

Pike Lincoln County Port Authority
316 West Main Street
Bowling Green, MO 63334

REQUEST FOR BID

for

RAIL SITE REDEVELOPEMENT

at

**14561 Hwy 79
Clarksville, MO 63336**

INVITATION TO BID: NOTICE TO CONTRACTORS

Sealed bids for a general/rail contractor to perform the rail construction and rehabilitation services at 14561 Hwy. 79, Clarksville, MO 63336 will be received by the Pike Lincoln County Port Authority, 316 West Main Street, Bowling Green, MO 63334, until 3:00pm Central on December 11, 2025, at which time the bids will be publicly opened and read aloud.

The scope of work (the “Work”) includes furnishing all labor, tools, equipment, and materials necessary to complete the work specified in the Contract Drawings and Specifications as well as included in the Job Special Provisions (JSP) herein. Owner reserves the right to expand the scope of work to include additional maintenance and/or construction activities not identified herein upon mutual agreement of scope and fee.

Bid packages will be available beginning November 14, 2025, from Pike Lincoln County Port Authority, 316 West Main Street, Bowling Green, MO 63334, (573) 324-4297 and at the website address provided herein. Questions should be directed to Pike Lincoln County Port Authority, Carolyn Wisecarver, at (573) 324-4297. All requests for clarifications to these bidding documents must be received in writing at least one week prior to the bid opening on December 11, 2025. The bid package and any amendments will be available at: <https://pikelincolnport.org/rfps%2Frfqs>. A formal pre bid meeting will not be held; if bidders want to see the site prior to submitting bids they should contact the Port.

For bids that exceed \$75,000.00, pursuant to RSMo 290.210-290.340, prevailing wage rates are required to be paid to all workers performing under this contract in the area according to the rates determined by the Missouri Department of Labor and Industrial Relations for Pike County, Missouri. Also, pursuant to RSMo 290.210-290.340, if a project cost is increased after acceptance of a bid and the project cost exceeds \$75,000.00, prevailing wage rates are required for the portion of the project that is in excess of \$75,000.00.

A bid security in the amount of five percent (5%) of the base bid amount must accompany each bid in accordance with the Instructions to Bidders.

Pike Lincoln County Port Authority hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, businesses owned and controlled by socially and economically disadvantaged individuals will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, religion, creed, sex, age, ancestry, or national origin in consideration for an award.

The successful bidder shall comply with the requirements of RSMo § 292.675. The requirements include on-site employees to complete the ten (10) hour Occupational Safety and Health Administration (OSHA) Construction Safety Program, which includes a course in construction safety and health approved by OSHA or a similar program approved by the Department of Labor and Industrial Relations.

Submit completed Contractor Questionnaire with any necessary attachments no later than seven (7) days prior to the date and hour of the bid opening. A copy of the Contractor Questionnaire can be found at the end of this bid package. If Owner determines that the prospective bidder is not qualified, said prospective bidder will be notified a minimum of three (3) days prior to bid opening.

Second-tier subcontracting will not be permitted on this project. The successful bidder will ensure that subcontractors do not subcontract any portion of the Work.

For any contract greater than \$5,000, the successful bidder shall comply with RSMo § 285.530, as amended and by sworn affidavit affirming that it does not knowingly employ any person who is an unauthorized alien and participation in a federal work authorization program with respect to the employees working in connection with this contract. The required documentation must be from the federal work authorization program provider. A letter from Contractors reciting compliance is not sufficient.

This project will be awarded to the lowest, responsive, responsible, and fully qualified bidder. The Pike Lincoln County Port Authority reserves the right to accept or reject any bid and to waive any irregularities in the best interest of the Port Authority. A Bid may not be modified, withdrawn, or cancelled by the bidder within sixty (60) days following the time and date designated for the receipt of bids, and each bidder so agrees in submitting his bid. The successful bidder will enter into Pike Lincoln County Port Authority's Contract for the Work.

As requests for clarifications to the bidding documents are allowed, Pike Lincoln County Port Authority reserves the right to amend the provisions of the bid package or its requirements prior to opening of the bids and may extend the date on which bids may be publicly opened. Bidders are solely responsible to check the Pike Lincoln County Port Authority website address provided above prior to bid submission for any amendments to the bid package or its requirements. If there is an extension of the bid opening date, notice will be provided to any bidder who has submitted a bid in conformance with the invitation to bid. Bidders shall check with Pike Lincoln County Port Authority prior to bid submission to ensure they have updated information.

BIDDER CHECKLIST

FINAL CHECKLIST BEFORE SUBMITTING BID

- ☐ 1. Submit completed Contractor Questionnaire with any necessary attachments no later than seven (7) days prior to the date and hour of the bid opening. A copy of the Contractor Questionnaire can be found at the end of this bid package.
- ☐ 2. Bidder should check with Pike Lincoln Port Authority at the website address provided in the Invitation to Bid (<https://pikelincolnport.org/rfps%2Frfqs>) prior to submission of the bid for any changes in requirements to the bid package.
- ☐ 3. Complete and return all forms included at the end of this bid package, including Bid Form, Bid Bond Form, Buy America Certification, Anti-Collusion Statement, and Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion. Also submit required E-Verify documentation.
- ☐ 4. The Job Special Provisions are for the bidder's information only and are not to be returned with the bid.
- ☐ 5. Bid are to be completed, executed, and submitted in a sealed envelope addressed to Pike Lincoln County Port Authority. **Provide the vendor name, vendor address, vendor contact information and "Rail Site Redevelopment" on the outside of the envelope.**
- ☐ 6. Please read all items in the bidding document carefully. Complete all items in ink or by typing in the information.
- ☐ 7. Sign this bidding document properly. If submitted in the name of a firm or corporation, the legal name of the firm or corporation should appear in the space designated and be signed for by one or more persons legally qualified to execute papers in the name of said firm or corporation. Affix Corporate Seal if the Bidder is a Corporation.
- ☐ 8. Submit a bid bond executed by bidder and surety or attach cashier's check to the bid bond form.
- ☐ 9. For paper bids, staple addenda to the bid in the appropriate part of the bid to acknowledge receipt. The bidder should retain a duplicate copy.

Below is a list of common mistakes made by bidders leading to non-responsive bids. Please refer to the Standard Specifications for the appropriate procedures for completing and submitting a bid.

- a) Not signing the bid
- b) Not incorporating the addenda into the bidding documents
- c) Not providing a bid bond
- d) Using pencil to fill out the bid
- e) Using white-out to make corrections to the itemized bid sheets
- f) Not initialing changes made

All questions concerning the Rail Site Redevelopment project can be directed to the Pike Lincoln County Port Authority, Carolyn Wisecarver, at (573) 324-4297 or via email at pikelincolncountyport@yahoo.com.

Special Needs: If you have special needs addressed by the Americans with Disabilities Act, please notify the Pike Lincoln County Port Authority, Carolyn Wisecarver, at (573) 324-4297, via email at pikelincolncountyport@yahoo.com, or through Missouri Relay System, TDD 1-800-735-2966, at least five (5) working days prior to the bid opening.

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NOTICE TO CONTRACTORS

Sealed bids, addressed to the Pike Lincoln County Port Authority, 316 West Main Street, Bowling Green, MO 63334, for the proposed work will be received by the Pike Lincoln County Port Authority until 3:00pm central on December 11, 2025, at the office of the Pike Lincoln County Port Authority, 316 West Main Street, Bowling Green, MO 63334, and at that time will be publicly opened.

- (1) **PROPOSED WORK:** The proposed Base Bid Work includes the construction of all improvements necessary to construct and rehab approximately 3000 track feet of industry track. The work items for this project include but are not limited to the following items.
- a. **EROSION CONTROL**
 - i. The Contractor shall provide the temporary erosion control in accordance with the specifications. This includes construction entrances, silt fence, ditch checks, and dust control, etc.
 - ii. The contractor shall provide the proposed erosion control in accordance with the specifications. This includes seeding.
 - b. **CLEARING AND GRUBBING**
 - i. The Contractor shall clear and grub the site as required for the proposed construction in accordance with the plans and specifications. The wood chips and tree stumps shall be removed as part of the clearing and grubbing. Organic material left from the tree clearing and generated from grubbing shall be disposed of onsite to a location designated by the Port representative.
 - c. **SITE PREPARATION FOR TRACK CONSTRUCTION**
 - i. The Contractor shall perform all of the site grading and subballast placement required for the proposed BNSF connection/turnout pad and industry tracks in accordance with the plans and specifications.
 - d. **CONSTRUCTION ACCESS**
 - i. Maintain and restore construction access to equal or better conditions prior to construction in accordance with the plans and specifications.

(2) **COMPLIANCE WITH CONTRACT PROVISIONS:** The bidder, having examined and being familiar with the local conditions affecting the Work, and with the contract, contract documents, including the current version of the Missouri Highways and Transportation Commission's "Missouri Standard Specifications for Highway Construction," and "Missouri Standard Plans for Highway Construction" (if applicable), their revisions, and the request for bid, including appendices, the special provisions and plans, hereby proposes to furnish all labor, materials, equipment, services, etc., required for the performance and completion of the Work. All references are to the Missouri Standard Specifications for Highway Construction, as revised, unless otherwise noted.

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

General Provisions & Supplemental Specifications

Supplemental Revisions to Missouri Standard Plans
For Highway Construction (if applicable)

These supplemental bidding documents contain all current revisions to the bound printed 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.

Please note that within the above-listed documents, the term "Commission" shall be replaced with the term, "Pike Lincoln County Port Authority", and the term "Engineer" is a reference to the Pike Lincoln County Port Authority. The contracting authority for this contract is the Pike Lincoln County Port Authority.

(3) **PERIOD OF PERFORMANCE:** If the bid is accepted, the bidder agrees that work related to the Base Bid shall be diligently prosecuted at such rate and in such manner as, in the judgment of the Owner, is necessary for the completion of the Work within the time specified as follows in accordance with Sec 108:

Anticipated Completion Date: May 1st, 2026

Period of Performance begins upon issuance of Notice to Proceed (NTP) by Owner.

(4) **LIQUIDATED DAMAGES:** The bidder agrees that, should the bidder fail to complete the Work in the time specified or such additional time as may be allowed by the engineer under the contract, the amount of liquidated damages to be recovered in accordance with Sec 108 shall be as follows:

Liquidated damages per day \$500.00

(5) **BID GUARANTY:** The bidder shall submit a Bid Guaranty. A sample project bid bond form is included in the bid book. The bidder shall mark the box below to identify the type of Bid Guaranty.

- ☐ Paper Bid Bond
- ☐ Cashier's Check

(6) **ANTIDISCRIMINATION:** The Contracting Authority hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, businesses owned and controlled by socially and economically disadvantaged individuals will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, religion, creed, sex, age, ancestry, or national origin in consideration for an award.

(7) **PREVAILING WAGE (STATE):** For bids that exceed \$75,000.00, pursuant to RSMo 290.210-290.340, prevailing wage rates are required to be paid to all workers performing under this contract in the area according to the rates determined by the Missouri Department of Labor and Industrial Relations for Pike County, Missouri. Also, pursuant to RSMo 290.210-290.340 if a project cost is increased after acceptance of a bid, and the project cost exceeds \$75,000.00, prevailing wage rates are required for the portion of the project that was in excess of \$75,000.00. The applicable state wage rates for this contract are detailed in "Annual Wage Order No. 30" that is attached to this bidding document.

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.

(8) **WORKER ELIGIBILITY REQUIREMENTS:** Execution of the construction contract for this project is dependent upon the awarded bidder providing an Affidavit of Compliance AND E-Verify Memorandum-of-Understanding (MOU) between the bidder and Department of Homeland Security to the Contracting Authority as required by section 285.530 RSMo. The cover page and signature page of the E-Verify MOU and the Affidavit must be submitted prior to award of this contract. A sample Affidavit of Compliance can be found at the following MoDOT website link:

https://www.modot.org/sites/default/files/documents/AnnualAffidavit-WorkerEligibilityVerification_1.pdf

All bidders must also be enrolled in the E-Verify Program and include their MOU prior to contract execution. Bidders who are not enrolled will need to go to the following website link and select "Enroll in the Program" to get started. After completing the program, they will receive their E-Verify MOU with Department of Homeland Security. This document will need to be printed out and kept on file so that a copy can be attached to the Affidavit of Compliance.

http://www.dhs.gov/files/programs/gc_1185221678150.shtm

This requirement also applies to subcontractors and contract labor, but this contract only requires submittal of the verification documents for the prime Contractor. It is the prime Contractor's responsibility to verify the worker eligibility of their subcontractors in order to protect their own company from liability as required by section 285.530 RSMo.

(9) **OSHA TRAINING REQUIREMENTS:** Missouri Law, 292.675 RSMO, requires any awarded Contractor and its subcontractor(s) to provide a ten-hour Occupational Safety and Health Administration (OSHA) Construction Safety Program (or a similar program approved by the Missouri Department of Labor and Industrial Relations as a qualified substitute) for their on-site employees (laborers, workmen, drivers, equipment operators, and craftsmen) who have not previously completed such a program and are directly engaged in actual construction of the improvement (or working at a nearby or adjacent facility used for construction of the improvement). The awarded Contractor and its subcontractor(s) shall require all such employees to complete this ten-hour program, pursuant to 292.675 RSMO, unless they hold documentation on their prior completion of said program. Penalties for Non-Compliance include Contractor forfeiture to the Contracting Authority in the amount of \$2,500, plus

\$100 per Contractor and subcontractor employee for each calendar day such employee is employed beyond the elapsed time period for required program completion under 292.675 RSMO.

(10) **BUY AMERICA CERTIFICATION:** The materials to be acquired as described herein are subject to compliance with 49 U.S.C. 5323(j)(1) and applicable regulations in 49 CFR Part 661.5. All bidders must execute and submit attached "Buy America Certification."

(11) **ADDENDUM ACKNOWLEDGEMENT:** The undersigned states that all addenda (if applicable) have been received, acknowledged, and incorporated into their bid, prior to submittal. For paper bids, attach signed addenda to the bid.

(12) **SUBCONTRACTOR DISCLOSURE:** Failure to disclose this information may result in a bid being declared non-responsive. It is understood that second-tier subcontracting will not be permitted on the project. The undersigned will ensure that subcontractors will not subcontract any portion of the work on the project. The undersigned will be responsible for any subcontractor utilized on the project and such subcontractors' compliance with all requirements of the project, the Notice to Contractors, and the other contract documents. Contractor shall provide a complete list of proposed subcontractors and attach to the Bid Form.

(13) **PROJECT AWARD:** This project will be awarded to the lowest, responsive, responsible bidder. The low bid shall be determined by summation of each line item on the Bid Form. If there is a discrepancy between the summation of each line item and the total bid amount entered, the summation of each line item will prevail. If there is a discrepancy between a line item's unit cost and calculated total cost, the corrected total cost calculation shall prevail. After award, the undersigned will enter into the Owner's Contract regarding the Work, which shall incorporate the terms of this bid package and the bid submitted by the undersigned.

(14) **PRIME CONTRACTOR REQUIREMENTS:** The limitation in Sec 108.1.1 of the Missouri Standard Specifications for Highway Construction that "the Contractor's organization shall perform work amounting to not less than 40 percent of the total contract cost" is waived for this contract. Instead, the less restrictive terms of the Federal Highway Administration's rule at Title 23 Code of Federal Regulations (CFR) § 635.116(a) shall apply, so that the Contractor must perform the Work with its own organization equal to and not less than 30 percent of the total original contract price. Second-tier subcontracting will not be permitted under this contract. All other provisions in Sec 108.1.1 et seq. of the Missouri Standard Specifications for Highway Construction shall remain in full force and effect and shall continue to govern the Contractor and its subcontractors, in accordance with the provisions of Title 23 CFR § 635.116.

(15) **SALES AND USE TAX EXEMPTION:** The Pike Lincoln County Port Authority, a tax-exempt entity, will furnish a Missouri Project Exemption Certificate as described in Section 144.062 RSMo to the awarded Contractor who in turn may use the certificate to purchase materials for a specific project performed for the tax-exempt entity. Only the materials and supplies incorporated or consumed during the construction of the project are exempt. The certificate will be issued to the Contractor for a specific project for a defined period of time.

(16) **SITE ACCESS FOR INSPECTIONS:** The Contractor shall grant access to all areas of the project site for inspections of the work by the Owner, the Owner's designees, and representatives of the Missouri Department of Transportation.

(17) **SIGNATURE AND IDENTITY OF BIDDER:** The undersigned states that the following provided information is correct and that (if not signing with the intention to bind themselves to become the responsible and sole bidder) they are the agent of, and they are signing and executing this, as the bid of

_____, which is the correct LEGAL NAME as stated on the Contractor Questionnaire.

a) The organization submitting this bid is a(n) (1) individual bidder, (2) partnership, (3) joint venturer (whether individuals or corporations, and whether doing business under a fictitious name), or (4) corporation. Indicate by marking the appropriate box below.

☐ Sole Individual

☐ Partnership

☐ Joint Venture

☐ Corporation, incorporated under laws of state of _____.

☐ Limited Liability Company, established under laws of state of _____.

Note: Provide a copy of the undersigned's Certificate of Incorporation, Certificate of Organization if undersigned is a Corporation or Limited Liability Company.

b) If the bidder is doing business under a fictitious name, indicate below by filling in the fictitious name

Note: Provide a copy of the undersigned's registration of fictitious name if undersigned is using a dba/fictitious name.

Executed by bidder this _____ day of _____ 20____.

THE BIDDER CERTIFIES THAT THE BIDDER AND ITS OFFICIALS, AGENTS, AND EMPLOYEES HAVE NEITHER DIRECTLY NOR INDIRECTLY ENTERED INTO ANY AGREEMENT, PARTICIPATED IN ANY COLLUSION, OR OTHERWISE TAKEN ANY ACTION IN RESTRAINT OF FREE COMPETITIVE BIDDING IN CONNECTION WITH THIS BID, AND THAT THE BIDDER INTENDS TO PERFORM THE WORK WITH ITS OWN BONAFIDE EMPLOYEES AND SUBCONTRACTORS, AND DID NOT BID FOR THE BENEFIT OF ANOTHER CONTRACTOR.

THE BIDDER ACKNOWLEDGES THAT THIS IS AN UNSWORN DECLARATION, EXECUTED UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE UNITED STATES AND/OR FALSE DECLARATION UNDER THE LAWS OF MISSOURI, AND ANY OTHER APPLICABLE STATE OR FEDERAL LAWS. THE FAILURE TO PROVIDE THIS CERTIFICATION IN THIS BID MAY MAKE THIS BID NON-RESPONSIVE, AND CAUSE IT TO BE REJECTED.

THE BIDDER CERTIFIES THAT THE BIDDER'S COMPANY KNOWINGLY EMPLOYS ONLY INDIVIDUALS WHO ARE AUTHORIZED TO WORK IN THE UNITED STATES IN ACCORDANCE WITH APPLICABLE FEDERAL AND STATE LAWS AND ALL PROVISIONS OF MISSOURI EXECUTIVE ORDER NO. 07-13 FOR CONTRACTS WITH THE CONTRACTING AUTHORITY.

☐ Check this box ONLY if the bidder REFUSES to make any or all of these certifications. The bidder may provide an explanation for the refusal(s) with this submittal.

Signature of Bidder's Owner, Officer, Partner or Authorized Agent

Please print or type name and title of person signing here

Attest:

Secretary of Corporation if Bidder is a Corporation

Affix Corporate Seal (If Bidder is a Corporation)

NOTE: If bidder is doing business under a fictitious name, the bid shall be executed in the legal name of the individual, partners, joint ventures, or corporation, and registration of fictitious name filed with the secretary of state, as required by sections 417.200 to 417.230 RSMo. If the bidder is a corporation not organized under the laws of Missouri, it shall procure a certificate of authority to do business in Missouri, as required by section 351.572 et seq RSMo. A certified copy of such registration of fictitious name or certificate of authority to do business in Missouri shall be filed with the Missouri Highways and Transportation Commission, as required by the standard specifications.

JOB SPECIAL PROVISIONS (JSP)

When Job Special Provisions are in conflict with Specifications or General Provisions of the Contract Documents, the most stringent requirements of the conflicting information shall prevail. Job Special Provisions are applicable to all Base Bid work.

A. UTILITIES: Utilities may be located within the project limits. It shall be the responsibility of Contractor to verify the presence/absence of utilities within the project limits. Location of utilities, if present, may be obtained through the Missouri One-Call System by calling 811 or visiting www.missouri-811.org. Contractor shall coordinate with various utility companies if any relocation of existing utilities is required. Coordinate all utility location work required with the Owner. All costs associated with Contractor coordination with various utility companies shall be considered incidental the work and will not be paid for by Owner.

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

Contractor shall be solely responsible and liable for incidental and consequential damage to any utility facilities or interruption of the service caused by it or its subcontractors' operation. Contractor shall hold and save harmless the Owner and all Owner representatives from damages to any utility facilities interruption of service by it or its subcontractors' operation.

Abandoned private utilities are likely present at the project site; however, to the best of the Owner's knowledge, none of said private utilities are still live and none are located within the immediate vicinity of any structures to be removed as part of this project.

B. MOBILIZATION/DEMOBILIZATION: This item shall consist of the preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, tools, supplies and incidentals to the project site, for the establishment of all offices, buildings and other facilities necessary for work on the project, except as provided in the contract as separate pay items, payment for the Contractor's actual cost of the contract bond and for all other work and operations that must be performed or costs incurred prior to beginning work on the various items on the project site. This item shall also consist of work and operations necessary to restore the site to a condition as similar to its original condition prior to work as reasonably feasible upon completion of work.

Basis of Payment: Cost of mobilization/demobilization shall be paid at the contract lump sum unit price for Bid Item 1, with 75% of the contract lump sum unit price paid for mobilization by invoice after the NTP is provided by Owner and 25% of the contract lump sum unit price paid for demobilization at upon completion and closeout of the Work. Refer to Bid Schedule and Contract Specification Section 01200 Price and Payment Procedures for additional information.

D. MISCELLANEOUS SITE RESTORATION: The following specifications shall apply to areas designated in the plans and project specifications to be filled, leveled, and/or restored to their original condition or better.

1. Topsoil shall be selected and placed as per Section 804 of the Missouri Standard Specifications for Highway Construction.
2. Seed/Fertilizer/Maintenance
 1. Grass Seed – Apply grass seed with the mixture specified below, or similar, to prepared topsoil.
 1. Tall Fescue = 56 pounds of live seed per acre
 2. Perennial Rye = 39 pounds of live seed per acre
 3. Red Fescue = 22 pounds of live seed per acre
 4. Kentucky Bluegrass = 5 pounds of live seed per acre
 5. White Clover = 5 pounds of live seed per acre
 2. Fertilizer – Apply fertilizer specified below, or similar, to seeded areas.
 1. 90 lb of actual nitrogen per acre
 2. 4% phosphorus by weight
 3. 2% potassium by weight
 3. Maintenance
 1. Mulch – Cover seeded area with straw mulch.

2. All seeded/mulched areas shall be provided with a minimum of three (3) waterings. Waterings shall be performed at intervals of a minimum of seven (7) days, but not exceeding ten (10) days in length. If sufficient rainfall has occurred at the project site to negate the need for a specific watering on any given week, that watering shall be postponed until the next scheduled interval. The Owner shall have sole discretion in determining if a watering shall be postponed.

Basis of Payment: The cost of Accepted Miscellaneous Site Restoration shall be included in the cost of Bid Item 26 Erosion Control. Refer to Bid Schedule and Contract Specification Section 02925.

E. SPECIAL NOTICE REGARDING LAND DISTURBANCE: Owner provides notice to Contractor, and Contractor by responding to the Request for Bid for the Work acknowledges, that Contractor has been provided notice of the following:

In the event that there is construction or excavation work around (within 10 feet) SWMU 26 and AOC 7 (as shown below), workers may be exposed to contaminated soil which may be around or in the Project Limits. Appropriate protective measures should be taken to protect Contractor's workers health and safety in accordance with applicable health and safety laws and regulations. In accordance with the Missouri Environmental Covenant (MOECA) entered into by PLCPA, notice is provided to the Contractor and a copy of the MOECA shall be provided electronically (see attached) to the Contractor for its reference to allow for compliance with any disturbance activities.

Contractor shall be responsible to not disturb the areas of SWMU 26 and AOC 7 beyond the extent required when performing the Work. Contractor shall further have the responsibility to provide appropriate protective measures to protect unnecessary disturbance of SWMU 26 and AOC 7 and to protect Contractor's workers health and safety in accordance with applicable health and safety laws and regulations. Contractor, by responding to this RFB, acknowledges that it has been provided with a copy of the Environmental Covenant recorded at Book 333, Page 9676 of the Pike County, Missouri Recorder of Deeds Office by the Owner.

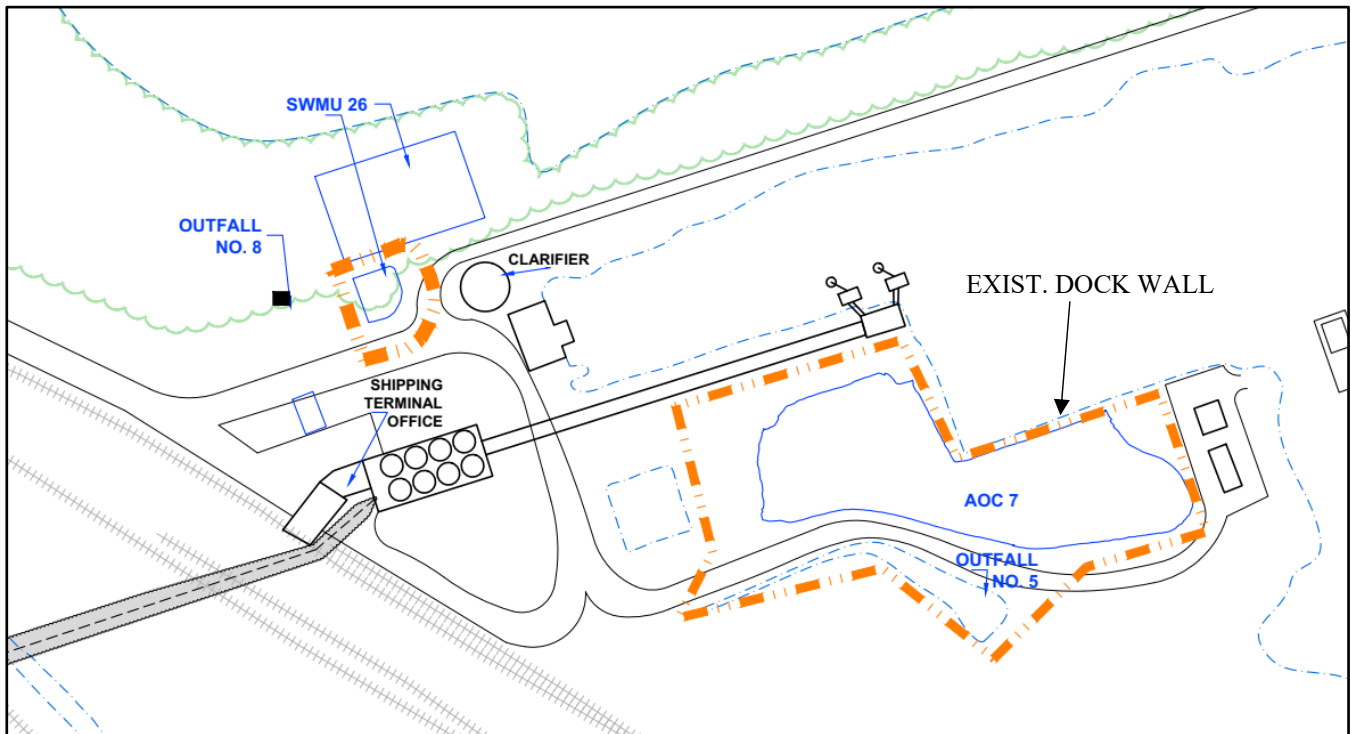


Figure 1: Identified Areas of Concern

F. **PROJECT LIMITS:** The approximate Project Limits, as used in this document, are indicated the aerial image below:

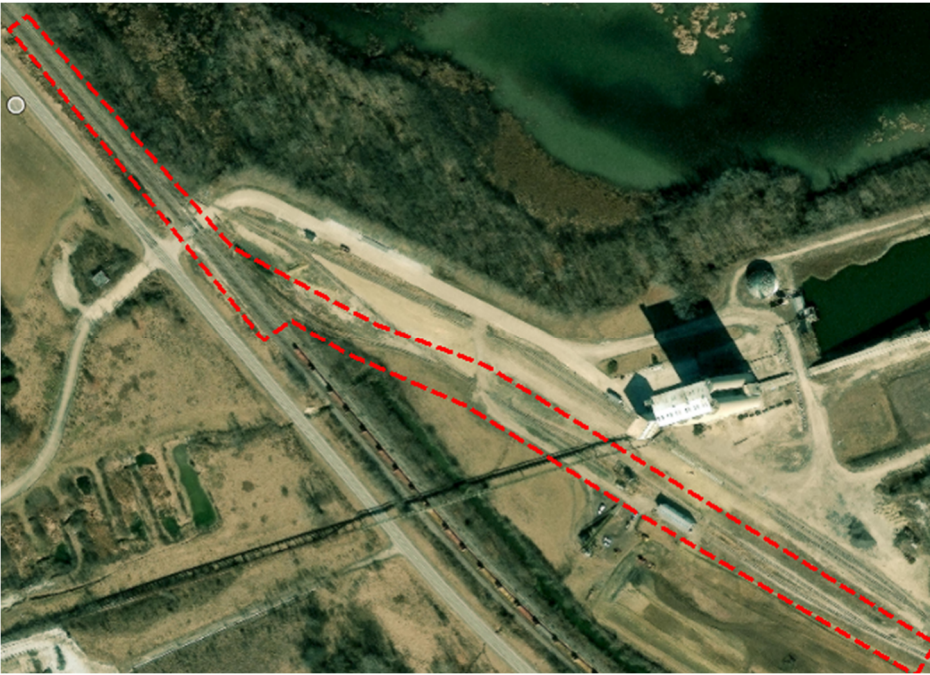
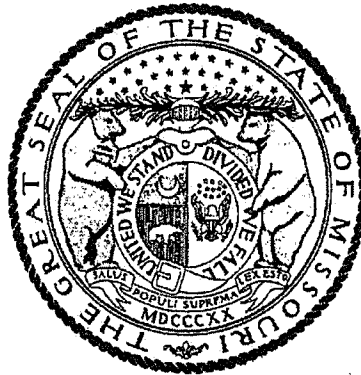


Figure 2: Approximate Project Limits

Missouri

Division of Labor Standards

WAGE AND HOUR SECTION



MIKE KEHOE, Governor

Annual Wage Order No. 32

Section 082
PIKE COUNTY

In accordance with Section 290.262 RSMo 2000, within thirty (30) days after a certified copy of this Annual Wage Order has been filed with the Secretary of State as indicated below, any person who may be affected by this Annual Wage Order may object by filing an objection in triplicate with the Labor and Industrial Relations Commission, P.O. Box 599, Jefferson City, MO 65102-0599. Such objections must set forth in writing the specific grounds of objection. Each objection shall certify that a copy has been furnished to the Division of Labor Standards, P.O. Box 449, Jefferson City, MO 65102-0449 pursuant to 8 CSR 20-5.010(1). A certified copy of the Annual Wage Order has been filed with the Secretary of State of Missouri.

Original Signed by

Logan Hobbs, Director
Division of Labor Standards

Filed With Secretary of State: March 10, 2025

Last Date Objections May Be Filed: April 9, 2025

Prepared by Missouri Department of Labor and Industrial Relations

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Asbestos Worker	\$25.86*
Boilermaker	\$25.86*
Bricklayer-Stone Mason	\$25.86*
Carpenter	\$66.91
Lather	
Linoleum Layer	
Millwright	
Pile Driver	
Cement Mason	\$25.86*
Plasterer	
Communication Technician	\$25.86*
Electrician (Inside Wireman)	\$68.29
Electrician Outside Lineman	\$25.86*
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Elevator Constructor	\$25.86*
Glazier	\$25.86*
Ironworker	\$73.75
Laborer	\$56.54
General Laborer	
First Semi-Skilled	
Second Semi-Skilled	
Mason	\$25.86*
Marble Mason	
Marble Finisher	
Terrazzo Worker	
Terrazzo Finisher	
Tile Setter	
Tile Finisher	
Operating Engineer	\$74.25
Group I	
Group II	
Group III	
Group III-A	
Group IV	
Group V	
Painter	\$55.49
Plumber	\$80.35
Pipe Fitter	
Roofer	\$25.86*
Sheet Metal Worker	\$25.86*
Sprinkler Fitter	\$25.86*
Truck Driver	\$25.86*
Truck Control Service Driver	
Group I	
Group II	
Group III	
Group IV	

*The Division of Labor Standards received fewer than 1,000 reportable hours for this occupational title. The public works contracting minimum wage is established for this occupational title using data provided by Missouri Economic Research and Information Center.

**The Prevailing Hourly Rate includes any applicable fringe benefit amounts for each occupational title as defined in RSMo Section 290.210.

Heavy Construction Rates for
PIKE County

Section 082

OCCUPATIONAL TITLE	**Prevailing Hourly Rate
Carpenter	\$57.86
Millwright	
Pile Driver	
Electrician (Outside Lineman)	\$25.86*
Lineman Operator	
Lineman - Tree Trimmer	
Groundman	
Groundman - Tree Trimmer	
Laborer	\$55.30
General Laborer	
Skilled Laborer	
Operating Engineer	\$72.31
Group I	
Group II	
Group III	
Group IV	
Truck Driver	\$25.86*
Truck Control Service Driver	
Group I	
Group II	
Group III	
Group IV	

Use Heavy Construction Rates on Highway and Heavy construction in accordance with the classifications of construction work established in 8 CSR 30-3.040(3).

Use Building Construction Rates on Building construction in accordance with the classifications of construction work established in 8 CSR 30-3.040(2).

If a worker is performing work on a heavy construction project within an occupational title that is not listed on the Heavy Construction Rate Sheet, use the rate for that occupational title as shown on the Building Construction Rate Sheet.

*The Division of Labor Standards received fewer than 1,000 reportable hours for this occupational title. Public works contracting minimum wage is established for this occupational title using data provided by Missouri Economic Research and Information Center.

**The Prevailing Hourly Rate includes any applicable fringe benefit amounts for each occupational title.

OVERTIME and HOLIDAYS

OVERTIME

For all work performed on a Sunday or a holiday, not less than twice (2x) the prevailing hourly rate of wages for work of a similar character in the locality in which the work is performed or the public works contracting minimum wage, whichever is applicable, shall be paid to all workers employed by or on behalf of any public body engaged in the construction of public works, exclusive of maintenance work.

For all overtime work performed, not less than one and one-half (1½) the prevailing hourly rate of wages for work of a similar character in the locality in which the work is performed or the public works contracting minimum wage, whichever is applicable, shall be paid to all workers employed by or on behalf of any public body engaged in the construction of public works, exclusive of maintenance work or contractual obligation. For purposes of this subdivision, "**overtime work**" shall include work that exceeds ten hours in one day and work in excess of forty hours in one calendar week; and

A thirty-minute lunch period on each calendar day shall be allowed for each worker on a public works project, provided that such time shall not be considered as time worked.

HOLIDAYS

January first;
The last Monday in May;
July fourth;
The first Monday in September;
November eleventh;
The fourth Thursday in November; and
December twenty-fifth;

If any holiday falls on a Sunday, the following Monday shall be considered a holiday.

BID FORM

**PIKE LINCOLN COUNTY PORT AUTHORITY
316 W MAIN ST.
BOWLING GREEN, MO 63334**

REQUEST NO. 1

DATE: 11/14/2025

SEALED BIDS, SUBJECT TO THE ATTACHED CONDITIONS WILL
BE RECEIVED AT THIS OFFICE UNTIL

3:00 PM Central Time, November 17, 2025

AND THEN PUBLICLY OPENED AND READ FOR FURNISHING
THE FOLLOWING SUPPLIES OR SERVICES.

**BIDS TO BE BASED F.O.B. PIKE LINCOLN COUNTY
PORT AUTHORITY**

Submit net bid as cash discount stipulations will not be considered.

F.O.B. Destination:

14561 Hwy. 79
Clarksville, MO 63336

SIGN AND RETURN BEFORE TIME SET FOR OPENING

BUYER:	Carolyn Wisecarver	BUYER TELEPHONE:	573-324-4297
	Pike Lincoln County Port Authority (PLCPA)	BUYER EMAIL:	pikelincolncountypor@yahoo.com

This Request for Bid (RFB) is to establish a contract with a general contractor to **construct and redeveloped the existing tracks in the yard as specified in the Bid Documents** with a completion date of May 1st, 2026.

Bid Item No.	Description	Unit	Quantity	Unit Price	Extended Price
Civil					
1	Mobilization/Demobilization	LS	1.0		\$0.00
2	Clearing and Grubbing	AC	0.5		\$0.00
3	Remove and Dispose Tracks	TF	935.0		\$0.00
4	Remove and Dispose Turnouts	EA	5.0		\$0.00
5	Excavation	CY	800		\$0.00
6	Onsite Excavation Storage	CY	800		\$0.00
7	Unsuitable Excavation, Unclassified	CY	80		\$0.00
8	Furnish & Install RH DSPD W/ Sign	EA	1		\$0.00
9	Track 6196 Construction, 136lbs	TF	65		\$0.00
10	Track 6113A, 6114, 6110 Construction, 115lbs	TF	602		\$0.00
11	Track Shift	TF	771		\$0.00
12	Transition rails (pair)	EA	2		\$0.00
13	Track Tie Rehab, 6196, 6198, 6110, 6114	TF	2,800		\$0.00
14	Track Rail Rehab, 6196, 6198, 6110, 6114	TF	2,800		\$0.00
15	Install BNSF Rehab #9 LH HTTO	EA	2		\$0.00
16	Furnish Construct and Install #9 SMSG LH HTTO	EA	1		\$0.00
17	Furnish Construct and Install #9 SMSG RH HTTO	EA	2		\$0.00
18	Furnish and Install Cross Buck Signs	EA	2		\$0.00
19	Deflect Track 6198 (15")	TF	97		\$0.00
20	Subballast, 6", Turnout Pad	CY	100		\$0.00
21	Subballast, Varies, Crossing Approaches	CY	10		\$0.00
22	Subballast, 6", Track 6113A	CY	200		\$0.00
23	Remove Crossing	TF	30		\$0.00
24	Construct Crossing	TF	30		\$0.00
25	Walkway Ballast	CY	40		\$0.00
26	Erosion Control	LS	1		\$0.00
27	Survey Pre Construction	LS	0		\$0.00
28	Survey Post Construction	LS	0		\$0.00
29	Flagging	LS	0		\$0.00
30	ROE	LS	0		\$0.00
				Total:	\$0.00

(SEE ATTACHED FOR CONDITIONS AND INSTRUCTIONS)

In compliance with this Request for Bid and subject to all conditions thereof, the undersigned bidder agrees to furnish and deliver any or all the items on which prices were bid within the timeframe specified herein after receipt of formal purchase order.

Date: _____
Telephone No.: _____
Fax No.: _____
Email Address: _____

Firm Name: _____
Address: _____

By (Signature): _____
Type/Print Name: _____
Title: _____

RAIL SITE REDEVELOPMENT

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____,
_____,
as Principal and _____, as Surety are held and firmly bound
unto the **STATE OF MISSOURI** (acting by and through the **Pike Lincoln County Port Authority**) in the penal
sum of:

Dollars

(\$ _____) to be paid to the **Pike Lincoln County Port Authority**, the Principal and Surety
binding themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by
these presents.

Sealed with our seals and dated this _____

THE CONDITION OF THIS OBLIGATION is such that:

WHEREAS, the Principal is submitting herewith a bid to the Pike Lincoln County Port Authority to provide
demolition/construction services as set out in the bid to which this bond is attached.

NOW THEREFORE, if the Pike Lincoln County Port Authority shall accept the bid of the Principal and if said
Principal shall properly execute and deliver to the Pike Lincoln County Port Authority the contract and contract
bond in compliance with the requirements of the proposal, the specifications and the provisions of law, to the
satisfaction of the Pike Lincoln County Port Authority, then this obligation shall be void and of no effect, otherwise
to remain in full force and effect.

In the event the said Principal shall, in the judgment of the Pike Lincoln County Port Authority, fail to comply with
any requirement as set forth in the preceding paragraph, then the State of Missouri acting through the Pike Lincoln
County Port Authority shall immediately and forthwith be entitled to recover the full penal sum above set out,
together with court costs, attorney's fees and any other expense of recovery.

(SEAL)

Principal

By

Signature

(SEAL)

Surety

By

Attorney-in-Fact

*NOTE: This bond must be executed by the PRINCIPAL and by a CORPORATE SURETY authorized to conduct surety business in
the State of Missouri.*

RAIL SITE REDEVELOPMENT

BID BOND

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as Principal and _____, as Surety are held and firmly bound
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Dollars

(\$ _____) to be paid to the **Pike Lincoln County Port Authority**, the Principal and Surety
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(SEAL)

Principal

By

Signature

(SEAL)

Surety

By

Attorney-in-Fact

*NOTE: This bond must be executed by the PRINCIPAL and by a CORPORATE SURETY authorized to conduct surety business in
the State of Missouri.*

RETURN TO: Pike Lincoln County Port Authority
 RE: Rail Site Redevelopment
 316 West Main Street
 Bowling Green, MO 63334
 or pikelincolncountypor@yahoo.com

**SUBMIT COMPLETED FORM
 A MINIMUM OF 7 CALENDAR DAYS
 PRIOR TO BID OPENING**

CONTRACTOR QUESTIONNAIRE

- ☐ An Individual
- ☐ A Partnership
- ☐ A Corporation
- ☐ A Joint Venture
- ☐ A Limited Liability Corp.
- ☐ A Limited Liability Partnership

 Legal Name of the Corporation, Firm or Individual Contractor

 Fictitious Name, etc. - Name under which you wish to bid (as registered with the Missouri Secretary of State)

P.O. Box _____ City _____ State _____ Zip _____

Street Address _____ City _____ State _____ Zip _____

NOTE: If the zip code for the street address is different than the P.O. Box zip code, please indicate above.

Telephone No. _____ Fax No. _____ Date Submitted: _____

Please list a contact person and/or e-mail address: _____

This organization has _____ years experience as a general contractor and/or _____ years experience as a subcontractor in the general contractor field.

This organization has completed or contracted to complete the following projects within the last three years. (Attach additional sheets as needed.)

Contract Amount	Type of Work	When Completed	Location City and State	Project Owner's Name and Address

Listed below are all the officers, owners and directors of this firm, their present position, and their construction experience. (Attach additional sheets as needed.)

Name	Present Position or Office	Years of Construction Experience	Magnitude and Type of Work	In What Capacity

CONTRACTOR QUESTIONNAIRE

Do any of the people listed above:

- (a) Perform a management or supervisory function for any other business?

Yes _____ No _____ (If yes list below)

Name

Title

Company Name & Function

- (b) Work for or own other firms which have a business relationship with your firm?

Yes _____ No _____ (If yes list below)

Name

Title

Company Name & Function

If a Corporation, attach a copy of the organization's current Annual Registration Report, or initial report if a new Corporation, on file with the Corporation Division of the Missouri Secretary of State's Office. Each Corporation which is a party to a joint venture shall submit the same required report with its joint venture contractor questionnaire. If applicable, attach a certified copy of the fictitious name registration with the Missouri Secretary of State.

If this firm or any of the above individuals have been debarred or restricted from bidding by any state or federal organization check here ☐ and attach details.

* * * * *

This firm will comply with all written requests by the Missouri Department of Labor and Industrial Relations, Division of Labor Standards, to provide information for the purpose of establishing a prevailing wage.

Signature(s) _____

(If partnership all partners must sign)

* * * * *

AFFIDAVIT

_____, being duly sworn stated that (s)he is _____
(Typed or Printed Officer's Name) (Title of Officer)

of _____ and that all statements on this form and attachments thereto are true and correct.
(Name of firm)

Signature of Officer

Subscribed and sworn to before me by _____,
who personally appeared before me and is known to me to be the person described in and who executed the foregoing affidavit, and
acknowledged that (circle one) he or she executed the same as (circle one) his or her free act and
deed.

IN WITNESS WHEREOF I have hereto set my hand and affixed my official seal at my office in _____,
this _____ day of _____, 20 _____

Seal of
Notary Public

Notary Public Signature

Typed or Printed Name of Notary Public

My Commission expires _____, 20 _____

BUY AMERICA CERTIFICATION

49 U.S.C. 5323i

49 U.S.C. Part 661

Certification requirement for procurement of steel, iron, or manufactured products (including rolling stock).

Certificate of Compliance with 49 U.S.C. 5323(j)(1)

The bidder or offeror hereby certifies that it will meet the requirements of 49 U.S.C. 5323(j)(1) and the applicable regulations in 49 CFR Part 661.5.

Date _____

Company Name _____

Signature _____

Title _____

Certificate of Non-Compliance with 49 U.S.C. 5323(j)(1)

The bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j)(1) and 49 C.F.R. 661.5, but it may qualify for an exception pursuant to 49 U.S.C. 5323(j)(2)(A), 5323(j)(2)(B), or 5323(j)(2)(D), and 49 C.F.R. 661.7.

Date _____

Company Name _____

Signature _____

Title _____

ANTI-COLLUSION STATEMENT

STATE OF _____)
) SS.
COUNTY OF _____)

_____ being first
duly sworn, deposes and says that he is _____
Title of Person Signing

of _____

Name of Bidder

that all statements made and facts set out in the bid for the above project are true and correct; and that the bidder (The person, firm, association, or corporation making said bid) has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with such bid or any contract which may result from its acceptance.

Affiant further certifies that bidder is not financially interested in, or financially affiliated with, any other bidder for the above project.

By _____

By _____

By _____

Sworn to before me this _____ day of _____, 20____.

Notary Public

My Commission Expires _____

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

Bidder Company Name: _____

INSTRUCTIONS FOR CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION:

1. By signing and submitting this bid, the prospective lower tier participant is providing the signed certification set out below.
2. The certification referred to in this paragraph is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the State may pursue available remedies, including suspension and/or debarment.
3. The prospective lower tier participant shall provide immediate written notice to the State if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms “covered transaction,” “debarred,” “suspended,” “ineligible,” “lower tier covered participant,” “persons,” “lower tier covered transaction,” “principal,” “bid,” and “voluntarily excluded,” as used in this paragraph, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549, 49 CFR part 29. You may contact the State for assistance in obtaining a copy of those regulations.
5. The prospective lower tier participant agrees by submitting this bid that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized in writing by the State.
6. The prospective lower tier participant further agrees by submitting this bid that it will include the clause titled “Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion — Lower Tier Covered Transaction,” without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
7. A participant in a covered transaction may rely upon certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principles. Each participant may, but is not required to, check the Nonprocurement List issued by U.S. General Service Administration.
8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this paragraph. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings. Except for transactions authorized under subparagraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to all remedies available to the Federal Government, the State may pursue available remedies including suspension and/or debarment.

CERTIFICATION

1. The prospective lower tier participant certifies, by submission of this bid, that neither it nor its “principals” (as defined at 49 CFR section 29.105(p)) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency.
2. When the prospective lower tier participant is unable to certify to the statements in this certification, such prospective participant shall attach an explanation to this certification.

Bidder Name: _____

By: _____

Date: _____

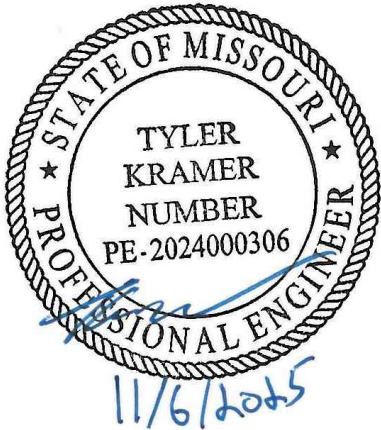
Name: _____

Title: _____

CERTIFICATION
Pike-Lincoln County Port Authority
Rail Site R
Clarksville, Missouri

Certification of the Engineer of Record

I hereby certify these documents were prepared by me, or under my direct personal supervision, and I am a duly Licensed Professional Engineer under the laws of the State of Missouri.



Tyler S. Kramer, P.E.

Missouri License No. 2024000306

My license Renewal Date is December 31, 2026

Applies to: Attached Construction Specifications

11/6/2025

Date

**PIKE LINCOLN COUNTY PORT AUTHORITY
RAIL SITE REDEVELOPEMENT
BID ITEM DETAILS
TRACK & CIVIL CONSTRUCTION
November 6, 2025**

General Description:

1. Contractor shall furnish all labor, equipment, materials (unless otherwise noted), supervision, and incidentals necessary to complete the work as outlined in the Pike Lincoln County Port - Clarksville Rail Site Redevelopment Plans. All work shall comply with current BNSF Railway Mainline or Industrial Standards, depending on which applies.

Furnish & Install RH DSPD w/ Sign:

1. Furnish and install insulated BNSF Mainline Standard Insulated RH DSPD with sign. Contractor shall provide all required flagging, surveying and staking.

Track 6196 Construction, 136 & Track 6113A, 6114, 6110 Construction, 115lbs & Transition Rails (pair):

1. Construct all new track per Supplemental and BNSF Standard Specifications. Install two transition rails per BNSF Standards. Contractor is responsible for all needed new OTM – 136lb and/or 115lb rail, grade 5 ties, plates, spikes, lags and anchors. Material must meet Supplemental and/or BNSF Standards Specifications

Track Tie Rehab 6196, 6198, 6110, 6114:

1. Replace every 4th tie from BNSF Clear Point/6196 to the end of tracks 6110 and 6114 (Approx. 2800 TF). The port will supply all ties needed for tie replacement project; said ties will be available on site at a location near-by to the work area. Contractor shall supply and calculate all other required OTM.

Track Rail Rehab 6196, 6198, 6110, 6114:

1. Replace all rail smaller than 115lb from BNSF Clear Point/6196 to the end of tracks 6110 and 6114 (Approx. 2800 TF).

Deflect Track 6198 (15°):

1. Contractor to supply qualified personnel and equipment to rehab/deflect track 6198 15°, as indicated on the plans.

Subballast, 6", Turnout Pad:

1. Contractor to excavate, prepare subgrade, install and grade Subballast material, and compact Subballast material for the turnout pad for BNSF portion of construction. All excavation and compaction to meet Supplemental and BNSF Standards. Contractor shall provide all required flagging, surveying and staking.

**PIKE LINCOLN COUNTY PORT AUTHORITY
RAIL SITE REDEVELOPEMENT
SUPPLEMENTAL SPECIFICATIONS FOR
TRACK & CIVIL CONSTRUCTION
November 6, 2025**

TABLE OF CONTENTS

General

01160	Mobilization
01200	Price and Payment Procedures
01300	Submittals
01350	Construction Staking
01400	Quality Control and Permits
01500	Temporary Facilities

Site Work

02060	Demolition
02200	Earthwork
02925	Erosion Control

Civil Work

03300	Subballast
-------	------------

Track Work

05650	Railroad
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SECTION 01160 – MOBILIZATION

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Mobilization of all workers, equipment, including safety related personal protective equipment and materials sufficient to complete the construction according to plans, specifications, and the contract.

1.2 RELATED SECTIONS

- A. Section 01500 – Temporary Facilities.
- B. Applicable sections of OWNER's safety training requirements for all workers.

1.3 REFERENCES

- A. OWNER's safety training requirements for all workers and personal protective equipment.
- B. Missouri Standard Specifications for Highway Construction, 2025 Third Edition January 2026. Provisions regarding measurement and payment, unless explicitly referenced, do not apply. Hereinafter referred to as the MODOT Standard Specifications.
- C. BNSF Roadway Worker Protection Training Requirements.

PART 2 – PRODUCTS

NOT USED

PART 3 - EXECUTION

3.1 MOBILIZATION

- A. CONTRACTOR shall mobilize the size of appropriately trained work force to accomplish the construction within the schedule. CONTRACTOR shall mobilize all equipment and materials sufficient to complete the construction according to plans, specifications, and the contract.

PART 4 - MEASUREMENT AND PAYMENT

4.1 GENERAL

MOBILIZATION will not be measured. The CONTRACTOR will be paid a lump sum allowance for MOBILIZATION. Payment will be made in accordance with the increments given in Section 618 found in the MODOT Standard Specifications, MOBILIZATION.

END OF SECTION 01160

SECTION 01200 – PRICE AND PAYMENT

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Description of payment basis for provisional unit prices.

1.2 RELATED SECTIONS

- A. All Sections.

1.3 REFERENCES

- A. OWNER's construction contract.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.1 UNIT PRICE PROJECT

- A. Payment for the project as described in the plans will be made in accordance with the terms of the contract documents.

PART 4 - MEASUREMENT AND PAYMENT

4.1 NOT USED

END OF SECTION 01200

SECTION 01300 - SUBMITTALS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Procedures for submittals.

PART 2 - PRODUCTS

2.1 NUMBER OF SUBMITTALS

- A. Each submittal shall include one set for the OWNER, one set for the Owner's Representative, and three or more sets for the CONTRACTOR, for a total of five (5) or more sets.
- B. One of the CONTRACTOR's three or more sets shall be maintained in an unsoiled condition at the site.

PART 3 - EXECUTION

3.1 ADDRESSES FOR SUBMITTALS

- A. Review of submittals may occur by designers located in one of several offices. Based on this, electronic submittal, made by e-mail transmission or file sharing, are preferred.

To expedite handling of submittals, CONTRACTOR shall contact OWNER to obtain name and address of the reviewer for each specific submission package for direct delivery to that reviewer.

- B. Submittals may be submitted directly to:

Tyler Kramer
Hanson Professional Services
1001 E. 101st Terrace, Suite 120
Kansas City, MO 64131

Phone: 913-214-3145

- C. CONTRACTOR recognizes a potential two or more days of delay for handling when submittals are made to the above address.

PART 4 - MEASUREMENT AND PAYMENT

4.1 GENERAL

- A. SUBMITTALS will not be measured. There is no pay item for SUBMITTALS. Any cost effort to perform SUBMITTALS will be included the applicable pay item(s) for which the submittal is being made.

END OF SECTION 01300

SECTION 01350 – CONSTRUCTION STAKING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specifications Sections, apply to this Section.

1.2 DESCRIPTION

- A. Construction Staking: This work involves survey for construction projects. The Contractor shall furnish all survey necessary for construction of the project before work begins in the area and final walk through when work is completed. Contractor shall establish project control from benchmarks and monuments shown on contract documents. If any of the original survey stakes or benchmarks are destroyed or disturbed, they shall be replaced at Contractor's expense. Design errors discovered shall be brought to the Owner's Representative's attention for review prior to staking. Failure to do so will be interpreted as the Contractor proceeding at his own risk. Construction survey shall include qualified personnel, equipment, and supplies.

1.3 RELATED WORK

- A. Specified elsewhere:
 - 1. Section 02060 – Demolition.
 - 2. Section 02300 – Earthwork.
 - 3. Section 03300 -- Subballast.
 - 4. Section 05650 – Railroad.

1.4 REFERENCES

- A. Missouri Standard Specifications for Highway Construction, 2025 Third Edition January 2026, subsequently referred to as the MODOT Standard Specifications. Provisions regarding measurement and payment, unless explicitly referenced, do not apply.
 - 1. MODOT Standard Specification, Division 600 – Incidental Construction, Section 627 - Contractor Surveying and Staking.

PART 2 – PRODUCTS

2.1 Equipment shall be as described in Part 1.2.

PART 3 – EXECUTION

3.1 Execution shall be as described in Part 1.2.

PART 4 - MEASUREMENT AND PAYMENT

4.1 GENERAL

CONSTRUCTION STAKING will not be measured. There is no pay item for CONSTRUCTION STAKING. Any cost effort to perform CONSTRUCTION STAKING will be included in the applicable pay item(s)..

END OF SECTION 01350

SECTION 01400 – QUALITY CONTROL AND PERMITS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Quality Control of materials used in the construction.
- B. Internal permits required by and issued by OWNER.
- C. External permits secured by OWNER.
- D. External permits secured by CONTRACTOR.

1.2 RELATED SECTIONS

- A. The testing and quality control of materials used in the construction are identified within each individual section of these specifications.
- B. Section 01300 – Submittals
- C. Section 02925 – Erosion Control.

1.3 REFERENCES

- A. The procedures and methods of testing for materials used in the construction are identified within each individual section of these specifications.

PART 2 - PRODUCTS

2.1 TEST REPORTS

- A. CONTRACTOR shall provide three copies of written reports on each and every test or set of tests taken on materials used in the construction. Reports of failure of compliance with project requirements, retesting, and acceptance are all to be submitted. Report format shall be the standard format used by the testing firm or agency for each test completed.

PART 3 - EXECUTION

3.1 TESTING AGENCY OR FIRM

- A. CONTRACTOR shall hire one or more independent testing agencies or firms to conduct each test and retest. Testing by CONTRACTOR's internal forces may be completed to assist CONTRACTOR with his installation process. However, tests to document compliance with specifications shall be conducted by the independent testing agency or firm.

3.2 COORDINATION WITH TESTING AGENCY OR FIRM

- A. CONTRACTOR shall be responsible for coordinating testing of materials used in the construction to permit materials to be tested and retested, if necessary, to assure the quality of the materials placed into the work.

3.3 INTERNAL PERMITS

- A. Excavation Permit. Prior to any excavation, a permit must be obtained from OWNER. At the OWNER's discretion, this permit may include, at a maximum, all excavation activities undertaken during the entire project and, at a minimum, only those excavation activities occurring on a daily basis. CONTRACTOR shall comply with the requirements of work to be performed under this permit.
- B. Cold Work Permit. Prior to initiating any cold work, a permit must be obtained from OWNER. At the OWNER's discretion, this permit may include all cold work activities occurring on any given day, or individual permits may be issued for each specific element of cold work occurring on that day. CONTRACTOR shall comply with the requirements of work to be performed under these permits.
- B. Hot Work Permit. Prior to initiating any hot work, a permit must be obtained from OWNER for each element of hot work performed each day. CONTRACTOR shall comply with the requirements of work to be performed under this permit.
- C. Confined Space Permit. Prior to initiating any excavations greater than 4' of depth or entering a confined space (manhole, handhole, catch basin, etc.), a permit must be obtained from OWNER for each element of confined space work performed each day. CONTRACTOR shall comply with the requirements of work to be performed under this permit.

PART 4 - MEASUREMENT AND PAYMENT

- A. QUALITY CONTROL will not be measured. No separate payment for QUALITY CONTROL will be made. The CONTRACTOR shall include the costs for QUALITY CONTROL tasks in the individual pay items of the project.
- B. PERMITS will not be measured. There is no pay item for PERMITS. Any cost or effort to obtain PERMITS will be included in the lump sum pay item for MOBILIZATION.

END OF SECTION 01400

SECTION 01500 – TEMPORARY FACILITIES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Temporary facilities, including equipment trailers, materials storage facilities, office trailer, and on-site sanitary facilities.

1.2 RELATED SECTIONS

- A. Section 01160 – Mobilization.
- B. Section 01200 – Price and Payment related to provisional unit prices
- C. Section 01400 – Quality Control and Permits

1.3 REFERENCES

- A. Federal, State, and local health department requirements for sanitary facilities.

PART 2 - PRODUCTS

2.1 OWNER SUPPLIED FACILITIES

- A. OWNER will not supply any facilities for use by the CONTRACTOR or CONTRACTOR's workers.

2.2 CONTRACTOR SUPPLIED FACILITIES

- A. Contractor shall supply all temporary facilities required by law and the Owner's policies.
- B. Contractor will supply 110V power to Contractor's temporary facilities, via generator.

PART 3 - EXECUTION

3.1 TEMPORARY FACILITIES

An office trailer is not required. However, at the sole discretion of the CONTRACTOR, CONTRACTOR shall provide equipment trailers, materials storage facilities, and an appropriately equipped office trailer.

CONTRACTOR shall provide suitable on-site sanitary facilities for those workers involved with this project. Those facilities shall meet Federal, State, and local health department requirements, shall be provided and maintained clean and in good working

condition, and shall be stocked with lavatory and sanitary supplies at all times during the period of the contract.

3.2 LOCATION

Temporary office facilities may be located at an agreed upon location on-site either near the construction entrance/exit from Missouri Route 79 or adjacent to the project work area or the site road.. The CONTRACTOR shall coordinate temporary sanitary facility locations with the OWNER.

PART 4 - MEASUREMENT AND PAYMENT

4.1 GENERAL

TEMPORARY FACILITIES will not be measured. There is no pay item for TEMPORARY FACILITIES. Payment for TEMPORARY FACILITIES shall be included in the contract unit price for MOBILIZATION.

END OF SECTION 01500

SECTION 02060 - DEMOLITION

PART 1- GENERAL

1.1 DESCRIPTION

- A. Perform demolition work including all labor, machinery, and construction equipment as indicated on the plans as required. All work, during its progress and upon completion, shall conform to the Drawings and Specifications.
- B. All materials resulting from demolition work, except as indicated or specified herein, shall become the property of CONTRACTOR, and shall be removed from the site. All items not specified for salvage by the OWNER shall become the responsibility of the CONTRACTOR and shall be disposed of offsite in accordance with local and State ordinances. Rubbish and debris shall be removed daily so as to not accumulate on the site.
- C. Work included in this Section. Principle items are as follows:
 - 1. Remove existing crossing indicated on the plans.
 - 2. Remove existing track as indicated on the plans.
 - 3. Remove existing turnouts as indicated on the plans.
- D. Obtain all necessary permits, licenses, and/or inspections and pay all fees and/or provide all bonds required for work under this Section by the governing authorities.
- E. Related work not included in this Section:
 - 1. Section 01200 – Price and Payment related to provisional unit prices
 - 2. Section 02200 - Earthwork.

1.2 REFERENCES

- A. Missouri Standard Specifications for Highway Construction, 2025 Third Edition January 2026, subsequently referred to as the MODOT Standard Specifications. Provisions regarding measurement and payment, unless explicitly referenced, do not apply.

1.3 SALVAGED MATERIALS

- A. The only items to be salvaged will be the existing track and turnouts to be removed. The OWNER has the right to retain ownership of these items. The CONTRACTOR will transport the existing track and turnouts to be removed to an on-site location determined by the OWNER's representative. If the OWNER declines to retain possession of these items then the CONTRACTOR will take possession of the existing track and turnouts to be removed at no change in contract cost.

- B. All other materials resulting from demolition work, except as indicated or specified herein, shall become the property of CONTRACTOR, and shall be removed from the site. All items not specified for salvage by the OWNER shall become the responsibility of the CONTRACTOR and shall be disposed of in accordance with local and State ordinances. Rubbish and debris shall be removed daily so as to not accumulate on the site.

1.4 SUBMITTALS

- A. Proposed Procedures: Procedures proposed for the accomplishment of demolition and salvage work shall be submitted for approval to the Owner's Construction Representative. The procedures shall provide for safe conduct of the work, removal and deposition of materials, protection of property outside the limits of work, coordination with other work in progress, and timely disconnection of utility services.

Methods and equipment to be used, as well as the sequence of operations, shall be included.

- B. Record of Existing Conditions: The CONTRACTOR shall record with the OWNER present, the condition of facilities adjacent to the areas of work which are not to be disturbed. Such record shall include the elevations of tops of roads, and the description of surface conditions that exist prior to the start of work. Any cost to record existing conditions, including that of surveying, is considered as included in the bid price. Submit three copies of the record signed by the CONTRACTOR.

1.5 CONDITIONS OF PROJECT SITE

- A. Existing conditions: The CONTRACTOR shall carefully examine the site and make all inspections necessary in order to determine the full extent of the work required.
- B. The CONTRACTOR shall satisfy himself as to the nature and location of the work, conditions of the facilities upon the ground surface, and subsurface materials or obstacles to be encountered.

1.6 PROTECTION

- A. Dust: Prevent the spread of dust and flying particles. Sprinkle rubbish and debris with water and keep dust to a minimum. Meet the requirements of the OWNER and as applicable to City, County, and State laws.
- B. Fire Protection: Maintain adequate fire protection, including extinguishers and operative water hose lines during demolition.

1.7 SAFETY

- A. Explosives: The use of explosives is not permitted.
- B. Reference: Demolition operations shall be conducted in conformance with the applicable requirements of Subpart T “Demolition” of the Occupational Safety and Health Standards for the Construction Industry (29 CFR Part 1926).
- C. Fires: Burning of materials will not be allowed.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

3.1 GENERAL

- A. Time Constraints: Execution of Demolition shall be as determined by the Owner’s Construction Representative.
- B. Responsibility: After date of Notice to Proceed with work, assume responsibility for structures and items to be demolished and removed until such work is completed.
- C. Workmanship: Perform work by personnel experienced in this type of work and in such manner as to eliminate hazards to persons and property without interference with new work and without use of adjacent areas, public rights-of-way, utilities, and structures. Shoring and bracing in conformance with OWNER requirements, shall be provided as necessary.
- D. Disposal: Except as otherwise indicated or directed by the Owner’s Construction Representative, salvageable items, rubbish, and debris resulting from demolition shall be legally disposed of offsite and shall not be allowed to accumulate or be buried in fills.
- E. Coordination: Coordinate fully with work of other trades, and OWNER site activities.

3.2 UTILITIES

- A. Notices: Issue written notices of planned demolition operations to owners of utilities having on-site facilities.
- B. Protect utilities that are to remain. Comply with the requirements of utility companies while on utility easements.
- C. Services: Arrange with utility owners and the Owner’s Construction Representative to remove from the property to be demolished the equipment owned by them, i.e. meters, valves, pipe, transformers, poles, etc., except that

which has been herein specified for demolition. Also request removal, disconnection, capping, or plugging of their services to facilitate wrecking work. Seal and cap all utilities at the limits of demolition, unless otherwise indicated, if not done by the utility owners per their rules and regulations. Water taps may be left for use during demolition work, but shall be removed prior to final completion, and the water lines sealed and capped.

- D. Mains: Preserve, in operating condition, unless otherwise noted, all mains or active utilities traversing the project site. Repair of damage to such utilities caused by demolition work shall be done to the satisfaction of the OWNER of the utility, and shall be at the cost of the CONTRACTOR.

3.3 DEMOLITION PROCEDURE

- A. Perform work in accordance with applicable portions of the MODOT Standard Specifications.
- B. Wet down debris as required to prevent creation of dust. Haul all debris or materials promptly from site as they accumulate.
- C. Extent: The existing improvements shall be totally demolished and removed to the depth and/or applicable dimensions required to accommodate the proposed construction.
- D. Unless stated otherwise, items below the proposed subgrade elevation, which will deteriorate and cause subsequent settlement, shall be completely removed. Items that will not deteriorate and cause settlement shall be removed to a minimum depth of 3 ft beneath the proposed subgrade elevation.
- E. Prior to removing any utilities, the CONTRACTOR shall verify that the utility service has been disconnected and/or capped by the responsible party.
- F. Excavations resulting from demolition and/or removal of an item shall be backfilled to subgrade elevations with site material free of deleterious materials and acceptable to the Owner's Representative. The backfill shall be compacted in accordance with the requirements of Section 02200 - Earthwork.
- G. Track Removal: Rail cuts will be saw cuts, no torched cuts will be allowed. Completely remove rail, ties, switches, frogs, and other track material.

PART 4 – MEASUREMENT AND PAYMENT

4.1 PROVISIONAL PAY ITEMS

- A. Track Removal: This item shall include furnishing of all material, equipment, and labor needed to dismantle and remove the designated track at the locations shown on the plans or directed by the Owner's Construction Representative. This work will be measured for payment and the length computed in track feet. The limits of turnouts for track measurement purposes will be point of switch to heel of frog.

This work will be paid for at the contract unit price per track foot for “REMOVE AND DISPOSE TRACKS”.

- C. Turnout Removal: This item shall include furnishing of all material, equipment, and labor needed to dismantle and remove the designated turnouts at the locations shown on the plans or directed by the Owner’s Construction Representative. This work will be measured for payment for each turnout removed. This work will be paid for at the contract unit price each for “REMOVE AND DISPOSE TURNOUT”.
- D. Crossing Removal: This item shall include furnishing of all material, equipment, and labor needed to dismantle and remove the designated crossing at the location shown on the plans or directed by the Owner’s Construction Representative. This work will be measured for payment for each crossing removed. This work will be paid for at the contract unit price per track foot for “REMOVE CROSSING”.

END OF SECTION 02060

SECTION 02200 - EARTHWORK

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Excavation for site grading, storm sewer, culverts, catch basins, manholes and conduits.
- B. Clearing and grubbing including 8" stripping.
- C. Embankment for tracks and access roadways.
- D. Embankment Spoil Material.
- E. Backfilling and Compaction.
- F. Erosion and Dust Control.

1.2 RELATED SECTIONS

- A. Section 01300 - Submittals.
- B. Section 01200 – Price and Payment related to provisional unit prices.
- C. Section 01400 – Quality Control and Permits
- D. Section 02060 – Demolition.
- E. Section 02925 – Erosion Control.
- F. Section 05650 – Railroads.
- G. Section 03300 - Subballast

1.3 REFERENCES

- A. ANSI/ASTM C136 - Method for Sieve Analysis of Fine and Coarse Aggregates.
- B. ANSI/ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (15,000 ft-lbf/ft³ (2,700 kN-m/m³)), current edition.
- C. ANSI/ASTM D2922 - Standard Test Methods for Density of Soil and Soil Aggregate in Place by Nuclear Methods (Shallow Depth).

- D. Unified Soil Classification System.
- E. 29 CFR, 1926.652, Appendix B, Subpart B - Excavation.
- F. Missouri Standard Specifications for Highway Construction, 2025 Third Edition January 2026, current edition, hereinafter referred to as the MODOT Standard Specifications.

1.4 SUBMITTALS

- A. Submit samples under provisions of Section 01300.
- B. Submit 50 lb. sample of each type of fill, base, and subballast material to Contractor's testing laboratory, in air-tight containers. Sample size shall be sufficient for grain size analysis, rock quality, Proctor, and Atterberg limit tests as applicable.
- C. Disregard sample submittal requirements if recent test results are available for type of fill required, and submit certified copy of report of testing of specified material.
- D. Submit Project Record documents at completion of construction.

1.5 PROJECT RECORD DOCUMENT

- A. Accurately record location of utilities remaining, rerouted utilities, removed items with features remaining below grade, and new utilities by horizontal dimensions, elevations or inverts, and slope gradients.

1.6 FIELD MEASUREMENTS

- A. Verify that survey benchmark and intended elevations for the Work are as indicated.

1.7 REGULATORY REQUIREMENTS

- A. All excavation and work shall conform to applicable Federal, State and local codes.

1.8 DEFINITIONS

- A. Bedding - Fill placed under, beside and directly over pipe prior to subsequent backfill operations or material placed beneath a manhole or catch basin.

- B. Unsuitable Material – Soils that are not acceptable to the Owner’s Representative for use as either backfill or embankment material, unless plans or documents allow or require their use subsequent to modification or amendment through the addition of lime treatment
- C. Spoil Material – Excavated soil material within limits defined on the plans, which shall be placed and shaped on site at the designated spoil material location or as directed by the OWNER. Silt fence shall be installed around all temporary soil piles.
- D. Satisfactory Soils – Soil acceptable to the Owner’s Representative and free of debris, waste, frozen materials, vegetation, and other deleterious matter.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Imported fill for subgrade embankment construction shall consist of offsite material that is transported to the site and either satisfies the requirements of:
 - 1. A granular material as described in the Missouri DOT Standard Specifications, Division 1000 Materials Details, Section 1010; or
- B. An existing stockpile, containing the top 8 inches of stripped soils will be available for the “end of track” berm construction and permanent seeding.
- C. Onsite soils to be used for the track subgrade construction shall consist of lean or plastic clay that has been excavated from below the 8 inches of stripping, free of organic and deleterious material, compliant with Paragraph 1.8.D, acceptable to the Owner’s Representative, and can be compacted as specified.
- D. Subballast material shall be used to construct the access roads.
- E. Inspection Lanes. Furnish AREMA #57 ballast material.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Identify required lines, levels, contours and datum.
- B. Identify known below-grade utilities. Stake and flag locations.
- C. Identify and flag above-grade utilities.
- D. Maintain and protect existing utilities, designated to remain, which pass through the work area.

- E. Notify utility companies to locate or perform connections to utilities.
- F. Upon discovery of unknown utility or concealed conditions, discontinue affected work and notify Owner's Representative.
- G. Verify that fill materials to be used are acceptable.
- H. Prior to backfilling operations, verify that site utility lines are properly bedded.
- I. Protect plant life, lawns, and other features remaining as a portion of final landscaping.
- J. Protect benchmarks, existing structures, fences, sidewalks, paving, curbs and gutters from excavation equipment and vehicular traffic.

3.2 CLEARING AND GRUBBING AND TOPSOIL STRIPPING

- A. Clearing and grubbing and stripping shall occur at locations indicated on the drawings and shall conform to requirements set forth by Section 201 and MODOT Standard Specification, Clearing and Grubbing.
- B. In track subgrade areas with engineered fill above existing grade: Strip top 8 inches of existing surface material, proof-roll to determine soft spots, treat soft spots by removing and backfilling with compacted engineered fill at 95% Standard Proctor (ASTM D698). Obstructions, not designated for preservation, should be removed to 1 foot below natural ground. Stumps and roots shall be completely removed.
- C. In track subgrade areas with engineered fill below existing grade: Strip top 8 inches and over-excavate an additional depth to achieve a minimum 12 inches below the existing grade if the natural subgrade consists of lean clay and has a liquid limit less than 45. If the natural subgrade consists of highly plastic material indicated by a liquid limit greater than 45 then it will be necessary to over-excavate an additional depth to achieve a minimum 18 inches below the existing grade. In areas to be excavated, remove obstructions to 18 inches below the excavation level. Stumps and roots shall be completely removed.
- D. The top 8 inches of soil that will be stripped in the Clearing and Grubbing areas may be used for permanent seeding areas after the roots, branches and rocks have been removed.
- E. Burning of the cleared and grubbed material will not be allowed.

3.3 EXCAVATION FOR UTILITY AND FIREWATER LINE PIPING

- A. Slope banks to conform to OSHA guidelines and requirements.
- B. Grade top perimeter of excavation to prevent surface water from draining into excavation.
- C. Remove any existing fill, lumped subsoil, boulders and rocks larger than 3 in. from the base of the excavation.

- D. Notify the Owner's Representative of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
- E. Correct unauthorized excavation at no extra cost to Owner using bedding material compacted to the satisfaction of the Owner's Representative, flush to required elevation.
- F. Provide for visual inspection of bearing surfaces.
- G. Protect bottom of excavations and soil adjacent to and beneath foundation from freezing.
- H. Protect adjacent structures, which may be damaged by excavation work, including utilities, foundations, tracks, and pipe chases.
- I. The Contractor shall remove and legally dispose of all debris and rubbish from the site, unless directed otherwise by the Owner's Representative.
- J. All open trenches shall be protected to prevent pedestrians from falling into the trench.
- K. All excavations over 4' depth shall conform with OSHA confined space requirements.

3.4 EXCAVATION FOR SITE GRADING

- A. Excavation for the site grading shall be in accordance all applicable portions of the MODOT Standard Specifications. Excavate to bottom of proposed track subgrade elevation, as indicated on the cross-sections, regardless of the character of surface and subsurface conditions encountered. Unclassified excavation materials may include rock, soil materials, and obstructions.
- B. In areas with engineered fill above existing grade, strip top 8 inches of existing surface material, proof-roll to determine soft spots, treat soft spots by removing and backfilling with compacted engineered fill at 95% Standard Proctor (ASTM D698).
- C. In areas in cut below existing grade, strip top 8 inches and over-excavate an additional depth to achieve a minimum 12 inches below the existing grade if the natural subgrade consists of lean clay and has a liquid limit less than 45. If the natural subgrade consists of highly plastic material indicated by a liquid limit greater than 45 then it will be necessary to over-excavate an additional depth to achieve a minimum 18 inches below the existing grade. Backfill the over-excavations with compacted engineered fill at 95% Standard Proctor (ASTM D698).
- D. The exposed surface that will function as the platform or bottom of subgrade should be inspected for pockets of excessively soft, wet, or disturbed soils. Any

open shallow excavations remaining after site stripping and removal of tree roots should be backfilled with select fill soils. Soils used to backfill the shallow excavations should be compacted to 95% Standard Proctor (ASTM D698) in lifts not exceeding 6 inches loose measure.

- E. Proof rolling shall be performed using a 20-ton pneumatic roller or equivalent once the final platform for the new subgrade has been prepared. Soft spots shall be undercut and backfilled with satisfactory material. Any additional fill in low grade areas (bring it to the level ready for treated subgrade) shall be placed in lifts of 6 inches and compacted to 95% Standard Proctor (ASTM D698).
- F. Top Surface of Subgrade: Plus or minus one inch from required elevations.
- G. The CONTRACTOR shall remove and legally dispose of all debris and rubbish from the site, unless directed otherwise by the Owner's Representative.

3.5 EMBANKMENT CONSTRUCTION

- A. The embankment material shall be placed and finished in accordance with all applicable portions of the MODOT Standard Specifications, except that all embankment material shall be placed and compacted in 6 inch lifts to not less than 95 percent of Standard Proctor as determined by ASTM D698 at a moisture content within +/-2 percent of the optimum moisture.
- B. The embankment shall be constructed using material as defined in Section 2.1 of this specification.
- C. In areas with engineered fill including replacement of topsoil stripping and over-excavation:
 - Proof-roll excavated surface to determine soft spots, treat soft spots by removing and backfilling with compacted engineered fill at 95% Standard Proctor (ASTM D698).
 - On-site material that is acceptable to the Owner's Engineer may be used to construct the track subgrade. Place, moisture condition and compact embankment fill of varied depth to create the track subgrade to the engineered elevations. The fill material shall be compacted to 95% minimum Standard Proctor (ASTM D698) in 6-inch lifts.
 - Grade the final surface of the subgrade to slope at least 1 percent per the cross sections drawings.
- D. In areas in cut below existing grade.
 - Scarify at least 6 inches of the new surface material, moisture condition and re-compact to 95% Standard Proctor (ASTM D698) per the specifications.

- On-site material that is acceptable to the Owner's Engineer may be used to construct the track subgrade. Place, moisture condition and compact embankment fill of varied depth to create the track subgrade to the engineered elevations. The fill material shall be compacted at 95% Standard Proctor (ASTM D698) in 6-inch lifts.
- Grade the final surface of the subgrade to slope at least 1 percent per the cross sections drawings.

3.6 ACCESS ROADS

- A. Access roads shall be provided as needed for the contractor access.

3.7 EROSION CONTROL

- A. Erosion control shall be provided as indicated on the plans and in specification Section 02925 EROSION CONTROL, or as directed by the Owner's Representative.

3.8 INSPECTION LANES

- A. Place AREMA #57 Walkway ballast for the inspection lanes and walkways between the tracks and near the switch stands conforming in all respects to the locations and depth shown on the plans. Inspection Lane and Walkway Ballast.
- B. #57 ballast shall be installed in the inspection lanes and pedestrian walkways in accordance with the Typical Sections in the drawings. This #57 ballast will be distributed in two 5 inch lifts by trucks. Each ballast lift shall be uniformly spread and compacted with no less than two passes of a vibratory compactor with the following characteristics:

Gross weight: 5,000 pounds minimum

Drum width: 58 inches minimum

Drum diameter: 42 inches minimum

- C. Each compacted lift shall not exceed 5 inches. The vibratory compactor shall be capable of applying a dynamic load of not less than 18,000 pounds at a frequency between 1,100 to 2,000 vibrations per minute.

3.9 PROTECTION OF FINISHED WORK

- A. Protect finished work.
- B. Re-compact fills loosened by vehicular traffic.

PART 4 – MEASUREMENT AND PAYMENT

4.1 PROVISIONAL PAY ITEMS

- A. **Clearing and Grubbing:** This item will be measured for payment per acre. Payment for clearing and grubbing will be paid for at the contract price per acre for “CLEARING AND GRUBBING”. Except for items described in Section 02060 – Demolition, this price for CLEARING AND GRUBBING shall be full compensation for removal of trees, stumps, logs and down timber, hedge rows, brush, field fence and aggregate roadways to a depth of 1 foot.
- B. **Over-Excavation of Unsuitable Soils:** This pay item is uncertain and may not be necessary. If unsuitable soils are required to be removed below the limits specified in the plans and specifications, and only when authorized in advance by the OWNER, they will be measured by the cubic yard after the over-excavation is completed but before backfill is placed. This price shall be full compensation for excavation, hauling and all such other incidental work as may be required to complete the removal and replacement of Unsuitable Soils. The removal of unsuitable soils will be paid for at the contract unit price per cubic yard for “UNSUITABLE EXCAVATION, UNCLASSIFIED”.
- C. **Embankment Construction from Imported Sources:** This item is provisional and shall only be invoked at the written direction of the OWNER in the event that site soils are deemed unsuitable and unable to be modified. The cost of this item will be negotiated only if needed.
- D. **Aggregate Surface for Inspection Lanes:** This work will be measured in place and the quantity calculated in cubic yards. Payment will not be made for volume in excess of the limits specified in the plans unless directed by the OWNER. Payment will be at the contract unit price per cubic yard for “WALKWAY BALLAST.”

END OF SECTION 02200

SECTION 02925 – EROSION CONTROL

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specifications Sections, apply to this Section.

1.2 DESCRIPTION

- A. Erosion Control: This work shall include the necessary equipment, materials and labor required to prevent erosion from leaving the site, stabilize slopes ditches and other disturbed areas, to ensure compliance with the approved Storm Water Pollution Prevention for Construction Site Activities.

1.3 RELATED WORK

- A. Specified elsewhere:
 - 1. Section 02060 – Demolition.
 - 2. Section 02300 – Earthwork.
 - 3. Section 03300 - Subballast.

1.4 REFERENCES

- A. Missouri Standard Specifications for Highway Construction, 2025 Third Edition January 2026, subsequently referred to as the MODOT Standard Specifications. Provisions regarding measurement and payment, unless explicitly referenced, do not apply.

PART 2 – PRODUCTS

2.1 Contractor shall supply any necessary erosion control products:

- A. Silt Fence
- B. Rock Check Dam
- C. Construction Entrance
- D. Temporary Seeding

PART 3 – EXECUTION

3.1 Contractor shall install, inspect and maintain erosion control systems.

PART 4 - MEASUREMENT AND PAYMENT

4.1 GENERAL

Erosion Control will not be measured. Any costs or effort to perform EROSION CONTROL will be included in the lump sum pay item for EROSION CONTROL.

END OF SECTION 02925

SECTION 03300

SUBBALLAST

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Subballast

1.2 DESCRIPTION

- A. When shown on the plans or in the special provisions, subballast shall be placed directly onto the finished subgrade in order to provide a fine-grained impervious aggregate layer that will protect the subgrade, facilitate drainage of the track structure and prevent clay particles from migrating upward into the ballast material.

1.3 RELATED SECTIONS

- A. Section 01200 – Price and Payment Procedures related to provisional pay items.
- B. Section 01300 – Submittal Procedures.
- C. Section 01400 – Quality Control and Permits.
- D. Section 02200 – Earthwork.

1.4 REFERENCES

- A. Missouri Standard Specifications for Highway Construction, 2025 Third Edition January 2026, current edition, subsequently referred to as the MODOT Standard Specifications. Provisions regarding measurement and payment, unless explicitly referenced, do not apply.

PART 2 - MATERIALS

2.1 SUBBALLAST

- A. Subballast shall be crushed rock with a minimum of one fractured face meeting the quality requirements of ASTM Designation: D 1241 and approved by the Owner.

- B. Subballast shall be uniformly graded and shall meet the following gradation requirements:

<u>Sieve Size</u>	<u>Percent Passing</u>
2"	100
1"	90-100
3/4"	50-84
No. 10	26-50
No. 40	12-30
No. 200	0-10

- C. Aggregate for Base, as specified in Section 1007 of the MODOT Standard Specifications for Type 5 material may be used for subballast.

PART 3 - EXECUTION

3.1 SUBBALLAST

- A. Subballast shall be placed only when weather conditions do not detrimentally affect the quality of the finished subballast. Hauling and placing of subballast will not be permitted when doing so will rut or deform the finished subgrade.
- B. Subballast shall be placed in two 6" lifts (total 6" under ballast) and each lift compacted to a density of not less than 95% of the maximum dry density determined by ASTM Test Designation: D 698 (Standard Proctor).
- C. The subballast shall be trimmed to the lines and grades shown on the plans and shall be maintained in a condition or manner acceptable to the Owner until the final acceptance and completion of all work under this Contract. Any irregularities that develop in the subballast section during construction operations and prior to laying track, shall be filled and compacted to a smooth and even surface true to the subgrade elevations without any additional cost to the Company.

PART 4 - MEASUREMENT AND PAYMENT

4.1 PROVISIONAL PAY ITEMS

- A. MEASUREMENT OF SUBBALLAST. Subballast will be measured in cubic yards of each type of subballast acceptably placed within the neat lines shown on the plans. No allowance for shrinkage or compaction will be allowed

- B. PAYMENT FOR SUBBALLAST. Payment for subballast will be made at the contract unit price per cubic yard of SUBBALLAST of the various thicknesses and locations of placement, furnished and placed. This price shall be full compensation for furnishing all labor, materials, tools, equipment, supplies, supervision, crushing, loading, hauling, placing, compacting, wetting, drying, trimming, and all other items required to complete the work in accordance with the plans and specifications.

END OF SECTION 03300

SECTION 05650 - RAILROADS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Ballast procurement, placement, and compaction.
- B. New track construction
- C. Turnout construction.
- D. Grade Crossing Installation.

1.2 RELATED SECTIONS

- A. Section 01200 – Price and Payment Procedures related to provisional pay items.
- B. Section 01300 – Submittal Procedures.
- C. Section 01400 – Quality Control and Permits.
- D. Section 02200 – Earthwork.
- E. Section 03300 – Subballast.

1.3 REFERENCES

- A. BNSF RAILWAY
 - 1. BNSF RAILWAY COMPANY – 2023 Guidelines for Industry Track Projects.
 - 2. BNSF RAILWAY COMPANY – 2023 Mainline Track Design Guidelines.
- B. AMERICAN RAILWAY ENGINEERING AND MAINTENANCE ASSOCIATION (AREMA)
 - 1. AREMA-01 – 2013 Manual for Railway Engineering 4 Vol.
 - 2. AREMA-02 - 1996-1997 Portfolio of Track Work Plans.
- C. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
 - 1. ASTM A 325 - (1997) Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength.
 - 2. ASTM A 490 - (1997) Heat-Treated Steel Structural Bolts, 150 ksi Minimum Tensile Strength.
 - 3. ASTM C 88 - (1990) Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate.

4. ASTM C 117 - (1995) Materials Finer Than 75 micrometer (No. 200) Sieve in Mineral Aggregates by Washing.
5. ASTM C 127 - (1988; R 1993) Specific Gravity and Absorption of Coarse Aggregate.
6. ASTM C 131 - (1996) Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
7. ASTM C 136 - (1996a) Sieve Analysis of Fine and Coarse Aggregates.
8. ASTM C 142 - (1978; R 1990) Clay Lumps and Friable Particles in Aggregates.
9. ASTM C 535 - (1996) Resistance to Degradation of Large-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
10. ASTM C 702 - (1993) Reducing Samples of Aggregate to Testing Size.
11. ASTM D 75 - (1987; R 1992) Sampling Aggregates.
12. ASTM D 217 - (1994) Cone Penetration of Lubricating Grease (IP50/88).
13. ASTM D 402 - (1994) Distillation of Cut-Back Asphaltic (Bituminous) Products.
14. ASTM D 445 - (1996) Kinematic Viscosity of Transparent and Opaque Liquids (the Calculation of Dynamic Viscosity).
15. ASTM D 566 - (1993) Dropping Point of Lubricating Grease.
16. ASTM D 1241- (1968; R 1994) Materials for Soil-Aggregate Subbase, Base, and Surface Courses.
17. ASTM D 1310 - (1986; R 1997) Flash Point and Fire Point of Liquids by Tag Open-Cup Apparatus.
18. ASTM D 1557 - (1991) Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu. ft.).
19. ANSI/ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³)), current edition.
20. ASTM D 2171 - (1994) Viscosity of Asphalts by Vacuum Capillary Viscometer.
21. ASTM D 3740 - (1996) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
22. ASTM D 4791- (1995) Flat Particles, Elongated Particles, or Flat and Elongated n Coarse Aggregate.
23. ASTM E 11 - (1995) Wire-Cloth Sieves for Testing Purposes.

D. AMERICAN WELDING SOCIETY (AWS)

1. AWS D1.1 - (1996) Structural Welding Code – Steel.
2. AMERICAN WOOD-PRESERVERS' ASSOCIATION (AWPA)
3. AWPA C2 - (1995) Lumber, Timber, Bridge Ties and Mine Ties - Preservative Treatment by Pressure Processes.
4. AWPA C6 - (1995) Cross Ties and Switch Ties Preservative Treatment by Pressure Processes.
5. AWPA M2 - (1995) Standard for Inspection of Treated Timber Products.
6. AWPA M6 - (1995) Brands Used on Forest Products.
7. AWPA P2 - (1995) Standard for Creosote Solutions.

E. FEDERAL HIGHWAY ADMINISTRATION (FHWA)

1. FHWA SA-89-006 - (1988) Manual on Uniform Traffic Control Devices for Streets and Highways.

F. Missouri Department of Transportation, Standard Specifications for Highway Construction, current edition, subsequently referred to as the MODOT Standard Specifications. Provisions regarding measurement and payment, unless explicitly referenced, do not apply.

1.4 SUBMITTALS

A. OWNER approval by its designated representative is required for submittals with a "PA" designation. Submittals having an "FIO" designation are for information only.

B. The following shall be submitted in accordance with Section 01300 SUBMITTALS:

1. Data:

a. Wood Ties: PA.

- 1) Name of the tie manufacturer, the quantities of ties proposed, and product data for the ties to be furnished, prior to ordering the ties.

b. New Jointed Rail; PA. Relay Rail; PA. Joint Bars; PA. Compromise Joint Bars; PA.

- 1) Manufacturer's data on new rail including: rail weight, rail section, drilling, rail length, date rolled, and the name of the mill where the rail was rolled.
- 2) For relay rail the required information shall include weight, section, lengths, the name of the supplier, date rolled, controlled-cooled brand and the name of the mill where the rail was rolled. The maximum vertical wear on the rail head and the maximum horizontal wear on the side of the rail head shall be provided.
- 3) The design of the joint bars and compromise joint bars proposed to be furnished with each rail section shall also be provided.

c. Miscellaneous Track Materials; FIO.

- 1) Manufacturer's data for all track materials to be furnished.

d. Components or Products; PA.

- 1) Performance data for components or products proposed as an equivalent to those specified. The Owner's Representative's written approval is required for any such equivalent type component or product proposed to be used.
2. Drawings:
 - a. As-Built; PA.
 - 1) One set of reproducible originals of the final as-built drawings prior to final acceptance by the Owner's Representative. The materials and methods used to produce these drawings shall meet the requirements of this specification and shall result in drawings that are easy to revise without damage to the drawing.
3. Schedules:
 - a. Track Construction; PA.
 - 1) A complete schedule of the staged track construction that explains how the track construction will proceed such that the existing plant is available for operations at all times.
 - b. Materials and Equipment; FIO.
 - 1) A complete schedule of the materials proposed for installation within 60 days of receipt of notice to proceed, and before installation of the materials; the schedule shall include a list of equipment proposed for the work.
5. Reports:
 - a. Sampling and Testing; PA.
 - 1) One certified copy of Test Reports for each test performed on the ballast within 2 working days of the test completion.
 - b. Wood Ties; FIO.
 - 1) Certified test and inspection reports for crossties and switch ties a minimum of seven calendar days prior to any ties being installed in track.
6. Certificates:
 - a. Ballast; PA.

- 1) Certificates of Compliance for the ballast materials to be installed in this project.

b. Materials and Equipment; PA.

- 1) Manufacturer's certificates of conformance for the following materials:
 - Rail.
 - Track bolts, nuts, and spring washers.
 - Joint bars.
 - Turnouts.

1.5 PROJECT RECORD DOCUMENT

- A. Accurately record location of utilities remaining, rerouted utilities, and new utilities by horizontal dimensions, elevations or inverts, and slope gradients.

1.6 FIELD MEASUREMENTS

- A. Verify that survey benchmark and intended elevations for the Work are as indicated.

1.7 REGULATORY REQUIREMENTS

- A. All excavation and work shall conform to applicable Federal, State and local codes.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Materials and Samples

- 1) The Owner's Representative will notify the CONTRACTOR of the materials approved or disapproved. Disapproved materials that have already been delivered to the project site, shall be promptly segregated from the approved materials and removed from the premises. If materials are disapproved, acceptable replacement materials shall be provided at no additional cost to the Owner. Initial approval by the Owner's Representative will not prevent the removal and replacement of materials that are materially defective or materials not meeting this specification that are discovered during construction and/or routine quality control/quality assurance operations.

1.9 QUALIFICATIONS

A. Track Construction

1. Track construction shall be performed under the direction of qualified and competent supervisory personnel experienced in wood tie track construction.

1.10 PROJECT/SITE CONDITIONS

A. Temporary Work

1. During construction, suitable roads and crossings with all necessary lights, signs, drainage, and other appurtenances required for safe public and local travel shall be provided. Suitable temporary fences shall be erected and maintained where required to prevent trespassing upon work or damage to adjoining property. Drainage shall be maintained, and the accumulation of water that might affect the stability of the roadbed will not be permitted.

PART 2 - PRODUCTS

2.1 BALLAST

- A. Ballast to be used for track construction shall be crushed stone, Size No. 4A conforming to Chapter 1, Part 2, of AREMA-01 for quality, soundness and gradation. In the portion retained on each sieve specified, the crushed gravel shall contain at least 90 percent by weight of crushed pieces having two or more freshly fractured faces with the area of each face being at least equal to 75 percent of the smallest midsectional area of the plane. When two fractures are contiguous, the angle between planes of the fractures shall be at least 30 degrees in order to count as two fractured faces. Ballast materials shall meet the property requirements shown in TABLE I.

TABLE I. MINIMUM PROPERTY REQUIREMENTS - BALLAST

<u>Property</u>	<u>Maximum Value</u>	<u>Minimum Value</u>	<u>Test Method</u>
Percent passing No. 200 Sieve	1.0 percent	--	ASTM C 136 ASTM C 117
Bulk specific gravity			
Rock	--	2.60	ASTM C 127
Blast furnace slag	--	2.30	
Absorption			
Rock	2.0 percent	--	ASTM C 127
Blast furnace slag	5.0 percent	--	
Clay lumps and friable particles	0.5 percent	--	ASTM C 142
Degradation			ASTM C 535
Soundness	25 percent for Limestone		

Sodium sulfate - 5 cycles	10 percent	--	ASTM C 88
Flat or elongated particles	5 percent	--	ASTM D 4791

- B. Ballast to be installed near switch stands, for pedestrian walkways and for the inspection lanes as indicated on the drawings shall be AREMA 57 gradation.

2.2 JOINT BARS

A. Standard Joint Bars

- 1) New joint bars shall be used with new rail, and shall be of the "toeless" and head to match rail section. New joint bars shall conform to the requirements of "Specifications For High-Carbon Steel Joint Bars" or "Specifications For Quenched Carbon-Steel Joint Bars and Forged Compromise Joint Bars" found in Chapter 4, Part 2 of AREMA-01 for the joint bar and assemblies recommended in Chapter 4, Part 1 of AREMA-01.

B. Used Joint Bars

- 1) Used joint bars in good condition shall be used with relay rail only. The Type of joint bars will be "toeless". Used joint bars shall be straight, free from cracks, breaks, and other visual defects. Excessive rust, dirt, and other foreign materials on the joint bars are not permitted. Used joint bars shall be of the proper size to make good contact with the underside of the rail head and the top of the rail base on the rails being joined. Joint bars shall have alternating round and oval bolt holes. Bolt holes shall not show excessive wear that would prevent use of the oval neck track bolt normally used with that joint bar. Joint bars that have been flame-gouged, flame cut, or otherwise altered shall be considered scrap and shall not be used.

C. Compromise Joint Bars

- 1) Compromise joint bars shall be of the size, shape, and punching pattern to fit the rail sizes and sections being joined. Only factory designed and constructed (forged or cast) compromise joint bars shall be used to join rails of different sizes. Compromise joint bars shall conform to the requirements of "Specifications For Quenched Carbon-Steel Joint Bars and Forged Compromise Joint Bars" found in Chapter 4, Part 2 of AREMA-01.

2.3 GREASE

- A. Grease for lubricating moving parts in turnouts and other track work shall have the following typical characteristics:

Calcium Soap, percent	9.0
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Solid Additive (Graphite), percent	11.5
Penetration, ASTM D 217 at 77°F worked	340
Dropping Point ASTM D 566 at 77° F	101/214
Oil Viscosity, cSt at 104°F	81.8
ASTM D 445 SUS at 100°F	379

- B. Other types of grease or lubricating oil may be used provided that the grease or oil has been used successfully by local commercial railroads and has the approval of the Owner's Representative.

2.4 OIL FOR CORROSION PROTECTION

- A. Oil for protecting rail and other track materials from corrosion, except joints, shall conform to the following general specification:

Asphalt, 100 penetration minimum 45 percent	ASTM D 402
Flash point, minimum 130°F	ASTM D 1310
Viscosity, kinematic, 140°F 480 to 700 centistokes	ASTM D 2171

2.5 RAIL

- A. New Jointed Rail

- 1) New jointed rail shall comply with the following:

- a. Rail Lengths: New rail shall be a 115, 119, 133, 136 or 141 lbs/yd. section or heavier and shall conform to the specifications in Chapter 4, Parts 1 and 2 of AREMA-01 that were in effect at the time of its manufacture. New rail shall be provided in 39 or 80 ft. lengths. The rail section provided must be used throughout the project, and more than one rail section will not be accepted.
- b. Rail Drilling: New rail shall be provided with the rail ends drilled. Drilling shall be uniform and to the patterns specified.
- a. Length: Relay rail shall be standard 39 or 80 ft. lengths. Not more than 10 percent of the lot may be shorts. No rail shorter than 27 ft. will be accepted.

- B. New Head Hardened Rail

- 1) New head hardened rail shall comply with AREMA Chapter 4, Paragraph 2.1.3.3 and Tables 4-2-1-4-1a, 4-2-1-4-1b and 4-2-1-4-1c. The rail weight

shall be a 115 lbs/yd. section or heavier, and shall match the section used elsewhere on the project.

- 2) The minimum surface Brinell hardness, HB is 370. The minimum yield strength (ksi) for head hardened rail is 120.0. The minimum tensile strength (ksi) for head hardened rail is 171.0. A domestic source for head hardened rail is EVRAZ Pueblo.

C. Relay Jointed Rail **(Relay Rail is permitted only for the tangent tracks).**

- 1) Non-defective 115 lb./yd. rail or heavier salvaged from existing tracks may be used for relay rail. Relay rail MUST be control cooled as evidenced by CC or CH brand on the web of rail. Used rail for new track construction or existing track rehabilitation shall be 112 lb./yd. or heavier and shall have the same section and drilling pattern for each rail weight. Acceptable rail weights and sections are: 115 RE, 119 RE, 130 RE, 132 RE, 133 RE, 136 RE. All relay rail provided shall be the same section.
 - a. Rail Drilling: Relay rail shall be provided with the rail ends drilled. Drilling shall be uniform.
 - b. Length: Relay rail shall be standard 39 ft lengths. Not more than 10 percent of the lot may be shorts. No rail shorter than 27 ft will be accepted.
 - c. Maximum Allowable Wear: For each rail, the average top wear shall meet the requirements on Table IV. Side wear shall be measured 5/8 in. below the original top of rail.
 - d. Condition and Appearance: Relay rail shall be free from obvious defects and clean in appearance. Rail that has severe pitting and corrosion or has been flame-gouged, or spike nipped will not be accepted. Rail shall be straight from line and surface and free from any kinks or bends. Rail bases shall be solid and free from visual defects such as plate wear, spike notching, pitting, and flame-gouging.
 - 1) Maximum Allowable Lip: Lip or overflow shall not exceed 1/16 in. on either side of the rail head.
 - 2) Engine Burns: Engine burns shall not be greater than 1/2 in. diameter and 1/32 in. deep. A maximum of 4 engine burns is allowed per rail and engine burns shall not affect more than 8 percent of the total order.
 - 3) End Batter and Chipping: Rail end batter shall not exceed a maximum of 1/8 in. when measured 1/2 in. from the rail end with an 18 in. straightedge laid only on the rail being measured. Chipped or broken rail ends will not be accepted.
 - 4) Running Surface Damage: Running surface damage shall not exceed 1/4 in. long by 1/2 in. wide, and shall be not greater than 1/32 in. deep. Flat spots are not permitted on the rail head.

- 5) Defects Not Permitted: Relay rail having any of the following defects shall not be accepted: bolt hole cracks or breaks, broken base, breaks, crushed head, detail fracture, engine burn fracture, head-web separation, piped rail, horizontal split head, vertical split head, torch cut rail ends, torch cut bolt holes, and compound or transverse fissures. The presence of any of these defects in the rail render that rail as scrap.

TABLE IV. ALLOWABLE WEAR LIMITS FOR RELAY RAIL

<u>Nominal Rail Weight, lbs/yds.</u>	<u>Maximum Allowable Wear, in.</u>	
	<u>Top</u>	<u>Side</u>
115#	1/8	1/4
Greater than 115#	1/4	3/8

2.7 TIES

- A. Track construction will use Wood ties throughout the Project.
1. Wood Ties: New track construction shall use new AREMA grade 5 or approved equal.
- B. Crossties
2. Wood crossties shall conform to the manufacturer's standard drawings.

2.8 TURNOUTS

- A. The component parts of the #9 turnout to be furnished, including wood ties, shall be new. Component products shall be manufactured by companies regularly engaged in the manufacture of such products. The parts need not all be made by the same manufacturer, but each turnout shall be the product of a single firm. Switch assemblies, stands, frogs, and guardrail assemblies shall conform to the requirements of BNSF Railway and AREMA-02.
1. Switch Ties
- a. Wood switch ties including fasteners shall comply with the manufacturer's standard drawings and recommendations.
2. Rail and Joint Bars

- a. New rail, joint bars, and miscellaneous track materials used in turnout construction shall be furnished and installed as part of the complete turnout. Rail used in new turnout construction shall be 115# rail or heavier.

3. Frogs, Switches, Guardrails and Appurtenances

- a. Frogs, switches, guardrails and appurtenances shall be new materials suitable for use in freight track. Materials used in the turnout shall be of the same weight and section. Materials shall be in good condition and free from excessive rust, dirt, and other foreign materials.

4. Switches

- a. Switches for new turnout construction or complete turnout replacement shall be 16 ft. -6 in. length, double reinforced straight split switches with graduated risers generally conforming to BNSF Railway Guidelines for Industry Track Projects and AREMA-02 Plan Number 112.
 - 1) Switch points and stock rails shall be new, Samson style configuration.
 - 2) Rails, in advance of the new switch where they connect with the new stock and/or closure rails, shall be NEW rail, matching the section being used in the turnout.
 - 3) Switch rods and connecting rods shall be new.
 - 4) Gauge plates, switch plates, slide plates, and heel plates shall be new. Rail braces shall be either rigid or adjustable. For a given turnout all rail braces shall be of the same design.
 - 5) Heel blocks shall be either cast or forged steel and be new. New heel block bolt assemblies shall be provided and shall be heat treated. The heel joint bars shall be new and manufactured for the purpose.
 - 6) A switch point guard shall be installed before the straight switch point on each turnout. The size of the switch point guard shall match the weight of rail of the turnout. The manufacturer shall be Western Cullen Hayes Model FM or approved equal. The location of the switch point guard relative to the switch point shall comply with the manufacturer's recommendations.

5. Frogs

- a. Frogs shall be new self-guarded solid manganese in the sizes indicated.

6. Guard Rails

- a. Guard rails shall not be required for the new self-guarded manganese frogs.
- 7. Hook Plates
 - a. Hook plates shall be new and shall be of the designs and lengths indicated on AREMA-02 Plan Nos. 112 and 241.
- 8. Switch Stands
 - a. New Ergonomic switch stands shall be installed and conform to either the “Back-saver” manufactured by Pohl or the “1002RG” manufactured by National Trackwork or approved equal. Only one type of switch stand shall be used throughout the project.

2.9 GRADE CROSSINGS

A. Rubber Rail Seals and Grade Crossings

- 1. Roadway width shall be as indicated in the contract drawings. Crossing material or surface shall be composed of rubber rail seals and subballast construction. Rubber rail seals may be procured from either Omega or HiRAIL Corporation or International Track Systems and match the weight of rail and tie type (proposed or existing wood ties). The rail clamps may be procured from either Omega or an approved equal.
- 2. Rail within the road crossing shall be new and match the project standard rail section.
- 3. Ties within the road crossing shall be new wood, and shall be as specified in paragraph TIES.
- 4. All rail joints in the grade crossing area shall be welded in accordance with guidance found elsewhere in this document.

B. Full Depth Solid Timber Grade Crossings

- 1. Roadway width shall be as indicated in the contract drawings. Crossing material or surface shall be composed of full depth solid timber panels that comply with BNSF Standard Plan NO. 225302. Timber crossing panels shall be manufactured and creosote treated in accordance with applicable AREMA and AWP standards for creosote treated timber. The timber panels should match the size of the rails so that the top panels are flush with the top of rails. Subballast at the crossing approaches shall conform to the applicable portions of Section 03300 of these specifications.
- 2. Existing rails within the road crossing may be used unless it is determined that the size of the existing rails is too small for the full depth timber crossing panels. In that event the existing rails will have to be replaced with larger new or relay rails to achieve a flush surface of rails and panels.

3. Ties within the timber grade crossing shall be an existing wood tie unless it is determined that the existing ties are defective or too short for the timber panels. In that event the existing ties will have to be replaced with new longer wood ties.
4. Full depth timber panels shall be fastened to the wood cross ties using 5/8" dia. x 12" long screw spikes manufactured in accordance with AREMA and BNSF recommended standards.
5. All rail joints in the grade crossing areas shall be welded in accordance with guidance found elsewhere in this document.

2.10 MISCELLANEOUS TRACK MATERIALS (OTM)

A. Miscellaneous track materials or other track material (OTM) shall be as follows:

1. Bolts, Nuts, and Spring Washers

B. New track bolts, nuts, and spring washers shall be used throughout the project for both new and relay rail.

1. Bolts and Nuts

- a. The various rail, joint bars, and rail drillings require various lengths and diameters of bolt assemblies. The CONTRACTOR shall determine the number of bolt assemblies of each size required. All bolt diameters shall be the largest possible for a given rail drilling and joint bar punching. Bolts shall be the proper length for the joint bar to allow at least one full bolt thread to extend past the outside of the nut. Track bolts and nuts shall conform to Chapter 4, Part 2 of AREMA-01. Track bolts shall be long enough to leave at least two threads exposed after the nut is tightened. Steel bridge connections shall use ASTM A 325 or ASTM A 490 bolts. Timber bridge connections shall use hot dip galvanized steel bolts, minimum 3/4 in. diameter with lengths as required.

1) Spring Washers

- a) Spring washers and nuts shall be sized to ensure that the spring washer develops its full reactive force and does not jam into the joint bar hole. Spring washers shall be of the size to fit the bolt and nut used and shall conform to Chapter 4, Part 2 of AREMA-01, and Section M12 of AREMA-02.

2.11 WELDING

A. Rail Welding Kits

1. Kits for thermite type rail welds shall be approved by the Owner's Representative before use and require a Hot Work permit.

B. Rail

1. Rail for welding includes CONTRACTOR furnished material. The CONTRACTOR shall provide welding kits for all rail sections used.

PART 3 - EXECUTION

3.1 REMOVAL, SALVAGE, AND DISPOSITION OF MATERIALS

- A. If required by the plans or documents, tracks and segments of track shall not be dismantled until approved to do so by the Owner's Representative. The following materials shall be salvaged by the Contractor for later use by the Owner. Some of these items may be used in the construction of tracks as indicated.

1. Materials to be Salvaged

- a. Materials to be salvaged for later use by the Owner are:

- 1) All Rail sections greater than or equal to 115 RE Lb./Yd that is also controlled cooled.
- 2) Turnouts, of acceptable condition, in the Yard that may be relocated to their new locations according to the drawings and approved by the Owner's Representative

- b. Other materials shall become the property of the Contractor and shall be removed from the project site.

2. Methods and Procedures

- a. The Contractor may use any methods to dismantle the track, provided proper measures are taken to ensure the safety of the laborers and no damage is caused to track components to be salvaged or other tracks and structures which are indicated to remain.

3. Inventory of Track Materials

- a. The Contractor shall keep a detailed inventory of excess and salvaged track materials stockpiled for the Owner. Detailed inventory shall be recorded in appropriate format and furnished to the Owner's Representative.

4. Inspection and Reconditioning of Used Track Materials

- a. Salvaged track materials shall be cleaned and inspected for defects to determine their suitability for further use.

5. Cleaning By Hand or Mechanical Means

- a. Rail shall be cleaned by hand or mechanical means to remove all adhering dirt and heavy rusting so that the bare steel can be examined to determine if it is acceptable for salvage.

6. Visual Examination of Rails

- a. Controlled cooled rails shall be visually examined for evidence of defects such as those illustrated on AREA Form 402-A found in Section 4-3 of AREMA-01. Such defects shall be brought to the attention of the Owner's Representative who will be the final judge as to the serviceability of the rail. Rails having bolt hole cracks or end batter under paragraph TRACK REPAIR that can be reconditioned for use by cropping and redrilling shall be marked at the location of the defect with yellow paint. Rails with other defects or which cannot be reconditioned shall be rejected as scrap and shall be marked with bright red paint and stacked separately.

7. Transport and Stack Excess and Salvaged Materials

- a. Material Not Used In Track Construction
 - 1) Unsuitable rails which are not used in track construction shall be stacked at a site on Owner property designated by the Owner's Representative.

8. Stacking of Salvageable Rails

- a. Controlled-cooled 115 RE lb. rails that are salvaged shall be stacked on approved sills a minimum of 6 in. above the ground. Rails shall be stacked with the heads up and with the ends even. Each layer shall be separated by at least three 2 by 4 in. wood strips evenly spaced along the length of the rail. Rail shall be grouped by weight, section, drilling, condition, length, and amount of wear. The weight, section, drilling, and length shall be marked on one of the rails near the mid-height of the stack. These markings shall be painted neatly near one end of the rail.
 - 1) Stacking of Special Trackwork Materials
 - a) Special track work materials shall be palletized and stacked as directed by the Owner's Representative. The rail weight, rail section, and length shall be marked on each switch point. The weight, section, and frog number shall be marked on the side of each frog casting. Other switch materials salvaged shall be placed in steel drums and labeled as to rail weight, section, length of points, and turnout size.

9. Material to be Scrapped

- a. All rail material except 115# controlled-cooled rail and turnout components required for salvage by the Owner's Representative shall be scrapped and shall become the property of the Contractor.

3.3 PLACEMENT OF SUBBALLAST and BALLAST

- A. Subballast shall be placed to the depth, lines and grades indicated. Subballast shall conform to the requirements of Section 03300 SUBBALLAST. The average thickness of subballast layers shall be within 0.25 in of the thickness shown on the drawings. Subballast shall not be placed on soft, muddy, or frozen areas. Where the prepared subballast is soft, muddy, rutted, exhibits severe depressions, or is otherwise damaged, the subballast shall not be placed until the damaged subballast has been repaired and the area has been approved by the Owner's Representative.

1. Ballast

a. Ballast Placement

- 1) Ballast gradation under wood ties shall be AREMA Number 5 ballast. Walkway ballast in the vicinity of switch stands and where inspection lanes and walkways are located next to the tracks shall be AREMA Number 57 gradation ballast.

b. Ballast Distribution

- 1) Ballast shall not be distributed until the subballast has been approved by the Owner's Representative.
 - a) Ballast distribution shall be to the depth indicated on the drawings and may be from either trucks or railroad cars.
 - b) Forming of ruts that would impair proper roadway drainage shall be prevented when distributing ballast from trucks and off track equipment. Any ruts formed greater than 1 in. shall be leveled and graded to drain.
 - c) Ballast shall be unloaded as close as possible to the point of use so that unnecessary handling is prevented. Excess ballast shall be picked up and redistributed at the CONTRACTOR's expense. If additional ballast is required for dressing, it shall be

added by the CONTRACTOR at no increase in unit price.

- d) Ballast cars shall not be released until they have been inspected. Ballast cars may be weighed by the CONTRACTOR before and after dumping the ballast.

c. Ballast Below Ties

- 1) For new track construction, the contractor will install a pre-ballast pad consisting of a 6 inch layer of ballast to be placed upon the approved subballast. This pre-ballasting will be distributed in two 3 inch lifts by trucks. Each 3 inch pre-ballast lift will be uniformly spread and compacted with no less than four passes of a vibratory compactor with the following characteristics:

Gross weight: 5,000 pounds minimum

Drum width: 58 inches minimum

Drum diameter: 42 inches minimum

- 2) Each compacted lift shall not exceed 3 inches. The vibratory compactor shall be capable of applying a dynamic load of not less than 18,000 pounds at a frequency between 1,100 to 2,000 vibrations per minute.

3.4 TRACK CONSTRUCTION

- A. Track construction not covered specifically herein shall be in accordance with AREMA recommendations and recommended practices.
- B. All wood ties, rail, OTM, turnouts and all related track appurtenances shall be assembled, bolted, fastened or otherwise secured as specified herein; and within a few inches of the proposed final alignment prior to the installation of the final two inch lift of ballast under tie.

1. Roadbed Preparation

- a. Clearing and grubbing, grading, excavation, embankment preparation, subgrade preparation and subballast installation shall be performed in accordance with other specifications. Roadbed surface, grade, and drainage shall be approved prior to any distribution of construction material. Where the subgrade or roadbed is damaged during distribution of materials, ruts and depressions shall be filled and compacted and the roadbed surface reapproved prior to track construction.

2. Unloading the Materials

- a. The use of picks in the handling of ties will not be permitted. Rails shall be unloaded from cars with an approved derrick or crane and placed with the head up without dropping and with sufficient support under the base. Rails of proper length shall be distributed as necessary for road crossings, switches, joint spacing, and other special conditions.

3. Ties

- a. Standard center-to-center spacing of wood crossties shall be 21.5 inches on tangent track and curves up to 4 degrees, and 21.5 inches on curved track over 4 degrees. Wood switch ties shall be spaced as indicated by the manufacturer's drawings. Wood ties shall be laid perpendicular to the center line of the track. The ends of ties on one side of the track shall be parallel to the rail and the center of the tie shall be on the approximate center line of the track. The ends shall be aligned on the inside of curves and shall continue on that side until reaching a curve in the opposite direction. On double tracks, the ties shall be aligned on the outside ends.

4. Rail

- a. Standard rail shall be installed on all tangent tracks and curved tracks in the Yard.
- b. The base of the rail and the surface of the tie and tie plate shall be free of dirt and other foreign materials prior to laying rail.

1) Laying Rail

- a) Rail shall be laid without bumping or striking, to standard gauge (4 ft 8-1/2 in. between points 5/8 in. below the top of the rail) on tangents and on curves up to 10 degrees. For curves 10 degrees, the gauge shall be widened 1/8 in. The track shall be gauged at every third tie as spikes are being driven.

TABLE V. TRACK GAUGE FOR HIGH DEGREE OF CURVATURE

Degree of Curvature per 100-ft chord

Equal to or Greater Than (Deg - Min)	But Equal to or Less Than (Deg - Min)	Track Gauge (Ft - In.)
0 - 00	12 - 00	4 - 8-1/2
12 - 01	14 - 00	4 - 8-5/8
14 - 01	16 - 00	4 - 8-3/4
16 - 01	18 - 00	4 - 8-7/8
18 - 01	20 - 00	4 - 9

- b) Jointed rails shall be laid, one at a time, with space allowance for expansion being provided between rail ends in accordance with TABLE VI.
- c) Gaps between rail ends in insulated joints shall only be sufficient to permit insertion of standard end posts.
- d) A standard rail thermometer shall be used to determine the rail temperature. The thermometer shall be laid close to the web on the side of the rail base which is shaded from the sun's rays in advance of the laying operation and left there long enough to accurately record the temperature. The CONTRACTOR quality control representative shall see that rail temperature is checked frequently and that proper rail expansion shims are used. All thermometers shall be calibrated against the Owner's Representative's rail thermometer which will have been accurately calibrated and will be considered as the standard.
- e) Except through turnouts, the staggering of the joints on one side shall not vary more than 20 inches in either direction from the center of the opposite rail.
- f) Rails less than 33 ft in length shall not be used in out-of-face rail relay. However, rails not less than 13 ft long may be used for final connections to existing rails to prevent joints from occurring at prohibited locations or to provide the specified joint stagger in curves.
- g) Rail joints shall not occur in or within 20 ft of a road crossing, alongside of or within 5 ft of the end of any switch or turnout guard rail, or the end of any open deck bridge.

2) Joints

- a) The joints in opposite rails shall be staggered one-half the rail length but not less than 12 ft apart, except closer joints may be required at turnouts and insulated joints. Rail less than 13 ft in length shall not be installed in track. No joint shall be less than 3 ft from switch points. No joint shall be installed within 20 ft of a road crossing or any location which restricts access to the joint. In these areas, the rail shall be 80-ft lengths or field welded to eliminate joints.

3) Expansion Allowance

- a) Allowance for expansion shall be provided at rail joints by using rail-expansion metal shims. Shims shall be removed to within 12 rails of the laying. Shims shall be of the thickness shown in TABLE VI. The temperature of the rail shall be determined by use of a thermometer placed on the rail base on the side away from the sun. Typical rail gap gauges are as shown.

TABLE VI. SHIM THICKNESS

39-Ft Rail 135 Joints per Mi		80-Ft Rail 68 Joints per Mi	
Rail Temperature (degrees F)	Shim Thickness (in.)	Rail Temperature (degrees F)	Shim Thickness (in.)
Below 6	5/16	Below 35	5/16
6 to 25	1/4	35 to 47	1/4
26 to 45	3/16	48 to 60	3/16
46 to 65	1/8	61 to 73	1/8
over 66	1/16	over 74	1/16

4) Cutting Rail

- a) Only rail saws shall be used to cut rail. New holes shall be drilled. Holes shall not be burned in rail. Holes cut with a torch will not be accepted. When drilling of rail is necessary, all chips and burrs shall be removed before applying joints.

5) Matching Rails

- a) Where relay rail is used, matching adjacent rails shall not cause lipped or uneven joints. Any mismatched rail ends shall be welded to provide proper match. Rail end mismatch shall not exceed 1/8 in. on gauge or tread portions of rail.

C. Joint Bars

1. Joint bars shall be clean, and the contact surfaces coated with petrolatum or petrolatum base compound with a corrosion inhibitor. Rail joints shall be installed so that bars are not cocked between the base and head of the rail. Bars shall be properly seated in the rail and the full number of correct-size bolts, nuts, and spring washers installed. Bolts shall be placed with nuts alternately on inside and outside of rail. A corrosion resistant lubricant shall be applied to the bolt threads prior to application of nuts. Bolts shall be tightened beginning at the center of the joint and working both ways to the ends of the joint. AREMA-01 recommends an initial bolt tension of between 9060 and 13590 kg (20,000 and 30,000 lbs) per bolt in order to overcome the surface roughness and provide proper seating for the joint bars. After application of traffic, tension in the bolt is lost relatively rapidly and may lose from 2265 to 4530 kg (5,000 to 10,000 lbs) per bolt in the first month. Therefore, retightening of all track bolts after some period of time is necessary. Bolt tension is recommended for subsequent tightenings is within the range of 6795 and 11325 kg (15,000 to 25,000 lbs) per bolt. The torque required to develop the specified tension in a bolt is approximately as follows:

<u>BOLT DIAMETER</u>		<u>TORQUE*</u>	
(mm)	(in.)	(N m)	(1bf.ft.)
25	1	476	350
29	1-1/8	544	400

2. After the track has been in service, but before acceptance of the work, all bolts shall be checked and re-tightened. Rail of different sections shall be connected by properly fitting compromise joint bars. The mismatch for compromise joints for either tread surface or on the gauge side shall not exceed 1/8 in. Defective joint bars, discovered by the CONTRACTOR during track repair operations, or as identified by the Owner's Representative shall be replaced with acceptable joint bars.
3. Turnouts
 - a. Wood tie turnouts shall be located as indicated on the drawings. Switch, frog and guardrail assemblies shall be complete. Stock rails shall be accurately bent. Changes in rail weight or section

will not be permitted within the limits of the switch ties. Wood headblocks shall be at right angles to the main track and shall be securely fastened in place. Except where directed otherwise, switch stands shall be installed so that when the switch is set for the normal position, the connecting rod keeps the points closed with a pulling force. Switches shall be properly adjusted. Switch components and slide plates shall be lubricated.

4. Preliminary Surfacing

- a. The preliminary alignment and surfacing gangs shall follow the unloading of the ballast. Rail renewal, tie renewal, bolt tightening, and ballast placement shall be complete prior to commencement of surfacing and alignment work.

1) Lifts

- a) After the pre-ballast pad is installed and compacted in two-3 inch lifts per Paragraph 3.3.1.3 and after the proposed skeleton track is constructed and-aligned on the pre-ballast pad, the new track shall be brought to grade and surfaced in a final lift of 4 inches. The final 4 inches ballast below the bottom of wood tie, the shoulder ballast and the ballast in the tie cribs shall be placed subsequent to the rail and tie installation. Final ballasting shall be accomplished utilizing approved tampers and compactors specifically used for wood tie track construction. The cribs between ties shall be filled with ballast to within 1 inch below top of tie. The final lift of ballast shall be tamped. When using jacks, they shall be placed close enough together to prevent undue bending of rail or stress of rail and joint. Both rails shall be raised at one time and as uniformly as possible. The ballast shall be tamped with approved equipment designed to compact the crib and the shoulder. The work face of the compacting tool shall comply with the recommendations of the wood tie manufacturer. If the tamping tool is set too deep the ballast in the wood tie cavity will not be sufficiently compacted. The tamper shall have a minimum of eight crib compacting tools, two on each side of each rail. The tamper should apply the compacting tools to both the crib and the shoulder for three to six seconds at each successive crib. The ballast shall be tamped until the stones are firmly locked and the surface is true and unyielding, displaying no deformation or movement under the compaction equipment.
- b) Track rehabilitation where major track resurfacing is not required, the CONTRACTOR shall perform a 2 in. lift and ensure that the ties are adequately tamped, the ballast section is adequately compacted and dressed, and to correct minor deficiencies in surface and alignment. The 2 in. raise

shall provide an average 2 in. raise in the track being surfaced, and shall be made in one lift not to exceed 2 inches. Survey elevations will be taken before the 2 in. ballast lift and after the 2 in. ballast lift at 200 ft intervals to confirm the ballast quantity installed.

2) Tamping

- a) Raising and tamping of wood tie track shall be performed with an automatic, vibratory, squeeze type power tamper with 16 tamping heads, capable of raising both rails simultaneously and maintaining cross-level. The tamping tool equipment to be used for tamping and surfacing operations shall be adjusted in height for the reduced depth of the wood tie per the manufacturer's recommendations. It is important to install ballast properly in the wood tie cavity.

3) Runoff of Track Raises

- a) The runoff at the end of a rise shall not exceed 1/2 in. in 31 ft of track unless otherwise approved by the Owner's Representative.

4) Horizontal Realignment

- a) Horizontal realignment of curved track shall be established by the CONTRACTOR using manual or mechanical means as described in the AREMA-01 Chapter 5, Part 3 article titled, "String Lining of Curves by the Chord Method".

5) Final Surfacing

- a) After preliminary surfacing has been completed, grade and line stakes shall be checked and the track brought to grade and alignment.

6) Final Tamping

- a) Track shall be brought to grade and the ballast retamped in the manner described for preliminary surfacing.

7) Final Alignment

- a) The track shall be given a final aligning conforming to the established track centers.

8) Final Dressing

- a) After the final alignment the ballast shall be dressed to the section indicated. After final dressing ballast shall not cover the tops of the ties. The portion of the subgrade outside the ballast line shall be left with a full, even surface and the shoulder of the subgrade shall be properly dressed to the indicated section to provide proper drainage away from the track.

9) Surplus Ballast

- a) Surplus ballast remaining after final surfacing and dressing of the ballast section shall be distributed or otherwise disposed of as directed by the Owner's Representative.

5. Cleanup

- a. Upon completion of the work, the CONTRACTOR shall remove all rubbish, waste, and discarded materials generated by the work from the project area. Areas where the CONTRACTOR has worked, including but not limited to, project areas, material storage sites, and borrow or disposal areas shall be left in a clean, well-graded, and well-drained condition.

1) Shoulder Removal and Reconstruction

- a) Where track rehabilitation operations result in deposition of materials along the track shoulders that would impede the free drainage of the track structure, the CONTRACTOR shall remove the material.

2) Spoil Materials

- a) Spoil materials removed from the track shall be disposed of as indicated by Owner's Representative. Spoil materials shall not be placed on the shoulders, in ditches, in drains, or in other areas where they would impede the flow of water away from the track.

6. Final Adjustments

- a. Sixty calendar days after the track has been accepted and put into operation, the CONTRACTOR shall perform, at no cost to the OWNER, necessary resurfacing adjustments to leave the track in alignment and on grade.

7. Tolerances for Finished Track

- a. Completed track shall meet the following tolerances. Track not meeting the tolerances specified below shall be repaired to meet these requirements, at no additional cost to the OWNER.
 - 1) Gauge
 - a) Track gauge shall be within plus 1/4 in. or minus 1/8 in. of standard gauge.
- b. Alignment
 - 1) Alignment shall be measured as the deviation of the mid-offset of a 62 ft line, with the ends of the line at points on the gauge side of the line rail, 5/8 in. below the top of the railhead. Either rail may be used as the line rail on tangent track; however, the same rail shall be used for the entire length of the tangent. The outside rail in a curve is always the line rail. Alignment on tangents shall not deviate from uniformity more than 1/2 in. Alignment on curves shall not deviate from uniformity more than 3/8 in.
- c. Track Surface
 - 1) Track surface shall meet the following requirements:
 - a) The runoff at the end of a raise shall not exceed 1/2 in. in any 31 ft of rail.
 - b) The deviation from design profile on either rail at the mid-ordinate of a 62 ft chord shall not exceed 1/2 in.
 - c) Deviation from design elevations on spirals shall not exceed 1/2 in.
 - d) Deviation from zero cross level at any point on tangent or from designated superelevation on curves or spirals shall not exceed 1/2 in.
 - e) The difference in cross level between any two points less than 62 ft apart on tangents, and on curves between spirals shall not exceed 1/2 in.
- d. Guard Face Gauge
 - 1) Guard face gauge is the distance between the guard lines measured across the track at right angles to the gauge line, and is measured at the point of frog on both sides of the turnout. The design value for guard face gauge is 52-3/4 in. Guard face gauge shall be within plus or minus 1/8 in. of the design value.
- e. Guard Check Gauge

- 1) Guard check gauge is the distance between the gauge line of a frog and the guard line of its guard rail, or guarding face, measured across the track at right angles to the gauge line. The design value for guard check gauge is 54-5/8 in. Guard check gauge shall be within plus or minus 1/8 in. of the design value.

3.5 TURNOUTS

- A. Turnouts shall be BNSF Number 9's, constructed with wood ties and shall be located as indicated on the drawings. Switch, frog and guardrail assemblies shall be complete. Stock rails shall be accurately bent. Changes in rail weight or section will not be permitted within the limits of the switch ties. Wood headblocks shall be at right angles to the main track and shall be securely fastened in place. Except where directed otherwise, switch stands shall be installed so that when the switch is set for the normal position, the connecting rod keeps the points closed with a pulling force. Switches shall be properly adjusted. Switch components and slide plates shall be lubricated.

1. Trackbed

- a. The trackbed shall be prepared by establishing a firm top of subgrade as indicated on the contract drawings. Subballast shall be placed as indicated and compacted.

2. Turnout Placement

- a. Dimensions, details, and configuration of each turnout shall be as indicated on the drawings. Connecting tracks shall be shifted to their new alignments as shown on the contract drawings and all tracks connected to the replacement turnout. Tracks shall be placed within 0.1 ft of design alignment prior to ballasting work.

3. Matching

- a. Switch points/stock rails, rail joints, frog castings, and other parts of the turnout that must fit together shall fit properly and be of the proper match. Both rail ends at all rail joints throughout the turnout and at the joints at the frog shall be matched on both the top (tread portion) and on the gauge side of the rail. Rail end welding and grinding are not acceptable methods to achieve a good match. Switch points/stock rails at new turnouts shall be matched with new rail.

4. Placing of Ballast

- a. Ballast shall be placed as required and the turnout brought to proper grade in a minimum of three lifts. The initial lift shall not exceed 4 in. The final lift shall not exceed 2 in. and all tracks shall be brought into final alignment at that time. Tamping, ballast

dressing requirements, and alignment tolerances shall be as indicated in paragraph TRACK CONSTRUCTION. Ballast level in cribs beneath the connecting rod, switch point rails, and switch rods shall be at least 4 in. below any steel.

5. Switch Stand

- a. The switch stand, shall be installed and the switch operating mechanisms adjusted so that the switch operates smoothly and without excessive force being required. All switch plates and connection points in the switch rod shall be lubricated with a switch lubricant, which does not allow sand or debris to adhere to the lubricant.

B. Switch Ties

1. Wood switch ties shall be installed at a uniform spacing specified by the turnout supplier and the tie layout detail. The conventional and extra-long channel ties shall be installed per the tie layout detail. Switch ties shall not be interlaced, where one tie penetrates the crib area of another tie unless indicated on the tie layout detail.

- a. Bolt Tightening

- 1) All bolts in all turnouts within the project area shall be tightened. Any bolt that cannot be tightened shall be replaced with a bolt assembly of the proper diameter and length.

3.6 GRADE CROSSINGS

A. Subballast Grade Crossings

Subballast grade crossings shall be constructed as indicated on the contract drawings. A smooth transition shall be made between the crossing subballast surface and the adjoining aggregate roadway.

1. Subgrade

- a. Grade crossings shall be constructed of acceptable fill material, bladed to a level surface and compacted per Section 02200 EARTHWORK. Drainage areas shall be cleaned and sloped away from the crossing in both directions along the track and the roadway.

2. Subballast Placement

- a. A varying subballast layer shall be placed and compacted in accordance with Section 03300 SUBBALLAST.

3. Ballast Placement and Surfacing

- a. Ballast shall be placed and tamped except that in crossings, the ballast between the ties shall be thoroughly compacted with a vibratory compactor, or other approved means, after each raise. The ballast shall be tamped for the entire length of the crossties for roadway crossings. The track shall receive final alignment and surfacing prior to placement of the crossing surface. Final surfacing shall bring the track to the final grade and alignment as indicated on the contract drawings. Where the crossing involves two or more tracks, the top of the rail for all tracks shall form a plane with the adjacent roadway surface. The top of rail elevation shall be 2 to 4 in. above surrounding pavement elevation, with a smooth transition of pavement. The ballast in the cribs and on the shoulders shall be compacted using a vibratory plate compactor or other approved means.

- 1) Minimum Ballast Depth

- a) The minimum depth of ballast between the bottom of wood tie and the top of the subballast shall be 6 inches.

- 4. Ties

- 1) Standard center-to-center spacing of wood crossties shall be 21.5 inches on tangent track and track up to 4 degrees. The Standard center-to-center spacing of wood crossties shall be 21.5 inches on curved track from 4 degrees to 12 degrees.

- 5. Rail

- a. Bolted joints will not be permitted in any crossing or within 20 ft of either edge of the crossing surface. Bolted joints will be eliminated by using 80 ft rail lengths through the grade crossings or using Thermite welds.

- 6. Lining and Surfacing

- a. Rail shall be fastened to the wood ties with spikes and the track mechanically tamped and surfaced to the grade and alignment of the existing track and roadway. Where the crossing involves two or more tracks, the top of rails for all tracks shall be brought to the same plane.

3.7 INSTALLATION OF MISCELLANEOUS TRACK MATERIALS

A. Insulated Joints

1. Insulated joints shall be installed where indicated and in accordance with the manufacturer's installation instructions.

B. Installation of Joint Bars

1. Joint bars shall be installed with their full number of bolt assemblies unless otherwise noted. Bars shall be properly seated on the rail and the bolts tightened beginning at the center of the joint and working toward the ends of the bars, alternating between rails. Bolts used shall be of the proper diameter and length for the rail and joint bars at the joint. The use of extra washers to shim out track bolt nuts is prohibited. Bolts with nuts shall be placed alternately on inside and outside of rail.

3.8 THERMITE WELDING PROCEDURES

- A. Thermite welding will be performed to avoid bolted joints in the grade crossing areas. The welding procedures shall comply with the following paragraphs:

1. End Preparation

- a. Rails to be welded shall meet the requirements of Paragraph 1, "Specifications for Fabrication of Continuous Welded Rail" given in Chapter 4, Part 2 of AREMA-01. The rail ends shall be aligned in accordance with paragraph GAP AND ALIGNMENT. Rail ends shall show no steel defects, dents, or porosity before welding. Bolt holes shall not be made in, or permitted to remain in, the ends of the rail to be welded. One handling hole may be made in each end of welded string. Rail ends containing such holes shall be cut off during track construction. Rail which must be cut for any reason shall be cut square and clean by means of approved rail saws or abrasive cutting wheels in accordance with Chapter 5 of AREMA-01, article, "Recommended Practice For Use of Abrasive Wheels".

2. Cleaning

- a. The rails to be welded shall be cleaned of grease, oil, dirt, loose scale, and moisture to a minimum of 6 in. back from the rail ends, including the railhead surface. Cleaning shall be accomplished by use of a wire brush, to completely remove dirt and loose oxide and by use of oxygen-acetylene torch to remove grease, oil and moisture. A power grinder with an abrasive wheel shall be used to remove scale rust, burrs, lipped metal and mill brands which would interfere with the fit of the mold, for 2 in. on each side of the ends.

3. Gap and Alignment

- a. The minimum and maximum spacing between rail ends shall be as specified by the rail welding kit manufacturer and the approved welding procedures.
 - 1) The ends of the rails to be welded shall be properly gapped and aligned to produce a weld which shall conform to the alignment tolerances below. Alignment of rail shall be done on the head of the rail. The rail gap and alignment shall be held without change during the complete welding cycle.
 - 2) Vertical alignment shall provide for a flat running surface. Any difference of height of the rails shall be in the base.
 - 3) Horizontal alignment shall be done so that any difference in the width of heads of rails shall occur on the field side. Horizontal offsets shall not exceed 0.04 in. in the head and/or 0.12 in. in the base.

B. Surface Misalignment Tolerance

- 1. Combined vertical offset and crown camber shall not exceed 0.04 in./ft at 60°F or less. Combined vertical offset and dip camber shall not exceed 0.01 in./ft at 60°F or less.

C. Gauge Misalignment Tolerance

- 1. Combined horizontal offset and horizontal kink camber shall not exceed 0.04 in./ft at 60°F or less.

D. Thermite Welding

- 1. Welding shall be done in accordance with Chapter 4, Part 2 of AREMA-01, articles "Thermite Welding - Rail Joints" and "Specifications for Fabrication of Continuous Welded Rail", except as modified by these specifications. All welds shall be visually inspected at the time of welding.

a. Thermite Weld Preheating

- 1) The rail ends shall be preheated prior to welding to a sufficient temperature and for sufficient time as indicated in the approved welding procedures to ensure full fusion of the weld metal to the rail ends without cracking of the rail or weld.

b. Thermite Weld Cooling

- 1) The molds shall be left in place after tapping for sufficient time to permit complete solidification of the molten metal

and proper slow cooling to prevent cracking and provide a complete weld with proper hardness and ductility.

E. Weld Finishing and Tolerances

1. Welded joints in the finished track shall be brought to a true surface and alignment by means of a proper grinding or planing machine (shear). Finish grinding shall be performed with an approved grinder operated by a skilled workman grinding evenly and leaving the joints in a smooth and satisfactory condition. Finishing shall eliminate all cracks. The completed weld shall be finished by mechanically controlled grinding in conformance with the following requirements:
 - a. A finishing deviation of not more than plus or minus 0.01 in. of the parent section of the rail head surface will be allowed. The gauge side of the rail head shall be finished to plus or minus 0.01 in. of the parent section.
 - b. Welds produced by welding kits which are specially designed to produce reinforced welds need not be ground in the finishing area except as necessary to remove fins, burrs, cracks, etc.

F. Weld Quality

1. Each completed weld shall have full penetration and complete fusion and be entirely free of cracks or fissures. Welds shall meet the acceptance criteria given in AWS D1.1.

G. Weld Numbering

1. The CONTRACTOR shall semi-permanently mark a sequential weld number on the rail immediately adjacent to the weld, using a quality lead paint marker at the time the weld is made. Welds shall be numbered sequentially in the order in which they are made. The Owner's Representative will provide the CONTRACTOR with the initial weld number. Defective welds which are replaced shall be assigned a new sequential number by adding a letter to the defective weld number (e.g., defective weld 347 would be replaced by 347A).

3.10 SAMPLING AND TESTING

- A. Sampling and testing shall be the responsibility of the CONTRACTOR. Sampling and testing shall be performed by an approved commercial testing laboratory, or by the CONTRACTOR, subject to approval. If the CONTRACTOR elects to establish testing facilities, approval of such facilities shall be based on compliance with ASTM D 3740. Work requiring testing will not be permitted until the CONTRACTOR's facilities have been inspected and approved. The first inspection of the facilities will be at the expense of the OWNER and any subsequent inspections required because of failure of the first

inspection shall be at the expense of the CONTRACTOR. Such costs will be deducted from the total amount due the CONTRACTOR.

1. Ballast Samples

- a. Periodic sampling and testing of ballast material shall be performed to ensure continued compliance with this specification. During construction, one representative sample of the ballast material shall be taken from each 2,000 tons of ballast delivered to determine the material gradation. Samples for material gradation, quality, and soundness tests shall be taken in conformance with ASTM D 75. Test samples shall be reduced from field samples in conformance with ASTM C 702. Sample sizes shall be sufficient to provide the minimum sample sizes required by the designated test procedures. If any individual sample fails to meet the gradation requirement, placement shall be halted and immediate corrective action shall be taken to restore the specified gradation. If any individual sample fails to meet the specified quality and soundness requirements, placement shall be halted and immediate corrective action shall be taken to restore the specified quality.

B. Ballast Tests

1. Sieve Analyses

- a. Sieve analyses shall be made in conformance with ASTM C 117 and ASTM C 136. Sieves shall conform to ASTM E 11.

2. Bulk Specific Gravity and Absorption

- a. Bulk specific gravity and absorption tests shall be made in conformance with ASTM C 127.

3. Percentage of Clay Lumps and Friable Particles

- a. The percentage of clay lumps and friable particles shall be determined in conformance with ASTM C 142.

4. Degradation Resistance

- a. Resistance to degradation of materials shall be determined in conformance with ASTM C 535.

5. Soundness Test

- a. Soundness tests shall be made in conformance with ASTM C 88.

6. Percentage of Flat or Elongated Particles

- a. The percentage of flat or elongated particles shall be determined in conformance with ASTM D 4791.

3.12 INSPECTION AND FIELD TESTING

- A. Quality control inspection and field testing shall be performed by the CONTRACTOR.

- 1. Track

- a. Inspection shall be performed to ensure that all the requirements of these specifications are met. Bolted joints shall be inspected for loose bolts and for smooth transitions between rails of different sections. Rail, tie plates, and ties shall be checked to ensure that the rail is properly seated and has full bearing on the tie plate and tie. Upon completion of construction, measurements of track gauge, cross level, and alignment shall be taken and recorded at least once every 100 ft of track centerline length. A copy of these measurements shall be provided to the Owner's Representative.

- 2. Thermite Weld Joints Testing

- a. Each thermite weld joint shall be either ultrasonically tested or dye tested following the visual inspection. The method of inspection and acceptance shall be in accordance with AWS D1.1. The CONTRACTOR shall correct or replace defective welds, at no additional cost to the OWNER. The method of correction shall be as approved by the Owner's Representative. Ultrasonic testing shall be performed by the CONTRACTOR after the rail has been installed in track. The testing will determine whether or not each weld meets the criteria of paragraphs Gap and Alignment, Weld Finishing and Tolerances, and Weld Quality. Welds made in the track which the Owner's Representative determines to be unacceptable shall be cut out of the rail and replaced by a section of new rail and two new welds. Saw cuts shall be made at least 6 in. from the centerline of the faulty weld. Replacement welds and replacement rails shall be at the sole expense of the CONTRACTOR. Replacement welds shall be renumbered as indicated. Replacement welds made in track shall be ultrasonically tested.

- 3. Testing Relay Rail

- a. Testing for Wear

- 1) Each relay rail shall be checked for wear by the CONTRACTOR's quality control representative in the presence of the Owner's Representative after the material is

delivered to the construction site. The CONTRACTOR shall monitor the installation of track for defects in rail and joint bars being installed. Rail and joint bars that are found to be defective shall not be installed in track.

b. Testing for Defects

- 1) Upon completion of track construction using relay rail, the CONTRACTOR shall have the relay rail tested by ultrasonic methods. Ultrasonic testing shall be done by a CONTRACTOR normally engaged in this type of testing with a minimum of 5 years of experience. The CONTRACTOR shall schedule a rail testing machine and notify the Owner's Representative of the type of machine and schedule. CONTRACTOR furnished rails which are found to be defective at that time shall be removed and replaced by the CONTRACTOR at no additional cost to the OWNER. CONTRACTOR furnished joint bars and compromise joint bars that are found to be cracked or broken shall be removed and replaced at no additional cost to the OWNER.

PART 4 - MEASUREMENT AND PAYMENT

4.1 PROVISIONAL PAY ITEMS

- A. Each provisional bid item will be measured by the unit listed in the Bid Schedule. Materials must be actually used or installed in the completed work. No measurement will be made for wasted materials or materials used for the convenience of the CONTRACTOR. The quantities thus determined will be paid for at their respective unit prices as shown in the Unit Price Schedule. This payment will constitute full compensation for furnishing materials, equipment, and labor and incidentals necessary to complete the work required, and for removing and properly disposing of replaced materials. Any required work or materials, such as lubricants and creosote, which are not listed on the Unit Price Schedule, shall be considered subsidiary to the items listed, and their cost shall be included in the costs for the listed items.

- B. Turnout Construction: This item shall include furnishing of all material, equipment, and labor needed to construct the proposed new wood tie turnouts including, complete switch, ergonomic switch stand, standard ties and standard and connecting rods, attachments, switch points, switch point protectors, slide plates, rail braces, frog, fillers, joint bars and track bolts and self-guarded frog, wood switch ties, hook-in shoulders and all other required items, including new rail, ballast, and walkways as specified and conforming in all respects to the locations and details shown on the plans or furnished by the Owner's Representative. The pay limit for turnout construction shall be as shown on the plans. This work will be paid for at the contract unit price each for "FURNISH CONSTRUCT and INSTALL # 9 SMSG LH HTTO and FURNISH CONSTRUCT and INSTALL # 9 SMSG RH HTTO".
- C. Railroad Track Construction: This item shall include furnishing of all material, equipment, and labor needed to construct the proposed railroad track including, all ballast, wood ties, rails, rail tie spikes, hook-in shoulders and all other required items as specified and conforming in all respects to the locations and details shown on the plans or furnished by the Owner's Representative. The pay items for subgrade construction and subballast will be paid for separately and are not included in the pay item for railroad track construction. This work will be measured for payment in feet along the track centerline in place. Track in turnouts will not be measured for payment. This work will be paid for at the contract unit price per track foot for: "TRACK 6196 CONSTRUCTION, 136LBS" "TRACK 6113A, 6114, 6110 CONSTRUCTION, 115LBS"
- D. Railroad Track Shift: This item shall include furnishing of all material, equipment, and labor needed to shift the existing railroad track including, all ballast, wood ties, rails, conventional rail fasteners, and other track material as specified and conforming in all respects to the locations shown on the plans or furnished by the Owner's Representative. This work will be measured for payment in feet along the track centerline shifted into final location. This work will be paid for at the contract unit price per track foot for: "TRACK SHIFT".
- E. Rubber Rail Seal Grade Crossings: This item shall include furnishing of all Rubber Rail Seals, rail clamps, equipment, and labor needed to install the Rubber Rail Seals at the grade crossings including all rail welding, as specified and conforming in all respects to the locations shown on the plans or furnished by the Owner's Representative. This work will be measured for payment in feet in place. This work will be paid for at the contract unit price per linear foot for "CONSTRUCT CROSSING".
- F. Full Depth Timber Grade Crossings: This item shall include furnishing of all full depth timber crossing panels, screw spikes, incidental materials and labor needed to install the Full Depth Timber Grade Crossings including all rail welding, as specified and conforming in all respects to the locations shown on the plans or furnished by the Owner's Representative. This work will be measured for payment in feet in place, for temporary and permanent installations that meet this specification. This work also includes removal of temporary crossings. This work

will be paid for at the contract unit price per linear foot for “CONSTRUCT CROSSING”.

END OF SECTION 05650