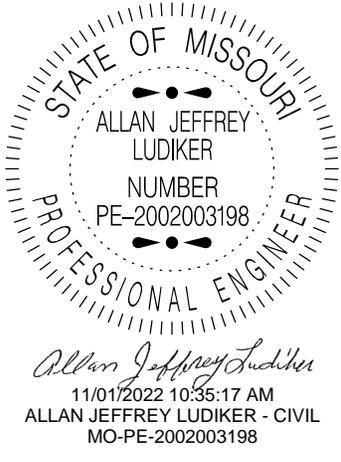


Job No.: J413486
 Route: I-670
 County: Jackson

JOB SPECIAL PROVISIONS TABLE OF CONTENTS (ROADWAY)

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

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|---|--|
|  | MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65102 Phone 1-888-275-6636 |
| | If a seal is present on this sheet, JSPs have been electronically sealed and dated. |
| | Job Number: J413486 Jackson County, MO Date Prepared: 10/03/22 |
| | ADDENDUM DATE: |
| Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: All | |

JOB
SPECIAL PROVISION

A. General - Federal JSP-09-02H

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

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

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

General Provisions & Supplemental Specifications

Supplemental Plans to July 2022 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-13-01B

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

Job No.: J413486
Route: I-670
County: Jackson

work shall be completed on or before the date specified below. Completion by this date shall be in accordance with the requirements of Sec 108.7.1.

Notice to Proceed: February 6, 2023
Completion Date: November 1, 2023

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 |
|-------------------|----------------------|-----------------------------|
| J413486 | 68 | \$1,800 |

3.0 Liquidated Damages for Contract Administrative Costs. Should the contractor fail to complete the work on or before the completion date specified in Section 2.0, or within the number of calendar days specified in Section 2.1, whichever occurs first, the contractor will be charged contract administrative liquidated damages in accordance with Sec 108.8 in the amount of **\$750** per calendar day for each calendar day, or partial day thereof, that the work is not fully completed. For projects in combination, these damages will be charged in full for failure to complete one or more projects within the above specified completion date or calendar days.

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

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

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

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

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

2.0 Traffic Management Schedule.

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

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

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

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

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

2.5 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.

2.7 Traffic Management Center (TMC) Coordination. The Work Zone Specialist (WZS) or their designee shall contact by phone the MoDOT Traffic Management Center (KC Scout TMC at #816-347-2250 or Gateway Guide TMC at #314-275-1513) within five minutes of a lane or ramp closure beginning and within five minutes of a lane or ramp closure being removed. The WZS shall make this phone call 24 hours a day, 365 days of the year since the MoDOT Traffic Management Centers are always staffed.

3.0 Work Hour Restrictions.

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

Memorial Day
Labor Day
Thanksgiving
Christmas
New Year's Day

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

12:00 noon June 30, 2023 – 6:00 a.m. July 5, 2023

3.1.2 The contractor's working hours will be restricted for the Special Events as shown below. All lanes shall be scheduled to be open to traffic during these Special Events.

2023 NFL Draft
12:00 noon April 26, 2023 – 6:00 a.m. May 1, 2023

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

3.3 The contractor shall be aware that traffic volume data indicates construction operations on the roadbed 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.

No work hour restrictions

3.4 The contractor shall not alter the start time, ending time, or a reduction in the number of through lanes of traffic or ramp closures without advance notification and approval by the engineer. The only work zone operation approved to begin 30 minutes prior to a reduction in through traffic lanes or ramp closures is the installation of traffic control signs. Should lane closures be placed or remain in place, prior to the approved starting time or after the approved ending time, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delays, with a resulting cost to the traveling public. These damages are not easily computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of **\$500 per 15 minute increment** for each 15 minutes that the temporary lane closures are in place and not open to traffic in excess of the limitation as specified elsewhere in this special provision. It shall be the responsibility of the engineer to determine the quantity of unapproved closure time.

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

4.0 Detours and Lane Closures

4.1 When a changeable message sign (CMS) is provided, the contractor shall use the CMS to notify motorists of future traffic disruption and possible traffic delays one week before traffic is shifted to a detour or prior to lane closures. The CMS shall be installed at a location as approved or directed by the engineer. 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. 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 816-622-0800 |
| City of Kansas |
| Fire: 816-455-0045 |
| Police: 816-235-5510 |
| Jackson County Sheriff 816-541-8017 |

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

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

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

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

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

Job No.: J413486
Route: I-670
County: Jackson

Allan Ludiker, Project Contact
MoDOT, KC District
600 NE Colbern Rd
Lee's Summit, MO 64086

Telephone Number: 816 -607-2267
Email: Allan.Ludiker@modot.mo.gov

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

F. Supplemental Revisions JSP-18-01W

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.

| 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 VMA shall be calculated as follows:

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

where:

P_s = percent aggregate by total mixture weight

P_{GTR} = percent GTR by total mixture weight

G_{sb} = bulk specific gravity of the combined aggregate

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 107 in its entirety and substitute the following:

107.1 Laws to be Observed The contractor shall know, observe and comply with all federal and state laws, local laws, codes, ordinances, orders, decrees and regulations existing at the time of or enacted subsequent to the execution of the contract that in any manner affect the prosecution of the work, except as specified in the contract or as directed by the engineer. The Contractor shall also ensure that any subcontractor know, observe and comply with all federal and state laws, local laws, codes, ordinances, orders, decrees and regulations as outlined above. The contractor and surety shall indemnify and save harmless the State, the Commission, the Commission’s agents, employees and assigns from any claim or liability arising from or based on the violation of any such law, code, ordinance, regulation, order or decree, except any local regulations, decrees, orders, codes or ordinances directed by the contract.

107.1.1 Contract and Legal Inconsistency The engineer shall be notified immediately in writing if any discrepancy or inconsistency is discovered between the contract and any law, ordinance, regulation, order or decree.

107.1.2 Local Building and Zoning Codes or Ordinances The projects of the Commission are not typically subject to local building or zoning codes or ordinances. Therefore, the contractor usually need not obtain a local building or zoning permit or variance for work done exclusively as the Commission's contractor on the Commission's project and the Commission's right of way. Other local codes or ordinances may not apply to the Commission, and thus to the contractor as well. If any questions arise concerning whether the contractor shall comply with a local code, ordinance, decree or order of any type, the contractor shall advise the engineer of the problem immediately, for resolution by the engineer. This provision will not exempt the contractor from the requirement of thoroughly researching and determining, before submitting a bid on the contract and from complying with, all federal, state or local laws, regulations, codes, ordinances, decrees or orders that may apply to the contract work. The Commission will not be responsible for the contractor's failure to be informed before bidding as to the federal, state and local laws, regulations, codes, ordinances, decrees or orders that may govern the contract work, or for the contractor's failure to determine before bidding which of these do not govern the contract work.

107.1.3 Authentication of Certain Documents If plans, plats, detailed drawings or specifications for falsework, cofferdams or any other work are required to be submitted to the engineer, the documents shall be signed, sealed and stamped in accordance with the laws relating to the practice of architecture and professional engineering in the State of Missouri (Chapter 327, RSMo).

107.2 Permits, Licenses and Taxes Except as otherwise provided in the contract, the contractor shall procure all permits and licenses, shall pay all charges, fees and taxes, and shall give all notices necessary and incidental to the due and lawful prosecution of the work. No direct payment will be made for the cost of complying with this requirement.

107.3 Patented or Copyrighted Devices, Material and Processes. If the contractor is required or desires to use any design, device, material or process covered by letters, patent, copyright, service or trademark, the contractor shall arrange and provide for such use by suitable agreement with the patentee or owner, and a copy of the agreement may be required by the Commission. The contractor and surety shall indemnify and save harmless the State, the Commission, the Commission's agents, employees and assigns from any suits, claims or damages arising from the infringement upon or use of any patented, copyrighted or registered design, device, material, process or mark.

107.4 Safety and Sanitary Provisions The contractor shall at all times take necessary precautions to protect the life and health of all persons employed on the project or, who at the direction of the contractor are present on the right of way. The contractor shall be familiar with the latest accepted accident prevention methods and shall provide necessary safety devices and safeguards accordingly. The Commission will refuse to provide inspection services at plants or work sites where adequate safety measures are not provided and maintained.

107.4.1 Apparel. All workers within highway right of way shall wear approved ANSI/ISEA 107 Performance Class 2 or 3 safety apparel and more specifically as follows:

107.4.1.1 During daytime activities, flaggers shall wear a high visibility hard hat, safety glasses, a Performance Class 3 top OR a Performance Class 2 top, and safety footwear. Hard hats other than high visibility orange or green shall be covered with a high visibility covering.

107.4.1.2 During daytime activities, workers shall wear a hard hat, safety glasses, a Performance Class 3 top OR a Performance Class 2 top, and safety footwear.

107.4.1.3 During nighttime activities, flaggers shall wear a high visibility/reflective hard hat, safety glasses, a Performance Class 3 top AND Class E bottoms, OR Performance Class 2 top AND Class E bottoms, and safety footwear. Hard hats shall be reflective or covered with a high visibility covering.

107.4.1.4 During nighttime activities, workers shall wear a hard hat, safety glasses, a Performance Class 3 top OR Performance Class 2 top AND Class E bottoms, and safety footwear.

107.4.2 The contractor shall provide and maintain in a neat and sanitary condition, such accommodations for the use of employees as may be necessary to comply with the requirements and regulations of any agency having jurisdiction over public health and sanitation. The contractor shall permit no public or private nuisance.

107.4.3 All sanitary facilities and safety devices shall be furnished free to employees and no direct payment will be made for such facilities or devices.

107.5 Public Convenience and Safety The contractor shall conduct the work in a manner that will ensure, as far as practical, the least obstruction to traffic and shall provide for the convenience and safety of the general public and residents along and adjacent to the highway in an adequate and satisfactory manner.

107.5.1 Obstructions Prohibited Fire hydrants on and adjacent to the highway shall be kept accessible to firefighting apparatus at all times, and no obstruction shall be placed within 15 feet of any such hydrant. Footways, gutters, sewers, outlets, inlets and portions of highways adjoining the work under construction shall not be obstructed. Pavements over which hauling is performed shall be kept clean of spilled or tracked-on material at all times when in use by traffic.

107.5.2 Objects Potentially Affecting Navigable Airspace. The contractor shall comply with all federal regulations pertaining to constructing, erecting or installing any object, temporary or permanent, which could potentially affect navigable airspace.

107.5.3 Material and Equipment. During construction hours, equipment, material and vehicles utilized in construction of the project will only be permitted on shoulders, medians or pavements where the locations are closed to traffic, properly signed and occupied by ongoing construction operations, unless otherwise approved by the engineer. Except in cases of emergency, construction equipment, material and vehicles will not be permitted on pavements or shoulders being utilized by traffic. If the contract specifies time periods the contractor will not be permitted to perform work, construction equipment or vehicles shall not enter or leave the construction area via the pavements handling traffic nor be operated on the pavements handling traffic within the construction area during the restricted time periods. During non-construction hours, construction equipment, material and vehicles will not be permitted within 30 feet of the edge of the pavement or shoulders carrying traffic unless the equipment, material and vehicles are located in a properly protected area, an off-site storage area or as otherwise directed by the engineer.

107.5.4 Distractions to the Traveling Public in Work Zones. In order to avoid distracting operators of vehicles traveling on the roadway, the Contractor and its sub-contractors shall not bring or display any signs, flags, logos, emblems, advertising, or any other communicative device on construction equipment that is large enough to be legible from the main traveled way of the highway in the work zone or on highway right of way. This prohibition does not apply to any sign, logo or emblem placed on Contractor equipment identifying the owner or manufacturer of the equipment or to any official highway signs approved by the Commission pursuant to 227.220 RSMo.

107.6 Bridges over Navigable Waters. All work on navigable waters shall be conducted such that free navigation of the waterways will not be interfered with and that existing navigable depths will not be impaired except as allowed by permit issued by the USCG or the USACE.

107.7 Use of Explosives. All blasting operations shall be conducted under the direct supervision of a licensed blaster as required by the Missouri Blasting Safety Act. When explosives are used in the prosecution of the work, the contractor shall use the utmost care to prevent bodily injury and property damage. The contractor shall be responsible for damage resulting from the use of explosives. The engineer will have the authority to suspend any unsafe blasting operation. The contractor shall be familiar and comply with the rules and regulations of any city, county, state or federal agency or any other agency that may have

jurisdiction in the handling, loading, transporting, storage and use of explosives. All places used for explosives storage shall be marked clearly "DANGEROUS EXPLOSIVES".

107.7.1 Before beginning work, the contractor shall furnish the engineer letters of approval for the proposed operation from the appropriate regulating agencies. The contractor shall notify in writing the appropriate fire protection jurisdiction of the intent to store, transport or use explosives and shall provide proof of notice to the engineer. The contractor shall provide the engineer with copies of all permits, blasting logs and seismic monitoring data.

107.7.2 The contractor shall notify in advance each property owner, tenant and public utility company having structures or facilities close to the work of any intention to use explosives.

107.7.3 Removal of any item or material of any nature by blasting shall be done in such a manner and at such time as to avoid damage affecting the integrity of the design and to avoid damage to any new or existing structure, whether on Commission right of way or private property, included in or adjacent to the work. Unless the contract documents or the engineer restricts such operation, the contractor shall be responsible for determining a method of operation to ensure the desired results and the integrity of the completed work.

107.7.4 The contractor and surety shall indemnify and save harmless the State, the Commission, the Commission's agents, employees and assigns from any claim related to the possession, transportation, storage or use of explosives.

107.8 Preservation of Monuments and Artifacts.

107.8.1 Monuments. The contractor shall not disturb or damage any land monument or property landmark unless authorized by the engineer.

107.8.2 Human and Archaeological Remains. The contractor shall report to the engineer the discovery of human remains, artifacts, fossils and other items of historical, archaeological or geological significance discovered within the right of way during construction. Such items will remain in the Commission's custody and shall not be removed from the site unless directed by the engineer. The preservation and handling of such items shall be in accordance with [Sec 203.4.8](#).

107.9 Forest and Park Protection. Environmental and sanitary laws and regulations regarding the performance of work within or adjacent to state or national forests or parks shall be obeyed. The contractor shall keep the project site in an orderly condition, dispose of all refuse, obtain permits for the construction and maintenance of all construction camps, stores, warehouses, residences, latrines, cesspools, septic tanks and other structures in accordance with the regulations and instructions issued by the forest or park supervisor. The contractor shall require employees and subcontractors, independently, and at the request of forest officials, to prevent and suppress forest fires, and to notify a forest official of the location and extent of any fire.

107.10 Environmental Protection. The contractor shall comply with all federal, state and local laws and regulations controlling pollution of the environment. Pollution of streams, lakes, ponds and reservoirs with fuels, oils, bitumens, chemicals or other harmful material and pollution of the atmosphere from particulate and gaseous matter shall be avoided.

107.10.1 Fording of streams and fill for temporary work not specified on design plans will not be permitted unless the plan for such operation is authorized by the Corps of Engineers, meets the approval of the engineer, complies with the current MoDOT Pollution Plan and results in minimum siltation to the stream. Temporary stream crossings shall not be constructed unless specifically designated as a condition of the Corps of Engineers Section 404 permit or a permit is obtained, and the temporary stream crossing is in accordance with [Sec 806](#).

107.10.2 When work areas or pits are located in or adjacent to streams, the areas shall be separated from the main stream by a dike or barrier to keep sediment from entering the stream. Care shall be taken during the construction and removal of such barriers to minimize siltation of the stream.

107.10.3 Disposal of Portland cement concrete residue and wash water, water from aggregate washing, or other operations producing sediment laden runoff shall be treated in accordance with Sec 806.

107.10.4 Oil distributors or tanker trucks used for the transport or application of any petroleum-based products, and that have a capacity greater than 1,320 gallons, shall not be left unattended on MoDOT right of way within the project limits during non-construction hours unless secondary containment is deployed as per the Spill Prevention Control and Countermeasure rule. Parking of these vehicles on MoDOT right of way outside of the project limits, or on any MoDOT owned property, shall not be allowed without the aforementioned secondary containment and prior authorization from the engineer.

107.11 Responsibility for Claims for Damage or Injury. The contractor and insurance company shall indemnify and save harmless the State, the Commission, the Commission's agents, employees and assigns from all claims or suits made or brought for bodily injury, death or property damage, arising from performance of the work to the extent of:

(a) The negligent acts or omissions of the contractor, subcontractors, suppliers or their respective officers, agents or employees.

(b) The creation or maintenance of a dangerous condition of or on the Commission's property or right of way, which condition occurred due to the acts or omissions of the contractor, subcontractors, suppliers or their respective officers, agents or employees or for which the contractor had knowledge of or could have had knowledge of the condition in time to warn of or repair said condition.

(c) The failure of the contractor, subcontractors, suppliers or their respective officers, agents or employees, to perform the work in accordance with the plans and specifications.

107.11.1 The contractor will not be required to defend, indemnify or hold harmless any other person, including the State, the Commission, or the Commission's agents, employees or assigns for any acts, omissions or negligence of other persons.

107.11.2 Neither the Commission nor the contractor, by execution of a contract, shall intend to or create a new or enlarge an existing cause of action in any third party. This provision shall not be interpreted to create any new liability that does not exist under the law, or to waive or

extinguish any defense that either party to this contract or their respective agents and employees may have to an action or suit by a third party.

107.12 Contractor's Responsibility for Work From the earlier of the date of commencement of the work or the effective date of the notice to proceed, and until any work is accepted by the engineer, the work shall be in the custody and under the charge and care of the contractor. Issuance of a payment estimate on any part of the work done will not be considered as final acceptance of any work completed up to that time.

107.12.1 Damages to any portion of the work before the work is completed and accepted, caused by the action of the elements or from any other reason, shall be repaired or replaced at the contractor's expense. The contractor, at the contractor's option, may insure against any such damages. The Commission may, in its discretion, make such a payment, determined in accordance with [Sec 109.4](#), for damage to the work due to unforeseeable causes beyond the control of, and without fault or negligence on the part of the contractor, unless the contractor has been reimbursed for such damages by the contractor's insurer. Prior to reimbursement, the contractor shall furnish documentary evidence of all efforts to recover such repair costs.

107.12.2 The contractor shall immediately give written notice to the engineer of any pedestrian, worker and/or vehicular accident. The contractor may be directed by the engineer to repair permanent Commission facilities that have been damaged by events that are beyond the control of the contractor. Reimbursement will be provided by the Commission, determined in accordance with [Sec 109.4](#), for the actual direct cost of labor, equipment and material, exclusive of overhead, indirect or consequential costs of profit. The Commission may elect to make such repairs in lieu of the contractor.

107.13 General Insurance Requirements. The Contractor shall procure and maintain at the Contractor's expense until Final Acceptance of the project by the engineer, insurance for all damages and losses imposed by law and assumed under the contract, of the kinds and in the amounts specified in [Secs 107.13.1](#) through [107.13.8](#).

107.13.1 Sovereign Immunity Limits for Missouri Public Entities. The Contractor shall procure and maintain at least minimum insurance coverages to meet the sovereign immunity limits for Missouri public entities as calculated by the Missouri Department of Insurance and published annually in the Missouri Register pursuant to Section 537.610 RSMo., for [Secs 107.13.2](#) through [107.13.5](#), unless specified otherwise for each type of insurance coverage. Each policy shall provide additional insured status for the Missouri Highways and Transportation Commission (Commission), the Missouri Department of Transportation (MoDOT) and its employees up to Missouri's sovereign immunity limits.

107.13.2 Commercial General Liability Insurance. The Contractor shall procure, and maintain during the term of the project, commercial general liability insurance with coverage at least as broad as Insurance Services Office (ISO) policy form CG 00 01. The general aggregate limit shall, by endorsement or otherwise, provide a designated aggregate limit solely for this project using ISO form CG 25 03 05 09 or an equivalent form. General liability policies shall be endorsed to add the Commission, MoDOT, and its employees as additional insureds (the "Additional Insureds") using Insurance Services Office forms CG 20 10 or the equivalent under such policy. For construction contracts, an endorsement providing completed operations coverage to the Additional Insureds, ISO form CG 20 37 or the equivalent, is also required. This

form, CG 20 37, shall be endorsed on each subsequent commercial general liability policy issued to the Contractor for three (3) years after final acceptance of the project. The contractor could provide extended completed operations for specific project needs. Discontinued operations coverage shall be provided for three (3) years when applicable. Coverage shall not be reduced by insured versus insured exclusions or by explosion, collapse and underground (XCU) exclusions.

107.13.3 Commercial Automobile Liability Insurance. The Contractor shall procure and maintain automobile liability coverage at least as broad as ISO policy form CA 00 01 covering owned, hired, and non-owned autos. The policy shall include as insureds anyone liable for the conduct of an insured as described by policy provision or by endorsement added to the policy.

107.13.4 Contractor's Pollution Liability (CPL) Insurance. The Contractor performing excavation, remediation, hazardous materials removal, or any other work involving potential pollution arising from construction operations shall procure and maintain contractor's pollution liability insurance for liability arising out of sudden, accidental, and gradual pollution and remediation. The policy shall have minimum limits of \$1,000,000 and the Commission, MoDOT and its employees shall be endorsed as additional insureds under such policy. The policy shall provide coverage for the hauling of waste from the project site to the final disposal location, including non-owned disposal sites. Products/completed operations coverage for pollution liability insurance shall extend a minimum of three (3) years after final acceptance of the project. Coverage shall be included on behalf of the insured for covered claims arising out of the actions of independent contractors. If the insured is using subcontractors, the Policy must include work performed "by or on behalf" of the insured. Policy shall specifically provide for a duty to defend on the part of the insurer.

107.13.5 Aircraft Liability Insurance. If aircraft, including unmanned aircraft, will be used on the project, Contractor shall provide, or cause to be provided, aircraft liability insurance protecting against claims for damages resulting from such use in all cases where any aircraft that is owned, leased or chartered by any Contractor-Related Entity used on the Project. The policy shall have minimum limits of \$1,000,000 and the Commission, MoDOT and its employees shall be additional insureds on the policy by endorsement or policy provision. The use of any aircraft in performance of the Work, the aircraft crew, flight path and altitude, including landing of any aircraft on the Site or on any property owned by the Commission, MoDOT or other parties at interest, shall be subject to review and written acceptance by the Commission prior to any such usage. If any aircraft are leased or chartered with crew and/or pilot, evidence of non-owned aircraft liability insurance will be acceptable to meet these requirements but must be provided prior to use of the aircraft. For use of unmanned aircraft vehicles, the contractor may provide insurance either through an aircraft liability insurance policy, or by endorsement to the Contractor's commercial general liability insurance policy and excess liability policies. Use of unmanned aircraft must comply with all state and federal rules and regulations, including FAA requirements.

107.13.6 Excess or Umbrella Liability Insurance. The Contractor may satisfy the required limits for Secs 107.13.2 through 107.13.5 by use of excess or umbrella liability insurance policies in any combination that meets the contract limits requirements. Such policies shall include as insureds, the Missouri Highways and Transportation Commission (Commission), the Missouri Department of Transportation (MoDOT) and its employees.

107.13.7 Workers' Compensation Insurance. The Contractor shall provide evidence to the engineer that the Contractor has obtained workers' compensation insurance and employers liability insurance as required by the state or is exempt and provides proper documentation to the engineer. Coverage shall include all statutory workers' compensation benefits to Contractor employees who may sustain work-related injury, death or disease. If applicable, commensurate with the requirements of the U.S. Longshore and Harbor Workers' Compensation Act (USL&H) and the Jones Act, with a minimum limit of \$2,000,000 per occurrence and in the aggregate, or as may be specified by law, for each. The required insurance must be endorsed to include a waiver of subrogation in favor of the Commission, MoDOT and its employees.

107.13.8 Railroad Protective Liability Insurance. In addition to other forms of required insurance, the Contractor shall provide railroad protective liability insurance when any of the Contractor's work is to be performed within any railroad right of way and in some cases may be required when the project improvements are near a railroad right of way. The name or names of the railroad companies known to be in the vicinity of the contract improvements will be specified in each contract, but the contractor shall confirm the railroad companies impacted and the final insurance needed with each railroad. The minimum limits of the insurance indicated by each railroad to the Commission will be included in the contract bid documents for informational purposes, but the contractor shall be bound by each individual railroad company requirements. Each railroad agency has final determination in the content and coverage limits of the policies required. No work will be permitted within any railroad's right of way until the railroad involved has reviewed and approved the insurance policy. Any day upon which the Contractor cannot perform work due to such a policy not being approved by the railroad will not be counted as a contract day under [Sec 108.7](#).

107.13.9 Evidence of Insurance. Required evidence of insurance providing confirmation of compliance with these requirements shall consist of a certificate of insurance, an endorsement to any workers compensation policy waiving the subrogation by the insurer, and any endorsements adding the Commission, MoDOT and its employees as additional insureds where specified. "Blanket" or "automatic" additional insured endorsements providing additional insured coverage "where required by contract," may be used, provided that such forms provide coverage at least as broad as provided by the specified endorsement forms required. The contractor and any subcontract work shall not commence under the contract until the contractor obtains the applicable insurance coverage required and receives approval for such insurance from the engineer. All evidence of insurance for the prime contractor, including certificates of insurance and required endorsements, and notices shall be submitted electronically by the insurance agent to ContractorSupport@MoDOT.mo.gov. The Contractor shall promptly furnish the engineer with a complete copy of its policy upon request. Failure to furnish evidence of proper insurance, or complete insurance policies when requested, may result in the suspension of work as provided in [Sec 108](#), and may result in other claims or actions for breach of contract or otherwise, as may be recognized at law or in equity.

107.13.9.1 Work Performed by Subcontract. Prior to its commencement of the applicable work, the contractor shall cause each of its subcontractors to provide insurance that complies with the requirements for contractor-provided insurance. Contractor's determination of such insurance shall not be interpreted as relieving Contractor or its insurer of any liability otherwise imposed on Contractor or its insurers under these Contract Documents. The Contractor shall promptly furnish the engineer with a complete copy of its subcontractor policies upon request. Failure to furnish evidence of proper insurance, or complete insurance policies when requested,

may result in the suspension of work as provided in Sec 108, and may result in other claims or actions for breach of contract or otherwise, as may be recognized at law or in equity.

107.13.10 Other Conditions and Requirements

107.13.10.1 Acceptability of Insurance Companies. All insurers must be authorized to transact business under the laws of the State of Missouri and hold an AM Best rating of no less than A-: VI.

107.13.10.2 Waiver of Right of Recovery. All insurance coverage maintained or procured pursuant to this agreement shall be endorsed to waive subrogation against the Commission, MoDOT and its employees or shall specifically allow the Contractor, or others providing insurance evidence in compliance with these specifications, to waive their right of recovery prior to a loss. Contractor hereby waives its own right of recovery against the Commission, MoDOT and its employees.

107.13.10.3 Enforcement of Contract Provisions (non estoppel). Contractor acknowledges and agrees that any actual or alleged failure on the part of the Commission, MoDOT or its employees to inform Contractor of non-compliance with any requirement imposes no additional obligations on the Commission, MoDOT or its employees, nor does it waive any rights hereunder.

107.13.10.4 Primary and Non-contributory. For any claims related to this contract, the Contractor's insurance coverage shall be primary insurance with respects to the Commission, MoDOT and its employees as the additional insureds. Any other insurance or self-insurance maintained by any of these parties shall be excess of the Contractor's insurance and shall not contribute with the Contractor's insurance.

107.13.10.5 Specifications not Limiting. Requirements of specific coverage features, or limits contained in this Section are not intended as a limitation on coverage, limits or other requirements, or a waiver of any coverage normally provided by any insurance. Specific reference to a given coverage feature is for purposes of clarification only as it pertains to a given issue and is not intended by any party or insured to be all inclusive, or to the exclusion of other coverage, or a waiver of any type.

107.13.10.6 Notice of Cancellation and Change in Insurance Carrier. Contractor agrees to oblige its insurance agent or broker, and insurers by endorsement to the policy, to provide to the engineer with thirty (30) days advance notice of cancellation, except for nonpayment for which ten (10) days' notice is required, or nonrenewal of coverage for each required coverage. If any policy is canceled or the insurance carrier is planned to change before the contract work is complete, a satisfactory replacement policy shall be obtained and in force, with notice and evidence of insurance submitted to the engineer, prior to the effective date of cancellation of the former policy.

107.13.10.7 Self-insured Contractors and Self-insured Retentions. A self-insured contractor will not be considered to comply with these specifications unless approved by the engineer prior to beginning work. A contractor with insurance policies arranged with self-insured retentions must be declared to and approved by the engineer prior to beginning work. The Commission

reserves the right to require that self-insured retentions be eliminated, lowered, or replaced by a deductible or other policy type.

107.13.10.8 Timely Notice of Claims. Contractor shall give the engineer prompt and timely notice of claims made or suits instituted that arise out of or result from Contractor's performance under this Agreement, and that involve or may involve coverage under any of the required liability policies. The Commission and MoDOT will provide timely notice to the contractor of any claims or lawsuits that it receives. If the Commission demands that the contractor defend the suit and/or indemnify the Commission, the contractor or its insurance company shall acknowledge that demand within 20 days of receiving it and the contractor shall respond within a total of 45 days of the claim receipt the intent of the contractor to defend.

107.13.10.9 Exhaustion of Policy Limits. It shall be the contractor's responsibility to notify the engineer promptly when any provided insurance limits are not able to be maintained during the contract period or provide verification that additional coverage or excess coverage is also available.

107.14 Cooperation in Defense. The indemnified party shall cooperate with the indemnifying party in the defense of a third-party claim subject to the foregoing, (1) the indemnified party shall not have any obligation to participate in the defense of or to defend any third-party claim, and (2) the indemnified party's defense of or its participation in the defense of any third-party claim shall not in any way diminish or lessen its right to indemnification as provided in this section.

107.15 Third Party Liability. Neither the State of Missouri, including the Commission, nor the contractor, by execution of the contract including these specifications, intend to create a right of action in a third-party beneficiary, except as specifically set out in these specifications and the contract. It is not intended by any required contractual liability in the contract or in these specifications that any third-party beneficiary has a cause of action arising out of the condition of the project when completed in accordance with the plans and accepted by the Commission.

107.16 Personal Liability of Public Officials. There shall be no personal liability upon the Chief Engineer, or any member, employee, or agent of the Commission in carrying out any of the provisions of the contract or in exercising any power or authority granted to the individual, it being understood that in such matters the individual acts as an agent and representative of the State, with official and public duty doctrine immunity. If any provision of the contract appears to impose a duty on such an individual, the duty will remain exclusively that of the Commission and will not be a personal duty or obligation of the individual.

107.17 Contractors That Are Not Resident In Missouri. Any contractor that is not a permanent resident of or domiciled in Missouri shall provide to the Commission proof of compliance with the Missouri "nonresident employers" financial assurance laws at Sections 285.230 to 285.234, RSMo, before the contractor performs any work on a project.

107.17.1 A nonresident contractor that is a "transient employer" as that term is defined in Section 285.230.1, RSMo, and 12 CSR 10-2.017(1)(A), shall file with the Commission a photocopy of the contractor's current transient employer's certificate of registration issued by the Missouri Department of Revenue before performing any work on a project. A nonresident contractor that is not classified by the Missouri Department of Revenue as a "transient employer" because the nonresident contractor has properly registered with the Missouri

Department of Revenue and the Missouri Division of Employment Security, and has filed and paid Missouri state income taxes for more than 24 consecutive months, shall file with the Commission a photocopy of the contractor's certificate of registration, issued by the Missouri Department of Revenue, that it is not a "transient employer" before performing any work on a project.

107.17.2 The contractor shall require a nonresident subcontractor to file with the Commission a photocopy of the subcontractor's current transient employer's or alternate certificate of registration, as issued by the Missouri Department of Revenue, before that subcontractor performs any work on a project.

107.17.3 Any nonresident contractor or subcontractor that fails to file the financial assurance forms with the Missouri Department of Revenue as required by Missouri law will be prohibited from contracting for or performing labor on any project for a period of one year.

107.18 Basis of Payment. No direct payment will be made for compliance with [Sec 107](#), except as provided by [Sec 618](#).

Buy America

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

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

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

1.1 All products and or materials will only be classified under one of these categories and not

under multiple categories. It is the prime contractor's responsibility to assure all submittals required for Buy America are submitted to the Engineer prior to the products and or materials being incorporated in the job. The implementation of this policy will be in effect for all projects awarded after November 10, 2022.

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

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

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

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

Delete Sec 617.20.3 and substitute the following:

617.20.3 Certification. Prior to use the contractor shall submit to the engineer a manufacture's certification of crashworthiness per NCHRP 350 or MASH 2016 for portable concrete barrier or other approved temporary barrier. Type F three-loop temporary concrete barrier is required to meet NCHRP 350 requirements regardless of manufacturing date and may be used until January 1, 2030. All other temporary barriers manufactured prior to January 1, 2023 may be used until January 1, 2030. All other temporary barriers manufactured after January 1, 2023 shall meet MASH 2016 crash test requirements.

Delete Sec 1063.2 and substitute the following:

1063.2 General Requirements. All temporary traffic control devices shall be manufactured as shown on the plans and as specified, in accordance with MUTCD requirements and shall be NCHRP 350 or MASH 2016 compliant. FHWA Category 1 temporary traffic control devices are not required to be crash tested unless modified. Non MASH 2016 FHWA Category 2 temporary traffic control devices and appurtenances manufactured prior to January 1, 2023 may be used until January 1, 2026. Non MASH 2016 FHWA Category 3 temporary traffic control devices and

appurtenances manufactured prior to January 1, 2023 may be used until January 1, 2030. All other FHWA Category 2 and Category 3 temporary traffic control devices and appurtenances manufactured after January 1, 2023 shall meet MASH 2016 Test Level 3 crash test requirements. Type F three-loop temporary concrete barrier is required to meet NCHRP 350 requirements regardless of manufacturing date and may be used until January 1, 2030. MASH 2016 FHWA Category 4 temporary traffic control devices should be used when available. Nominal dimensions will be permitted for dimensional lumber where applicable. All temporary traffic control devices shall exhibit good workmanship and shall be free of objectionable marks or defects that affect appearance or serviceability. The brand name or model number shall be permanently identified on each traffic control device.

G. Contractor Quality Control and Daily Reporting

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

2.0 Quality Control Plan.

- (a) The name and contact information of the person in responsible charge of the QC testing.
- (b) A list of the QC technicians who will perform testing on the project, including the fields in which they are certified to perform testing.
- (c) A proposed independent third party testing firm for dispute resolution, including all contact information.
- (d) A list of Hold Points, when specified by the engineer.
- (e) The MoDOT Standard Inspection and Testing Plan (ITP). This shall be the version that is posted at the time of bid on the MoDOT website (www.modot.org/quality).

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

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

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

3.2 Non-Conformance Reporting. A Non-Conformance Report (NCR) shall be submitted by the contractor when the contractor proposes to incorporate material into the work that does not

meet the testing requirements or for any work that does not comply with the contract terms or specifications.

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

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

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

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

3.3.2 CDWR information:

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

4.0 Work Planning and Scheduling.

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

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

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

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

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

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

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

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

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

H. 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.

I. Guardrail Grading Requirements JSP-17-02B

1.0 Description. Guardrail installation and grading shall be in accordance with Missouri Standard Specifications for Highway Construction, Missouri Standard Plans for Highway Construction, and as described herein.

2.0 Construction Requirements. When guardrail and/or end treatment removal and replacement requires grading of the shoulder and/or slopes, Section 606.3.1(b), (c), and 606.3.1.1 of the Missouri Standard Specifications shall be waived and the following shall apply:

- a) Along roadways and shoulders, remove no more guardrail than can be reconstructed within seven (7) calendar days, including weekends and holidays. The seven day counting period shall start when the first piece of safety hardware is removed.
- b) The active work zone area that encompasses the guardrail and/or end treatment reconstruction, shall not exceed one (1) mile in length. The contractor shall be required to provide and maintain approved channelizing devices adjacent to the reconstruction area.
- c) Only one-side of the roadway shall be worked on at the same time. Divided facilities shall be limited to work on one-side of each direction at the same time.
- d) When the removal of any existing safety hardware device exposes non-breakaway obstacles, the reconstruction of the safety hardware device protecting the obstacle shall be replaced within 48 hours of removal or an approved temporary crashworthy device shall be provided, installed and maintained at the contractor's expense until the non-breakaway obstacle is permanently protected. The 48 hour counting period shall start when the first piece of safety hardware is removed.
- e) Areas where guardrail and/or end treatments have been removed, but not yet replaced, shall be delineated in accordance with plans or as directed by the Engineer.

3.0 Non-Compliance. Non-compliance with this provision shall result in the immediate suspension of work in accordance with Sec 105.1.2. No work, including but not limited to additional guardrail removal and grading, shall be allowed to proceed except for work necessary to restore guardrail installation.

4.0 Basis of Payment. No direct payment will be made for compliance with this provision. Guardrail items, grading, and temporary traffic control devices will be paid for as provided in the contract.

J. Removal and Delivery of Existing Signs JSP-12-01B

1.0 Description. All Commission-owned signs removed from the project shall remain the property of the Commission and shall be disassembled and delivered as specified herein.

2.0 Disassembly and Delivery. All Commission-owned signs, not to include abandoned billboard signs, designated for removal in the plans, and any other signs designated by the engineer, shall be removed by the contractor and delivered to the address below. The contractor shall call the phone number listed below 48 hours prior to delivery and make arrangements for delivery during normal business hours.

MoDOT Sign Shop
3050 Independence Ave

Lee's Summit, MO 64086
Phone: 816-223-4104

2.1 Signs shall be removed from sign supports and structures prior to delivery. Sign supports and structures shall become the property of the Contractor and removed from the project. Any oversized sign panels shall be disassembled or cut into widths of 8-feet or less with no restriction on length. Signs shall be stacked neatly in bins provided by MoDOT at the delivery site.

1.0 Basis of Payment. All costs associated with removing, disassembling, storing, and transporting 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.

K. ADA Compliant Moveable Barricade

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

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

3.0 Method of Measurement. Measurement for ADA Compliant Moveable Barricade will be made per each for each 6 feet (min.) unit provided.

4.0 Basis of Payment. Payment for all work necessary to fulfill the requirements noted above shall be considered completely covered in the contract unit price for Pay Item No. 616-99.02, ADA Compliant Moveable Barricade, per each. No direct payment will be made for any necessary relocation of the ADA compliant barricade.

L. Drop Inlet Lid Replacement

1.0 Description. This work shall consist of removing and installing Type T precast concrete drop inlet covers on existing drop inlets as shown on the plans.

2.0 Construction Requirements. All drop inlet lids shall be constructed in accordance to Standard Plan 731.10.

3.0 Material. All material shall be in accordance with Division 1000, Materials Details, and specifically as follows, Precast Drainage Units, Section 1033 and Section 1055.

4.0 Basis of Payment. The accepted quantities of Drop Inlet Cover Replacement complete in place, including any necessary cutting to fit the existing drop inlet structure will be paid for at the contract unit price for Item No. 731-99.02, Drop Inlet Lid Replacement.

M. Temporary Fencing

1.0 Construction Requirements. The temporary fence shall be placed east of Liberty St under the bridge in order to separate the work area under the bridge from the adjacent parking lot, located under the bridge.

1.1 The temporary fence shall be chain link standing a minimum of 60" high from the ground line, using T-type steel posts of minimum length of 6 ft, at 10 ft spacing. Fence shall be sufficiently braced for wire stretching. All temporary fence materials shall be approved by the engineer prior to installation. The fence shall remain the property of the contractor and shall be removed prior to completion of the project. The temporary fence shall be installed as directed by the engineer.

1.2 The contractor is responsible for maintaining the fence for the duration of the project.

2.0 Method of Measurement. Measurement of temporary fence will be made to the nearest linear foot.

3.0 Basis of Payment. Sec 607.10.5 is supplemented by the following:

All expenses incurred by the contractor by reason of their compliance with this provision shall be considered as completely covered by the unit prices bid for Item No. 607-99.03, "Temporary Fence", per linear foot.

N. Kansas City Terminal Railway Requirements

1.0 Introduction.

1.1 These requirements set forth terms and conditions agreed between the Kansas City Terminal Railway (Railroad) and the Missouri Highways and Transportation Commission (Commission), under which the Railroad will allow the Commission's contractor to enter in and upon the Railroad's real property, right of way, tracks and other facilities to perform the contractor's work relating to this project.

1.2 To report an emergency on the Railroad, call: (816) 627-0119

1.3 The project is located over the Kansas City Terminal Railway System at MoDOT I-670 eastbound ramp, bridge A3139 in Kansas City West Bottoms.

2.0 Right of Entry.

2.1 The Commission has secured an easement from the Railroad where the highway crosses over the Railroad's right of way. Should the contractor need to enter any part of the Railroad's

right of way outside of this easement the contractor shall be required to secure a Right of Entry Agreement from the Railroad (Example of the form follows below in Section 2.3). Further, if the Contractor does not need to enter the Railroad's Right of Way but merely has the *potential* to foul the Railroad tracks (by working over or near the tracks, using an extended crane or other equipment near the tracks, etc.), the Contractor shall be required to secure a Right of Entry Agreement. The contractor shall complete the form including Exhibit A, secure all insurance requirements in Schedule 8, secure the Railroad's execution of the form, and pay the associated fee before entering any portion of the Railroad's property. If the contractor does not need additional property rights from the Railroad and all work can be performed within the existing easement granted to the Commission, and there is no potential for the Contractor's employees or equipment to intentionally or unintentionally come near the railroad tracks, then the contractor does not need to secure a Right of Entry from the Railroad, but the contractor shall comply with all of the procedures, terms and conditions detailed in Railroad's Right of Entry agreement.

2.2 Payment for Cost of Compliance. The contractor is not entitled to any separate payment for any extra cost it may incur on account of compliance with these Railroad Requirements. The contractor shall include all such costs in the contract unit price for items properly authorized in the contract.

2.3 Example of Right of Entry:

RIGHT OF ENTRY

This Right of Entry Agreement ("**Agreement**") is entered into by and between Kansas City Terminal Railway Company ("**KCT**") and [**Name of Permittee**], a _____ [**corporation/limited liability company/limited partnership**] ("**Permittee**") effective on the last date indicated on the signature pages as the date of execution of this Agreement (the "**Effective Date**").

KCT is the owner of certain real property legally described and/or depicted on **Exhibit A** (the "**Property**"). Permittee desires the right to enter upon the Property for the sole and exclusive purpose of performing the following professional and/or construction activities:

[Describe with specificity the activities to be allowed]

(together or collectively, as applicable, the "**Permitted Activities**").

NOW, THEREFORE, for other good and valuable consideration and the promises, covenants and representations in this Agreement, the parties agree as follows:

GRANT OF RIGHT OF ENTRY. KCT hereby grants Permittee a non- exclusive, limited right of entry to the Property solely for the purpose of performing the Permitted Activities and for no other purpose. The performance of the Permitted Activities will at all times be subject to the

reasonable requirements of the Railroad Representative (as defined below) and must be performed and completed with commercially reasonable dispatch.

Conditions to Entry on the Property. Prior to entering on the Property and the commencement of the Permitted Activities:

Permittee will contact the Director Safety & Administration of KCT, Mr. Shawn Lauby, at (816) 627-6737, or such other person as may be designated by KCT or Mr. Lauby (the "**Railroad Representative**") at least fifteen (15) days prior to commencing any Permitted Activities on the Property in order for the Railroad Representative to arrange appropriate time windows for Permittee's Permitted Activities and to arrange for one or more flaggers at various locations throughout the Property. In connection with this Agreement, KCT will provide flagging services to Permittee through RailPros Field Service ("**RailPros**"), an independent provider of flagging services to the railroad industry.

Permittee must be in compliance with the insurance requirements of **Section 8** below,

Permittee and the Authorized Personnel (as defined below) must be safety trained in the manner required by 49 CFR 214 (c) of the FRA Rules and Regulations for Roadway Worker Protection and must be familiar with and abide by the safety requirements set forth set forth on **Schedule 1.1(c)** (the "**Permittee Safety Requirements**"),

Permittee and the Authorized Personnel must be familiar with and abide by the requirements set forth on **Schedule 1.1(d)** (collectively, the "**Protection of Railroad Facilities Requirements**"), and,

Permittee will request that KCT locate and mark, at Permittee's cost and expense, all buried cable, air lines, communication lines and other buried or below grade systems or facilities of KCT on the Property and KCT will have so marked such system or facilities, and

Permittee will have paid the Right of Entry Fee (as defined below) to KCT.

AUTHORIZED PERSONNEL. Permittee represents and agrees that the Permitted Activities will be performed solely by (i) persons within the direct employ of Permittee, or (ii) subcontractors and agents of Permittee, all of which have been approved in advance by KCT, which approval may not be unreasonably withheld (collectively (i) and (ii), the "**Authorized Personnel**").

TERM. The term of this Agreement ("**Term**") will commence upon the Effective Date and will continue, unless earlier terminated, to the earlier of (i) _____ (____) [days/months/year] following the Effective Date; or (ii) _____, 20____.

FEES. In consideration of this Agreement and as a condition precedent to entering onto the Property, Permittee must pay to KCT a one-time, non-refundable fee in the amount of

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\$_____ (the "**Right of Entry Fee**"). Permittee will pay RailPros directly as agreed to between Permittee and RailPros for all costs of providing flagger services under this Agreement.

RESTORATION OF PROPERTY. After the expiration or earlier termination of the Term, Permittee agrees that all rights of entry granted by KCT to Permittee by this Agreement will cease and be no longer in effect. Prior to the expiration or earlier termination of the Term, unless otherwise authorized by KCT in writing, Permittee must (i) remove from the Property all equipment, tools, vehicles, items, or other property of Permittee or the Authorized Personnel used in connection with the Permitted Activities, and (ii) at Permittee's sole cost and expense, restore the Property to substantially the same condition that existed prior to the Effective Date, if such change in condition was caused by Permittee's exercise of its rights under this Agreement.

KCT Right to Cure. If Permittee fails to remove its equipment, tools, vehicles, items, or other property or fails to restore the Property to the same condition that existed prior to the Effective Date, then KCT may, but will not be required to, perform such acts at Permittee's cost. In such event, KCT will not be liable to Permittee for any damage to such equipment, tools, vehicles, or other property incurred during such removal, nor will KCT be required to secure or safeguard such equipment, tools, vehicles, or other property either while located on the Property or following the removal thereof.

Recovery of Losses. KCT will have the right to recover from Permittee, and Permittee agrees to pay to KCT, any loss or damage sustained by KCT due to Permittee's breach of its agreements contained in this Section. KCT will provide Permittee a written accounting of such loss or damage, and Permittee must pay such amount to KCT not later than thirty (30) days following receipt of such accounting. Permittee agrees to withhold from final payment due any of Permittee's Authorized Personnel, such amount(s) as may be reasonable and necessary to reimburse KCT for such loss or damage arising from the actions or inactions of Permittee's Authorized Personnel. The term "loss or damage" as used in this Section means all of the costs incurred by KCT to remove such equipment and other property and as may be required to repair or restore the Property to its condition prior to the Effective Date, including, without limitation, costs associated with repairing damage from erosion, silting, water and the accidental or intentional placement of objects on the Property. Permittee's obligations under this **Section 5** will survive the expiration or earlier termination of this Agreement.

Notwithstanding the foregoing, in the event KCT executes this Agreement with a Permittee acting on behalf of a political subdivision, rather than entering into such Agreement directly with a political subdivision (as an accommodation to such political subdivision), Permittee hereby agrees that such political subdivision, upon receipt of written demand from KCT (i) may withhold from final payment due its Permittee and its Authorized Personnel, such amount(s) as may be reasonable and necessary to reimburse KCT for such loss or damage arising from the actions or inactions of Permittee or its Authorized Personnel, and (ii) will pay such amount directly to KCT.

SAFETY. Safety is of prime importance in performing the Permitted Activities. Nothing will be done or suffered to be done by Permittee and the Authorized Personnel at any time that would in any manner impair the safety of the personnel, tracks, property and facilities of KCT or its lessees, licensees or others. Permittee and the Authorized Personnel will take all reasonably necessary precautions so as not to suffer or permit any unreasonably dangerous condition to be created, exist or continue on or near the Property. Permittee must incorporate the Permittee

Safety Requirements into any subcontract relating to the Permitted Activities to which Permittee is a party.

NO INTERFERENCE. No Permitted Activities performed by Permittee in connection with this Agreement may cause any interference with the constant, continuous and uninterrupted use of the tracks, property and facilities of KCT or its lessees, licensees or others, unless specifically permitted under this Agreement or specifically authorized in writing in advance by the Railroad Representative. Permittee must incorporate the Protection of Railroad Facilities Requirements into any subcontract relating to the Permitted Activities to which Permittee is a party.

INSURANCE. Permittee shall procure and maintain during the continuance of this Agreement, at its sole cost and expense, all such insurance coverage as is set forth on **Schedule 8**, which insurance coverage will include, without limitation, coverage for each and all of Permittee's contractual indemnity obligations set forth in this Agreement.

CONDITION OF THE PROPERTY. KCT makes no representation concerning the condition of the Property and Permittee expressly accepts the use of the Property pursuant to this Agreement in the Property's current condition. Permittee specifically waives and disclaims any and all claims related to damage to property, personal injury or death resulting from the performance of the Permitted Activities on or near the Property by Permittee and the Authorized Personnel.

Subsurface Conditions. In the event Permittee or the Authorized Personnel damages any of KCT's property (including the Property), including, without limitation, any property, equipment or systems which are buried or below grade (such as cables, air lines, communication lines gas, water, sewer or other utility lines) or any property of KCT's owner railroads as a result of the Permitted Activities or any other action or inaction of Permittee and the Authorized Personnel, Permittee will be liable for and pay for all such damage. Permittee will be responsible for and pay such damages, regardless of the accuracy or completeness of any markings by KCT of the location of any subsurface conditions.

Modifications to Property. If Permittee makes any modifications, alterations or improvements to the Property, Permittee must promptly provide KCT with written notice thereof and will provide KCT with as-built drawings and surveys of any such modifications, alterations or improvements. The foregoing notwithstanding, nothing in this Agreement may be construed to grant Permittee the right to make any modifications, alterations or improvements to the Property unless such modifications, alterations or improvements are expressly provided for in the Permitted Activities. Permittee acknowledges that any such modifications, alterations or improvements to the Property will (at the option of KCT) become the sole property of KCT and that KCT may require Permittee to remove any such unauthorized modifications, alterations or improvements at Permittee's sole cost and expense.

COMPLIANCE WITH LAWS. Permittee will be responsible for determining and complying with all federal, state and local statutes, laws and regulations applicable to the Permitted Activities, including, but not limited to (i) environmental laws and regulations (including, but not limited to, the Oil Pollution Act, the hazardous Materials Transportation Act and CERCLA), and (ii) the location, contact, excavation and protection regulations of the Occupational Safety and Health Act (20 CFR 1926.651(b), et al.), and applicable state "One Call"—"Call Before You Dig" requirements. Prior to performing any Permitted Activities,

Permittee will secure any and all necessary permits, if any, and must comply with all applicable federal, state and local laws, regulations and enactments affecting the acts covered by the right of entry granted by this Agreement. Permittee assumes sole responsibility for failure to obtain any permit(s) and approval(s) required for the performance of the Permitted Activities and for any violations thereof or for costs or expenses of compliance or remedy. If any failure by Permittee to comply with any such laws, regulations, and enactments results in any fine, penalty, cost or charge being assessed, imposed or charged against KCT, Permittee must reimburse and indemnify KCT for any such fine, penalty, cost, or charge, including, without limitation, attorneys' fees, court costs and expenses. Permittee further agrees in the event of any such action, upon notice thereof being provided by KCT, to defend such action free of cost, charge, or expense to KCT. Permittee's obligations under this **Section 10** will survive the expiration or earlier termination of this Agreement.

LIENS. Permittee will not allow any mechanic's lien to be filed against the Property by reason of Permitted Activities, labor, or services performed or furnished to Permittee or the Authorized Personnel. If any such lien is at any time be filed against the Property, Permittee may contest the same in good faith but notwithstanding such contest, Permittee must, within fifteen (15) days after the filing thereof, cause such lien to be released of record by payment, bond, order of a court of competent jurisdiction, or otherwise. If Permittee fails to remove said lien within fifteen (15) days after the filing thereof, KCT may (but will not be obligated to) satisfy and remove said lien by payment or otherwise, without investigation of the validity of said lien, and Permittee will reimburse KCT upon demand all amounts paid by KCT, including KCT's costs and expenses, including attorneys' fees. Permittee's obligations to KCT pursuant to this **Section 11** will survive the expiration or earlier termination of this Agreement.

DEFAULT; REMEDIES.

Default. Permittee will be in default if Permittee or the Authorized Personnel fail to timely comply with any material term or provision of this Agreement, and KCT has provided Permittee written notice of such failure. Material terms or provisions of this Agreement include, without limitation, **Sections 5, 6, 7 and 8**. Upon the date of such notice of default, Permittee will have twenty-four (24) hours in which to cure any such default (or such longer period of time as may be provided by KCT in the notice of default), provided that such default is of the nature which can be reasonably cured within twenty-four (24) hours. For any failure which cannot reasonably be cured within twenty-four (24) hours, the cure period will be extended for a reasonable period so long as Permittee commences to cure the failure within such twenty-four (24) hour period and thereafter continues diligently and in a professional manner to cure such failure. KCT will have the right to suspend Permittee's or the Authorized Personnel's access to the Property during any such cure period.

Remedies. In the event of an uncured default, KCT may, in its sole discretion, terminate this Agreement, and seek such other remedies available to KCT at law or in equity, including injunctive relief.

All rights and remedies under this Agreement are cumulative and no one of them will be exclusive of any other, and each party will have the right to pursue any one or all of such rights

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and remedies or any other remedy which may be provided by law, whether or not stated in this Agreement, except to the extent expressly provided to the contrary in this Agreement.

RELEASE OF LIABILITY; INDEMNITY.

Indemnification. Permittee hereby expressly **waives, releases and discharges and does hereby expressly agree to defend, indemnify and save harmless** KCT, its owner railroads and their respective agents, representatives and employees from all judgments, awards, liability, loss, cost, demands or claims (including attorneys' fees) for:

injury or death to all persons, including, without limitation, KCT's, Permittee's or the Authorized Personnel's officers and employees, which occurs as a result of, or arises in any manner from Permittee's and/or the Authorized Personnel's acts, omissions, presence or activities on and/or about the Property;

for loss of or damage to any property (regardless of who owns said property) which occurs as a result of, or arises in connection with, Permittee's and/or the Authorized Personnel's acts, omissions, presence or activities on and/or about the Property; and

any other damage, liability, loss, cost or claim which occurs as a result of, or arises in connection with Permittee's and/or the Authorized Personnel's acts, omissions, presence or activities on and/or about the Property.

THE LIABILITY ASSUMED BY PERMITTEE WILL NOT BE AFFECTED BY THE FACT, IF IT IS A FACT, THAT THE DESTRUCTION, DAMAGE, DEATH OR INJURY WAS OCCASIONED BY OR CONTRIBUTED TO BY THE NEGLIGENCE OF KCT, ITS AGENTS, SERVANTS, EMPLOYEES, OWNERS OR OTHERWISE, EXCEPT TO THE EXTENT THAT SUCH CLAIMS ARE PROXIMATELY CAUSED BY THE INTENTIONAL MISCONDUCT OR GROSS NEGLIGENCE OF KCT. THE INDEMNIFICATION OBLIGATION ASSUMED BY PERMITTEE INCLUDES ANY CLAIMS, SUITS OR JUDGMENTS BROUGHT AGAINST KCT UNDER THE FEDERAL EMPLOYEE'S LIABILITY ACT, AND CLAIMS FOR STRICT LIABILITY UNDER THE SAFETY APPLIANCE ACT OR THE LOCOMOTIVE INSPECTION ACT, WHENEVER SO CLAIMED.

Defense and Settlement of Claims. KCT will give notice to Permittee, in writing, of the receipt of notice or pendency of any claim or cause of action against KCT arising or growing out of or in any manner connected with the Permitted Activities and any other liability assumed by Permittee under this Agreement. Upon receipt of such notice, Permittee must proceed (at its sole cost and expense) to adjust and handle to a conclusion such claims. In the event of a suit being brought against KCT, KCT will forward the summons and complaint or other process in connection therewith to Permittee. At KCT's discretion, either (i) Permittee (at its sole cost and expense) will defend, adjust or settle such suits and protect, indemnify, and save harmless KCT from and against all damages, judgments, decrees, attorney's fees, costs and expenses growing out of or resulting from or incident to any such claims or suits, or (ii) KCT may elect to defend, adjust and settle such suit and Permittee will reimburse KCT for any and all costs and expenses (including, without limitation, attorneys' fees) incurred by KCT as well as all damages, judgments, awards and settlements associated with such suit. Permittee may not settle any claim or suit without the express written consent of KCT.

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Survival. Permittee expressly acknowledges and agrees that Permittee's obligations under this Section survive the termination or expiration of this Agreement.

NOTICES. Any notice to be given by either party in connection with or required by this Agreement must be delivered either by hand delivery, via certified United States mail or for next business day delivery by a reputable overnight delivery service (e.g., FedEx or UPS). All such notices which are not hand delivered must be postage prepaid to the following addresses or to such other address as either party may specify for itself by written notice given pursuant to this Section:

To KCT: Kansas City Terminal Railway Company
600 Broadway Blvd., Suite #501
Kansas City, Missouri 64105
Attention: General Manager

To Permittee: At the address shown beneath Permittee's signature on the execution page

A notice which is delivered (i) by hand will be deemed received on the date delivered, (ii) by US Mail will be deemed received three (3) days following deposit with the US Postal Service, and (iii) by overnight delivery service will be deemed received on the next business day following deposit with the overnight delivery service.

MISCELLANEOUS.

Savings Clause. To the maximum extent possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is prohibited by, or held to be invalid under applicable law, such provision will be ineffective solely to the extent of such prohibition or invalidity, and this will not invalidate the remainder of such provision, or any other provision of this Agreement.

State Law: Venue. This Agreement will be governed by, and construed in accordance with, the laws of the State of [Missouri / Kansas]. The [Circuit Court of Jackson County, Missouri / Wyandotte County Kansas District Court] will have exclusive jurisdiction of any litigation between the parties arising out of or related to this Agreement.

Expenses. Permittee will bear any and all costs and expenses associated with this Agreement or any costs or expenses incurred by KCT relating to this Agreement or the enforcement of KCT's rights under the Agreement (including, but not limited to, cost for flaggers (whether paid directly to KCT or to RailPros) and any reasonable and necessary attorneys fees or expenses incurred by KCT in enforcing this Agreement).

Waiver of Breach. The waiver by KCT of the breach of any condition, covenant or agreement herein contained to be kept, observed and performed by Permittee will in no way impair the right of KCT to avail itself of any remedy for any subsequent breach thereof.

Counterparts. This Agreement may be executed in two (2) or more counterparts, each of which will be deemed an original but all of which together will constitute one and the same instrument.

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Integration. This Agreement constitutes the entire agreement between KCT and Permittee and there are no other oral or written agreements between them with respect to the Permitted Activities.

Exhibits and Schedules. Each Exhibit and Schedule to this Agreement is attached hereto and is incorporated into this Agreement by this reference. Capitalized terms used in the Exhibits or Schedules, unless expressly stated to the contrary in such Exhibit or Schedules, have the same meaning as in this Agreement.

Authority. Each person executing this Agreement in a representative capacity warrants and represents that such person has the authority to do so and, upon request, proof of such authority in customary form will be furnished to the requesting party.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

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

KCT:

KANSAS CITY TERMINAL RAILWAY COMPANY

BY: _____
NAME: Bradley E. Peek
TITLE: General Manager
ADDRESS: 600 Broadway Blvd., Suite #501
 Kansas City, Missouri 64105
PHONE: (816) 627-6742

Executed by KCT this _____ day of _____, 20_____.

| | | |
|---------|-------------------------|---|
| Attach: | Exhibit A: | Legal Depiction/Description of Property |
| | Schedule 1.1(c): | Permittee Safety Requirements |
| | Schedule 1.1(d): | Protection of Railroad Facilities |
| | Schedule 8: | Insurance Requirements |

PERMITTEE'S SIGNATURE APPEARS ON NEXT PAGE

Signature Page for Right of Entry between KCT and [_____].

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PERMITEE:

BY: _____

NAME: _____

TITLE: _____

ADDRESS: _____

PHONE: _____

Executed by Permittee this _____ day of _____, 20_____.

And if Permittee desires that a notice be sent to a second party, with a copy to:

Signature Page for Right of Entry between KCT and [_____]

EXHIBIT A to Right of Entry

Depiction and/or Legal Description of Property

SCHEDULE 1.1(c) to Right of Entry

Permittee Safety Requirements

SAFETY ORIENTATION

Orientation and Training. No Authorized Personnel may enter the Property without first having completed the KCT-specific e-RAILSAFE SHORTLINE course located at www.ers-shortline.com, and the FRA Roadway Worker Protection course located at www.railroadeducation.com (collectively, the "**Permittee Safety Orientation**"). The Authorized Personnel must have in their possession at all times the credentials and ID cards obtained from the Permittee Safety Orientation prior to entering onto the Property or performing any Permitted Activities. It will be the responsibility of Permittee to ensure that its Authorized Personnel understand and adhere to the safety requirements outlined in such orientation. Notwithstanding the foregoing, it is agreed and understood that Permittee will have ultimate responsibility for supervision, safe work method and practices of its agents, subcontractors, servants, and employees and compliance with FRA regulations (including, but not limited to, FRA Roadway Worker Protection – 49 CFR, Part 214, Subpart C) and Occupational Safety and Health Administration ("**OSHA**") regulations, as well as other appropriate local, State, and Federal regulations. Permittee is responsible for the cost of the Permittee Safety Orientation. Permittee must renew the Permittee Safety Orientation annually, in the event the Term exceeds one year. Further clarification regarding the Permittee Safety Orientation may be found on the web site [**what web site?**] or obtained from the Railroad Representative.

PERMITTEE ROADWAY WORKER ON TRACK SAFETY PROGRAM AND SAFETY ACTION PLAN

Development of Safety Program. For each of the Authorized Personnel that will perform Permitted Activities within 25 feet of the centerline of a railroad track, Permittee must develop and implement a Roadway Worker Protection/On Track Safety Program (a "**RW Safety Program**") with the Railroad Representative in order to develop an on track safety strategy as described in the guidelines listed in the on track safety portion of the Permittee Safety Orientation. This RW Safety Program must provide training for the Authorized Personnel. Permittee will reinforce this training at the job site through job safety briefings. During the performance of the Permitted Activities, Permittee must audit the performance of the Permitted Activities to ensure RW Safety Program compliance. Permittee must designate one on-site supervisor to serve as the contact person for KCT and who will be responsible to maintain a copy of the RW Safety Program, safety audits, and Material Safety Datasheets, at the site of the Permitted Activities. All Permitted Activities performed by the Authorized Personnel within 25 feet of any track must be in compliance with Federal Railroad Administration ("**FRA**") Roadway Worker Protection Regulations.

PERMITTEE GENERAL SAFETY REQUIREMENTS

Moving Trains. Permitted Activities in the proximity of KCT's railroad track(s) is potentially hazardous where movement of trains and equipment can occur at any time and in any direction. When any Permitted Activities are in progress in the vicinity of railroad tracks located on or near the Property, Permittee and the Authorized Personnel should always be alert for approaching trains or engines, and should expect the movement of trains, engines or cars on any track at any time. Upon the approach of a train or engine, the Authorized Personnel must stop all Permitted Activities and station themselves not closer than twenty five feet (25'0") from

the centerline of the track on which the train is operating. Because the performance of the Permitted Activities on and around railroad tracks can be hazardous, safety precautions and KCT's instructions must be followed at all times.

Protective Equipment/Clothing. All personnel protective equipment (“**PPE**”) used on the Property must meet applicable OSHA and American National Standards Institute specifications. Such specifications require that the Authorized Personnel performing the Permitted Activities in and around train operations must wear suitable clothing and other PPE as may be required by KCT. Current KCT PPE is set forth on the Safety Web Site, however, a partial list of the requirements include: (i) safety glasses with permanently affixed side shields (no yellow lenses); (ii) hard hats; (iii) safety shoes with hardened toes, above-the ankle lace-up and a defined heel; and (iv) high visibility retro-reflective work wear. Hearing protection, fall protection, gloves, and respirators must be worn as required by State and Federal regulations. In the event of a discrepancy between the information contained on the Safety Web Site and the information in this Section, the Safety Web Site will govern.

Report Injuries. Permittee and the Authorized Personnel will report to KCT, in writing, any personal injury of any of the Authorized Personnel or any other person, occurring on the Property or relating to the Permitted Activities, within 24 hours of the injury or as soon as practicable.

Safety Briefings. Before commencing any of the Permitted Activities on the Property, a thorough job safety briefing must be conducted with all Authorized Personnel involved with the Permitted Activities. Such job safety briefing will be repeated when the Authorized Personnel or task involved with the Permitted Activities changes. If the Permitted Activities or a particular task of the Permitted Activities is within 25 feet of the centerline of any railroad track, the job safety briefing must include KCT's flagger, as applicable, and include the procedures Permittee will use to protect the Authorized Personnel when moving any equipment adjacent to or across any railroad track(s).

Safety Strategy. Authorized Personnel may not perform Permitted Activities within 25 feet of the centerline of any track without an on-track safety strategy approved by the Railroad Representative. When authority is provided, each of the Authorized Personnel must know: (i) the identity of the RailPros flagger and how to contact the RailPros flagger, (ii) limits of the authority, (iii) the method of communication to stop and resume Permitted Activities, and (iv) location of the designated place of safety. Persons or equipment entering flag/Permitted Activities limits that were not previously job briefed must notify the flagger immediately and be given a job briefing when Permitted Activities are within 25 feet of the centerline of track.

Activities After Hours. When Authorized Personnel are to perform Permitted Activities on the Property after normal business hours or on weekends, the Railroad Representative must be notified prior to conducting such activities. A minimum of two employees must be present at all times such Permitted Activities are conducted.

Drugs, Alcohol, Weapons. For safety reasons, while conducting Permitted Activities on the Property no person may (i) have in their possession any pocket knives, firearms or other deadly weapons, or (ii) be under the influence of drugs or alcohol, or (iii) be in possession of drugs or alcohol. Any Authorized Personnel under suspicion of being under the influence of drugs or alcohol, or in the possession of same, may be immediately removed from the Property by Permittee or KCT, and if removed by KCT, such Authorized Personnel will be subsequently

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released to the custody of a representative of Permittee. Future access to the Property will be denied to any Authorized Personnel found to have violated this Section.

Report Damage. Permittee and any of the Authorized Personnel must immediately report to the Railroad Representative any damage to the Property, or any hazard noticed on passing trains. In the event any vehicle or machine comes in contact with any track, signal equipment, or structure (bridge) and such contact could result in a train derailment, Permittee and any of the Authorized Personnel must report such contact immediately to the KCT representative in charge of the project and to KCT's Operations Center at (816) 627-0119. Local emergency numbers are to be obtained from the Railroad Representative prior to the start of any Permitted Activities and Permittee will post such emergency numbers at the job site.

Storage. **NEITHER PERMITTEE NOR ANY OF THE AUTHORIZED PERSONNEL WILL PILE OR STORE ANY MATERIALS, MACHINERY OR EQUIPMENT CLOSER THAN 25'-0" TO THE CENTER LINE OF THE NEAREST KCT TRACK ON THE PROPERTY. MATERIALS, MACHINERY OR EQUIPMENT MUST NOT BE STORED OR LEFT WITHIN 250 FEET OF ANY HIGHWAY/RAIL AT-GRADE CROSSINGS, WHERE STORAGE OF THE SAME WILL OBSTRUCT THE VIEW OF A TRAIN APPROACHING THE CROSSING. PRIOR TO BEGINNING OF THE PERMITTED ACTIVITIES, PERMITEE MUST ESTABLISH A STORAGE AREA WITH CONCURRENCE OF KCT'S GENERAL MANAGER.**

Unattended Equipment. Machines or vehicles must not be left unattended with the engine running. Parked machines or equipment must be in gear with brakes set and if equipped with blade, pan or bucket, they must be lowered to the ground. All machinery and equipment left unattended on the Property must be left inoperable and secured against movement. (See Safety Web Site for more detailed specifications).

Drainage. Neither Permittee nor the Authorized Personnel may create and leave any conditions on the Property where the Permitted Activities have been/are being performed that would interfere with water drainage. Any Permitted Activities performed near and over water or which may impact a water way must meet all Federal, State and Local regulations.

Power Lines. All power line wires must be considered dangerous and of high voltage unless informed to the contrary by proper authority. For all power lines the minimum clearance between the lines and any part of the equipment or load must be: (i) 200 KV or below – 15 feet; (ii) 200 to 350 KV – 20 feet; (iii) 350 to 500 KV – 25 feet; (iv) 500 to 750 KV – 35 feet; and (v) 750 to 1000 KV – 45 feet. If capacity of the line is not known, a minimum clearance of 45 feet must be maintained. A person must be designated to observe clearance of the equipment and give a timely warning for all operations where it is difficult for an operator to maintain the desired clearance by visual means.

SCHEDULE 1.1(d) to Right of Entry

Protection of Railroad Facilities

1. GENERAL.

No Interference. Permittee must plan, schedule and conduct all Permitted Activities so as not to interfere with the movement of any trains on the Property.

Cooperation of KCT. Subject to the movement of KCT's trains, KCT will cooperate with Permittee such that the Permitted Activities may be handled and performed in an efficient manner.

Cease Activities. KCT has the absolute right to cause the Permitted Activities on the Property to cease if, in the opinion of KCT, Permittee's activities create a hazard to the Property, or any of KCT's other property, employees, and/or operations. Permittee will have no claim whatsoever for any type of damages or for extra or additional compensation in the event the Permitted Activities are delayed by KCT.

False Work or Excavations. Permittee must furnish KCT with five (5) sets of drawings showing details of construction affecting the Property and tracks, if the Permitted Activities involve (i) any false work above any tracks, or (ii) any excavations (A) located within twenty-five (25) feet of the centerline of the nearest track, or (B) intersecting a slope from the plane of the top of rail on a 1 ½ horizontal to 1 vertical slope beginning at eleven (11) feet from centerline of the nearest track, both measured perpendicular to the centerline of the track. The drawings of the Permitted Activities must include the proposed method of installation and removal of false work, shoring or cribbing, not included in the contract plans and two (2) sets of structural calculations of any false work, shoring or cribbing. All calculations must take into consideration railway surcharge loading and must be designed to meet American Railway Engineering and Maintenance of Way Association (previously known as American Railway Engineering Association) Coopers E-80 live loading standard. All drawings and calculations must be stamped by a registered professional engineer licensed to practice in the state in which the project is located. Permittee may not begin Permitted Activities until notified by KCT that the plans for false work have been approved. Permittee will be required to use lifting devices such as, cranes and/or winches to place or to remove any false work over KCT's tracks. In no case will Permittee be relieved of responsibility for results obtained by the implementation of said approved plans.

FLAGGER SERVICES.

Prior Notice. Permittee must give the Railroad Representative a minimum of thirty (30) calendar days' advance notice when flagging services will be required so that the Railroad Representative may make appropriate arrangements to provide flagging services to Permittee through RailPros.

When Required. Unless determined otherwise by the Railroad Representative, a RailPros flagger and protective services and devices will be required and furnished when (i) Permittee's Permitted Activities are located over, under and/or within twenty-five (25) feet measured horizontally from centerline of the nearest track, or (ii) cranes or similar equipment positioned beyond 25-feet from the track centerline could foul the track in the event of tip-over or

other catastrophic occurrence. In addition, KCT may require flagger and protective services and devices:

When in the opinion of the Railroad Representative it is necessary to safeguard the Property, and KCT's employees, trains, engines and facilities.

When any excavation is performed below the bottom of tie elevation, if, in the opinion of the Railroad Representative, track or other KCT facilities may be subject to movement or settlement.

When Permitted Activities in any way interfere with the safe operation of trains at timetable speeds.

When any hazard is presented to KCT track, communications, signal, electrical, or other facilities either due to persons, material, equipment or blasting in the vicinity.

Heavy Equipment/Objects. Special permission must be obtained from KCT before moving heavy or cumbersome objects or equipment which might result in making the track impassable.

Flagging Services. All flagging services provided in connection with this Agreement will be provided by RailPros. Permittee will be responsible for and pay all RailPros fees in connection with this Agreement directly to RailPros and in accord with the arrangement between Permittee and RailPros.

EXCAVATION.

Underground Structures. In the event the Permitted Activities involve excavation, prior to performing any such excavation, Permittee must determine whether any underground structures, equipment or facilities (including, without limitation, utility lines, pipe lines, electric wires or cables, fiber optic cable systems) (any of which may be referred to as an "**Underground Structure**") are present and located within the portion of the Property where such Permitted Activities may be performed. Permittee must determine whether excavation on the Property could cause damage to any Underground Structure. Damage to an Underground Structure may result in delays to KCT traffic and disruption of service to other users. Delays and disruptions to service may cause business interruptions involving loss of revenue and profits. Before commencing excavation, Permittee must contact the Railroad Representative. All underground and overhead wires will be considered HIGH VOLTAGE and dangerous until verified with the company having ownership of the line. It is Permittee's responsibility to notify any other companies that have underground utilities on the Property and arrange for the location of all underground utilities before performing any excavation activity.

Location of Underground Structures. If there is any doubt about the location of Underground Structure of any kind, no Permitted Activities may be performed until the exact location of such Underground Structure has been determined. There will be no exceptions to this provision. Permittee must cease all Permitted Activities and notify the Railroad Representative immediately before continuing excavation in the area if obstructions (including Underground Structure) are encountered which do not appear on drawings. If the obstruction is a utility and the owner of the utility can be identified, then Permittee must also notify the owner immediately.

OSHA Standards. All excavations must be conducted in compliance with applicable OSHA regulations and, regardless of depth, must be properly shored where there is any danger to tracks, structures or personnel.

Excavations Secured. Any excavations, holes or trenches on the Property must be covered, guarded and/or protected at all times, including when work thereon is not being performed. When leaving the Property at night and over weekends, Permittee must secure the Property and leave it in a condition that will ensure that KCT employees and other personnel who may be working or passing through the Property are protected from all hazards. All excavations must be back filled as soon as possible and to such specifications as may be required by KCT.

PROTECTIVE MEASURES.

Protection of Facilities. Permittee must take protective measures as are necessary to keep KCT's facilities, including track ballast, free of sand, debris, and other foreign object and materials resulting from Permittee's operations. Any damage to KCT's facilities resulting from Permittee's Permitted Activities will be repaired or replaced by KCT and Permittee agrees to promptly reimburse KCT for all costs of such repairs or replacement.

Blasting. Permittee must notify the Railroad Representative at (816) 627-0119 and provide blasting plans to KCT for review not less than thirty (30) calendar days prior to conducting any blasting operations adjacent to or on the Property.

Temporary Clearances. Permittee must abide by the following temporary clearances during construction and the performance of all Permitted Activities:

15' Horizontally from center line of nearest track

21'-6" Vertically above top of rail

27'-0" Vertically above top of rail for electric wires carrying less than 750 volts

28'-0" Vertically above top of rail for electric wires carrying 750 volts to 15,000 volts

30'-0" Vertically above top of rail for electric wires carrying 15,000 volts to 20,000 volts

34'-0" Vertically above top of rail for electric wires carrying more than 20,000 volts

Permanent Clearances. Upon completion of construction, the following clearances must be maintained:

25' Horizontally from centerline of nearest track

23'-3 ½" Vertically above top of rail

Clearance Infringement. If any infringement of State statutory clearances due to the Permitted Activities is anticipated, details of such infringement must be submitted to KCT and, if Permittee is working on behalf of a political subdivision of the State, to such political subdivision. No Permitted Activities involving such infringement may be undertaken until (i) approved in

writing by KCT, and (ii) the applicable political subdivision has obtained any necessary authorization from the State Regulatory Authority for the infringement. No extra compensation will be allowed in the event the Permitted Activities are delayed pending KCT approval and/or the State Regulatory Authority's approval.

Tell-Tale. In the case of impaired vertical clearance above top of rail, KCT may install "tell-tale" or other protective devices KCT deems necessary for protection of KCT operations. The cost of tell-tale or protective devices will be borne by Permittee.

Additional Details. The details of Permitted Activities affecting the Property and tracks not included in the contract plans must be submitted to KCT for approval before Permitted Activities may be undertaken.

Temporary Crossing. Other than at public road crossings, Permittee may not move any equipment or materials across the Property or tracks until permission has been obtained from KCT. Permittee must obtain a "Temporary Private Crossing Right of Entry" from KCT prior to moving such equipment or materials across KCT's tracks. The temporary crossing must be gated and locked at all times when not required for use by Permittee. The temporary crossing for use of Permittee will be at the sole expense of Permittee.

Hazardous Materials. Permittee will not allow the Property to become a treatment, storage or transfer facility for hazardous materials or substances as those terms are defined in the Resource Conservation and Recovery Act or any state analogue. The discharge, release or spill on the Property of any hazardous substances, oil, petroleum, constituents, pollutants, contaminants, or any hazardous waste is prohibited.

REPORTING REQUIREMENTS.

Environmental Laws. If, while performing any Permitted Activities under this Agreement, any of the Authorized Personnel (i) discover any hazardous waste, hazardous substance, petroleum or other deleterious material, including, but not limited to, any non-containerized commodity or material, (A) on or adjacent to the Property, or (B) in or near any surface water, swamp, wetlands or waterways; or (ii) cause any discharge, release or spills of such materials in excess of a reportable quantity, then Permittee must immediately:

notify KCT's Operations Center at (816) 627-0119, of such discovery or release;

take safeguards necessary to protect its Authorized Personnel and/or third parties; and

exercise due care with respect to the discovery or release, including the taking of any appropriate measure to minimize the impact of such release.

Personal Injuries. KCT is required to report certain injuries as a part of compliance with FRA reporting requirements. Any personal injury sustained by the Authorized Personnel while on KCT's property must be reported immediately (by voice mail if unable to contact in person) to the Railroad Representative. The Individual Incident Report form is to be completed and sent by fax to KCT at (816) 627-0119 and to the Railroad Representative no later than the close of shift on the date of the injury.

TRAIN DELAY.

Permittee Liable for Delays. Permittee is responsible for and hereby indemnifies and holds harmless KCT (and its owner roads and its tenants) for, from and against all damages arising from any unscheduled delay to a freight or passenger train which affects KCT's ability to fully utilize its equipment and to meet customer service and contract obligations which are caused by Permittee, or the Authorized Personnel performing Permitted Activities under the Agreement. Permittee will be billed, as further provided below, for all of the economic losses arising from such delay, including, without limitation (i) loss of use of equipment, (ii) contractual loss of incentive pay and bonuses, and (iii) contractual penalties resulting from train delays.

For loss of use of equipment, Permittee will be billed the current freight train hour rate per train as determined from KCT's records. Any disruption to train traffic may cause delays to multiple trains at the same time for the same period.

Additionally, the parties acknowledge that passenger, U.S. mail trains and certain other grain, intermodal, coal and freight trains operate under incentive/penalty contracts between KCT and its customer(s). Under these arrangements, if KCT does not meet its contract service commitments, KCT may suffer loss of performance or incentive pay and/or be subject to penalty payments. Permittee is responsible for any train performance and incentive penalties or other contractual economic losses actually incurred by KCT which are attributable to a train delay caused by Permittee or the Authorized Personnel.

The contractual relationship between KCT and its customers is proprietary and confidential. In the event of a train delay covered by the Agreement, KCT will share information relevant to any train delay to the extent consistent with KCT confidentiality obligations. Damages for train delay for certain trains may be as high as \$50,000.00 per incident.

Work Windows. If absolutely required for the Permitted Activities, Permittee may request work windows from KCT and KCT may, in its sole discretion, grant Permittee permission for such work windows provided that Permittee provides KCT's Railroad Representative thirty (30) days advance notice of the times and dates for proposed work windows. KCT and Permittee will establish mutually agreeable work windows for the Permitted Activities. KCT has the right at any time to revise or change the work windows due to train operations or service obligations. KCT will not be responsible for any additional costs or expenses resulting from a change in work windows. Additional costs or expenses resulting from a change in work windows will be accounted for in Permittee's expenses for the Permitted Activities. KCT may request that Permittee and the Authorized Personnel must plan, schedule, coordinate and conduct all Permitted Activities so as to not cause any delays to any trains.

SCHEDULE 8 to Right of Entry

Kansas City Terminal Railway Company ("**KCT**")/ _____ ("**Permittee**")

Insurance Requirements

Permittee must, at its sole cost and expense, procure and maintain for the duration of the Right of Entry Agreement (the "**Agreement**") (except as otherwise provided in the Agreement) the following insurance coverage and comply with all other terms and conditions set forth in this **Schedule 8**.

2. **INSURANCE COVERAGES**

A. **Commercial General Liability ("CGL")**. CGL insurance must be written on ISO occurrence form CG 00 01 12 04 (or a substitute form providing equivalent coverage) with a limit of not less than \$5,000,000 each occurrence and an aggregate limit of not less than \$10,000,000. The policy must also contain the following endorsements (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 KCT as the "Scheduled Railroad" and the "Designated Job Site" refers to the Agreement describing all work or operations performed on or within 50 feet of any KCT property.
- "Designated Construction Project(s) General Aggregate Limit" ISO Form CG 25 03 03 97.

B. **Business Automobile ("BA")**. BA coverage must be written on ISO form CA 00 01 12 93 (or a substitute form providing equivalent liability coverage) with a limit not less \$2,000,000 for each accident. Such insurance will cover liability arising out of any auto (including owned, hired, and non-owned autos). This 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 KCT as the "Scheduled Railroad" and the "Designated Job Site" refer to the Agreement and describes all work or operations performed on or within 50 feet of any KCT property.
- "Endorsement for Motor Carrier Policies of Insurance for Public Liability" under Sections 29 and 30 of the Motor Carrier Act of 1980, MCS-90, if required by law.

C. **Permittee's Pollution Liability ("CPL")**. CPL 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 by policy or by endorsement to Permittee's CGL policy. In either form coverage must be equivalent to that provided in ISO form "Pollution Liability Coverage Form Designated Sites" CG 00 39 12 04 with limits of at least \$1,000,000 per occurrence and an aggregate limit of \$2,000,000.

- The retroactive date applicable to coverage must precede the effective date of the Agreement.
- Permittee hereby agrees and warrants that continuous coverage will be maintained, or an extended discovery period will be exercised, for a period of three (3) years beginning from the time the Agreement is terminated for any reason.

If the scope of work as defined in the Agreement includes the disposal of any hazardous or non-hazardous materials from the job site, Permittee must furnish to KCT 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.

D. **Workers Compensation and Employers Liability (“WC”)**. WC coverage must include, but not be limited to:

- Permittee's statutory liability under the workers compensation laws of the state(s) affected by the Agreement.
- Employers' Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 disease policy limit \$500,000 each employee.

ADDITIONAL TERMS AND CONDITIONS

A. **Umbrella or Excess**. If Permittee utilizes umbrella or excess policies, these policies must “follow form” and afford no less coverage than the primary policy.

B. **Additional Insured**. All CGL, Umbrella or Excess and CPL policies required above must include KCT as “Additional Insured” using ISO Additional Insured Endorsements CG 20 26 07 04 (or substitute form providing equivalent coverage).

C. **Punitive Damages**. Punitive damages exclusions in all policies, if any, must be deleted (and the deletion indicated on the certificate of insurance).

D. **Certificates of Insurance**. Prior to commencing the work, Permittee will furnish KCT with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements in the Agreement. For the duration of the Agreement or period of service provided by the Agreement, and upon renewal or change in the insurance coverage required by the Agreement, Permittee will cause KCT to be provided with a certificate(s) of insurance identifying any renewal or change and otherwise complying with the terms of this Section.

Said certificate(s) of insurance will identify the insured, the insurer, the policy number, the policy dates of coverage, all coverage limits and sublimits, if any, by type of coverage, contain the signature of the authorized representative signing the certificate on behalf of the insurer, and attach copies of any amendatory endorsements or copies of the applicable policy language effecting the coverage required by the Agreement. All certificates and endorsements are to be received and approved by KCT before work commences. However, failure to obtain the required documents prior to the work beginning will not waive Permittee's obligation to provide them. KCT reserves the right to require complete, certified copies of all required insurance policies, including endorsements required by these specifications, at any time upon request.

E. **Insurer Qualification.** All insurance policies must be written by a reputable commercial insurance company acceptable to KCT or with a current Best's Insurance Guide Rating of A- and Class VII or better, and authorized to do business in the state(s) in which the work is to be performed.

F. **Waiver of Rights.** If permitted by law, Permittee hereby waives all rights against KCT and its agents, officers, directors and employees for recovery of damages to the extent these damages are covered by insurance required by the Agreement and obtained by Permittee. Permittee agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation, but this provision applies regardless of whether or not a waiver of subrogation provision has been issued by the insurer.

G. **Minimum Limits and No Representation of Coverage Adequacy.** Permittee acknowledges that by requiring insurance herein, KCT does not represent that the coverage and limits will be adequate to protect Permittee. If Permittee maintains higher limits than the minimums shown above, KCT requires and will be entitled to coverage for the higher limits maintained by Permittee. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage will be available to KCT.

Permittee understands and agrees that the insurance coverages required herein: (i) are not to be construed to void or limit Permittee's indemnity obligations as contained in the Agreement; and (ii) are being, or have been, obtained by Permittee in support of Permittee's liability and indemnity obligations under the Agreement. Irrespective of these insurance requirements, the insolvency or bankruptcy of any insurance company providing insurance to Permittee or the insurer's failure to pay claims will not affect, negate or waive any of the provisions of the Agreement.

H. **Remedies.** Failure to provide evidence of insurance as required by this Section will entitle, but not require, KCT to terminate the Agreement immediately. KCT's acceptance of a certificate that does not comply with this Schedule will not operate as a waiver of Permittee's obligations hereunder.

O. **Special Provisions for Protection of BNSF Railway Company Interests**

To Report an Emergency on the railroad call: (800) 832-5452

The bridge over the railroad will be located at BNSF line segment 1151, MP 0.4, tracks 803, 804, 5271, 5270, 5255, 5225, and 5230.

1.0 Authority of Railroad Engineer and Commission's Representative.

1.1 The authorized representative of BNSF Railway Company, herein called "Railroad Engineer", 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.

1.2 The authorized representative of the Missouri Highways and Transportation Commission, herein called "Engineer", shall have authority over all other matters as prescribed herein and in the project specifications.

1.3 The Contractor must adhere to all other BNSF Railway policies and procedures not specifically mentioned in these special provisions. These can be found at <http://www.bnsf.com/in-the-community/public-projects/index.page>.

2.0 Contractor's indemnity Obligations to the Railroad.

2.1 The term "contractor" as used in this special provision includes any and all subcontractors. The contractor shall indemnify, defend and hold harmless the Railroad from and against any and all loss, damage, claims, demands, causes of action, costs and expenses of whatsoever nature arising out of injury to or death of persons whomsoever, or out of damage to or destruction of property whatsoever, including, without limitation, damage to fiber optic, communication and other cable lines and systems, where such injury, death, damage or destruction results from any cause arising out of work performed by the contractor pursuant to the agreement between Railroad and the Commission for the project, and shall also release the Railroad from and shall waive any claims for injury or damage to equipment or other property, which may result from the construction, maintenance and operation of railroad tracks, wire lines, fiber optic cable, pipe lines and other facilities on said right of way of the Railroad by the contractor. **THE LIABILITY ASSUMED BY THE CONTRACTOR WILL NOT BE AFFECTED BY THE FACT, IF IT IS A FACT, THAT THE DAMAGE, DESTRUCTION, INJURY, DEATH, CAUSE OF ACTION OR CLAIM WAS OCCASIONED BY OR CONTRIBUTED TO BY THE NEGLIGENCE OF THE RAILROAD, THE RAILROAD'S AGENTS, SERVANTS, EMPLOYEES OR OTHERWISE, EXCEPT TO THE EXTENT THAT SUCH CLAIMS ARE PROVEN BY ANY CLAIMANT TO HAVE BEEN PROXIMATELY CAUSED BY THE INTENTIONAL MISCONDUCT OR SOLE OR GROSS NEGLIGENCE OF THE RAILROAD.** The contractor's indemnity shall include loss of profits or revenue arising from damage or destruction to fiber optic, communication and other cable lines and systems.

2.2 In addition to the indemnity obligations contained in the preceding paragraph, the contractor shall indemnify, defend and hold harmless the Railroad from any claims, expenses, costs, actions, demands, losses, fines, penalties, and fees, of whatsoever nature arising from, related to or connected, in whole or in part, with the following:

(a) The removal of the contractor's agents, servants, employees or invitees from the Railroad's property for safety reasons.

(b) Contractor's compliance or failure to comply with the provision of applicable law in connection with the performance of contractor's work.

3.0 Notice of Starting Work.

3.1 The contractor shall not commence any work on Railroad's right of way until the contractor has complied with the following conditions:

(a) At least 30 days in advance of the date the contractor proposes to begin work on Railroad's right of way, the contractor shall give the Railroad written notice to the address below with copy to the Engineer who has been designated to be in charge of the work.

Mr. Jeremy Wegner, P.E.
Manager of Public Projects
BNSF Railway
4515 Kansas Ave. Building 4B, 3rd Floor
Kansas City, KS 66106
913-551-4484
jeremy.wegner@bnsf.com

(b) Obtain written or electronic authorization from the Railroad to begin work on the Railroad's right of way, such authorization to include an outline of specific conditions with which contractor shall comply.

(c) Obtain the insurance coverage required in Section 14.0 of this job special provision. Contractor shall submit written evidence of such coverage to Railroad prior to commencing any work.

(d) Prior to performing any work on Railroad's property, right-of way or in an area that may impact Railroad's operations, the contractor's employees, representatives or agents who are regularly assigned to perform work on the project shall complete the safety orientation training available on the internet at www.contractororientation.com, hereinafter called, "Internet Safety Orientation". If the contractor's employee, representative or agent is not regularly assigned to perform work on the project, hereinafter called "Flexible Worker(s)", the contractor shall ensure that any Flexible Worker receives appropriate safety training prior to performing any work on the Railroad's property, right-of way or in an area that may impact the Railroad's operations. The content of safety training for Flexible Workers shall include the information covered in the Internet Safety Orientation. The approximate cost of the Internet Safety Orientation is \$11 per person, subject to annual escalation.

3.2 The Railroad's written authorization to proceed with the work, with a copy to the Engineer, will include the names, addresses and telephone numbers of the Railroad's representatives who are to be notified as hereinafter required. Where more than one representative is designated, the area of responsibility of each representative shall be specified.

4.0 Submittals and Actions Required During Construction Phase:

4.1 The Agency shall be the main contact for BNSF throughout the project. Agency shall be included on all correspondence relating to BNSF. **BNSF will NOT accept submittals directly from the Agency's Contractor.**

4.2 BNSF will hire a consultant team to perform the duties of an Inspector/Coordinator, (I/C) on behalf of BNSF for the duration of the field construction of the project. The cost of the I/C will be reimbursable to BNSF by the Agency or their Contractor.

BNSF requires the I/C team be involved in the project throughout the construction phase to represent BNSF.

The I/C has authority to remove a contractor's employee from BNSF property if that employee fails to comply with the BNSF safety policy, does not have proper PPE or

otherwise ignores instructions regarding work on BNSF right-of-way. The I/C has authority to shut down work on BNSF right-of-way if the contractor works in a manner that is in violation of BNSF's safety policy or FRA regulations. Anytime instructions to the contractor by BNSF or the I/C are not complied with, the project may be shut down. All equipment and personnel will be removed from BNSF property until issues causing the shutdown are resolved to BNSF's satisfaction.

4.3 Agency must hold a pre-construction meeting with contractor and BNSF prior to work beginning on BNSF property.

The Pre-Construction meeting shall not be held until 30 days after I/C has been selected – this allows time for the I/C to become familiar with the project.

Recommend scheduling two weeks prior to construction commencing to allow for adjustment to work plans, if needed.

4.4 Required Construction Submittals: (Allow for 4 weeks for BNSF to review submittals)

All submittals should flow from the Contractor to the Agency, to the I/C Consultant, to the BNSF Project Engineer, (PE), and to BNSF Structures with responses back through the same communication chain. **BNSF will not accept submittals directly from the Contractor.**

Any changes to the work governed by a submittal requires that the submittal be re-accepted by BNSF before the work commences.

Examples of construction submittals required include but are not limited to:
Contractors Safety Action Plan, Fire Prevention Plan, Proposed Project Schedule, Demolition, Shoring, Falsework and Lifting of Materials.

The following submittals will require a Professional Engineer, (PE) stamp: Critical Pick Plan (75% of capacity of crane, or multi-crane pick)

Lifted Material Plan (Placement or Removal) – When lift is within temporary construction clearances and when lift is within 25' of the centerline of the nearest track

Demolition Plan Temporary Shoring Plan

Bracing Design Plan (non-standard only per DOT)

For overpasses, Agency shall submit as-built plans of the structure, including final clearance dimensions to the I/C. Vertical clearance must be measured from the Top of Rail, horizontal clearance must be measured from the nearest track centerline.

OPERATIONALLY CRITICAL WORK AND SUBMITTALS: (4 to 6 weeks review timeline) All OC work requires a submittal and acceptance by BNSF.

Operationally Critical (OC) submittals are those that have the potential to affect the safe operation of trains and will need to be reviewed carefully. Work must be monitored to ensure it conforms to the submitted/accepted plan.

In-person safety review meetings will be required with BNSF representative, I/C, Contractor and Agency representative for all OC work and must be documented. The purpose of the meeting is to ensure all parties understand BNSF requirements and are following the applicable submittals.

When a track work window is required the meeting shall occur at least 48 hours in advance of work starting.

Submittals must meet the requirements of the UP Railroad - BNSF Railway Guidelines for Railroad Grade Separation Projects. Submittals must also follow the requirements outlined in BNSF Review Comment Sheets, Use of Cranes & Lifting of Materials Submittal Schedule, BNSF Guidelines for Preparation of Bridge Demolition & Removal Plan and the BNSF-UPRR Guidelines for Temporary Shoring. Some submittals are required to be sealed by a licensed professional engineer.

- a. See Table 3-1 for Overhead Structures in UP Railroad - BNSF Railway Guidelines for Railroad Grade Separation Projects
- b. See Table 3-2 for Underpass Structures UP Railroad - BNSF Railway Guidelines for Railroad Grade Separation Projects
- c. Examples of OC submittals included in the above are:
 - i. Shoring (Follow BNSF-UPRR Guidelines for Temporary Shoring)
 - ii. Falsework
 - iii. Demolition (Need plans for substructure and superstructure. Follow BNSF Guidelines for Preparation of Bridge Demolition & Removal Plan)
 - iv. Erection (overhead and underpass structures)
 - v. Construction Phasing Plans
- d. Additional OC submittals required, but not included in the Guidelines are:
 - i. All work plans that remove tracks from service (track outage windows require a detailed Gantt chart when greater than 2 hours)
 - ii. Contingency plans
 - iii. Additional OC submittals may be required on a project by project basis.

4.5 Prior to any work commencing on BNSF right of way:

Contractors C/C-1 or Right of Entry must be fully executed and their insurance must be approved before they can perform work on BNSF property. Proof of Contractors insurance approval must be produced to the BNSF PE and the I/C.

4.6 Contractor must adhere to all other BNSF policies and procedures not specifically mentioned in this agreement.

5.0 Interference with Railroad Operations.

5.1 The contractor shall arrange and conduct all work so that there shall be no interference with the Railroad's operations, including train, signal, telephone and telegraphic services; or damage to the Railroad's property; poles, wires and other facilities of tenants, licensees, easement grantees and invitees on the Railroad's right of way. Whenever work may affect the operations or safety of trains, the method of doing such work shall first be submitted to the Railroad Engineer for approval, but such approval shall not relieve the contractor from liability. Any work to be performed by the contractor that requires flagging service or inspection service shall be deferred by the contractor until the flagging service required by the Railroad is available at the job site.

5.2 Whenever work within the Railroad's right of way is of such a nature that impediment to the Railroad's operations is unavoidable, such as use of runaround tracks or necessity for reduced speed, the contractor shall schedule and conduct these operations so that such impediment is reduced to the absolute minimum.

5.3 Should conditions arising from, or in connection with the work require that immediate and unusual provisions be made to protect the Railroad's operations and property, the contractor shall make such provisions. If in the judgment of the Railroad Engineer, or the Engineer if the Railroad Engineer is absent, such provision is insufficient, the Railroad Engineer or Engineer may require or provide such provisions as deem necessary. In any event, such provisions shall be at the contractor's expense and without cost to the Railroad or the Commission.

5.4 The contractor shall be responsible for any damage to the Railroad as a result of work on the project, which shall include but not be limited to interference with the normal movement of trains caused exclusively by the work performed by the contractor. The contractor shall be responsible for damages for the Railroad's train delays that are caused exclusively by the contractor. The Railroad agrees not to perform any act to unnecessarily cause any train delay. The damages for train delays per freight hour will be billed at an average rate per hour as determined from the Railroad's records. These records shall be provided by the Railroad, upon request, to the Commission or the Commission's contractor.

6.0 Track Clearances.

6.1 The minimum track clearances to be maintained by the contractor during construction are shown on the project plans. However, before undertaking any work within Railroad's right of way, or before placing any obstruction over any track, the contractor shall:

- (a) Notify the Railroad Engineer at least 72 hours in advance of the work.
- (b) Receive assurance from the Railroad Engineer that arrangements have been made for flagging service as may be necessary.
- (c) Receive permission from the Railroad Engineer to proceed with the work.
- (d) Ascertain that the Engineer has received copies of notice to the Railroad and of the Railroad's response.

6.2 The contractor shall fully comply with any horizontal and vertical clearance requirements imposed by Missouri state statutes and regulations and Federal statutes and regulations regarding the placement of structures or equipment near or over railroad tracks.

7.0 Construction Procedures.

7.1 General. Construction work on the Railroad's property shall be:

- (a) Subject to the inspection and review of the Railroad.
- (b) In accordance with the Railroad's written outline of specific conditions.

(c) In accordance with this special provision.

7.2 Excavation. The subgrade of an operated track shall be maintained with the berm edge at least 12 feet from centerline of track and not more than 26 inches below top of the rail. The contractor will not be required to make existing section meet this specification if substandard, in which case the existing section will be maintained. The contractor shall cease all work and notify the Railroad immediately before continuing excavation in the work area if obstructions are encountered which do not appear on the drawings. If the obstruction is a utility and the owner of the utility can be identified, then the contractor shall also notify the owner immediately. If there is any doubt about the location of underground cables or lines of any kind, no work shall be performed until the exact location has been determined. There will be no exceptions to these instructions. Additionally, all excavations shall be conducted in compliance with applicable Occupational Safety and Health Act regulations and, regardless of depth, shall be shored where there is any danger to tracks, structures or personnel. Any excavations, holes or trenches on the Railroad's property shall be covered, guarded and/or protected when not being worked on. When leaving work site areas at night and over weekends, the areas shall be secured and left in a condition that will ensure that Railroad's employees and other personnel who may be working or passing through the area are protected from all hazards. All excavations shall be back filled as soon as possible.

7.3 Excavation for Structure. The contractor shall be required to take special precaution and care in connection with excavating, shoring pits and in driving piles for footings adjacent to tracks to provide adequate lateral support for the tracks and the loads which the tracks carry, without disturbance of track alignment and surface, and to avoid obstructing track clearances with working equipment, tools or other material. The procedure for doing such work, including need of and plans for shoring, shall be approved by the Railroad Engineer before work is performed, but such approval shall not relieve the contractor from liability. Before submission of plans to the Railroad Engineer for approval, the Engineer will first review such plans in accordance with the Missouri Standard Specifications for Highway Construction, hereinafter called "Standard Specifications". The responsibility for the design and construction of the sheeting rests solely with the contractor. The temporary shoring along the railroad tracks shall be designed for the Cooper E80 loading. The design shall insure that the shoring is braced or substantially securely to prevent movement. The contractor shall submit plans for the temporary shoring that shall be signed, sealed, and stamped in accordance with the laws relating to Architects and Professional Engineers, Chapter 327, RSMo. and then submitted for review by the Engineer.

7.4 Demolition of Existing Structures. The contractor shall be required to take special precaution and care in connection with demolition of existing structures. The procedure for doing such work, including need of and plans for temporary falsework, shall first be approved by Railroad Engineer before work is performed, but such approval shall not relieve the contractor from liability. Before submission of plans to the Railroad Engineer for approval, the Engineer will first review such plans.

7.5 Falsework. The contractor shall be required to take special precaution and care to prevent any material from falling on the Railroad's right of way. The procedure for preventing material from falling, including need of and plans for temporary falsework, shall first be approved by the Railroad Engineer, but such approval shall not relieve the contractor from liability. Before

submission of plans to the Railroad Engineer for approval, the Engineer will first review such plans.

7.6 Blasting.

7.6.1 The contractor shall obtain advance approval of the Railroad Engineer and the Engineer for use of explosives on or adjacent to the Railroad's property. If permission for use of explosives is granted, the contractor shall be required to comply with the following:

(a) Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of the contractor.

(b) Electric detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way train radios.

(c) No blasting shall be done without the presence of the Railroad Engineer. At least 72 hours advance notice to the person designated in the Railroad's notice of authorization to proceed as mentioned in Section 3.2 of this job special provision, the contractor shall be required to arrange for the presence of the Railroad Engineer and such flagging as the Railroad may require.

(d) The contractor shall have at the job site adequate equipment, labor and materials and allow sufficient time to clean up debris resulting from the blasting without delay to trains, as well as correcting, at contractor's expense, any track misalignment or other damage to the Railroad's property resulting from the blasting as directed by the Railroad Engineer. If contractor's actions result in delay of trains, the contractor shall bear the entire cost thereof.

7.6.2 The Railroad Engineer will:

(a) Determine the approximate location of trains and advise the contractor the approximate amount of time available for the blasting operation and clean-up.

(b) Have the authority to order discontinuance of blasting if blasting is too hazardous or is not in accordance with this special provision.

7.7 Maintenance of Railroad Facilities. The contractor shall be required to maintain all ditches and drainage structures free of silt or other obstructions which may result from contractor's operations. The contractor shall promptly repair eroded areas within Railroad's right of way and repair any other damage to the Railroad's property, tenants, licensees, easement grantees and invitees. All such maintenance and repair of damages due to the contractor's operations shall be done at the contractor's expense.

7.8 Storage of Materials and Equipment.

7.8.1 The contractor shall not store or stockpile construction materials or equipment closer than 25 feet to the centerline of the nearest railroad track or on the Railroad's property not covered by construction easement, contractor's permit, lease or agreement. Additionally, the contractor shall not store or leave materials or equipment within 250 feet of the edge of any highway/rail at-grade crossings. Further, both sides of a main track shall remain unobstructed for a distance of 10 feet from the exterior edge of the track at all times to allow for stopped train inspection.

7.8.2 Machines or vehicles shall not be left unattended with the engine running. Parked machines or equipment shall be in gear with brakes set and with blade, pan or bucket lowered to the ground if so equipped. All grading or construction machinery that is left parked near the track unattended shall be effectively immobilized so that unauthorized persons cannot move such equipment.

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

7.10 Buried Cable and Other Buried Facilities.

7.10.1 The contractor is placed on notice that fiber optic, communication and other cable lines and systems, collectively the "Lines", owned by various telecommunications companies may be buried on Railroad's property or right of way. The locations of the buried Lines, pipelines or utility facilities have been included on the plans based on information from the telecommunications companies, pipeline operators, or utilities, as the case may be. The contractor shall be responsible for contacting the Railroad Engineer, the Railroad's 24-hour information number (1-800-533-2891), the telecommunications companies, pipeline operators and utilities and notifying them of any work that may damage the buried Lines, pipelines, utility facilities and/or interfere with their service. The contractor shall verify the location of all buried Lines, pipelines and utility facilities shown on the plans or marked in the field in order to establish their exact locations prior to or while doing work on the Railroad's property or right of way. The contractor shall also use all reasonable methods when working on the Railroad's property or right of way to determine if any other buried Lines, pipelines or utility facilities exist on the Railroad's property or right of way.

7.10.2 Failure to mark or identify the buried Lines, pipelines or utility facilities will be sufficient cause for the Railroad Engineer to stop construction at no cost to the Commission or Railroad until these items are completed. The contractor shall be responsible for the rearrangement of any buried facilities, Lines, pipelines or utility facilities determined to interfere with the construction. The contractor shall cooperate fully with any telecommunications companies, pipeline operators and utility facility owners in performing such rearrangements.

8.0 Damages. The Railroad will not assume liability for any damages to the contractor, contractor's work, employees, servants, equipment and materials caused by railroad traffic. Any cost incurred by the Railroad for repairing damages to Railroad's property or to property of the Railroad's tenants, licensees, easement grantees and invitees caused by or resulting from the contractor's operations shall be paid directly to the Railroad by contractor.

9.0 Flagging Services.

9.1 When Required. Under the terms of the agreement between the Commission and the Railroad, the Railroad has sole authority to determine the need for flagging required to protect the Railroad's operations. In general, the requirements of such services will be whenever the contractor's personnel or equipment are, or are likely to be, working on the Railroad's right of way within 25 feet of the centerline of any track, 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, or reasonable probability of accidental hazard to Railroad's operations or personnel. 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 3 flaggers may be required. However, if the contractor works within distances that violate instructions given by the Railroad Engineer or performs work that has not been scheduled with the Railroad Engineer, flaggers may be required full time until the project has been completed.

9.2 Scheduling and Notification.

9.2.1 Not later than the time that approval is initially requested to begin work on the Railroad's right of way (30 days), contractor shall furnish to the Railroad and the Commission a schedule for all work required to complete the portion of the project within Railroad's right of way and arrange for a job site meeting between the contractor, the Engineer, and the Railroad Engineer. Flaggers may not be provided until the job site meeting has been conducted and the contractor's work scheduled.

9.2.2 The contractor shall be required to give the Railroad Engineer at least 30 days of advance written notice of intent to begin work within Railroad's right of way in accordance with this special provision. Once begun, if such work is then suspended at any time, or for any reason, the contractor shall be required to give the Railroad Engineer at least 5 working days of advance notice before resuming work on Railroad's right of way. Such notices shall include sufficient details of the proposed work to enable the Railroad Engineer to determine if flagging will be required. If such notice is in writing, the contractor shall furnish the Engineer a copy; if notice is given verbally, the notice shall be confirmed in writing with copy to the Engineer. If flagging is required, no work shall be undertaken until the flagger or flaggers are present at the job site. Obtaining a flagger or flaggers may take up to 30 days to obtain initially from the Railroad. When flagging begins, the flagger is usually assigned by the Railroad to work at the project site on a continual basis until no longer needed and cannot be called for on a spot basis. If flagging becomes unnecessary and is suspended, obtaining a flagger or flaggers may take up to 30 days to again obtain from the Railroad. Due to Railroad labor agreements, 10 working days notice may be necessary before flagging services may be discontinued and responsibility for payment stopped. Notification for flagging should be addressed to:

Matthew Wilson, Roadmaster
BNSF Railway
matthew.wilson4@bnsf.com

9.2.3 If, after the flagger is assigned to the project site, emergencies arise which require the flagger's presence elsewhere, then the contractor shall delay work on the Railroad's right of way until such time as the flagger is again available. Any additional costs resulting from such delay shall be borne by the contractor and not the Railroad.

9.2.4 The contractor shall provide a temporary structure to provide shelter from weather conditions for the person(s) providing flagging protection service on behalf of the Railroad as described herein. The structure shall be provided in an area immediately accessible to the Railroad's main track and the construction site, and be equipped with telephone service, lighting and desk.

9.3 Payment.

9.3.1 The Commission will pay the Railroad directly for the cost of flagging services associated with the project by deducting the amount from the normal contractor payments.

9.3.2 The Railroad shall submit progress invoice to the Engineer during the time flagging services are required. A final invoice shall be submitted to the Engineer within 180 days of completion of the project. This is defined as the point in time at which the Commission and the Railroad both accept the project and the contractor is relieved of contractual obligation. Should the invoice not be received within this time period, the Railroad will be responsible for obtaining payment directly from the contractor.

9.3.3 Should a dispute between the Railroad, the Commission and the contractor develop concerning the cost of flagging service or should the contractor fail to promptly pay the Railroad for flagging services, the full amount of the Railroad's invoice will be deducted from the contractor's payment request. However, The Commission will send only 95 percent of the amount requested to the Railroad. The Commission will make a corrected payment once a settlement is reached between the Railroad, the Commission and the contractor.

9.3.4 The contractor shall be responsible for arranging needed flagging services as required by the Railroad to accomplish the highway improvement.

9.3.5 The cost of flagging service is approximately \$1500 per day based on an 8-hour work day and a 40-hour work week. This cost includes the base pay for the flagger, overhead, and per diem charge for travel expenses, meals and lodging. The charge to the contractor by the Railroad will be the actual cost based on the rate of pay for the Railroad's employees who are available for flagging service at the time the service is required. Work by a flagger in excess of 8 hours per day or 40 hours per week but not more than 12 hours a day will result in overtime pay at 1 1/2 times the appropriate rate. Work by a flagger in excess of 12 hours per day will result in overtime pay at 2 times the appropriate rate. If work is performed on a holiday, the flagging rate is 2 1/2 times the normal rate. Railroad expenses incurred preparing and handling invoices will also be charged to the contractor and/or the Commission. Charges to the contractor and/or the Commission by the Railroad shall be in accordance with applicable provisions of Volume 1, Chapter 4, §3 and Volume 6, Chapter 6, §2, Subsection 1 of the Federal-Aid Highway Program Manual issued by the Federal Highway Administration, including all current amendments. Flagging costs are subject to change. The above estimates of flagging cost are provided for information only and are not binding in any way. Each time a flagger is called, the minimum period for billing will be the 8 hour basic day unless the flagger can be assigned to other Railroad work during the work day.

9.3.6 A maximum of one hour travel time each way per day per flagger will be required for travel to and from the project.

9.4 Verification.

9.4.1 Any complaints concerning a flagger shall be resolved in a timely manner. If need for a flagger is questioned, please contact the Railroad Engineer and Mr. Jeremy Wegner, Manager of Public Projects at (913) 551 4484. All verbal complaints shall be confirmed in writing by the

contractor within 5 working days with copy to the Railroad Engineer and Engineer. All written correspondence shall be addressed to Mr. Wegner as shown in Section 3.1 of this job special provision.

9.4.2 The Railroad flagger assigned to the project will be responsible for notifying the Engineer upon arrival at the job site on the first day, or as soon thereafter as possible, that flagging services begin and on the last day that flagger performs such services for each separate period that services are provided. The Engineer will document such notification in the project records.

10.0 Haul Across Railroads.

10.1 Where the plans show or imply that materials of any nature must be hauled across the Railroad's tracks, unless the plans clearly show that the Commission has included arrangements for such haul in the agreement with the Railroad, the contractor shall be required to make all necessary arrangements with the Railroad regarding means of transporting such materials across the Railroad's tracks. The contractor shall be required to bear all costs incidental to such crossings, including flagging, whether services are performed by contractor's own forces or by Railroad's personnel.

10.2 No crossing may be established for use of the contractor for transporting materials or equipment across the tracks of the Railroad unless specific authority for the installation, maintenance, necessary watching and flagging thereof and removal, all at the expense of the contractor, is first obtained from the Railroad Engineer.

11.0 Work for the Benefit of the Contractor. All temporary or permanent changes in wire lines or other facilities which are considered necessary to the project are shown on the plans, and are included in the agreement between the Commission and the Railroad or will be covered by appropriate revisions to same which will be initiated and approved by the Commission and/or the Railroad. Should the contractor desire any changes in addition to the above, then contractor shall make separate arrangements with the Railroad for same to be accomplished at the contractor's expense.

12.0 Cooperation and Delays. The contractor shall arrange a schedule with the Railroad for accomplishing staged construction involving work by the Railroad or tenants, licensees, easement grantees and invitees of the Railroad. In arranging a schedule, the contractor shall ascertain, from the Railroad, the lead time required for assembling crews, materials and make due allowance. No charge of claims of the contractor against the Railroad will be allowed for hindrance or delay on account of railway traffic for any work done by the Railroad, other delay incident to or necessary for safe maintenance of railway traffic, or for any delays due to compliance with this special provision.

13.0 Trainman's Walkways. Along the outer side of each exterior track of multiple operated track and on each side of single operated track, an unobstructed continuous space suitable for trainman's use in walking along trains shall be maintained extending to a line not less than 12 feet from centerline of track. Any temporary impediments to walkways and track drainage encroachments or obstructions allowed during work hours while Railroad's protective service is provided shall be removed before the close of each work day. Any excavation near the walkway, the contractor shall install a handrail with a 12 feet minimum clearance from centerline of track.

14.0 Insurance. The amount of work to be performed upon, over or under Railroad's right of way is estimated to be one percent of the contractor's total bid for the project.

14.1 In addition to any other forms of insurance or bonds required under the terms of the contract and specifications, Contractor must, at its sole cost and expense, procure and maintain during the life of this Agreement the following insurance coverage:

Commercial General Liability insurance. This insurance shall contain broad form contractual liability with a combined single limit of a minimum of \$5,000,000 each occurrence and an aggregate limit of at least \$10,000,000 but in no event less than the amount otherwise carried by the contractor. Coverage must be purchased on a post 2004 ISO occurrence form or equivalent and include coverage for, but not limit to the following:

- Bodily Injury and Property Damage
- Personal Injury and Advertising Injury
- Fire legal liability
- Products and completed operations

This policy must also contain the following endorsements, which must be indicated on the certificate of insurance:

The definition of insured contract must be amended to remove any exclusion or other limitation for any work being done within 50 feet of railroad property. Waiver of subrogation in favor of and acceptable to Railroad.

Additional insured endorsement in favor of and acceptable to Railroad. Separation of insureds. The policy shall be primary and non-contributing with respect to any insurance carried by Railroad.

It is agreed that the workers' compensation and employers' liability related exclusions in the Commercial General Liability insurance policy(s) required herein are intended to apply to employees of the policy holder and shall not apply to Railroad employees.

No other endorsements limiting coverage as respects obligations under this Agreement may be included on the policy with regard to the work being performed under this agreement.

Business Automobile Insurance. This insurance must contain a combined single limit of at least \$1,000,000 per occurrence, and include coverage for, but not limited to the following:

- Bodily injury and property damage
- Any and all vehicles owned, used or hired

The policy shall also contain the following endorsements or language, which shall be indicated on the certificate of insurance:

- Waiver of subrogation in favor of and acceptable to Railroad.
- Additional insured endorsement in favor of and acceptable to Railroad.
- Separation of insureds.

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The policy shall be primary and non-contributing with respect to any insurance carried by Railroad.

Workers Compensation and Employers Liability insurance including coverage for, but not limited to:

Contractor's statutory liability under the worker's compensation laws of the state(s) in which the work is to be performed. If optional under State law, the insurance must cover all employees anyway.

Employers' Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 by disease policy limit, \$500,000 by disease each employee.

This policy shall also contain the following endorsements or language, which shall be indicated on the certificate of insurance:

Waiver of subrogation in favor of and acceptable to Railroad.

Railroad Protective Liability insurance naming only the Railroad as the Insured with coverage of at least \$5,000,000 per occurrence and \$10,000,000 in the aggregate. The policy Must be issued on a standard ISO form CG 00 35 10 93 and include the following:

Endorsed to include the Pollution Exclusion Amendment (ISO form CG 28 31 10 93)

Endorsed to include the Limited Seepage and Pollution Endorsement.

Endorsed to include Evacuation Expense Coverage Endorsement.

Endorsed to remove any exclusion for punitive damages.

No other endorsements restricting coverage may be added.

The original policy must be provided to the Railroad prior to performing any work or services under this Agreement

In lieu of providing a Railroad Protective Liability Policy, Licensee may participate in Licensor's Blanket Railroad Protective Liability Insurance Policy available to contractor.

14.2 Other Requirements:

14.2.1 All policies (applying to coverage listed above) must not contain an exclusion for punitive damages and certificates of insurance must reflect that no exclusion exists.

14.2.2 Contractor agrees to waive its right of recovery against Railroad for all claims and suits against Railroad. In addition, its insurers, through the terms of the policy or policy endorsement, waive their right of subrogation against Railroad for all claims and suits. The certificate of insurance must reflect the waiver of subrogation endorsement. Contractor further waives its right of recovery, and its insurers also waive their right of subrogation against Railroad for loss of its owned or leased property or property under contractor's care, custody or control.

14.2.3 Contractor is not allowed to self-insure without the prior written consent of Railroad. If granted by Railroad, any deductible, self-insured retention or other financial responsibility for claims must be covered directly by contractor in lieu of insurance. Any and all Railroad liabilities that would otherwise, in accordance with the provisions of this Agreement, be covered by

contractor's insurance will be covered as if contractor elected not to include a deductible, self-insured retention or other financial responsibility for claims.

14.2.4 Prior to commencing the Work, contractor must furnish to Railroad an acceptable certificate(s) of insurance including an original signature of the authorized representative evidencing the required coverage, endorsements, and amendments and referencing the contract audit/folder number if available. Contractor shall notify Railroad in writing at least 30 days prior to any cancellation, non-renewal, substitution or material alteration. Upon request from Railroad, a certified duplicate original of any required policy must be furnished. Contractor should send the certificate(s) to the following address:

Railroad:
BNSF Railway Company
P.O. Box 140528
Kansas City, MO 64114
Toll Free: 877-576-2378
Fax number: 817-840-7487
Email: BNSF@certfocus.com
www.certfocus.com

Commission:
Dave Ahlvers
State Construction and Materials Engineer
MoDOT
P.O. Box 270
Jefferson City, MO 65102

14.2.5 Any insurance policy must be written by a reputable insurance company acceptable to Railroad or with a current Best's Guide Rating of A- and Class VII or better, and authorized to do business in the state(s) in which the service is to be provide.

14.2.6 Contractor represents that this Agreement has been thoroughly reviewed by contractor's insurance agent(s)/broker(s), who have been instructed by contractor to procure the insurance coverage required by this Agreement. Allocated Loss Expense must be in addition to all policy limits for coverages referenced above. Not more frequently than once every five 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.

14.2.7 If any portion of the operation is to be subcontracted by contractor, contractor must require that the subcontractor provide and maintain the insurance coverages set forth herein, naming Railroad as an additional insured, and requiring that the subcontractor release, defend and indemnify Railroad to the same extent and under the same terms and conditions as contractor is required to release, defend and indemnify Railroad herein.

14.2.8 Failure to provide evidence as required by this section will entitle, but not require, Railroad to terminate this Agreement immediately. Acceptance of a certificate that does not comply with this section will not operate as a waiver of contractor's obligations hereunder.

14.2.9 The fact that insurance (including, without limitation, self-insurance) is obtained by 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 will not be limited by the amount of the required insurance coverage.

14.2.10 For purposes of this section, Railroad means "Burlington Northern Santa Fe LLC", "BNSF RAILWAY COMPANY" and the subsidiaries, successors, assigns and affiliates of each.

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14.2.11 Railroad will not accept binders as evidence of insurance, the original policy shall be provided. The named insured, description of the work and designation of the job site to be shown on the Policy are as follows:

- (a) Named Insured: BNSF Railway Company
- (b) Description and Designation:
 - Route I-670 EB on ramp; Jackson County
 - Job No. J413486
 - Rehabilitation of bridge over BNSF line segment 1151, MP 0.4, tracks 803, 804, 5271, 5270, 5255, 5225, and 5230.

14.2.12 The contractor must notify BNSF Manager of Public Projects at jeremy.wegner@bnsf.com, when applying for railroad insurance coverage.

14.3 If any part of the work is sublet, similar insurance and evidence thereof in the same amounts as required of the prime contractor, shall be provided by or in behalf of the subcontractor to cover the subcontractor's operations. Endorsements to the prime contractor's policies specifically naming subcontractors and describing their operations will be acceptable for this purpose.

14.4 All Insurance hereinbefore specified shall be carried until all work required to be performed under the terms of the contract has been satisfactorily completed within the limits of the Railroad's right of way as evidenced by the formal acceptance by the Commission. Insuring Companies may cancel insurance by permission of the Commission and Railroad or on 30 days written notice to the Railroad and Commission.

15.0 Hazardous Materials Compliance and Reporting. Contractor shall be responsible for complying with all applicable federal, state and local governmental laws and regulations, including, but not limited to environmental laws and regulations (including but not limited to the Resource Conservation and Recovery Act, as amended; the Clean Water Act, as amended; the Oil Pollution Act, as amended; the Hazardous Materials Transportation Act, as amended; and the Comprehensive Environmental Response, Compensation and Liability Act, as amended), and health and safety laws and regulations. In addition to the liability provisions contained elsewhere in this job special provision, the contractor hereby indemnifies, defends and holds harmless the Railroad for, from and against all fines or penalties imposed or assessed by federal, state and local governmental agencies against the Railroad which arise out of contractor's work under this special provision. Notwithstanding the preceding sentence, the contractor will not be liable for pre-existing hazardous materials or hazardous substances discovered on Railroad's property or right of way so long as such hazardous materials or hazardous substances were not caused by (in whole or in part) contractor's work, acts or omissions. If contractor discovers any hazardous waste, hazardous substance, petroleum or other deleterious material, including but not limited to any non-containerized commodity or material, on or adjacent to Railroad's property, in or near any surface water, swamp, wetlands or waterways, while performing any work under this special provision, the contractor shall immediately:

- (a) Notify the Railroad's Resource Operations Center at (800) 832-5452, of such discovery.

(b) Take safeguards necessary to protect employees, subcontractors, agents and/or third parties.

(c) Exercise due care with respect to the release, including the taking of any appropriate measure to minimize the impact of such release

16.0 Personal Injury Reporting. The Railroad is required to report certain injuries as a part of compliance with Federal Railroad Administration (“FRA”) reporting requirements. Any personal injury sustained by any employee of the contractor, subcontractor or contractor’s invitees while on the Railroad’s property shall be reported immediately, by phone or mail if unable to contact in person, to the Railroad’s representative in charge of the project. The Non-Employee Personal Injury Data Collection Form is to be completed and sent by Fax to the Railroad at (817) 352-7595 and to the Railroad’s Project Representative no later than the close of shift on the date of the injury.

17.0 Failure to Comply. In the event the contractor violates or fails to comply with any of the requirements of this special provision, the below orders will be applied. Any such orders shall remain in effect until the contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

(a) The Railroad Engineer may require that the contractor to vacate the Railroad’s property.

(b) The Engineer may withhold all monies due to the contractor until contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

18.0 Payment for Cost of Compliance. No separate payment will be made for any extra cost incurred on account of compliance with this special provision. All such cost 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.

18.1 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.

18.1.1 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 - BNSF Railroad |

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| | |
|--|---|
| | MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65101 Phone (888) 275-6636 |
| | If a seal is present on this sheet, JSP's has been electronically sealed and dated. |
| | JOB NO. J4I3486 Jackson County, MO Date Prepared: 10/4/2022 |
| | |
| Only the following items of the Job Special Provisions (Bridge) are authenticated by this seal: All | |

JOB SPECIAL PROVISIONS (BRIDGE)

A. CONSTRUCTION REQUIREMENTS

1.0 Description. This provision contains general construction requirements for this project.

2.0 Construction Requirements. The plans and the asbestos and lead inspection report for the existing structure(s) are included in the contract in the bridge electronic deliverables zip file for informational purposes only.

2.1 In order to assure the least traffic interference, the work shall be scheduled so that the bridge closure is for the absolute minimum amount of time required to complete the work. The bridge shall not be closed until material is available for continuous construction and the contractor is prepared to diligently pursue the work until the closed bridge is opened to traffic.

2.2 Bridge work by contractor forces, including erection, rehabilitation or demolition, shall not be allowed over traffic unless a bridge platform protection system is installed below the work area except for work performed above a deck that is intact. The protection system shall be capable of catching all falling objects such as tools, overhang brackets or materials. Lifting of objects that are heavier than the capacity of the bridge protection system shall not be permitted.

2.3 Qualified special mortar shall be a qualified rapid set concrete patching material in accordance with [Sec 704](#). A qualified rapid set concrete patching material will not be permitted for half-sole repair, deck repair with void tube replacement, full depth repair, modified deck repair and substructure repair (formed) unless a note on the bridge plans specifies that a qualified special mortar may be used.

2.4 Provisions shall be made to prevent any debris and material from falling onto the roadway and railroad properties. If determined necessary by the engineer, any debris and material that falls below the bridge outside the previously specified limits shall be removed as approved by the engineer at the contractor's expense. Traffic under the bridge shall be maintained in accordance with the contract documents.

2.5 Any damage sustained to the remaining structure as a result of the contractor's operations shall be repaired or the material replaced as approved by the engineer at the contractor's expense.

2.6 Provisions shall be made to prevent damage to any existing utilities. Any damage sustained to the utilities as a result of the contractor's operations shall be the responsibility of the contractor. All costs of repair and disruption of service shall be as determined by the utility owners and as approved by the engineer.

2.7 A washer shall be required under head and nut when any reaming is performed for bolt installation.

2.8 SSPC-SP2 and SSPC-SP3 surface preparation shall be in accordance with the environmental regulations in [Sec 1081](#) and collection of residue shall be in accordance with [Sec 1081](#) for collection of blast residue. SSPC-SP6, SSPC-SP10 and SSPC-SP11 surface preparation shall be in accordance with the approved blast media and environmental regulations in [Sec 1081](#) and collection of blast residue shall be in accordance with [Sec 1081](#).

3.0 Coating Information.

JOB SPECIAL PROVISIONS (BRIDGE)

3.1 Straps Removal. Exposed portions of straps for stay-in-place forms shall be removed prior to surface preparation. Straps need not be removed in areas that are not being painted. Flame cutting will not be permitted. The contractor shall exercise care not to damage the existing structure during removal. Any damage sustained to the remaining structure as a result of the contractor's operations shall be repaired or the material replaced as approved by the engineer at the contractor's expense.

3.2 Slab Drains and Stay-In-Place Forms. The stay-in-place forms, slab drains and slab drain brackets shall not be recoated, overcoated or damaged during the painting operation. Any portion of the slab drain bracket that is blast cleaned shall be recoated with System G. Any damage sustained as a result of the contractor's operations shall be repaired or the material replaced as approved by the engineer at the contractor's expense.

3.3 Existing Bridge Information. The informational plans may be used by bidders in determining the amount of steel to be cleaned and painted/coated with the full understanding that the State accepts no responsibility for accuracy of the estimated tons of existing steel shown in the table below. The bidder's acceptance and use of the estimate shown below shall be no cause for claim for any final adjustment in the contract unit price for the work involved in repainting. Each bidder is expected to carefully examine the structure(s), investigate the condition of existing paint and prepare their own estimate of quantities involved before submitting a bid. Surface preparation and applying field coatings to the structural steel shall be based on the contract plan quantities. No final measurements will be made.

| Bridge No. | Estimated Tons | | | Existing Paint System | Lead Based |
|------------|----------------|-------------------|-------|-----------------------|------------|
| | Coating System | | Total | | |
| | System G | Calcium Sulfonate | | | |
| A3139 | 18 | -- | 18 | C* | No |

*System C Green pain has been shown to contain high levels of chromium (Cr), a regulated heavy metal. It is advised that any contractor be strongly urged to use proper PPE when dealing with this material.

3.4 Environmental Contact. Environmental Section may be contacted at the below address or phone number. The Missouri Department of Health may be contacted at (573) 751-6102.

MoDOT - Design Division - Environmental Section
 P.O. Box 270
 105 W. Capitol Ave., Jefferson City, MO 65102
 Telephone: (573) 526-4778

3.5 Approved Smelter and Hazardous Waste Treatment, Storage and Disposal Facility. The following is the approved smelter and hazardous waste treatment, storage and disposal facility:

Doe Run Company - Resource Recycling Division - Buick Facility
 Highway KK
 Boss, MO 65440
 Telephone: (573) 626-4813

4.0 Method of Measurement. No measurement will be made.

5.0 Basis of Payment. Payment for the above-described work will be considered completely covered by the contract unit price for other items included in the contract.

B. RAPID SET CONCRETE PATCHING MATERIAL – VERTICAL AND OVERHEAD REPAIRS

1.0 Description. This specification covers cementitious concrete, polymer-modified concrete and polymer concrete that are suitable for repairing concrete surfaces on bridges or concrete structures, particularly under fast setting or special conditions. The repairs would involve vertical or overhead applications. The work shall consist of removing, furnishing, preparing, and placing materials at locations as shown on the plans or as directed by the engineer.

2.0 Material. All materials shall be in accordance with MoDOT specifications and as noted herein.

2.1 Aggregate. For Extending Commercial Mixture. Coarse and fine aggregates shall be in accordance with [Sec 1005](#), except the requirements for gradation and percent passing the No. 200 sieve shall not apply. Coarse aggregate meeting Gradation E requirements shall be used for repairs greater than one inch (25 mm) in depth. Fine aggregate will be allowed for repairs less than one inch (25 mm). Aggregate specified, bagged, labeled and furnished by the rapid set concrete patching material manufacturer may also be used for mortar extension.

2.2 Material Applications. The contractor shall select and use the product most suitable for the work and field conditions in accordance with these specifications.

2.3 Curing. Rapid set concrete patching material shall be cured until the minimum compressive strength 1500 psi is attained using standard curing specifications, unless otherwise specified by the manufacturer.

2.4 Qualification and Project Acceptance.

2.4.1 Inspection. All materials shall be subject to inspection and sampling by MoDOT at the source of manufacture, intermediate shipping terminal or destination. MoDOT will be allowed free access to all facilities and records as required to conduct inspection and sampling.

2.4.2 Qualification. Prior to use, rapid set concrete patching materials need to be qualified.

2.4.2.1 Requested Information. The manufacturer shall submit with samples of the materials, a written request to Construction and Materials with the following information:

- (a) New Products Evaluation Form
- (b) Brand name of the product.
- (c) Certification that the material meets this specification.
- (d) Certified test results from an independent laboratory showing compliance with this specification.

JOB SPECIAL PROVISIONS (BRIDGE)

- (e) Specific preparation instructions of repair area.
- (f) Specific mixing, handling and curing instructions.
- (g) Application type (i.e., vertical or overhead).

2.4.2.2 Field Evaluation. Final approval will be granted when the following requirements are met:

- (a) MoDOT report documenting two years of field performance on MoDOT system. The report will contain the placement date, field observations (semi annual), description of field performance and photographs of in-place material.
- (b) A manufacturer's representative shall be present during placement of the material to provide technical expertise.

2.4.2.2.3 Disqualification. If during the two year observation period the repair area(s) fails the product will not be added to the qualified list.

2.5 Qualified List. The listing of qualified products are available from Construction and Materials or on MoDOT's web site. New certified test results and samples shall be submitted any time the manufacturing process or the material formulation is changed. The material will be subject to removal from the qualified list if there is evidence of unsatisfactory performance or a change in manufacturing process or formulation, or when random sampling and testing of material offered for use indicates nonconformity with any of the requirements herein specified.

2.6 Certification. The contractor shall supply a manufacturer's certification to the engineer for each lot of material furnished. The certification shall include the name of the manufacturer, a manufacturer certification statement that the material supplied is the same as that qualified and listing the date of qualification.

2.7 Acceptance. Acceptance of the material will be based on the use of a qualified product, the manufacturer's certification that the material supplied is the same as that approved and upon the results of such tests as may be performed by the engineer.

3.0 Mixture. Unless otherwise specified, rapid set concrete patching material shall be approved commercial mixtures meeting [Sections 3.1 – 3.1.3.](#) Rapid set concrete patching materials shall be specifically designed for the application needed.

3.1 Commercial Mixtures. Rapid set concrete patching material in its sacked form and mixtures when properly prepared in accordance with the manufacturer's specifications, shall meet the minimum test requirements given in Table 1. Mixtures may be supplied, as required, as a patching mortar or as a patching mortar with aggregate extension. If the material is to be supplied with extender aggregate, this shall also pass the required tests in Table 1 using the maximum allowed amount of extender aggregate.

3.1.1 Mixture Requirements. Rapid set concrete patching material shall be single packaged dry mix requiring the addition of water or other liquid component just prior to mixing. The material shall not contain soluble chlorides as an ingredient of manufacture. The material shall be placed in accordance to the manufacturer's recommendations.

JOB SPECIAL PROVISIONS (BRIDGE)

| Table 1 (English Unit) | | | | |
|--|-----------------------------|--|--|---|
| Physical Test Property | Specification | Requirement for cementitious concrete | Requirement for polymer-modified concrete | Requirement for polymer concrete |
| Bond Strength by Slant Shear | ASTM C882/C928 ² | min. 1000 psi @ 24hrs. & min. 1500 psi @ 7 days | n/a | min. 1000 psi @ 24hrs. & min. 1500 psi @ 7 days |
| Linear Coefficient of Thermal Expansion ¹ (for bagged mortar only, without extension aggregate) | ASTM C531 | n/a | n/a | 4 – 8 X 10 ⁻⁶ in/in/deg F |
| Resistance to Rapid Freezing & Thawing | AASHTO T161 or ASTM C666 | 80% min. using Procedure B ³ (300 Cycles) | 80% min. using Procedure B ³ (300 Cycles) | n/a |
| Compressive Strength | AASHTO T22 or ASTM C39 | 1500 psi @ 3 hr & 3000 psi @ 24 hr | 1500 psi @ 3 hr & 3000 psi @ 24 hr | n/a |
| Rapid Chloride Permeability | AASHTO T277 or ASTM C1202 | 1000 coulombs @ 28 days | 1000 coulombs @ 28 days | 1000 coulombs @ 28 days |
| Length Change | AASHTO T 160 or ASTM C157 | In water Storage (+0.15) In air storage (-0.15) | In water storage (+0.15) In air storage (-0.15) | n/a |
| Color | | gray | gray | gray |

¹ Not required for extended mixtures if the mortar passes this requirement.

² ASTM C882 shall be performed on non-water based materials. ASTM C928 shall be performed on water-based materials.

³ Procedure A may be used in lieu of Procedure B

3.1.2 Construction Requirements. The manufacturer shall provide with the bagged mixture, specifications for the mixing procedure, amount and kind of liquid to be added, and the amount of aggregate extension allowed, if any. All mixing, handling and curing practices recommended by the manufacturer shall be followed and will be considered a part of these specifications.

3.1.3 Removal from Qualified List. All mixtures shall be approved before use. Reoccurring failures of any mixture for any reason will be cause for removal from the qualified list.

3.2 Vertical Repair. A qualified rapid set concrete patching material approved for vertical use may be used when specified on the plans and as approved by the engineer. The engineer will make field cylinders to verify the 1500 psi (10 MPa) minimum strength. The material shall adhere to the concrete surface without sagging.

3.3 Overhead Repair. A qualified rapid set concrete patching material approved for overhead use may be used when specified on the plans and as approved by the engineer. The material

shall be placeable in layers of at least 1 inch on overhead applications without the use of formwork or anchoring devices. The material shall adhere to the concrete surface without sagging. The engineer will make field cylinders to verify the 1500 psi (10 MPa) minimum strength.

4.0 Construction Requirements.

4.1 Mixing. Rapid set concrete patching material shall be mixed and finished according to the manufacturer's recommendation.

4.2 Preparation of Repair Area. Deteriorated, damaged or defective concrete as shown on the plans, required by the specifications or as directed by the engineer, shall be removed. All exposed reinforcement shall be thoroughly cleaned as shown on the plans, required by the specifications or as directed by the engineer. Unless otherwise specified by the commercial mixture manufacturer, the existing surface shall be damp and all free water shall be removed prior to placement of the required material.

4.3 Bonding Agent. A bonding agent may be used if recommended by the rapid set concrete patching material manufacturer.

5.0 Method of Measurement. No measurement will be made for rapid set concrete patching material.

6.0 Basis of Payment. Rapid set concrete patching material will be paid for at the contract unit price for other items and will be considered full compensation for all labor, equipment and material to complete the described work.

C. RAPID SET CONCRETE PATCHING MATERIAL – HORIZONTAL REPAIRS

1.0 Description. This specification covers cementitious concrete, polymer-modified concrete and polymer concrete that are suitable for repairing concrete surfaces on bridges or roadways, particularly under fast setting or special conditions. The repairs would involve horizontal applications. The work shall consist of removing, furnishing, preparing, and placing materials at locations as shown on the plans or as directed by the engineer.

2.0 Material. All materials shall be in accordance with MoDOT specifications and as noted herein.

2.1 Aggregate For Extending Commercial Mixture. Coarse and fine aggregates shall be in accordance with [Sec 1005](#), except the requirements for gradation and percent passing the No. 200 sieve shall not apply. Coarse aggregate meeting Gradation E requirements shall be used for repairs greater than one inch (25 mm) in depth. Fine aggregate will be allowed for repairs less than one inch (25 mm). Aggregate specified, bagged, labeled and furnished by the rapid set concrete patching material manufacturer may also be used for mortar extension.

2.2 Material Applications. The contractor shall select and use the product most suitable for the work and field conditions in accordance with these specifications.

2.3 Curing. Rapid set concrete patching material shall be cured until the minimum compressive strength 3200 psi is attained using standard curing specifications, unless otherwise specified by the manufacturer.

2.4 Qualification and Project Acceptance.

2.4.1 Inspection. All materials shall be subject to inspection and sampling by MoDOT at the source of manufacture, intermediate shipping terminal or destination. MoDOT will be allowed free access to all facilities and records as required to conduct inspection and sampling.

2.4.2 Qualification. Prior to use, rapid set concrete patching material shall be qualified. In order to become qualified, a material shall have completed testing through AASHTO's National Transportation Product Evaluation Program (NTPEP). The manufacturer shall contact the AASHTO/NTPEP coordinator to obtain the testing location for the rapid setting concrete patching material.

2.4.2.1 Requested Information. The manufacturer shall submit with samples of the materials, a written request to Construction and Materials with the following information:

- (a) Brand name of the product.
- (b) Certification that the material meets this specification.
- (c) NTPEP test results showing compliance with this special provision.
- (d) Specific mixing, handling and curing instructions.
- (e) Application type (i.e., bridge or roadway).

2.4.2.2 Qualified List. Upon approval by the engineer, the brand name and manufacturer will be placed on a qualified list of rapid set concrete patching materials. The listing of qualified materials is available from Construction and Materials or on MoDOT's web site. New certified test results and samples shall be submitted any time the manufacturing process or the material formulation is changed. The material will be subject to removal from the qualified list if there is evidence of unsatisfactory performance or a change in manufacturing process or formulation, or when random sampling and testing of material offered for use indicates nonconformity with any of the requirements herein specified.

2.4.3 Provisional Approval. Provisional approval may be granted provided the following requirements have been met:

- (c) New Products Evaluation Form
- (d) Certified test results from an independent laboratory showing compliance with this special provision.
- (e) Documentation prepared by MoDOT covering two years of field performance on MoDOT's system. MoDOT will need to approve the location of the test site. Documentation will contain the placement date, field observations (semi annual), description of field performance and photographs of in-place material.
- (f) During placement the manufacturer's representative shall be present on the project to provide technical expertise.

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2.4.3.1 Disqualification. If during the two year observation period the repair area(s) fails provisional approval will not be granted. Repair area(s) experiencing any cracking, debonding or spalling will be considered a failure.

2.4.3.2 Length of Provisional Approval. Provisional approval will be granted for three years or until NTPEP testing is completed.

2.5 Certification. The contractor shall supply a manufacturer's certification to the engineer for each lot of material furnished. The certification shall include the name of the manufacturer, a manufacturer certification statement that the material supplied is the same as that qualified and listing the date of qualification.

2.6 Acceptance. Acceptance of the material will be based on the use of a qualified or provisionally approved material, the manufacturer's certification that the material supplied is the same as that approved and upon the results of such tests as may be performed by the engineer.

3.0 Mixture. Unless otherwise specified, rapid set concrete patching material shall be approved commercial mixtures meeting [Sections 3.1 – 3.1.3](#) or deck repair cementitious mortar meeting [Section 3.2](#). Rapid set concrete patching materials shall be specifically designed for the application needed.

3.1 Commercial Mixtures. Rapid set concrete patching material in its sacked form and mixtures when properly prepared in accordance with the manufacturer's specifications, shall meet the minimum test requirements given in Table 1. Mixtures may be supplied, as required, as a patching mortar or as a patching mortar with aggregate extension. If the material is to be supplied with extender aggregate, this shall also pass the required tests in Table 1 using the maximum allowed amount of extender aggregate.

3.1.2 Mixture Requirements. Rapid set concrete patching material shall be single packaged dry mix requiring the addition of water or other liquid component just prior to mixing. The material shall be capable of ½ inch (13 mm) to full depth repair and require no bonding agent. The material shall not contain soluble chlorides as an ingredient of manufacture. The material shall be placed in accordance to the manufacturer's recommendations.

| Table 1 (English Unit) | | | | |
|---|-----------------------------|---|--|---|
| Physical Test Property | Specification | Requirement for cementitious concrete | Requirement for polymer-modified concrete | Requirement for polymer concrete |
| Bond Strength by Slant Shear ¹ | ASTM C882/C928 ³ | min. 1000 psi @ 24hrs. & min. 1500 psi @ 7 days | n/a | min. 1000 psi @ 24hrs. & min. 1500 psi @ 7 days |
| Linear Coefficient of Thermal Expansion ^{1, 2} (for bagged mortar only, without extension aggregate) | ASTM C531 | n/a | n/a | 4 – 8 X 10 ⁻⁶ in/in/deg F |

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| | | | | |
|---|---------------------------|---|--|--|
| Resistance to Rapid Freezing & Thawing ¹ | AASHTO T161 or ASTM C666 | 80% min. using Procedure B ⁵ (300 Cycles) | 80% min. using Procedure B ⁵ (300 Cycles) | n/a |
| Compressive Strength ¹ | AASHTO T22 or ASTM C39 | 3200 psi @ 3 hr & 4000 psi @ 7 days | 3200 psi @ 3 hr & 4000 psi @ 7 days | n/a |
| Rapid Chloride Permeability ¹ | AASHTO T277 or ASTM C1202 | <u>Bridge Decks</u> 1000 coulombs @ 28 days <u>Roadway</u> 2000 coulombs @ 28 days | <u>Bridge Deck</u> 1000 coulombs @ 28 days <u>Roadway</u> 2000 coulombs @ 28 days | <u>Bridge Deck</u> 1000 coulombs @ 28 days <u>Roadway</u> 2000 coulombs @ 28 days |
| Length Change ^{1, 4} | AASHTO T 160 or ASTM C157 | In water Storage (+0.15) In air storage (-0.15) | In water storage (+0.15) In air storage (-0.15) | n/a |
| Color | | gray | gray | gray |

¹The commercial mix test values can be located in the AASHTO's National Transportation Product Evaluation Program (NTPEP) reports for Laboratory Evaluations of Rapid Set Concrete Patching Materials. Data for provisionally approved materials is located at the Construction and Materials Division.

²Not required for extended mixtures if the mortar passes this requirement.

³ ASTM C882 shall be performed on non-water based materials. ASTM C928 shall be performed on water-based materials.

⁴ As modified by ASTM C928.

⁵ Procedure A may be used in lieu of Procedure B

3.1.2 Construction Requirements. The manufacturer shall provide with the bagged mixture, specifications for the mixing procedure, amount and kind of liquid to be added, and the amount of aggregate extension allowed, if any. All mixing, handling and curing practices recommended by the manufacturer shall be followed and will be considered a part of these specifications.

3.1.3 Removal from Qualified List. All mixtures shall be approved before use. Reoccurring failures of any mixture for any reason will be cause for removal from the qualified list.

3.2 Deck Repair Concrete. A qualified rapid set concrete patching material indicated for horizontal use and intended for patching concrete bridge decks may be used when specified on the plans and as approved by the engineer. If this option is selected, the contractor shall provide a trial mix to determine the total cure time needed to achieve a compressive strength of 3200 psi (22 MPa). Compressive specimens shall be prepared in accordance with current MoDOT test methods and cured to simulate actual field conditions. Testing of compressive specimens shall be performed by methods and at facilities acceptable to the engineer. The repaired deck shall not be opened to traffic until at least 4 hours after the last placement of deck repair concrete, the established cure time has elapsed and until such concrete has achieved a compressive strength of 3200 psi (22 MPa). A new trial mix may be required if the engineer determines the field conditions vary substantially from trial mix conditions. The engineer will make field cylinders to verify the 3200 psi (22 MPa) minimum strength.

4.0 Construction Requirements.

JOB SPECIAL PROVISIONS (BRIDGE)

4.1 Mixing. Rapid set concrete patching material shall be mixed and finished according to the manufacturer's recommendation.

4.2 Preparation of Repair Area. Deteriorated, damaged or defective concrete as shown on the plans, required by the specifications or as directed by the engineer, shall be removed. All exposed reinforcement shall be thoroughly cleaned as shown on the plans, required by the specifications or as directed by the engineer. Unless otherwise specified by the commercial mixture manufacturer, the existing surface shall be damp and all free water shall be removed prior to placement of the required material.

4.3 Bonding Agent. A bonding agent may be used if recommended by the rapid set concrete patching material manufacturer.

5.0 Method of Measurement. No measurement will be made for rapid set concrete patching material.

6.0 Basis of Payment. Rapid set concrete patching material will be paid for at the contract unit price for other items and will be considered full compensation for all labor, equipment and material to complete the described work.

D. DIAMOND GRINDING

7/1/21

1.0 Description. This work will only be performed at the discretion of the engineer and will be underrun if not required by the engineer. This work shall consist of grinding the new concrete surface to provide good riding characteristics, a surface texture and proper drainage. If the engineer determines it necessary to provide good riding characteristics, grinding shall be performed on all or part of the bridge approach slabs and sealed in accordance with [Sec 703.3.8](#). The finished surface shall be in accordance with [Sec 703.3.7](#) and as shown on the plans or as directed by the engineer except as modified below.

2.0 Equipment. The equipment shall be of a size that will grind a strip at least 3 feet wide using diamond blades and shall not cause spalls at cracks, joints or other locations.

3.0 Construction Requirements. The construction operation shall be scheduled and proceed in a manner that produces a uniform finished surface. Auxiliary or ramp lane grinding shall transition from the edge of the mainline as required to provide drainage and an acceptable riding surface.

3.1 Deck repair, if required, shall be completed prior to any grinding.

3.2 Grinding shall be accomplished in a manner that eliminates joint or crack faults and provides lateral drainage by maintaining a constant cross slope between grinding extremities in each lane. A maximum tolerance of 1/16 inch will be allowed for adjacent sides of joints and cracks, except that under no circumstances shall the grinding depth exceed 1/4 inch from the top of the original surface. When grinding across faulted joints, a minimum of a 20-foot transition onto the approach side slab shall be used.

3.3 The cross slope of the pavement shall be as shown on the plans and shall have no depressions or misalignment of slope greater than 1/4 inch in 12 feet when measured with a 12-foot straightedge placed perpendicular to the centerline. Areas of deviation shall be

JOB SPECIAL PROVISIONS (BRIDGE)

reground. Straightedge requirements will not apply across longitudinal joints or outside the ground area.

3.4 As soon as practical after grinding, the surface will be straight edged longitudinally, and all variations exceeding 1/8 inch in 10 feet will be plainly marked. Areas of deviation shall be reground.

3.5 Substantially all of the pavement surface shall be textured. Extra depth grinding to eliminate minor depressions in order to provide texturing on 100 percent of the pavement surface will not be required. No unground surface area between passes will be permitted, except as specified otherwise in the contract documents.

3.6 The grinding process shall produce a final pavement surface that is true to grade and uniform in appearance with a longitudinal line-type texture. The line-type texture shall contain parallel longitudinal corrugations that present a narrow ridge corduroy-type appearance. The peaks of the ridges shall be approximately 1/32 inch higher than the bottoms of the grooves. The grooves shall be evenly spaced. There shall be approximately 50-55 grooves per foot, measured perpendicular to the centerline.

3.7 The contractor shall remove and dispose of all residue from the grinding in a manner and at a location to satisfy environmental regulations. The contractor shall have the engineer's approval for the method of spreading and disposal of the residue prior to beginning any grinding operations.

3.8 Solid residue shall be removed from the pavement surface before any residue is blown by traffic action or wind.

3.9 Residue shall not be permitted to encroach on open lanes.

3.10 The residue shall not enter into gutters or closed drainage systems.

3.11 The contractor may disperse residue onto unpaved shoulders, adjacent roadside embankments, or median ditch areas of divided highways where the residue runoff can percolate into the soil, unless specified otherwise in the contract. The spread rate shall not generate surface runoff. If surface runoff occurs at a grinding location, the contractor shall haul the residue to an approved location at the contractor's expense.

3.12 Discharge of any residue runoff shall not flow into adjacent rivers, streams, lakes, ponds or other open bodies of water.

3.13 Residue shall not be spread within 100 feet of any streams, lakes or other open bodies of water, or within 15 feet of a water filled ditch.

3.14 The contractor shall use appropriate equipment and methods so the discharging of the residue does not cause erosion of soil or damage to established vegetation along the roadway. The contractor shall repair and reseed any areas where the discharge of grinding residue causes damage to roadway slopes or vegetated areas at the contractor's expense.

3.15 If the solids concentration of discharged residue at any particular area is determined to be excessive by the engineer, the contractor shall provide equipment and material to flush the areas with water as directed by the engineer, at the contractor's expense.

JOB SPECIAL PROVISIONS (BRIDGE)

3.16 The pavement shall be cleaned prior to opening to traffic as directed by the engineer.

4.0 Smoothness Requirements.

4.1 No diamond grinding shall be performed until the pavement has attained a strength sufficient to be opened to all types of traffic. All diamond grinding shall be completed on any section prior to opening that section to other than construction traffic, unless approved by the engineer.

4.2 The engineer will be the sole authority for determining if the driving surface is sufficiently smooth.

4.3 The engineer will evaluate the smoothness of the concrete wearing surface after the concrete has cured and direct the contractor to diamond grind where deemed necessary.

4.4 After initial diamond grinding operations, if any, the engineer will again evaluate the smoothness of the concrete wearing surface and approach slab, repeating as many times as necessary to achieve the desired surface smoothness.

4.5 Any deficiencies in the final surface due to improper contractor operations or equipment shall be corrected by the contractor at the contractor's expense.

4.6 All areas shall be tested with a 10-foot straightedge in accordance with section 3.4 of this job special provision.

5.0 Method of Measurement. Measurement for diamond grinding will be made to the nearest square yard. Measurement will be based upon the area of initial diamond grinding completed as directed by the engineer. Subsequent passes of diamond grinding over a previously ground area will not be measured. No deduction will be made for gaps to avoid striping or raised pavement markers. No additional measurement will be made for diamond grinding bridge approach slabs.

6.0 Basis of Payment. Payment for diamond grinding will be paid for at the contract unit price per square yard. Payment for diamond grinding will be considered full compensation for all labor, equipment, material, and incidentals to complete this work, including hauling and disposal of grinding residue and cleaning the pavement prior to opening to traffic.

E. STRUCTURAL STEEL REQUIREMENTS

1.0 Description. This provision contains general structural steel requirements for this project.

2.0 Material. All material shall be in accordance with Division 1000, Material Details, and specifically as shown below. The gray epoxy-mastic primer (non-aluminum) shall be compatible with concrete and produce a dry film thickness of no less than 3 mils (75 µm).

| Item | Section |
|---|---------|
| Structural Steel Construction | 712 |
| Gray Epoxy-Mastic Primer (non-aluminum) | 1045 |
| Structural Steel Fabrication | 1080 |
| Coating of Structural Steel | 1081 |

3.0 Construction Requirements.

3.1 Before fabrication of new metalwork, the contractor shall make the necessary measurements in the field to verify dimensions of the existing structure where new members are affected. Any deviation of the dimensions shown on the plans shall be called to the engineer's attention. The contractor shall be responsible for developing all required dimensional adjustments and coordinating the implementation of the dimensional adjustments with all involved fabricators and subcontractors.

3.2 Prior to erection of the new structural steel, the steel that is to remain shall be carefully inspected for irregularities. If such irregularities are found, the irregularities shall be brought to the attention of the engineer.

3.3 A minimum edge distance shall be maintained for all field drilled holes. The minimum edge distance for bolts shall be as shown in table below measured from the centerline of holes.

| Bolt Diameter | Minimum Edge Distance |
|----------------------|------------------------------|
| inch (mm) | inch (mm) |
| 3/4 (19.0) | 1-1/4 (32) |
| 7/8 (22.2) | 1-1/2 (38) |
| 1 (25.4) | 1-3/4 (45) |

3.4 The surfaces of existing steel that will become faying surfaces for non-slip critical new connections, typically secondary members, shall be cleaned according to the manufacturer's recommendation and with a minimum of SSPC-SP-3 surface preparation and coated with one prime coat of Gray Epoxy-Mastic Primer (non-aluminum) in accordance with [Sec 1081](#). The surfaces of existing steel that will become faying surfaces for slip critical new connections, typically primary members, shall be in accordance with contact surfaces in [Sec 1081](#). Primary member connections include girder/beam splices, end diaphragms and intermediate diaphragms in curved structures.

3.5 Exposed girder/beam areas that are not faying surfaces or not covered by concrete that are scratched, damaged by the contractor or by field welding operations shall be touched up with Gray Epoxy-Mastic Primer (non-aluminum) in accordance with [Sec 1081](#). The areas shall receive the coating system as shown on the plans.

4.0 Method of Measurement. No measurement will be made.

5.0 Basis of Payment. Payment for the above described work will be considered completely covered by the contract unit price for the structural steel items included in the contract. No payments or adjustments will be made where new members are affected due to any deviation of the dimensions shown on plans or shop drawings.