



KENTUCKY TRANSPORTATION CABINET  
Department of Highways  
DIVISION OF PLANNING

TC 59-115  
Rev. 10/2024  
Page 1 of 4

**KENTUCKY INDUSTRIAL ACCESS AND SAFETY IMPROVEMENT (KIASI) PROJECT APPLICATION**

**SECTION 1: PROJECT OVERVIEW**

**PROJECT TITLE**

CNO&TP Roadbed Stabilization

**APPLICANT LEGAL NAME**

**APPLICATION YEAR**

Norfolk Southern Railway

2025

**APPLICANT TYPE**

**COUNTIES IMPACTED BY THE PROJECT**

Class I Freight Railroad

Lincoln, Mercer, and Grant Counties

**PROJECT PHYSICAL ADDRESS**

38.562856, -84.588791, 37.809292, -84.723776, 37.439755, -84.748892

**RAILROAD(S) SERVING THE SITE**

**ENTITY OWNING PROJECT SITE (if different from applicant)**

Norfolk Southern

**TOTAL PROJECT COST**

**KIASI FUNDING  
REQUESTED**

**APPLICANT MATCH**

**APPLICANT MATCH %  
(50% Minimum)**

\$ 555,000

\$ 277,500

\$ 277,500

50 %

Will the proposed project be matching awarded federal funds? ☒ NO ☐ YES

Does applicant plan to use their own manpower, equipment, or materials on the project (Force Account) or competitively bid out all work related to the project? Bid Out

**DESCRIPTION OF PROPOSED PROJECT** (Provide a brief project description and the proposed work to be completed. Text is limited to the space provided below.)

The project aims to stabilize roadbeds at three areas on the CNO&TP, a critical line in NS' network connecting the midwest and Southeast, at mileposts (MP) 43.2, 103.7, and 132.7. At MP 43.2, the west ditch line will be graded and cleaned to divert water, and rail piles will be driven on the east side to stabilize the fill. At MP 103.7, rail piles will be driven on the west side, with additional ties and a culvert replacement for drainage. At MP 132.7, rail piles will be driven for 300 feet to address erosion, with riprap placed at the toe to remediate existing erosion.

**DESCRIPTION OF HOW PROJECT WOULD PROVIDE KENTUCKY COMMUNITIES AND INDUSTRIES WITH TRANSPORTATION OPTIONS, CONNECTIVITY AND OPPORTUNITIES** (Text is limited to the space provided below.)

Completion of the project will ensure continued connectivity for shippers in Kentucky. The capital-intensive nature of railroading, combined with the state's challenging topography, necessitates ongoing investment in enhanced maintenance. Without this investment, shippers would lose vital rail service connectivity, forcing them to rely on more costly transportation alternatives and increasing the burden on public roads.

**DESCRIPTION OF HOW PROJECT WOULD ENHANCE RAIL LINE CORRIDORS TO INCREASE ON-TIME PERFORMANCE** (Text is limited to the space provided below.)

On-time performance improves when costly and lengthy infrastructure repairs are avoided. While the proactive stabilization of this roadbed may temporarily impede movement, it ensures the long-term ability to provide quality service to customers and guarantees the safe movement of their freight. This investment not only enhances operational efficiency but also reinforces the reliability of the rail network.

**DESCRIPTION OF HOW PROJECT WOULD IMPROVE RAIL SERVICES TO EXISTING INDUSTRIES AND ENCOURAGE INVESTMENT IN THE COMMONWEALTH** (Text is limited to the space provided below.)

Stabilized roadbeds maintain track geometry over time, significantly reducing the need for repairs and minimizing operational disruptions for Norfolk Southern and its customers. This proactive approach also minimizes wear on rolling stock and track components, enhancing overall efficiency and reliability.

## KENTUCKY INDUSTRIAL ACCESS AND SAFETY IMPROVEMENT (KIASI) PROJECT APPLICATION

### SECTION 1: PROJECT OVERVIEW (CONTINUED)

#### DESCRIPTION OF PROPOSED PROJECT READINESS, OR HOW SOON AFTER AWARD CAN CONSTRUCTION BEGIN AND HOW LONG WILL THE PROJECT TAKE TO COMPLETE *(Text is limited to the space provided below.)*

Norfolk Southern is ready to commence the project upon award, with an anticipated completion by the end of Q3 2025.

### SECTION 2: CONTACT INFORMATION

APPLICATION PRIMARY CONTACT NAME & TITLE	PHONE	EMAIL	
Derek Sublette, Assistant Vice President Government Relations	317-472-2844	derke.sublette@nscorp.com	
MAILING ADDRESS	CITY	STATE	ZIP
101 W. Ohio Street, Suite 2000	Indianapolis	IN	46204

If awarded, will signatory be different from the Primary Contact? ☐ NO ☒ YES *(Provide signatory information.)*

AGREEMENT SIGNATORY NAME & TITLE	PHONE	EMAIL	
Alan Johnson, Chief Engineer Design and Construction	404-213-5055	alan.johnson@nscorp.com	
MAILING ADDRESS	CITY	STATE	ZIP
650 West Peachtree NW, Atlanta, GA 30144	Atlanta	GA	30308

If awarded, will Project Manager be different from the Primary Contact? ☐ NO ☒ YES *(Provide information.)*

PROJECT MANAGER NAME & TITLE	PHONE	EMAIL
William Graham, Manager Construction Services	404-245-0097	william.graham@nscorp.com

### SECTION 3: PROPOSED PROJECT PERMITS/APPROVALS/READINESS

A. Have consultations with state or federal agencies (US Army Corps of Engineers, US Coast Guard, US Fish and Wildlife Service, Kentucky Division of Water, Kentucky Heritage Council, or others) determined the need for permits? No

B. Have all required permits been obtained? Not Applicable

C. Will the proposed project have ANY impacts on a public road (City, County, State, US)? ☒ NO ☐ YES

D. Have all necessary roadway authorities been notified about the proposed project? ☐ YES ☐ NO ☒ N/A

E. Has preliminary engineering been completed for the proposed project? ☒ YES ☐ NO ☐ N/A

What engineering still needs to be done and when will it be completed? Non

### SECTION 4: ECONOMIC DEVELOPMENT INFORMATION

A. If the project will provide new and/or increased service to an industrial park:

Total acres of the industrial park	Total amount of developable acres	Acres that may be served by project

## KENTUCKY INDUSTRIAL ACCESS AND SAFETY IMPROVEMENT (KIASI) PROJECT APPLICATION

### SECTION 4: ECONOMIC DEVELOPMENT INFORMATION (CONTINUED)

B. Utility infrastructure in place to the site to be served by the project:

☐ Electric ☐ Natural Gas ☐ Water ☐ Wastewater ☐ Fiber/telecom

C. Provide listing of the names of existing companies currently served/to be served by the project along with the number of existing full-time jobs, potential new full-time jobs to be created, and potential capital investment to be incurred for each company.

	COMPANY NAME	FULL TIME JOBS		CAPITAL
		CURRENT	POTENTIAL	INVESTMENT
1				\$
2				\$
3				\$
4				\$
5				\$
6				\$
7				\$
8				\$
9				\$
10				\$

D. Are there any companies considering location or expansion of a potential project on the site to be served?

☐ YES ☐ NO ☐ N/A

If YES, provide details of the potential project for each company (e.g., potential new full-time jobs to be created and potential capital investment to be incurred).

### SECTION 5: SUBMISSION CHECKLIST *(See KIASI Guidance Document, Section VI, for details.)*

- ☒ Kentucky Industrial Access and Safety Improvement (KIASI) Project Application (TC 59-115)
- ☒ Statement of Work
- ☒ Scope of Work
- ☒ Project Schedule/Timeline
- ☒ Diagrams/maps depicting proposed project
- ☐ Rail Connectivity Letter (as applicable)
- ☐ Detailed engineering assessment report (as applicable)
- ☐ Aerial Photographs and photographic documentation of crossing location and condition
- ☒ Plans, schematics, details, drawings of the proposed project (as applicable)
- ☐ For equipment purchases, a price quote on letterhead from vendor OR for construction projects, a detailed estimate for the project
- ☐ Road authority consultation letters (as applicable)
- ☐ Public Interest Finding (as applicable)
- ☒ Required Annual Affidavit for Bidders, Offerors and Contractors from applicant.

## KENTUCKY INDUSTRIAL ACCESS AND SAFETY IMPROVEMENT (KIASI) PROJECT APPLICATION

### SECTION 6: KENTUCKY RAILROAD ANNUAL REPORT COMPLIANCE (Required ONLY if applicant is a railroad.)

I hereby certify that as an applicant defined as a railroad in 603 KAR 7:090(1), my company has completed and submitted TC 59-102, *Kentucky Railroad Annual Report*, in compliance with the provisions of 603 KAR 7:090 at the time of this application to be considered an eligible applicant. If it is determined I am not an eligible applicant at the time of this submission, I agree that this application shall be immediately rejected without consideration and returned to me without review.

PRINTED NAME AND TITLE	SIGNATURE	DATE

### SECTION 7: BUSINESS STANDING CERTIFICATION

I hereby certify that the applicant is a business entity in good standing with the Office of the Kentucky Secretary of State or under the laws of the jurisdiction(s) in which the entity is organized or authorized to conduct business and is not delinquent in taxes owed to any taxing entity. Applicants not in good standing or delinquent in taxes are subject to this application immediately being rejected without consideration and returned to me without further review.

PRINTED NAME AND TITLE	SIGNATURE	DATE

### SECTION 8: APPLICANT CERTIFICATION

I have read the Kentucky Industrial Access and Safety Improvement (KIASI) Projects guidance document, and I understand and agree to abide by what is stated therein. I also hereby certify, subject to the provisions of KRS 523.100 (unsworn falsification to authorities), that the above information is true and correct to the best of my knowledge.

PRINTED NAME AND TITLE	SIGNATURE	DATE

**Submission Directions:** Applicants must combine their completed application and all required attachments into a single PDF and submit it electronically via email to address provided in call for projects. It is the responsibility of the applicant to ensure delivery of the emailed submission.

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PRINTED NAME AND TITLE	SIGNATURE	DATE
Derek Sublette ADP Government Relations		3.6.25

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**Required Affidavit for Bidders, Offerors  
and Contractors  
(KRS 45A.110 & 45A.115)**

**Affidavit Effective for One (1) Year from Date of Execution**

**Instructions:** Pursuant to [KRS 45A.110](#) and [45A.115](#), a bidder, offeror, or contractor ("Contractor") is required to submit a Required Affidavit for Bidders, Offerors, and Contractors to be awarded a contract, or for the renewal of a contract. An authorized representative of the contracting party must complete the attestation below, have the attestation notarized, and return the completed affidavit to the Commonwealth.

**Attestation**

As a duly authorized representative for the Contractor, I swear and affirm under penalty of perjury, that that the Contractor has not knowingly violated campaign finance laws of the Commonwealth of Kentucky and that the award of a contract will not violate any provision of the campaign finance laws of the Commonwealth. For purposes of this attestation, "Knowingly" means that the bidder or offeror is aware or should have been aware of the existence of a violation. The bidder or offer understands that the Commonwealth retains the right to request an updated affidavit at any time.

Signature

ADP, Government Relations

Title

Derek Sublette

Printed Name

12. 2. 24

Date

Bidder or Offeror Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Commonwealth of Kentucky Vendor Code (If known): \_\_\_\_\_

Subscribed and sworn to before me this 2nd day of December 2024.State of: INNotary: Michele D. SteeleCounty of: MarionMy Commission Expires: 5/2/2029

MICHELE D. STEELE  
Notary Public - Seal  
Johnson County - State of Indiana  
Commission Number NP0644149  
My Commission Expires May 2, 2029



Engineering - Design & Construction  
650 West Peachtree Street NW - Box 45  
Atlanta, Georgia 30308

Chase Hobbs  
Construction Project Manager  
Cell: (859) 455-6652

**Subject: Mason, KY – Fill Stability - Milepost CNOTP-43.2**

Atlanta – April 15, 2024

File # TRK0032070

PID#G727

**Mr. D. M. Taylor**  
**Division Engineer – Midwest**

A site investigation was performed to inspect the fill instability at milepost CNOTP-43.2 in Mason, KY.

**Site Description**

This site consists of double, North-South trending, tangent mainline tracks positioned on a fill embankment that is approximately 15 to 20' high. Over the stretch of approximately 300' the Main 1 track repeatedly develops surface issues. Control Point Mason is to the north of the site. There is a private grade crossing south of the site. Dixie Hwy runs parallel to the west of our main lines. The surrounding topography are shallow cuts to the north and south with a shallow fill between. Just north of the affected area is a culvert (43.1). Drainage from Dixie Hwy is diverted onto our ROW via culvert. The ditch line parallel to Main 2 was observed to have standing water/silt/mud a day after a rain event.



**Assessment**

It appears that this location is being impacted by the settlement of the embankment fill. Lateral spreading of the fill was observed below and to the east side of Main 1. This indicates that the fill material is being squeezed or heaved outward by the axle loads of trains. A cause of this instability appears to be the saturation of the fill material. The ditch to the west of Main 2 was observed holding water and not flowing toward the intended relief point of the culvert north of the affected area. This ditchline is also taking on additional watershed/run-off from Dixie Hwy. The site was recently surfaced in response to 2 inches of settlement and is still showing visual signs of a dip in the surface.

**Recommendations**

To address this instability, I recommend the following 2 phase approach. First the ditch line to the west of Main 2 will be graded and cleaned to divert water from seeping below the affected area and sloped to the intended culvert located at the 43.1. I also recommend driving a single row of rail piles on the east side of Main 1 to stabilize the fill. The piles will provide lateral support to the fill and prevent further spreading and settlement. The rail piles should be installed as shown on attached drawing TA-2012-7 and should extend the full length of the problem area. I recommend using at least 40' long rails at this location, driven to full length of refusal. Based on using surplus rail and a contract pile driver, the estimated cost of this work is **\$120,000**.

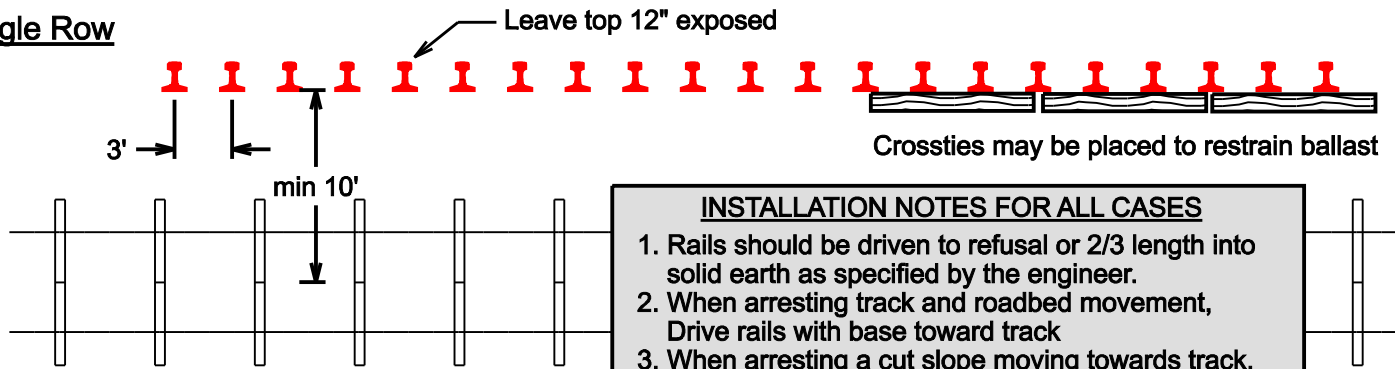
Following the drainage improvements and pile driving efforts, the site should be monitored for additional instability. If the instability persists, additional stabilization measures should be considered. This would likely involve a structural stabilization system such as soil nails. Estimates for additional stabilization work will be provided later if needed.

No work will proceed until authorized to do so and funding has been assigned. Please contact me with any questions or comments concerning this matter.

Thanks,  
Chase Hobbs

CC: E. F. Boyle	W. D. Gibson	A.B. Johnson	B. T. Taggart	C. A. Phillips
R. C. Zaluski	S. E. Spiller	G. R. Andrews	A. P. Machalette	E.C. Schmeltz
W. Graham	D. Adams			

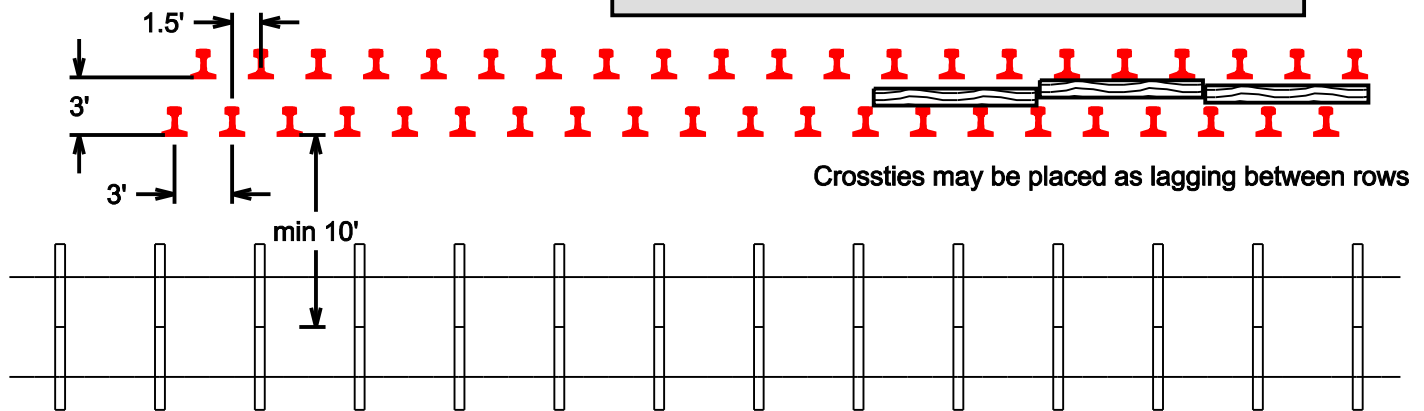
## Single Row



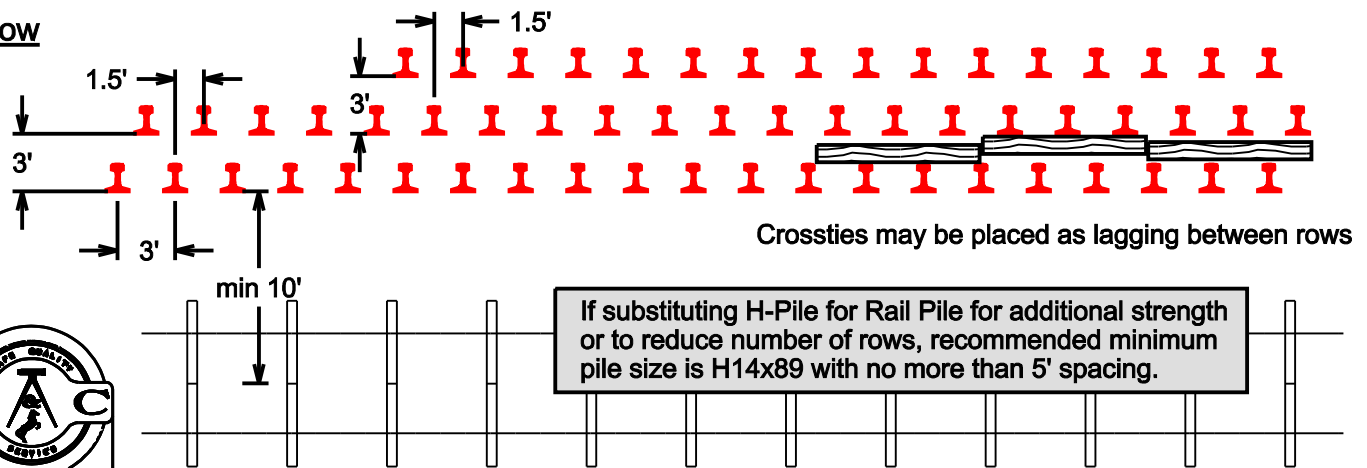
### INSTALLATION NOTES FOR ALL CASES

1. Rails should be driven to refusal or 2/3 length into solid earth as specified by the engineer.
2. When arresting track and roadbed movement, Drive rails with base toward track
3. When arresting a cut slope moving towards track, Drive rails with base towards slope
4. Always leave at least top 12" piling exposed above ground
5. Utility and C&S locate required prior to starting work

## Double Row



## Triple Row

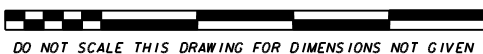


If substituting H-Pile for Rail Pile for additional strength or to reduce number of rows, recommended minimum pile size is H14x89 with no more than 5' spacing.



Design & Construction Department  
Geotechnical Services - Atlanta

SCALE:



**NORFOLK SOUTHERN RAILWAY CO**

OWNING COMPANY

**SYSTEM**

OPERATING DIVISION

OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA.

REV	BY	DATE	DESCRIPTION
LOCATION ANYWHERE, USA			
TITLE TYPICAL PLAN FOR RAIL PILE DRIVING			
DGN	PTD No.	VRN	MILE POST
DWN	JRT	FILE No. TRK0007420	DRAWING NUMBER
CHK	DATE	JUNE 5, 2012	TA-2012-7

CADD FILE:

SHEET

OF



# Norfolk Southern - Design & Construction

## Estimate Summary Sheet



**Internal and  
Confidential**

### Capital Project Estimate

**2024**

**Phase 1**

**Original**

DESCRIPTION: Rail pile & drainage improvements

D&C PROJECT ID: G727

PREPARED BY: CJH

RAILWAY LENGTH: 300 TF

LOCATION: Mason , KY

NS FILE #: TRK0032070

ESTIMATE DATE: 4/15/2024

INDUSTRY LENGTH: 0 TE

MW&S DIVISION & MP: Midwest -- MP CNOTP 43.2

D&C PLAN #: TA-2012-7

OFF. TRACKWORK: Contractor

TOTAL LENGTH: 300 TF

Department	A/E Code	Property	Labor	Material	Contract	Other	Additives	Capital	Expense	BILLABLE
Maintenance of Way MNR-66	5108	Crossties	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5178	Switch Ties	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5109.1	New Rail	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5109.11	Relay Rail	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5109.2	New OTM	\$ 5,100	\$ -	\$ -	\$ -	\$ 8,000	\$ 13,100	\$ -	\$ -
	5109.21	Relay OTM	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5111	Ballast	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5139	Grade Crossings	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUBTOTALS:			\$ 5,100	\$ -	\$ -	\$ -	\$ 8,000	\$ 13,100	\$ -	\$ -
TOTAL - DEPT. 66:								\$	13,100	
Design & Construction ENP-62	5103	Grading	\$ -	\$ -	\$ 94,900	\$ -	\$ 600	\$ 95,500	\$ -	\$ -
	5106	Drainage	\$ -	\$ -	\$ 11,300	\$ -	\$ 100	\$ 11,400	\$ -	\$ -
	5108	Crossties	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5178	Switch Ties	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5109.1	New Rail	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5109.11	Relay Rail	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5109.2	New OTM	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5109.21	Relay OTM	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5111	Ballast	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5139	Grade Crossings	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUBTOTALS:			\$ -	\$ -	\$ 106,200	\$ -	\$ 700	\$ 106,900	\$ -	\$ -
TOTAL - DEPT. 62:								\$	106,900	
C&S-52	5126	Communications	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5127	Signals	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
BBD-63	5106	Bridges and Structures	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
RES-21	5102	Real Estate	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FAC-9C	5131	Mechanical	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
EAS-57	5116	Buildings	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
LAW-36	5102	Law	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TTT-94	5126	T-Cubed	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
ENV-54	5103	Environmental	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FNP-15	5109	Insurance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
INT-43	5125	Intermodal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
BLK-24	5103	Bulk Facilities	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TRV-56	5116	Terminals	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
OTHER	5103	OTHER CHARGES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
								Total Capital	Total Expense	Total Billable
COST BREAKDOWN:								\$ 120,000	\$ -	\$ -
Total Capital Project Cost:								\$	120,000	



Engineering - Design & Construction  
650 West Peachtree Street NW - Box 45  
Atlanta, Georgia 30308

Charles Hobbs  
Construction Project Manager  
Cell: (859) 455 – 6652

**Subject: Harrodsburg, KY – Fill Instability - Milepost CNOTP 103.7**

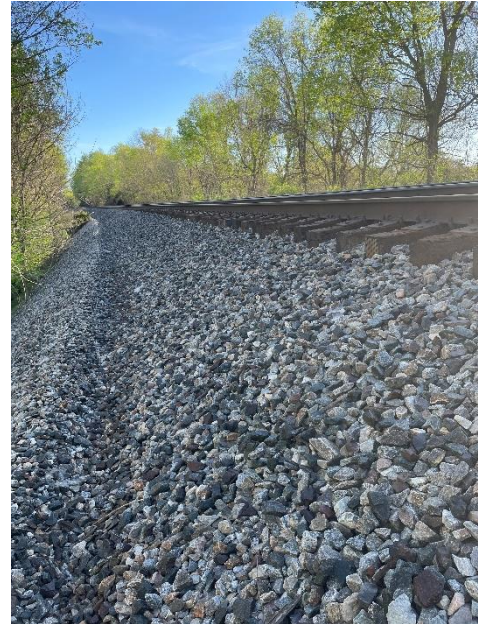
Atlanta – April 26, 2024  
File # TRK0032070 PID#G733

**Mr. D.M. Taylor**  
**Division Engineer – Midwest**

A site investigation was performed to inspect the fill instability at milepost CNOTP 103.7 near Harrodsburg, KY.

#### **Site Description**

This site consists of a double, north-south trending, curved mainline track positioned on an embankment fill that is approximately 25'-35' high. Below this fill is the bench of an old railroad bed. Boulders were used in the base of this fill. The site is located on the south side of High Bridge that crosses the Kentucky River and adjacent to Cedar Branch Creek. A house is located in close proximity of the site and limits accessibility. There is a marked culvert that is assessed Code 2 within this identified location. The inlet of this culvert is a 24" Cast iron pipe and was more than 50% blocked from debris. The outlet of the culvert was 10" galvanized pipe and appeared dry. Local property owner mentioned water will not flow from the outlet unless there is a big rain event. For a stretch of approximately 300', the track repeatedly develops cross level defects due to the western rail dropping and profile loss of the western ballast shoulder. Surfacing is required on approximately 2 month intervals to correct these recurring geometry defects.



#### **Assessment**

This site appears to be impacted by relatively shallow movement of the western embankment slope. It appears that over time the tracks have been over-steepened with ballast through multiple tamping cycles. The western slope of the ballast embankment is falling off and sliding downhill. The existing culvert is classified as Code 2 and would require replacement before any stability work takes place.

#### **Recommendations**

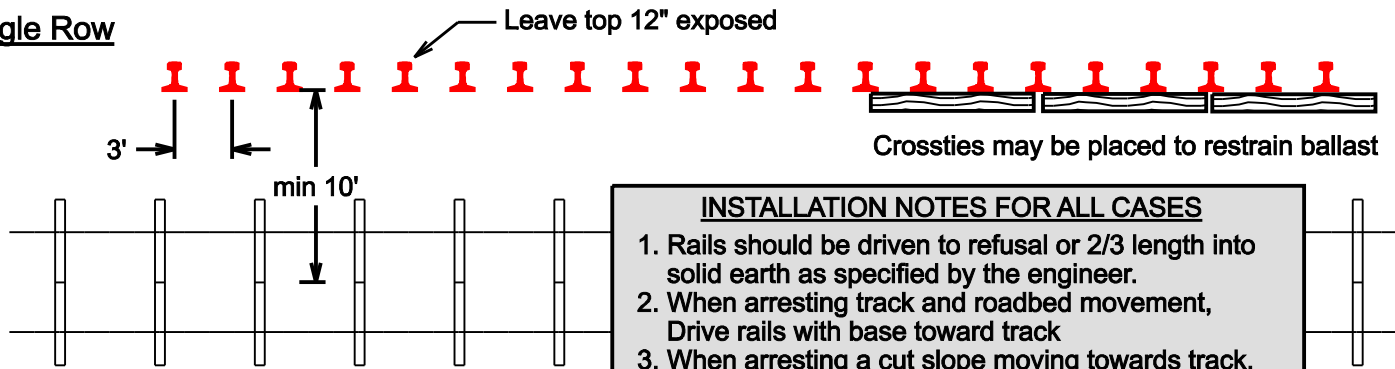
I recommend driving a single row of rail piles on the west side of the track to stabilize the existing fill/shoulder. The rail piles should be installed as shown on attached drawing TA-2012-7 and should extend the full length of the problem area. I recommend using 40' long rails driven to full depth or refusal. Additionally, I recommend placing ties inside the rail piles to retain the ballast shoulder. The culvert within the stretch should be replaced to provide positive drainage through the fill embankment. Based on the drainage basin and embankment height, Bridges & Structures recommends installing a 36" diameter pipe using jack & bore methods with an estimated cost of \$200,000. Based on using scrap rail and a contract pile driver, the estimated cost of this work is \$125,000. The total estimated cost for this project would be **\$325,000**.

No work will proceed until authorized to do so and funding has been assigned. Please contact me with any questions or comments concerning this matter.

Regards,  
Charles Hobbs

CC: E.F. Boyle W.D. Gibson B.T. Taggart A.B. Johnson R.V. Brown  
D.R. Adams R.C. Zaluski S.E. Spiller G.R. Andrews C.M. Pugh  
B.W. Davidson W.S. Graham A.P. Machalette F. Miller T.King  
C.A. Phillips

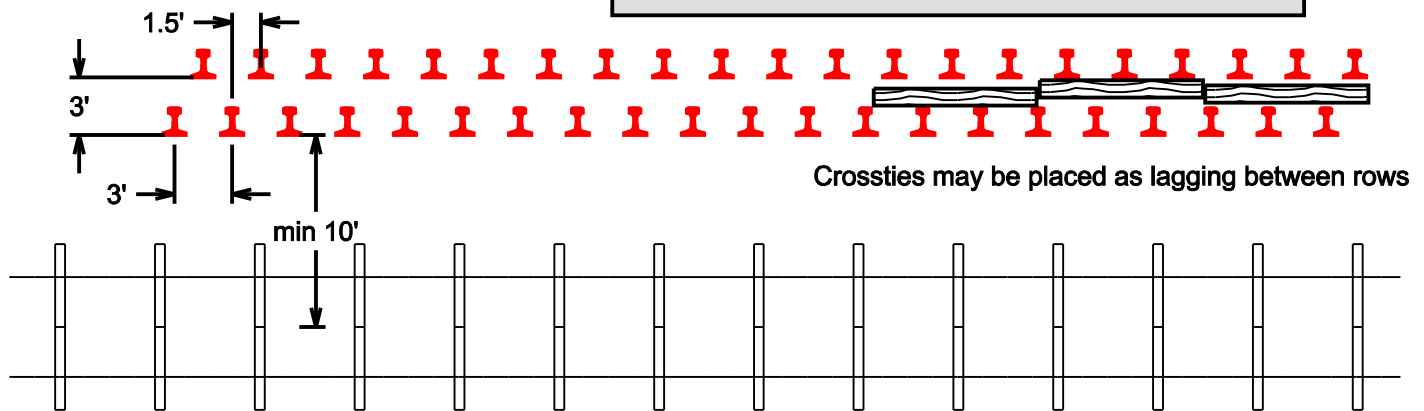
## Single Row



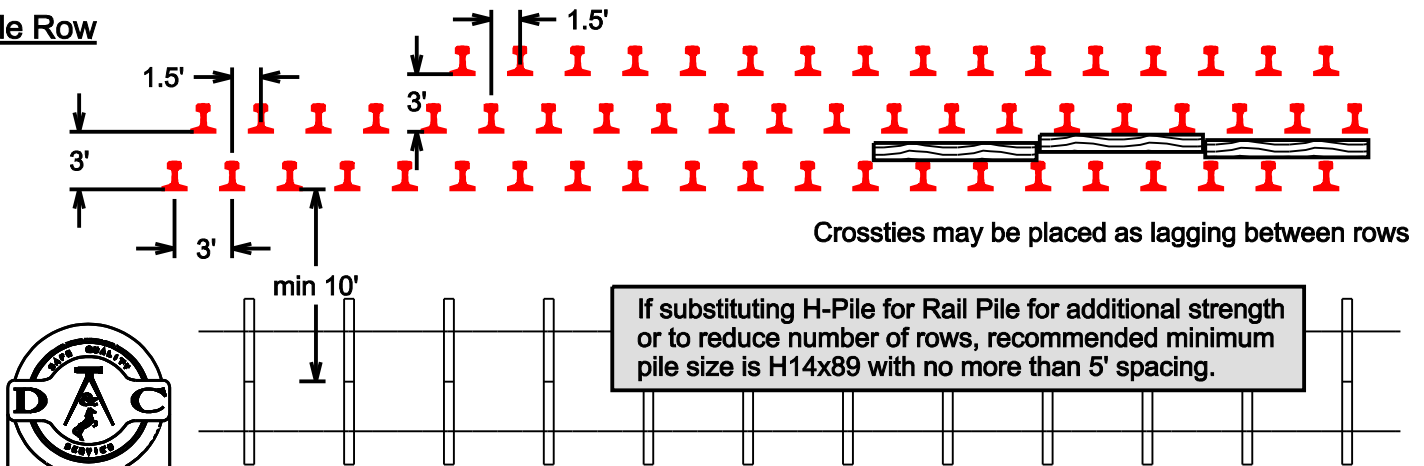
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## Triple Row

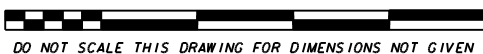


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Design & Construction Department  
Geotechnical Services - Atlanta

SCALE:



**NORFOLK SOUTHERN RAILWAY CO**

OWNING COMPANY

**SYSTEM**

OPERATING DIVISION

OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA.

REV	BY	DATE	DESCRIPTION
LOCATION ANYWHERE, USA			
TITLE TYPICAL PLAN FOR RAIL PILE DRIVING			
DGN	PTD No.	VRN	MILE POST
DWN	JRT	FILE No. TRK0007420	DRAWING NUMBER
CHK	DATE	JUNE 5, 2012	TA-2012-7

CADD FILE:

SHEET

OF

# Norfolk Southern - Design & Construction

## Estimate Summary Sheet



**Internal and  
Confidential**

### Capital Project Estimate

**2024**

**Original**

DESCRIPTION: Fill Stability CNOTP-103.7

D&C PROJECT ID: G733

PREPARED BY: CJH

RAILWAY LENGTH: 300ft

LOCATION: Harrodsburg, KY - CNOTP-103.7 M2

NS FILE #: TRK0032070

ESTIMATE DATE: 4/26/2024

INDUSTRY LENGTH: 0 TF

MW&S DIVISION & MP: Midwest -- MP 103.7

D&C PLAN #: 0

OFF. TRACKWORK: Contractor

TOTAL LENGTH: 0 TF

Department	A/E Code	Property	Labor	Material	Contract	Other	Additives	Capital	Expense	BILLABLE
Maintenance of Way MNR-66	5108	Crossties	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5178	Switch Ties	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5109.1	New Rail	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5109.11	Relay Rail	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5109.2	New OTM	\$ 10,000	\$ -	\$ -	\$ -	\$ 16,000	\$ 26,000	\$ -	\$ -
	5109.21	Relay OTM	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5111	Ballast	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5139	Grade Crossings	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUBTOTALS:			\$ 10,000	\$ -	\$ -	\$ -	\$ 16,000	\$ 26,000	\$ -	\$ -
TOTAL - DEPT. 66:								\$	26,000	
Design & Construction ENP-62	5103	Grading	\$ -	\$ -	\$ 98,000	\$ -	\$ 1,000	\$ 99,000	\$ -	\$ -
	5106	Drainage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5108	Crossties	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5178	Switch Ties	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5109.1	New Rail	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5109.11	Relay Rail	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5109.2	New OTM	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5109.21	Relay OTM	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5111	Ballast	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5139	Grade Crossings	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
SUBTOTALS:			\$ -	\$ -	\$ 98,000	\$ -	\$ 1,000	\$ 99,000	\$ -	\$ -
TOTAL - DEPT. 62:								\$	99,000	
C&S-52	5126	Communications	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5127	Signals	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
BBD-63	5106	Bridges and Structures	\$ -	\$ -	\$ 200,000	\$ -	\$ -	\$ 200,000	\$ -	\$ -
RES-21	5102	Real Estate	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FAC-9C	5131	Mechanical	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
EAS-57	5116	Buildings	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
LAW-36	5102	Law	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TTT-94	5126	T-Cubed	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
ENV-54	5103	Environmental	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
FNP-15	5109	Insurance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
INT-43	5125	Intermodal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
BLK-24	5103	Bulk Facilities	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TRV-56	5116	Terminals	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
OTHER	5103	OTHER CHARGES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
								Total Capital	Total Expense	Total Billable
COST BREAKDOWN:								\$ 325,000	\$ -	\$ -
Total Capital Project Cost:								\$	325,000	



Engineering - Design & Construction  
650 West Peachtree Street NW - Box 45  
Atlanta, Georgia 30308

Charles Hobbs  
Construction Project Manager  
Cell: (859) 455-6652

**Subject: McKinney, KY – Embankment Erosion - Milepost CNOTP-132.7**

Atlanta – May 31, 2024

File # TRK0032070 PID#G740

**Mr. D.M. Taylor**  
**Division Engineer – Midwest**

Following is a report on the embankment erosion at milepost CNOTP-132.7 in McKinney, KY.

#### **Site Description**

The sites consist of double, north-south trending, tangent mainline track positioned on an embankment fill that is approximately 25' high. The site is located south of CP Geneva. McKinney Creek flows south and is adjacent to the track bed on the east side. To the west of the track bed is a ditch that flows south. Based on the topography of this area the McKinney Creek is the sub-watershed for the South Fork-Green River tributary. Several houses within the area have runoff drains that empty into the creek as well as surface water. The creek was noticed to have a higher than normal water table due to recent rain events.

#### **Assessment**

The site is being impacted by a steepened ballast section and erosion created by concentrated, higher velocity stormwater flow. The impacted site is at a lower elevation in a valley and water shed can exponentially accrue in the creek and ditch line. This leads to higher flow rates and water velocity that has caused erosion of the track bed. Without remedial measures, the erosion will continue until it undermines the track.



#### **Recommendations**

To address the erosion and instability, I recommend driving a single row of rail piles for 300' on the east side of Main 1 to stabilize the fill. The piles will provide lateral support to the fill and prevent the loss of the over steepened embankment. The rail piles should be installed as shown on attached drawing TA-2012-7 and should extend the full length of the problem area. I recommend using at least 30' long rails at this location, driven to full length or refusal. I also recommend placing channel liner (riprap) at the toe of this slope to remediate the existing erosion. Based on using surplus rail and a contract pile driver, the estimated cost of this work is **\$110,000**.

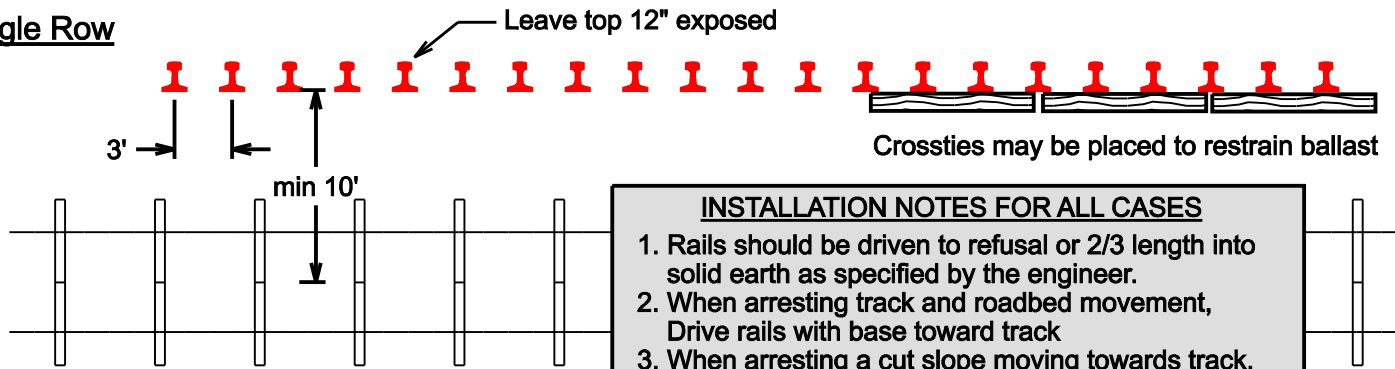
No work will proceed until authorized to do so and funding has been allocated. Please contact me with any questions or comments concerning this matter.

Thanks,  
Chase Hobbs

CC:	E.F. Boyle	W.D. Gibson	B.T. Taggart	A.B. Johnson	C.A. Phillips
	D.R. Adams	R.C. Zaluski	S.E. Spiller	G.R. Andrews	T.King
	W.S. Graham	A.P. Machalette	F. Miller		



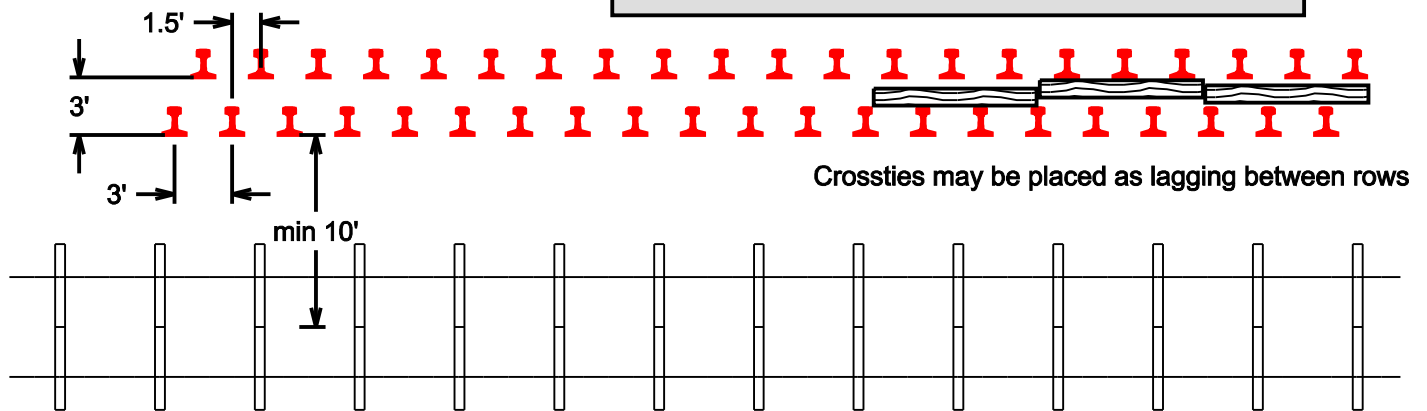
## Single Row



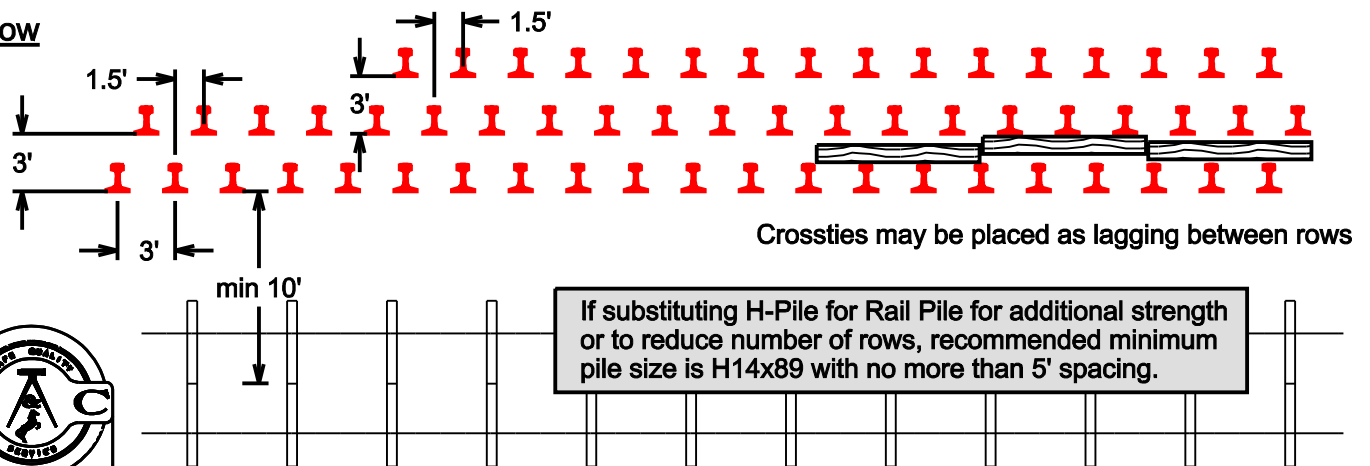
### INSTALLATION NOTES FOR ALL CASES

1. Rails should be driven to refusal or 2/3 length into solid earth as specified by the engineer.
2. When arresting track and roadbed movement, Drive rails with base toward track
3. When arresting a cut slope moving towards track, Drive rails with base towards slope
4. Always leave at least top 12" piling exposed above ground
5. Utility and C&S locate required prior to starting work

## Double Row



## Triple Row

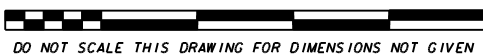


If substituting H-Pile for Rail Pile for additional strength or to reduce number of rows, recommended minimum pile size is H14x89 with no more than 5' spacing.



Design & Construction Department  
Geotechnical Services - Atlanta

SCALE:



**NORFOLK  
SOUTHERN**

**NORFOLK SOUTHERN RAILWAY CO**

OWNING COMPANY

**SYSTEM**

OPERATING DIVISION

OFFICE OF THE CHIEF ENGINEER - DESIGN AND CONSTRUCTION - ATLANTA, GA.

REV	BY	DATE	DESCRIPTION
LOCATION ANYWHERE, USA			
TITLE TYPICAL PLAN FOR RAIL PILE DRIVING			
DGN	PTD No.	VRN	MILE POST
DWN	JRT	FILE No. TRK0007420	DRAWING NUMBER
CHK	DATE	JUNE 5, 2012	TA-2012-7

CADD FILE

SHEET

OF

**Norfolk Southern - Design & Construction**  
**Estimate Summary Sheet**



**Internal and  
Confidential**

**Capital Project Estimate**

**2024**

**Original**

DESCRIPTION: Erosion Control CNOTP-132.7

D&C PROJECT ID: G740

PREPARED BY: CJH

RAILWAY LENGTH: 300 TF

LOCATION: McKinney, KY - CNOTP-132.7

NS FILE #: TRK0032070

ESTIMATE DATE: 5/31/2024

INDUSTRY LENGTH: 0 TE

MW&S DIVISION & MP: Midwest -- MP CNOTP-132.7

D&C PLAN #: 0

OFF. TRACKWORK: 0

TOTAL LENGTH: 300 TF

Department	A/E Code	Property	Labor	Material	Contract	Other	Additives	Capital	Expense	BILLABLE
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	5109.11	Relay Rail	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5109.2	New OTM	\$ 5,900	\$ -	\$ -	\$ -	\$ 9,300	\$ 15,200	\$ -	\$ -
	5109.21	Relay OTM	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5111	Ballast	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5139	Grade Crossings	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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TOTAL - DEPT. 66:								\$	15,200	
Design & Construction ENP-62	5103	Grading	\$ -	\$ -	\$ 94,200	\$ -	\$ 600	\$ 94,800	\$ -	\$ -
	5106	Drainage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	5108	Crossties	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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TOTAL - DEPT. 62:								\$	94,800	
C&S-52	5126	Communications	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
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