

JOB NUMBER:J6S3368
COUNTY, MO Franklin, MO
DATE PREPARED: 01.23.2024

ADDENDUM DATE:

Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: All

Job No.: J6S3368
Route: MM
County: Franklin

JOB
SPECIAL PROVISION

A. General - Federal JSP-09-02J

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

1.1 This contract requires payment of the prevailing hourly rate of wages for each craft or type of work required to execute the contract as determined by the Missouri Department of Labor and Industrial Relations and requires adherence to a schedule of minimum wages as determined by the United States Department of Labor. For work performed anywhere on this project, the contractor and the contractor's subcontractors shall pay the higher of these two applicable wage rates. State Wage Rates, Information on the Required Federal Aid Provisions, and the current Federal Wage Rates are available on the Missouri Department of Transportation web page at www.modot.org under "Doing Business with MoDOT", "Contractor Resources". Effective Wage Rates will be posted 10 days prior to the applicable bid opening. These supplemental bidding documents have important legal consequences. It shall be conclusively presumed that they are in the bidder's possession, and they have been reviewed and used by the bidder in the preparation of any bid submitted on this project.

1.2 The following documents are available on the Missouri Department of Transportation web page at www.modot.org under "Doing Business with MoDOT"; "Standards and Specifications" and "Bridge Standard Drawings". The effective version shall be determined by the letting date of the project.

General Provisions & Supplemental Specifications

Supplemental Plans to July 2023 Missouri Standard Plans
For Highway Construction

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

B. Contract Liquidated Damages JSP-13-01C

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

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

specified below. Completion by this date shall be in accordance with the requirements of Sec 108.7.1.

Notice to Proceed Date:	June 3, 2024
Contract Completion Date:	October 1, 2025

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

Job Number	Calendar Days	Daily Road User Cost
J6S3368	455	$1,800

3.0 Liquidated Damages for Contract Administrative Costs. Should the contractor fail to complete the work on or before the contract completion date specified in Section 2.0, or within the number of calendar days specified in Section 2.1, whichever occurs first, the contractor will be charged contract administrative liquidated damages in accordance with Sec 108.8 in the amount of $2,000 per calendar day for each calendar day, or partial day thereof, that the work is not fully completed. For projects in combination, these damages will be charged in full for failure to complete one or more projects within the above specified contract completion date or calendar days.

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

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

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

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

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

2.0 Traffic Management Schedule.

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

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

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

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

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

2.5.1 Traffic Safety.

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

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

3.0 Work Hour Restrictions.

3.1 Except for emergency work, as determined by the engineer, and long term lane closures required by project phasing, all lanes shall be scheduled to be open to traffic during the five major

holiday periods shown below, from 12:00 noon on the last working day preceding the holiday until 6:00 a.m. on the first working day subsequent to the holiday unless otherwise approved by the engineer.

Memorial Day
Labor Day
Thanksgiving
Christmas
New Year's Day

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

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

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

3.3 The contractor shall be aware that traffic volume data indicates construction operations on the roadbed between the following hours will likely result in traffic queues greater than 15 minutes. Based on this, the contractor's operations will be restricted accordingly unless it can be successfully demonstrated the operations can be performed without a 15 minute queue in traffic. It shall be the responsibility of the engineer to determine if the above work hours may be modified. Working hours for evenings, weekends and holidays will be determined by the engineer. The contractor may not close lanes during the following listed hours:

Intersection of Route 100 & Route MM :
6:00 a.m. - 9:00 a.m. Monday through Friday
3:00 p.m. - 5:00 p.m. Monday through Friday

Intersection of Route T & Route MM:
6:00 a.m. - 9:00 a.m. Monday through Friday
3:00 p.m. - 5:00 p.m. Monday through Friday

4.0 Detours and Lane Closures.

4.1 When a changeable message sign (CMS) is provided, the contractor shall use the CMS to notify motorists of future traffic disruption and possible traffic delays one week before traffic is shifted to a detour or prior to lane closures. The CMS shall be installed at a location as approved

or directed by the engineer. If a CMS with Communication Interface is required, then the CMS shall be capable of communication prior to installation on right of way. All messages planned for use in the work zone shall be approved and authorized by the engineer or its designee prior to deployment. When permanent dynamic message signs (DMS) owned and operated by MoDOT are located near the project, they may also be used to provide warning and information for the work zone. Permanent DMS shall be operated by the TMC, and any messages planned for use on DMS shall be approved and authorized by the TMC at least 72 hours in advance of the work.

4.2 At least one lane of traffic in each direction shall be maintained at all times except for brief intervals of time required when the movement of the contractor's equipment will seriously hinder the safe movement of traffic. Periods during which the contractor will be allowed to interrupt traffic will be designated by the engineer.

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

D. Liquidated Damages Specified JSP-93-28

1.0 Description. If work associated with the ingress and egress access to and from the Temporary Construction Easement located on the Purina Mills, LLC, a Delaware limited liability company, property is not complete within six (6) months from commencement of construction of Box Culvert X0913, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delay, with its resulting cost to the traveling public. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of $1,800 per day for each full day that the work requiring the Temporary Construction Easement is not complete in excess of the limitation as specified elsewhere in this special provision. It shall be the responsibility of the engineer to determine the quantity of excess closure time.

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

2.0 Description. If work associated with the construction of the retaining wall and roadway realignment is not complete within 90 days from commencement of construction of the retaining wall and roadway realignment, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delay, with its resulting cost to the traveling public. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of $8,500 per day for each full day that the work within this area is not complete for one lane of through 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. The 90 day closure shall occur when school is not in session.

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

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

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

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

Missouri Highway Patrol Troop C (636-300-2800)	
City of Labadie (Boles Fire District Station #2)	City of Grey Summit (Boles Fire District Station #1)
Fire: 636-742-2515	Fire: 636-742-2313
Franklin County Sheriff's Office (636-583-2567)	

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.

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.

Thomas Montes-de-Oca, Project Contact
St. Louis District
1590 Wood Lake Drive
Chesterfield, MO 63017

Telephone Number: 314-453-5031
Email: Thomas.Montes-De-Oca@modot.mo.gov

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

G. Supplemental Revisions JSP-18-01AB

Compliance with 2 CFR 200.216 – Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment.

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

Stormwater Compliance Requirements

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

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

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

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

2.1 Duties of the WPCM:

(a) Be familiar with the stormwater requirements including the current MoDOT State Operating Permit for construction stormwater discharges/land disturbance activities; MoDOT's statewide Stormwater Pollution Prevention Plan (SWPPP); the Corps of Engineers Section 404 Permit, when applicable; the project specific SWPPP, the Project's Erosion & Sediment Control Plan; all applicable special provisions, specifications, and standard drawings; and this provision;

(b) Successfully complete the MoDOT Stormwater Training Course within the last 4 years. The MoDOT Stormwater Training is a free online course available at MoDOT.org;

(c) Attend the Pre-Activity Meeting for Grading and Land Disturbance and all subsequent Weekly Meetings in which grading activities are discussed;

(d) Oversee and ensure all work is performed in accordance with the Project-specific SWPPP and all updates thereto, or as designated by the engineer;

(e) Review the project site for compliance with the Project SWPPP, as needed, from the start of any grading operations until final stabilization is achieved, and take necessary actions to correct any known deficiencies to prevent pollution of the waters of the state or adjacent property owners prior to the engineer's weekly inspections;

(f) Review and acknowledge receipt of each MoDOT Inspection Report (Land Disturbance Inspection Record) for the Project within forty eight (48) hours of receiving the report and ensure that all Stormwater Deficiencies noted on the report are corrected as soon as possible, but no later than stated in Section 5.0.

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

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

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

5.0 Stormwater Deficiency Corrections. All stormwater deficiencies identified in the Inspection Report shall be corrected by the contractor within 7 days of the inspection date or any extended period granted by the engineer when weather or field conditions prohibit the corrective work. If the contractor does not initiate corrective measures within 5 calendar days of the inspection date or any extended period granted by the engineer, all work shall cease on the project except for work to correct these deficiencies, unless otherwise allowed by the engineer. All impact costs related to this halting of work, including, but not limited to stand-by time for equipment, shall be borne by the Contractor. Work shall not resume until the engineer approves the corrective work.

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

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

Anti-Discrimination Against Israel Certification

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

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

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

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

2.1 Product Approval. The GTR product shall contain a Trans-Polyoctenamer (TOR) added at 4.5 % of the weight of the crumb rubber or an engineered crumb rubber (ECR) workability additive that has proven performance in Missouri. Other GTR additives shall be demonstrated and proven

prior to use such as a five-year field performance history in other states or performance on a federal or state-sanctioned accelerated loading facility.

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

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

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

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

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

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

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

Flow indicators or sensing devices for the system shall be interlocked with the plant controls to interrupt mixture production if GTR introduction rate is not within ± 3 percent. This interlock will immediately notify the operator if GTR introduction rate exceeds introduction tolerances. All plant production will cease if the introduction rate is not brought back within tolerance after 30 seconds.

When the interlock system interrupts production and the plant has to be restarted, upon restarting operations; the modifier system shall run until a uniform feed can be observed on the output display. All mix produced prior to obtaining a uniform feed shall be rejected.

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

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

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

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

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

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

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

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

8.2.1 GTR SPG shall be 1.15

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

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

$where$:

$G_{sb\ (JMF)} = bulk\ specific\ gravity\ of\ the\ combined\ aggregate\ including\ GTR$
$P_{bmv} = percent\ virgin\ binder\ by\ total\ mixture\ weight$
$P_s = percent\ aggregate\ by\ total\ mixture\ weight\ (not\ including\ GTR)$
$P_{GTR} = percent\ GTR\ by\ total\ mixture\ weight$
$G_{sb} = bulk\ specific\ gravity\ of\ the\ combined\ aggregate\ (not\ including\ GTR)$
$G_{GTR} = GTR\ specific\ gravity$

8.4 G_{se} shall be calculated as follows:

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

8.5 P_{be} shall be calculated as follows:

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

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

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

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

Delete Sec 403.19.2 and substitute the following:

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

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.

Delete Sec 109.14.1 thru Sec 109.14.8 and substitute the following:

109.14.1 Monthly Fuel Index. Each month, the Monthly Fuel Index will be established as the average retail price per gallon for Ultra Low Sulfur Diesel for the Midwest (PADD 2) area as posted on the first Monday of the month by the U.S. Energy Information Administration (EIA). Should the posted price not be available for any reason, the MoDOT State Construction and Materials Engineer will use reasonable methods, at their sole discretion, to establish the Monthly Fuel Index on an interim basis until the EIA resumes its publication.

109.14.2 Fuel Adjustment Calculation.

B = Base Fuel Index = Monthly Fuel Index in the month in which the project was let
C = Current Index = Monthly Fuel Index in the month in which the work was performed
U = Units of work performed within the current pay estimate period (applicable pay units)
F = Total Fuel Usage Factor (gal./applicable pay units)

Fuel Adjustment (Dollars) = (C – B) x U x F

109.14.3 Each pay estimate period, a fuel adjustment payment or deduction will be applied for the quantity of work performed that period on each qualifying pay item. For calculation of the fuel adjustment, work performed on the first day of a month will generally be included with the second estimate in the previous month to keep fuel adjustments in sync with MoDOT's normal payment estimate period schedule. The Commission reserves the right to include work performed on the first day of the month with the current month to accommodate financial accounting termini, such as the beginning of the state and federal fiscal years (July 1 and October 1).

109.14.4 If the bidder wishes to be bound by these specifications, the bidder shall execute the acceptance form in the proposal. Failure by the bidder to execute the acceptance form will be interpreted to mean election to not participate in the price adjustment for fuel.

Disposal of Blast Media and Paint Residue

1.0 Description. Whereas Sec 1081.10 requires delivery of Blast Media and Paint Residue (BMPR) produced from bridge coating activities to The Doe Run Company for recycling, and considering the amount of BMPR produced on all active MoDOT projects statewide at any given point in time may exceed the recycling capacity of Doe Run, this provision allows for an alternate method of disposal of BMPR. The contractor, at its discretion, can choose this disposal option or the Doe Run recycle option, when both are available. When Doe Run is not currently capable or agreeable to accept the BMPR, this alternate disposal option shall be considered mandatory, and at no additional cost to the Commission.

2.0 Disposal in Landfill. In lieu of delivery to Doe Run for recycling, BMPR material shall be disposed in the appropriate type of approved landfill, as determined by Toxicity Characteristic Leaching Procedure (TCLP) testing. The material must be TCLP tested to determine if it contains a level of hazardous waste such that requires disposal in a hazardous waste landfill. A sampling plan for testing shall be submitted to MoDOT for review and concurrence. Sampling shall be performed by the contractor. MoDOT will witness the sampling to ensure it is conducted per the plan submitted.

2.1 The contractor shall submit the collected samples to a qualified third-party testing facility to perform TCLP testing. If the sample indicates that the BMPR material qualifies as hazardous waste, then the materials represented by that sample shall be delivered to a licensed hazardous waste landfill for disposal. The contractor shall be responsible for hiring a licensed hazardous waste transporter to transport the hazardous waste to the landfill. The contractor shall comply with all applicable laws and regulations for storage and shipping of the hazardous waste material. If the testing indicates that the BMPR material qualifies as a special waste, it shall be taken to a certified landfill for disposal. The contractor shall be responsible for the transportation of the special waste material to the certified landfill. The requirement to ship the BMPR material by barrels will be waived. Any alternate containers utilized shall comply with all applicable laws and regulations for shipping this type of special waste material. Copies of all shipping manifests, landfill disposal agreements, and any other legally required documentation shall be provided to the engineer.

3.0 Basis of Payment. No payment will be made for any costs associated with this landfill disposal option, including, but not limited to, sampling, testing, delivery, temporary storage, or disposal fees.

H. Utilities JSP-93-26F

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

Utility Name	Known Required Adjustment	Type
Ameren Missouri Tristin Hawkins Phone: (636) 583-7156 Phone: (636) 303-8535 - cell Email: thawkins@ameren.com	No	Power
AT&T Distribution Justin Cortouise Phone: (636) 448-2136- cell Email: jc670s@att.com	Yes Section 2.0	Communications
Lumen Rich Obremski Phone: (314) 378-9931 - cell Email: Richard.Obremski@lumen.com	No	Communications
Charter Mark Morrow Phone: (636) 667-6298 – cell Email: mark.morrow@charter.com	No	Communications
Sprint Joseph Barvick Phone: (913) 315-0510 Email: Joseph.Barvick@sprint.com	No	Communications
Public Water District No 3 (Franklin County) Terry McDaniel Phone: (314) 713-4405 Email: tmcdaniel@alliancewater.com	No	Water
Brush Creek Sewer District Terry McDaniel Phone: (314) 713-4405 Email: tmcdaniel@alliancewater.com	No	Sanitary Sewer

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

2.0 Project Specific Provisions: The Contractor shall be aware there are numerous utilities present along the routes in this contract. The locations listed below are not to be considered all inclusive.

3.0 Ameren's existing facilities within the project limits:

Ameren has existing aerial facilities along most of Route MM excluding north and south of UP's Railroad Bridge. Ameren previously relocated underground under the UP Bridge. Ameren advised they do not anticipate any conflicts with the planned improvement project.

3.1 Ameren overhead power lines needing to be covered for Box Culvert work:

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. Please note Ameren Missouri has revised the policy regarding the charges for placement, length of use and relocation of covers. 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. No direct payment will be made for this provision. The contractor is responsible for any charges from Ameren Missouri for this provision and payment will be directly to Ameren Missouri.

4.0 AT&T-d existing facilities within the project limits:

AT&T-d has existing buried copper and fiber along the entire project limits and also some aerial facilities on Ameren's poles.

AT&T-d advised they have several buried conflicts in the projects limits as noted below:

- Double Box Culvert – South of Lake Road – relocation shown on sheet 4 of 16
- 18" Pipe at 771+78 - relocation shown on sheet 6 of 16
- 30" Pipe at 808+59 - relocation shown on sheet 8 of 16
- Triple Box Culvert – South of Beauty View drive- relocation shown on sheet 10+16
- Box Culvert @ 867+61 – relocation shown on sheet 12 of 16

AT&T-d pole relocation shown on sheet 5 of 16

AT&T-d advised they plan to have relocations complete by August 31, 2023.

5.0 Lumen existing facilities within the project limits:

Lumen has aerial facilities on Amerens' poles in the project limits except on both sides of UP's Railroad Bridge. Lumen previously relocated underground under UP's Railroad bridge.

Lumen advised no conflicts are anticipated with the planned improvements.

6.0 Charter existing facilities within the project limits:

Charter has aerial facilities on Amerens' poles in the project limits except on both sides of UP's Bridge. Lumen previously relocated underground under UP's bridge.

Charter advised no conflicts are anticipated with the planned improvements.

7.0 Sprint existing facilities within the project limits:

Sprint has buried facilities on the south side of UP's Railroad. Sprint advised they do not anticipate any conflicts with the planned improvement project.

8.0 PWSD #3 of Franklin County existing facilities within the project limits:

PWSD #3 has existing water main facilities located in the project limits from Sunset Maple Drive to Route 100. PWSD #3 advised they do not anticipate any conflicts with the planned improvement project.

9.0 Brush Creek Sewer existing facilities within the project limits.

Brush Creek Sewer has existing facilities on the south end of the project, adjacent to Purina Farms. Brush Creek Sewer advised they do not anticipate any conflicts with the planned improvement project.

I. 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.

J. Clean Water Act Section 404 Permit Requirements

1.0 Description. The Contractor shall be aware that any work within streams, wetlands, or special aquatic sites requires a Clean Water Act Section 404 permit from the United States Army Corps of Engineers (USACE).

2.0 This project meets the conditions of the following listed permits with no pre-construction notification (No PCN) to the USACE:

Section 404 Nationwide Permit 3 (NWP)

3.0 The Contractor shall abide by all general and regional conditions of Section 404 Permits, Section 401 Water Quality Certification, and specific conditions of the following listed Nationwide Permit found in the General Provisions and Supplemental Specifications to the current Missouri Standard Specifications for Highway Construction referenced in this contract.

NWP 3 No PCN letter attached to RES

3.1 If the Contractor makes any changes to the scope or limits of the project, the Contractor shall notify the Engineer who shall then notify the MoDOT Environmental Section to verify the project still meets permit conditions.

3.2 No additional time will be added to this contract for the Contractor to obtain any permits unless the need for additional permits is beyond the control of the Contractor.

4.0 Basis of Payment. There will be no direct payment for compliance with this provision.

K. Optional Pavements JSP 06-06H

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

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

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

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

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

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

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

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

4.0 Basis of Payment. The accepted quantity of the chosen option will be paid for at the contract unit bid price for Item 401-99.05, Optional Pavement, per square yard.

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

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

L. 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

M. NTCIP Compliant Changeable Message Sign (Contractor Furnished and Retained)

1.0 Description. All solar powered changeable message signs, hereinafter referred to as a CMS, shall be in accordance with these specifications.

2.0 Material. Each CMS shall consist of an all LED (light emitting diode) matrix message board, solar/battery power supply and a user-operated interface, as specified, all mounted on a heavy duty, towable trailer.

2.1 Each CMS shall be either Full Matrix or Character Matrix, and have the following minimum characteristics:

(a) Full Matrix - Each CMS shall be the Full Matrix type with the capability of providing one, two, and three lines of individual changeable characters with minimum heights of 52 (1300), 28 (700), and 18 (450) inches (mm), respectively. Full Matrix signs shall be capable of both static and dynamic graphics, and full display sized messages.

(b) Character Matrix (Three Line) – Each CMS shall consist of a minimum of three lines containing eight individual changeable characters per line. Each character shall be a minimum of 12 inches wide and 18 inches (450 mm) high.

(c) Sign firmware shall comply with the current FHWA and DOT (Department of Transportation) NTCIP standards and support all NTCIP mandatory objects.

(d) The sign controller shall be remotely accessible by the MoDOT St Louis District Transportation Management Center (TMC) through the Commission's ATMS (Advanced Traffic Management System) software, currently TransSuite provided by TransCore. The contractor will be responsible for ensuring the CMS is added to the ATMS software.

(e) The CMS shall have a cellular data modem compatible with the district's current cellular IP (packet data) service provider and be capable of allowing the MoDOT St Louis District TMC ATMS software to have full control of the NTCIP compliant CMS controller remotely.

(f) The sign shall have a GPS unit that can assist in locating the sign's position when polled by the TMC. The GPS unit must be remotely accessible by the TMC and be part of or work with the provided communication modem.

(g) Physical access to the onboard computer shall be protected by a padlock or other locking handle mechanism. Electronic access to the onboard computer shall be protected by a username and password.

2.2 Full matrix CMS and character matrix CMS shall meet the following:

(a) The overall sign dimensions shall not be less than 72 inches (1800 mm) high x 126 inches (3150 mm) wide.

(b) The CMS shall be legible up to a distance of 650 feet (200 m) for both day and night operations and shall be visible for ½-mile (800 m) with 18 inch (450 mm) characters.

(c) When fully raised in the display position, the bottom of the CMS board shall be at least a height of 7 feet (2100 mm) from the ground and shall be able to rotate a complete 360 degrees atop the lift mechanism. A sight tube, used to aim the CMS board to oncoming traffic, shall be installed on the CMS board or mast. The CMS shall have an electrical-hydraulic lifting mechanism that includes a manual lifting and lowering relief mechanism as a backup. It also must be able to be locked into various viewing angles as determined best for the motorists by the CMS operator.

(d) All LED displays and control circuitry shall be operational from -20 F (6 C) to 120 F (50 C). The LED's shall have a rated life of 100,000 hours. The LED's shall be ITE amber in color on a flat black background.

(e) The CMS face shall be constructed that if an individual panel or pixel fails the rest of the face shall continue to display the message.

(f) All costs and coordination needed for testing to verify modem communication, sign NTCIP compliance, remote GPS status polling, ability to control the sign via the St Louis District's ATMS software provided by TransCore shall be the sole responsibility of the Contractor. Full integration into TransCore's ATMS shall be completed at least 5 business days prior to use of the CMS in the project. TransCore contact information will be provided to the contractor by contacting MoDOT's Gateway Guide staff at 314-275-1526 or via email at ggtech@modot.mo.gov with details of the request. No other support shall be provided by MoDOT other than TransCore contact information. Information provided shall include, at a minimum, CMS make and model, IP address, and proposed locations and messages.

(g) The Contractor shall be responsible for all monthly cellular service fees for the duration of the project.

(h) The unit shall be able to withstand a 65-mph (105-kmph) maximum road wind speed. The trailer shall be able to support the fully extended CMS board in an 80-mph (130-kmph) wind load.

(i) Solar charging system shall allow for total autonomy of 24/7/365 continuous operation.

(j) All exterior surfaces except the sign face shall be cleaned, primed, and finished with two coats of Highway Safety Orange and the sign interior itself shall be cleaned and finished with one coat of corrosion inhibiting primer and two coats of flat black. The sign face shall be covered with a rigid translucent material to prevent damage to the sign face caused by the environment.

3.0 Construction Requirements. Prior to placing a CMS on a project, the engineer shall verify proposed CMS location is void of conflict with another DMS or CMS locations presently established. If a conflict is present, the engineer shall contact the Traffic Management Center (TMC) at 314-275-1526 to mitigate. If no conflict is present, engineer shall provide Traffic Management Center (TMC) with the Job Number, Route, County, specific CMS location, and a CMS identification number that is permanently affixed to the CMS. The engineer and contractor shall verify the message displayed on board is compliant with CMS messaging policies. The contractor shall place the CMS 6 feet [2 meters] off of the right edge of shoulder at the location shown on the plans or as directed by the engineer. The CMS shall be placed so that the right side of the unit is advanced approximately 3 degrees ahead with the direction of traffic. CMS shall not be located in medians. CMS shall be delineated with a minimum of five non-metallic channelizing devices. Installation, including location and placement, shall be approved by the engineer. If needed, the contractor shall relocate the CMS as directed by the engineer.

3.1 When not in use, the CMS shall be stored no closer than 30 feet [10 meters] to the edge of pavement carrying traffic, unless it is in a properly protected area or an off-site storage area or as otherwise directed by the engineer.

4.0 Basis of Payment. All expenses incurred by the contractor in integrating, maintaining, relocating, operating and protecting the changeable message signs as outlined above shall be paid for at the contract unit price for Item 616-99.02 NTCIP Compliant Changeable Message Sign, Contractor Furnished/Retained, per Each.

4.1 Cost for channelizers shall be included in the contract unit price for CMS.

4.2 Cost for cellular phone hookup and monthly usage fee for the duration of the project shall be included in the contract unit price for CMS.

Item No.	Unit	Description
616-99.02	Each	NTCIP Compliant Changeable Message Sign, Contractor Furnished/Retained

N. <u>Modified Linear Grading, Class 2</u>

1.0 Description. Modified Linear Grading, Class 2 shall consist of any necessary clearing and grubbing in accordance with Sec 201, preparing the shoulder subgrade by excavating, compacting, fine-grading, and shaping existing shoulder and ditch fore-slope, conforming to the typical section shown on the plans and any necessary grading for the installation of guardrail and crashworthy end treatments. It may be necessary to haul material and involve work on high banks, side hills, and rock outcroppings.

2.0 Construction Requirements. The shoulder 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 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 so maintain the flow capacity of the ditch. Fore slopes and back slopes shall be constructed at a 3:1 unless 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 in order to stay in compliance with the Standard Plans. The need for edge treatment is determined by the contractor's method of operations.

2.4 This work may require excavation activities on rock outcroppings. No separate pay will be made for rock excavation needed to conform to the typical section as shown on the plans.

2.5 Any grading and ditch work that exists as a property owner's front yard that has been mowed and maintained by the property owner will be finish graded to a smooth and mowable surface free of rocks and debris.

3.0 Method of Measurement. Measurement will be made to the nearest 1/10 station separately for the length of shoulder 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.

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 207-99.09, Modified Linear Grading, Class 2.

O. <u>Permanent Aggregate Edge Treatment</u> NJSP-15-40B

1.0 Description. This work shall consist of furnishing and installing a permanent aggregate edge treatment along the edge of shoulder or pavement as shown on the plans or as directed by the engineer.

2.0 Construction Requirements. Aggregate shall be simultaneously deposited and spread on the sub-grade and shall not be deposited on the pavement or shoulder and bladed into place. Aggregate material shall be shaped according to the typical section and compacted until there is no visible evidence of further consolidation.

2.1 Bituminous fog seal shall be applied to sections of the edge treatment shown in the plans or designated by the engineer. Bituminous fog seal will be paid for separately.

3.0 Material Requirements. Material used for the aggregate edge treatment shall be Type 1, 5, or 7 Aggregate in accordance with Sec 1007 or an allowable substitute approved by the engineer. Bituminous cold millings meeting the gradation for Type 1, 5 or 7 Aggregate may be used in lieu of aggregate. Limestone screenings or other material with excessive fines will not be allowed. Material will be accepted based on certification in lieu of testing contingent upon satisfactory results being obtained in the field.

4.0 Measurement by Weight. Measurement of the aggregate edge treatment material shall be per ton and in accordance with Sec 310.5.3.

5.0 Basis of Payment. The accepted quantities of aggregate edge treatment will be paid for at the contract unit price for 304-99.10, Permanent Aggregate Edge Treatment, per ton and will be full compensation for all labor, equipment and material to complete the described work. No fuel adjustment will be made for Permanent Aggregate Edge Treatment.

P. Pavement Edge

1.0 Description. The contractor's excavation method of the shoulder material shall provide a clean and vertical edge along the existing pavement.

2.0 Construction Requirements. At the beginning of the excavation of the existing shoulder, the contractor shall demonstrate his excavation method to the engineer for his approval. The operation shall provide a neat and clean vertical line without damaging the existing pavement.

2.1 If the contractor's grading operation is not able to provide a suitable edge for the shoulder construction, the engineer may determine a saw cut is necessary. This requirement shall not be considered a change of condition and justification for a claim. There will be no direct payment for the saw cut if necessary.

3.0 Basis of Payment. No direct payment will be made to the contractor for the above requirements. All costs incurred by the contractor for labor, equipment, and materials in compliance with the above requirements shall be considered incidental to and completely covered by other pay items in the contract.

Q. 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.

R. Pavement Marking Log

1.0 Description. The contractor shall log the locations of existing pavement marking prior to any construction operations that may affect the existing pavement marking. The log shall contain all existing pavement marking and shall include center stripes, no passing stripes, lane lines, turn arrows, hash bars, cross walks, and stop bars. The contractor shall provide a copy of the existing pavement marking log to the engineer. The contractor shall place the new pavement marking at the same locations as the existing pavement marking, unless otherwise directed by the engineer or shown on the plans.
2.0 Basis of Payment. No direct payment will be made for logging of existing pavement marking.

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

Delete Sec 215.1.3 and 215.1.3.1 and substitute the following:

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 Material Requirement, per 100F.

T. High Friction Surface Treatment NJSP-15-13B

1.0 Description. This work shall consist of furnishing and placing a High Friction Surface Treatment (HFST) on asphalt or concrete pavement.

1.1 The HFST shall be comprised of surface preparation and a minimum of a single layer using a Binder Resin System which holds a surface applied aggregate firmly in place. The Binder Resin System shall include Polymeric or Methl Methacrylate (MMA) Resins.

2.0 Material.

2.1.1 Resin Binder System. Resin Binder Systems shall be recommended by the manufacturer as suitable for use on the intended pavement surface and for the potential range of atmospheric exposure.

2.1.2 The contractor shall furnish and install a Resin Binder System that meets the criteria in (AASHTO PP 79-14 Table 1):

Table 1 - Resin Binder System

Property	Test Method	Requirements	
		Polymeric Resin	MMA
Ultimate Tensile Strength	AASHTO M-235	2500-5000 psi	1500-5000 psi
Elongation at break point	AASHTO M-235	30-70%	30-70%
Compressive Strength	ASTM C 579	1000 psi min. at 3 hours 5000 psi min. at 7 days	1000 psi min. at 3 hours 2000 psi min. at 7 days
Water Absorption	AASHTO M-235	1% max.	1% max.
Durometer Hardness (Shore D)	ASTM D-2240	60-80	40-75
Viscosity	ASTM D-2556	Class C: 7-30 poises	Class C: 12-20 poises
Gel Time	AASHTO M-235	Class C: 10 minutes min.	Class C: 10 minutes min.
Cure Rate (Dry through time)	ASTM D-1640	3 hrs. max.	3 hrs. max.
Adhesive Strength at 24 hours	ASTM D 4541	250 psi min. or 100% substrate failure	250 psi min. or 100% substrate failure

2.1.3 Independent laboratory reports per formulation shall be provided, documenting that the resin binder meets the requirements of this specification. A sample of the resin binder or components lot/batch shall be supplied upon request.

2.1.4 At the request of the engineer, the manufacturer of the Resin Binder System shall certify that the Resin Binder System meets the requirements of this specification. Such certification shall consist of either a copy of the manufacturer's test report or a statement by the manufacturer, accompanied by a copy of the current test results, that the Resin Binder System has been sampled and tested. Such certification shall indicate the date of testing and shall be signed by the manufacturer.

2.2.1 Aggregate. The contractor shall furnish and install a high friction aggregate that is clean, dry and free from deleterious material. The high friction aggregate shall be Calcined Bauxite for this project.

2.2.2 The calcined bauxite aggregate shall meet the criteria in Table 2:

Table 2 - Calcined Bauxite Aggregate

Property	Test Method	Requirement
Resistance to Degradation	AASTHO T-96	20% max.
Aggregate Grading	AASHTO T-27	No. 4 Percent Passing 100% min. No. 6 Percent Passing 95% min. No. 16 Percent Passing 5% max.
Moisture Content	AASHTO T-255	0.2% max.
Aluminum Oxide	ASTM C-25	87% min.

2.2.3 All aggregates shall be furnished in appropriate packaging that is clearly labeled and protects the aggregate from any contaminates on the jobsite and from exposure to rain or other moisture.

2.2.4 At the request of the engineer, the manufacturer of the aggregate shall certify that the aggregate meets the requirements of this specification. Such certification shall consist of either a copy of the manufacturer's report or a statement by the manufacturer, accompanied by a copy of the current test results, that the aggregate has been sampled and tested. Such certification shall indicate the date of testing and shall be signed by the manufacturer.

2.2.5 Test methods should be in accordance with AASHTO PP 79-14.

3.0 Construction Requirements. A manufacturer's representative of the Resin Binder System shall be present at the jobsite during all construction operations relating to the preparation and placement of the HFST. All construction operations relating to the HFST shall meet the recommendations of the manufacturer's representative. Final approval of all HFST placement operations will be given by the engineer.

3.1 Weather Limitations. Resin Binder system shall not be placed on any wet surface or when the ambient temperature or the temperature of the pavement is above or below the manufacturer's recommendations or when the anticipated weather conditions would prevent the proper application of the surface treatment as directed by the manufacturer's representative. Temperatures shall be obtained in accordance with MoDOT Test Method TM 20.

3.2 Surface Preparations. The surface shall be thoroughly cleaned immediately prior to installation of the HFST. The surface shall be clean, dry and free of all dust, oil, debris and any other material that might interfere with the bond between the resin binder material and the existing surface as recommended by the manufacturer's representative.

3.2.1 The contractor shall pre-treat joints and cracks greater than ¼ inch in width and depth with the mixed Resin Binder System. Once the resin binder in the pre-treated areas has gelled, the installation of the HFST may proceed.

3.2.2 Asphalt Pavement. Clean asphalt pavement surfaces using mechanical sweepers and high pressure air wash with sufficient oil traps. Mechanically sweep all surfaces to remove dirt, loose aggregate, debris, and deleterious material. Vacuum sweep or air wash using a minimum of 180 cfm of clean and dry compressed air, all surfaces to remove all dust, debris, and deleterious material. HFST shall not be applied to newly placed asphalt pavement surfaces that are less than 30 days old.

3.2.3 Concrete Pavement. Clean concrete pavement surfaces by shot blasting and vacuum sweeping. Shot blast all surfaces to remove all curing compounds, loosely bonded mortar, surface carbonation, and deleterious material. The prepared surface shall comply with the International Concrete Repair Institute (ICRI) standard for surface roughness CSP 5. After shot blasting, vacuum sweep or air wash, with a minimum of 180 cfm of clean and dry compressed air, all surfaces to remove all dust, debris, and deleterious material.

3.2.4 All existing edge line pavement markings that are adjacent to the HFST location shall be covered and protected as approved by the engineer prior to performing surface preparation. HFST shall not be placed over existing pavement markings or rumble strips. Lane line pavement markings that conflict with the HFST installation shall be removed by methods approved by the manufacturer's representative. Any existing edge line pavement markings that are damaged during the HFST application process shall be replaced at the contractor's expense.

3.3 HFST shall be allowed to cure for the minimum duration as recommended by the binder component supplier's specifications and during that time the application area shall be closed to all vehicles and contractor's equipment traffic. After placement and cure of the HFST, the contractor shall test the finished surface in accordance with ASTM D7234 to detect unbonded areas.

3.4 Excess and loose aggregate shall be removed from the traveled way and shoulders in such a way that the HFST is not damaged or disturbed. Excess aggregate that can be reused shall be reclaimed by a vacuum sweeper. The recovered aggregate shall be clean, uncontaminated and dry, if it is to be re-used in the HFST application. All reclaimed aggregate must be in conformance with the requirements in Section 2.0. Material.

3.5 Utilities, drainage structures, curbs and any other structures within or adjacent to the treatment location shall be protected against the application of the HFST materials.

3.6 Surface Friction Test. The surface friction of the completed HFST shall meet a minimum requirement of 65 FN40R from the ASTM E274 test. MoDOT will perform this test, at the expense of the Commission, within 7 calendar days after completion of the HFST. In order to allow for adequate scheduling time for the surface friction test, the contractor shall provide an anticipated completion date of the HFST for each segment of roadway being treated in this contract. The

contractor shall provide this date(s) to the engineer a minimum of two weeks prior to any anticipated completion date of the HFST.

3.6.1 Any surface that fails to conform to the above friction requirement must be removed and replaced at the contractor's expense within 24 hours after being notified by the engineer.

3.7 Surface Quality Verification. The engineer will check the HFST surface for areas of debonding or excessive loss of aggregate fourteen days after completion of the HFST. Any deficiencies found shall be corrected at the contractor's expense.

4.0 Application Methods. HFST shall be applied in accordance with the manufacturer's recommendations. The HFST can be applied by either mechanical or manual techniques.
4.1 The Resin Binder System shall be blended and mixed in the ratio per the manufacturer's specification (+/- 2% by volume) and shall be continuously applied once blended.

4.1.1 The Resin Binder System shall be applied at a uniform thickness of 50-65 mils (25-32 square feet per gallon). Coverage rate is based upon expected variances in the surface profile of the pavement.

4.1.2 The operation shall proceed in such a manner that will not allow the mixed material to separate, cure, dry, be exposed or otherwise harden in such a way as to impair retention and bonding of the high friction aggregate.

4.1.3 The high friction aggregate shall be immediately applied at a rate of 12-15 pounds per square yard (achieving saturation) in such a manner that there is no disruption to the leveled binder. It is the responsibility of the contractor to ensure full embedment of the high friction aggregate.

4.1.4 Wet spots shall be covered with the high friction aggregate prior to the gelling of the Resin Binder System.

4.1.5 Walking, standing on, or any form of contact or contamination with the wet uncured Resin Binder System without spiked shoes as approved by the engineer, prior to application of the aggregate, will result in that section of Resin Binder System being removed and replaced at the contractor's expense.

4.1.6 Applications on high speed highways such as interstate, interstate ramps, and bridge decks will require additional sweeping three days after the initial installation is completed to remove excess and loose aggregate from the traveled way and shoulders.

5.0 Method of Measurement. Final measurement of the completed HFST will not be made except for authorized changes during construction, or where appreciable errors are found in the contract quantity. When required, measurement of HFST, complete in place, will be made to the nearest square yard. The revisions or correction will be computed and added to or deducted from the contract quantity.

6.0 Basis of Payment. The accepted quantity of HFST, in place, will be paid for at the contract unit price bid for Item Number 413-99.05, "High Friction Surface Treatment-Bauxite", per square yard. The contract price per square yard of HFST shall include full compensation for all labor, materials, tools, equipment, testing and incidental items necessary to complete the described work.

U. Tree Clearing Restriction

1.0 Description. The project is within the known range of the federally endangered Indiana bat, and threatened northern long-eared bat. These bats are known to roost in trees with suitable habitat characteristics during summer months.

1.1 MoDOT has determined that one suitable roost tree exists within the identified tree clearing limits. The tree has been flagged with pink ribbon, marked with an "X," and has also been mapped.

1.2 To avoid negative impacts to roosting Indiana and northern long-eared bats, the marked tree must be removed between November 1 and March 31.

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

V. Restrictions for Migratory Birds NJSP-16-06A

1.0 Description. Swallows or other bird species protected by the Migratory Bird Treaty Act may be nesting under the bridge or bridges that will be repaired under this contract.

2.0 Restrictions. To comply with the Migratory Bird Treaty Act, nests of protected species cannot be disturbed when active (eggs or young are present). Generally, nests are active between April 1 and July 31, but active nests can be present outside of these dates.

3.0 Avoidance Measures. The contractor shall not disturb active nests or destroy adults, eggs or young birds. In an effort to comply with the Migratory Bird Treaty Act, the contractor operations will be limited to the options established in the following sections.

3.1 Inactive or Partially Constructed Nests. If nests are present and MoDOT determines that the nests are inactive or partially constructed, the contractor may remove the nests provided that the colony's inactive or partially constructed nests are completely removed by March 15 and the contractor maintains a nest free condition until the bridge work is complete. Dry removal methods shall be used when practicable. If dry removal is not practicable, hydro cleaning may be used if approved by the Engineer and only if water is free of blasting grit, chemicals, or detergents, and applied using pressure less than 5,000 PSI. Clean water such as that from municipal water treatment plants or wells shall be used. Use of source water from Waters of the State (i.e., streams or lakes), is allowable, if the appropriate methods to prevent the possible spread of invasive aquatic species are implemented.

3.2 Water and Equipment Used for Hydro cleaning. Aquatic invasives such as zebra mussels and some algae species have infested several bodies of water in the United States and can be transported by vessels (barges, boats, tugs, tankers, etc.) and equipment (tanks, tubing, pumps, etc.) that have been used in areas that contain these invasive species. If equipment is not properly inspected and treated to prevent the spread of invasives, these species can be introduced into areas not currently known to have a population. These invasive species are detrimental to existing ecosystems and can outcompete native species. To assist in preventing

the introduction and spread of aquatic invasive species through MoDOT projects in Missouri streams and lakes, the following precautions shall be followed.

3.2.1 Use of Water from Streams, Lakes or Ponds. Contractors shall not use water for nest removal from streams, lakes or ponds, unless they have implemented appropriate methods to prevent the possible spread of invasive aquatic species. Water sources from municipal water treatment plants or wells may be used without following these measures provided the equipment to be used has not previously contained waters from streams, lakes or ponds. If the equipment has previously contained waters from other streams or lakes, the following measures must be implemented prior to use.

3.2.1.1 Equipment Washing. Prior to the use or re-use of equipment following any use with water from streams, lakes or ponds, all equipment shall be washed and rinsed thoroughly with hard spray (power wash) and hot (minimum 120º F) water, for at least one minute.

3.2.1.2 Equipment Treating or Drying. Equipment shall be treated or dried in one of the following manners.

3.2.1.2.1 Equipment interior and/or other surfaces shall be treated with a 10% bleach solution to kill any aquatic nuisance species. This solution must also be run through all intake lines and hoses, to sterilize interior components. When chlorine treatment is used, all chlorine runoff from equipment washing must be collected and properly treated and/or disposed of in accordance with Sec 806.

3.2.1.2.2 Equipment interior and/or other surfaces shall be treated with 140º F water for a minimum of 10 seconds contact on all surfaces. 140 º F water must also be run through all intake lines and hoses, to purge any standing water.

3.2.1.2.3 Equipment shall be flushed of all non-municipal water, and dried thoroughly, in the sun before using in or transporting between streams and lakes. Dry times will depend on the season the equipment is being used. Equipment must dry a minimum of 7 days for June-September, 18 days for March-May; 18 days for October-November, and 30 days for December-February. The drying method should be reserved as a last resort option.

3.2.2 Prior to use of equipment, contractors shall provide the MoDOT inspector written documentation of the equipment's geographic origin (including the water body it was last used in), as well as defining the specified treatment method used to adequately ensure protection against invasive species. The written documentation will include a statement indicating the contractor is aware of these provisions and will also treat the equipment appropriately after completion of the project.

3.3 Active Nests. The contractor may work on the bridge if active nests are present, as long as the work does not impact or disturb the birds and/or nests. At a minimum, work shall not be performed within 10 feet of an active nest; however, the contractor is responsible for ensuring their activities do not impact the nests, eggs, or young.

4.0 Additional Responsibilities. If active bird nests remain after all reasonable avoidance measures have been taken, or if bird nests are observed during project construction, the contractor shall notify the Resident Engineer and contact the MoDOT Environmental Section (573-526-4778) to determine if there are other allowable options.

W. High Performance Geotextile for Soil Stabilization and Reinforcement

1.0 Description. High Performance Geotextile for Soil Stabilization and Reinforcement shall be placed centered at the bottom of the trench and continue to encapsulate the select granular backfill at locations where crossroad pipes are to be replaced by trenching method. Place geotextile in the areas specified and as show in in the typical section drawing of the plans. A 4 inch Type 5 aggregate base course shall be placed immediately on top of each Geotextile layer. The geotextile placed at the bottom of the trench shall extend to both flared end sections of the new crossroad pipe.

2.0 Materials. The High Performance Geotextile will be supplied by others, and will be provided to the contractor for use on this contract. The Geotextile will be TenCate Mirafi HP270, or a similar product. The contractor shall notify Tim Husky, MoDOT Senior Pavement Specialist, at 314-954-0417 at least two weeks before the Geotextile is first needed to coordinate delivery.

2.1 Select granular backfill shall be provided and constructed in accordance with Sec 1010.

2.2 For staged construction or fitting two separate pieces of geotextile together, the sections shall overlap each other at least 1 foot and be pinned as required to avoid movement when placed and compacting the Type 5 Aggregate.

3.0 Construction Requirements. This work shall be completed a minimum of 8 weeks prior to placement of the final resurfacing lift of the roadway. Trenching, placing geotextile, placing Type 5 aggregate, placing pipe, select granular backfill, and the road open to traffic shall be done in the same day. Temporary asphalt will be required at no direct pay if the contractor elects to place the final asphalt base at a later date in order to have the roadway open by the end of the day.
The contractor shall immediately notify the engineer if unsuitable material is encountered at the bottom of the trench prior to placing the lower layer of geotextile.

3.1 The select granular backfill shall be placed in layers of no more than 12 inches thick and compacted with a minimum of three passes with a roller or hand tamping as approved by the engineer.

4.0 On Site Representative. The Geotextile material supplier will provide a qualified and experienced representative on site, for a minimum of one half day, to assist the contractor and MoDOT inspectors at the start of construction with directions on the use of the geotextile system. If there is more than one crossroad pipe on a project then this criteria will apply to construction of the initial pipe replacement only. The representative will also be available on an as needed basis, as requested by the engineer, during construction of the remaining pipe(s).

5.0 Method of Measurement. Payment for the installation of High Performance Geotextile will be made to the nearest square yard (yd2) of material required to completely encase the newly placed crossroad pipe culvert and select granular backfill material as shown in in the typical section drawing of the plans.

6.0 Basis of Payment. The accepted quantities of High Performance Geotextile will be paid for at the unit price for the pay item 624-99.05 Installing High Performance Geotextile, per SY. No direct pay will be made for securing pins or any other incidental time, equipment, materials, or labor required to construct this geotextile. No direct pay shall be made for select granular

backfill, additional excavation for the lower level of Type 5 aggregate, Type 5 aggregate, pavement, or removal of the excavated material off of the right of way.

X. Pipe Construction Requirements

1.0 The roadway may be opened to traffic and the contractor may shift traffic after the pipe is replaced and new pavement has been approved for traffic. The final driving surface shall be completed within 48 hours of completion of the pipe replacement. MoDOT will review the driving surface 60 days after completion and any settlement shall be corrected at the contractor's expense.

2.0 Should the contractor fail to complete the driving surface within 48 hours of completion of the pipe replacement, the contractor will be charged road user costs in the amount of $3,200 per day until the work is fully completed. Contractor shall not shift traffic into a new traffic handling stage until final pavement has been constructed for the current stage.

3.0 It will be the contractor's responsibility to repair or replace any damage due to contractor removal methods. No direct payment will be made for compliance with this provision.

Y. Box Culvert X0913 Cleanout

1.0 Description. Box Culvert X0913 requires a clean out of all silt, trash, rocks, broken concrete and any other debris shall be removed for the entire limits such that flow in the culvert is restored to full capacity. If a manual inspection cannot easily be made due to bends in the culvert, or excessive length, the contractor shall provide the engineer with a video inspection recording in accordance with Sec 724.3.4

2.0 Basis of Payment. Any material excavated in cleaning out culverts will be paid for at the contract unit price for the pay item 206-99.02 per each structure. However, only the initial excavation will be paid for, and any subsequent cleaning required prior to final acceptance shall be done at the contractor's expense. No additional payment will be made for the video inspection, when required.

Z. Asphalt Coldmilling / Paving Requirement

1.0 Description. Asphalt coldmilling / paving requirement for the project.

2.0 Construction Requirements. Asphalt coldmilled pavement areas shall be filled with the corresponding asphaltic concrete mixture during the same work shift.

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.

AA. 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.

BB. Union Pacific Railroad Requirements

1.0 Introduction.

1.1 These Railroad Requirements set forth terms and conditions agreed upon between the Union Pacific Railroad Company (Railroad) and the Missouri Highways and Transportation Commission (Commission), under which the Railroad will allow the Commission's contractors to enter in and upon the Railroad's real property, right of way, tracks and other facilities (Railroad's Property) to perform the contractor's work relating to this project. See Appendix A, Union Pacific Railroad Company Grade Separation Construction and Maintenance Agreement for more information.

1.2 To report an emergency on the Railroad, call: (888) 877-7267.

1.3 The project location is at Railroad Milepost 42.18 on Railroads Jefferson City Subdivision, designated as USDOT Crossing # 442746R. **Current FRA data shows 14 daytime trains per day and 14 nighttime trains per day and 4 passenger trains per day.**

1.4 Definitions of terms set forth in the current edition of the Missouri Standard Specifications for Highway Construction shall be applicable to those terms as used in these Railroad Requirements.

2.0 Authority of Railroad Representative and Engineer.

2.1 The authorized representative of the Railroad, herein called "Railroad Representative", shall have final authority in all matters affecting the safe maintenance and operation of railroad traffic including the adequacy of the foundations and structures supporting the railroad tracks.

2.1.1 The Railroad designates the following individual as the Railroad Representative for this project. Except as otherwise provided in these Railroad Requirements, the contractor shall address all notices concerning this project to the Railroad Representative, as follows:

Chris Duran
Public Projects Manager
Telephone: Direct – NA Mobile – (479) 440-0390
E-mail: cduran@benesch.com

2.1.2 The Railroad, or the individual identified above, may designate a different individual to act as the Railroad Representative for this project, and may change the address information stated above, by giving written notice of the changes to the contractor and to the Engineer, as provided in these Railroad Requirements.

2.2 The authorized representative of the Commission (Engineer) shall have authority over all other matters as prescribed herein and in the project specifications.

3.0 Contractor's Indemnity Obligations to the Railroad.

3.1 The contractor agrees to indemnify, defend and hold harmless the Railroad from and against any injury or death of persons whomsoever, or from any loss or damage to the Railroad's Property, caused by acts or omissions of the contractor in performing work on this project, whether on, over, under or in the vicinity of the Railroad's Property. In the event the contractor shall fail to restore the Railroad's Property immediately to a condition acceptable to the Railroad when any such loss or damage to the Railroad's Property is called to the contractor's attention by the Railroad, then the Railroad may perform such corrective work at the cost of the contractor. The Railroad shall have the right to bring an action directly against the contractor to recover any loss or damage sustained by the Railroad by reason of the contractor's breach of agreements contained in these Railroad Requirements. In addition to such remedies of the Railroad, the Commission will withhold from final payment due to the contractor the amount reasonably necessary to reimburse the Railroad for such loss or damage or for performing such work. The term "loss or damage" as used herein shall include, but not be limited to, the erosion and silting of, water damage to, and the accidental or intentional placing or dropping of objects on the Railroad's Property.

4.0 Notice of Starting Work.

4.1 The contractor shall not commence any work on the Railroad's right of way until contractor has complied with the following conditions (no particular order):

4.1.1 At least thirty (30) days in advance of the date the contractor proposes to begin work on the Railroad's Property, the contractor has given written notice of the contractor's proposed start date and time to the Railroad Representative, and Railroad's Manager of Track Maintenance (see paragraph 12.2.3 below), with a copy to the Engineer.

4.1.2 The Commission has obtained written approval from the Railroad's Representative for the contractor's insurance coverage as required by Section 17 of these Railroad Requirements, and authorization for the contractor to begin work on the Railroad's Property.

4.1.3 The contractor has determined whether fiber optic cable systems are buried on the Railroad's Property. If fiber optic cable systems are buried on the Railroad's Property, then the contractor has contacted the Railroad at the 24 hour number, 800-336-9193, has contacted the telecommunications company involved, has arranged for a cable locator, and has made arrangements for relocation or other protection of the fiber optic cable system on the Railroad's Property.

4.1.4 Union Pacific Property Access Training must have been completed by each person on UPRR right of way. A valid copy of certification must be with the individual anytime they are on the job site. For guidance on completing the training, visit the website provided:
https://www.up.com/aboutup/community/safety/erailsafe/up-pat/index.htm

4.2 Right of Entry. At least thirty (30) days in advance of the date the contractor proposes to begin work on the Railroad's Property, the contractor shall enter into a Contractor's Right of Entry Agreement (CROE) with Railroad prior to working on Railroad property. Below is the 4-step process that must be followed for the contractors right of entry:

a. Fill out the CROE using the following Scope of Work: Roadway improvements under the Union Pacific at DOT 442746R.
b. Sign the CROE.
c. Submit the Administrative fee of $1,025, referencing your folder/project number on the payment submission.
d. Email the signed CROE to kelbey.heider@upcontractor.up.com.
e. Once the CROE Agreement and payment have been received, please allow a minimum of 30 days to process CROE and the railroad will return fully executed agreement.

4.2.1 If applicable to the project, the contractor must submit a plan for demolition, falsework, lifting plans over the Railroad property, shoring plans and any other applicable plans the Railroad may require as well as means and methods to the Railroad for review and approval. All plans submitted to the Railroad must be signed and sealed by Professional Engineer licensed in the State of Missouri. These plans can be submitted along with the Right of Entry application; however, the Right of Entry will not be approved until all required plans are approved by the Railroad.

5.0 Interference with Railroad's Operations.

5.1 The Railroad's right of way is located within the limits of this project. The contractor shall take care to ensure that it will not drop any debris or material on the Railroad's Property.

5.2 The contractor shall arrange and conduct all of the contractor's work so that it causes no interference with the Railroad's operations, including train, signal, telephone, telegraphic services, damage to the Railroad's Property, poles, wires and other facilities of tenants on the Railroad's Property. Whenever the contractor's work may directly affect the operations or safety of trains, the contractor shall submit a written description of the method of doing such work to the Railroad Representative for approval, but such approval shall not relieve the contractor from liability resulting from the contractor's work. Any work to be performed by the contractor that requires flagging service shall be deferred by the contractor until the flagging services are available at the job site.

5.3 Whenever the contractor's work upon the Railroad's Property will unavoidably cause an impediment to the Railroad's operations, such as requiring the use of runaround tracks or reduced train speed, the contractor should schedule and conduct these operations so that this impediment is reduced to the absolute minimum.

5.4 If conditions arising from, or in connection with the work require immediate and unusual provisions to protect the Railroad's operations and property, the contractor shall make such provisions. If in the judgment of the Railroad Representative, or the Engineer if the Railroad Representative is absent, such provision is insufficient, then the Railroad Representative or Engineer may require or provide such provisions as he/she deems necessary. In any event, the contractor shall make such provisions at the contractor's expense, and without cost to the Railroad or the Commission.

6.0 Track Clearances.

6.1 During construction, the contractor shall maintain not less than the minimum track clearances as shown on the project plans. However, before undertaking any work within the Railroad's Property and before placing any obstruction over any track, the contractor shall:

6.1.1 Notify the Railroad Representative and the Railroad's Manager of Track Maintenance at least ten (10) days in advance of the proposed work.

6.1.2 Receive assurance from the Railroad's Manager of Track Maintenance that arrangements have been made for flagging service as may be necessary.

6.1.3. Receive permission from the Railroad Representative to proceed with the work, as provided in section 4.0.

6.1.4. Confirm that the Engineer has received copies of the contractor's notice to the Railroad, and of the Railroads' response.

6.1.5 Note that temporary Work Zone traffic control must not circumvent the active warning devices at this location.

6.1.6 Temporary traffic control must comply with MUTCD standards. Any time work is within 25' of the track, the potential to foul the track exists or a pilot car is used traversing the crossing will require a Railroad flag person to be present. Traffic control must be returned to normal operations through the crossing area before releasing the Railroad's flag person.

7.0 Construction Procedures.

7.1. General. The contractor's work on the Railroad's property shall be performed in accordance with these Railroad Requirements and shall be subject to the Railroad's inspection and review. The contractor shall submit plans that shall be signed, sealed, and stamped in accordance with the laws relating to Architects and Professional Engineers, Chapter 327, RSMo, for the demolition of any structure over Railroad right of way, and for temporary shoring and falsework that may affect the Railroad's facilities or traffic.

7.2 Excavation. The contractor shall maintain the subgrade of an operated track with the beam edge at least 12 feet from centerline of track and not more than 26 inches below top of rail, unless the existing section fails to meet this specification, in which case the contractor shall maintain the existing section.

8.0 Maintenance of Railroad Facilities. Within the project limits, the contractor shall maintain Railroad's Property, including all ditches and drainage structures, free of silt or other obstructions that may result from contractor's operations. The contractor shall promptly repair eroded areas within the Railroad's Property and repair any other damage to the Railroad's Property or the Railroad's tenants. The contractor shall perform all such maintenance and repair of damages due to the contractor's operations at the contractor's expense.

9.0 Storage of Materials and Equipment.

9.1 The contractor shall obtain permission from the Railroad Representative before storing any materials or equipment anywhere on Railroad's Property. The Railroad will not ordinarily permit storage within twenty-five feet (25') from the centerline of any track, or within three hundred feet (300') from any grade crossing. The Railroad will not be liable for damage to such material and equipment from any cause, and the Railroad Representative may move such material and equipment or require the contractor to move it, at the contractor's expense.

9.2 The contractor shall not leave unattended any grading or construction machinery parked upon Railroad's Property, unless it is effectively immobilized so that unauthorized persons cannot move such machinery.

10.0 Cleanup. Upon completion of the work, the contractor shall remove from within the limits of the Railroad's Property all machinery, equipment, surplus materials, falsework, rubbish or temporary buildings of the contractor's and shall leave Railroad's Property in a neat condition satisfactory to the Railroad Representative.

11.0 Damages. The Railroad shall not assume liability for any damages to the contractor, contractor's work, employees, servants, equipment and materials caused by the Railroad's traffic. However, the preceding sentence shall not exempt the Railroad from liability for any loss, damage or injury proximately caused by the Railroad's intentional misconduct or sole or gross negligence. The contractor shall directly reimburse the Railroad for any cost the Railroad reasonably incurs for repairing damages to the Railroad's Property or to property of the Railroad's tenants, caused by or resulting from the operations of the contractor relating to this project.

12.0 Flagging Services.

12.1 When Flagging is Required. The Railroad has sole authority to determine the need for flagging to protect the Railroad's operations. Whenever the Railroad requires flagging services with reference to any of the contractor's work on this project, the contractor shall not perform any such work until all required flaggers are present at the job site.

12.1.1 In general, the Railroad may require flagging services whenever the contractor's personnel or equipment are, or are likely to be, working on the Railroad's Property, or across, over, adjacent to, or under a track, or when such work has disturbed or is likely to disturb a railroad structure or the railroad roadbed or surface and alignment of any track to such extent that the movement of trains must be controlled by flagging, to prevent unreasonable risks of accidental hazard to the Railroad's operations or personnel.

12.1.2 Normally, the Railroad will assign one flagger to a project; but in some cases, more than one may be necessary, such as yard limits where the Railroad may assign up to three flaggers. However, if the contractor works within distances that violate instructions given by the Railroad Representative, or performs work upon or adjacent to Railroad's Property that has not been scheduled with the Railroad Representative, the Railroad may require flagging services full time until the project is completed.

12.1.3 If flagging is determined to be required by the Manager of Track Maintenance (MTM), and the MTM advises that third party flagging is to be used, then third party flagging must be used. If flagging is determined to be required by the MTM and the MTM advises that an agreement employee flagging is to be used, then an agreement flagger will be put up for bid (and scheduled accordingly).

John Helchowski – Manager of Track Maintenance
805-298-0975
jvhelcho@up.com

UPRR New Flagging Process Link
https://www.up.com/cs/groups/public/@uprr/@realestate/documents/up_pdf_nativedocs/pdf_flagging_cust_instr.pdf

UPRR Third Party Flagging Policy Link
https://www.up.com/real_estate/third-party-flagging/index.htm

12.2 Scheduling and Notification of Flagging Services.

12.2.1 The contractor shall arrange with the Railroad all flagging services required by the Railroad to accomplish the contractor's work on this project.

12.2.2 Before the contractor begins work on the Railroad's Property, the contractor shall furnish to the Railroad Representative and the Engineer a schedule for all work required to complete the contractor's portion of the project within the Railroad's Property and shall arrange for a job site meeting between the contractor, the Engineer, and the Railroad Representative. Until the contractor has provided its work schedule and met on-site with the Railroad Representative and the Engineer, the Railroad may withhold all flagging services from the contractor's proposed job site.

12.2.3 Before the contractor first begins any work upon or adjacent to the Railroad's Property, the contractor shall give not less than thirty (30) days advance notice to the Railroad, and to the Engineer, of its intent to begin such work. The contractor shall address all notices relating to flagging as instructed in the fully executed CROE agreement.

12.2.4 The Railroad usually assigns one flagger to work at the job site on a continuous basis until the contractor no longer needs flagging services. The contractor shall not call for flagging services on a spot basis. The Railroad's assigned flagger shall notify the Engineer when flagging services have begun and ended. The flagger shall give these notices immediately upon arrival at the job site on the first day, and before departing from the job site on the last day of each separate period when the Railroad provides flagging services, or as soon as possible thereafter. The Engineer shall document these notifications in the project records.

12.2.5 After the contractor has begun work that requires flagging services, the contractor shall give not less than ten (10) day's advance written notice to the Railroad before discontinuing flagging services and terminating the obligation to pay for flagging services. The contractor shall simultaneously provide a copy of this notice to the Engineer. If the contractor's work on or adjacent to the Railroad's Property is suspended at any time, or for any reason, then before the contractor resumes any work on or adjacent to the Railroad's Property, the contractor shall give advance, written notice to the Railroad and to the Engineer of its intent to resume such work. This notice shall provide sufficient details of the contractor's proposed work to enable the Railroad Representative to determine whether flagging services will be required before the contractor resumes its work on or adjacent to the Railroad's Property. The contractor shall give this required notice at least three (3) working days before it intends to resume such work; however. The Railroad may take up to thirty (30) days after the contractor has given this notice before resuming flagging services at the job site. The requirements of this paragraph 12.2.5 shall not apply if the suspension and resumption of the contractor's work were previously scheduled with the Railroad pursuant to paragraph 12.2.2 of these Railroad Requirements, or the suspension was caused by an emergency as provided in paragraph 12.2.6 of these Railroad Requirements.

12.2.6 If, after the Railroad has assigned a flagger to the project site in accordance with section 12.0, any emergency requires the flagger's presence elsewhere, then the contractor shall suspend work on the Railroad's Property until the flagger is again available. Any additional costs to the contractor resulting from such delay shall be borne by the contractor and not by the Railroad.

12.3 Payment for Flagging Services.

12.3.1 The Commission will pay the Railroad directly for the cost of flagging services associated with this project by deducting the amount from the Commission's payments to the contractor. If a third-party flagger is used, the contractor has the option to pay the flagger directly but must notify the MoDOT Engineer of such payments for flagging.

12.3.2 The estimated cost of flagging services is approximately $1,500 per day, based on an 8-hour workday and a 40-hour work week. The Railroad shall charge not more than its actual cost of providing these flagging services, which includes the base pay for the flagger or flaggers who actually performed the required flagging services, the Railroad's reasonable overhead costs, and the reasonable costs actually incurred for the flagger's travel expenses, meals and lodging if required. The Railroad may charge a maximum of one hour of travel time each way per day per flagger, for travel to and from the job site. A flagger's work in excess of 8 hours per day or 40 hours per week, but not more than 12 hours per day, will result in overtime pay at 1.5 times that employee's regular hourly rate. A flagger's work in excess of 12 hours per day will result in overtime pay at 2.0 times that employee's regular hourly rate. If a flagger performs required flagging services on a holiday, then the overtime pay rate shall be 2.5 times that employee's regular hourly rate. The Commission or contractor also shall reimburse the Railroad for its actual expenses reasonably incurred in preparing and handling invoices to the Commission or contractor for the cost of these flagging services. The Railroad's charges to the Commission or contractor shall comply with applicable provisions of the current FAPG issued by the FHWA.

12.3.3 The Railroad shall submit progress invoices to the Engineer during the time the Railroad requires flagging services. The Railroad shall submit its final invoice for flagging services to the Engineer within one hundred eighty (180) days after the contractor has notified the Railroad and the Commission that all its work over the Railroad's Property is complete, in accordance with section 18.0 below. If the Commission does not receive the Railroad's final flagging invoice within this time period, then the Railroad shall obtain payment directly from the contractor.

12.3.4 If a dispute arises between the Railroad, the Commission and the contractor concerning the amount charged for flagging service, then the Commission may deduct the full amount of the Railroad's invoice from the contractor's payment until the dispute is resolved.

12.4 Flagging Complaints. The contractor and the Railroad shall attempt to resolve any complaints concerning flagging services in a timely manner. If the contractor disputes the need for a flagger, the contractor shall notify the Railroad Representative and the Engineer. The contractor shall confirm any verbal complaints in writing within five (5) working days, by sending a copy to the Railroad Representative and to the Engineer.

13.0 Temporary Construction Grade Crossing.

13.1 When the contractor has no reasonable alternate method of transporting construction materials and personnel across the Railroad's track, the contractor shall make all necessary arrangements with the Railroad for the installation, maintenance, and removal of one temporary grade crossing for a construction haul road. The contractor shall bear all costs incidental to such crossings, including flagging, whether services are performed by contractor's own forces or by the Railroad's personnel. The contractor shall execute the Railroad's standard Road Crossing Agreement covering terms and conditions for the temporary crossing.

13.2 Neither the contractor nor the Railroad shall construct any crossing for use by the contractor for transporting materials or equipment across the tracks of the Railroad until the Railroad Representative specifically authorizes the installation, maintenance, necessary watching and flagging thereof and removal, which shall be done at the contractor's expense.

14.0 Work for the Benefit of the Contractors. The project plans show all temporary or permanent changes in wire lines or other facilities that are necessary to complete the project, or these changes will be covered by appropriate plan revisions approved by the Commission and the Railroad. If the contractor desires any further changes, the contractor shall make separate arrangements with the Railroad for those changes, at the contractor's expense.

15.0 Cooperation and Delays. The contractor shall arrange a schedule with the Railroad for accomplishing staged construction involving work by the Railroad or tenants of the Railroad. In arranging a schedule, the contractor shall request information from the Railroad, and the Railroad shall promptly provide information, concerning the minimum lead time required for assembling crews and materials. The contractor shall schedule adequate time for those activities. The contractor shall not make any claim against the Railroad for hindrance or delay on account of railway traffic for:

15.1 Any work the Railroad performs.

15.2 Other delay incident to or necessary for the safe maintenance of railway traffic.

15.3 Any delays due to compliance with these Railroad Requirements.

16.0 Trainman's Walkways. The contractor shall maintain along the outer side of each exterior track of multiple operated tracks, and on each side of single operated track, an unobstructed continuous space suitable for trainman's use in walking along trains, extending to a line not less than 12 feet from the centerline of the track. Before the close of each workday, the contractor shall remove all temporary impediments to walkways and track drainage encroachments or obstructions that were allowed during work hours when flagging services were available. Whenever the contractor excavates or maintains any excavation near the walkway, the contractor shall install a handrail with 12 feet minimum clearance from the centerline of the track.

17.0 Insurance.

17.1 General Insurance Provisions. The contractor shall, at its sole cost and expense, procure and continuously maintain in force during this project, the insurance coverage required under this section 17 until the contractor has completed all project work on the Railroad's Property, has removed all equipment and materials from the Railroad's Property, and has cleaned and restored the Railroad's Property to the satisfaction of the Engineer and the Railroad Representative. The amount of work to be performed upon, over or under the Railroad's Property is estimated to be one percent (1%) of the contractor's total bid for the project.

17.2 Commercial General Liability Insurance. The contractor shall maintain commercial general liability ("CGL") insurance with a limit of not less than $5,000,000 for each occurrence and an aggregate limit of not less than $10,000,000. CGL insurance must be written on ISO occurrence form CG 00 01 12 04 (or a substitute form providing equivalent coverage). The policy must contain the following endorsement, which must be stated on the certificate of insurance:

"Contractual Liability Railroad's" ISO form CG 24 17 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Railroad Company Property" as the Designated Job Site.

17.3 Business Automobile Coverage Insurance. The contractor shall maintain business auto coverage written on ISO form CA 00 01 (or a substitute form providing equivalent liability coverage) with a combined single limit of not less than $5,000,000 for each accident. The policy must contain the following endorsements, which must be stated on the certificate of insurance: "Coverage For Certain Operations In Connection With Railroad's" ISO form CA 20 70 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Property" as the Designated Job Site; and Motor Carrier Act Endorsement - Hazardous Materials Clean Up (MCS-90) if required by law.

17.4 Alternate Liability Insurance Limits. Instead of the minimum limits of insurance coverage described above in subsections 17.2 and 17.3, Railroad will accept CGL insurance limits of at least $2,000,000 for each occurrence or claim and an aggregate limit of at least $2,000,000, and will accept Business Automobile Insurance containing a combined single limit of at least $2,000,000 per occurrence or claim, if the contractor will secure Railroad Protective Liability Insurance coverage with a combined single limit of $5,000,000 per occurrence and an aggregate limit of $10,000,000. The contractor's election to maintain these alternate liability insurance limits shall not affect the applicability of any other terms and conditions set forth in these Railroad Requirements.

17.5 Workers' Compensation and Employers' Liability Insurance. The contractor shall maintain workers' compensation insurance coverage, with not less than the minimum statutory liability required under the workers' compensation laws of the State of Missouri. The contractor shall maintain Employers' Liability (Part B) insurance coverage with limits of at least $500,000 for each accident, a $500,000 disease policy limit, and $500,000 for each employee. If the contractor is self-insured, then the contractor shall provide evidence of state approval and excess workers' compensation coverage, which must include coverage for liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable. The policy must contain the following endorsement, which must be stated on the certificate of insurance: "Alternate Employer Endorsement" ISO form WC 00 03 01 A (or a substitute form providing equivalent coverage) showing the Railroad in the schedule as the alternate employer (or a substitute form providing equivalent coverage).

17.6 Railroad Protective Liability Insurance. The contractor must maintain Railroad Protective Liability insurance written on ISO occurrence form CG 00 35 12 04 (or a substitute form providing equivalent coverage) on behalf of the Railroad as named insured, with a limit of not less than $5,000,000 per occurrence and an aggregate limit of $10,000,000. Before commencing any work on the Railroad's Property, the contractor shall submit the original insurance policy to the Railroad, or may submit a binder stating that the required Railroad Protective Liability policy is in place until the contractor delivers the original policy to the Railroad. The contractor shall cause the Railroad Protective Liability Insurance policy to include a description of the named insured, the work, and the job site, as follows:

17.6.1 Named Insured: Union Pacific Railroad Company.

17.6.2 Description and Designation:
Roadway improvements under Union Pacific
Franklin County Route MM

Job No. J6S3368
USDOT# 442746R MP 42.18 Jefferson City Sub, near Labadie, MO.

17.7 Umbrella or Excess Insurance. If the contractor utilizes umbrella or excess insurance policies, these policies must "follow form" and afford no less coverage than the primary policy.

17.8 Pollution Liability Insurance. The contractor shall maintain pollution liability insurance coverage, which must be written on ISO form Pollution Liability Coverage Form Designated Sites CG 00 39 12 04 (or a substitute form providing equivalent liability coverage), with limits of at least $5,000,000 per occurrence and an aggregate limit of $10,000,000. If the scope of work as defined in this Project includes the disposal of any hazardous or non-hazardous materials from the job site, the contractor must furnish to the Railroad evidence of pollution legal liability insurance maintained by the disposal site operator for losses arising from the insured facility accepting the materials, with coverage in minimum amounts of $1,000,000 per loss, and an annual aggregate of $2,000,000.

17.9 Other Insurance Requirements.

17.9.1. Each policy required above (except workers' compensation and employers' liability) must include the Railroad as "Additional Insured" using ISO Additional Insured Endorsements CG 20 26, and CA 20 48 (or substitute forms providing equivalent coverage). The coverage provided to the Railroad as an additional insured shall, to the extent provided under ISO Additional Insured Endorsement CG 20 26 and CA 20 48, provide coverage for the Railroad's negligence whether sole or partial, active or passive.

17.9.2 Where allowable by law, the punitive damage exclusion shall be deleted, and the deletion shall be indicated on the certificate of insurance.

17.9.3 The contractor waives all rights of recovery, and its insurers also waive all rights of subrogation of damages against the Railroad and its agents, officers, directors and employees, except that these waivers shall not apply to punitive damages, nor to any loss, damage or injury proximately caused by the Railroad's intentional misconduct or sole or gross negligence. The certificate of insurance shall acknowledge these waivers.

17.9.4 Prior to commencing any work on the Railroad's Property, the contractor shall furnish the Railroad with one or more certificates of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements set forth in this Section 17.0.

17.9.5 The contractor shall only obtain insurance policies written by a reputable insurance company acceptable to the Railroad, or which currently has a Best's Insurance Guide Rating of A– and Class VII or better, and which is authorized to do business in the State of Missouri.

17.9.6 The fact that insurance is obtained by the contractor or by the Railroad on behalf of the contractor will not be deemed to release or diminish the liability of the contractor, including, without limitation, liability under the indemnity provisions contained in Section 3.0 of these Railroad Requirements. Damages recoverable by the Railroad from the contractor or any third party will not be limited by the amount of the required insurance coverage, except to the extent of any payments the Railroad has received pursuant to that insurance coverage obtained and paid for by the contractor.

17.10 Evidence of Insurance. The contractor shall provide evidence of insurance as required above to the addresses shown below, for review by the Commission and transmittal to the Railroad.

Railroad	Commission
Mr. Jonathan Holland	Ms. Brandi Baldwin
Senior Analyst, Real Estate	State Construction and Materials Engineer
Union Pacific Railroad Company	Missouri Department of Transportation
1400 Douglas St., MS 1690	P.O. Box 270
Omaha, NE 68179-1690	Jefferson City, MO 65102

17.11 Except as otherwise specifically provided in these Railroad Requirements, the Railroad will not accept binders as evidence of insurance, and the contractor shall provide the Railroad with the original insurance policy.

17.12 Insurance Required of Subcontractors. If any part of the work is sublet, the contractor shall maintain and provide evidence of similar insurance, in the same amounts as required of the prime contractor, to cover the subcontractor's operations. The Railroad will accept endorsements to the prime contractor's policies specifically naming subcontractors and describing the subcontractor's operations, for this purpose.

17.13 Cancellation of Insurance. The contractor and its insurers shall not cancel any of the required insurance coverage, except by permission of the Commission and the Railroad, or after thirty (30) days' written notice to the Commission and the Railroad at the addresses shown in subsection 17.10.

18.0 Completion of Work on Railroad's Property. The contractor shall notify Engineer and Railroad's Representative when the contractor has completed its work on Railroad's Property.

19.0 Failure to Comply. If the contractor violates or fails to comply with any of the requirements of these Railroad Requirements, then the Railroad Engineer may require that the contractor vacate the Railroad's property and the Engineer may withhold all monies due to the contractor until the contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

20.0 Payment for Cost of Compliance. No separate payment will be made for any other cost incurred on account of compliance with this special provision. All such costs shall be included in the contract unit price for other items included in the contract. Railroad will not be responsible for paying the contractor for any work performed under this special provision.

20.1 If applicable to the project, the contractor must submit a plan for demolition, falsework, lifting plans over the Railroad property, shoring plans and any other applicable plans the Railroad may require as well as means and methods to the Railroad for review and approval. All plans submitted to the Railroad must be signed and sealed by Professional Engineer licensed in the State of Missouri. These plans can be submitted along with the Right of Entry application; however, the Right of Entry will not be approved until all required plan submittals are approved by the Railroad. The Railroad may also require an onsite inspector to assure the work is carried out in accordance with the Railroad approved plans.

20.1.1 Payment for plan submittal, Railroad plan review and Railroad inspection fees.

The contractor shall be responsible for all costs associated with the generation and submittal of Railroad plans required for the right of entry agreement. The Commission will be responsible for and directly pay the Railroad for all Railroad review fees associated with these plan submittals and any onsite inspection and management fees charged by the Railroad. A line item (Railroad Plan Submittal) is provided for all costs associated with the generation and submittal of plans required for the Railroad right of entry agreement.

Item No.	Unit	Description
618-10.15	LS	Railroad Plan Submittal

CC. Cutoff Wall

1.0 Description. Cuttoff wall requirement for the project.

2.0 Construction Requirements. All material, proportioning, air-entraining, mixing and transporting of concrete shall be in accordance with Sec 501 as applicable to pavement concrete, except as noted herein. All reinforcing steel shall be in accordance with Sec 703.

3.0 Basis of Payment. Payment for Cutoff Wall as described in this provision will be made at the contract unit price for Item 502-99.07, Cutoff Wall, Cubic Yards.

APPENDIX A: UNION PACIFIC RAILROAD COMPANY GRADE SEPARATION CONSTRUCTION AND MAINTENANCE AGREEMENT

DocuSign Envelope ID: ADACF1A3-0D0D-49E0-B6C5-0016CD129DF0

CCO FORM: MO40
Approved: 10/20 (MWH)
Revised: 03/22 (MWH)
Modified:

Route MM
Franklin County
Job No. J6S3368

GRADE SEPARATION CONSTRUCTION AND MAINTENANCE AGREEMENT

LIST OF EXHIBITS

EXHIBIT 1 Location Information and Plan sheet(s)

EXHIBIT 2 Union Pacific Railroad Requirements

EXHIBIT 3 Estimate of Force Account Work by the Union Pacific Railroad Company

EXHIBIT 4 Annual Worker Eligibility Verification Affidavit

EXHIBIT 5 Contractor Right of Entry

EXHIBIT 6 Form of Easement

LIST OF ACRONYMS

AHC Administrative Hearing Commission

CFR Code of Federal Regulations

CIC Contractor-in-Charge

FAPG Federal-Aid Policy Guide

FHWA Federal Highway Administration

MOU Memorandum of Understanding

RSMo Missouri Revised Statutes

USC United States Code

USDOT United States Department of Transportation

THIS AGREEMENT is entered into by and between the Missouri Highways and Transportation Commission (hereinafter, "Commission"), and the Union Pacific Railroad Company (hereinafter, "Railroad"), which are referred to hereinafter collectively as the "Parties."

WITNESSETH:

WHEREAS, the Commission proposes to improve a section of Route MM near Labadie, Missouri, a job designated by the Commission as Job No. J6S3368 (hereinafter "Project");

WHEREAS, the Commission proposes to improve the roadway along Route MM under the Railroad's mainline track on the Railroad's Jefferson City Subdivision at Milepost 42.18, US DOT # 442746R;

WHEREAS, the parties desire that the work to be performed under this Agreement by both parties hereto will be performed in accordance with plans and specifications to be prepared by the Commission and in accordance with Exhibit 2, Union Pacific Railroad Requirements (which is attached hereto and incorporated herein by reference);

WHEREAS, the parties hereto agree that the Railroad will receive no ascertainable benefit from the construction of said Project;

WHEREAS, the Commission is willing to undertake the construction of said Project with such funds as may be available to the Commission for this purpose, and the Railroad is willing to consent to the execution of the said Project upon the terms and conditions herein stated and not otherwise;

NOW, THEREFORE, it is agreed as follows:

(1) PURPOSE: The purpose of this Agreement is to establish the responsibilities of each party with respect to this Project.

(2) SCOPE OF WORK: The scope of work consists of roadway improvements that include roadway widening and construction of a retaining wall along Route MM under the Railroad's mainline track on the Railroad's Jefferson City Subdivision at Milepost 42.18, US DOT # 442746R.

(3) SOURCE OF FUNDS: The Commission will provide one hundred percent (100%) of the funds needed for this Project. The Railroad shall assume no obligation to provide funds for this Project.

(4) PLANS AND CHANGE ORDERS: The modifications to the existing roadway surface modifications are described in the plan sheet(s) attached as Exhibit 1 to this Agreement. The Commission's contractor will construct this Project in accordance with the final Project plans and specifications prepared by the Commission or its

contractor. To the extent that the Project plans and specifications may affect the Railroad's facilities or traffic, the Commission will submit those aspects of the plans and specifications to the Railroad for review, obtain the Railroad's written approval thereof, and complete the final plans and specifications accordingly. No work by the Commission's contractor will be allowed on or over the Railroad's right of way until those aspects of the final demolition and construction plans that may affect the Railroad's facilities or traffic have been approved by the Railroad. After the Railroad has approved those aspects of the Commission's plans, neither the Commission nor its contractor shall make any changes to the final plans, specifications or construction procedures that could affect the Railroad's facilities or traffic, without the Railroad's approval of those changes. The Railroad shall not unreasonably withhold its approval of the Commission's plans and specifications, and any changes thereto.

(5) RAILROAD RESPONSIBILITIES: The Railroad agrees to furnish materials and labor and to do the work described below as the progress of the Project requires and in accordance with plans, specifications, and construction procedures:

(A) Temporary Construction Grade Crossing: A temporary crossing is not anticipated during the construction of this Project. If the Commission's contractor desires a temporary crossing, then the terms and conditions for any such crossing will be subject to a separate agreement between the Railroad and the contractor and are not covered by this Agreement.

(B) Flagging Services: Railroad, in its sole and absolute discretion, shall determine whether a flagman or other special protective or safety measures are required in connection with the Project (any of the foregoing, collectively "Flagging Services"). For purposes of clarity, Railroad and the Commission each acknowledge that Railroad may contract a contractor-in-charge ("CIC") for the performance of any Flagging Services that are part of Railroad's work (as described in Railroad's Estimate of Force Account Work attached to this Agreement as Exhibit 3 ("Estimate of Force Account Work by the Union Pacific Railroad Company") and incorporated herein by reference or, alternatively, that the Commission may hire a CIC as a contractor to perform Flagging Services, subject to any and all other applicable terms and conditions set forth in this Agreement. If any Flagging Services are to be performed in connection with the Project, then, after consultation with the Commission, Railroad shall determine, in Railroad's sole and absolute discretion, whether Railroad or the CIC will bill the Commission or, alternatively, the Commission's contractor directly, for the costs of such Flagging Services. If Railroad determines that the Commission's Contractor will be billed directly pursuant to the foregoing sentence, the Commission agrees that it will pay the Railroad or the CIC, as applicable, on demand for any such costs that have not been paid by any Commission contractor within thirty (30) days of such contractor's receipt of billing. The Commission acknowledges that whether Railroad's Estimate includes costs for Flagging Services performed by Railroad or a CIC, as applicable, such costs shall be at no expense to Railroad.

1. If the Commission's employees need to enter Railroad's property for purposes of performing the Flagging Services, the Commission agrees to notify the Railroad at least thirty (30) working days in advance of proposed performance

of any work by the Commission in which any person or equipment will be within twenty-five (25) feet of any track, or will be near enough to any track that any equipment extension (such as, but not limited to, a crane boom) will reach to within twenty-five (25) feet of any track. No work of any kind shall be performed, and no person, equipment, machinery, tool(s), material(s), vehicle(s), or thing(s) shall be located, operated, placed, or stored within twenty-five (25) feet of any of Railroad's track(s) at any time, for any reason, unless and until a Railroad approved flagman is provided to watch for trains. Upon receipt of such thirty (30) day notice, the Railroad's authorized representative will determine and inform the Commission whether a flagman need be present and whether the Commission needs to implement any special protective or safety measures.

2. The provisions set forth in this subsection are only applicable for Flagging Services performed by employees of Railroad: the rate of pay per hour for each flagman will be the prevailing hourly rate in effect for an eight-hour day for the class of flagmen used during regularly assigned hours and overtime in accordance with labor agreements and schedules in effect at the time the work is performed. In addition to the cost of such labor, a composite charge for vacation, holiday, health and welfare, supplemental sickness, Railroad Retirement and unemployment compensation, supplemental pension, Employees Liability and Property Damage and Administration will be included, computed on actual payroll. The composite charge will be the prevailing composite charge in effect at the time the work is performed. One and one-half times the current hourly rate is paid for overtime, Saturdays and Sundays, and two and one-half times current hourly rate for holidays. Wage rates are subject to change, at any time, by law or by agreement between Railroad and its employees, and may be retroactive as a result of negotiations or a ruling of an authorized governmental agency. Additional charges on labor are also subject to change. If the wage rate or additional charges are changed, the Commission shall pay on the basis of the new rates and charges. Reimbursement to Railroad will be required covering the full eight-hour day during which any flagman is furnished, unless the flagman can be assigned to other Railroad work during a portion of such day, in which event reimbursement will not be required for the portion of the day during which the flagman is engaged in other Railroad work. Reimbursement will also be required for any day not actually worked by the flagman following the flagman's assignment to work on the Project for which Railroad is required to pay the flagman and which could not reasonably be avoided by Railroad by assignment of such flagman to other work, even though the Commission may not be working during such time. When it becomes necessary for Railroad to bulletin and assign an employee to a flagging position in compliance with union collective bargaining agreements, the Commission will provide Railroad a minimum of five (5) days notice prior to the cessation of the need for a flagman. If five (5) days notice of cessation is not given, the Commission will still be required to pay flagging charges for the five (5) day notice period required by union agreement to be given to the employee, even though flagging is not required for that period. An additional thirty (30) day notice must then be given to Railroad if flagging services are needed again after such five-day cessation notice has been given to Railroad.

3. The Commission or its contractor shall be permitted to hire a CIC to perform Flagging Services in lieu of Railroad providing such services or in concert with Railroad providing such services, subject to receiving prior written approval by Railroad, which approval shall be in Railroad's sole and absolute discretion. If Railroad agrees to permit the Commission or its contractor to utilize a CIC pursuant to the preceding sentence, the Commission or its contractor, as applicable, shall be required to obtain Railroad's prior written approval for each of the following items, as determined in all respects in Railroad's sole and absolute discretion: (i) the identity of the third-party performing the role of CIC; (ii) the scope of the Flagging Services to be performed by the approved CIC; and (iii) any other terms and conditions governing the Flagging Services to be provided by the CIC. Railroad reserves the right to rescind any approval pursuant to this section, in whole or in part, at any time, as determined in Railroad's sole and absolute discretion.

4. If any flagging or other special protective or safety measures are performed by Railroad and/or a CIC, the Commission agrees that the Commission is not relieved of any of its responsibilities set forth in this Agreement.

(C) Facility Adjustments: The Commission is strictly prohibited from making any adjustments, modifications, or relocations ("Adjustments") of any of the Commission's facilities associated with the Project that are located on the Railroad's property without first obtaining the prior written approval of Railroad's Assistant Vice President of Engineering – Design of such Adjustments. The Commission agrees to provide any information, documentation, plans, etc. requested by the Railroad for its evaluation of such Adjustments.

(D) Statement of Costs: The Railroad may submit progressive bills to the Commission. Within one hundred twenty (120) days after notice of Project completion from the Commission, the Railroad will submit to the Commission four (4) copies of a final itemized statement of the total costs of the work performed by the Railroad. All progressive bills and the final statement of costs shall be in accordance with the requirements and provisions of the current Federal Aid Policy Guide (FAPG) issued by the Federal Highway Administration (FHWA). Submission of the final bill shall indicate that, to the best of the Railroad's knowledge at the time, all charges and costs shown on the final bill are accurate, material costs shown are net of all discounts, rebates, and other incentives, and that charges and costs were incurred solely for this Project or otherwise were authorized in accordance with this Agreement.

(E) Maintenance of Records: The Railroad agrees to maintain all books, documents, papers, accounting records, and other evidence pertaining to cost proposals and estimates and to costs incurred relating to this Project, and shall make such information available for examination by representatives of the Commission and/or FHWA, at the Railroad's offices, during reasonable hours for a period of not less than three (3) years after the Commission has paid the Railroad's final cost bill for the Project. The Railroad shall furnish copies of this information if requested by the Commission and/or FHWA. If the Commission or FHWA commences an audit of the Railroad's costs in connection with the Project within three (3) years after the Commission has paid

Railroad's final cost bill for the Project, then the Railroad and its contractors shall continue to retain and preserve all this evidence until the Commission issues its final audit letter to the Railroad. The Commission agrees to complete audit and issue its final audit letter within six (6) months of audit commencement not including the time needed by the Railroad to submit documents.

(6) COMMISSION RESPONSIBILITIES: The Commission agrees to furnish all material and labor to do the following work as required by the progress of the Project and in accordance with plans, specifications, and construction procedure:

(A) Plans and Construction: The Commission will prepare detailed plans for the Project. The Commission will provide for the construction of the retaining wall and related highway facilities.

(B) Job Special Provisions: The Commission agrees to include the "Union Pacific Railroad Requirements" (Exhibit 2) in the contract awarded for the construction of this Project.

(C) Fiber Optic Cables: Fiber optic cable systems could be present on the Railroad's property. The Commission or its contractor will call the Railroad at (800) 336-9193 to determine if fiber optic cable is buried anywhere on the premises within the construction area. If it is, the Commission or its contractor will contact the telecommunications company(ies) involved, arrange for a cable locator, and make arrangements for relocation or other protection of the cable prior to beginning any work on the Railroad's right of way.

(D) Reimbursement and Audit: The work to be performed by the Railroad, at the Commission's sole cost and expense, is described in Railroad's Estimate of Force Account Work. The Commission will reimburse the Railroad within sixty (60) days after it has received the Railroad's progressive bills, and within one hundred twenty (120) days after it has received the Railroad's final bill (which shall be marked "FINAL"), for the actual costs incurred by the Railroad for work performed in accordance with this Agreement. If the Commission disputes a bill, the Commission shall pay the Railroad any undisputed amount within sixty (60) days of receipt of the invoice and, within thirty (30) days after receipt of the invoice, notify the Railroad of the disputed amount and request supporting documentation to verify the accuracy of the invoice. The Commission will thereafter pay the Railroad any remaining portions of the invoice within thirty (30) days of receipt of documentation adequate to justify the disputed expenditures. Reimbursement is subject to final audit by the Commission and/or FHWA. The Commission or FHWA may audit the Railroad's costs in connection with the Project at any time, irrespective of the date or source of any reimbursement payment to the Railroad. If the final audit report determines that the Railroad has been overpaid in connection with this Agreement, then upon receipt of the Commission's invoice, the Railroad shall immediately refund to the Commission any undisputed amount of the overpayment. The Railroad and the Commission will work in good faith to resolve any disputed issues raised by the final audit. If the final audit report determines that the Railroad has been underpaid, then the Commission will immediately pay the amount of the underpayment to the Railroad.

(E) Maintenance of Highway Facilities: The Commission will maintain, at the Commission's own expense, the retaining wall and all appurtenant highway facilities. The Commission will notify the Railroad and make arrangements for flagging whenever maintenance work is performed under the structure and within twenty-five feet (25') of the centerline of the tracks.

(7) CONTRACTOR RESPONSIBILITIES: The Commission shall require its contractor to do all of the following:

(A) Directly pay the Railroad or its CIC, as applicable, for any Flagging Services pursuant to Section 5(B) of this Agreement.

(B) Reimburse the Railroad for the cost of construction, maintenance and removal of a temporary crossing if needed by the contractor.

(C) Submit for the Railroad approval any plans for false work over the Railroad's right of way and any shoring plans for the excavation of any footings near the Railroad's facilities. These plans shall be sealed by a registered professional engineer licensed in the State of Missouri.

(D) Submit for the Railroad approval the demolition plan and method of track protection for any demolition impacting the Railroad's right of way.

(E) Submit for and receive contractor's Right of Entry Agreement (Exhibit 5) prior to beginning work on the Railroad's right of way.

(8) WAIVER OF HEARING ON ISSUANCE OF ADMINISTRATIVE ORDERS: This Agreement is made subject to approval of the proposed Project by a final Administrative Order issued by the Missouri Highways and Transportation Commission, or by the Missouri Administrative Hearing Commission (AHC), in accordance with section 389.610, Missouri Revised Statutes (RSMo) Supp. 2004. With reference to the issuance of that Administrative Order, the Railroad and the Commission stipulate that the construction of the Project as described in this Agreement will promote public safety and will not adversely affect public necessity. The Railroad consents that the Commission or the AHC, or both, may issue Administrative Orders approving and authorizing the construction of this Project in conformity with the provisions of this Agreement, and the Railroad waives its right to notice and an opportunity for hearing before the issuance of these Administrative Orders.

(9) NON-EMPLOYMENT OF UNAUTHORIZED ALIENS: Pursuant to section 285.530, RSMo, no business entity or employer shall knowingly employ, hire for employment, or continue to employ an unauthorized alien to perform work within the State of Missouri. As a condition for the award of any contract or grant in excess of five thousand dollars ($5,000) by the State or by any political subdivision of the State to a business entity, or for any business entity receiving a state-administered or subsidized tax credit, tax abatement, or loan from the State, the business entity shall:

(A) By sworn affidavit and provision of documentation, the Railroad affirms its enrollment and participation in a federal work authorization program with respect to the employees working in connection with the contracted services. E-Verify is an example of a federal work authorization program. The business entity must affirm its enrollment and participation in the E-Verify federal work authorization program with respect to the employees proposed to work in connection with the services requested herein by providing acceptable enrollment and participation documentation consisting of completed copy of the E-Verify Memorandum of Understanding (MOU). For business entities that are not already enrolled and participating in a federal work authorization program, E-Verify is available at https://e-verify.uscis.gov/web/Login.aspx.

(B) By sworn affidavit, the Railroad affirms that it does not knowingly employ any person who is an unauthorized alien in connection with the contracted services. A copy of the affidavit referenced herein is provided within this document, attached as Exhibit 4.

(10) NONDISCRIMINATION ASSURANCE: With regard to work under this Agreement, the Railroad agrees as follows:

(A) Civil Rights Statutes: The Railroad shall comply with all state and federal statutes relating to nondiscrimination, including but not limited to Title VI and Title VII of the Civil Rights Act of 1964, as amended (42 United States Code (USC) 2000d and 2000e, *et seq.*), as well as any applicable titles of the Americans with Disabilities Act. In addition, if the Railroad is providing services or operating programs on behalf of the Commission, it shall comply with all applicable provisions of Title II of the Americans with Disabilities Act.

(B) Administrative Rules: The Railroad shall comply with the administrative rules of the United States Department of Transportation (USDOT) relative to nondiscrimination in federally-assisted programs of the USDOT (Title 49 Code of Federal Regulations (CFR) Subtitle A, Part 21) which are herein incorporated by reference and made part of this Agreement.

(C) Nondiscrimination: The Railroad shall not discriminate on grounds of the race, color, religion, creed, sex, disability, national origin, age or ancestry of any individual in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The Railroad shall not participate either directly or indirectly in the discrimination prohibited by 49 CFR 21.5, including employment practices.

(D) Solicitations for Subcontracts, Including Procurements of Material and Equipment: These assurances concerning nondiscrimination also apply to subcontractors and suppliers of the Railroad. These apply to all solicitations either by competitive bidding or negotiation made by the Railroad for work to be performed under a subcontract including procurement of materials or equipment. Each potential

subcontractor or supplier shall be notified by the Railroad of the requirements of this Agreement relative to nondiscrimination on grounds of the race, color, religion, creed, sex, disability or national origin, age or ancestry of any individual.

(E) Information and Reports: The Railroad shall provide all information and reports required by this Agreement, or orders and instructions issued pursuant thereto, and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Commission or the USDOT to be necessary to ascertain compliance with other contracts, orders and instructions. Where any information required of the Railroad is in the exclusive possession of another who fails or refuses to furnish this information, the Railroad shall so certify to the Commission or the USDOT as appropriate and shall set forth what efforts it has made to obtain the information.

(F) Sanctions for Noncompliance: In the event the Railroad fails to comply with the nondiscrimination provisions of this Agreement, the Commission shall impose such contract sanctions as it or the USDOT may determine to be appropriate, including but not limited to:

1. Withholding of payments under this Agreement until the Railroad complies; and/or

2. Cancellation, termination or suspension of this Agreement, in whole or in part, or both.

(G) Incorporation of Provisions: The Railroad shall include the provisions of paragraph (10) of this Agreement in every subcontract, including procurements of materials and leases of equipment, unless exempted by the statutes, executive order, administrative rules or instructions issued by the Commission or the USDOT. The Railroad will take such action with respect to any subcontract or procurement as the Commission or the USDOT may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided that in the event the Railroad becomes involved or is threatened with litigation with a subcontractor or supplier as a result of such direction, the Railroad may request the United States to enter into such litigation to protect the interests of the United States.

(11) AMENDMENTS: Any change in this Agreement, whether by modification or supplementation, must be accomplished by a formal contract amendment signed and approved by the duly authorized representative of the Railroad and the Commission.

(12) COMMISSION REPRESENTATIVE: The Commission's Chief Engineer is designated as the Commission's representative for the purpose of administering the provisions of this Agreement.

(13) LAW OF MISSOURI TO GOVERN: This Agreement shall be construed according to the laws of the state of Missouri. The Railroad shall comply with all local, state and federal laws and regulations relating to the performance of this Agreement.

(14) SUCCESSOR OBLIGATIONS: When the Project has been approved by the FHWA, this Agreement shall be effective to bind the parties hereto, their successors or assigns, and this Agreement shall continue in force so long as the Commission maintains the grade separation structure and roadway facilities at this location as part of the state highway system.

(15) VENUE: It is agreed by the parties that any action at law, suit in equity, or other judicial proceeding to enforce or construe this Agreement, or regarding its alleged breach, shall be instituted only in the Circuit Court of Cole County, Missouri.

(16) PROPERTY RIGHTS: The Commission has existing rights to the Railroad's right of way to provide for the existing roadway at this location as granted by Missouri Pacific Railroad Company, predecessor of Railroad, to Franklin County, and subsequently conveyed to the Commission by Franklin County. Upon the execution and delivery of this Agreement, the Railroad grants the Commission the right to construct a retaining wall under the Union Pacific bridge to allow for Route MM to be widened pursuant to the terms and conditions of this Agreement.

(17) LICENSOR GRANT OF RIGHTS: For and in consideration of FIVE HUNDRED DOLLARS AND ZERO ONE HUNDREDTHS ($500.00) to be paid by the Commission to the Railroad upon the execution and delivery of this Agreement and in further consideration of the Commission's agreement to perform and comply with the terms of this Agreement, the Railroad hereby grants to the Commission the necessary Temporary Constructions Areas to construct the retaining wall and all appurtenant highway facilities, as shown in the Railroad Print marked as part of Exhibit 1-A and Right of Way to use, maintain and repair the retaining wall and all appurtenant highway facilities on and across the New Right of Way Area as outlined in the Railroad Print marked as part of Exhibit 1-A, attached hereto and herby made a part hereof.

Remainder of Page Intentionally Left Blank

IN WITNESS WHEREOF, the parties have entered into this Agreement on the date last written below.

Executed by Union Pacific Railroad on 2023-10-02 | 9:27 AM CDT (DATE).

Executed by the Commission on 2023-10-02 | 2:00 PM CDT (DATE).

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

By DocuSigned by: Eric E. Schroeter 5F8CCFE9B29E499...

Title Assistant Chief Engineer

UNION PACIFIC RAILROAD COMPANY

By DocuSigned by: David LaPlante BF02384623D2403...

Title Director-Real Estate

ATTEST:

DocuSigned by: Pamela Harlan A4666CD7996249B...

Secretary to the Commission

Approved as to Form:

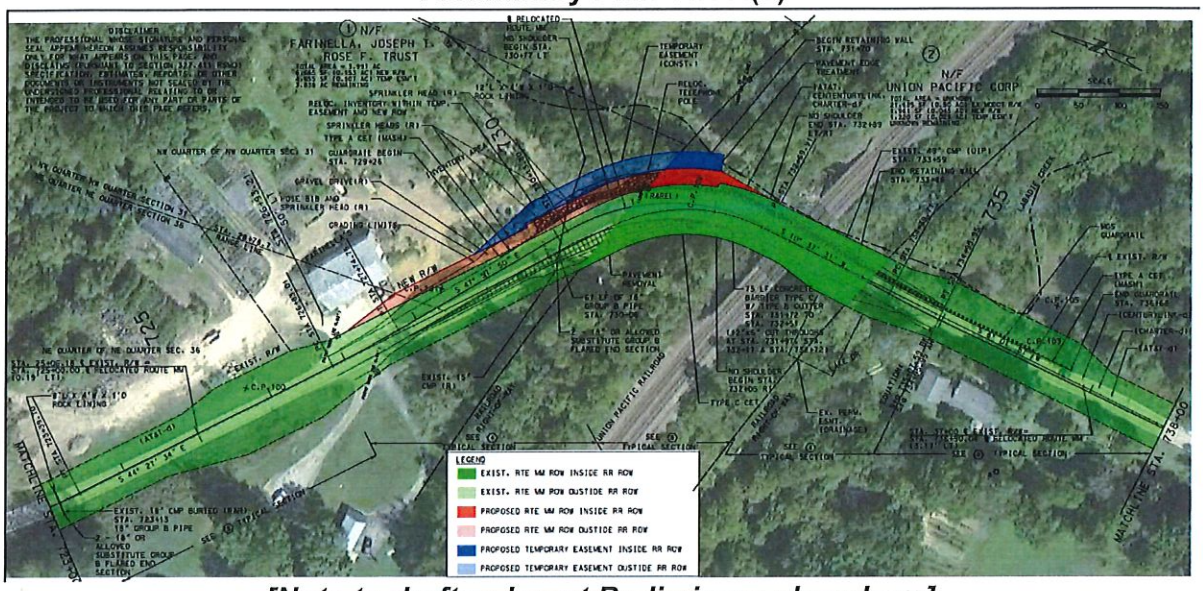
By DocuSigned by: Megan L. Waters-Hamblin BA34EE9EF9E5407

Title Senior Administrative Counsel

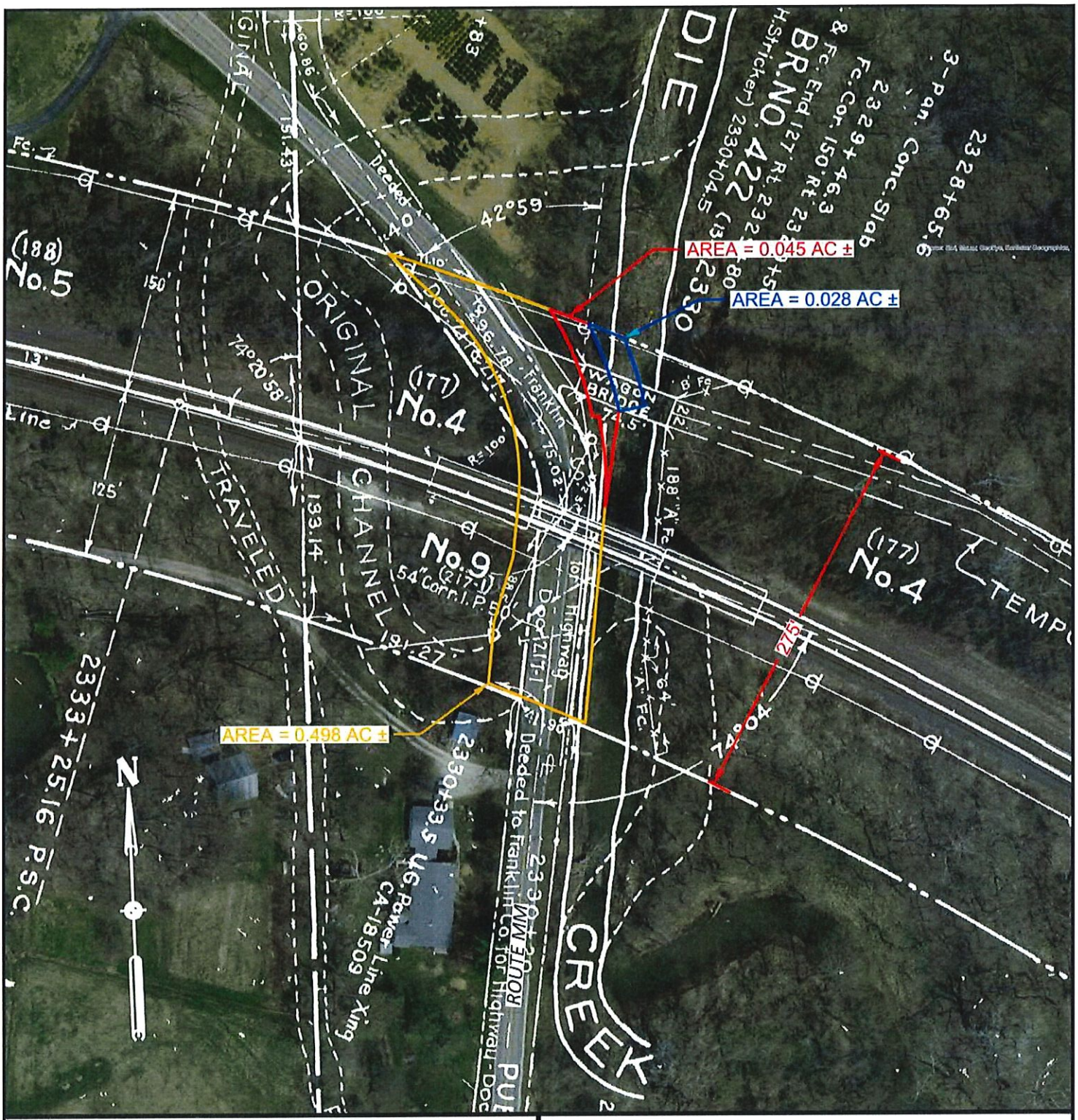
EXHIBIT

1

Preliminary Plan Sheet(s)



[Note to drafter: Insert Preliminary plans here]



LEGEND:

TEMP CONSTRUCTION AREA	
NEW LICENSE AREA	
EXISTING CROSSING AREA	
UPRRCO. R/W OUTLINED	

CADD FILENAME	0773639.DGN
SCAN FILENAME	0773639_M002A8AB.TIF

NOTE: BEFORE YOU BEGIN ANY WORK, SEE AGREEMENT FOR FIBER OPTIC PROVISIONS.

EXHIBIT "A"

UNION PACIFIC RAILROAD COMPANY

LABADIE, FRANKLIN COUNTY, MO

M.P. 42.18 - JEFFERSON CITY

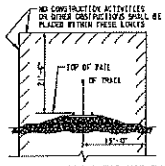
MAP MP MO V-2A / S-2AB

SCALE: 1" = 100'

OFFICE OF REAL ESTATE

OMAHA, NEBRASKA DATE: 7/11/2023

RRM FILE: 07736-39



MINIMUM CONSTRUCTION CLEARANCE ENVELOPE

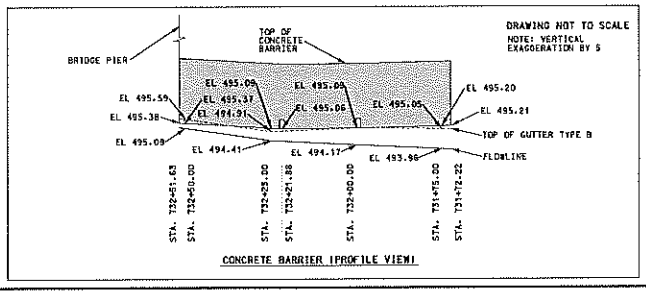
(NORMAL TO RAILROAD)

BRIDGE STANDARDS

TEMPORARY CLEARANCE ENVELOPE

Railroad Notes

1. All permanent clearances shall be verified before project closing. Existing clearances shall not be decreased due to the proposed project.
2. Regardless of underlying land ownership, all shoring systems within Railroad right-of-way or that may impact the Railroad's operations and/or supports the Railroad's embankment shall be designed and constructed per current Railroad Guidelines for Temporary Shoring.
3. The contractor submit and provide sufficient safety measures to protect unattended excavations to the Railroad for approval.
4. All demolitions/removals within the Railroad's right-of-way and/or that may impact the Railroad's tracks or operations shall be in compliance with the current Railroad's Demolition Guidelines.
5. Railroad requirements do not allow work within 50 feet of track centerline when a train passes the work site and all personnel must clear the area within 25 feet of the track centerline and secure all equipment.
6. Call Before You Dig. Prior to excavation, disrupting, or working on the Railroad property the contractor shall locate and protect UPRR facilities by calling the UPRR "Call Before You Dig"(CBYD) phone number: 1-800-336-9193.
7. Construction activities, including falsework/formwork, are not allowed within the "Minimum Construction Clearance Envelope" as they would otherwise disrupt Railroad operations.



CONCRETE BARRIER (PROFILE VIEW)

DRAWING NOT TO SCALE

DATE PREPARED	
4/4/2023	
ROUTE MW	STATE MO
DISTRICT SL	ROUTE NO. 22
COUNTY FRANKLIN	
JOB NO. J6S3368	
CONTRACT NO.	
PROJECT NO.	
SHEET NO.	

DATE	DESCRIPTION

IF A 3-IN. IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SCALED AND DATED

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

TREKK DESIGN GROUP, LLC

1100 TUCKER BOULEVARD, SUITE 201
ST. LOUIS, MO 63101
(314)436-2400

SPECIAL SHEET

SHEET 1 OF 2

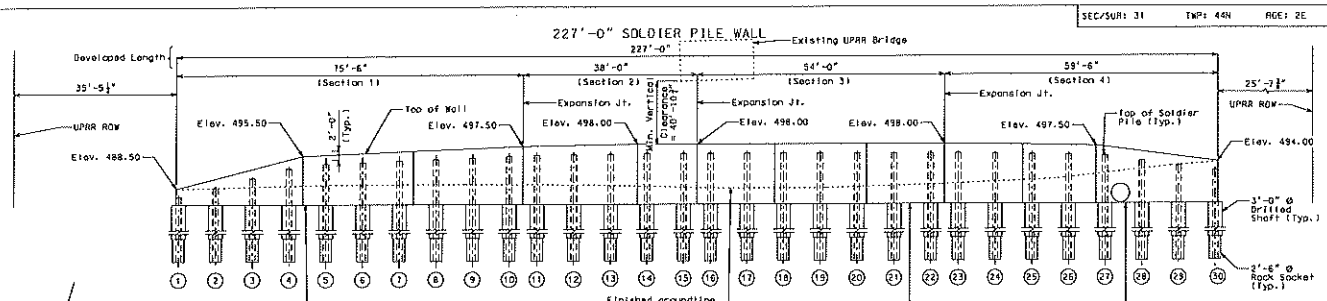
REV.

\\TREKK\Jobs\2021\21-0348 (9038 MoDOT Route MW)\9038_MoDOT_Route_MW\07_Design\A_Drawings\PlanSet\022_SS_01_J6S3368_M.dgn 3:04:34 PM 3/29/2023

DocuSign Envelope ID: ADACF1A3-0D0D-49E0-B6C5-0016CD129DF0

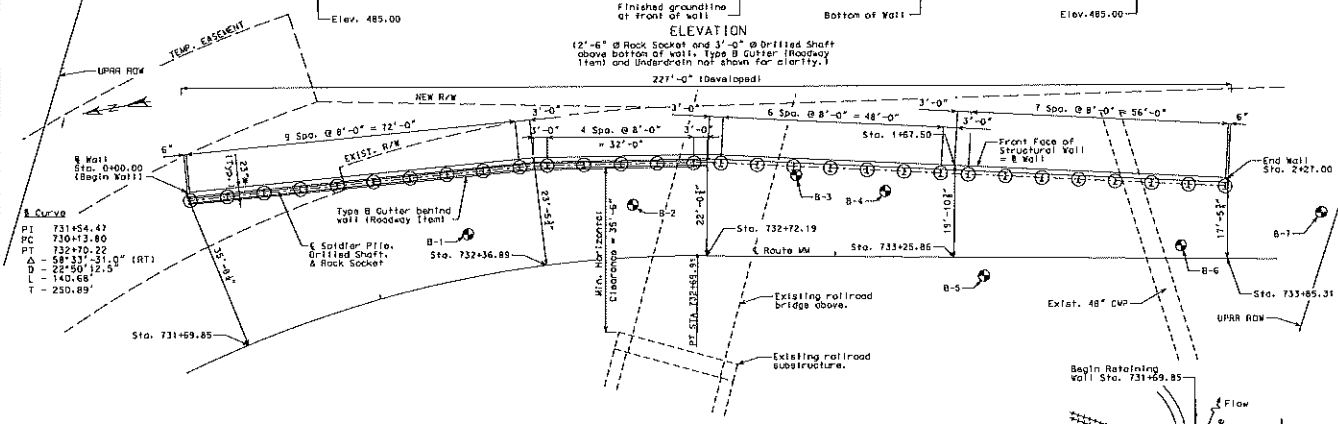
SEC/SUR: 31 TWP: 44N RGE: 2E

227'-0" SOLDIER PILE WALL



ELEVATION

(2'-6" Ø Rock Socket and 3'-0" Ø Drilled Shaft above bottom of wall. Type B Gutter (Roadway Item) and Underdrain not shown for clarity.)



WALL PLAN

Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the plan sheet(s) for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of the project, are shown on Sheet(s) No. 9-17 and may be included in the Electronic Bridge Deliverables. They will also be available from the Project Contact upon written request. No greater significance or weight should be given to the boring data depicted on the plan sheets than is given to the subsurface data available from the district or elsewhere.

The Commission does not represent or warrant that any such boring data accurately depicts the conditions to be encountered in constructing this project. A contractor assumes all risks if may encounter in basing its bid prices, time or schedule of performance on the boring data depicted here or those available from the district, or on any other documentation not expressly warranted, which the contractor may obtain from the Commission.

Designed KAS JAN 2023
Detailed DCS JAN 2023
Checked JGS JAN 2023

Notes:

Entire limits of proposed soldier pile wall are within railroad right-of-way.

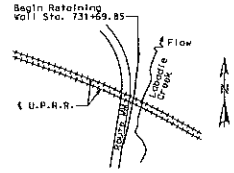
Retaining wall construction methods shall account for limited access near the railroad bridge. The clearance envelope around all bridge elements shall be a minimum of 5'-0".

Contractor is responsible for protecting existing 48" CMP pipe during construction.

* Assumes vertical drain thickness is less than pile flange thickness. Adjust as necessary to maintain 12" (Min.) wall thickness.

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1 OF 17



LOCATION SKETCH

RETAINING WALL: ALONG ROUTE MM & LABADIE CREEK

ROUTE MM FROM RTE. T TO RTE. 100
ABOUT 0.6 MILES SOUTH OF RTE. T
STA. 731+69.85

DATE PREPARED	4/4/2023
ROUTE MM	STATE MO
DISTRICT SL	SHEET NO. 1
COUNTY FRANKLIN	
JOB NO. J6S3368	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO. A9083	

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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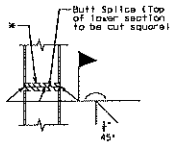
Estimated Quantities

Item		Total
Drainage System	lump sum	1
Drilled Shafts (3ft. 0 in. Dia.)	linear foot	1320.0
Rock Sockets (2 ft. 6 in. Dia.)	linear foot	150.0
Misc. Galvanized Soldier Piles (W18x119)	linear foot	1754
Class B Concrete (Retaining Walls)	cu. yard	91.0
Reinforcing Steel (Epoxy Coated)	pound	11640

SUGGESTED CONSTRUCTION SEQUENCE:

1. Install temporary work pad or berm at Elev. 485.00 to get access for drilling equipment.
2. Drill holes for drilled shafts and rock sockets. Set soldier piles with welded shear connectors, per the plans in the hole. Use templates or other devices to hold the soldier pile within tolerance given in the Job Special Provisions.
3. Concrete the drilled shaft and rock socket up to the work pad elevation. Take care to support soldier pile within tolerances given in the Job Special Provisions when concreting.
4. Install reinforced concrete wall.
5. Install vertical drain behind wall and structural underdrain under wall.
6. Backfill wall with Select Granular Backfill.
7. Install Type B Concrete Gutter (Roadway Item).



STEEL PILE SPLICE
(IF required)

* Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.

GENERAL NOTES:

Design Specifications:

2020 AASHTO LRFD Bridge Design Specifications (9th Edition)
Seismic Design Category B

Design Loading:

Earth = 125 pcf
Design ϕ_f = 34° for the select granular backfill.

Design Unit Stresses:

Class B Concrete (Retaining Wall)	f'c = 3,000 psi
Class B-2 Concrete (Drilled Shafts & Rock Sockets)	f'c = 4,000 psi
Reinforcing Steel (Grade 60)	fy = 60,000 psi
Structural Steel (ASTM A709, Grade 50)	fy = 50,000 psi

Joint Filler:

All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.

All reinforcing steel shall be epoxy coated.

Miscellaneous:

See Roadway Plans for traffic control.

Excavation will be paid for as a Roadway Item. See Roadway Plans.

Shear connectors are included in the cost of Galvanized Soldier Piles (W18x119).

Shear connectors shall be in accordance with Sec 712, 1037 and 1080.

A different size pile may be used provided it has the same or greater bending and shear strength. No adjustments will be made to the contract unit price.

Contractor shall include design ϕ_f (actual $\phi_f \geq$ 34° and the total unit weight, γ_s, for the select granular backfill (reinforced backfill and wedge area backfill) for structural systems on shop drawings. Contractor shall identify source of select granular backfill material, submit proctor in accordance with AASHTO 99 (ASTM D698) and gradation with shop drawings. When backfill material is to coarse to develop a proctor curve the contractor shall determine the maximum dry density (relative density) in accordance with ASTM D4253 and ASTM D4254 and assume percent passing the 200 sieve for optimum water content.

Total unit weight, γ_s= (95% compaction) x (maximum dry density) x (1 + optimum water content)

Structural steel shall be galvanized in accordance with ASTM A123 and Sec 1081.

Detailed MAR 2023
Checked MAR 2023

Note: This drawing is not to scale. Follow dimensions.

GENERAL NOTES

DATE PREPARED	4/4/2023
ROUTE	MM
STATE	MO
DISTRICT	SL
SHEET NO.	2
COUNTY	FRANKLIN
JOB NO.	J6S3168
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A9083

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MoDOT

105 WEST CAPITOL
JEFFERSON CITY, MO 65101
1-888-ASK-MODOT (1-888-275-6636)

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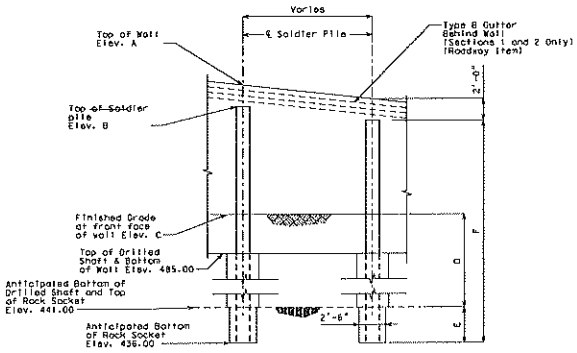
WALL, DRILLED SHAFT, ROCK SOCKET AND SOLDIER PILE DATA

	Pile Number	℄ Wall Station	Top of Wall Elev. A	Top of Soldier Pile Elev. B	Finished Grade at Front Face of Wall Elev. C	Drilled Shaft Pay Limit (feet) Dim D	Rock Socket Pay Limit (feet) Dim E	Anticipated Soldier Pile Length (feet) Dim F	Soldier Pile Pay Length (feet)
Section 1	1	0+00.50	488.71	486.71	488.0	44.00	5.00	50.71	51.00
	2	0+08.50	490.65	488.65	487.5	44.00	5.00	52.65	53.00
	3	0+16.50	492.71	490.71	487.0	44.00	5.00	54.71	55.00
	4	0+24.50	494.74	492.74	486.0	44.00	5.00	56.74	57.00
	5	0+32.50	495.70	493.70	486.1	44.00	5.00	57.70	58.00
	6	0+40.50	496.03	494.03	486.2	44.00	5.00	58.03	59.00
	7	0+48.50	496.40	494.40	486.5	44.00	5.00	58.40	59.00
	8	0+56.50	496.73	494.73	486.7	44.00	5.00	58.73	59.00
	9	0+64.50	497.00	495.00	487.0	44.00	5.00	59.00	59.00
Section 2	10	0+72.50	497.33	495.33	487.2	44.00	5.00	59.33	60.00
	11	0+78.50	497.59	495.59	487.5	44.00	5.00	59.59	60.00
	12	0+86.50	497.73	495.73	487.7	44.00	5.00	59.73	60.00
	13	0+94.50	497.87	495.87	488.0	44.00	5.00	59.87	60.00
	14	1+02.50	498.00	496.00	488.2	44.00	5.00	60.00	60.00
Section 3	15	1+10.50	498.00	496.00	488.5	44.00	5.00	60.00	60.00
	16	1+16.50	498.00	496.00	488.5	44.00	5.00	60.00	60.00
	17	1+24.50	498.00	496.00	488.5	44.00	5.00	60.00	60.00
	18	1+32.50	498.00	496.00	488.5	44.00	5.00	60.00	60.00
	19	1+40.50	498.00	496.00	488.5	44.00	5.00	60.00	60.00
	20	1+48.50	498.00	496.00	488.9	44.00	5.00	60.00	60.00
	21	1+56.50	498.00	496.00	489.0	44.00	5.00	60.00	60.00
	22	1+64.50	498.00	496.00	489.3	44.00	5.00	60.00	60.00
Section 4	23	1+70.50	497.93	495.93	489.5	44.00	5.00	59.93	60.00
	24	1+78.50	497.83	495.83	489.7	44.00	5.00	59.83	60.00
	25	1+86.50	497.72	495.72	489.9	44.00	5.00	59.72	60.00
	26	1+94.50	497.62	495.62	490.8	44.00	5.00	59.62	60.00
	27	2+02.50	497.24	495.24	491.5	44.00	5.00	59.24	60.00
	28	2+10.50	496.20	494.20	492.5	44.00	5.00	58.20	59.00
	29	2+18.50	495.12	493.12	493.3	44.00	5.00	57.12	58.00
	30	2+26.50	494.06	492.06	493.7	44.00	5.00	56.06	57.00



PART ELEVATION OF SOLDIER PILE WALL

Notes:

Top of Rock Socket is at anticipated Top of Rock.

For location of piles, see Sheet No. 1.

For Typical Wall Details, see Sheet No. 6.

WALL ELEVATION DATA TABLE

Detailed MAR 2023
Checked MAR 2023

Note: this drawing is not to scale. Follow dimensions.

Sheet No. 3 of 17

DATE PREPARED 4/4/2023

ROUTE	STATE
MM	MO
DISTRICT	SHEET NO.
SL	3

COUNTY FRANKLIN

JOB NO. J653368

CONTRACT ID.

PROJECT NO.

BRIDGE NO. A9083

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CDI ENGINEERS

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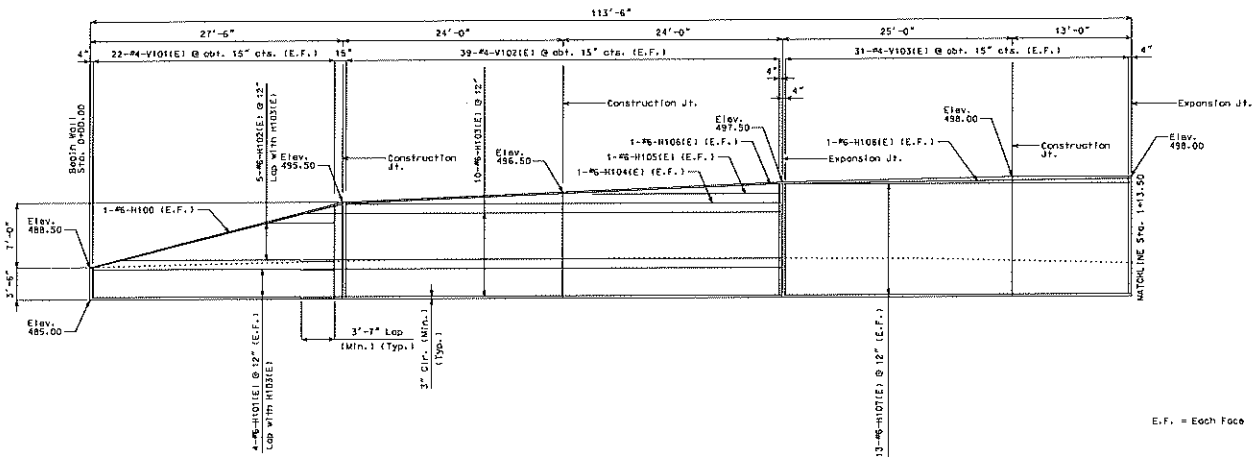

PART DEVELOPED ELEVATION
Piles and Type B Gutter not shown for clarity.)
(Looking at back face of wall)

CIP WALL DETAILS – SHEET 1

Detailed WAR 2023
Checked WAR 2023

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 4 of 17

DATE PREPARED	4/4/2023
ROUTE	MM
STATE	MO
DISTRICT	SL
SHEET NO.	4
COUNTY	FRANKLIN
JOB NO.	J6S3368
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A9083

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

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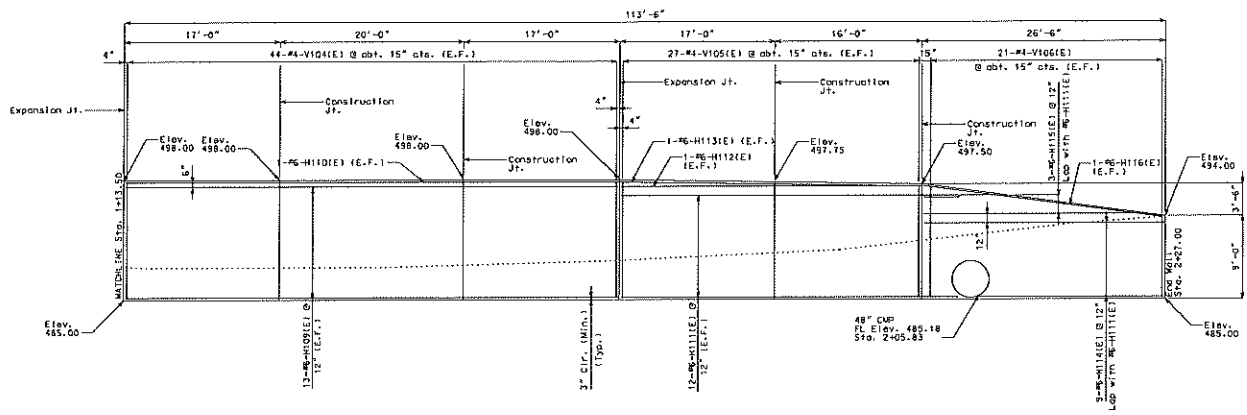

E.F. = Each Face

PART DEVELOPED ELEVATION

(Piles not shown for clarity.)
(Looking at back face of wall)

Notes:
Cut bars to fit around 48" CMP opening
see Sheet No. 6 for details of pipe penetration.

DATE PREPARED	4/4/2023
ROUTE	MM
STATE	MO
DISTRICT	SL
SHEET NO.	5
COUNTY	FRANKLIN
JOB NO.	J6S3368
CONTRACT ID.	
PROJECT NO.	
MODOT NO.	A9083

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-275-6636
1-888-ASK-MODOT

CDI ENGINEERS

Detailed MAR 2023
Checked MAR 2023

CIP WALL DETAILS - SHEET 2

Note: This drawing is not to scale. Follow dimensions.

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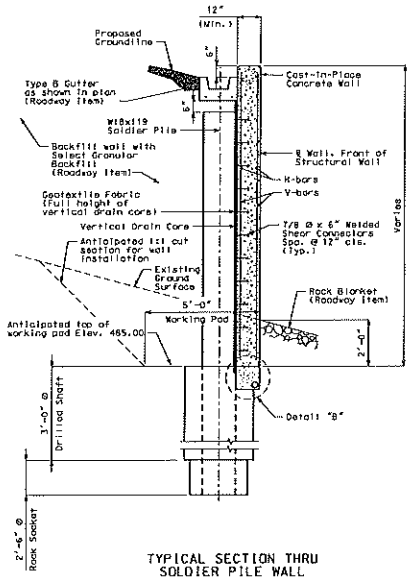
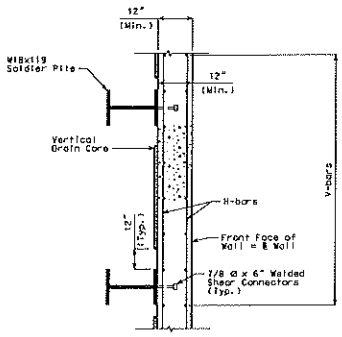
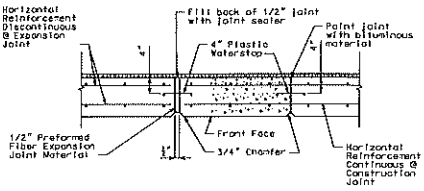


TYPICAL SECTION THRU SOLDIER PILE WALL

Note: For details of H-bars and V-bars see Sheets No. 4 and 5.

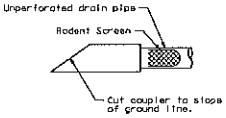


PART PLAN OF SOLDIER PILE WALL

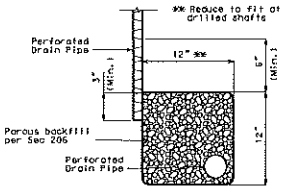


PART SECTION THRU WALL SHOWING JOINTS

Cost of water stop and expansion joint material shall be included in the contract unit price for other items. For location of joints, see Sheets No. 4 and 5.



DETAIL "C"



DETAIL "B"

Drainage System Notes:

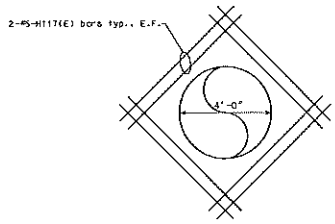
Cost of installing drainage system complete in place will be considered completely covered by the contract price of Drainage System. See Special Provisions.

Drain pipe may be either 6" diameter corrugated metallic-coated steel pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

Slope pipe to drain and continue to daylight as approved by the Engineer.

Perforated pipe shall be placed as shown under wall and drain pipe shall be used from end of wall to end of pipe.

Vertical drain core shall be in accordance with Sec 1012.3.3.



PIPE PENETRATION DETAIL

Trim vertical and horizontal bars to clear pipe openings

TYPICAL DETAILS

Detailed WAR 2023
Checked WAR 2023

Note: This drawing is not to scale. Follow dimensions.

Sheet No. 6 of 17

DATE PREPARED	4/4/2023
ROUTE MM	STATE MO
DISTRICT SL	SHEET NO. 6
COUNTY	FRANKLIN
JOB NO.	J6S3368
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	A9083

DESCRIPTION

DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

JEFFERSON CITY, MISSOURI 65102

1-888-ASK-MODOT (1-888-275-6636)

CDI ENGINEERS
STRUCTURAL
PLAN NO. 2023
APPROVED
MISSOURI DEPARTMENT OF TRANSPORTATION

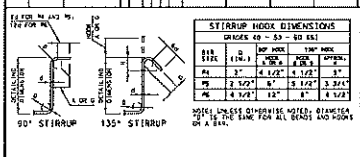
DocuSign Envelope ID: ADACF1A3-0D0D-49E0-B6C5-0016CD129DF0
barbilli_l Effective: May 2016 Supersedes: Aug. 2008

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	VARIES (Y/N)	SHAPE NO.	STIRRUP (S)	VERTICAL LEG (V)	NO. EACH	B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
2	6	H100	Wall	E	20				28 0.000							28 0	28 0	84
8	6	H101	Wall	E	20				26 6.000							26 6	26 6	318
5	6	H102	Wall	E	20		V	2	7 4.000							7 4	7 4	230
			INCR=4'-0"						23 3.000							23 3	23 3	
20	6	H103	Wall	E	20				52 5.000							52 5	52 5	1575
2	6	H104	Wall	E	20				47 6.000							47 6	47 6	143
2	6	H105	Wall	E	20				20 8.000							20 8	20 8	62
2	6	H106	Wall	E	20				47 7.000							47 7	47 7	143
26	6	H107	Wall	E	20				37 4.000							37 4	37 4	1458
2	6	H108	Wall	E	20				37 5.000							37 5	37 5	112
26	6	H109	Wall	E	20				53 4.000							53 4	53 4	2083
2	6	H110	Wall	E	20				53 4.000							53 4	53 4	160
24	6	H111	Wall	E	20				36 7.000							36 7	36 7	1319
2	6	H112	Wall	E	20				32 4.000							32 4	32 4	97
2	6	H113	Wall	E	20				32 6.000							32 6	32 6	98
18	6	H114	Wall	E	20				26 2.000							26 2	26 2	107
3	6	H115	Wall	E	20		V	2	8 0.000							8 0	8 0	140
			INCR=1'-6"						23 0.000							23 0	23 0	
2	6	H116	Wall	E	20				26 2.000							26 2	26 2	73
8	5	H117	Pipe Pen	E	20				7 6.000							7 6	7 6	63
22	4	V101	Wall	E	20		V	2	5 5.000							5 5	5 5	196
			INCR=3.75"						9 11.000							9 11	9 11	
39	4	V102	Wall	E	20		V	2	10 2.000							10 2	10 2	581
			INCR=0.625"						12 1.500							12 2	12 2	
31	4	V103	Wall	E	20		V	2	12 2.500							12 3	12 3	513
			INCR=0.125"						12 7.000							12 7	12 7	
88	4	V104	Wall	E	20				12 7.000							12 7	12 7	740
27	4	V105	Wall	E	20		V	2	12 6.500							12 7	12 7	444
			INCR=0.25"						12 1.000							12 1	12 1	
21	4	V106	Wall	E	20		V	2	12 0.500							12 1	12 1	291
			INCR=2.00"						8 8.500							8 9	8 9	

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	VARIES (Y/N)	SHAPE NO.	STIRRUP (S)	VERTICAL LEG (V)	NO. EACH	B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.

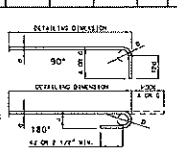


STIRRUP HOOK DIMENSIONS

GRADES 40 - 60 - 60 (65)

BAR SIZE	D (IN.)	90° HOOK A (IN.)	90° HOOK APPRX.	135° HOOK A (IN.)	135° HOOK APPRX.
#4	3"	4 1/2"	4 1/2"	5"	
#5	3 1/2"	5"	5 1/2"	5 3/4"	
#6	4 1/2"	12"	8"	6 1/2"	

NOTES: UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR.



END HOOK DIMENSIONS

BAR SIZE	D (IN.)	180° HOOK A (IN.)	180° HOOK B (IN.)
#3	2 1/4"	4"	2"
#4	3"	6"	3"
#5	3 3/4"	7"	5"
#6	4 1/2"	8"	10"
#7	5 1/4"	10"	12"
#8	6"	11"	14"
#9	8 1/2"	13"	19"
#10	10 3/4"	15"	23"
#11	12"	18"	2'-0"
#14	15 1/4"	2'-3"	2'-11"

NOTES
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEGREES ARE TO BE BENT WITH SAME PROCEDURE AS FOR 90 DEGREE STANDARD HOOKS.

HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.

E = EPOXY COATED REINFORCEMENT.
S = STIRRUP
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.

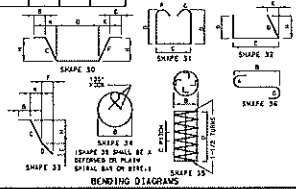
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE, NEAREST INCH.

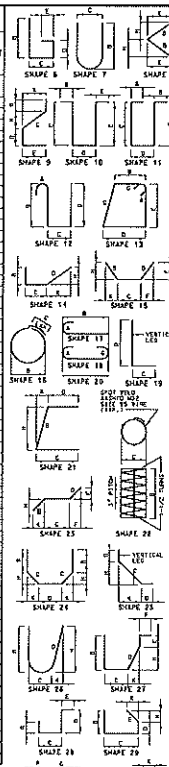
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.

PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.

FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.

REINFORCING STEEL (GRADE 60) FY = 60,000 PSI.





DATE PREPARED 4/4/2023
MODE MM
DISTRICT SL
SHEET NO. 7
COUNTY FRANKLIN
JOB NO. J653368
CONTRACT NO.
PROJECT NO.
BRIDGE NO. A9083

DESCRIPTION | DATE

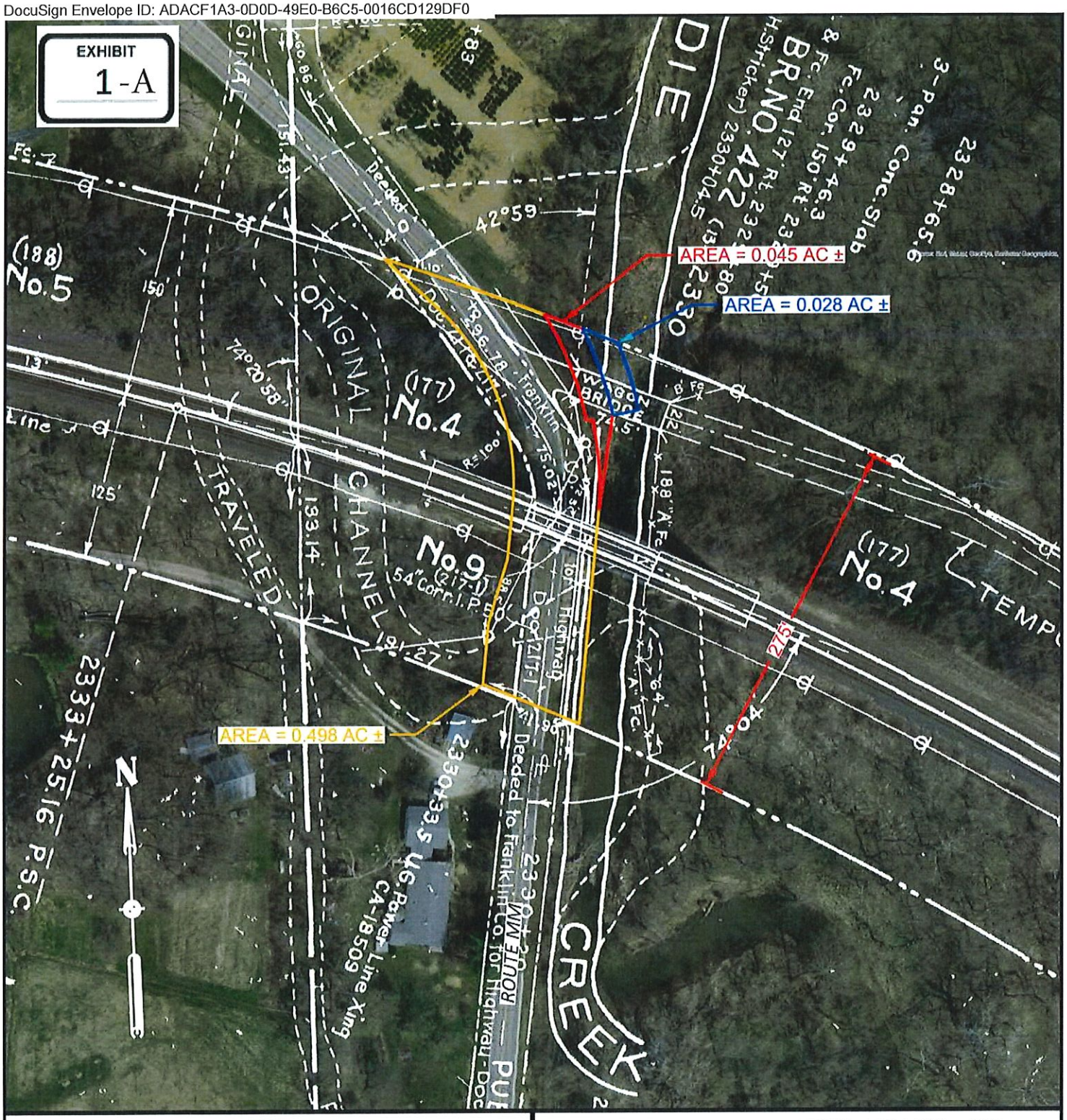
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6363)

CDI ENGINEERS
8700 Quivira Road
P.O. Box 14267
Lenexa, KS 66215
(913) 492-5158 Fax (913) 492-8400
Certificate of Authority Engineering #000187

Detailed MAR 2023
Checked MAR 2023

Note: This drawing is not to scale. Follow dimensions.

DocuSign Envelope ID: ADACF1A3-0D0D-49E0-B6C5-0016CD129DF0



LEGEND:

TEMP CONSTRUCTION AREA	
NEW LICENSE AREA	
EXISTING CROSSING AREA	
UPRRCO. R/W OUTLINED	

CADD FILENAME	0773639.DGN
SCAN FILENAME	0773639_M002A8AB.TIF

NOTE: BEFORE YOU BEGIN ANY WORK, SEE AGREEMENT FOR FIBER OPTIC PROVISIONS.

EXHIBIT "A"

UNION PACIFIC RAILROAD COMPANY

LABADIE, FRANKLIN COUNTY, MO

M.P. 42.18 - JEFFERSON CITY

MAP MP MO V-2A / S-2AB

SCALE: 1" = 100'

OFFICE OF REAL ESTATE

OMAHA, NEBRASKA DATE: 7/11/2023

RRM FILE: 07736-39

EXHIBIT
2

Union Pacific Railroad Requirements

1.0 Introduction.

1.1 These Railroad Requirements set forth terms and conditions agreed upon between the Union Pacific Railroad Company (Railroad) and the Missouri Highways and Transportation Commission (Commission), under which the Railroad will allow the Commission's contractors to enter in and upon the Railroad's real property, right of way, tracks and other facilities (Railroad's Property) to perform the contractor's work relating to this project.

1.2 To report an emergency on the Railroad, call: (888) 877-7267.

1.3 The project location is at Railroad Milepost 42.18 on Railroads Jefferson City Subdivision, designated as USDOT Crossing # 442746R. **Current FRA data shows 14 daytime trains per day and 14 nighttime trains per day and 4 passenger trains per day.**

1.4 Definitions of terms set forth in the current edition of the Missouri Standard Specifications for Highway Construction shall be applicable to those terms as used in these Railroad Requirements.

2.0 Authority of Railroad Representative and Engineer.

2.1 The authorized representative of the Railroad, herein called "Railroad Representative", shall have final authority in all matters affecting the safe maintenance and operation of railroad traffic including the adequacy of the foundations and structures supporting the railroad tracks.

2.1.1 The Railroad designates the following individual as the Railroad Representative for this project. Except as otherwise provided in these Railroad Requirements, the contractor shall address all notices concerning this project to the Railroad Representative, as follows:

John Plebanek
Public Projects Manager
Telephone: Direct – (414) 977-7575 Mobile – (414) 294-8685
E-mail: jplebanek@benesch.com

2.1.2 The Railroad, or the individual identified above, may designate a different individual to act as the Railroad Representative for this project, and may change the address information stated above, by giving written notice of the changes to the contractor and to the Engineer, as provided in these Railroad Requirements.

2.2 The authorized representative of the Commission (Engineer) shall have authority over all other matters as prescribed herein and in the project specifications.

3.0 Contractor's Indemnity Obligations to the Railroad.

3.1 The contractor agrees to indemnify, defend and hold harmless the Railroad from and against any injury or death of persons whomsoever, or from any loss or damage to the Railroad's Property, caused by acts or omissions of the contractor in performing work on this project, whether on, over, under or in the vicinity of the Railroad's Property. In the event the contractor shall fail to restore

the Railroad's Property immediately to a condition acceptable to the Railroad when any such loss or damage to the Railroad's Property is called to the contractor's attention by the Railroad, then the Railroad may perform such corrective work at the cost of the contractor. The Railroad shall have the right to bring an action directly against the contractor to recover any loss or damage sustained by the Railroad by reason of the contractor's breach of agreements contained in these Railroad Requirements. In addition to such remedies of the Railroad, the Commission will withhold from final payment due to the contractor the amount reasonably necessary to reimburse the Railroad for such loss or damage or for performing such work. The term "loss or damage" as used herein shall include, but not be limited to, the erosion and silting of, water damage to, and the accidental or intentional placing or dropping of objects on the Railroad's Property.

4.0 Notice of Starting Work.

4.1 The contractor shall not commence any work on the Railroad's right of way until contractor has complied with the following conditions (no particular order):

4.1.1 At least thirty (30) days in advance of the date the contractor proposes to begin work on the Railroad's Property, the contractor has given written notice of the contractor's proposed start date and time to the Railroad Representative, and Railroad's Manager of Track Maintenance (see paragraph 12.2.3 below), with a copy to the Engineer.

4.1.2 The Commission has obtained written approval from the Railroad's Representative for the contractor's insurance coverage as required by Section 17 of these Railroad Requirements, and authorization for the contractor to begin work on the Railroad's Property.

4.1.3 The contractor has determined whether fiber optic cable systems are buried on the Railroad's Property. If fiber optic cable systems are buried on the Railroad's Property, then the contractor has contacted the Railroad at the 24 hour number, 800-336-9193, has contacted the telecommunications company involved, has arranged for a cable locator, and has made arrangements for relocation or other protection of the fiber optic cable system on the Railroad's Property.

4.1.4 Union Pacific Property Access Training must have been completed by each person on UPRR right of way. A valid copy of certification must be with the individual anytime they are on the job site. For guidance on completing the training, visit the website provided: https://www.up.com/aboutup/community/safety/erailsafe/up-pat/index.htm

4.2 Right of Entry. At least thirty (30) days in advance of the date the contractor proposes to begin work on the Railroad's Property, the contractor shall enter into a Contractor's Right of Entry Agreement (CROE) with Railroad prior to working on Railroad property. Below is the 4-step process that must be followed for the contractors right of entry:

a. Fill out the CROE using the following Scope of Work: Roadway improvements under the Union Pacific at DOT 442746R.
b. Sign the CROE.
c. Submit the Administrative fee of $1,025, referencing your folder/project number on the payment submission.
d. Email the signed CROE to jonathan.holland@up.com.
e. Once the CROE Agreement and payment have been received, please allow a minimum of 30 days to process CROE and the railroad will return fully executed agreement.

4.2.1 If applicable to the project, the contractor must submit a plan for demolition, falsework, lifting plans over the Railroad property, shoring plans and any other applicable plans the Railroad may require as well as means and methods to the Railroad for review and approval. All plans submitted to the Railroad must be signed and sealed by Professional Engineer licensed in the State of Missouri. These plans can be submitted along with the Right of Entry application; however, the Right of Entry will not be approved until all required plans are approved by the Railroad.

5.0 Interference with Railroad's Operations.

5.1 The Railroad's right of way is located within the limits of this project. The contractor shall take care to ensure that it will not drop any debris or material on the Railroad's Property.

5.2 The contractor shall arrange and conduct all of the contractor's work so that it causes no interference with the Railroad's operations, including train, signal, telephone, telegraphic services, damage to the Railroad's Property, poles, wires and other facilities of tenants on the Railroad's Property. Whenever the contractor's work may directly affect the operations or safety of trains, the contractor shall submit a written description of the method of doing such work to the Railroad Representative for approval, but such approval shall not relieve the contractor from liability resulting from the contractor's work. Any work to be performed by the contractor that requires flagging service shall be deferred by the contractor until the flagging services are available at the job site.

5.3 Whenever the contractor's work upon the Railroad's Property will unavoidably cause an impediment to the Railroad's operations, such as requiring the use of runaround tracks or reduced train speed, the contractor should schedule and conduct these operations so that this impediment is reduced to the absolute minimum.

5.4 If conditions arising from, or in connection with the work require immediate and unusual provisions to protect the Railroad's operations and property, the contractor shall make such provisions. If in the judgment of the Railroad Representative, or the Engineer if the Railroad Representative is absent, such provision is insufficient, then the Railroad Representative or Engineer may require or provide such provisions as he/she deems necessary. In any event, the contractor shall make such provisions at the contractor's expense, and without cost to the Railroad or the Commission.

6.0 Track Clearances.

6.1 During construction, the contractor shall maintain not less than the minimum track clearances as shown on the project plans. However, before undertaking any work within the Railroad's Property and before placing any obstruction over any track, the contractor shall:

6.1.1 Notify the Railroad Representative and the Railroad's Manager of Track Maintenance at least ten (10) days in advance of the proposed work.

6.1.2 Receive assurance from the Railroad's Manager of Track Maintenance that arrangements have been made for flagging service as may be necessary.

6.1.3. Receive permission from the Railroad Representative to proceed with the work, as provided in section 4.0.

6.1.4. Confirm that the Engineer has received copies of the contractor's notice to the Railroad, and of the Railroads' response.

6.1.5 Note that temporary Work Zone traffic control must not circumvent the active warning devices at this location.

6.1.6 Temporary traffic control must comply with MUTCD standards. Any time work is within 25' of the track, the potential to foul the track exists or a pilot car is used traversing the crossing will require a Railroad flag person to be present. Traffic control must be returned to normal operations through the crossing area before releasing the Railroad's flag person.

7.0 Construction Procedures.

7.1. General. The contractor's work on the Railroad's property shall be performed in accordance with these Railroad Requirements and shall be subject to the Railroad's inspection and review. The contractor shall submit plans that shall be signed, sealed, and stamped in accordance with the laws relating to Architects and Professional Engineers, Chapter 327, RSMo, for the demolition of any structure over Railroad right of way, and for temporary shoring and falsework that may affect the Railroad's facilities or traffic.

7.2 Excavation. The contractor shall maintain the subgrade of an operated track with the beam edge at least 12 feet from centerline of track and not more than 26 inches below top of rail, unless the existing section fails to meet this specification, in which case the contractor shall maintain the existing section.

8.0 Maintenance of Railroad Facilities. Within the project limits, the contractor shall maintain Railroad's Property, including all ditches and drainage structures, free of silt or other obstructions that may result from contractor's operations. The contractor shall promptly repair eroded areas within the Railroad's Property and repair any other damage to the Railroad's Property or the Railroad's tenants. The contractor shall perform all such maintenance and repair of damages due to the contractor's operations at the contractor's expense.

9.0 Storage of Materials and Equipment.

9.1 The contractor shall obtain permission from the Railroad Representative before storing any materials or equipment anywhere on Railroad's Property. The Railroad will not ordinarily permit storage within twenty-five feet (25') from the centerline of any track, or within three hundred feet (300') from any grade crossing. The Railroad will not be liable for damage to such material and equipment from any cause, and the Railroad Representative may move such material and equipment or require the contractor to move it, at the contractor's expense.

9.2 The contractor shall not leave unattended any grading or construction machinery parked upon Railroad's Property, unless it is effectively immobilized so that unauthorized persons cannot move such machinery.

10.0 Cleanup. Upon completion of the work, the contractor shall remove from within the limits of the Railroad's Property all machinery, equipment, surplus materials, falsework, rubbish or temporary buildings of the contractor's and shall leave Railroad's Property in a neat condition satisfactory to the Railroad Representative.

11.0 Damages. The Railroad shall not assume liability for any damages to the contractor, contractor's work, employees, servants, equipment and materials caused by the Railroad's traffic. However, the preceding sentence shall not exempt the Railroad from liability for any loss, damage or injury proximately caused by the Railroad's intentional misconduct or sole or gross negligence. The contractor shall directly reimburse the Railroad for any cost the Railroad reasonably incurs for repairing damages to the Railroad's Property or to property of the Railroad's tenants, caused by or resulting from the operations of the contractor relating to this project.

12.0 Flagging Services.

12.1 When Flagging is Required. The Railroad has sole authority to determine the need for flagging to protect the Railroad's operations. Whenever the Railroad requires flagging services with reference to any of the contractor's work on this project, the contractor shall not perform any such work until all required flaggers are present at the job site.

12.1.1 In general, the Railroad may require flagging services whenever the contractor's personnel or equipment are, or are likely to be, working on the Railroad's Property, or across, over, adjacent to, or under a track, or when such work has disturbed or is likely to disturb a railroad structure or the railroad roadbed or surface and alignment of any track to such extent that the movement of trains must be controlled by flagging, to prevent unreasonable risks of accidental hazard to the Railroad's operations or personnel.

12.1.2 Normally, the Railroad will assign one flagger to a project; but in some cases, more than one may be necessary, such as yard limits where the Railroad may assign up to three flaggers. However, if the contractor works within distances that violate instructions given by the Railroad Representative, or performs work upon or adjacent to Railroad's Property that has not been scheduled with the Railroad Representative, the Railroad may require flagging services full time until the project is completed.

12.1.3 If flagging is determined to be required by the Manager of Track Maintenance (MTM), and the MTM advises that third party flagging is to be used, then third party flagging must be used. If flagging is determined to be required by the MTM and the MTM advises that an agreement employee flagging is to be used, then an agreement flagger will be put up for bid (and scheduled accordingly).

John Helchowski – Manager of Track Maintenance
805-298-0975
jvhelcho@up.com

UPRR New Flagging Process Link
https://www.up.com/cs/groups/public/@uprr/@realestate/documents/up_pdf_nativedocs/pdf_flagging_cust_instr.pdf

UPRR Third Party Flagging Policy Link
https://www.up.com/real_estate/third-party-flagging/index.htm

12.2 Scheduling and Notification of Flagging Services.

12.2.1 The contractor shall arrange with the Railroad all flagging services required by the Railroad to accomplish the contractor's work on this project.

12.2.2 Before the contractor begins work on the Railroad's Property, the contractor shall furnish to the Railroad Representative and the Engineer a schedule for all work required to complete the contractor's portion of the project within the Railroad's Property and shall arrange for a job site meeting between the contractor, the Engineer, and the Railroad Representative. Until the contractor has provided its work schedule and met on-site with the Railroad Representative and the Engineer, the Railroad may withhold all flagging services from the contractor's proposed job site.

12.2.3 Before the contractor first begins any work upon or adjacent to the Railroad's Property, the contractor shall give not less than thirty (30) days advance notice to the Railroad, and to the Engineer, of its intent to begin such work. The contractor shall address all notices relating to flagging as instructed in the fully executed CROE agreement.

12.2.4 The Railroad usually assigns one flagger to work at the job site on a continuous basis until the contractor no longer needs flagging services. The contractor shall not call for flagging services on a spot basis. The Railroad's assigned flagger shall notify the Engineer when flagging services have begun and ended. The flagger shall give these notices immediately upon arrival at the job site on the first day, and before departing from the job site on the last day of each separate period when the Railroad provides flagging services, or as soon as possible thereafter. The Engineer shall document these notifications in the project records.

12.2.5 After the contractor has begun work that requires flagging services, the contractor shall give not less than ten (10) day's advance written notice to the Railroad before discontinuing flagging services and terminating the obligation to pay for flagging services. The contractor shall simultaneously provide a copy of this notice to the Engineer. If the contractor's work on or adjacent to the Railroad's Property is suspended at any time, or for any reason, then before the contractor resumes any work on or adjacent to the Railroad's Property, the contractor shall give advance, written notice to the Railroad and to the Engineer of its intent to resume such work. This notice shall provide sufficient details of the contractor's proposed work to enable the Railroad Representative to determine whether flagging services will be required before the contractor resumes its work on or adjacent to the Railroad's Property. The contractor shall give this required notice at least three (3) working days before it intends to resume such work; however. The Railroad may take up to thirty (30) days after the contractor has given this notice before resuming flagging services at the job site. The requirements of this paragraph 12.2.5 shall not apply if the suspension and resumption of the contractor's work were previously scheduled with the Railroad pursuant to paragraph 12.2.2 of these Railroad Requirements, or the suspension was caused by an emergency as provided in paragraph 12.2.6 of these Railroad Requirements.

12.2.6 If, after the Railroad has assigned a flagger to the project site in accordance with section 12.0, any emergency requires the flagger's presence elsewhere, then the contractor shall suspend work on the Railroad's Property until the flagger is again available. Any additional costs to the contractor resulting from such delay shall be borne by the contractor and not by the Railroad.

12.3 Payment for Flagging Services.

12.3.1 The Commission will pay the Railroad directly for the cost of flagging services associated with this project by deducting the amount from the Commission's payments to the contractor. If a third-party flagger is used, the contractor has the option to pay the flagger directly but must notify the MoDOT Engineer of such payments for flagging.

12.3.2 The estimated cost of flagging services is approximately $1,500 per day, based on an 8-hour workday and a 40-hour work week. The Railroad shall charge not more than its actual cost of providing these flagging services, which includes the base pay for the flagger or flaggers who actually performed the required flagging services, the Railroad's reasonable overhead costs, and the reasonable costs actually incurred for the flagger's travel expenses, meals and lodging if required. The Railroad may charge a maximum of one hour of travel time each way per day per flagger, for travel to and from the job site. A flagger's work in excess of 8 hours per day or 40 hours per week, but not more than 12 hours per day, will result in overtime pay at 1.5 times that employee's regular hourly rate. A flagger's work in excess of 12 hours per day will result in overtime pay at 2.0 times that employee's regular hourly rate. If a flagger performs required flagging services on a holiday, then the overtime pay rate shall be 2.5 times that employee's regular hourly rate. The Commission or contractor also shall reimburse the Railroad for its actual expenses reasonably incurred in preparing and handling invoices to the Commission or contractor for the cost of these flagging services. The Railroad's charges to the Commission or contractor shall comply with applicable provisions of the current FAPG issued by the FHWA.

12.3.3 The Railroad shall submit progress invoices to the Engineer during the time the Railroad requires flagging services. The Railroad shall submit its final invoice for flagging services to the Engineer within one hundred eighty (180) days after the contractor has notified the Railroad and the Commission that all its work over the Railroad's Property is complete, in accordance with section 18.0 below. If the Commission does not receive the Railroad's final flagging invoice within this time period, then the Railroad shall obtain payment directly from the contractor.

12.3.4 If a dispute arises between the Railroad, the Commission and the contractor concerning the amount charged for flagging service, then the Commission may deduct the full amount of the Railroad's invoice from the contractor's payment until the dispute is resolved.

12.4 Flagging Complaints. The contractor and the Railroad shall attempt to resolve any complaints concerning flagging services in a timely manner. If the contractor disputes the need for a flagger, the contractor shall notify the Railroad Representative and the Engineer. The contractor shall confirm any verbal complaints in writing within five (5) working days, by sending a copy to the Railroad Representative and to the Engineer.

13.0 Temporary Construction Grade Crossing.

13.1 When the contractor has no reasonable alternate method of transporting construction materials and personnel across the Railroad's track, the contractor shall make all necessary arrangements with the Railroad for the installation, maintenance, and removal of one temporary grade crossing for a construction haul road. The contractor shall bear all costs incidental to such crossings, including flagging, whether services are performed by contractor's own forces or by the Railroad's personnel. The contractor shall execute the Railroad's standard Road Crossing Agreement covering terms and conditions for the temporary crossing.

13.2 Neither the contractor nor the Railroad shall construct any crossing for use by the contractor for transporting materials or equipment across the tracks of the Railroad until the Railroad Representative specifically authorizes the installation, maintenance, necessary watching and flagging thereof and removal, which shall be done at the contractor's expense.

14.0 Work for the Benefit of the Contractors. The project plans show all temporary or permanent changes in wire lines or other facilities that are necessary to complete the project, or these changes will be covered by appropriate plan revisions approved by the Commission and

the Railroad. If the contractor desires any further changes, the contractor shall make separate arrangements with the Railroad for those changes, at the contractor's expense.

15.0 Cooperation and Delays. The contractor shall arrange a schedule with the Railroad for accomplishing staged construction involving work by the Railroad or tenants of the Railroad. In arranging a schedule, the contractor shall request information from the Railroad, and the Railroad shall promptly provide information, concerning the minimum lead time required for assembling crews and materials. The contractor shall schedule adequate time for those activities. The contractor shall not make any claim against the Railroad for hindrance or delay on account of railway traffic for:

15.1 Any work the Railroad performs.

15.2 Other delay incident to or necessary for the safe maintenance of railway traffic.

15.3 Any delays due to compliance with these Railroad Requirements.

16.0 Trainman's Walkways. The contractor shall maintain along the outer side of each exterior track of multiple operated tracks, and on each side of single operated track, an unobstructed continuous space suitable for trainman's use in walking along trains, extending to a line not less than 12 feet from the centerline of the track. Before the close of each workday, the contractor shall remove all temporary impediments to walkways and track drainage encroachments or obstructions that were allowed during work hours when flagging services were available. Whenever the contractor excavates or maintains any excavation near the walkway, the contractor shall install a handrail with 12 feet minimum clearance from the centerline of the track.

17.0 Insurance.

17.1 General Insurance Provisions. The contractor shall, at its sole cost and expense, procure and continuously maintain in force during this project, the insurance coverage required under this section 17 until the contractor has completed all project work on the Railroad's Property, has removed all equipment and materials from the Railroad's Property, and has cleaned and restored the Railroad's Property to the satisfaction of the Engineer and the Railroad Representative. The amount of work to be performed upon, over or under the Railroad's Property is estimated to be one percent (1%) of the contractor's total bid for the project.

17.2 Commercial General Liability Insurance. The contractor shall maintain commercial general liability ("CGL") insurance with a limit of not less than $5,000,000 for each occurrence and an aggregate limit of not less than $10,000,000. CGL insurance must be written on ISO occurrence form CG 00 01 12 04 (or a substitute form providing equivalent coverage). The policy must contain the following endorsement, which must be stated on the certificate of insurance: "Contractual Liability Railroad's" ISO form CG 24 17 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Railroad Company Property" as the Designated Job Site.

17.3 Business Automobile Coverage Insurance. The contractor shall maintain business auto coverage written on ISO form CA 00 01 (or a substitute form providing equivalent liability coverage) with a combined single limit of not less than $5,000,000 for each accident. The policy must contain the following endorsements, which must be stated on the certificate of insurance: "Coverage For Certain Operations In Connection With Railroad's" ISO form CA 20 70 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Property" as the

Designated Job Site; and Motor Carrier Act Endorsement - Hazardous Materials Clean Up (MCS-90) if required by law.

17.4 Alternate Liability Insurance Limits. Instead of the minimum limits of insurance coverage described above in subsections 17.2 and 17.3, Railroad will accept CGL insurance limits of at least $2,000,000 for each occurrence or claim and an aggregate limit of at least $2,000,000, and will accept Business Automobile Insurance containing a combined single limit of at least $2,000,000 per occurrence or claim, if the contractor will secure Railroad Protective Liability Insurance coverage with a combined single limit of $5,000,000 per occurrence and an aggregate limit of $10,000,000. The contractor's election to maintain these alternate liability insurance limits shall not affect the applicability of any other terms and conditions set forth in these Railroad Requirements.

17.5 Workers' Compensation and Employers' Liability Insurance. The contractor shall maintain workers' compensation insurance coverage, with not less than the minimum statutory liability required under the workers' compensation laws of the State of Missouri. The contractor shall maintain Employers' Liability (Part B) insurance coverage with limits of at least $500,000 for each accident, a $500,000 disease policy limit, and $500,000 for each employee. If the contractor is self-insured, then the contractor shall provide evidence of state approval and excess workers' compensation coverage, which must include coverage for liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable. The policy must contain the following endorsement, which must be stated on the certificate of insurance: "Alternate Employer Endorsement" ISO form WC 00 03 01 A (or a substitute form providing equivalent coverage) showing the Railroad in the schedule as the alternate employer (or a substitute form providing equivalent coverage).

17.6 Railroad Protective Liability Insurance. The contractor must maintain Railroad Protective Liability insurance written on ISO occurrence form CG 00 35 12 04 (or a substitute form providing equivalent coverage) on behalf of the Railroad as named insured, with a limit of not less than $5,000,000 per occurrence and an aggregate limit of $10,000,000. Before commencing any work on the Railroad's Property, the contractor shall submit the original insurance policy to the Railroad, or may submit a binder stating that the required Railroad Protective Liability policy is in place until the contractor delivers the original policy to the Railroad. The contractor shall cause the Railroad Protective Liability Insurance policy to include a description of the named insured, the work, and the job site, as follows:

17.6.1 Named Insured: Union Pacific Railroad Company.

17.6.2 Description and Designation:
Roadway improvements under Union Pacific
Franklin County Route MM
Job No. J6S3368
USDOT# 442746R MP 42.18 Jefferson City Sub, near Labadie, MO.

17.7 Umbrella or Excess Insurance. If the contractor utilizes umbrella or excess insurance policies, these policies must "follow form" and afford no less coverage than the primary policy.

17.8 Pollution Liability Insurance. The contractor shall maintain pollution liability insurance coverage, which must be written on ISO form Pollution Liability Coverage Form Designated Sites CG 00 39 12 04 (or a substitute form providing equivalent liability coverage), with limits of at least $5,000,000 per occurrence and an aggregate limit of $10,000,000. If the scope of work as defined

in this Project includes the disposal of any hazardous or non-hazardous materials from the job site, the contractor must furnish to the Railroad evidence of pollution legal liability insurance maintained by the disposal site operator for losses arising from the insured facility accepting the materials, with coverage in minimum amounts of $1,000,000 per loss, and an annual aggregate of $2,000,000.

17.9 Other Insurance Requirements.

17.9.1. Each policy required above (except workers' compensation and employers' liability) must include the Railroad as "Additional Insured" using ISO Additional Insured Endorsements CG 20 26, and CA 20 48 (or substitute forms providing equivalent coverage). The coverage provided to the Railroad as an additional insured shall, to the extent provided under ISO Additional Insured Endorsement CG 20 26 and CA 20 48, provide coverage for the Railroad's negligence whether sole or partial, active or passive.

17.9.2 Where allowable by law, the punitive damage exclusion shall be deleted, and the deletion shall be indicated on the certificate of insurance.

17.9.3 The contractor waives all rights of recovery, and its insurers also waive all rights of subrogation of damages against the Railroad and its agents, officers, directors and employees, except that these waivers shall not apply to punitive damages, nor to any loss, damage or injury proximately caused by the Railroad's intentional misconduct or sole or gross negligence. The certificate of insurance shall acknowledge these waivers.

17.9.4 Prior to commencing any work on the Railroad's Property, the contractor shall furnish the Railroad with one or more certificates of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements set forth in this Section 17.0.

17.9.5 The contractor shall only obtain insurance policies written by a reputable insurance company acceptable to the Railroad, or which currently has a Best's Insurance Guide Rating of A– and Class VII or better, and which is authorized to do business in the State of Missouri.

17.9.6 The fact that insurance is obtained by the contractor or by the Railroad on behalf of the contractor will not be deemed to release or diminish the liability of the contractor, including, without limitation, liability under the indemnity provisions contained in Section 3.0 of these Railroad Requirements. Damages recoverable by the Railroad from the contractor or any third party will not be limited by the amount of the required insurance coverage, except to the extent of any payments the Railroad has received pursuant to that insurance coverage obtained and paid for by the contractor.

17.10 Evidence of Insurance. The contractor shall provide evidence of insurance as required above to the addresses shown below, for review by the Commission and transmittal to the Railroad.

Railroad
Real Estate
Union Pacific Railroad Company
1400 Douglas St., MS 1690
Omaha, NE 68179-1690

Commission
Ms. Brandi Baldwin
State Construction and Materials Engineer
Missouri Department of Transportation
P.O. Box 270
Jefferson City, MO 65102

17.11 Except as otherwise specifically provided in these Railroad Requirements, the Railroad will not accept binders as evidence of insurance, and the contractor shall provide the Railroad with the original insurance policy.

17.12 Insurance Required of Subcontractors. If any part of the work is sublet, the contractor shall maintain and provide evidence of similar insurance, in the same amounts as required of the prime contractor, to cover the subcontractor's operations. The Railroad will accept endorsements to the prime contractor's policies specifically naming subcontractors and describing the subcontractor's operations, for this purpose.

17.13 Cancellation of Insurance. The contractor and its insurers shall not cancel any of the required insurance coverage, except by permission of the Commission and the Railroad, or after thirty (30) days' written notice to the Commission and the Railroad at the addresses shown in subsection 17.10.

18.0 Completion of Work on Railroad's Property. The contractor shall notify Engineer and Railroad's Representative when the contractor has completed its work on Railroad's Property.

19.0 Failure to Comply. If the contractor violates or fails to comply with any of the requirements of these Railroad Requirements, then the Railroad Engineer may require that the contractor vacate the Railroad's property and the Engineer may withhold all monies due to the contractor until the contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

20.0 Payment for Cost of Compliance. No separate payment will be made for any other cost incurred on account of compliance with this special provision. All such costs shall be included in the contract unit price for other items included in the contract. Railroad will not be responsible for paying the contractor for any work performed under this special provision.

20.1 If applicable to the project, the contractor must submit a plan for demolition, falsework, lifting plans over the Railroad property, shoring plans and any other applicable plans the Railroad may require as well as means and methods to the Railroad for review and approval. All plans submitted to the Railroad must be signed and sealed by Professional Engineer licensed in the State of Missouri. These plans can be submitted along with the Right of Entry application; however, the Right of Entry will not be approved until all required plan submittals are approved by the Railroad. The Railroad may also require an onsite inspector to assure the work is carried out in accordance with the Railroad approved plans.

20.1.1 Payment for plan submittal, Railroad plan review and Railroad inspection fees.

The contractor shall be responsible for all costs associated with the generation and submittal of Railroad plans required for the right of entry agreement. The Commission will be responsible for and directly pay the Railroad for all Railroad review fees associated with these plan submittals and any onsite inspection and management fees charged by the Railroad. A line item (Railroad Plan Submittal) is provided for all costs associated with the generation and submittal of plans required for the Railroad right of entry agreement.

Item No.	Unit	Description
618-10.15	LS	Railroad Plan Submittal

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EXHIBIT
3

ESTIMATE OF FORCE ACCOUNT WORK
BY THE
UNION PACIFIC RAILROAD COMPANY

DESCRIPTION OF WORK: Engineering and other related services for work to be performed within railroad right of way. This includes project and construction management during construction activities in railroad right of way. All necessary railroad services will be billed at actual cost.

DATE:
4/25/2023

LOCATION:	SUBDIVISION	STATE:
442746R	Jefferson City Sub	MO

DESCRIPTION	LABOR	MATERIAL	UP %0	Agency % 100	TOTAL
ENGINEERING					
Project Management	$ 7,500	$ -	$ -	$ 7,500.00	$ 7,500
Construction Submittals	$ -	$ -	$ -	$ -	$ -
Construction Management	$ 85,200	$ -	$ -	$ 85,200.00	$ 85,200
Final Inspection	$ 7,100	$ -	$ -	$ 7,100.00	$ 7,100
TOTAL PROJECT:	$ 99,800	$ -	$ -	$ 99,800.00	$99,800

TOTAL ESTIMATED COST: $99,800

THE ABOVE FIGURES ARE ESTIMATES ONLY AND SUBJECT TO FLUCTUATION. IN THE EVENT OF AN INCREASE OR DECREASE IN THE COST OR QUANTITY OF MATERIAL OR LABOR REQUIRED, THE RAILROAD WILL BILL FOR ACTUAL COSTS AT THE CURRENT RATES EFFECTIVE THEREOF.

Flagging may be performed by a third-party contractor. Any flagging performed by a third-party contractor will be billed at said third-party contractor rate not included in the above estimate. Alternatively, the Agency may enter into a separate agreement with third-party contractor and will be responsible for all actual costs incurred.

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EXHIBIT
4

ANNUAL WORKER ELIGIBILITY VERIFICATION AFFIDAVIT
(for joint ventures, a separate affidavit is required for each business entity)

STATE OF NEBRASKA)
) ss
COUNTY OF DOUGLAS)

On the 25th day of May, 20 23, before me appeared Tammy Potter (Affiant name), personally known to me or proved to me on the basis of satisfactory evidence to be a person whose name is subscribed to this affidavit, who being by me duly sworn, stated as follows:

- I, the Affiant, am of sound mind, capable of making this affidavit, and personally certify the facts herein stated, as required by Section 285.530, RSMo, to enter into any contract agreement with the state to perform any job, task, employment, labor, personal services, or any other activity for which compensation is provided, expected, or due, including but not limited to all activities conducted by business entities.
- I, the Affiant, am the Sr. Manager - Workforce Resources (title) of Union Pacific Railroad Company (business name), and I I am duly authorized, directed, and/or empowered to act officially and properly on behalf of this business entity.
- I, the Affiant, hereby affirm and warrant that the aforementioned business entity is enrolled in a federal work authorization program operated by the United States Department of Homeland Security, and the aforementioned business entity shall participate in said program to verify the employment eligibility of newly hired employees working in connection with any services contracted by the Missouri Highways and Transportation Commission (MHTC). I have attached documentation to this affidavit to evidence enrollment/participation by the aforementioned business entity in a federal work authorization program, as required by Section 285.530, RSMo.
- I, the Affiant, also hereby affirm and warrant that the aforementioned business entity does not and shall not knowingly employ, in connection with any services contracted by MHTC, any alien who does not have the legal right or authorization under federal law to work in the United States, as defined in 8 U.S.C. § 1324a(h)(3).
- I, the Affiant, am aware and recognize that, unless certain contract and affidavit conditions are satisfied pursuant to Section 285.530, RSMo, the aforementioned business entity may be held liable under Sections 285.525 though 285.550, RSMo, for subcontractors that knowingly employ or continue to employ any unauthorized alien to work within the state of Missouri.
- I, the Affiant, acknowledge that I am signing this affidavit as a free act and deed of the aforementioned business entity and not under duress.

DocuSigned by:
Tammy Potter
8D1081E46E8D4B7...
Affiant Signature

Subscribed and sworn to before me in Douglas (city (or county)), NE (state), the day and year first above-written.

GENERAL NOTARY - State of Nebraska
DAVID LAPLANTE
My Comm. Exp. September 18, 2025

David P. LaPlante
Notary Public

My commission expires:

[documentation of enrollment/participation in a federal work authorization program attached]

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Company ID Number: 89410

THE E-VERIFY PROGRAM FOR EMPLOYMENT VERIFICATION

MEMORANDUM OF UNDERSTANDING

ARTICLE I

PURPOSE AND AUTHORITY

This Memorandum of Understanding (MOU) sets forth the points of agreement between the Social Security Administration (SSA), the Department of Homeland Security (DHS) and Union Pacific (Employer) regarding the Employer's participation in the Employment Eligibility Verification Program (E-Verify). E-Verify is a program in which the employment eligibility of all newly hired employees will be confirmed after the Employment Eligibility Verification Form (Form I-9) has been completed.

Authority for the E-Verify program is found in Title IV, Subtitle A, of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 (IIRIRA), Pub. L. 104-208, 110 Stat. 3009, as amended (8 U.S.C. § 1324a note).

ARTICLE II

FUNCTIONS TO BE PERFORMED

A. RESPONSIBILITIES OF THE SSA

1. Upon completion of the Form I-9 by the employee and the Employer, and provided the Employer complies with the requirements of this MOU, SSA agrees to provide the Employer with available information that allows the Employer to confirm the accuracy of Social Security Numbers provided by all newly hired employees and the employment authorization of U.S. citizens.

2. The SSA agrees to provide to the Employer appropriate assistance with operational problems that may arise during the Employer's participation in the E-Verify program. The SSA agrees to provide the Employer with names, titles, addresses, and telephone numbers of SSA representatives to be contacted during the E-Verify process.

3. The SSA agrees to safeguard the information provided by the Employer through the E-Verify program procedures, and to limit access to such information, as is appropriate by law, to individuals responsible for the verification of Social Security Numbers and for evaluation of the E-Verify program or such other persons or entities who may be authorized by the SSA as governed by the Privacy Act (5 U.S.C. § 552a), the Social Security Act (42 U.S.C. 1306(a)), and SSA regulations (20 CFR Part 401).

4. SSA agrees to establish a means of automated verification that is designed (in conjunction with DHS's automated system if necessary) to provide confirmation or tentative nonconfirmation of U.S. citizens' employment eligibility and accuracy of SSA records for both citizens and aliens within 3 Federal Government work days of the initial inquiry.

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without changes to E-Verify, the Department reserves the right to require employers to take mandatory refresher tutorials.

Termination by any party shall terminate the MOU as to all parties. The SSA or DHS may terminate this MOU without prior notice if deemed necessary because of the requirements of law or policy, or upon a determination by SSA or DHS that there has been a breach of system integrity or security by the Employer, or a failure on the part of the Employer to comply with established procedures or legal requirements. Some or all SSA and DHS responsibilities under this MOU may be performed by contractor(s), and SSA and DHS may adjust verification responsibilities between each other as they may determine.

Nothing in this MOU is intended, or should be construed, to create any right or benefit, substantive or procedural, enforceable at law by any third party against the United States, its agencies, officers, or employees, or against the Employer, its agents, officers, or employees.

Each party shall be solely responsible for defending any claim or action against it arising out of or related to E-Verify or this MOU, whether civil or criminal, and for any liability wherefrom, including (but not limited to) any dispute between the Employer and any other person or entity regarding the applicability of Section 403(d) of IIRIRA to any action taken or allegedly taken by the Employer.

The employer understands that the fact of its participation in E-Verify is not confidential information and may be disclosed as authorized or required by law and DHS or SSA policy, including but not limited to, Congressional oversight, E-Verify publicity and media inquiries, and responses to inquiries under the Freedom of Information Act (FOIA).

The foregoing constitutes the full agreement on this subject between the SSA, DHS, and the Employer.

The individuals whose signatures appear below represent that they are authorized to enter into this MOU on behalf of the Employer and DHS respectively.

To be accepted as a participant in E-Verify, you should only sign the Employer's Section of the signature page. If you have any questions, contact E-Verify Operations at 888-464-4218.

Employer Union Pacific

Elroy J Schroer	
Name (Please type or print)	Title
Electronically Signed	01/11/2008
Signature	Date

Department of Homeland Security – Verification Division

Company ID Number: 89410

INFORMATION REQUIRED FOR THE E-VERIFY PROGRAM

Information relating to your Company:

Company Name: Union Pacific

Company Facility Address: 1400 Douglas Street
Omaha, NE 68179

Company Alternate Address:

County or Parish: DOUGLAS

Employer Identification Number: 13262646

North American Industry Classification Systems Code: 482

Parent Company:

Number of Employees: 10,000 and over

Number of Sites Verified for: 2

Are you verifying for more than 1 site? If yes, please provide the number of sites verified for in each State.

- ARIZONA 1 site(s)
- MISSOURI 1 site(s)

Information relating to the Program Administrator(s) for your Company on policy questions or operational problems:

Name: Tracy K Scott
Telephone Number: (402) 544 - 7033
Fax Number:
E-mail Address: tkscott@up.com

DocuSign Envelope ID: ADACF1A3-0D0D-49E0-B6C5-0016CD129DF0

Company ID Number: 89410

USCIS Verification Division	
Name (Please type or print)	Title
Electronically Signed	01/11/2008
Signature	Date

EXHIBIT
5

Contractor's Right of Entry Public
Projects Form Approved 02/09/2022

CONTRACTOR'S
RIGHT OF ENTRY AGREEMENT

THIS AGREEMENT is made and entered into as of the _____ day of _____, 20_____, by and between **UNION PACIFIC RAILROAD COMPANY**, a Delaware corporation ("Railroad"); and _____, a _____ corporation ("Contractor").

RECITALS:

Contractor has been hired by _____ to perform work relating to _____ (the "Work") with all or a portion of such Work to be performed on property of Railroad in the vicinity of Railroad's Milepost _____ on Railroad's _____ [Subdivision or Branch] [at or near DOT No. _____ located at or near _____, in _____ County, State of _____, as such location is in the general location shown on the print marked **Exhibit A**, attached hereto and hereby made a part hereof, which Work is the subject of a contract dated _____ between Railroad and _____.

Railroad is willing to permit Contractor to perform the Work described above at the location described above subject to the terms and conditions contained in this agreement

AGREEMENT:

NOW, THEREFORE, it is mutually agreed by and between Railroad and Contractor, as follows:

ARTICLE 1 - DEFINITION OF CONTRACTOR.

For purposes of this agreement, all references in this agreement to Contractor shall include Contractor's contractors, subcontractors, officers, agents and employees, and others acting under its or their authority. For purposes of clarity, Contractor agrees that any CIC (defined below) hired by Contractor is a subcontractor of Contractor and therefore included in the defined term Contractor pursuant to the foregoing sentence.

ARTICLE 2 - RIGHT GRANTED; PURPOSE.

Railroad hereby grants to Contractor the right, during the term hereinafter stated and upon and subject to each and all of the terms, provisions and conditions herein contained, to enter upon and have ingress to and egress from the property described in the Recitals for the purpose of performing the Work described in the Recitals above. The right herein granted to Contractor is limited to those portions of Railroad's property specifically described herein, or as designated by the Railroad Representative named in Article 4.

ARTICLE 3 - TERMS AND CONDITIONS CONTAINED IN EXHIBITS B AND C.

The terms and conditions contained in **Exhibit B** and **Exhibit C**, attached hereto, are hereby made a part of this agreement.

ARTICLE 4 - ALL EXPENSES TO BE BORNE BY CONTRACTOR; RAILROAD REPRESENTATIVE.

A. Contractor shall bear any and all costs and expenses associated with any Work performed by Contractor (including without limitation any CIC), or any costs or expenses incurred by Railroad relating to this agreement.

B. Contractor shall coordinate all of its Work with the following Railroad representative or his or her duly authorized representative (the "Railroad Representative"):

_____
_____
_____
_____

C. Contractor, at its own expense, shall adequately police and supervise all Work to be performed by Contractor and shall ensure that such Work is performed in a safe manner as set forth in Section 7 of **Exhibit B**. The responsibility of Contractor for safe conduct and adequate policing and supervision of Contractor's Work shall not be lessened or otherwise affected by Railroad's approval of plans and specifications involving the Work, or by Railroad's collaboration in performance of any Work, or by the presence at the Work site of a Railroad Representative, or by compliance by Contractor with any requests or recommendations made by Railroad Representative.

ARTICLE 5 - SCHEDULE OF WORK ON A MONTHLY BASIS.

The Contractor, at its expense, shall provide on a monthly basis a detailed schedule of Work to the Railroad Representative named in Article 4B above. The reports shall start at the execution of this agreement and continue until this agreement is terminated as provided in this agreement or until the Contractor has completed all Work on Railroad's property.

ARTICLE 6 - TERM; TERMINATION.

A. The grant of right herein made to Contractor shall commence on the date of this agreement, and continue until _____, unless sooner terminated as herein provided, or at such time as Contractor has completed its Work on Railroad's property, whichever is earlier. Contractor agrees to notify the Railroad Representative in writing when it has completed its Work on Railroad's property.

B. This agreement may be terminated by either party on ten (10) days written notice to the other party.

ARTICLE 7 - CERTIFICATE OF INSURANCE.

A. Before commencing any Work and throughout the entire term of this Agreement, Contractor, at its expense, shall procure and maintain in full force and effect the types and minimum limits of insurance specified in **Exhibit C** of this agreement and require each of its subcontractors to include the insurance endorsements as required under Section 12 of **Exhibit B** of this agreement.

B. Not more frequently than once every two (2) years, Railroad may reasonably modify the required insurance coverage to reflect then-current risk management practices in the railroad industry and underwriting practices in the insurance industry.

C. Upon request of Railroad, Contractor shall provide to Railroad a certificate issued by its insurance

carrier evidencing the insurance coverage required under **Exhibit B**.

D. Contractor understands and accepts that the terms of this Article are wholly separate from and independent of the terms of any indemnity provisions contained in this Agreement.

D. Upon request of Railroad, insurance correspondence, binders, policies, certificates and endorsements shall be sent to:

Union Pacific Railroad Company
_____
[Insert mailing address]
_____
_____
Attn:_____
Folder No. _____

ARTICLE 8 - PRECONSTRUCTION MEETING.

If the Work to be performed by the Contractor will involve the Railroad providing any flagging protection (or if a CIC is approved to provide flagging protection pursuant to the terms set forth herein) and/or there is separate work to be performed by the Railroad, the Contractor confirms that no work shall commence until the Railroad and Contractor participate in a preconstruction meeting involving flagging procedures and coordination of work activities of the Contractor and the Railroad (and any CIC, as applicable.)

ARTICLE 9. DISMISSAL OF CONTRACTOR'S EMPLOYEE.

At the request of Railroad, Contractor shall remove from Railroad's property any employee of Contractor who fails to conform to the instructions of the Railroad Representative in connection with the Work on Railroad's property, and any right of Contractor shall be suspended until such removal has occurred. Contractor shall indemnify Railroad against any claims arising from the removal of any such employee from Railroad's property.

ARTICLE 10. ADMINISTRATIVE FEE.

Upon the execution and delivery of this agreement, Contractor shall pay to Railroad One Thousand Twenty Five Dollars ($1,025.00) as reimbursement for clerical, administrative and handling expenses in connection with the processing of this agreement.

ARTICLE 11. CROSSINGS; COMPLIANCE WITH MUTCD AND FRA GUIDELINES.

A. No additional vehicular crossings (including temporary haul roads) or pedestrian crossings over Railroad's trackage shall be installed or used by Contractor without the prior written permission of Railroad.

B. Any permanent or temporary changes, including temporary traffic control, to crossings must conform to the Manual of Uniform Traffic Control Devices (MUTCD) and any applicable Federal Railroad Administration rules, regulations and guidelines, and must be reviewed by the Railroad prior to any changes being implemented. In the event the Railroad is found to be out of compliance with federal safety regulations due to the Contractor's modifications, negligence, or any other reason arising from the Contractor's presence on the Railroad's property, the Contractor agrees to assume liability for any civil penalties imposed upon the Railroad for such noncompliance.

ARTICLE 12.- EXPLOSIVES.

Explosives or other highly flammable substances shall not be stored or used on Railroad's property without the prior written approval of Railroad.

IN WITNESS WHEREOF, the parties hereto have duly executed this agreement in duplicate as of the date first herein written.

UNION PACIFIC RAILROAD COMPANY

By: _____

Title: _____

_____
(Name of Contractor)

By: _____

Name: _____

Title: _____

Phone: _____

E-Mail: _____

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EXHIBIT A
TO
CONTRACTOR'S RIGHT OF ENTRY AGREEMENT

Exhibit A will be a print showing the general location of the work site.

EXHIBIT B
TO
CONTRACTOR'S RIGHT OF ENTRY AGREEMENT

Section 1. NOTICE OF COMMENCEMENT OF WORK - RAILROAD FLAGGING - PRIVATE FLAGGING.

A. Contractor agrees to notify the Railroad Representative at least ten (10) working days in advance of Contractor commencing its Work and at least thirty (30) working days in advance of proposed performance of any Work by Contractor in which any person or equipment will be within twenty-five (25) feet of any track, or will be near enough to any track that any equipment extension (such as, but not limited to, a crane boom) will reach to within twenty-five (25) feet of any track.

B. No work of any kind shall be performed, and no person, equipment, machinery, tool(s), material(s), vehicle(s), or thing(s) shall be located, operated, placed, or stored within twenty-five (25) feet of any of Railroad's track(s) at any time, for any reason, unless and until a Railroad approved flagman is provided to watch for trains. Upon receipt of such thirty (30)-day notice, the Railroad Representative will determine and inform Contractor whether a flagman need be present and whether Contractor needs to implement any special protective or safety measures.

C. Contractor shall be permitted to hire a private contractor to perform flagging or other special protective or safety measures (such private contractor being commonly known in the railroad industry as a contractor-in-charge ("CIC")) in lieu of Railroad providing such services or in concert with Railroad providing such services, subject to prior written approval by Railroad, which approval shall be in Railroad's sole and absolute discretion. If Railroad agrees to permit Contractor to utilize a CIC pursuant to the preceding sentence, Contractor shall obtain Railroad's prior approval in writing for each of the following items, as determined in all respects in Railroad's sole and absolute discretion: (i) the identity of the third-party performing the role of CIC; (ii) the scope of the services to be performed for the project by the approved CIC; and (iii) any other terms and conditions governing such services to be provided by the CIC. If flagging or other special protective or safety measures are performed by an approved CIC, Contractor shall be solely responsible for (and shall timely pay such CIC for) its services. Railroad reserves the right to rescind any approval pursuant to this Section 1, Subsection C., in whole or in part, at any time, as determined in Railroad's sole and absolute discretion.

D. If any flagging or other special protective or safety measures are performed by employees of Railroad and/or any contractor of Railroad, Railroad will bill Contractor for such expenses incurred by Railroad, unless Railroad and a federal, state or local governmental entity have agreed that Railroad is to bill such expenses to the federal, state or local governmental entity. If Railroad will be sending the bills to Contractor, Contractor shall pay such bills within thirty (30) days of Contractor's receipt of billing.

E. If any flagging or other special protective or safety measures are performed by Railroad or a CIC, Contractor agrees that Contractor is not relieved of any of its responsibilities or liabilities set forth in this agreement.

F. The provisions set forth in this subsection are only applicable for Flagging Services performed by employees of Railroad: the rate of pay per hour for each flagman will be the prevailing hourly rate in effect for an eight-hour day for the class of flagmen used during regularly assigned hours and overtime in accordance with labor agreements and schedules in effect at the time the Work is performed. In addition to the cost of such labor, a composite charge for vacation, holiday, health and welfare, supplemental sickness, Railroad Retirement and unemployment compensation, supplemental pension, Employees Liability and Property Damage and Administration will be included, computed on actual payroll. The composite charge will be the prevailing composite charge in effect at the time the Work is performed. One and one-half times the current hourly rate is

paid for overtime, Saturdays and Sundays, and two and one-half times current hourly rate for holidays. Wage rates are subject to change, at any time, by law or by agreement between Railroad and its employees, and may be retroactive as a result of negotiations or a ruling of an authorized governmental agency. Additional charges on labor are also subject to change. If the wage rate or additional charges are changed, Contractor (or the governmental entity, as applicable) shall pay on the basis of the new rates and charges. If flagging is performed by Railroad, reimbursement to Railroad will be required covering the full eight-hour day during which any flagman is furnished, unless the flagman can be assigned to other Railroad work during a portion of such day, in which event reimbursement will not be required for the portion of the day during which the flagman is engaged in other Railroad work. Reimbursement will also be required for any day not actually worked by the flagman following the flagman's assignment to work on the project for which Railroad is required to pay the flagman and which could not reasonably be avoided by Railroad by assignment of such flagman to other work, even though Contractor may not be working during such time. When it becomes necessary for Railroad to bulletin and assign an employee to a flagging position in compliance with union collective bargaining agreements, Contractor must provide Railroad a minimum of five (5) days notice prior to the cessation of the need for a flagman. If five (5) days notice of cessation is not given, Contractor will still be required to pay flagging charges for the five (5) day notice period required by union agreement to be given to the employee, even though flagging is not required for that period. An additional thirty (30) days notice must then be given to Railroad if flagging services are needed again after such five-day cessation notice has been given to Railroad.

Section 2. <u>LIMITATION AND SUBORDINATION OF RIGHTS GRANTED</u>

A. The foregoing grant of right is subject and subordinate to the prior and continuing right and obligation of the Railroad to use and maintain its entire property including the right and power of Railroad to construct, maintain, repair, renew, use, operate, change, modify or relocate railroad tracks, roadways, signal, communication, fiber optics, or other wirelines, pipelines and other facilities upon, along or across any or all parts of its property, all or any of which may be freely done at any time or times by Railroad without liability to Contractor or to any other party for compensation or damages.

B. The foregoing grant is also subject to all outstanding superior rights (whether recorded or unrecorded and including those in favor of licensees and lessees of Railroad's property, and others) and the right of Railroad to renew and extend the same, and is made without covenant of title or for quiet enjoyment.

Section 3. <u>NO INTERFERENCE WITH OPERATIONS OF RAILROAD AND ITS TENANTS</u>.

A. Contractor shall conduct its operations so as not to interfere with the continuous and uninterrupted use and operation of the railroad tracks and property of Railroad, including without limitation, the operations of Railroad's lessees, licensees or others, unless specifically authorized in advance by the Railroad Representative. Nothing shall be done or permitted to be done by Contractor at any time that would in any manner impair the safety of such operations. When not in use, Contractor's machinery and materials shall be kept at least twenty-five (25) feet from the centerline of Railroad's nearest track, and there shall be no vehicular crossings of Railroads tracks except at existing open public crossings.

B. Operations of Railroad and work performed by Railroad personnel and delays in the Work to be performed by Contractor caused by such railroad operations and Work are expected by Contractor, and Contractor agrees that Railroad shall have no liability to Contractor, or any other person or entity for any such delays. The Contractor shall coordinate its activities with those of Railroad and third parties so as to avoid interference with railroad operations. The safe operation of Railroad train movements and other activities by Railroad takes precedence over any Work to be performed by Contractor.

Section 4. LIENS.

Contractor shall pay in full all persons who perform labor or provide materials for the Work to be performed by Contractor. Contractor shall not create, permit or suffer any mechanic's or materialmen's liens of any kind or nature to be created or enforced against any property of Railroad for any such Work performed. Contractor shall indemnify and hold harmless Railroad from and against any and all liens, claims, demands, costs or expenses of whatsoever nature in any way connected with or growing out of such Work done, labor performed, or materials furnished. If Contractor fails to promptly cause any lien to be released of record, Railroad may, at its election, discharge the lien or claim of lien at Contractor's expense.

Section 5. PROTECTION OF FIBER OPTIC CABLE SYSTEMS.

A. Fiber optic cable systems may be buried on Railroad's property. Protection of the fiber optic cable systems is of extreme importance since any break could disrupt service to users resulting in business interruption and loss of revenue and profits. Contractor shall visit www.up.com/CBUD to complete and submit the required form to determine if fiber optic cable is buried anywhere on Railroad's property to be used by Contractor. If it is, Contractor will telephone the telecommunications company(ies) involved, make arrangements for a cable locator and, if applicable, for relocation or other protection of the fiber optic cable. Contractor shall not commence any Work until all such protection or relocation (if applicable) has been accomplished.

B. IN ADDITION TO OTHER INDEMNITY PROVISIONS IN THIS AGREEMENT, CONTRACTOR SHALL INDEMNIFY, DEFEND AND HOLD RAILROAD HARMLESS FROM AND AGAINST ALL COSTS, LIABILITY AND EXPENSE WHATSOEVER (INCLUDING, WITHOUT LIMITATION, ATTORNEYS' FEES, COURT COSTS AND EXPENSES) ARISING OUT OF ANY ACT OR OMISSION OF CONTRACTOR, ITS AGENTS AND/OR EMPLOYEES, THAT CAUSES OR CONTRIBUTES TO (1) ANY DAMAGE TO OR DESTRUCTION OF ANY TELECOMMUNICATIONS SYSTEM ON RAILROAD'S PROPERTY, AND/OR (2) ANY INJURY TO OR DEATH OF ANY PERSON EMPLOYED BY OR ON BEHALF OF ANY TELECOMMUNICATIONS COMPANY, AND/OR ITS CONTRACTOR, AGENTS AND/OR EMPLOYEES, ON RAILROAD'S PROPERTY. CONTRACTOR SHALL NOT HAVE OR SEEK RECOURSE AGAINST RAILROAD FOR ANY CLAIM OR CAUSE OF ACTION FOR ALLEGED LOSS OF PROFITS OR REVENUE OR LOSS OF SERVICE OR OTHER CONSEQUENTIAL DAMAGE TO A TELECOMMUNICATION COMPANY USING RAILROAD'S PROPERTY OR A CUSTOMER OR USER OF SERVICES OF THE FIBER OPTIC CABLE ON RAILROAD'S PROPERTY.

Section 6. PERMITS - COMPLIANCE WITH LAWS.

In the prosecution of the Work covered by this agreement, Contractor shall secure any and all necessary permits and shall comply with all applicable federal, state and local laws, regulations and enactments affecting the Work including, without limitation, all applicable Federal Railroad Administration regulations.

Section 7. SAFETY.

A. Safety of personnel, property, rail operations and the public is of paramount importance in the prosecution of any Work on Railroad property performed by Contractor. Contractor shall be responsible for initiating, maintaining and supervising all safety, operations and programs in connection with the Work. Contractor shall, at a minimum, comply with Railroad's then current safety standards located at the below web address ("Railroad's Safety Standards") to ensure uniformity with the safety standards followed by Railroad's own forces. As a part of Contractor's safety responsibilities, Contractor shall notify Railroad if Contractor

determines that any of Railroad's Safety Standards are contrary to good safety practices. Contractor shall furnish copies of Railroad's Safety Standards to each of its employees before they enter Railroad property.

http://www.up.com/cs/groups/public/@uprr/@suppliers/documents/up_pdf_nativedocs/pdf_up_supplier_safety_req.pdf

B. Without limitation of the provisions of paragraph A above, Contractor shall keep the job site free from safety and health hazards and ensure that its employees are competent and adequately trained in all safety and health aspects of the job.

C. Contractor shall have proper first aid supplies available on the job site so that prompt first aid services may be provided to any person injured on the job site. Contractor shall promptly notify Railroad of any U.S. Occupational Safety and Health Administration reportable injuries. Contractor shall have a nondelegable duty to control its employees while they are on the job site or any other property of Railroad, and to be certain they do not use, be under the influence of, or have in their possession any alcoholic beverage, drug or other substance that may inhibit the safe performance of any Work.

D. If and when requested by Railroad, Contractor shall deliver to Railroad a copy of Contractor's safety plan for conducting the Work (the "Safety Plan"). Railroad shall have the right, but not the obligation, to require Contractor to correct any deficiencies in the Safety Plan. The terms of this agreement shall control if there are any inconsistencies between this agreement and the Safety Plan.

Section 8. INDEMNITY.

A. TO THE FULLEST EXTENT ALLOWED BY APPLICABLE LAW, CONTRACTOR SHALL INDEMNIFY, DEFEND AND HOLD HARMLESS RAILROAD, ITS AFFILIATES, AND ITS AND THEIR OFFICERS, AGENTS AND EMPLOYEES (INDIVIDUALLY AN "INDEMNIFIED PARTY" OR COLLECTIVELY "INDEMNIFIED PARTIES") FROM AND AGAINST ANY AND ALL LOSS, DAMAGE, INJURY, LIABILITY, CLAIM, DEMAND, COST OR EXPENSE (INCLUDING, WITHOUT LIMITATION, ATTORNEY'S, CONSULTANT'S AND EXPERT'S FEES, AND COURT COSTS), FINE OR PENALTY (COLLECTIVELY, "LOSS") INCURRED BY ANY PERSON (INCLUDING, WITHOUT LIMITATION, ANY INDEMNIFIED PARTY, CONTRACTOR, OR ANY EMPLOYEE OF CONTRACTOR OR OF ANY INDEMNIFIED PARTY) ARISING OUT OF OR IN ANY MANNER CONNECTED WITH (I) ANY WORK PERFORMED BY CONTRACTOR, OR (II) ANY ACT OR OMISSION OF CONTRACTOR, ITS OFFICERS, AGENTS OR EMPLOYEES, OR (III) ANY BREACH OF THIS AGREEMENT BY CONTRACTOR.

B. THE RIGHT TO INDEMNITY UNDER THIS SECTION 8 SHALL ACCRUE UPON OCCURRENCE OF THE EVENT GIVING RISE TO THE LOSS, AND SHALL APPLY REGARDLESS OF ANY NEGLIGENCE OR STRICT LIABILITY OF ANY INDEMNIFIED PARTY, EXCEPT WHERE THE LOSS IS CAUSED BY THE SOLE ACTIVE NEGLIGENCE OF AN INDEMNIFIED PARTY AS ESTABLISHED BY THE FINAL JUDGMENT OF A COURT OF COMPETENT JURISDICTION. THE SOLE ACTIVE NEGLIGENCE OF ANY INDEMNIFIED PARTY SHALL NOT BAR THE RECOVERY OF ANY OTHER INDEMNIFIED PARTY.

C. CONTRACTOR EXPRESSLY AND SPECIFICALLY ASSUMES POTENTIAL LIABILITY UNDER THIS SECTION 8 FOR CLAIMS OR ACTIONS BROUGHT BY CONTRACTOR'S OWN EMPLOYEES. CONTRACTOR WAIVES ANY IMMUNITY IT MAY HAVE UNDER WORKER'S COMPENSATION OR INDUSTRIAL INSURANCE ACTS TO INDEMNIFY THE INDEMNIFIED PARTIES UNDER THIS SECTION 8. CONTRACTOR ACKNOWLEDGES THAT THIS WAIVER WAS MUTUALLY NEGOTIATED BY THE PARTIES HERETO.

D. NO COURT OR JURY FINDINGS IN ANY EMPLOYEE'S SUIT PURSUANT TO ANY

WORKER'S COMPENSATION ACT OR THE FEDERAL EMPLOYERS' LIABILITY ACT AGAINST A PARTY TO THIS AGREEMENT MAY BE RELIED UPON OR USED BY CONTRACTOR IN ANY ATTEMPT TO ASSERT LIABILITY AGAINST ANY INDEMNIFIED PARTY.

E. THE PROVISIONS OF THIS SECTION 8 SHALL SURVIVE THE COMPLETION OF ANY WORK PERFORMED BY CONTRACTOR OR THE TERMINATION OR EXPIRATION OF THIS AGREEMENT. IN NO EVENT SHALL THIS SECTION 8 OR ANY OTHER PROVISION OF THIS AGREEMENT BE DEEMED TO LIMIT ANY LIABILITY CONTRACTOR MAY HAVE TO ANY INDEMNIFIED PARTY BY STATUTE OR UNDER COMMON LAW.

Section 9. RESTORATION OF PROPERTY.

In the event Railroad authorizes Contractor to take down any fence of Railroad or in any manner move or disturb any of the other property of Railroad in connection with the Work to be performed by Contractor, then in that event Contractor shall, as soon as possible and at Contractor's sole expense, restore such fence and other property to the same condition as the same were in before such fence was taken down or such other property was moved or disturbed. Contractor shall remove all of Contractor's tools, equipment, rubbish and other materials from Railroad's property promptly upon completion of the Work, restoring Railroad's property to the same state and condition as when Contractor entered thereon.

Section 10. WAIVER OF DEFAULT.

Waiver by Railroad of any breach or default of any condition, covenant or agreement herein contained to be kept, observed and performed by Contractor shall in no way impair the right of Railroad to avail itself of any remedy for any subsequent breach or default.

Section 11. MODIFICATION - ENTIRE AGREEMENT.

No modification of this agreement shall be effective unless made in writing and signed by Contractor and Railroad. This agreement and the exhibits attached hereto and made a part hereof constitute the entire understanding between Contractor and Railroad and cancel and supersede any prior negotiations, understandings or agreements, whether written or oral, with respect to the Work to be performed by Contractor.

Section 12. ASSIGNMENT - SUBCONTRACTING.

Contractor shall not assign or subcontract this agreement, or any interest therein, without the written consent of the Railroad. Contractor shall be responsible for the acts and omissions of all subcontractors. Before Contractor commences any Work, the Contractor shall, except to the extent prohibited by law; (1) require each of its subcontractors to include the Contractor as "Additional Insured" on the subcontractor's Commercial General Liability policy and Umbrella or Excess policies (if applicable) with respect to all liabilities arising out of the subcontractor's performance of Work on behalf of the Contractor by endorsing these policies with ISO Additional Insured Endorsements CG 20 10, and CG 20 37 (or substitute forms providing equivalent coverage; (2) require each of its subcontractors to endorse their Commercial General Liability Policy with "Contractual Liability Railroads" ISO Form CG 24 17 10 01 (or a substitute form providing equivalent coverage) for the job site; and (3) require each of its subcontractors to endorse their Business Automobile Policy with "Coverage For Certain Operations In Connection With Railroads" ISO Form CA 20 70 10 01 (or a substitute form providing equivalent coverage) for the job site.

EXHIBIT C
TO
CONTRACTOR'S
RIGHT OF ENTRY AGREEMENT

Union Pacific Railroad Company
Insurance Requirements For
Contractor's Right of Entry Agreement

During the entire term of this Agreement and course of the Project, and until all Project Work on Railroad's property has been completed and all equipment and materials have been removed from Railroad's property and Railroad's property has been clean and restored to Railroad's satisfaction, Contractor shall, at its sole cost and expense, procure and maintain the following insurance coverage:

A. **Commercial General Liability** insurance. Commercial general liability (CGL) with a limit of not less than $5,000,000 each occurrence and an aggregate limit of not less than $10,000,000. CGL insurance must be written on ISO occurrence form CG 00 01 12 04 (or a substitute form providing equivalent coverage).

The policy must also contain the following endorsement, which must be stated on the certificate of insurance:

- Contractual Liability Railroads ISO form CG 24 17 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Railroad Company Property" as the Designated Job Site.
- Designated Construction Project(s) General Aggregate Limit ISO Form CG 25 03 03 97 (or a substitute form providing equivalent coverage) showing the project on the form schedule.

B. **Business Automobile Coverage** insurance. Business auto coverage written on ISO form CA 00 01 10 01 (or a substitute form providing equivalent liability coverage) with a combined single limit of not less $5,000,000 for each accident and coverage must include liability arising out of any auto (including owned, hired and non-owned autos).

The policy must contain the following endorsements, which must be stated on the certificate of insurance:

- Coverage For Certain Operations In Connection With Railroads ISO form CA 20 70 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Property" as the Designated Job Site.
- Motor Carrier Act Endorsement - Hazardous materials clean up (MCS-90) if required by law.

C. **Workers' Compensation and Employers' Liability** insurance. Coverage must include but not be limited to:

- Contractor's statutory liability under the workers' compensation laws of the state where the Work is being performed.
- Employers' Liability (Part B) with limits of at least $500,000 each accident, $500,000 disease policy limit $500,000 each employee.

If Contractor is self-insured, evidence of state approval and excess workers compensation coverage must be provided. Coverage must include liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable.

D. **Railroad Protective Liability** insurance. Contractor must maintain "Railroad Protective Liability" (RPL) insurance written on ISO occurrence form CG 00 35 12 04 (or a substitute form providing equivalent coverage) on behalf of Railroad as named insured, with a limit of not less than $2,000,000 per occurrence

and an aggregate of $6,000,000. The definition of "JOB LOCATION" and "WORK" on the declaration page of the policy shall refer to this agreement and shall describe all WORK or OPERATIONS performed under this agreement. Contractor shall provide this agreement to Contractor's insurance agent(s) and/or broker(s) and Contractor shall instruct such agent(s) and/or broker(s) to procure the insurance coverage required by this agreement. A BINDER STATING THE POLICY IS IN PLACE MUST BE SUBMITTED TO RAILROAD BEFORE THE WORK MAY COMMENCE AND UNTIL THE ORIGINAL POLICY IS FORWARDED TO UNION PACIFIC RAILROAD.

E. **Umbrella or Excess** insurance. If Contractor utilizes umbrella or excess policies, these policies must "follow form" and afford no less coverage than the primary policy.

F. **Pollution Liability** insurance. Pollution liability coverage must be included when the scope of the Work as defined in the agreement includes installation, temporary storage, or disposal of any "hazardous" material that is injurious in or upon land, the atmosphere, or any watercourses; or may cause bodily injury at any time.

If required, coverage may be provided in separate policy form or by endorsement to Contractors CGL or RPL. Any form coverage must be equivalent to that provided in ISO form CG 24 15 "Limited Pollution Liability Extension Endorsement" or CG 28 31 "Pollution Exclusion Amendment" with limits of at least $5,000,000 per occurrence and an aggregate limit of $10,000,000.

If the scope of Work as defined in this agreement includes the disposal of any hazardous or non-hazardous materials from the job site, Contractor must furnish to Railroad evidence of pollution legal liability insurance maintained by the disposal site operator for losses arising from the insured facility accepting the materials, with coverage in minimum amounts of $1,000,000 per loss, and an annual aggregate of $2,000,000.

Other Requirements

G. All policy(ies) required above (except business automobile, worker's compensation and employers liability) must include Railroad as "Additional Insured" using ISO Additional Insured Endorsements CG 20 10, and CG 20 37 (or substitute forms providing equivalent coverage). The coverage provided to Railroad as additional insured shall not be limited by Contractor's liability under the indemnity provisions of this agreement. BOTH CONTRACTOR AND RAILROAD EXPECT THAT UNION PACIFIC RAILROAD COMPANY WILL BE PROVIDED WITH THE BROADEST POSSIBLE COVERAGE AVAILABLE BY OPERATION OF LAW UNDER ISO ADDITIONAL INSURED FORMS CG 20 10 AND CG 20 37.

H. Punitive damages exclusion, if any, must be deleted (and the deletion indicated on the certificate of insurance), unless (a) insurance coverage may not lawfully be obtained for any punitive damages that may arise under this agreement, or (b) all punitive damages are prohibited by all states in which this agreement will be performed.

I. Contractor waives all rights of recovery, and its insurers also waive all rights of subrogation of damages against Railroad and its agents, officers, directors and employees for damages covered by the workers compensation and employers liability or commercial umbrella or excess liability obtained by Contractor required in this agreement where prohibited by law. This waiver must be stated on the certificate of insurance.

J. Prior to commencing the Work, Contractor shall furnish Railroad with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements in this agreement.

K. All insurance policies must be written by a reputable insurance company acceptable to Railroad or with a current Best's Insurance Guide Rating of A- and Class VII or better, and authorized to do business in the state where the Work is being performed.

L. The fact that insurance is obtained by Contractor or by Railroad on behalf of Contractor will not be deemed to release or diminish the liability of Contractor, including, without limitation, liability under the indemnity provisions of this agreement. Damages recoverable by Railroad from Contractor or any third party will not be limited by the amount of the required insurance coverage.

EXHIBIT
6

Form of Easement

eRECORDED IN
LISA A. SMART
RECORDER OF DEEDS
FRANKLIN COUNTY
STATE OF MISSOURI
DOCUMENT# 2312537
10/23/2023 11:35 AM
FEE: 48.00
PAGES: 9

Space Above for Recorder's Use Only

TITLE OF DOCUMENT:	Easement Deed
DATE OF DOCUMENT:	October 4, 2023
GRANTOR(S):	UNION PACIFIC RAILROAD COMPANY
MAILING ADDRESS:	1400 Douglas Street Omaha, NE 68179
GRANTEE(S):	STATE OF MISSOURI, ACTING BY AND THROUGH THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
ADDRESS:	105 West Capitol Drive Jefferson City, MO 65101
LEGAL DESCRIPTION:	A tract located in the Northeast Quarter of Section 36 in Township 44 North, Range 1 East and the Northwest Quarter of Section 31 in Township 44 North, Range 2 East, Franklin County, Missouri, and more particularly described in Exhibit A.

After Recording, Mail To:

(Space Above Reserved for County Recorder's Use)

UPRR Project No. 0773639

EASEMENT DEED

THIS Easement Deed is made this 4 day of October, 2023 between **UNION PACIFIC RAILROAD COMPANY**, a Delaware corporation ("Grantor"), and **THE STATE OF MISSOURI, ACTING BY AND THROUGH THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION**, ("Grantee"), whose address is 105 West Capital Ave, Jefferson, Missouri, 65101.

Grantor for and in consideration of the sum of **FIVE HUNDRED DOLLARS ($500.00)** and other valuable consideration, to it paid by Grantee, the receipt whereof is hereby confessed and acknowledged, grants to Grantee, its successors and assigns, a NONEXCLUSIVE EASEMENT ("Easement") on, along and/or over the property located in Labadie, Missouri, described in **Exhibit A**, attached and by reference made a part of this Easement Deed (the "Easement Area"), for the sole purpose of constructing a grade-separated overpass over at or near Grantor's Mile Post 42.18 (DOT No. 442746R), on Grantor's Jefferson City Subdivision in Labadie, Franklin County, Missouri.

The Easement is granted for the purpose described above only. Without limitation of the foregoing, this grant does not include the right to install utilities of any nature, including, without limitation, fiber optic, cable television, electrical, gas or liquid distribution, or telephone lines.

Grantor, its successors and assigns, reserves the right to construct at any and all times and to maintain railroad tracks and appurtenances, fiber optic or signal lines and facilities, pipe, telephone, and electric pole and wire lines, over, under and across the Easement Area, but in such a way as to not interfere with Grantee's use of the Easement; it being understood that the rights so reserved by Grantor, its successors and assigns, are retained along with the general right of Grantor, its successors and assigns, to use of the Easement Area for any purpose not inconsistent with Grantee's use of the Easement, including, but not limited to any and all general railroad purposes.

The Easement is granted subject to the terms and conditions contained in the separate Construction and Maintenance Agreement dated October 2 20 23, as signed by Grantor and the THE STATE OF MISSOURI, ACTING BY AND THROUGH THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION, and all outstanding leases, licenses and other outstanding rights, including, without limitation, those for pipe, telephone, electric and fiber optic lines and the right of renewals and extensions of the same, and subject also to all conditions, limitations, restrictions, encumbrances, reservations or interests of any person that may affect the Easement Area, whether recorded or unrecorded.

The Easement is also limited to such rights as Grantor may have in the Easement Area and is granted without warranty, express or implied. No damages shall be recoverable from Grantor because of any dispossession of Grantee or because of failure of, or defect in, Grantor's title.

If Grantees, its successors or assigns, abandon the Easement Area or any portion of the Easement Area, for the purposes of the Easement, the Easement will cease and terminate with respect to the portion of the Easement Area so abandoned, and the title to the Easement Area will be freed from the burden of the Easement. Nonuse of the Easement Area or any portion thereof, for the purposes of the Easement for the period of one (1) year will be deemed an abandonment of the Easement Area or portion thereof not used.

Grantor and Grantee have caused this Easement Deed to be executed as of the date first herein written.

UNION PACIFIC RAILROAD COMPANY
(Federal Tax ID No. 94-6001323)

By Chris D Goble

Printed Name: CHRIS D. GOBLE

Title: Assistant Vice President - Real Estate

THE STATE OF MISSOURI, ACTING BY AND THROUGH THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

By Tom Blair

Printed Name: TOM BLAIR

Title: DISTRICT ENGINEER

Approved As To Form

Jason Sapp

ACKNOWLEDGMENT

STATE OF NEBRASKA)
) ss:
COUNTY OF DOUGLAS)

On this 4th day of October, 2023, before me, David C LaPlante, a Notary Public in and for said County and State, personally appeared Chris D Goble who is the AVP-Real Estate of Union Pacific Railroad Company, a Delaware corporation, and who is personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to in the within instrument, and acknowledged to me that they executed the same in their authorized capacity, and that by their signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

GENERAL NOTARY - State of Nebraska
DAVID LAPLANTE
My Comm. Exp. September 18, 2025

↑ (Affix Notary Seal Here) ↑

David C. LaPlante

Notary Public for and in said State

My commission expires: 9/18/25

ACKNOWLEDGMENT

STATE OF Missouri
) ss:
COUNTY OF St. Louis)

On this 18 day of October, 20 23, before me, a Notary Public in and for said County and State, personally appeared Tom Blair
(Name of Individual Executing Agreement on Behalf of the Political Body)

who is the District Engineer of the THE STATE OF MISSOURI, ACTING BY AND THROUGH THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
(Title of Individual Executing Agreement on Behalf of the Political Body)
and who is personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to in the within instrument, and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

M. NICOLE KREISEL
Notary Public - Notary Seal
St. Louis City - State of Missouri
Commission Number 13706414
My Commission Expires Oct 17, 2025

↑ (Affix Notary Seal Here) ↑

M Nicole Kreisel
Notary Public for and in said State

My commission expires: 10/17/25
(Expiration Date)

EXHIBIT A

Legal Description of Easement Area

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION **EXHIBIT A -LEGAL DESCRIPTION**

Title *(name or identification of project)*	County			
J6S3368_RTE MM	Franklin			
	City *(if applicable)*		State	
			MO	
	Date Prepared	Sheet		
Licensee Name *(sole proprietor, partnership, corporation, LLC, or government)*	08.25.21	1	of	4
Civil Design, Inc..	Professional Surveyor Name *(print)*			
5220 Oakland Avenue	Philip Grout			
St. Louis, MO 63110	Discipline			
	Professional Land Surveyor			
	License or Certificate of Authority No.			
	MO #	2011020042		
Professional Surveyor *(Signature)*	Date			
Philip A Grout	7 September 2021			Only the following legal description contained in this "EXHIBIT" is authenticated by this seal.

STATE OF MISSOURI
PHILIP ANDREW GROUT
NUMBER
PLS-2010018902
PROFESSIONAL LAND SURVEYOR

PARCEL 2- NEW CORRIDOR BOUNDARY DESCRIPTION

ALL BEARINGS USED IN THIS DESCRIPTION ARE BASED ON THE MISSOURI COORDINATE SYSTEM OF 1983, EAST ZONE-GRID NORTH.

A TRACT LOCATED IN THE NORTHEAST QUARTER OF SECTION 36 IN TOWNSHIP 44 NORTH, RANGE 1 EAST AND THE NORTHWEST QUARTER OF SECTION 31 IN TOWNSHIP 44 NORTH, RANGE 2 EAST, FRANKLIN COUNTY, MISSOURI, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING ON THE EAST LINE OF MISSOURI ROUTE MM, SAID POINT BEING 18.97 FEET PERPENDICULAR DISTANCE LEFT OF STATION 731+19.82 OF THE CENTERLINE OF MISSOURI ROUTE MM, THENCE LEAVING SAID EAST LINE OF MISSOURI ROUTE MM, SOUTH 66 DEGREES 07 MINUTES 24 SECONDS EAST 31.03 FEET TO A POINT BEING 40.81 FEET PERPENDICULAR DISTANCE LEFT OF STATION 731+39.54 OF THE CENTERLINE OF MISSOURI ROUTE MM, THENCE WITH A CURVE TO THE RIGHT HAVING A RADIUS OF 264.18 FEET, AN ARC LENGTH OF 68.99 FEET AND THE CHORD OF WHICH BEARS SOUTH 15 DEGREES 53 MINUTES 25 SECONDS EAST, 68.79 FEET TO A POINT BEING 44.94 FEET PERPENDICULAR DISTANCE LEFT OF STATION 731+98.32 OF THE CENTERLINE OF MISSOURI ROUTE MM, THENCE SOUTH 11 DEGREES 14 MINUTES 53 SECONDS WEST 74.82 FEET TO A POINT ON SAID EAST LINE OF MISSOURI ROUTE MM BEING 32.25 FEET PERPENDICULAR DISTANCE LEFT OF STATION 732+62.41 OF THE CENTERLINE OF MISSOURI ROUTE MM, THENCE WITH A CURVE TO THE LEFT ON SAID EAST LINE OF MISSOURI ROUTE MM HAVING A RADIUS OF 249.18 FEET, AN ARC LENGTH OF 71.43 FEET AND THE CHORD OF WHICH BEARS NORTH 00 DEGREES 11 MINUTES 48 SECONDS WEST, 71.19 FEET TO A POINT BEING 29.96 FEET PERPENDICULAR DISTANCE LEFT OF STATION 731+98.94 OF THE CENTERLINE OF MISSOURI ROUTE MM, THENCE SOUTH 81 DEGREES 35 MINUTES 26 SECONDS WEST 5.00 FEET TO A POINT BEING 24.97 FEET PERPENDICULAR DISTANCE LEFT OF STATION 731+99.16 OF THE CENTERLINE OF MISSOURI ROUTE MM, THENCE WITH A CURVE TO THE LEFT HAVING A RADIUS OF 244.18 FEET, AN ARC LENGTH OF 86.58 FEET AND THE CHORD OF WHICH BEARS NORTH 18 DEGREES 34 MINUTES 04 SECONDS WEST, 86.13 FEET TO THE POINT OF BEGINNING AND CONTAINING 1,959 SQUARE FEET OR 0.045 ACRES.

CENTERLINE DESCRIPTION FOR ROUTE MM- JOB NO. J6S3368

ALL BEARINGS USED IN THIS DESCRIPTION ARE BASED ON GRID NORTH OF THE MISSOURI COODINATE SYSTEM OF 1983.

PART OF SECTION 36 IN TOWNSHIP 44 NORTH, RANGE 1 EAST AND SECTION 31 IN TOWNSHIP 44 NORTH, RANGE 2 EAST, FRANKLIN COUNTY, MISSOURI AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT A STONE AT THE EAST QUARTER CORNER OF SECTION 36 IN TOWNSHIP 44 NORTH, RANGE 1 EAST, AS PER LAND CORNER DOCUMENT NUMBER 600-39083; THENCE N 12 DEGREES 55 MINUTES 21 SECONDS W, 2336.31 FEET TO THE CENTERLINE OF MISSOURI ROUTE MM, BEING STATION 720+00.00 AND THE POINT OF BEGINNING;

THENCE ALONG THE CENTERLINE THE FOLLOWING COURSES AND DISTANCES: SOUTH 20 DEGREES 01 MINUTES 12 SECONDS EAST, 83.78 FEET TO PC STATION 720+83.78; THENCE WITH A CURVE TO THE LEFT HAVING A RADIUS OF 600.00 FEET, AN ARE LENGTH OF 255.92 FEET, AND THE CHORD OF WHICH BEARS SOUTH 32 DEGREES 14 MINUTES 22 SECONDS EAST, 253.99 FEET TO P.T. STATION 723+39.70; SOUTH 44 DEGREES 27 MINUTES 34 SECONDS EAST, 343.31 FEET TO P.C. STATION 726+83.01; ALONG A CURVE TO THE LEFT HAVING A RADIUS 1500.00 FEET, AN ARC LENGTH OF 91.74 FEET, AND THE CHORD OF WHICH BEARS SOUTH 46 DEGREES 12 MINUTES 42 SECONDS EAST, 91.73 FEET TO P.T. STATION 727+74.75; SOUTH 47 DEGREES 57 MINUTES 50 SECONDS EAST, 239.04 FEET TO P.C. STATION 730+13.80; ALONG A CURVE TO THE RIGHT WITH A RADIUS OF 250.89 FEET, AN ARC LENGTH OF 256.42 FEET AND THE CHORD OF WHICH BEARS SOUTH 18 DEGREES 37 MINUTES 09 SECONDS EAST, 245.41 FEET TO P.T. STATION 732+70.22; SOUTH 10 DEGRESS 37 MINUTES 31 SECONDS WEST, 169.49 FEET TO P.C. STATION 734+39.71; ALONG A CURVE TO THE LEFT HAVING A RADIUS OF 1500.00 FEET, AN ARC LENGTH OF 67.88 FEET AND THE CHORD OF WHICH BEARS SOUTH 9 DEGREES 19 MINUTES 44 SECONDS WEST, 67.87 FEET TO P.T. STATION EQUATION 735+07.59 BACK EQUALS 734+95.95 AHEAD; SOUTH 8 DEGREES 01 MINUTES 57 SECONDS WEST, 641.13 FEET TO P.C. STATION 741+37.08; ALONG A CURVE TO THE LEFT HAVING A RADIUS OF 4000.00 FEET, AN ARC LENGTH 7.11 FEET AND CHORD WHICH BEARS SOUTH 6 DEGREES 20 MINUTES 03 SECONDS WEST, 237.07 FEET TO P.T. STATION 743+74.19, BEING THE POINT OF ENDING, FROM WHICH SAID STONE AT THE EAST QUARTER CORNER OF SECTION 36 IN TOWNSHIP 44 NORTH, RANGE 1 EAST, AS PER LAND CORNER DOCUMENT NUMBER 600-39083 BEARS NORTH 14 DEGREES 32 MINUTES 13 SECONDS EAST, 184.33 FEET.