C-List Categorical Exclusion

Does the action described in this "c-list" Categorical Exclusion (CE) exceed one or more of the thresholds described in the PCE Agreement, thereby requiring review and approval by the Federal Highway Administration (FHWA)? No

Shellmound Road

Bridge over I-24 Eastbound

Marion County

PIN 130902.00

Submitted Pursuant to the National Environmental Policy Act of 1969, 42 U.S.C. 4332(2)

Document Approval

By signing below, the authorized signatory concurs that this document is in compliance with all applicable environmental laws, regulations and procedures. The authorized signatory has reviewed and verified the document's quality, accuracy, and completeness and that all source material has been compiled and included in the attachments and technical appendices.

Erick Hunt-Hawkins

Digitally signed by Erick Hunt-Hawkins
Date: 2025.08.29 12:55:30 -05'00'

Tennessee Department of Transportation

Environmental Commitments

Owner	Commitment
Ecology	All tree clearing activities will take place between November 16th and March 31st.

Project Information

General Information

Route: Shellmound Road

Termini: Bridge over I-24 Eastbound

Municipality:

County: Marion County

PIN: 130902.00

Plans: Line & Grade Plans

Date of Plans: 05/21/2025

Type of Work Bridge Replacement

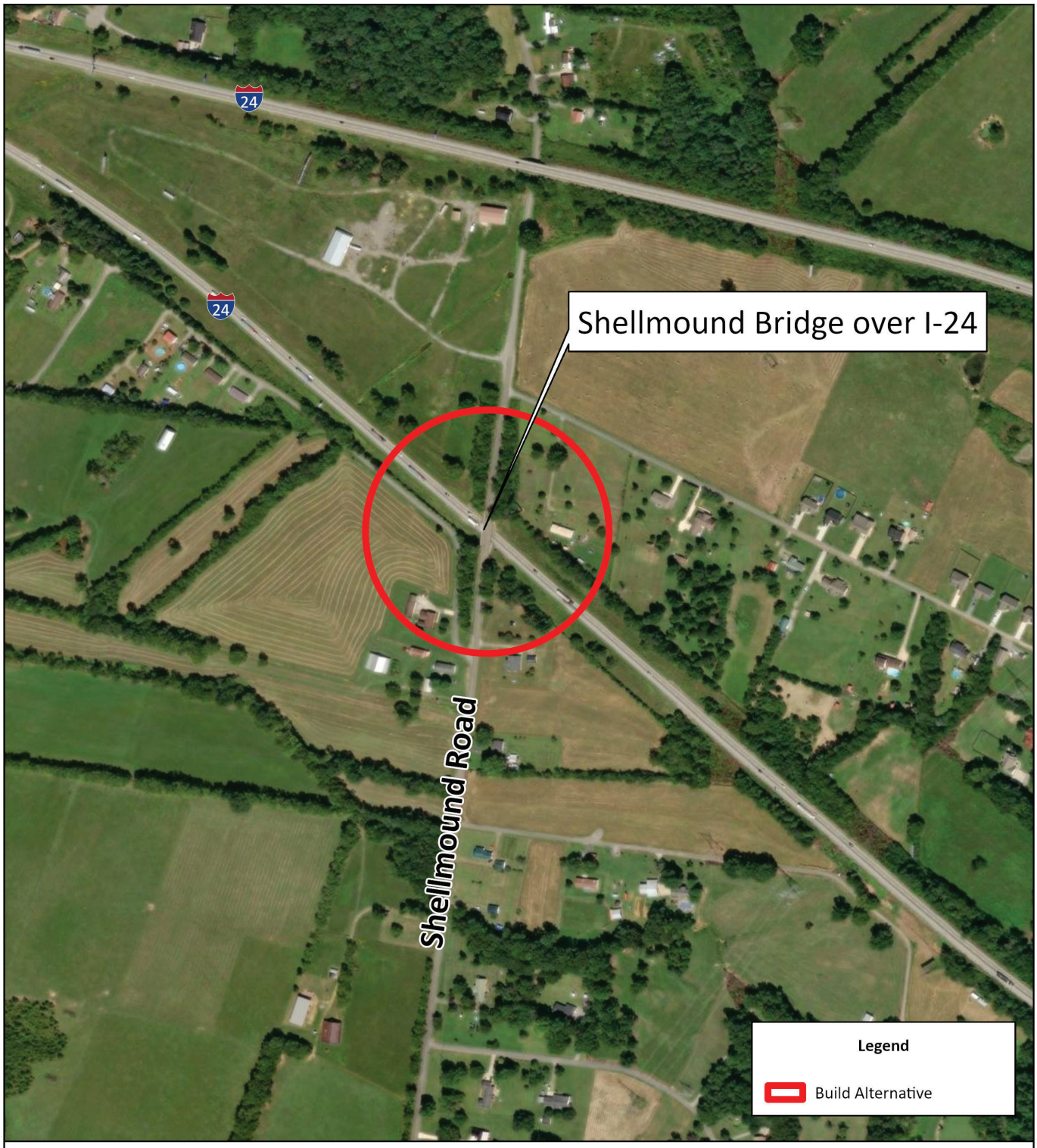
Project Funding

Planning Area: Southeast Rural Planning Organization (RPO)

STIP/TIP: 23000000076 - National Highway System Preservation and Operation - Rural Grouping

Funding Source	Preliminary Engineering	Right-of-Way	Construction
Federal	BR-I-24-2(184)	N/A	N/A
State	PE-N: 58100-0187-44 PE-D: 58100-1187-04	58100-2187-04	58100-3187-04

Project Location



PROJECT LOCATION MAP

0 500 1,000 Feet

N

PROJECT	**Shellmound Road** Bridge over I-24 EB Marion County, Tennessee, PIN 130900.00

TN TDOT Department of Transportation

Project Overview

Introduction

The Tennessee Department of Transportation (TDOT), in cooperation with the Federal Highway Administration (FHWA), proposes to replace the Shellmound Road bridge over Interstate 24 (I-24) eastbound (Bridge ID#: 58I00240039) at log mile (LM) 1.36 in Marion County, Tennessee.

This federal-aid highway project has been determined to be a "C-List" CE pursuant to pursuant to 23 CFR 771.117(c)(28), “Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings, if the action meets the constraints in paragraph (e) of this section.” The project meets the constraints of 23 CFR 771.117(e).

Background

Every two years, TDOT performs a comprehensive inspection and subsequent evaluation of all public bridges across the state in order to determine the status of their working condition and operating limits to ensure that they are in accordance with the Federal Highway Administration (FHWA) National Bridge Inspection Standards (NBIS). These inspections are recorded and published in the National Bridge Inventory (NBI) Tennessee Inventory and Appraisal Report. One of the components of this evaluation is the designation of a sufficiency rating. A sufficiency rating is calculated for each individual bridge that is used to carry vehicular traffic. Ratings are measured on a scale of 0 to 100. A rating of 100 corresponds to a bridge that qualifies as an “entirely sufficient bridge ,” while a rating of 0 denotes a bridge that is “entirely deficient .” Another component of the NBI are the condition ratings. Condition ratings are used to describe the existing, in-place bridge as compared to the as-built condition. The physical condition of the deck, superstructure, and substructure components of a bridge are evaluated for a condition rating. Condition ratings are assigned codes ranging from 0-9, with zero being failed condition and 9 being excellent condition. Another component of the NBI are the appraisal ratings. Appraisal ratings are used to evaluate a bridge in relation to the level of service which it provides. The structure is compared to a new structure built to current standards for the particular type of road. Components evaluated and given an appraisal rating include the structural evaluation, deck geometry, the underclearance rating, waterway adequacy, and the approach roadway alignment. Appraisal ratings are assigned codes ranging from 0-9, with zero being a closed bridge and 9 being superior to present desirable criteria.

The most recent NBI Report, dated 03/11/2024, shows the following condition and appraisal ratings:

Table 1. NBI Ratings for the Shellmound Rd bridge over I-24 EB (Bridge ID#: 58I00240039)

Bridge ID#: 58I00240039			
Condition Ratings	**Number**	**Rating**	**Description**
Deck	6	Satisfactory	structural elements show some minor deterioration
Superstructure	5	Fair	all primary structural elements are sound but may have minor section loss, cracking, spalling or scour
Substructure	7	Good	some minor problems
Stream Channel and Channel Protection	N/A		
Appraisal Ratings	**Number**		**Description**
Structural Evaluation	5		Somewhat better than minmum adequacy to tolerate being left in place as is
Deck Geometry	5		Somewhat better than minmum adequacy to tolerate being left in place as is
Underclearance Rating	3		Basically intolerable requiring high priority of corrective action
Approach Roadway Alignment	6		Equal to present minimum criteria

The Bridge Inspection Report (dated 07/17/2024) provided an overall condition rating of "2-Fair." The bridge was constructed in 1965 and has not been rehabilitated. The structure has reached 60 years of service life. In addition, the Concept Report (02/07/2023) notes that the existing typical section of the bridge does not meet current TDOT designed standards.

The Concept Report, NBI Report, and Bridge Inspection Report are included in the Technical Appendices. Line & Grade Plans (dated 05/21/2025) have been developed, are included in the Technical Appendices, and serve as the focus of this environmental evaluation.

Project Development

Need

The proposed project is needed to address the insufficient structural elements of the subject bridge, as indicated by the superstructure condition rating of 5, the structural evaluation and deck geometry appraisal ratings of 5, the underclearance appraisal rating of 3, and the current age of the bridge (60 years). In addition, as noted in the Concept Report (02/07/2023), the exisitng typical section of the bridge does not meet current TDOT design standards.

Purpose

The purpose of the proposed project is to address the insufficient structural elements and to bring the bridge up to current TDOT design standards.

Range of Alternatives

Other than the selected design, were any alternative build designs developed for this project? **No**

No-Build	In the development of design solutions that address the needs outlined above and achieve the purpose of the project, TDOT evaluated the potential consequences should the project not be implemented. This option, known as the No-Build alternative, assumed the continuation of current conditions and set the baseline from which the impacts of the selected design were compared. The No-Build Alternative was not selected, as it does not meet the purpose and need of the proposed project.

Public Involvement

Has there been any public involvement for the project? **No**

Project Design

Existing Conditions and Layout

According to the NBI Report (03/11/2024), the Enhanced Tennessee Roadway Information System (E-TRIMS), and the Concept Report (02/07/2023), the existing Shellmound Bridge over I-24 EB consists of two, 10-ft wide travels lanes with 4-ft outside shoulders. The structure is a three span, concrete, 139.5-ft long bridge with an out-to-out width of 34.5-ft. Within the study area, the roadway is classified as a rural minor collector.

Proposed Project Description

The proposed project is being developed through the TDOT Alternative Delivery Division. As indicated in the Concept Report (02/07/2023) and the Line & Grade Plans (05/21/2025), the proposed replacement structure would be a 154-ft long, concrete beam bridge with a single span, and have an out-to-out width of 33-ft 3-inches. The proposed bridge would be raised approximately 4-inches to increase the bridge clearance to 17-ft. The typical section of the propsoed bridge would consist of two, 11-ft wide travel lanes and 5-ft wide shoulders.

Right-of-Way

Does this project require the acquisition of right-of-way or easements? **Yes**

Right-of-Way Acquisition Table						
Permanent Acquisition					Temporary Acquisition	
R.O.W Acquisition	Permanent Easements	Slope Easements	Air Rights	**Total**	Construction Easements	**Total**
0	1,048 SF	0	0	**1,048 SF**	1,080 SF	**1,080 SF**

Relocations

Will this project result in residential, business or non-profit relocations? **No**

Changes in Access Control

Will changes in access control permanently impact the functional utility of any adjacent parcels? **No**

Traffic Control Measures

At this time, are traffic control measures and temporary access information available? **Yes**

Will this project involve traffic control measures that may result in major traffic disruptions? **No**

A proposed detour would be implemented during construction of the Shellmound Rd bridge over I-24 EB. The detour would be approximately 7.9 miles long (12 minutes driving time).

The proposed detour would follow Shellmound Rd north to SR-2 (Dixie Hwy West), to SR-27 (Griffith Hwy)/TVA Road, and then use a connector road to access Shellmound Rd south of the proposed project. In order to use this route, the connector road between TVA Road and Shellmound Rd would need to be improved. The proposed improvements would consist of asphalt overlay with striping.

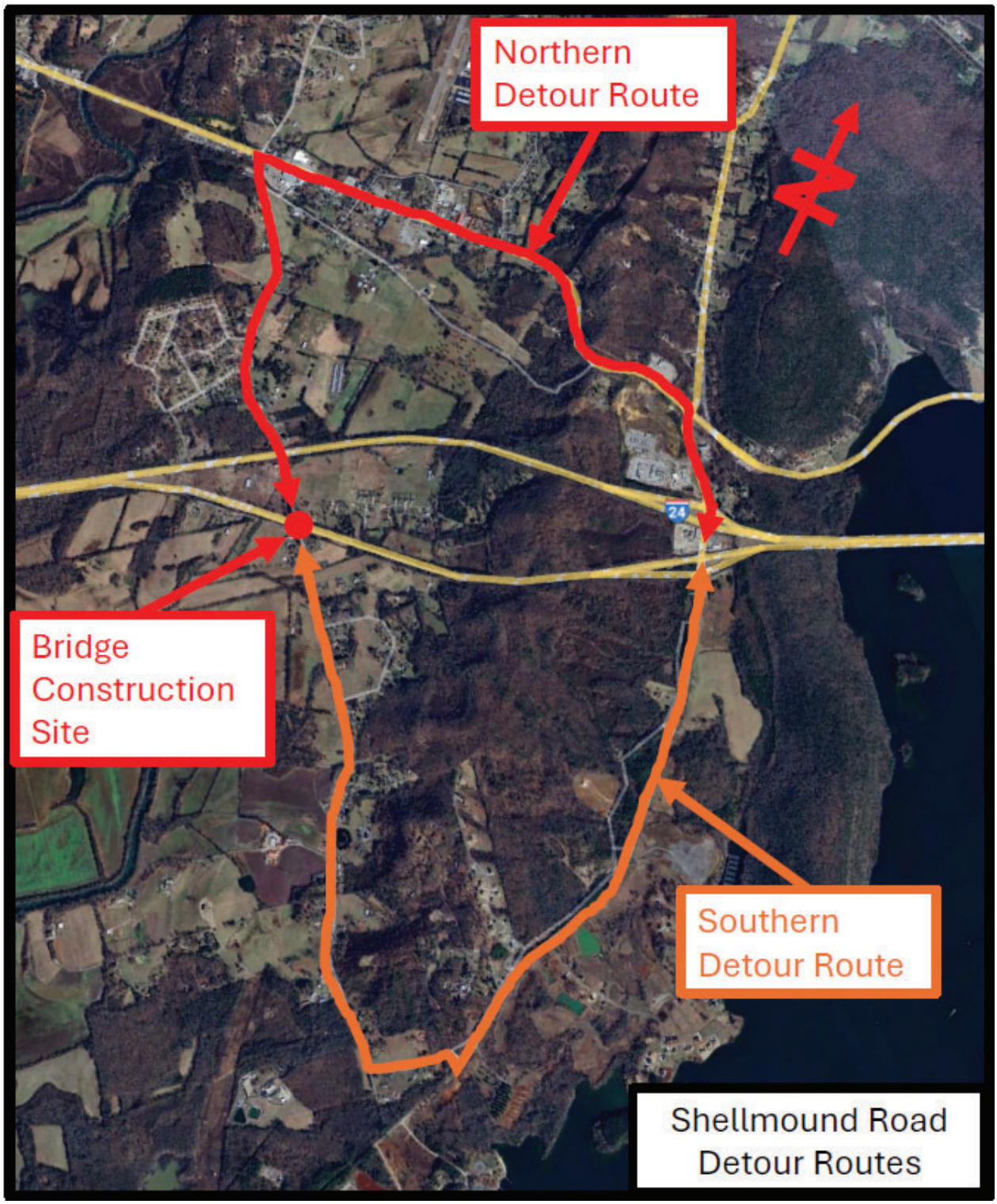


Figure 1. Proposed Detour Route

Figure 2. Location of proposed connector road improvements

Environmental Studies

Water Resources

Are there any water resources impacted within the project area? **Yes**

The Environmental Boundaries Report (dated 7/1/2025) indicates that one stream, one wet weather conveyance, one wetland, and one pond are located within the proposed project's limits.

Project Name: Marion Co., Shellmound Rd. LM 1.29 to 1.47 Bridge Replacement **PIN:** 130902.00

Water Resource Table for NEPA Documentation

Based on: ETSA
Date: 8/22/2024
Table Amounts are based on (choose only one): Estimated extent of resource within ETSA

Water Resources (Non-Wetland)

Label	Type	Latitude	Longitude	Receiving Waters		USACE Jurisdiction	Quality	Amount (Linear Feet)	Amount (Acres)
STR-1	Intermittent Stream	35.043711	-85.601827	Sequatchie River		Yes	Unassessed	50	0.0036
PND-1	Pond	35.043135	-85.603127	Sequatchie River		Yes	Not Applicable	0	0
WWC-1	Wet Weather Conveyance	35.043083	-85.602997	Sequatchie River		No	Not Applicable	200	0.0068
							Total:	250	0.0104

Water Resources (Wetland)*

Label	Type	Latitude	Longitude	Receiving Waters	TDEC Jurisdiction	USACE Jurisdiction	Quality	Amount (Acres)
WTL-1	Emergent	35.043083	-85.602997	Sequatchie River	Non-Isolated	Yes	Low Resource Value	0.0061
							Total:**	0.0061

*Unless described otherwise in the NEPA document; all wetlands are presumed to serve the following functions to varying degrees, based on location: wildlife habitat, flood storage, groundwater recharge, nutrient processing, contaminant filtering, and recreation.

**For the purposes of the NEPA document, Amount is assumed to be Permanent Loss.

Throughout the design process, TDOT will endeavor to mitigate impacts to streams, wetlands, or any other jurisdictional water features through avoidance and minimization. Where impacts cannot be avoided or sufficiently minimized, compensatory mitigation for permanent impacts would be accomplished either through permitee-responsible mitigation, mitigation banking, or In-Lieu Fee mitigation to satisfy statutory requirements.

Species Coordination

U.S. Fish and Wildlife Service (USFWS):

On 06/09/2025, the TDOT Ecology Section requested to coordinate the proposed project with USFWS, stating: "Based on...the proposed project being located in the winter buffer for the federally endangered Indiana bat (*Myotis sodalis*) and the proposed federally endangered tricolored bat (*Perimyotis subflavus*), TDOT has committed to perform all tree clearing activities in the timeframe of November 16th through March 31st. In adherence to the proposed scope of work, and the aforementioned tree clearing commitment, TDOT concludes that the subject project will "not likely adversely affect" the federally endangered Indiana bat (*Myotis sodalis*) or the proposed federally endangered tricolored bat (*Perimyotis subflavus*)."

On 06/27/2025, the USFWS responded to TDOT's request for coordination, stating: "The Service concurs with your effect determination(s) for resources protected by the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). This finding fulfills the requirements of the Act."

As a result of this coordination, and environmental commitment was added to the project:
"*All tree clearing activities will take place between November 16th and March 31st.*"

Coordination with USFWS is included in the Technical Appendices as part of the EBR.

Tennessee Wildlife Resources Agency (TWRA):

On 10/15/2024, the TWRA responded to TDOT's request for coordination, stating: "Our databases show documented occurrences of multiple state listed species within 4.0 miles for the project location however, based on the scope of work and location of the project our agency does not anticipate significant adverse impacts to these species provided that all applicable TDEC and US EPA approved Erosion Prevention/Silt Control measures and Best Management Practices be planned for, implemented, monitored, and maintained throughout construction."

Coordination with TWRA is included in the Technical Appendices.

Tennessee Department of Environment and Conservation (TDEC):

The EBR states: "TDOT Ecology has determined that the subject project meets condition (1) of the TDOT DNA MOA."

The 2023 TDEC-DNA MOA is included in the Technical Appendices.

On 07/10/2025, the TDOT Ecology Section stated: "Based on the information provided, an environmental boundaries report dated 7/1/2025 has been completed and uploaded to FileNet for the subject project. Species coordination was completed with TWRA and USFWS for the project, and the coordination documents are included within the EBR and with this response. The project was deemed to fit Condition 1 of the TDEC DNA MOA. Species coordination for this project is based on current understanding of the project scope, any changes to which could lead to additional coordination being required."

The ESR response is included in the Technical Appendices.

Floodplain Management

Flood Zone: Zone X (White) - Area Determined to be Outside the 500-year Floodplain.

The project is not in a Federal Emergency Management Agency (FEMA) floodway, floodplain, or study area, and is located on Flood Insurance Rate Map (FIRM) in Marion County, Panel 250 of 425, Map # 47115C0250D. A portion of the FEMA FIRM is included as an attachment.

Air Quality

Transportation Conformity:

On 05/30/2025, the TDOT Air Quality & Noise Section stated: "This project is in Marion County which is in attainment for all regulated criteria pollutants. Therefore, conformity does not apply to this project."

Mobile Source Air Toxics (MSAT):

In their 05/30/2025 response, the TDOT Air Quality & Noise Section stated: "This project qualifies as a categorical exclusion under 23 CFR 771.117 and, therefore, does not require an evaluation of MSATs per FHWA's "Interim Guidance Update on Air Toxic Analysis in NEPA Documents" dated January 2023."

The ESR response is included in the Technical Appendices.

Noise

In accordance with FHWA requirements and TDOT's Noise Policy this project is determined to be **Type III**

This project is Type III in accordance with the FHWA noise regulation in 23 CFR 772 and TDOT's noise policy; therefore, a noise study is not needed.

Farmland

Is this project exempt from the provisions of the Farmland Protection Policy Act (FPPA)? **Yes**

FPPA Exemption: Small Acreage (3 acres or less for an existing bridge or interchange)

Section 4(f)

Does this project involve the use of property protected by Section 4(f) (49 USC 303)? **No**

Section 6(f)

Does this project involve the use of property assisted by the L&WCF? **No**

Cultural Resources

Are any Agreements/Exemptions regarding Cultural Resources applicable to this project? **No**

Are NRHP listed or eligible cultural resources within the project Area of Potential Effect (APE)? **No**

Historic/Architectural Concurrence:

Concurrence from the TN State Historic Preservation Office (TN-SHPO) was received on 02/06/2025.

In their response, the TN-SHPO stated: "Considering the information provided, we find that no architectural resources eligible for listing in the National Register of Historic Places will be affected by this undertaking."

Archaeology Concurrence:

Concurrence from TN State Historic Preservation Office (TN-SHPO) was received on 05/08/2025.

In their response, the TN-SHPO stated: "Considering the information provided, we find that no archaeological resources eligible for listing in the National Register of Historic Places will be affected by this undertaking."

The TN-SHPO letters, ESR responses, Historic/Architecture Assessment, and Archaeological Assessment are included in the Technical Appendices.

Native American Consultation

Does this project require Native American consultation? **Yes**

Native American Consultation was requested on 01/30/2025.

Native American Consultation					
Sent	Response		Sent	Response	
☒	☐	Absentee Shawnee Tribe of Oklahoma	☒	☐	Muscogee (Creek) Nation
☒	☒	Cherokee Nation	☒	☐	Poarch Band of Creek Indians
☐	☐	Chickasaw Nation	☐	☐	Quapaw Nation
☐	☐	Choctaw Nation of Oklahoma	☒	☒	Shawnee Tribe
☒	☐	Eastern Band of Cherokee Indians	☒	☐	Thlopthlocco Tribal Town
☒	☒	Eastern Shawnee Tribe of Oklahoma	☒	☐	United Keetoowah Band of Cherokee Indians
☒	☐	Kialegee Tribal Town	☒	☐	Jena Band of Choctaw Indians
☐	☐	Other	☐	☐	Other

The TDOT Native American Consultation ESR response (dated 06/11/2025) states: "An invitation to participate in the Section 106 process was sent on January 30, 2025 to all federally recognized Native American tribes with interests in the subject county: Absentee-Shawnee Tribe of Indians in Oklahoma, Cherokee Nation, Eastern Band of Cherokee Indians, Eastern Shawnee Tribe of Oklahoma, Jena Band of Choctaw Indians, Kialegee Tribal Town, Poarch Band of Creeks, Shawnee Tribe, The Muscogee (Creek) Nation, Thlopthlocco Tribal Town, and United Keetoowah Band of Cherokee Indians in Oklahoma.

"On February 19, 2025, the Shawnee Tribe responded and concurred that no known properties of significance will be negatively impacted by this project. The Shawnee Tribe requested to be contacted in the event of an inadvertent archaeological finding.

"On March 7, 2025, the Cherokee Nation responded with a finding of no impacts to Cherokee cultural resources. The Cherokee Nation requested to be contacted in the event of an inadvertent archaeological finding.

"On March 26, 2025, the Eastern Shawnee Tribe responded with a finding of “no adverse effect.” The Eastern Shawnee Tribe requested to be contacted in the event of an inadvertent archaeological finding.

"To date, no other responses have been received. In accordance with Section 106 regulations, tribes must be provided a reasonable opportunity to comment on the proposed undertaking. TDOT Cultural Resources staff will document all additional requests for information, comments, or additional communications with recognized tribes on this undertaking. TDOT will re-initiate consultation if additional cultural resources studies are required or if archaeological materials or human remains are discovered during construction."

The ESR response is included in the Technical Appendices. All NAC coordination is on file with the TDOT Cultural Resources Section.

Hazardous Materials

Does the project involve any other hazardous material sites? **No**

On 06/02/2025, the TDOT Hazardous Materials Section stated: "Based on the Line and Grade Plans dated 21 May 2025, no known hazardous materials sites affect this project as it is currently planned, and no additional hazardous material studies are recommended at this time."

The ESR response is included in the Technical Appendices.

Multimodal Transportation

Does this project include accommodations for bicycles and pedestrians? **Yes**

On 08/21/2025, the TDOT Office of Active Transportation confirmed the the proposed project meets the 2015 Multimodal Access Policy exception VII(B)(3): "Areas in which the population and employment densities or level of transit service around the facility, both existing and future, does not justify the incorporation of multimodal alternatives."

The ESR response and the 2015 Multimodal Access Policy are included in the Technical Appendices.

Environmental Commitments

Does this project involve any environmental commitments?	**Yes**

Additional Environmental Issues

Are there any additional environmental concerns involved with this project?	**No**

Conclusion

Review Determination

Determination: (c)(28) - meets (e)

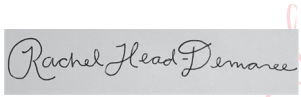
This federal-aid highway project has been determined to be a “C-List” CE pursuant to 23 CFR 771.117(c)(28), “Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings, if the action meets the constraints in paragraph (e) of this section.” The project does meet the constraints of 23 CFR 771.117(e).

Reference Material

All source material used in support of the information and conclusions presented in this document are included in the technical appendices. The technical appendices are compiled as a separate document and include information on funding, agency concurrence, applicable agency agreements, special commitment support, project plans, technical reviews, reports and any other additional information.

Preparer Certification

By signing below, you certify that this document has been prepared in compliance with all applicable environmental laws, regulations and procedures. You can attest to the document's quality, accuracy, and completeness, and that all source material has been compiled and included in the technical appendices.



Digitally signed by Rachel Head-Demaree
Date: 2025.08.29 12:51:12 -05'00'

Document Preparer

Acronyms

AADT	Annual Average Daily Traffic
ADA	Americans with Disabilities Act
APE	Area of Potential Effect
BMP	Best Management Practice
CAA	Clean Air Act
CE	Categorical Exclusion
CFR	Code of Federal Regulations
CMAQ	Congestion Mitigation and Air Quality
DEIS	Draft Environmental Impact Statement
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
EPH	Ephemeral Stream
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
GIS	Geographic Information System
IAC	Interagency Consultation
LWCF	Land and Water Conservation Fund
LOS	Level of Service
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MSAT	Mobile Source Air Toxics
NEPA	National Environmental Policy Act
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
PCE	Programmatic Categorical Exclusion
PIN	Project Identification Number
PM	Particulate Matter
PND	Pond
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
ROW	Right-of-Way
RPO	Rural Planning Organization
SIP	State Implementation Plan
SNK	Sinkhole
SR	State Route
STIP	State Transportation Improvement Program
STR	Stream
TDEC	TN Department of Environment and Conservation
TDOT	Tennessee Department of Transportation
TIP	Transportation Improvement Program
SHPO	State Historic Preservation Office
TPO	Transportation Planning Organization
TVA	Tennessee Valley Authority
TWRA	Tennessee Wildlife Resources Agency
USACE	U.S. Army Corps of Engineers
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
VMT	Vehicle Miles Traveled
VPD	Vehicles Per Day
WWC	Wet Weather Conveyance

Technical Appendices

C-List Categorical Exclusion

Shellmound Road

Bridge over I-24 Eastbound

Marion County

PIN 130902.00

STIP Page

23000000076

STIP ID	PIN #	Length in Miles	Lead Agency
23000000076	126825.00		TDOT

State	County
TN	Statewide

State Route	Total Project Cost	TIP ID
	$564,750,000	

Project Name

NATIONAL HIGHWAY SYSTEM PRESERVATION AND OPERATION

Termini

NATIONAL HIGHWAY SYSTEM PRESERVATION AND OPERATION - RURAL GROUPING

Project Description

Funding from this grouping is used to support the good condition and performance of the National Highway System (NHS), construct new facilities that make progress achieving performance targets of the asset management plan, and increase facility resilience to mitigate the cost of natural disasters. Such projects include preservation and maintenance, operational improvements, bridge and tunnel projects, bicycle transportation and pedestrian infrastructure, highway and transit safety infrastructure improvements, infrastructure-based intelligent transportation systems capital and cybersecurity improvements, environmental mitigation efforts, and other activities necessary to the preservation and operation of the NHS. Projects are required to be non-regionally significant, environmentally neutral, exempt from air quality conformity requirements, and located in the metropolitan planning area. Except as exempted in Title 23 U.S.C. Section 119, all projects will be located on the NHS.

Long Range Plan #	Conformity Status
GP-1, GP-3, GP-4	Not Applicable

FY	Phase	Funding	Programmed Funds	Fed Funds	State Fund	Local Funds
2023	Const	NHPP	$60,000,000	$48,000,000	$12,000,000	$0
2024	Const	NHPP	$100,000,000	$80,000,000	$20,000,000	$0
2025	Const	NHPP	$100,000,000	$80,000,000	$20,000,000	$0
2026	Const	NHPP	$100,000,000	$80,000,000	$20,000,000	$0
Total			**$360,000,000**	**$288,000,000**	**$72,000,000**	**$0**

Project Development


130902.00 ETSA
Write a description for your map.
Legend
Shelmound Rd
Hass Rd
Piercy Rd
Piercy Rd
Hass Rd
24
27
Shelmound Rd
Bolton Rd
Bolton Rd
Google Earth
1000 ft
N

Concept Report Form

The Concept Report Form develops an initial project vision, basis of design and report (e.g., the Concept Report) to transition into the subsequent design stages (Stages 1 through 4 in the Project Delivery Network [PDN]). This form summarizes all project components using information to complete the Concept Report.

General Project Information

Project Name	Shellmound Rd (L.R. 02161) - Bridge over Interstate 24 Eastbound								
PIN	130902.00								
Route Information	**Route**	**NHS (Y/N)**	**Functional Class**		**City**		**County**		
	L.R. 02161	No	Rural Minor Collector				Marion		
Project Information	**Begin Log Mile**	**End Log Mile**	**AADT[1]**	**Design Hour Vol. (DHV)[1]**	**Truck %[1]**	**Design Speed (MPH)**	**Posted Speed (MPH)**	**Base Year**	**Design Year**
	1.29	1.40	1,930	232	2.00	40	30	2026	2046
Project Description & Standard Drawings Used	A field review was held for the above-mentioned project on August 3, 2021. The proposed structure is a 154' long, single span BT-72 Concrete Bulb-T Beam bridge with an out-to-out width of 33' 3". The typical section consists of 2-11' wide lanes each with a 5' wide shoulder. The proposed finished grade of the bridge will need to be raised approximately 4' and will provide a minimum clearance of seventeen 17' under the bridge. A 7.8 mile detour will be established while the proposed bridge is completed. Standard Drawing: RD11-TS-2								Project Details
Important Project History or Related Projects	The replacement of the I-24 WB Bridge over Shellmound Road (Pin# 130900.00) located 0.25 miles north of the proposed Shellmound RD Bridge over I-24 EB replacement will need to be considered when scheduling construction. The existing bridge is a 3 span concrete deck girder bridge crossing over I-24 EB at L.M. 22.78. The existing structure has an out-to-out width of 34' 6". The overall structure length is 139' 6". The current load limit for this structure is 20 tons. Marion County Highway Department is planning to resurface Shellmound Rd in 2023.								
Project Purpose/Need	The need to replace this bridge is due to the present condition of the existing bridge: - Built in 1965. - Sufficiency rating is 54.2 (FAIR) – July 21, 2020 - Typical section does not meet current TDOT standards.								
Major Environmental Considerations	There are no major environmental considerations.								

Multi-Modal Considerations	- Five (5) feet Paved Shoulder Width to accommodate bicycle traffic - Forty-two (42) inch bridge rail TDOT Multimodal Project Scoping Manual, Roadway Design Guidelines, MM-TS-1, MM-BPR-1			
Major Project Risks	Utilities: Distribution lines, communications cable			
Concept Estimate and Timeline	**Total Current Project Cost**		**Construction Year Estimate**	Preliminary Estimates
	$ 3,210,000		$ 4,100,000	
	Proposed Construction Year		**Estimated Construction Duration**	
	2027		TBD	

[1] Traffic numbers reflect identified design year

Approvals

Executed for approval of this Concept Report

Steve Allen (Nov 18, 2022 05:19 CST) — Nov 18, 2022

STID Director — Date

The following individuals to execute if a bridge concept report:

APPROVED
By Ted A. Kniazewycz at 6:08 pm, Nov 19, 2022 — 11/19/2022

Structures Director — Date

12/12/2022

Regional Project Development Director — Date

Feb 7, 2023

Bureau Chief of Engineering — Date

PRESTON J ELLIOTT Digitally signed by PRESTON J ELLIOTT
Date: 2022.12.12 12:48:07 -06'00' — 12/12/2022

Bureau Chief of Environment and Planning — Date

Action Checklist			
0SD1 Initiate Concept Report and Request Funding			
Complete	**NA**		**Date Completed**
	✓	Request and Finalize Safety Data	
✓		Request Project Number, PIN, and Task Profile Numbers	10/02/2020
	✓	Coordinate with Long Range Planning	
✓		Request and Finalize Traffic Data	04/26/2021
	✓	Request Preliminary Survey Data	
✓		Initiate Division Reviews	11/29/2021
✓		Schedule Site Review (with appropriate Divisions)	07/09/2021
0EN1 Conduct Environmental Desktop Review			
Complete	**NA**		**Date Completed**
✓		Confirm Environmental Desktop Review is Complete	01/06/2022
0MM1 Conduct Multimodal Review			
Complete	**NA**		**Date Completed**
✓		Confirm Multimodal Review is Complete	09/27/2022
✓		Review Multimodal Considerations & Recommendations	09/27/2022
0TO1 Conduct Initial Traffic Ops/TSMO Review *(include HQ Traffic Ops and Regional Traffic Office)*			
Complete	**NA**		**Date Completed**
✓		Confirm Transportation Systems Management & Operations (TSMO) Alignment & Operations Review is Complete	09/27/2022
	✓	Request Concept Report Review	
0ST1 Develop Structures Recommendations			
Complete	**NA**		**Date Completed**
✓		Confirm Recommended Structure Type for Concept Report is Complete	03/31/2022
✓		Confirm Hydraulic Recommendations for Concept Report is Complete	04/06/2021
0SY1 Provide Preliminary Survey Data			
Complete	**NA**		**Date Completed**
	✓	Confirm Control Ground Survey Set	
	✓	Review Preliminary Survey Data	
	✓	Determine Time to Complete the Aerial Survey	
0GT1 Conduct Preliminary Geotechnical Assessment			
Complete	**NA**		**Date Completed**
	✓	Confirm Geotechnical Division Review is Complete	
0RD1 Provide Roadway Desktop Review			
Complete	**NA**		**Date Completed**
	✓	Confirm Roadway Division Review is Complete	

Action Checklist			
0SD2 Develop Draft Concept Report			
Complete	**NA**		**Date Completed**
	✓	Conduct Intersection and Interchange Evaluation (IIE)	
	✓	Complete Conceptual Signal Warrants	
✓		Develop Draft Conceptual Layouts/Crash Figures for Site Visit	07/06/2021
	✓	Compile Initial Divisional Reviews for Site Visit	
✓		Prepare & Send Site Visit Packet	07/09/2021
✓		Lead Site Visit	08/03/2021
	✓	Initiate Interstate Access Requests (IAR) Concept Coordination with FHWA (if applicable)	
✓		Develop, Compile, and Distribute the Draft Concept Report	11/03/2021
0TO2 Develop TSMO Scope Items *(include HQ Traffic Ops and Regional Traffic Office)*			
Complete	**NA**		**Date Completed**
	✓	Confirm Signal Warrants Analysis is Complete	
	✓	Confirm Lighting Warrants Analysis is Complete	
	✓	Review and Confirm TSMO & ITS Scope and Budget	
0RW1 Complete Preliminary Right-of-Way Estimates			
Complete	**NA**		**Date Completed**
✓		Review and Confirm Preliminary Right-of-Way Cost Estimates	11/03/2021
0UT1 Complete Utility Preliminary Estimates			
Complete	**NA**		**Date Completed**
✓		Review and Confirm Preliminary Utility Estimate	11/03/2021
	✓	Review and Confirm Preliminary Railroad Cost Estimate	
0SD3 Finalize Concept Report			
Complete	**NA**		**Date Completed**
	✓	Compile and Review Initial Risk Assessment	
✓		Finalize Conceptual Layouts	09/27/2022
✓		Develop Environmental Technical Study Area (ETSA)	09/27/2022
✓		Address Comments and Finalize Concept Report	09/29/2022
	✓	Address Comments and Finalize Interstate Access Requests (IAR) Document and Memo (if applicable)	
	✓	Develop Roadway Safety Audit (RSA) No Plans Document	
✓		Submit the final Concept Report for Review and Signatures (as needed; see 0SD3 for additional information)	09/29/2022
	✓	Finalize Document and Upload All Needed Electronic Files	
	✓	Notify the Project Management Director or Assigned Project Manager to Set Up Project (1PM1)	

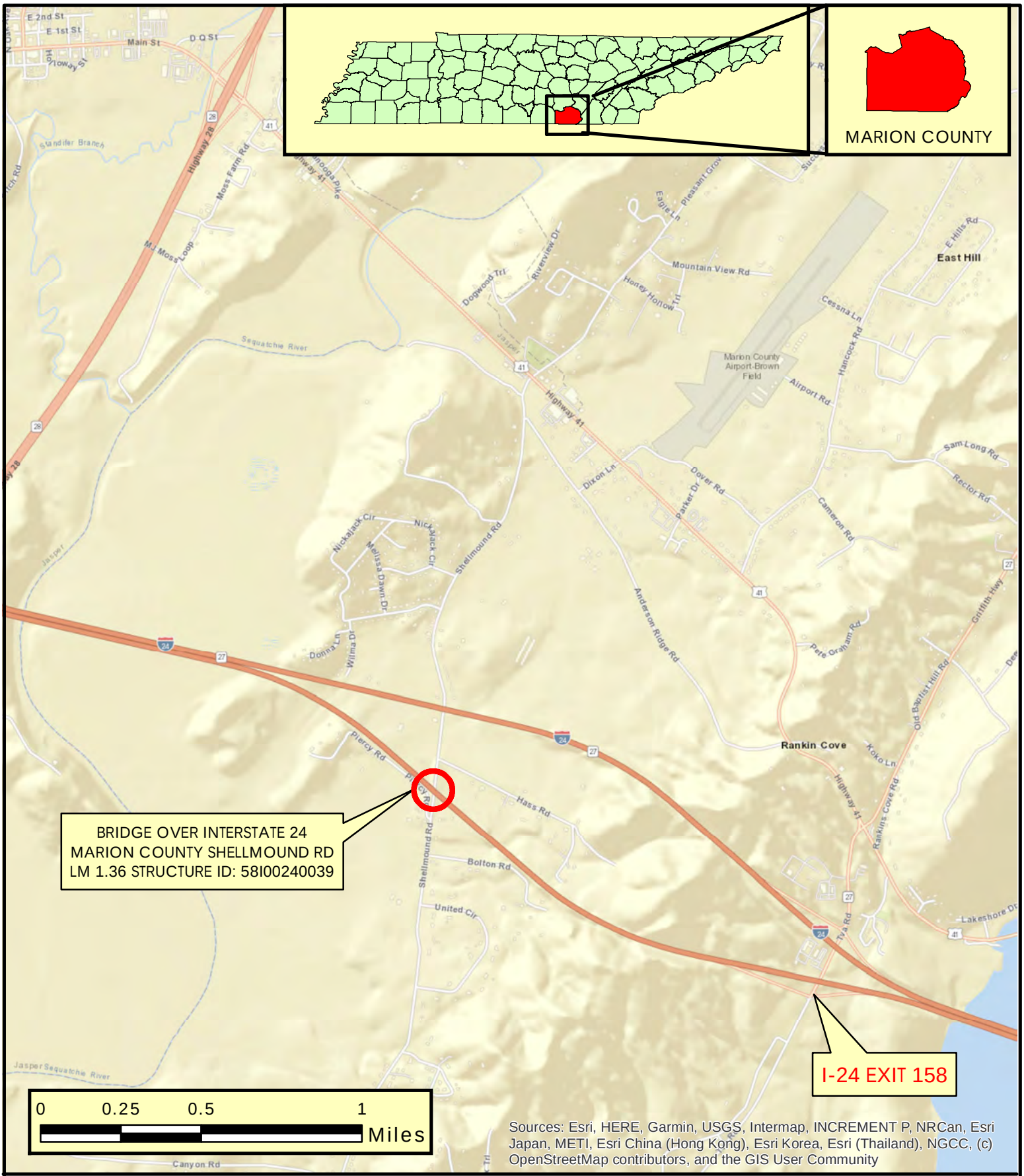
NA Justification
- Conduct Intersection and Interchange Evaluation (IIE) – No interchange within the limits of the project - Complete Conceptual Signal Warrants – Signal warrants not needed for the low AADT - Initiate Interstate Access Requests (IAR) Concept Coordination with FHWA (if applicable) – Not applicable - Confirm Signal Warrants Analysis is Complete - AADT too low for signal warrant - Review and Confirm TSMO & ITS Scope and Budget – No ITS within project limits - Review and Confirm Preliminary Railroad Cost Estimate – No railway within project limits - Address Comments and Finalize Interstate Access Requests (IAR) Document and Memo (if applicable) – Not applicable - Develop Roadway Safety Audit (RSA) No Plans Document – RSA outside the scope of this BTIR

Concept Report Table of Contents/Attachments		
	Included	**NA**
One-Page Summary (with project location map)	✓	
Conceptual Layout(s) and Cross Section	✓	
Environmental Technical Study Area (ETSA) Layout	✓	
Concept Cost Estimate (Construction Year Estimate)	✓	
TSMO & ITS Scope and Budget[1]		✓
ROW Form 44-A[1]		✓
Crash Packet[1]		✓
Crash Prediction Analysis[1]		✓
Site Visit Attendee List	✓	
Environmental Desktop Review Form[1]	✓	
Multimodal Considerations & Recommendations[1]	✓	
Existing Structure Summary[1]	✓	
Email or memo containing Structure Type Recommendations[1]		✓
Email or memo containing Hydraulic Recommendations[1]		✓
Hydraulic Data		✓
Intersection and Interchange Evaluation (IIE) Analysis and Summary Form		✓
Traffic Analysis Summary/Tables	✓	
Forecasted Traffic Sheets[1]	✓	
Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)[1]		✓
Signal Warrant[1]		✓
Lighting Warrant[1]		✓
Initial Risk Assessment using the Risk Assessment Form		✓
Final Interstate Access Request (IAR) Document and Memo with Letter from STID Director		✓
Road Safety Audit (RSA) No Plans[1]		✓

NA Justification

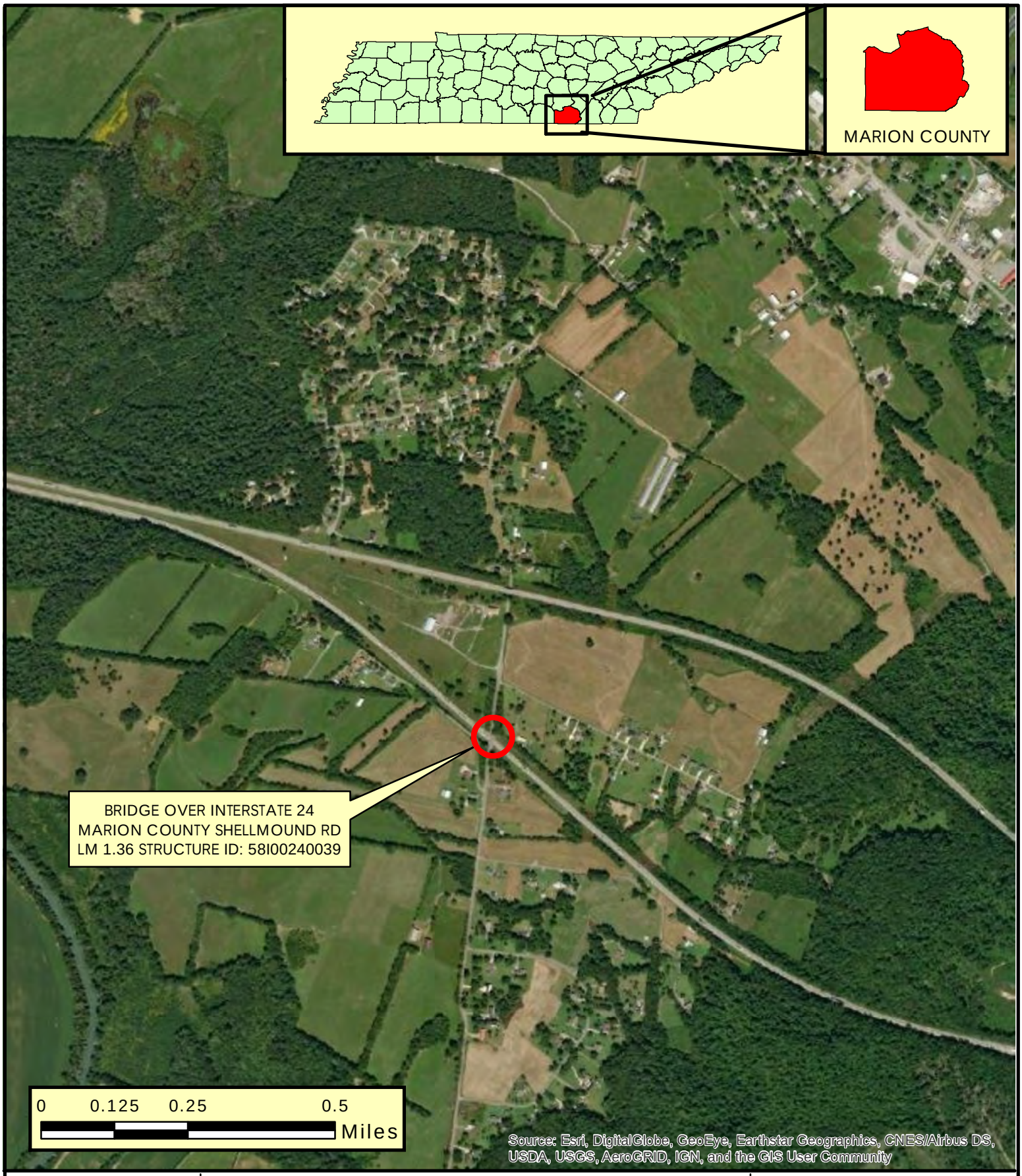
- TSMO & ITS Scope and Budget* - No ITS at site
- Crash Packet* -Crash packets are not typically provided for Bridge replacements
- Intersection and Interchange Evaluation (IIE) Analysis and Summary Form - No intersection or interchange
- Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)* - AADT too low to model
- Signal Warrant* - No intersection to signal warrant
- Road Safety Audit (RSA) No Plans* - RSA outside the scope of this BTIR

* External document to STID



AREA MAP
BRIDGE OVER INTERSTATE 24
SHELLMOUND ROAD
L.M. 1.36
PIN: 130902.00
MARION COUNTY

TN TDOT Department of Transportation

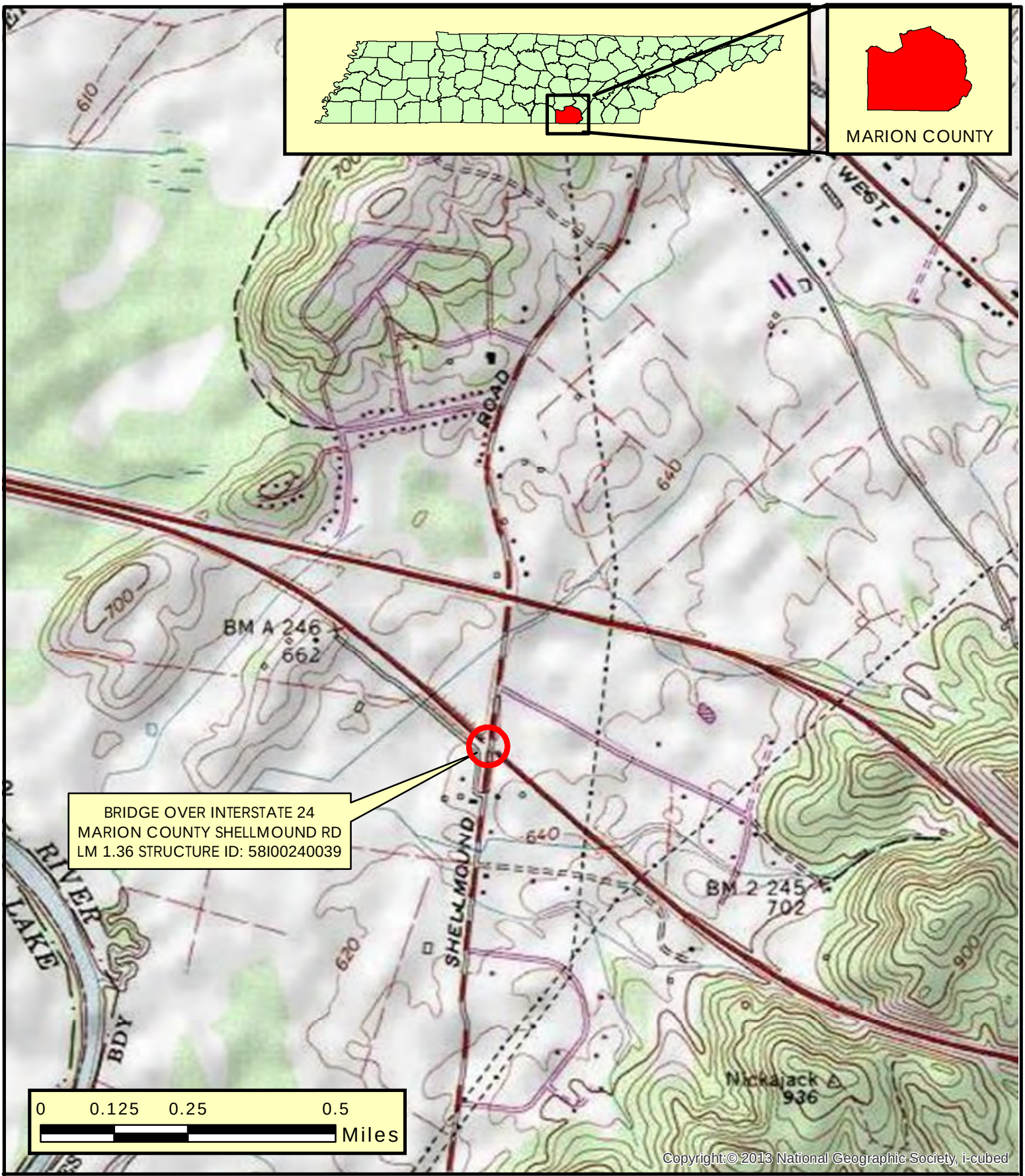


N

LOCATION MAP

BRIDGE OVER INTERSTATE 24
SHELLMOUND ROAD
L.M. 1.36
PIN: 130902.00
MARION COUNTY

TN TDOT Department of Transportation



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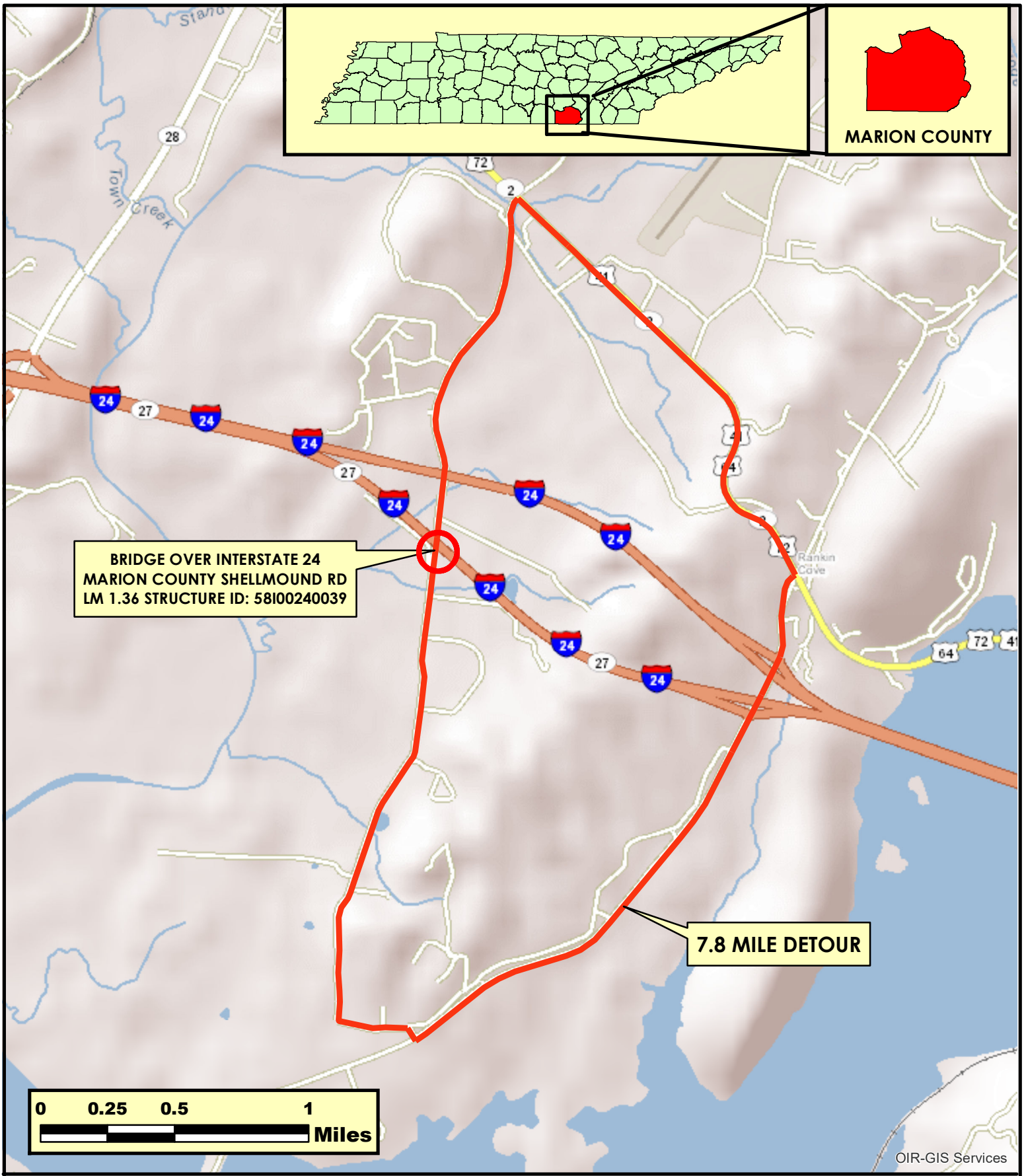
TOPOGRAPHIC MAP
BRIDGE OVER INTERSTATE 24
SHELLMOUND ROAD
L.M. 1.36
PIN: 130902.00
MARION COUNTY

TN TDOT Department of Transportation



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DETOUR MAP
BRIDGE OVER INTERSTATE 24
SHELLMOUND ROAD
L.M. 1.36
PIN: 130902.00
MARION COUNTY

TN TDOT Department of Transportation

TENNESSEE D.O.T.
S.T.I.D.
FILE NO. ——

TYPE	YEAR	COUNTY	FIGURE NO.
BTIR	2021	MARION	1

0' 200' 400' 600'

N

BRIDGE TRANSPORTATION INVESTMENT REPORT

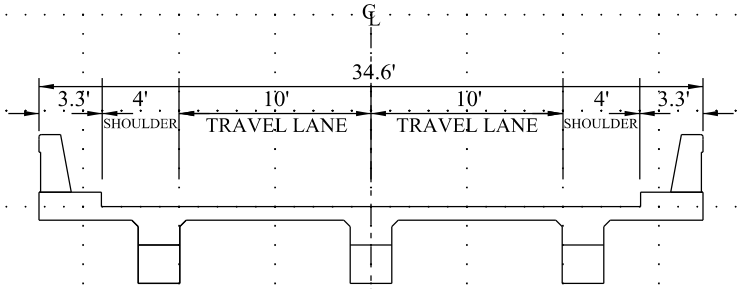
SHELLMOUND RD (L.R. 02161)
BRIDGE OVER INTERSTATE 24 EB
L.M. 1.28 TO L.M. 1.41
MARION COUNTY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
S.T.I.D.

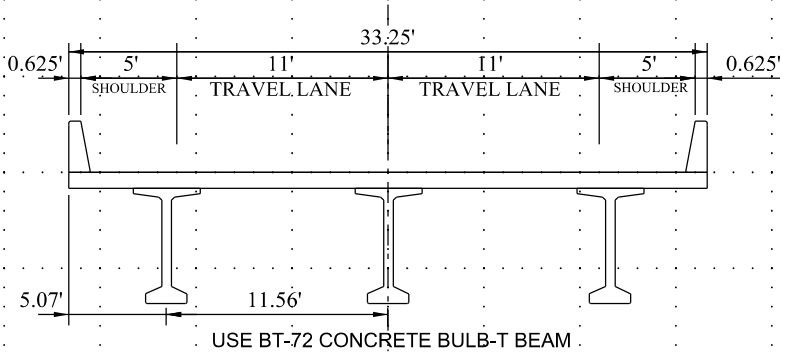
FIGURE 1
L.R. 02161
L.M. 1.28 to
L.M. 1.41

10/4/2022 8:19:16 AM
X:\Projects\Marion\Shellmound Rd\Bridge over I-24\Project Files\dgn\centerline\130902.00 - Marion Shellmound Rd Bridge over I24 - Sheet 1- Proposed (centerline ABC).dgn

EXISTING STRUCTURE



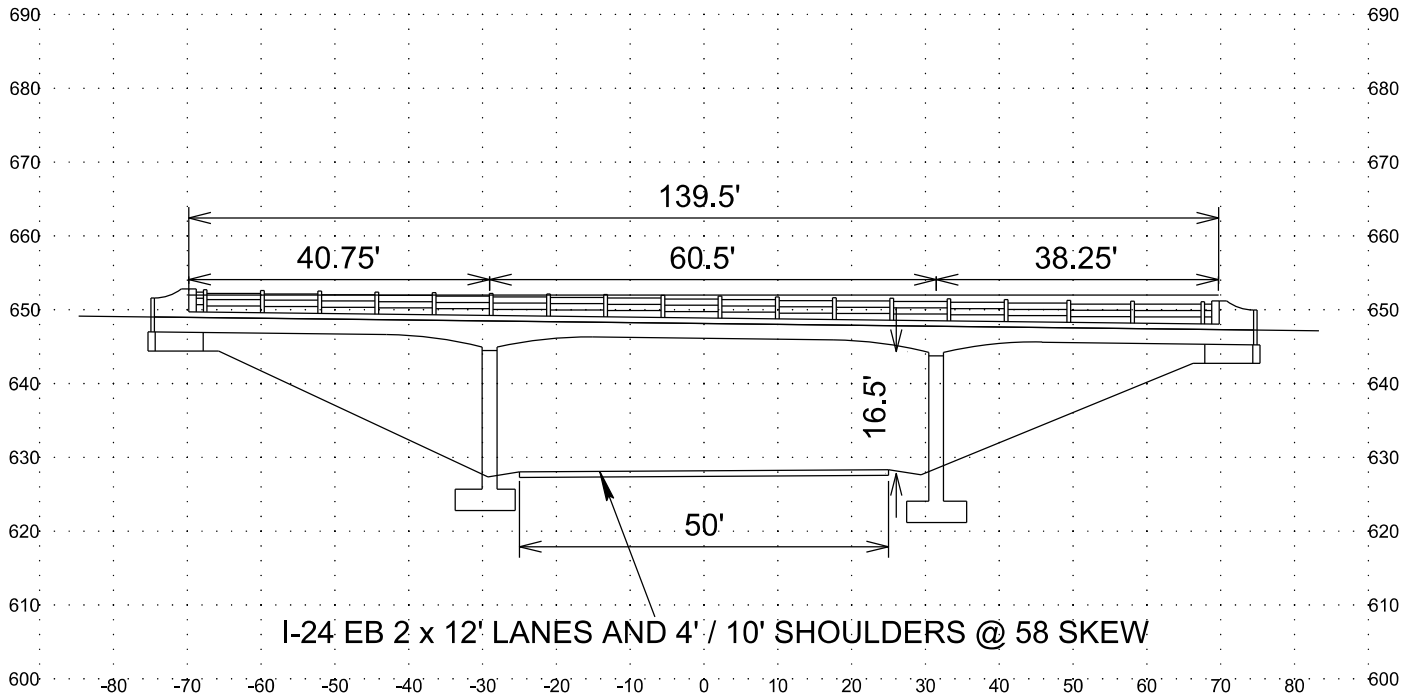
PROPOSED COMPLETED



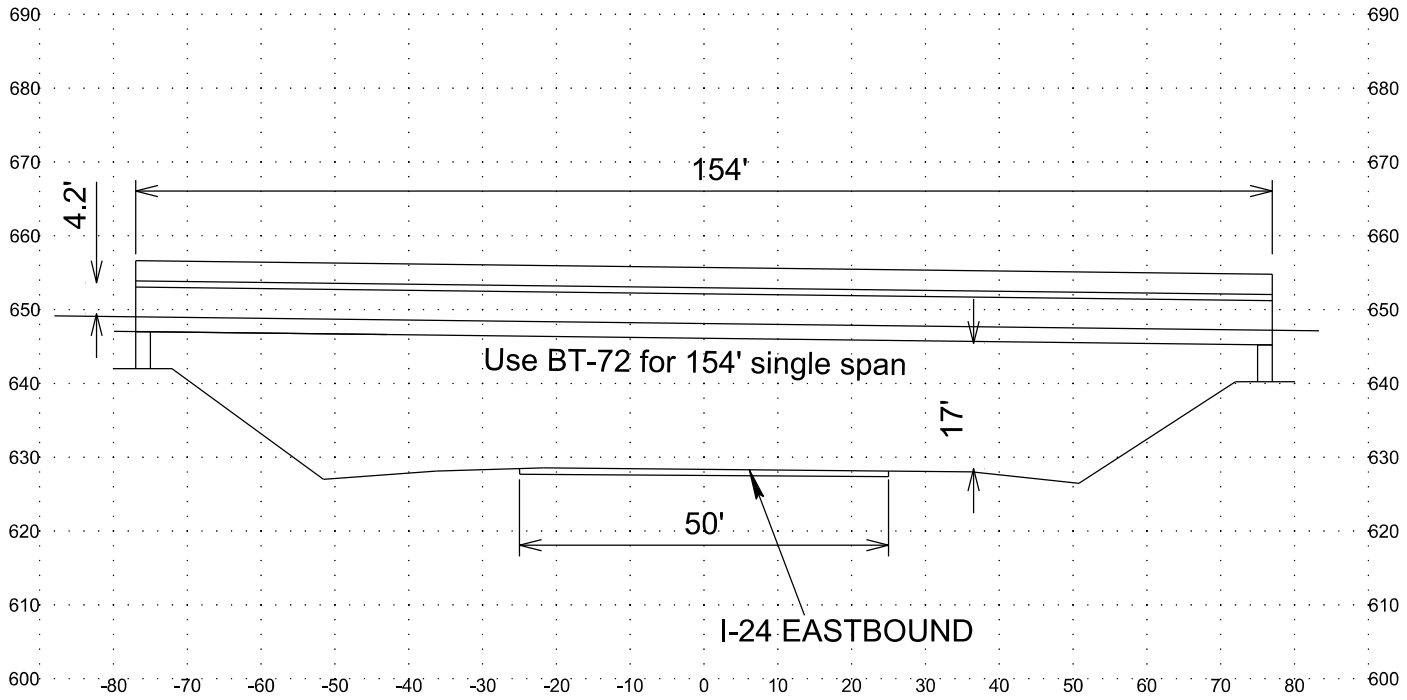
CROSS-SECTION DETAIL

MARION COUNTY - SHELLMOUND ROAD (02161)
BRIDGE OVER I-24 EB @ L.M. 1.36
BRIDGE ID: 58I00240039

EXISTING STRUCTURE (INLET)



PROPOSED STRUCTURE (INLET)



BRIDGE SECTIONS

MARION COUNTY - SHELLMOUND ROAD (02161)

BRIDGE OVER I-24 EB @ L.M. 1.36

BRIDGE ID: 58I00240039

BRIDGE TRANSPORTATION INVESTMENT REPORT (TIR)

MARION COUNTY
LR 02161 (SHELLMOUND RD)
LM 1.36

LOCATION			
Bridge #:	58I00240039	Feature Crossed:	I-24 EB
Road Name:	Shellmound Rd	Log mile:	1.36
Route ID:	02161	System:	State Highway Agency
City:		Functional Class:	Rural Minor Collector
County:	Marion		
PIN:	130902.00		

ROADWAY		
	Existing	**Proposed (Preliminary Design Estimate)**
Design Standard		RD11-TS-2
Route Characteristics		
AADT:	1,750	1,930
AADT Year:	2026	2046
Terrain:	Rolling	Rolling
No. Lanes:	2	2
Speed(Posted):	30	30
Speed (Design):		40
Approach Character.		
Lane Width (ft):	10	11
Shoulder Width (ft):	2	5
ROW Width (ft):	60	60
ROW Tracts Affected		0
ROW Required (acre)		0
Cross Section Width (ft):	20/24/60	22/30/60
Northern Approach Length (ft)		230'
Southern Approach Length (ft):		310'
Alignment:	Centerline	Maintain Centerline
Grade:	N/A	Raise Approximately 4.3'
Surface Material:	Asphalt Concrete	Asphalt Concrete
App. Lower Than Structure	NO	NO
Utilities (list)	transmission and communications utilites alongside road will need to be relocated	
Comments		I-24 EB use RD11-TS-5A

BRIDGE TRANSPORTATION INVESTMENT REPORT (TIR)

MARION COUNTY
LR 02161 (SHELLMOUND RD)
LM 1.36

STRUCTURE		
	Existing	**Proposed (Preliminary Design Estimate)**
Bridge Characteristics		
Year Built	1965	
Load Limit	16 tons	
Sufficiency Rating	54.2 (FAIR)	
Skew	58	58
Structure Type	Concete Tee Beam	Concrete Prestressed Bulb-T Beam
Structures in Channel	NO	NO
Length (ft)	139' 6"	154'
No. Spans (App./Main)	3 main	1 main
Width (curb to curb) (ft)	28'	30'
Width (o to o) (ft)	34' 6"	31' 3"
Sidewalks on Structure	NO	NO
Superstructure Depth (in)	61" / 85"	124"
Girder Depth (in)	24" / 48"	72"
Finish Grade-Low Girder (in)	31" / 55"	82"
Bridge Rail Type	Concrete parapet	Concrete Wall
Bridge Rail Height (ft)	30"	42"
Indication Overtopping	NO	
Local Scour	NO	
Obstructions	NO	
Other Structures	Use BT-72 for single span	
Comments	Minimum Clearance of existing located at 24" beam thickness	

MAINTENANCE OF TRAFFIC	
Method of Maintaining Traffic	close road
Description	Close Bridge and Detour 7.8 miles on TVA Road, U.S. 64 and U.S. 41
Comments	TVA Road will need to be striped and signed for detour.

COST ESTIMATE SUMMARY

Route:	LR 02161
Termini:	Shellmound Rd, Bridge over I-24 Eastbound
Scope of Work:	
Project Type of Work:	Bridge Replacement
County:	Marion
Length:	0.23 Miles
Date:	October 4, 2022
Estimate Type:	Concept

DESCRIPTION		LOCAL	STATE	FEDERAL	TOTAL
		0%	0%	0%	
Construction Items					
Removal Items		$0	$0	$0	$45,100
Asphalt Paving		$0	$0	$0	$389,000
Concrete Pavement		$0	$0	$0	$0
Drainage		$0	$0	$0	$15,100
Appurtenances		$0	$0	$0	$0
Structures		$0	$0	$0	$1,010,000
Fencing		$0	$0	$0	$0
Signalization & Lighting		$0	$0	$0	$0
Railroad Crossing		$0	$0	$0	$0
Earthwork		$0	$0	$0	$194,000
Clearing and Grubbing		$0	$0	$0	$0
Seeding & Sodding		$0	$0	$0	$2,700
Rip-Rap or Slope Protection		$0	$0	$0	$31,900
Guardrail		$0	$0	$0	$38,400
Signing		$0	$0	$0	$1,700
Pavement Markings		$0	$0	$0	$21,900
Maintenance of Traffic		$0	$0	$0	$75,500
Mobilization	5%	$0	$0	$0	$91,300
Other Items and Annual Inflation	10%	$0	$0	$0	$192,000
Const. Contingency (Structures Not Included)	30%	$0	$0	$0	$330,000
Const. Eng. & Inspec.	10%	$0	$0	$0	$244,000
Construction Estimate		$0	$0	$0	$2,680,000
Interchanges & Unique Intersections					
Roundabouts		$0	$0	$0	$0
Interchanges		$0	$0	$0	$0
Right-of-Way & Utilties		LOCAL	STATE	FEDERAL	TOTAL
		0%	0%	0%	
Right-of-Way		$0	$0	$0	$0
Utilities		$0	$0	$0	$260,000
Preliminary Engineering		LOCAL	STATE	FEDERAL	TOTAL
		0%	0%	0%	
Prelim. Eng.	10.0%	$0	$0	$0	$268,000
Total Project Cost (2022)		$ -	$ -	$ -	$ 3,210,000

PAY ITEM SUMMARY

TDOT PAY ITEM	TDOT DESCRIPTION	UNIT	TOOL QUANTITIES	ADDITIONAL QUANTITIES	TOOL QUANTITIES + ADDITIONAL QUANTITIES	Statewide UNIT COST	TOTAL COST
							<-- Unit Cost Trends with Quantities
Pavment Removal							
202-03.01	REMOVAL OF ASPHALT PAVEMENT	SY	3919		3919	$ 11.50	$ 45,068.17
						PAVEMENT REMOVAL TOTAL (ROUNDED)	$ 45,100
Asphalt Roads							
303-01	MINERAL AGGREGATE, TYPE A BASE, GRADING D	TON	2770		2770	$ 33.59	$ 93,062.03
307-(01, 02, 03).01	ASPHALT CONCRETE MIX (All Grades) (BPMB-HM) GRADING A	TON	1419		1419	$ 96.50	$ 136,976.49
307-01.(20 & 21 & 22)	AGGREGATE (BPMB-HM) GRADING A-S MIX	TON	414		414	$ 86.50	$ 35,795.14
307-(01 & 02 & 03).08	ASPHALT CONCRETE MIX (ALL GRADES) (BPMB-HM) GRADING B-M2	TON	492		492	$ 137.76	$ 67,763.87
402-01	BITUMINOUS MATERIAL FOR PRIME COAT (PC)	TON	6		6	$ 807.84	$ 4,871.47
402-02	AGGREGATE FOR COVER MATERIAL (PC)	TON	22		22	$ 70.11	$ 1,525.92
403-01	BITUMINOUS MATERIAL FOR TACK COAT (TC)	TON	4		4	$ 747.73	$ 2,863.32
411-01.07	ACS MIX (PG64-22) GRADING E SHOULDER	TON	17		17	$ 147.40	$ 2,509.89
411-(01 & 02 & 03).10	ACS MIX(ALL GRADES) GRADING D	TON	298		298	$ 147.76	$ 43,987.41
						PAVING TOTAL (ROUNDED)	$ 389,400
Concrete Roads							
						CONCRETE RAMPS AND ROADWAYS TOTAL (ROUNDED)	$ -
Drainage							
607-05.02	24" CONCRETE PIPE CULVERT (CLASS III)	LF	66		66	$ 100.62	$ 6,661.31
611-07.01	CLASS A CONCRETE (PIPE ENDWALLS)	CY	3		3	$ 1,425.66	$ 4,131.57
611-07.02	STEEL BAR REINFORCEMENT (PIPE ENDWALLS)	LB	275		275	$ 3.12	$ 858.85
710-02	Aggregate Underdrains (with pipe)	LF	475		475	$ 7.10	$ 3,372.55
						DRAINAGE TOTAL (ROUNDED)	$ 15,100
Appurtenances							
						ROADWAY AND PAVEMENT APPURTENANCES TOTAL (ROUNDED)	$ -
Earthwork & Mineral							
105-01	CONSTRUCTION STAKES, LINES AND GRADES	LS	1		1	$ 31,120.89	$ 31,120.89
203-01	ROAD & DRAINAGE EXCAVATION (UNCLASSIFIED)	CY	8015		8015	$ 15.45	$ 123,829.74
203-02.01	BORROW EXCAVATION (GRADED SOLID ROCK)	TON	378		378	$ 32.33	$ 12,225.97
203-03	BORROW EXCAVATION (UNCLASSIFIED)	CY	1800		1800	$ 14.91	$ 26,845.32
						EARTHWORK & MINERAL TOTAL (ROUNDED)	$ 194,100
Structures							
N/A	Removal of Bridge	SF	4468		4468	$ 20.00	$ 89,355.00
N/A	New Bridge (Concrete Girder):	SF	5121		5121	$ 180.00	$ 921,690.00
						STRUCTURES TOTAL (ROUNDED)	$ 1,011,100
Interchanges and Unique Intersections							
						INTERCHANGES AND UNIQUE INTERSECTIONS TOTAL (ROUNDED)	$ -
Lighting & Signalization							
						LIGHTING & SIGNALIZATION TOTAL (ROUNDED)	$ -
Guardrail							
705-01.01	GUARDRAIL AT BRIDGE ENDS	LF	100		100	$ 66.52	$ 6,651.84
705-06.01	W Beam GR (Type 2) Mash TL3	LF	143	1132	1275	$ 20.07	$ 25,589.25
705-04.05	GUARDRAIL TERMINAL (TYPE-IN-LINE)	EA		3	3	$ 590.37	$ 1,771.11
705-06.20	Tangent Energy Absorbing Term Mash TL-3	EA	5	-4	1	$ 2,626.00	$ 2,626.00
706-06.03	RADIUS RAIL	LF		75	75	$ 21.47	$ 1,610.25
706-10.26	ROUNDED END ELEMENT	EA		3	3	$ 42.68	$ 128.04
						GUARDRAIL TOTAL (ROUNDED)	$ 38,400
Seeding and Sodding							
801-01	SEEDING (WITH MULCH)	UNIT	45		45	$ 27.26	$ 1,239.07
801-01.07	TEMPORARY SEEDING (WITH MULCH)	UNIT	34		34	$ 22.31	$ 760.56
801-02	SEEDING (WITHOUT MULCH)	UNIT	34		34	$ 17.70	$ 603.40
						SODDING TOTAL (ROUNDED)	$ 2,700
Maintenace of Traffic							
N/A	Traffic Control	LS	1		1		$ 73,648.44
712-02.02	INTERCONNECTED PORTABLE BARRIER RAIL	LF	61		61	$ 30.18	$ 1,832.53
						MAINTENANCE OF TRAFFIC TOTAL (ROUNDED)	$ 75,500
Signs							
Not Listed	Signs (Construction)	LS	1		1	$ -	$ 1,700
						SIGNING TOTAL (ROUNDED)	$ 1,700
Pavement Markings							
716-13.07	Spray Thermo P.M. (40 mil 6")	LM		17.7	17.6838	$ 1,237.50	$ 21,883.70
						PAVEMENT MARKINGS TOTAL (ROUNDED)	$ 21,900
Fencing							
						FENCE TOTAL (ROUNDED)	$ -
Rip-Rap							
709-05.05	Machined Rip-Rap (Class A-3)	TON	800		800	$ 39.85	$ 31,880.00
						RIP-RAP & SLOPE PROTECTION TOTAL (ROUNDED)	$ 31,900.00
Clearing and Grubing							
						CLEAR AND GRUBBING TOTAL (ROUNDED)	$ -
Railroad At-Grade Crossing							
						RAILROAD CROSSING OR SEPARATION TOTAL (ROUNDED)	$ -
Utilties							
N/A	Overhead Distribution	LM	0.23		0.23	$ 750,000	$ 172,500
N/A	Underground Communication	LM	0.23		0.23	$ 380,000	$ 87,400
						UTILITIES TOTAL (ROUNDED)	$ 259,900.00
Right-of-Way							
N/A	Right-of-Way	LS	1		1	$ -	$ -
						RIGHT-OF-WAY TOTAL (ROUNDED)	$ -

BRIDGE TRANSPORTATION INVESTMENT REPORT (TIR)

MARION COUNTY
LR 02161 (SHELLMOUND RD)
LM 1.36

SITE VISIT ATTENDEES		DATE:	8/8/2021
Name	Organization	Phone	Email
Michael Cloud	TDOT - STID	615-532-7696	michael.cloud@tn.gov
Michael Gilbert	TDOT - STID	615-741-0772	michael.gilbert@tn.gov
David Duncan	TDOT - STID	615-532-6131	david.duncan@tn.gov
Alan Wolfe	R2 - Traffic	423-510-1139	Alan.Wolfe@tn.gov
Chester Sutherland	R2 - ETO	423-510-1229	Chester.Sutherland@tn.gov
Marykate Collins	R2 - Traffic	423-510-1139	marykate.collins@tn.gov
Ann Casseus	R2- Survey	423-510-1233	Ann.Casseus@tn.gov
Jackson Collette	R2- Traffic	423-510-1139	Jackson.Collette@tn.gov
Tami Johnson-Praino	R2 - Survey	423-510-1233	Tami.Johnson-Praino@tn.gov

Northern Approach looking South

Western Edge of Bridge

Eastern Edge of Bridge

Southern Approach looking North

On bridge looking South

Southern Approach intersection with Piercy Road

Northern approach of bridge looking North

Drainage feature on Shellmound Rd

EB I-24 Looking East Under bridge

EB I-24 Looking West Under Bridge

EB I-24 Looking North Under Bridge

EB I-24 Looking South Under Bridge

CHECK LIST OF DETERMINANTS FOR LOCATION STUDY

If any of the following facilities or ESE categories are located within the project area or corridor, place an "x" in the blank opposite the item. Where more than one alternate is to be considered, place its letter designation in the blank.

1.	Agricultural land usage	✓
2.	Airport (existing or proposed)	
3.	Commercial area, shopping center	
4.	Floodplains	
5.	Forested land	
6.	Historical, cultural, or natural landmark	
7.	Industrial park, factory	
8.	Institutional usages	
	a. School or other educational institution	
	b. Church or other religious institution (Cemetery)	
	c. Hospital or other medical facility	
	d. Public building, e.g., fire station	
	e. Defense installation	
9.	Recreation usages	
	a. Park or recreational area	
	b. Game preserve or wildlife area	
10.	Residential establishment	✓
11.	Urban area, town, city, or community	
12.	Waterway, lake, pond, river, stream, spring	
	Permit required: Coast Guard	
	Section 404	
	TVA Section 26a review	
	NPDES	
	Aquatic Resource Alteration	
13.	Other	✓
14.	Location coordinated with local officials	
15.	Railroad crossings	
16.	Hazardous materials site	

Michael Cloud

From: David A. Duncan
Sent: Tuesday, March 15, 2022 9:59 AM
To: Michael Cloud
Subject: FW: Draft Bridge TIR - 130902.00 - Shellmound Road, Bridge over I-24 Eastbound
Attachments: 130902.00 - Marion Co Shellmound Rd BTIR over I-24 EB - draft (12-3-21).pdf

---

From: Linda Tidwell <Linda.Tidwell@tn.gov>
Sent: Thursday, January 6, 2022 2:44 PM
To: David A. Duncan <David.A.Duncan@tn.gov>
Cc: Kimberly Vasut-Shelby <Kimberly.Vasut-Shelby@tn.gov>; Sharon Sanders <Sharon.Sanders@tn.gov>
Subject: FW: Draft Bridge TIR - 130902.00 - Shellmound Road, Bridge over I-24 Eastbound

David,

Thank you for the opportunity to comment on the draft Bridge TIR for the Shellmound Road Bridge over I-24 Eastbound.

The project is located in a rural/agricultural area and there are no obvious Section 4(f) resources in the project area. The bridge sufficiency rating is 54.2. Please include a purpose and need statement for replacing the bridge. Also, please include a statement as to whether the proposed project is expected to be constructed within the existing ROW. If ROW is needed, please include an estimated amount of ROW needed.

Thanks,
Linda

Linda Tidwell | TDOT Environmental Studies Specialist
Environmental Division/ NEPA Programs Office
James K. Polk Building, 9th Floor
505 Deaderick Street, Nashville, TN 37243
P. 615-253-2860
Linda.Tidwell@tn.gov
tn.gov/tdot
NEPA Office (tn.gov)

From: Kimberly Vasut-Shelby <Kimberly.Vasut-Shelby@tn.gov>
Sent: Thursday, December 30, 2021 9:58 AM
To: Linda Tidwell <Linda.Tidwell@tn.gov>
Cc: Sharon Sanders <Sharon.Sanders@tn.gov>
Subject: Project Assignment: Draft Bridge TIR - 130902.00 - Shellmound Road, Bridge over I-24 Eastbound

Linda,

I have assigned the following project to you. Please provide NEPA comments for this draft.

Michael Cloud

From: Veda Nguyen
Sent: Tuesday, September 27, 2022 3:01 PM
To: David A. Duncan; Daniel McDonell
Cc: Steve Allen; Jim Waters; Daniel Pallme; Michael Cloud; Michael Gilbert
Subject: RE: 130902.00 - Marion Shellmound Road over I-24 EB

Follow Up Flag: Follow up
Flag Status: Flagged

Hi David,

Based on the information provided in the BTIR and TDOT standards and guidelines:

- Bicyclists can be accommodated with a shared lane
  - On low speed (Posted Speed <=35 mph) and low volume (ADT < 2000) rural roads, MM-TS-1 Table 2 indicates that a shared lane with vehicles is an acceptable bike accommodation.
- Pedestrians can be accommodated with a 5 ft paved shoulder
  - On rural collector roads where only an occasional pedestrian is expected, TDOT Design Guidelines, Chapter 3, Section 3-205.00 indicates that the shoulder is an acceptable pedestrian accommodation. TDOT Design Guidelines, Chapter 3, Section 3-801.00, Table 3-5 recommends a minimum paved shoulder width of 5ft (4ft + 1ft) to accommodate pedestrians along the bridge. The additional 1 ft is a required offset to the bridge railing (vertical element).

Please let me know if you have any follow-up questions.

Thanks,

Veda L. Nguyen, P.E. | Civil Engineering Manager II
Multimodal Planning Office
James K. Polk Bldg, 12th Floor
505 Deaderick St., Nashville, TN 37243
Office No. 615-532-0421
Veda.Nguyen@tn.gov

From: David A. Duncan <David.A.Duncan@tn.gov>
Sent: Tuesday, September 27, 2022 8:58 AM
To: Veda Nguyen <Veda.Nguyen@tn.gov>; Daniel McDonell <Daniel.McDonell@tn.gov>
Cc: Steve Allen <Steve.Allen@tn.gov>; Jim Waters <Jim.Waters@tn.gov>; Daniel Pallme <Daniel.Pallme@tn.gov>; Michael Cloud <Michael.Cloud@tn.gov>; Michael Gilbert <Michael.Gilbert@tn.gov>
Subject: 130902.00 - Marion Shellmound Road over I-24 EB

Veda/Daniel,
I don't think we ever got comments from your office for the attached bridge TIR, and it was going through the review process prior to the IIJA discussions began earlier this year. We are currently showing 4' shoulders across the bridge, but I think the Multimodal guidelines call for 5' shoulders when a vertical wall is present. Do you think we need to

accommodate pedestrians on this bridge? Or we okay with just providing the width on the shoulders for bikes? Let us know you thoughts about the multimodal accommodations for this project.
Thanks,
Dave

David Duncan, PE | Civil Engineering Manager 1
Strategic Transportation Investments Division / Project Investigation
James K. Polk Building, 10th Floor
505 Deaderick St., Nashville, TN 37243
p. 615-532-6131
David.A.Duncan@tn.gov
tn.gov/tdot
https://www.tn.gov/tdot/strategic-transportation-investments.html

NATIONAL BRIDGE INVENTORY
TENNESSEE INVENTORY AND APPRAISAL REPORT

TDOT DEPARTMENT OF TRANSPORTATION

BRIDGE ID NUMBER: **58I00240039**
BRIDGE OWNER: **STATE OF TENNESSEE**
FIPS CODE: **00000**
ROAD NAME: **SHELLMOUND RD.**
CROSSING: **SHELLMOUND RD. / I-24 EB**
LOCATION: **3.5 MI S OF SR28**

COUNTY: **MARION**
ROUTE: **02161**
SPECIAL CASE: **0**
COUNTY SEQUENCE: **1**
LOG MILE: **1.36**
SUFFICIENCY RATING: **54.2**

IDENTIFICATION

(16a,b) LATITUDE:	N	35.04068	DEGREES
(17a,b) LONGITUDE:	W	85.60353	DEGREES
(98a) BORDER BRIDGE STATE CODE:			N/A
(98b) PERCENT SHARE:			N/A
(99) BORDER BRIDGE NUMBER:			NOT APPLICABLE

BRIDGE TYPE AND MATERIAL

(43a) MAIN SPAN MATERIAL: **CONCRETE CONTINUOUS**
(44a) APPR SPAN MATERIAL: **NOT APPLICABLE**

(45) NUMBER OF MAIN SPANS: **3**
(46) NUMBER OF APPROACH SPANS: **0**
(107) TYPE OF DECK: **CONCRETE CAST-IN-PLACE**
(108) TYPE OF WEARING SURFACE AND DECK PROTECTION:
A) TYPE OF SURFACE: **ASPHALT**
B) TYPE MEMBRANE: **NONE**
C) TYPE PROTECTION: **NONE**

AGE AND SERVICE

(27) YEAR THE BRIDGE WAS BUILT: **1965**
(106) YEAR THE BRIDGE WAS REHABILITATED: **N/A**
(42a) SERVICE ON BRIDGE: **HIGHWAY**
(42b) UNDER BRIDGE: **HIGHWAY**
(28a) NUMBER OF LANES CARRIED BY BRIDGE: **2**
(28b) NUMBER OF LANES UNDER THE BRIDGE: **2**

GEOMETRIC DATA

(48) MAXIMUM SPAN LENGTH: **61.0 FT**
(49) TOTAL BRIDGE LENGTH: **140.1 FT**
(50a) LEFT SIDEWALK WIDTH: **0.0 FT**
(50b) RIGHT SIDEWALK WIDTH: **0.0 FT**
(51) BRIDGE CURB TO CURB WIDTH: **27.9 FT**
(52) BRIDGE OUT TO OUT WIDTH: **34.4 FT**
(32) APPROACH ROADWAY (W/ SHLDS) WIDTH: **27.9 FT**
(33) BRIDGE MEDIAN: **NO MEDIAN**
(34) BRIDGE SKEW: **32 DEGREES**
(35) BRIDGE FLARE: **NO FLARE**
(520) MIN VERTICAL CLEARANCE OVER RD: **NO RESTRICTION**
(47) MIN HORIZONTAL CLEARANCE ON ROADWAY: **27.9 FT**
(54a) VERT UNDERCLR: **HIGHWAY BENEATH BRIDGE**
(54b) MIN VERTICAL UNDERCLEARANCE: **17.52 FT**
(55a) HORZ UNDERCLR: **HIGHWAY BENEATH BRIDGE**
(55b) MIN HORZ UNDERCLR ON RIGHT: **11.15 FT**
(56) MIN HORZ UNDERCLR ON LEFT: **NOT APPLICABLE**

NAVIGATION DATA

(38) NAV CONTROL: **NOT APPLICABLE**
(39) NAVIGATION VERTICAL CLEARANCE: **N/A**
(116) LIFT BRIDGE VERT CLEARANCE: **N/A**
(40) NAVIGATION HORZ CLEARANCE: **N/A**

PUBLICATION DATE
19-Mar-20

CLASSIFICATION

(112) MEETS NBIS BRIDGE LENGTH: **YES**
(104) NATIONAL HIGHWAY SYSTEM: **NOT A NHS ROUTE**
(26) FUNCTIONAL CLASS: **RURAL MINOR COLLECTOR**
(101) PARALLEL BRIDGE: **NO PARALLEL BRIDGE**
(102) TRAFFIC DIR: **2-WAY TRAFFIC**
(103) TEMPORARY BRIDGE: **NOT APPLICABLE**
(110) NATIONAL TRUCK ROUTE: **NOT ON TRUCK NETWORK**
(37) HISTORICAL CLASS: **HISTORICAL SIGNIFICANCE HAS NOT BEEN DETERMINED**

CONDITION RATINGS

(58) DECK: **7**
(59) SUPERSTRUCTURE: **5**
(60) SUBSTRUCTURE: **7**
(61) STREAM CHANNEL AND CHANNEL PROTECTION: **N**
(62) CULVERT CONDITION (IF APPLICABLE): **N**

DESIGN LOAD AND WEIGHT POSTING

(31) DESIGN LOADING: **HS-20-44 +MOD**
WEIGHT POSTING (2 AXLE VEHICLES): **ALL LEGAL LOADS**
WEIGHT POSTING (3 OR MORE AXLES): **ALL LEGAL LOADS**
(70) BRIDGE POSTING CODE: **5**
(41) WT POSTING STATUS: **OPEN**

APPRAISAL

(67) STRUCTURAL EVALUATION: **5**
(68) DECK GEOMETRY: **5**
(69) UNDERCLEARANCE RATING: **3**
(71) WATERWAY ADEQUACY: **N**
(72) APPROACH ROADWAY ALIGNMENT: **6**
(36) TRAFFIC SAFETY FEATURES: **0000**
(113) SCOUR CONDITION RATING: **N**

RECOMMENDED IMPROVEMENTS

(75) TYPE OF WORK: **BRIDGE DECK REPAIR**
(76) LENGTH OF BRIDGE IMPROVEMENT: **140.1 FT**
(94) BRIDGE IMPROVEMENT COST: **$152,000.00**
(95) ROADWAY IMPROVEMENT COST: **$16,000.00**
(96) TOTAL PROJECT COST: **$229,000.00**
(97) YEAR OF IMPROVEMENT COST ESTIMATE: **2019**

INSPECTION DATES

(90) DATE OF LAST REGULAR INSPECTION: **7/24/2018**
(91) REGULAR INSPECTION FREQUENCY (MONTHS): **24**
(93b) DATE OF LAST UNDERWATER INSP (MO/YR): **N/A**
(92b) UNDERWATER INSP FREQUENCY (MONTHS): **N**
(93c) DATE OF SPECIAL INSPECTION (MO/YR): **N/A**
(92c) SPECIAL INSP FREQUENCY (MONTHS): **N**

TENNESSEE DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

PROJECT NO.: 58100-0187-44 ROUTE: SHELLMOUND ROAD
COUNTY: MARION CITY:
PROJECT PIN NUMBER: 130902.00
PROJECT DESCRIPTION: BRIDGE OVER I-24 @ L.M. 1.36.

DIVISION REQUESTING:

		PAVEMENT DESIGN	☐
MAINTENANCE	☐	STRUCTURES	☐
S.T.I.D.	☒	SURVEY & ROADWAY DESIGN	☐
PROG. DEVELOPMENT & ADM.	☐	TRAFFIC SIGNAL DESIGN	☐
PUBLIC TRANS. & AERO.	☐	OTHER	☐

YEAR PROJECT PROGRAMMED FOR CONSTRUCTION: 2026
PROJECTED LETTING DATE:

TRAFFIC ASSIGNMENT:

BASE YEAR		DESIGN YEAR					DESIGN ROADWAY % TRUCKS		DESIGN AVERAGE DAILY LOADS	
AADT	YEAR	AADT	DHV	%	YEAR	DIR.DIST.	DHV	AADT	FLEX	RIGID
1,750	2026	1,930	232	12	2046	65-35	2	3		

REQUESTED BY: NAME MICHAEL CLOUD DATE 4/26/21
DIVISION S.T.I.D.
ADDRESS 1000 J. K. POLK BUILDING
NASHVILLER TN 37243

REVIEWED BY: DATE
TRANSPORTATION MANAGER 1
SUITE 1000, JAMES K. POLK BUILDING

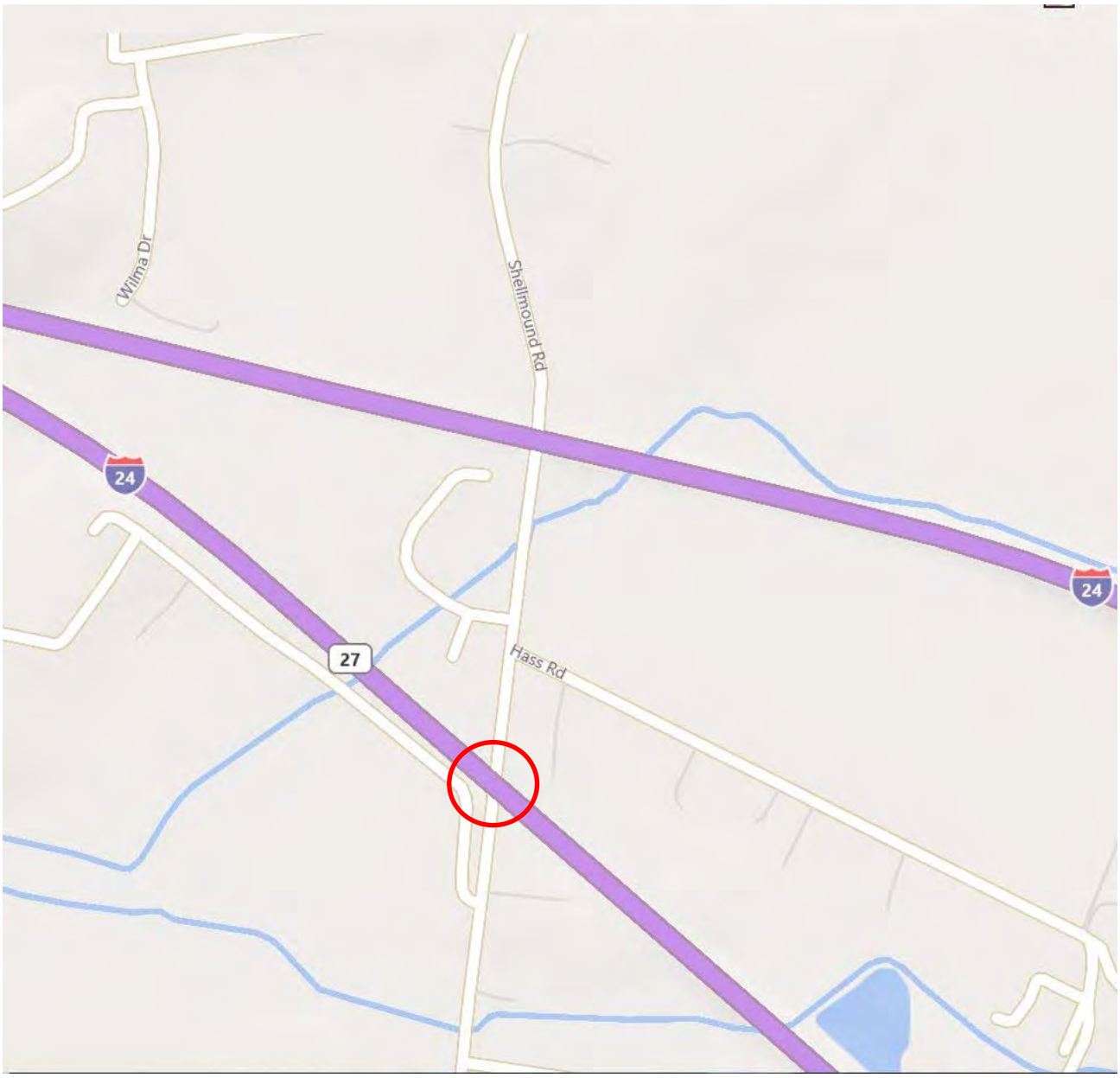
APPROVED BY: TONY ARMSTRONG Tony Armstrong DATE 4/26/2021
TRANSPORTATION MANAGER 2
SUITE 1000, JAMES K. POLK BUILDING

COMMENTS:

THIS TRAFFIC IS BASED ON A 2019 CYCLE COUNT. THE DESIGN YEAR TRAFFIC IS BASED ON GROWTH RATE FROM THE ADAM COMPUTER PROGRAM.

DHV'S ARE NOT REQUIRED FOR SIDE ROADS LESS THAN 1000 AADT.

NOTE: FOR BRIDGE REPLACEMENT PROJECTS, ADLs ARE NOT REQUIRED FOR ADTs OF 1000 OR LESS AND PERCENTAGE OF TRUCKS OF 7% OR LESS.
SEE ATTACHMENTS FOR TURNING MOVEMENTS AND/OR OTHER DETAILS. (REV. 3/1/21)



Marion County

Shellmound Road

Bridge over I-24 @ L.M. 1.36

Michael Cloud

From: David A. Duncan
Sent: Monday, September 26, 2022 1:26 PM
To: Michael Cloud
Subject: FW: FOLLOW-UP on Request for Letter of Approval - 130902.00 - MarionCo Shellmound Rd BTIR - bridge over I-24 EB - detour approval request

Follow Up Flag: Follow up
Flag Status: Flagged

Please add this to the report.

From: Marion County Highway Department <marion.hwy.dept@gmail.com>
Sent: Monday, September 26, 2022 1:25 PM
To: David A. Duncan <David.A.Duncan@tn.gov>
Subject: [EXTERNAL] RE: FOLLOW-UP on Request for Letter of Approval - 130902.00 - MarionCo Shellmound Rd BTIR - bridge over I-24 EB - detour approval request

Mr. Hawk agrees the detour will be sufficient.

Paula Richards

Marion County Highway Department
Administrative Office
513 East Valley Rd
Jasper, TN 37347
Phone: 423-942-2581

From: David A. Duncan
Sent: Monday, September 26, 2022 1:18 PM

To: marion.hwy.dept@gmail.com
Cc: Michael Cloud; Michael Gilbert; Jim Waters; Steve Allen
Subject: FW: FOLLOW-UP on Request for Letter of Approval - 130902.00 - MarionCo Shellmound Rd BTIR - bridge over I-24 EB - detour approval request

Mr. Hawk,
I'm following up on Mr. Cloud's request below. We need confirmation from the County Roadway Department that the proposed detour is sufficient before we can finish up the report. Please let us know if you have any questions.
Thanks,

David Duncan, PE | Civil Engineering Manager 1
Strategic Transportation Investments Division / Project Investigation
James K. Polk Building, 10th Floor
505 Deaderick St., Nashville, TN 37243
p. 615-532-6131
David.A.Duncan@tn.gov
tn.gov/tdot
https://www.tn.gov/tdot/strategic-transportation-investments.html

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From: Michael Cloud <Michael.Cloud@tn.gov>
Sent: Tuesday, September 13, 2022 10:54 AM
To: Marion.HWY.DEPT@gmail.com
Cc: David A. Duncan <David.A.Duncan@tn.gov>; Michael Gilbert <Michael.Gilbert@tn.gov>; Jim Waters <Jim.Waters@tn.gov>; Steve Allen <Steve.Allen@tn.gov>
Subject: FOLLOW-UP on Request for Letter of Approval - 130902.00 - Marion Co Shellmound Rd BTIR - bridge over I-24 EB - detour approval request

Hello Mr. Hawk,

This is a courtesy follow-up email regarding the previous request for Marion County Approval of the detour for the proposed Shellmound Rd Bridge replacement. I have included a map of the 7.8 mile detour that we plan to relocate traffic onto during project construction. Please let us know if you agree with this detour route by sending a response to this email.

Thanks,

Mike Cloud

Michael Cloud, PE | Transportation Project Specialist – Senior
Strategic Transportation Investments Division
James K. Polk Building, 10th Floor
505 Deaderick St., Nashville, TN 37243
p. 615-532-7696 c. 615-414-5040
tn.gov/tdot
https://www.tn.gov/tdot/strategic-transportation-investments.html

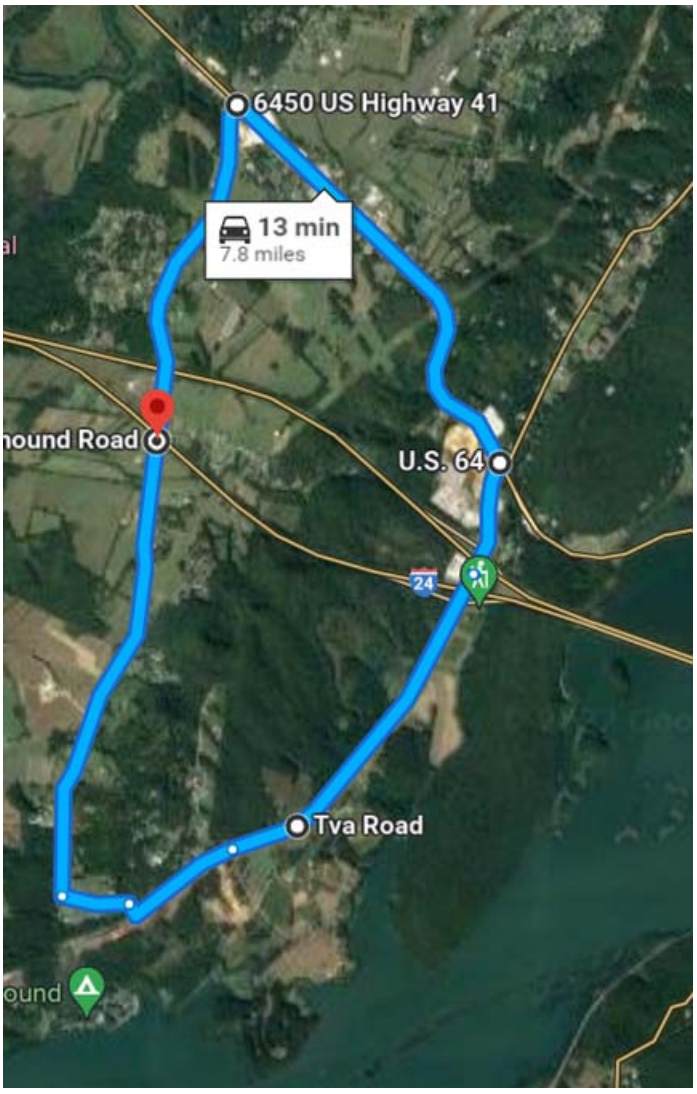
From: Michael Cloud
Sent: Thursday, September 1, 2022 7:42 AM
To: marion.hwy.dept@gmail.com
Cc: David A. Duncan <David.A.Duncan@tn.gov>; Michael Gilbert <Michael.Gilbert@tn.gov>; Steve Allen <Steve.Allen@tn.gov>; Jim Waters <Jim.Waters@tn.gov>
Subject: 130902.00 - Marion Co Shellmound Rd BTIR - bridge over I-24 EB - detour approval request

Mr. Hawk,

Yesterday, we had a conversation over the phone about detours for the attached proposed BTIR project. What is shown in the attached report is 1-lane phase construct with a temporary signal, but what I am currently proposing will need a temporary roadway closure and reroute traffic onto the detour found below.

Do you think Shellmound Rd and TVA Rd can handle the detour traffic for this project if we restripe and install signs? We may need to have the bridge crossing closed and use the detour for over a year. Do you foresee any issues with the proposed detour route?

Please respond with an email confirming if the county is agreeable to the proposed detour route, or if you have any other ideas to consider.



Thanks,
Mike Cloud

Michael Cloud, PE | Transportation Project Specialist – Senior
Strategic Transportation Investments Division
James K. Polk Building, 10th Floor
505 Deaderick St., Nashville, TN 37243
p. 615-532-7696 c. 615-414-5040
tn.gov/tdot
https://www.tn.gov/tdot/strategic-transportation-investments.html

NATIONAL BRIDGE INVENTORY
TENNESSEE INVENTORY AND APPRAISAL REPORT

TN TDOT Department of Transportation

BRIDGE ID NUMBER: **58I00240039**
BRIDGE OWNER: **STATE OF TENNESSEE**
FIPS CODE: **00000**
ROAD NAME: **SHELLMOUND RD.**
CROSSING: **SHELLMOUND RD. / I-24 EB**
LOCATION: **3.5 MI S OF SR28**

COUNTY: **MARION**
ROUTE: **02161**
SPECIAL CASE: **0**
COUNTY SEQUENCE: **1**
LOG MILE: **1.36**
SUFFICIENCY RATING: **58.3**

IDENTIFICATION

(16a,b) LATITUDE:	N	35.04068	DEGREES
(17a,b) LONGITUDE:	W	85.60353	DEGREES
(98a) BORDER BRIDGE STATE CODE:			N/A
(98b) PERCENT SHARE:			00
(99) BORDER BRIDGE NUMBER:			NOT APPLICABLE

BRIDGE TYPE AND MATERIAL

(43a) MAIN SPAN MATERIAL: **CONCRETE CONTINUOUS**
(44a) APPR SPAN MATERIAL: **NOT APPLICABLE**

(45) NUMBER OF MAIN SPANS: **3**
(46) NUMBER OF APPROACH SPANS: **0**
(107) TYPE OF DECK: **CONCRETE CAST-IN-PLACE**
(108) TYPE OF WEARING SURFACE AND DECK PROTECTION:
A) TYPE OF SURFACE: **ASPHALT**
B) TYPE MEMBRANE: **NONE**
C) TYPE PROTECTION: **NONE**

AGE AND SERVICE

(27) YEAR THE BRIDGE WAS BUILT: **1965**
(106) YEAR THE BRIDGE WAS REHABILITATED: **N/A**
(42a) SERVICE ON BRIDGE: **HIGHWAY**
(42b) UNDER BRIDGE: **HIGHWAY**
(28a) NUMBER OF LANES CARRIED BY BRIDGE: **2**
(28b) NUMBER OF LANES UNDER THE BRIDGE: **2**

GEOMETRIC DATA

(48) MAXIMUM SPAN LENGTH: **61.0 FT**
(49) TOTAL BRIDGE LENGTH: **140.1 FT**
(50a) LEFT SIDEWALK WIDTH: **0.0 FT**
(50b) RIGHT SIDEWALK WIDTH: **0.0 FT**
(51) BRIDGE CURB TO CURB WIDTH: **27.9 FT**
(52) BRIDGE OUT TO OUT WIDTH: **34.4 FT**
(32) APPROACH ROADWAY (W/ SHLDS) WIDTH: **27.9 FT**
(33) BRIDGE MEDIAN: **NO MEDIAN**
(34) BRIDGE SKEW: **32 DEGREES**
(35) BRIDGE FLARE: **NO FLARE**
(520) MIN VERTICAL CLEARANCE OVER RD: **100 FT**
(47) MIN HORIZONTAL CLEARANCE ON ROADWAY: **27.9 FT**
(54a) VERT UNDERCLR: **HIGHWAY BENEATH BRIDGE**
(54b) MIN VERTICAL UNDERCLEARANCE: **17.52 FT**
(55a) HORZ UNDERCLR: **HIGHWAY BENEATH BRIDGE**
(55b) MIN HORZ UNDERCLR ON RIGHT: **12.14 FT**
(56) MIN HORZ UNDERCLR ON LEFT: **11.15 FT**

NAVIGATION DATA

(38) NAV CONTROL: **NOT APPLICABLE**
(39) NAVIGATION VERTICAL CLEARANCE: **N/A**
(116) LIFT BRIDGE VERT CLEARANCE: **N/A**
(40) NAVIGATION HORZ CLEARANCE: **N/A**

PUBLICATION DATE
11-Mar-24

CLASSIFICATION

(112) MEETS NBIS BRIDGE LENGTH: **YES**
(104) NATIONAL HIGHWAY SYSTEM: **NOT A NHS ROUTE**
(26) FUNCTIONAL CLASS: **RURAL MINOR COLLECTOR**
(101) PARALLEL BRIDGE: **NO PARALLEL BRIDGE**
(102) TRAFFIC DIR: **2-WAY TRAFFIC**
(103) TEMPORARY BRIDGE: **NOT APPLICABLE**
(110) NATIONAL TRUCK ROUTE: **NOT ON TRUCK NETWORK**
(37) HISTORICAL CLASS: **HISTORICAL SIGNIFICANCE HAS NOT BEEN DETERMINED**

CONDITION RATINGS

(58) DECK: **6**
(59) SUPERSTRUCTURE: **5**
(60) SUBSTRUCTURE: **7**
(61) STREAM CHANNEL AND CHANNEL PROTECTION: **N**
(62) CULVERT CONDITION (IF APPLICABLE): **N**

DESIGN LOAD AND WEIGHT POSTING

(31) DESIGN LOADING: **HS-20-44 +MOD**
WEIGHT POSTING (2 AXLE VEHICLES): **ALL LEGAL LOADS**
WEIGHT POSTING (3 OR MORE AXLES): **ALL LEGAL LOADS**
(70) BRIDGE POSTING CODE: **5**
(41) WT POSTING STATUS: **WEIGHT POSTED**

APPRAISAL

(67) STRUCTURAL EVALUATION: **5**
(68) DECK GEOMETRY: **5**
(69) UNDERCLEARANCE RATING: **3**
(71) WATERWAY ADEQUACY: **N**
(72) APPROACH ROADWAY ALIGNMENT: **6**
(36) TRAFFIC SAFETY FEATURES: **000N**
(113) SCOUR CONDITION RATING: **N**

RECOMMENDED IMPROVEMENTS

(75) TYPE OF WORK: **BRIDGE DECK REPAIR**
(76) LENGTH OF BRIDGE IMPROVEMENT: **140.1 FT**
(94) BRIDGE IMPROVEMENT COST: **$152,000.00**
(95) ROADWAY IMPROVEMENT COST: **$16,000.00**
(96) TOTAL PROJECT COST: **$229,000.00**
(97) YEAR OF IMPROVEMENT COST ESTIMATE: **2022**

INSPECTION DATES

(90) DATE OF LAST REGULAR INSPECTION: **7/13/2022**
(91) REGULAR INSPECTION FREQUENCY (MONTHS): **24**
(93b) DATE OF LAST UNDERWATER INSP (MO/YR): **N/A**
(92b) UNDERWATER INSP FREQUENCY (MONTHS): **N00**
(93c) DATE OF SPECIAL INSPECTION (MO/YR): **N/A**
(92c) SPECIAL INSP FREQUENCY (MONTHS): **N00**

TN TDOT Department of Transportation

Asset **#58I00240039**(Routine)

County: 58 - Marion, **Route:** 02161, **Log mile:** 1.360

Team Lead: Derek Yates, **Inspection Date:** 07/17/2024

Latitude:35.04068, Longitude:-85.60353

Region 02, 58 - Marion County

Team Leader: Derek Yates

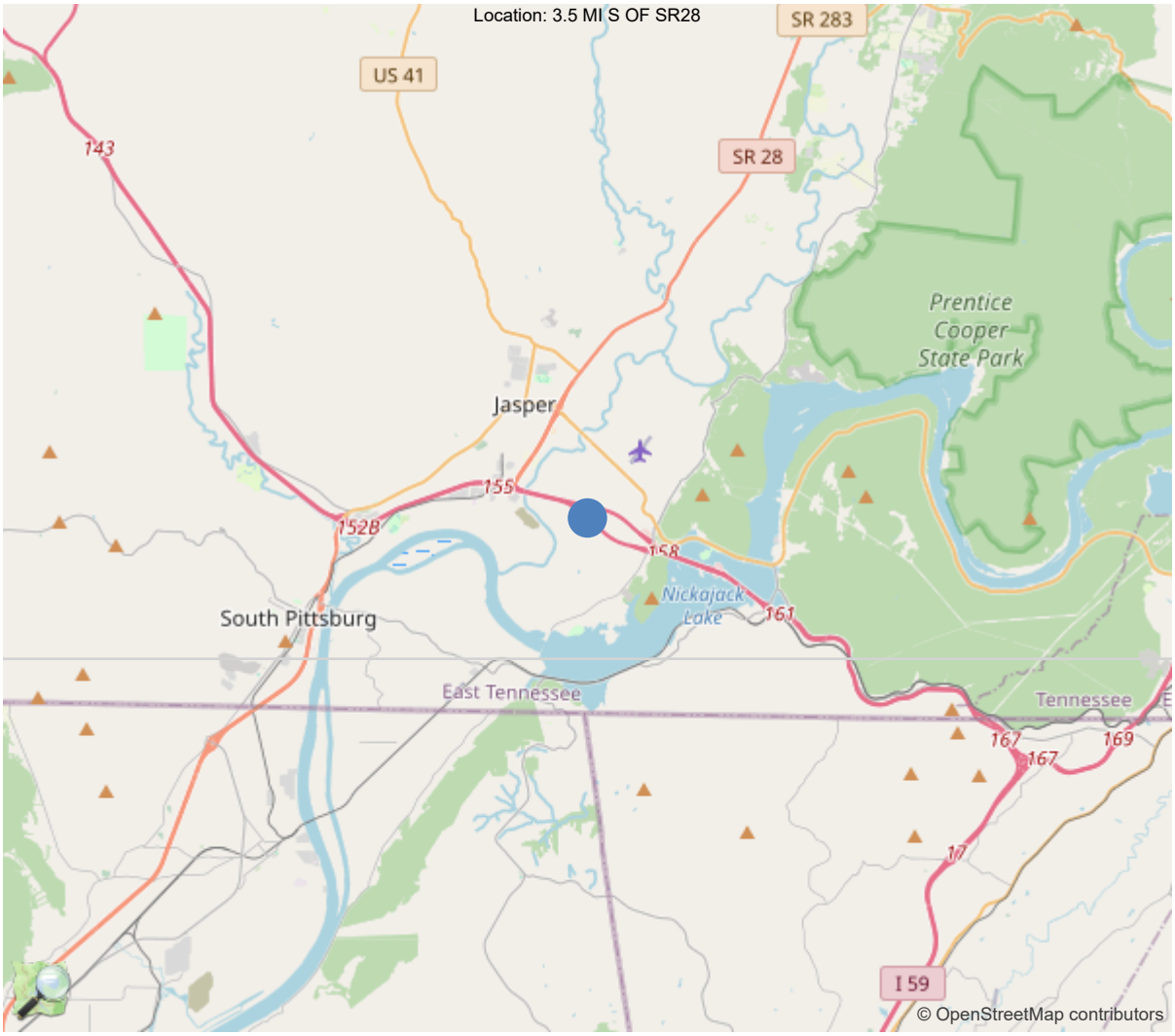
Inspectors: Anthony Pack

TDOT Department of Transportation

Asset **#58I00240039**(Routine)

County: 58 - Marion, **Route:** 02161, **Log mile:** 1.360

Team Lead: Derek Yates, **Inspection Date:** 07/17/2024

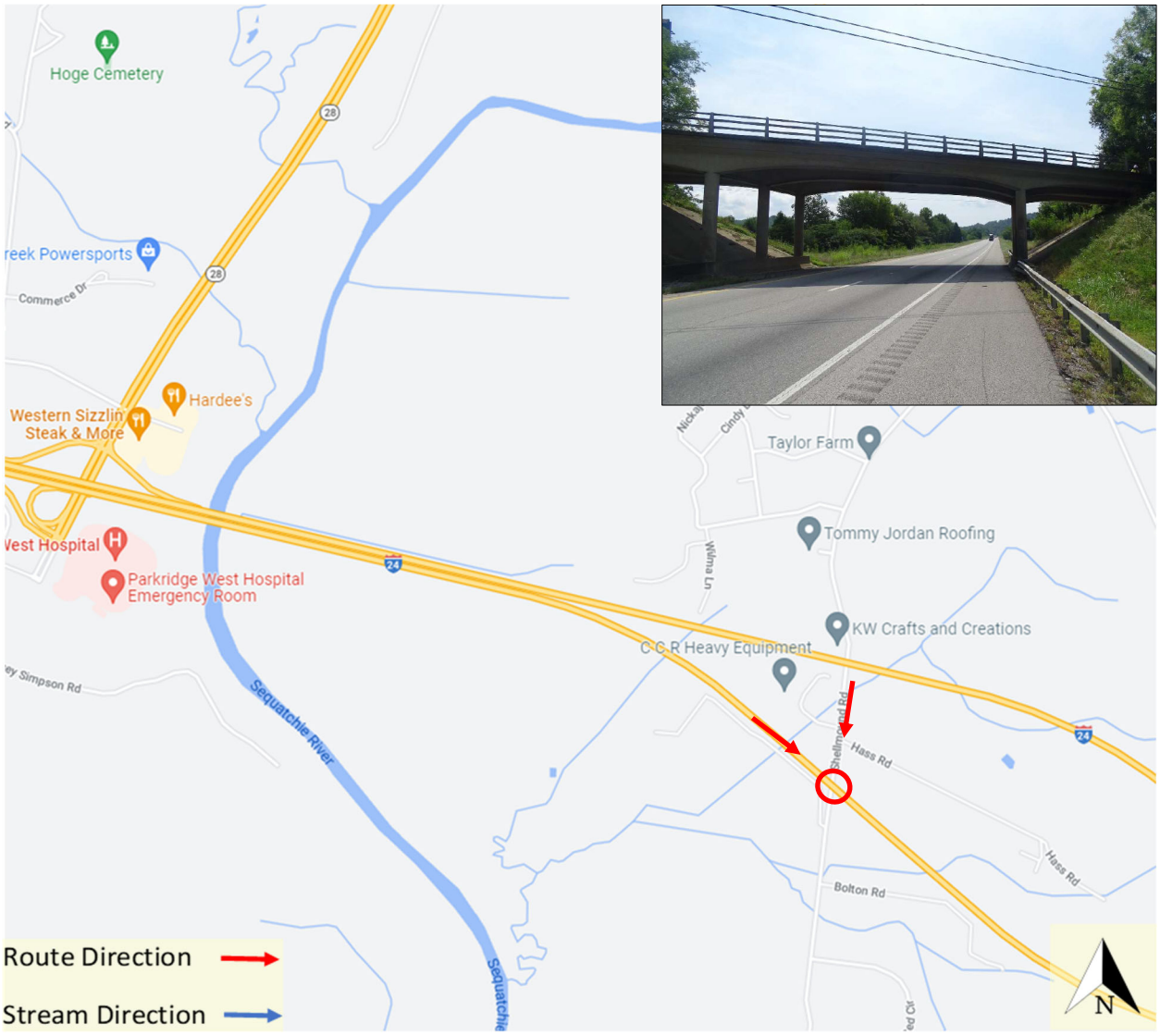


SHELLMOUND RD. Crossing SHELLMOUND RD. / I-24 EB

35.04068, -85.60353

Routine Bridge Inspection Report

Marion County	
Federal ID	58I00240039
Location	58-02161-01.36
Description	Shellmound Road over Interstate 24 Eastbound Lanes, I-24 Milepost 157.29
GPS Coordinates	35.040683, -85.603533
Date	7/17/2024
Overall Condition	Fair



TN TDOT Department of Transportation

Asset **#58I00240039**(Routine)
County: 58 - Marion, **Route:** 02161, **Log mile:** 1.360
Team Lead: Derek Yates, **Inspection Date:** 07/17/2024

Maintenance Recommendations

525 - Repair List # N 523 - Repair List Add Date _____ 524 - Repair List Revise Date 7/13/2022

Date Added	Recommendation	Priority
09/17/2002	INSTALL OBJECT MARKER SIGNS AT APPROPRIATE LOCATIONS	
09/22/2004	APPROACH GUARDRAILS ARE SUBSTANDARD	
07/25/2016	CLEAR DRAINS AT APPROACH #1 AND #2	
09/22/2004	BRIDGERAILS ARE SUBSTANDARD	
07/13/2022	REPAIR APPROACH GUARDRAIL ON RIGHT SIDE OF BOTH APPROACHES	
08/27/2018	UNDERPASS SUBSTRUCTURE PROTECTION GUARDRAILS ARE SUBSTANDARD	
07/13/2022	REMOVE DELAMINATED CONCRETE IN BOTTOM OF DECK SPAN #2	1

TN TDOT Department of Transportation

Asset **#58I00240039**(Routine)
Region: 02, **County:** 58 - Marion
Team Lead: Derek Yates, **Inspection Date:** 07/17/2024

90 - LAST INSPECTION DATE	07/17/2024
10 - MIN. V.C. OVER DECK (ROADWAY + SHOULDERS)	99.99 FT.
520 - MIN. V.C. OVER DECK (EXCLUDES SHOULDERS)	99.99 FT.

36 - TRAFFIC SAFETY FEATURES

Br. Rail	Trans.	Appr. Rail	Terminal	SPEED LIM.
0	0	0	N	30

41 - STRC OPEN/CLOSED/POSTED	P
58 - DECK	6
59 - SUPERSTRUCTURE	6
60 - SUBSTRUCTURE	7
61 - CHANL/CHANL PROTECTION	N
62 - CULVERT AND RETAIN WALL	N
71 - WATERWAY ADEQUACY	N
72 - APPROACH RDWY ALIGNMENT	6
521 - OVERALL CONDITION	2 - Fair

16 - LATITUDE	17 - LONGITUDE
35.040683	-85.603533

Derek Yates

TEAM LEADER SIGNATURE

- **N** NOT APPLICABLE
- **9** EXCELLENT CONDITION
- **8** VERY GOOD CONDITION - NO PROBLEMS NOTED.
- **7** GOOD CONDITION - SOME MINOR PROBLEMS.
- **6** SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.
- **5** FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.
- **4** POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.
- **3** SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOUSLY AFFECTED PRIMARY STRUCTURAL COMPONENTS. LOCAL FAILURES ARE POSSIBLE. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT.
- **2** CRITICAL CONDITION - ADVANCED DETERIORATION OF PRIMARY STRUCTURAL ELEMENTS. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT OR SCOUR MAY HAVE REMOVED SUBSTRUCTURE SUPPORT. UNLESS CLOSELY MONITORED IT MAY BE NECESSARY TO CLOSE THE BRIDGE UNTIL CORRECTIVE ACTION IS TAKEN.
- **1** "IMMINENT" FAILURE CONDITION - MAJOR DETERIORATION OR SECTION LOSS PRESENT IN CRITICAL STRUCTURAL COMPONENTS OR OBVIOUS VERTICAL OR HORIZONTAL MOVEMENT AFFECTING STRUCTURAL STABILITY. BRIDGE IS CLOSED TO TRAFFIC BUT CORRECTIVE ACTION MAY PUT IT BACK IN LIGHT SERVICE.
- **0** FAILED CONDITION - OUT OF SERVICE AND BEYOND CORREC

TN TDOT Department of Transportation

Asset **#58I00240039**(Routine)

County: 58 - Marion, **Route:** 02161, **Log mile:** 1.360

Team Lead: Derek Yates, **Inspection Date:** 07/17/2024

IDENTIFICATION	
(1) State Names	47 - Tennessee
(8) Structure Number	58I00240039
(5) Inventory Route	1
(2) Highway Agency District	Region 2
(3) County Code	58 - Marion
(4) Place Code	00000
(6) Features Intersected	SHELLMOUND RD. / I-24 EB
(7) Facility Carried	NFA 2161 (SA 5802)
(9) Location	3.5 MI S OF SR28
(11) Mile Point	1.360 mi
(12) Base Highway Network	No
(13) LRS Inventory Rte & Subrte	
(16) Latitude	35.040683
(17) Longitude	-85.603533
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	24
Material	2 - Concrete continuous
Type	4 - Tee beam
(44) Approach Structure Type	00
Material	0 - Other / None
Type	0 - Other / None
(45) No. of Spans in Main Unit	3
(46) No. of Approach Spans	0
(107) Deck Structure Type	1 - Concrete Cast-in-Place
(108) Wearing Surface/Protective System	
Type of Wearing Surface	6 - Bituminous
Type of Membrane	0 - None
Type of Deck Protection	0 - None
AGE AND SERVICE	
(27) Year Built	1965
(106) Year Reconstructed	0
(42) Type of Service	11
On	1 - Highway
Under	1 - Highway, with or without pedestrian
(28) Lane	
On	2
Under	2
(29) Average Daily Traffic	1716
(30) Year of ADT	2021
(109) Truck ADT	3 %
(19) Bypass, Detour Length	5 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	60.5 ft
(49) Structure Length	139.5 ft
(50) Curb or Sidewalk Width	
Left	0.0 ft
Right	0.0 ft
(51) Bridge Roadway Width Curb to Curb	28.0 ft
(52) Deck Width Out to Out	34.5 ft
(32) Approach Roadway Width (W/Shoulders)	22.0 ft
(33) Bridge Median	0 - No median
(34) Skew	58 Deg
(35) Structure Flared	0 - No flare
(10) Inventory Route Min Vert Clear	99.99 ft
(47) Inventory Route Total Horiz Clear	28.0 ft
(53) Min Vert Clear Over Bridge Rdwy	99.99 ft
(54) Min Vert Underclear	17.00 ft
Ref:	
(55) Min Lat Underclear RT	12.0 ft
Ref:	
(56) Min Lat Underclear LT	11.0 ft
NAVIGATION DATA	
(38) Navigation Control	N - Not applicable, no waterwa
(111) Pier Protection	
(39) Navigation Vertical Clearance	0.0 ft
(116) Vert-Lift Bridge Nav Min Vert Clear	ft
(40) Navigation Horizontal Clearance	0.0 ft

CLASSIFICATION	
(112) NBIS Bridge Length	Y
(104) Highway System	0
(26) Functional Class	8 - Rural Minor Collector
(100) Defense Highway	0 - The inventory route is not
(101) Parallel Structure	N - No parallel structure exis
(102) Direction of Traffic	2 - way traffic
(103) Temporary Structure	
(105) Federal Lands Highways	0 - N/A
(110) Designated National Network	0 - The inventory route is not
(20) Toll	3 - On free road. The structu
(21) Maintain	1 - State Highway Agency
(22) Owner	1 - State Highway Agency
(37) Historical Significance	4 - Historical significance is
CONDITION	
(58) Deck	6
(59) Superstructure	6
(60) Substructure	7
(61) Channel & Channel Protection	N
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	6 - MS 18+Mod / HS 20+Mod
(63) Operating Rating Method	8
(64) Operating Rating	
Type	8 - Load and Resistance Factor Rating (LRF
Rating	27.86
(65) Inventory Rating Method	8 - Load and Resistance Factor
(66) Inventory Rating	
Type	
Rating	19.44
(70) Bridge Posting	5 - Equal to or above legal loads
(41) Structure Open/Posted/Closed	P - Posted for load (may inclu
APPRAISAL	
(67) Structural Evaluation	5
(68) Deck Geometry	5
(69) Clearances, Vertical/Horizontal	3
(71) Waterway Adequacy	N
(72) Approach Roadway Alignment	6
(36A) Bridge Railings	0 - Inspected feature does not meet
(36B) Transitions	0 - Inspected feature does not meet
(36C) Approach Guardrail	0 - Inspected feature does not meet
(36D) Approach Guardrail Ends	N - Not applicable or a safety feat
(113) Scour Critical Bridges	N - Bridge not over waterway.
PROPOSED IMPROVEMENTS	
(75) Type of Work	36 - Bridge deck rehabilitatio
(76) Length of Structure Improvement	140.1 ft
(94) Bridge Improvement Cost	$ 152
(95) Roadway Improvement Cost	$ 16
(96) Total Project Cost	$ 229
(97) Year of Improvement Cost Estimate	2022
(114) Future ADT	2467
(115) Year of Future ADT	2042

INSPECTIONS *

(90) Inspection Date			07/17/2024
(91) Frequency			24
(92) Critical Feature Inspection	Done	Freq. (Mon)	Date
A: Fracture Critical Detail	No		
B: Underwater Inspection	No		
C: Other Special Inspection	No		

* The inspection date and frequency information in this box contains the current NBI date and frequency information. Please refer to the report header for the date this inspection was conducted.

TN TDOT Department of Transportation

Asset **#58I00240039**(Routine)

County: 58 - Marion, **Route:** 02161, **Log mile:** 1.360

Team Lead: Derek Yates, **Inspection Date:** 07/17/2024

Looking ahead on route

Top of deck

Looking back on route

Typical bottom of deck

Right side view of structure

Left side view of structure

TN TDOT Department of Transportation

Asset **#58I00240039**(Routine)

County: 58 - Marion, **Route:** 02161, **Log mile:** 1.360

Team Lead: Derek Yates, **Inspection Date:** 07/17/2024

Underclearance looking ahead on underpass route

Underclearance looking back on underpass route

Bridge number and underpass number

Weight posting for Approach #1

Weight posting for approach #2

Advanced weight posting sign for approach #2

TN TDOT Department of Transportation

Asset **#58I00240039**(Routine)
County: 58 - Marion, **Route:** 02161, **Log mile:** 1.360
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Typical abutment

Typical bent

Typical delaminated areas in overhang

Typical spall with exposed rebar

TN TDOT Department of Transportation

Asset **#58I00240039**(Routine)
County: 58 - Marion, **Route:** 02161, **Log mile:** 1.360
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Typical spall on bents

Debris on top of deck

TN TDOT Department of Transportation

Asset **#58I00240039**(Routine)

County: 58 - Marion, **Route:** 02161, **Log mile:** 1.360

Team Lead: Derek Yates, **Inspection Date:** 07/17/2024

Damaged guardrail at approach #2 right

TN TDOT Department of Transportation

Asset **#58I00240039**(Routine)
County: 58 - Marion, **Route:** 02161, **Log mile:** 1.360
Team Lead: Derek Yates, **Inspection Date:** 07/17/2024

PERFORMANCE EVALUATION

Time of Day Inspected 9:20 A.M.
Weather Conditions Overcast, 89°F
Vehicles Observed Autos

LIVE LOAD BEHAVIOR

Sub Horiz./ Vert. Defl	(No)	
Sub Vibration	(No)	
Super Horiz./ Vert. Defl	(No)	
Super Vibration	(No)	

APPROACH

Alignment	(Fair)	Moderate vertical curves at both approaches
Slab	(NA)	
Joints	(NA)	
Pavement	(Good)	
Embankment	(Good)	
Approach Drains	(Fair)	Partially blocked with debris

TRAFFIC SAFETY FEATURES

Bridge Railing Rating	(Good)	
Transitions Rating	(NA)	Approach guardrail not attached to bridge railing
Guardrail Rating	(Poor)	Collision damage; set too low
Guardrail Terminal Rating	(Poor)	Collision damage; set too low

SIGNS POSTED ON ROUTE

Paddleboards: Needed
Vertical Clearance (<14'-6"): No
Posted Height:
Narrow Bridge Signs: No
One Lane Bridge Signs: No
Other Signs or Plaques:

Weight Limit Posted: Yes
Gross .....: 40 Tons
Single-unit Vehicle: Tons
Multi-unit Vehicle: Tons
564 Assigned Bridge Name:

ATTACHED SIGNS

Sign No	Location	Text on Sign	Noted Defects

TN TDOT Department of Transportation

Asset **#58I00240039**(Routine)
County: 58 - Marion, **Route:** 02161, **Log mile:** 1.360
Team Lead: Derek Yates, **Inspection Date:** 07/17/2024

DECK

Wearing Surface Type	Asphalt	**Wearing Surface Depth**	4

Wearing Surface	(Fair)	Heavy vegetation at curblines; some moderate cracking
Deck - Structural Condition	(Fair)	Some minor cracking, delaminated areas, and repaired areas; isolated minor and moderate spalls
Curbs	(Fair)	Widespread minor transverse cracks, dirt and vegetation in curbs
Median	(NA)	
Sidewalks	(NA)	
Parapet	(NA)	
Railing	(Good)	Substandard metal railing
Rail Paint	(NA)	
Deck Drains	(NA)	
Lighting Standards	(NA)	
Utilities	(NA)	
Expansion Joints	(NA)	Slight to moderate leakage on abutments

SUPERSTRUCTURE

Bearing Devices	(Good)	
Girders	(Fair)	Widespread minor cracks
Beams	(NA)	
Floor Beams	(NA)	
Stringers	(NA)	
Diaphragms	(Good)	
Superstructure Bracing	(NA)	
Trusses - General	(NA)	
Trusses - Portals	(NA)	
Trusses - Bracing	(NA)	
Superstructure Paint	(NA)	
Alignment of Members	(Good)	

TEXTURE COAT

TN TDOT Department of Transportation

Asset **#58I00240039**(Routine)
County: 58 - Marion, **Route:** 02161, **Log mile:** 1.360
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ABUTMENTS

Abutment Caps	(Good)	
Abutment Breastwall	(NA)	
Abutment Wings	(Good)	
Abutment Backwall	(Good)	
Abutment Plumb	(Good)	
Abutment Footing	(Not visible)	
Abutment Piles	(Not Visible)	
Abutment Embankment	(Good)	
Abutment Bearing Surface	(Good)	
Abutment Slope Paving	(Good)	
Abutment Rip Rap	(NA)	

PIERS

Pier Caps	(NA)	
Pier Columns I Walls	(NA)	
Pier Plumb	(NA)	
Pier Footing	(NA)	
Pier Piles	(NA)	
Pier Bearing Surface	(NA)	

BENTS

Bent Caps	(NA)	
Bent Columns	(Good)	Some minor rebar pop-outs and delaminated areas
Bent Plumb	(Good)	
Bent Footing	(Not Visible)	
Bent Piles	(Not Visible)	
Bent Bearing Surface	(Good)	
Piles Need Replacement	(No)	

Inspection Team's Summary

This bridge is a three span concrete deck girder structure crossing I-24 eastbound lanes. It has a total length of 139.5 feet with a maximum span length of 60.5 feet and is placed on a 58° left skew. It was constructed in 1965. The bridge was inspected on July 17, 2024, by a Region 2 bridge inspection team from Tullahoma and was found to be in overall fair condition.

The approach alignment is rated fair due to moderate vertical curves at both approaches. The approach pavement is rated good. The drains are rated fair due to being partially blocked with debris. The substandard bridge railing is rated good. The approach guardrail is not attached to the bridge railing. The guardrails and terminals are substandard and rated poor. The guardrail has collision damage and is set too low. Object marker signs are needed. The approach #1 right object marker sign is defaced, and the approach #2 paddleboards are missing.

The deck is rated fair. The top of the concrete deck is not visible due to the asphalt wearing surface. There is heavy vegetation at the curblines and cracking. The bottom of the concrete deck some minor cracking, delaminated areas, repaired areas, and isolated minor and moderate spalls. The curbs are rated fair due to widespread minor transverse cracks, dirt, and vegetation in the curblines. The substandard deck railing is rated good. There is slight to moderate joint leakage on the abutments.

The superstructure is rated fair. The beams have widespread minor cracking.

The substructure is rated good. The columns are have some minor rebar pop-outs and delaminated areas.

The underpass is rated good. There are delaminated areas in overhangs in span #2 which could fall onto the roadway beneath.

General Inspection Comment

HQ notes to TL

TN TDOT Department of Transportation

Asset **#58I00240039**(Routine)
County: 58 - Marion, **Route:** 02161, **Log mile:** 1.360
Team Lead: Derek Yates, **Inspection Date:** 07/17/2024

Deck Elevation

Benchmark height 646.93 Benchmark location Top of bridge seat on right side of abutment 1. Edge location

Comment

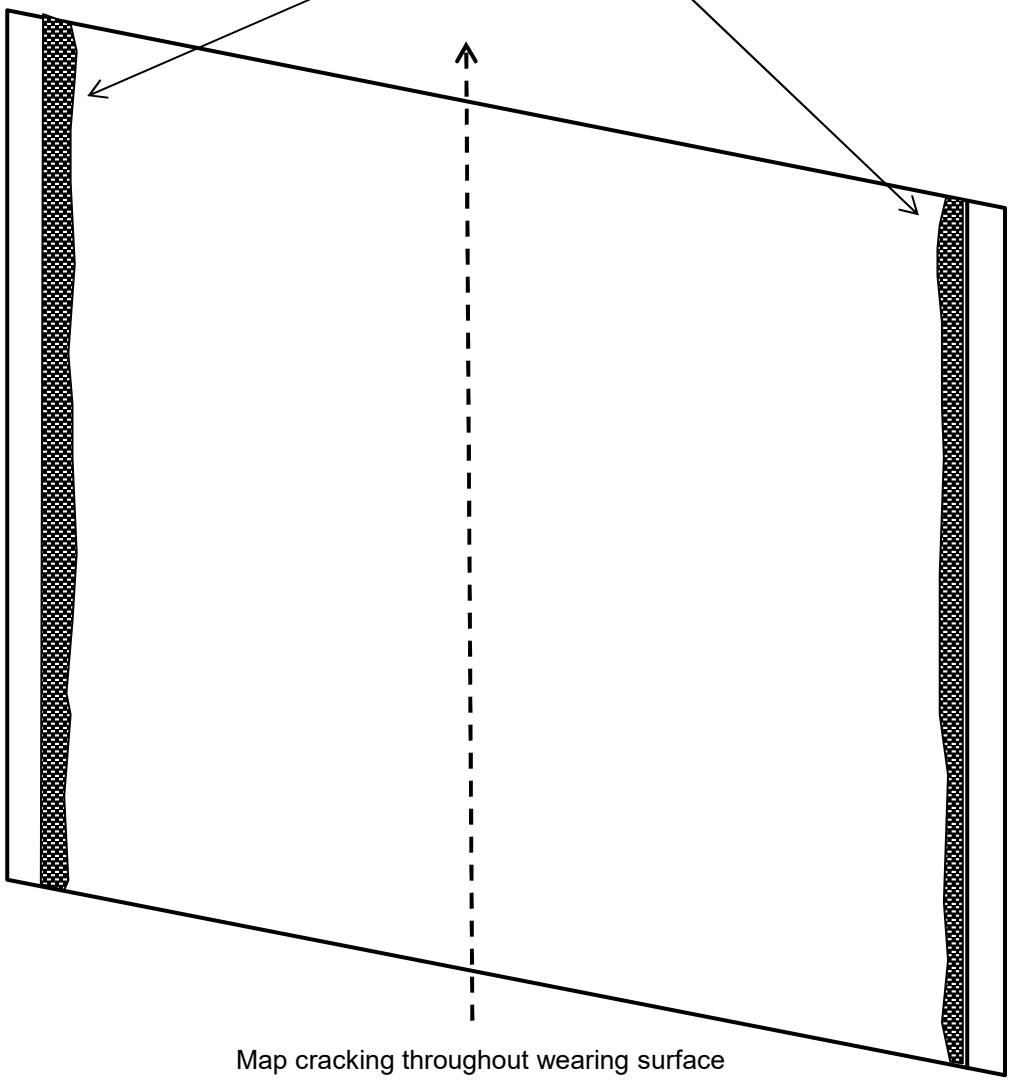
Location	Top Lt. Curb	Left Gutter	Center Line	Right Gutter	Top Rt. Curb
ABUTMENT 1	650.02	649.52		649.35	649.85
BENT 1	650.05	649.65		649.63	650.06
BENT 2	649.35	648.92		649.25	649.65
ABUTMENT 2	650.06	648.25		648.68	649.14

Top of Deck Span No. 1

Date 07/17/24

Bridge Location No. 58 (County) 02161 (Route) 1.36 (Log Mile)

Legend:
- Cracking
- Spalling (confetti)
- Scaling (10% dots)
- Delamination (40% gray)
- Repairs (light vertical)
- Voids (large checker board)
- Dimensions are noted as ↔ X ↕ X depth



Map cracking throughout wearing surface

Bottom of Deck Span No. 1

Date 07/17/24

Bridge Location No. 58 (County) 02161 (Route) 1.36 (Log Mile)

Legend:
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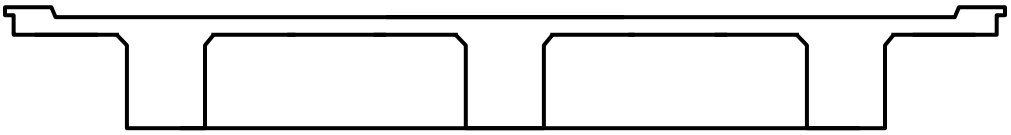
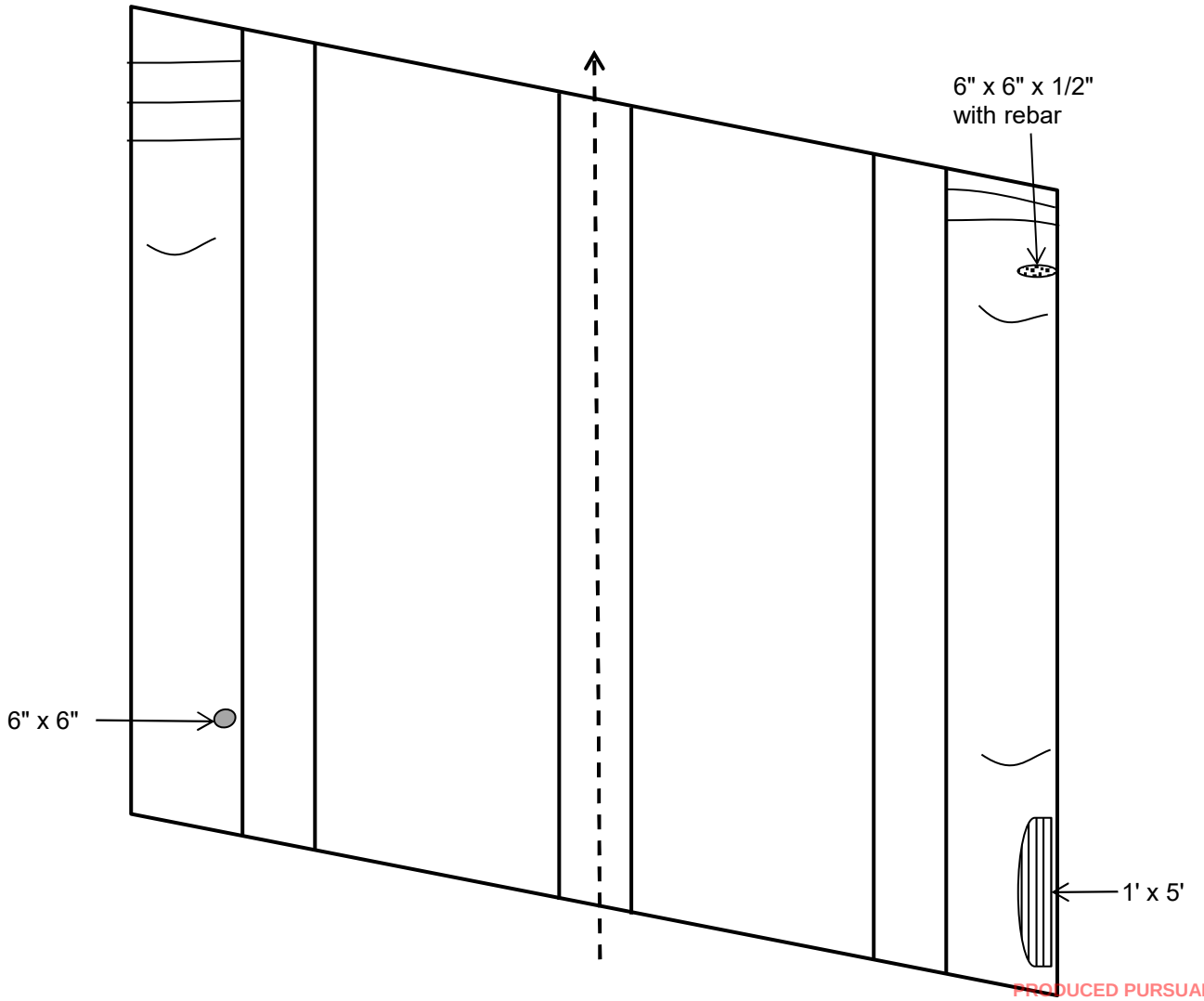


-Cracks are hairline with efflorescence



Beam Details - Span No. 1

Date 07/17/24

Bridge Location No. 58 (County) 02161 (Route) 1.36 (Log Mile)

Legend:
- Cracking
- Spalling (confetti)
- Scaling (10% dots)
- Delamination (40% gray)
- Repairs (light vertical)
- Voids (large checker board)
- Dimensions are noted as ↔ X ↕ X depth

Beam "A" - Right Side

Beam "A" - Left Side

Beam "B" - Right Side

Beam "B" - Left Side

Beam Details - Span No. 1

Date 07/17/24

Bridge Location No. 58 (County) 02161 (Route) 1.36 (Log Mile)

Legend:
- Cracking
- Spalling (confetti)
- Scaling (10% dots)
- Delamination (40% gray)
- Repairs (light vertical)
- Voids (large checker board)
- Dimensions are noted as ↔ X ↕ X depth

Beam "C" - Right Side

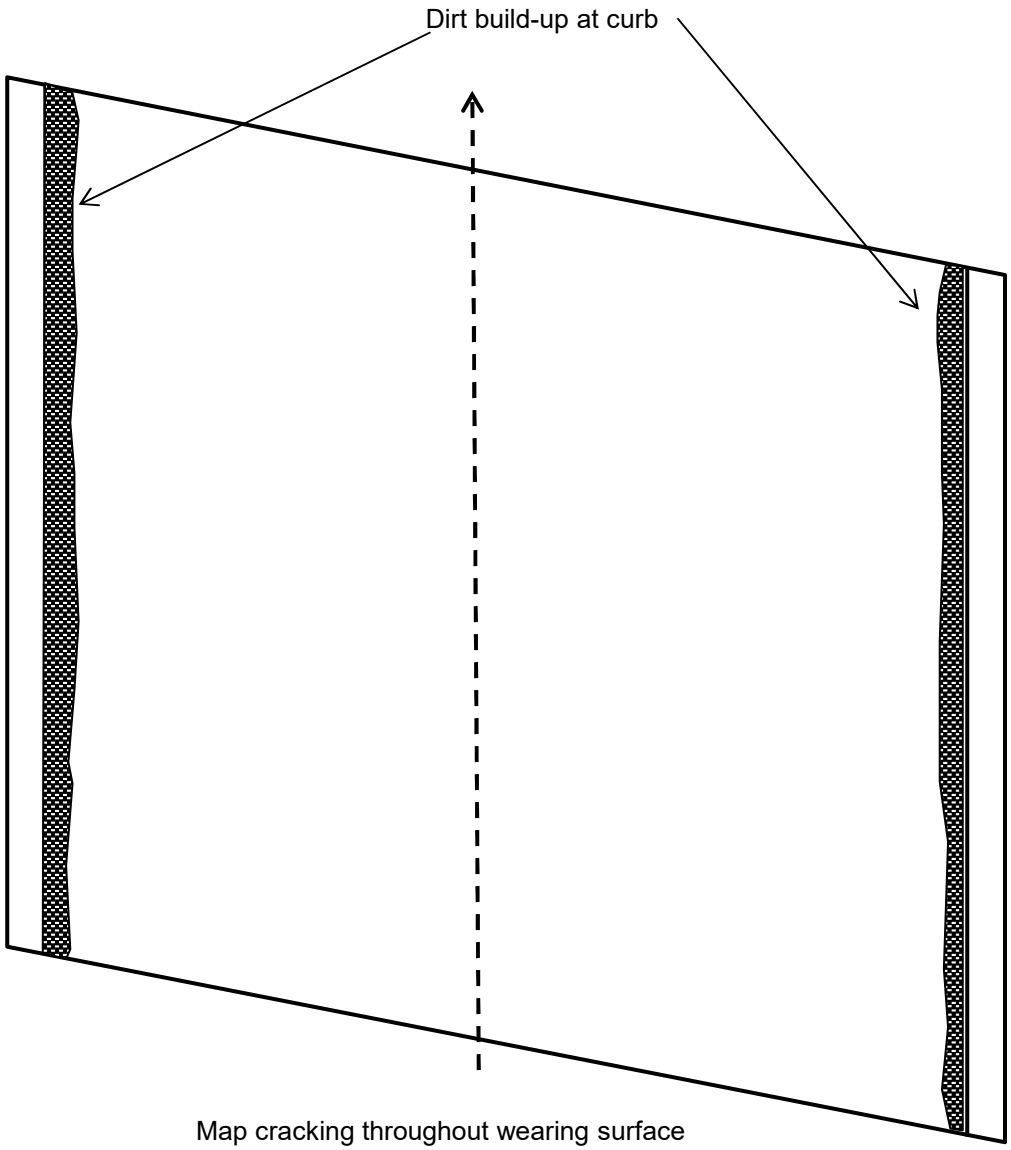
Beam "C" - Left Side

Top of Deck Span No. 2

Date 07/17/24

Bridge Location No. 58 (County) 02161 (Route) 1.36 (Log Mile)

Legend:
- Cracking
- Spalling (confetti)
- Scaling (10% dots)
- Delamination (40% gray)
- Repairs (light vertical)
- Voids (large checker board)
- Dimensions are noted as ↔ X ↕ X depth



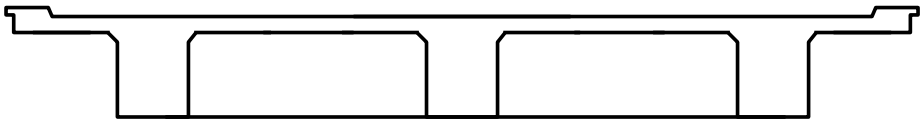
Map cracking throughout wearing surface

Bottom of Deck Span No. 2

7/17/ 07/13/22

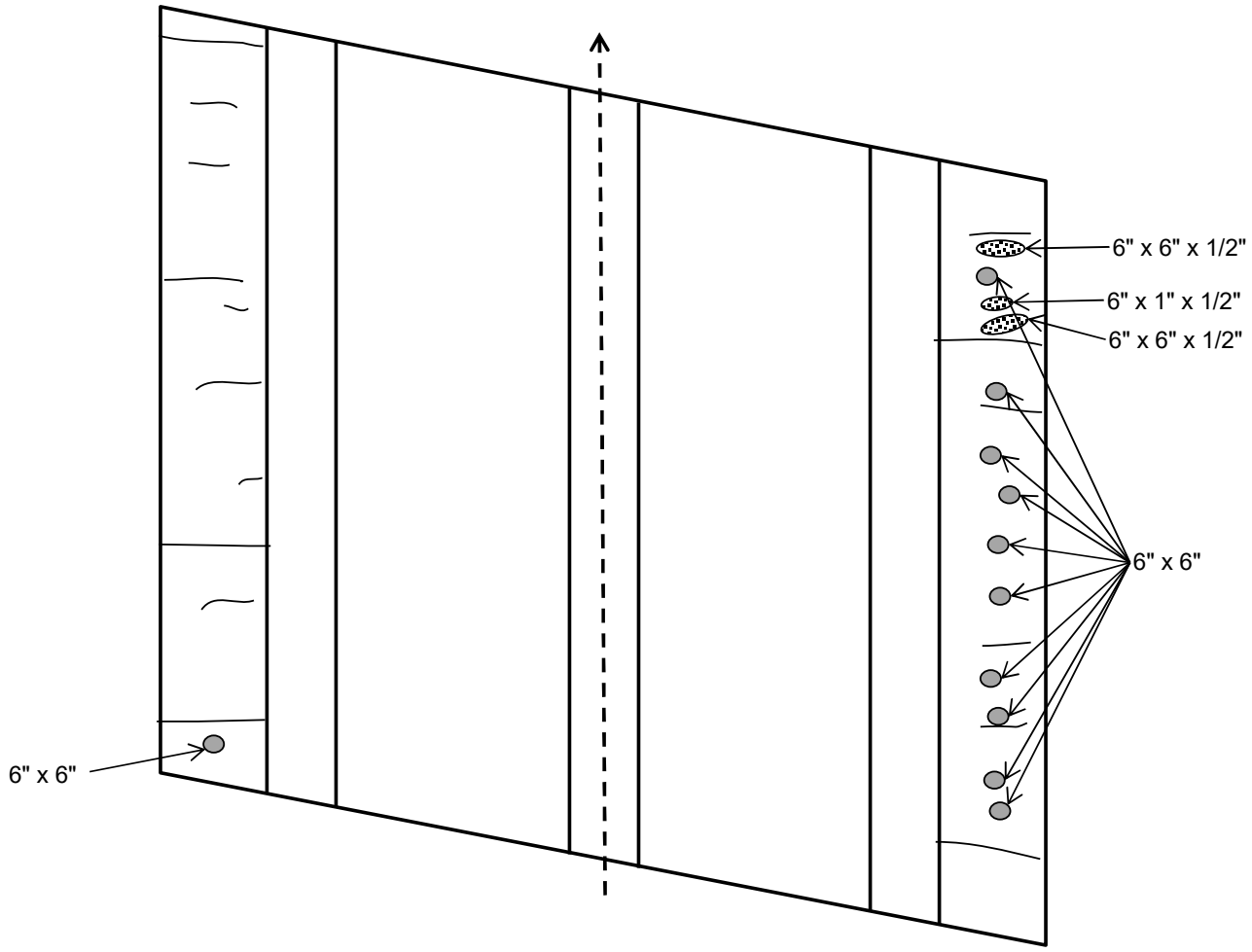
Bridge Location No. 58 (County) 02161 (Route) 1.36 (Log Mile)

Legend:
- Cracking
- Spalling (confetti)
- Scaling (10% dots)
- Delamination (40% gray)
- Repairs (light vertical)
- Voids (large checker board)
- Dimensions are noted as ↔ X ↕ X depth



-Cracks are hairline with efflorescence

-All spalls have rebar

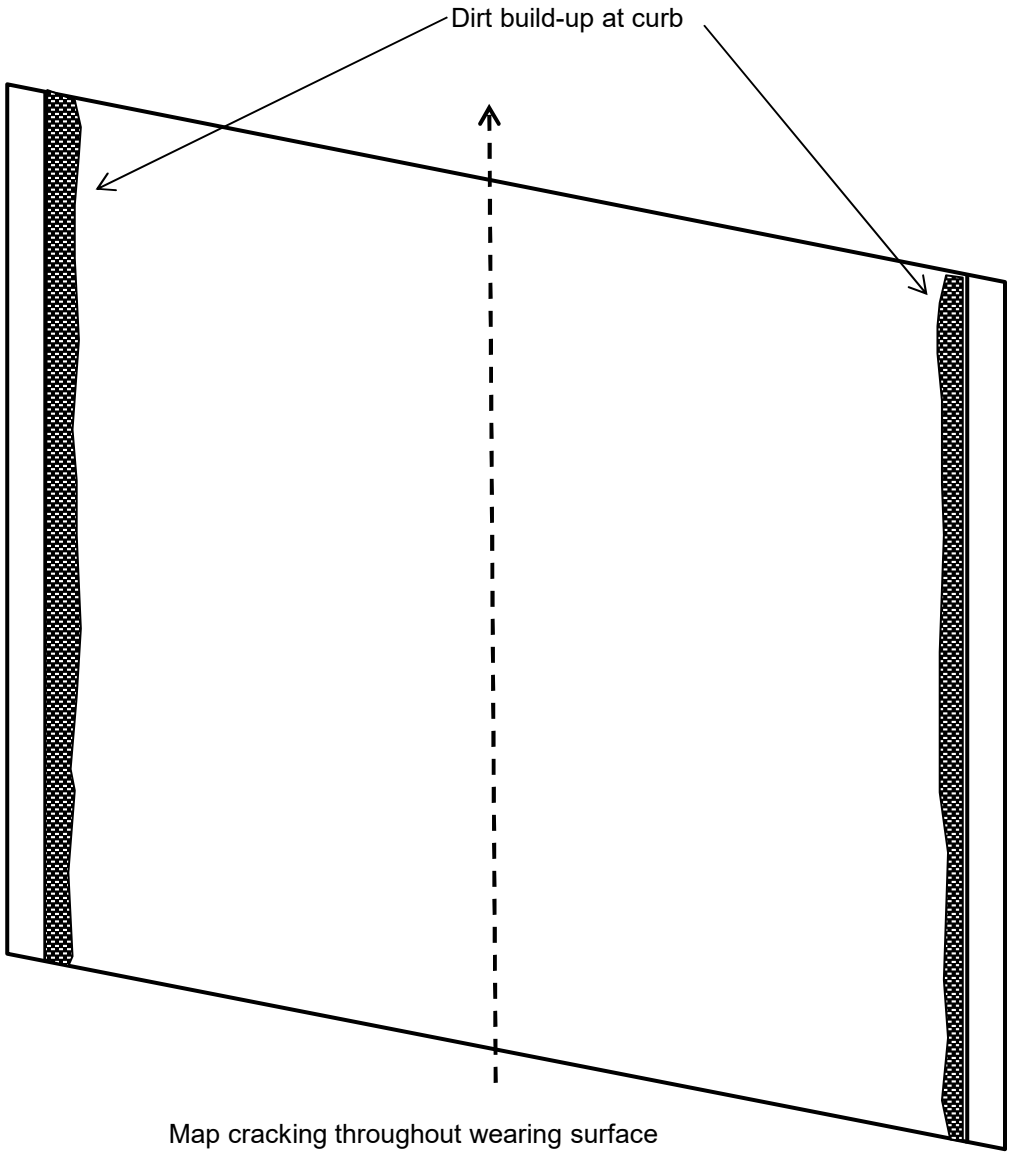


Top of Deck Span No. 3

Date 07/17/24

Bridge Location No. 58 (County) 02161 (Route) 1.36 (Log Mile)

Legend:
- Cracking
- Spalling (confetti)
- Scaling (10% dots)
- Delamination (40% gray)
- Repairs (light vertical)
- Voids (large checker board)
- Dimensions are noted as ↔ X ↕ X depth



Map cracking throughout wearing surface

Bottom of Deck Span No. 3

Date 07/17/24

Bridge Location No. 58 (County) 02161 (Route) 1.36 (Log Mile)

Legend:
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- Spalling (confetti)
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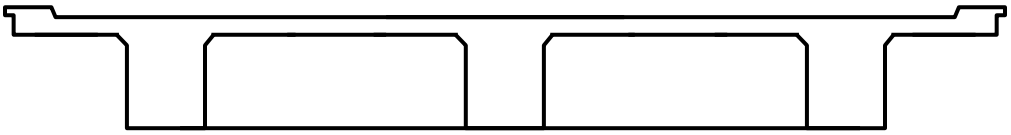
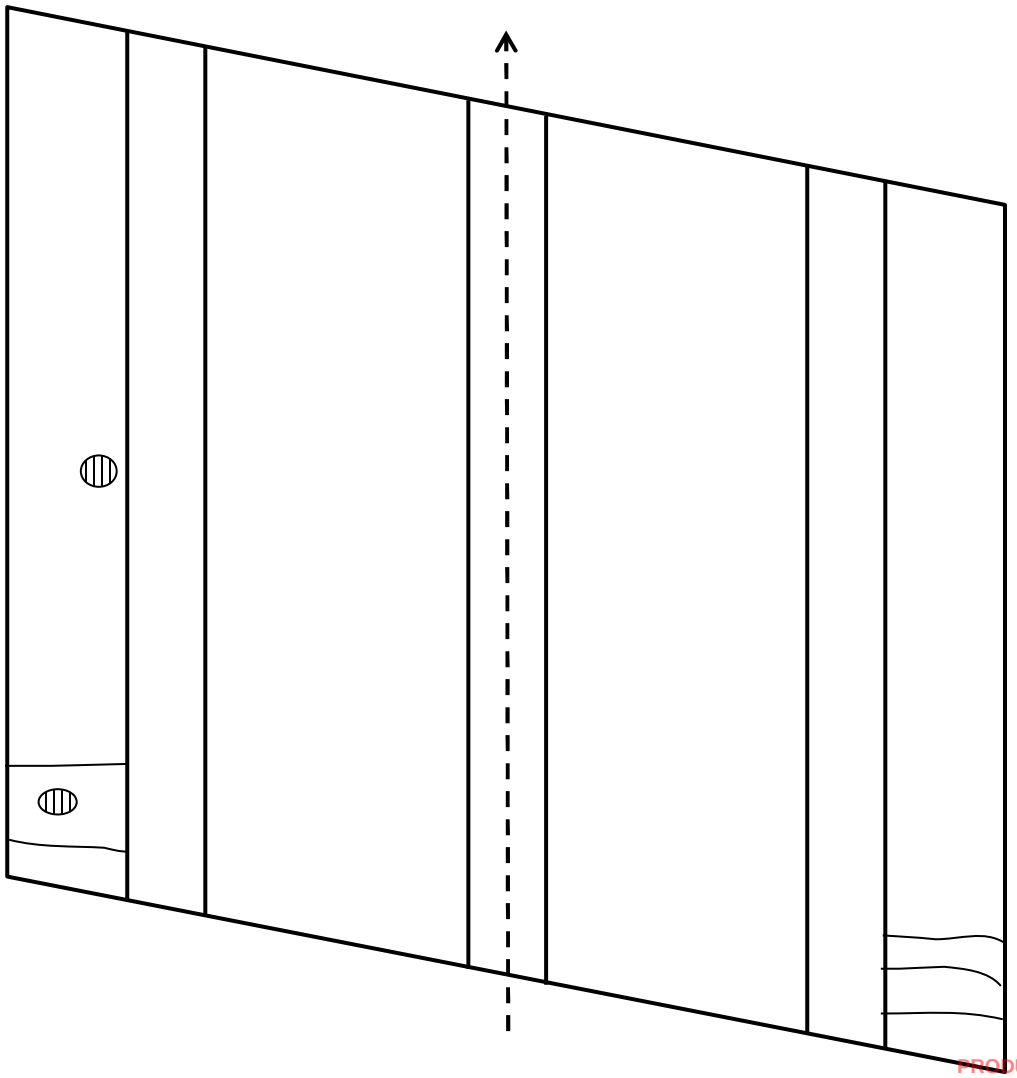


cracks are hairline with efflorescence



Beam Details - Span No. 3

Date 07/17/24

Bridge Location No. 58 (County) 02161 (Route) 1.36 (Log Mile)

Legend:
- Cracking
- Spalling (confetti)
- Scaling (10% dots)
- Delamination (40% gray)
- Repairs (light vertical)
- Voids (large checker board)
- Dimensions are noted as ↔ X ↕ X depth

Beam "A" - Right Side

Beam "A" - Left Side

Beam "B" - Right Side

Beam "B" - Left Side

Beam Details - Span No. 3

Date 07/17/24

Bridge Location No. 58 (County) 02161 (Route) 1.36 (Log Mile)

Legend:
- Cracking
- Spalling (confetti)
- Scaling (10% dots)
- Delamination (40% gray)
- Repairs (light vertical)
- Voids (large checker board)
- Dimensions are noted as ↔ X ↕ X depth

Beam "C" - Right Side

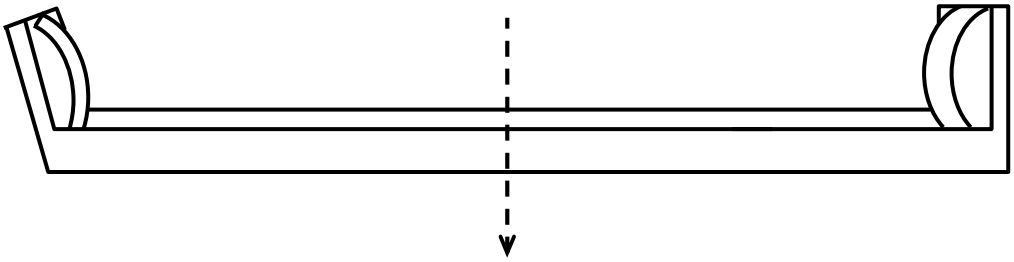
Beam "C" - Left Side

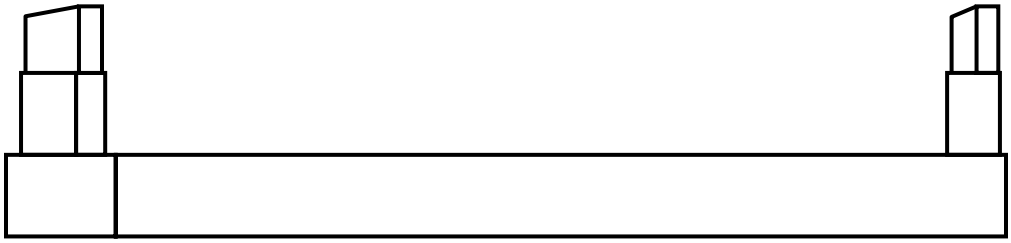
Abutment No. 1

Date 07/17/24

Bridge Location No. 58 (County) 02161 (Route) 1.36 (Log Mile)

Legend:
- Cracking
- Spalling (confetti)
- Scaling (10% dots)
- Delamination (40% gray)
- Repairs (light vertical)
- Bearings (light upward diagonal)
- Voids (large checker board)
- Dimensions are noted as ⟷ X ↕ X depth





Bent No. 1

Date 07/17/24

Bridge Location No. 58 (County) 02161 (Route) 1.36 (Log Mile)

Legend:
- Cracking
- Spalling (confetti)
- Scaling (10% dots)
- Delamination (40% gray)
- Repairs (light vertical)
- Bearings (light upward diagonal)
- Voids (large checker board)
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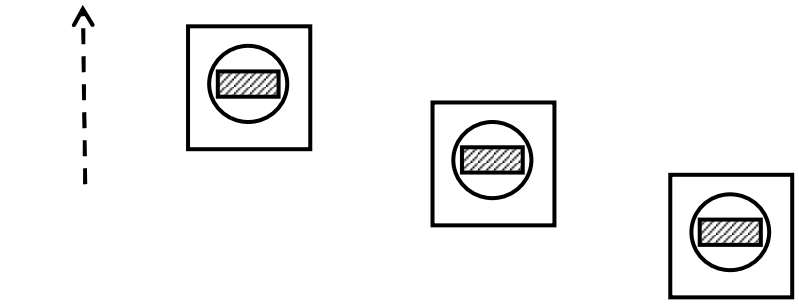
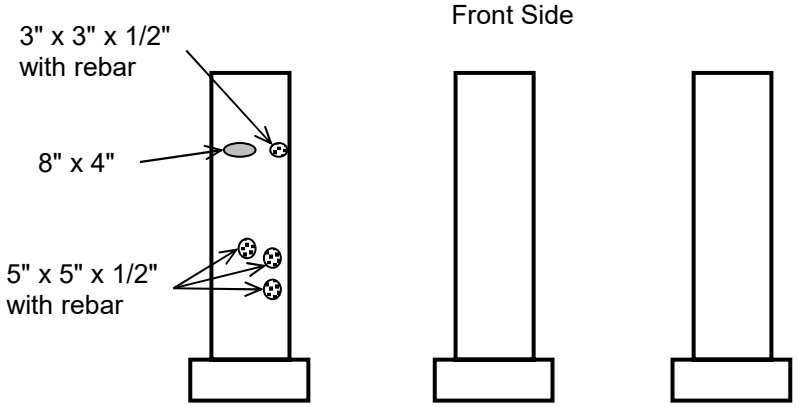
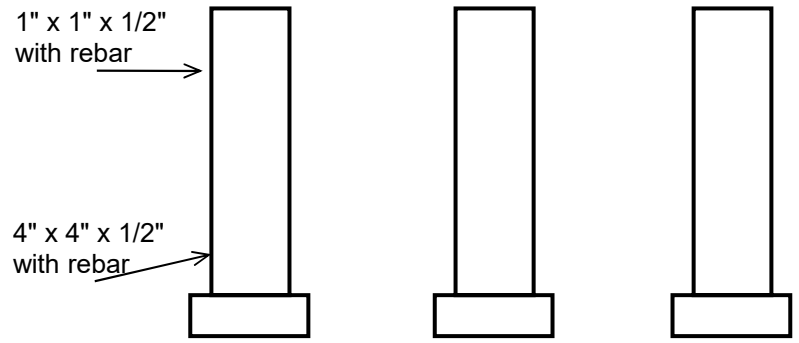


Front Side



Back Side

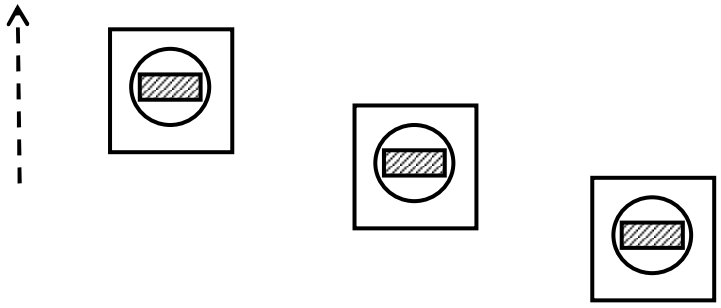


Bent No. 2

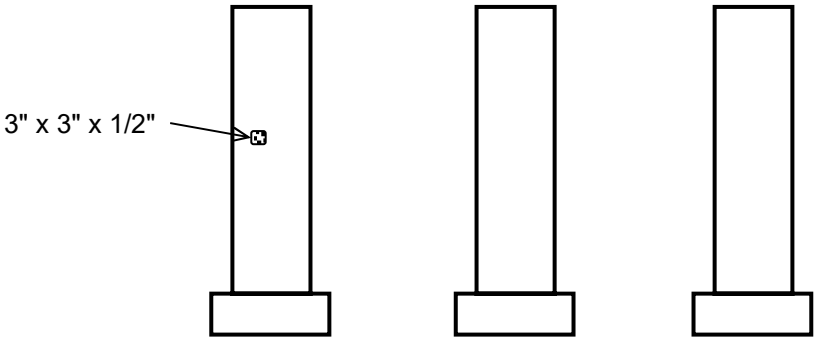
Date 07/17/24

Bridge Location No. 58 (County) 02161 (Route) 1.36 (Log Mile)

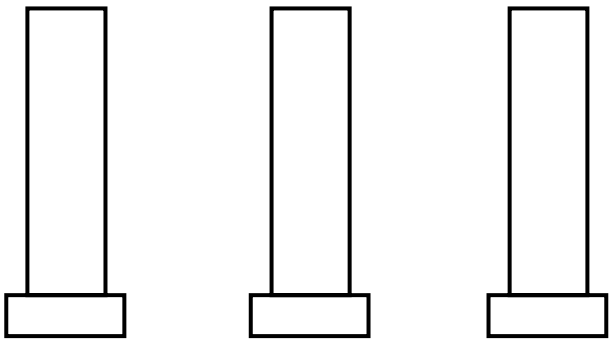
Legend:
- Cracking
- Spalling (confetti)
- Scaling (10% dots)
- Delamination (40% gray)
- Repairs (light vertical)
- Bearings (light upward diagonal)
- Voids (large checker board)
- Dimensions are noted as ↔ X ↕ X depth



Front Side



Back Side

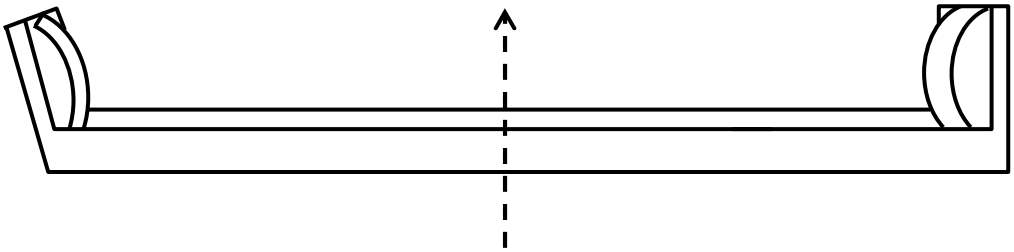


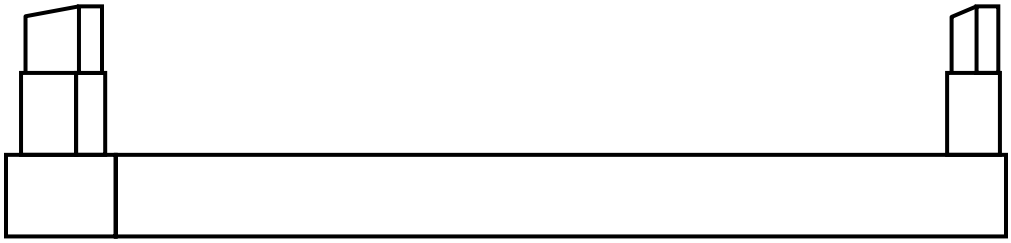
Abutment No. 2

Date 07/17/24

Bridge Location No. 58 (County) 02161 (Route) 1.36 (Log Mile)

Legend:
- Cracking
- Spalling (confetti)
- Scaling (10% dots)
- Delamination (40% gray)
- Repairs (light vertical)
- Bearings (light upward diagonal)
- Voids (large checker board)
- Dimensions are noted as ⟷ X ↕ X depth





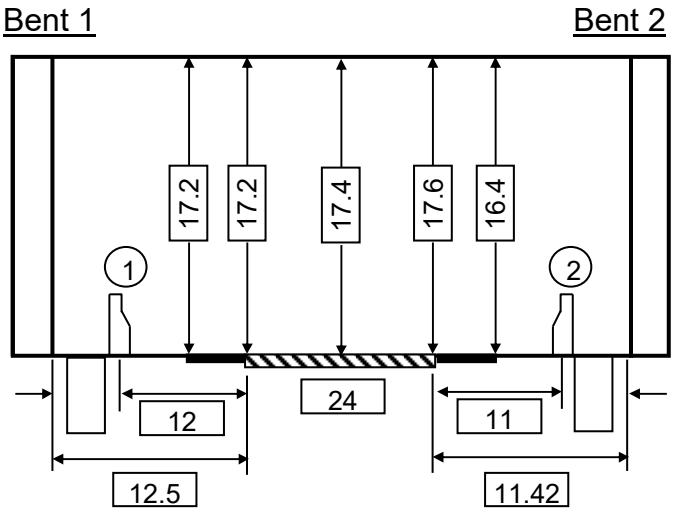
Form BIR 3.10
REVISED 6-9-92

Date 07/17/24

Bridge Location No. 58 (County) 2161 (Route) 1.36 (Log Mile)

NOTE: ALL DISTANCES AND ELEVATIONS ARE IN FEET.

Lateral and Vertical Clearances for One Lane Highway



1. Rail / Barrier Type:	W-Shape		Conc. Barrier	X	None	
2. Rail / Barrier Type:	W-Shape		Conc. Barrier	X	None	

TN TDOT Department of Transportation

Asset **#58I00240039**(Routine)
County: 58 - Marion, **Route:** 02161, **Log mile:** 1.360
Team Lead: Derek Yates, **Inspection Date:** 07/17/2024

Equipment List

General Inspection

Yes Pocket knife
Yes Sounding/chipping hammer
_____ Chain drag
Yes Range pole
_____ 25' rod - depth and clearance

Visual Aid

_____ Binoculars
_____ Flashlight
_____ Magnifying glass
_____ Hand mirror

Cleaning

_____ Wisk broom
_____ Wire brush
_____ Flat bladed screwdriver
_____ Hand shovel
_____ Penetrating oil (WD-40, etc.)

Tools For Access

_____ Ladders
_____ Rope
_____ Waders
_____ Machete or bush axe

Comment

Reach-All Approval and Comments

Tools For Measuring

_____ Masonry/Wood Ruler
Yes 6’ Pocket Tape
_____ 25’ and 100’ Tape
_____ Calipers
_____ Thermometer
_____ Carpenter’s Level
_____ String and Weighted line (plumb bob)

Special Purpose Equipment

_____ Reach All
_____ Bucket Truck
_____ Traffic control
_____ Boat
_____ Sonar depth finder
_____ Increment borer
_____ Survey equipment
_____ Safety Harness
_____ Climbing equipment
_____ Dye penetrant
_____ Drone
_____ Air Meter

Special Purpose Equipment

TN TDOT Department of Transportation

Asset **#58I00240039**(Routine)

County: 58 - Marion, **Route:** 02161, **Log mile:** 1.360

Team Lead: Derek Yates, **Inspection Date:** 07/17/2024

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
16	Re Conc Top Flange	SF	4185	4103	78	4	0
1080	Delamination/Spall/Patched Area	SF	22	0	18	4	0
1120	Efflorescence/Rust Staining	SF	60	0	60	0	0
510	Wearing Surfaces	SF	3906	2203	0	1703	0
3220	Crack (Wearing Surface)	SF	1703	0	0	1703	0
(16) Element record added 2016-07-25.							
(1080-16) Element record added 7/23/2020							
(1120-16) Element record added 7/20/2022							
(510-16) Element record added 2016-07-25.							
(3220-510-16) Element record added 7/20/2022							
110	Re Conc Opn Girder/Beam	LF	419	419	0	0	0
(110) Element record added 2016-07-25.							
205	Re Conc Column	EA	6	3	3	0	0
1080	Delamination/Spall/Patched Area	EA	1	0	1	0	0
1090	Exposed Rebar	EA	2	0	2	0	0
(205) Element record added 2016-07-25.							
(1090-205) Element record added 7/20/2022							
215	Re Conc Abutment	LF	42	42	0	0	0
(215) Element record added 2016-07-25.							
310	Elastomeric Bearing	EA	6	6	0	0	0
(310) Element record added 2016-07-25.							
330	Metal Bridge Railing	LF	279	279	0	0	0
(330) Element record added 2016-07-25.							

Project Design

Index Of Sheets

58100-0187-44
END PROJECT NO. BR-I-24-2(184) PRELIMINARY
STA. 65+90.00 SHELLMOUND RD
N 258108.1342 E 2087221.9278

58100-0187-44
BEGIN PROJECT NO. BR-I-24-2(184) PRELIMINARY
STA. 56+50.00 SHELLMOUND RD
N 257174.6896 E 2087111.1073

SPECIAL NOTES

PROPOSALS MAY BE REJECTED BY THE COMMISSIONER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED JANUARY 1, 2021 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

TDOT PROJECT MANAGER: CHANEL HIPPIX, PMP

DESIGNED BY: ARCADIS U.S., INC.

DESIGNER : MARC HAWKINS, P.E. CHECKED BY : FRITZ BROGDON, P.E.

P.E. NO. 58100-0187-44 (NEPA)

PIN NO. 130902.00

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

MARION COUNTY

SHELLMOUND ROAD
BRIDGE OVER INTERSTATE 24 EASTBOUND
(LOG MILE 1.36)

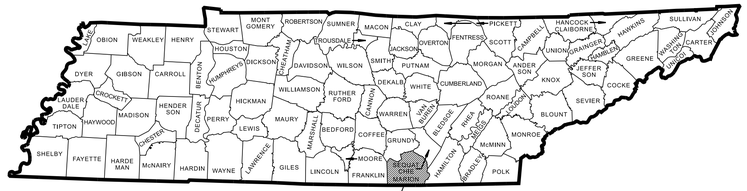
LINE AND GRADE

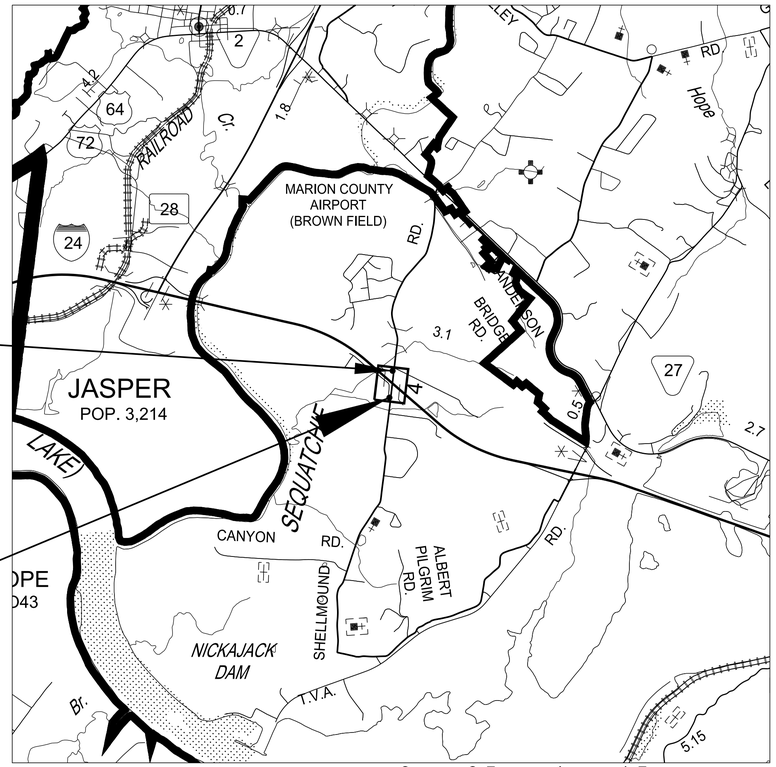
BRIDGE REPLACEMENT

STATE HIGHWAY NO. N/A F.A.H.S. NO. N/A

DOES THIS PROJECT QUALIFY FOR UTILITY CHAPTER 86	YES X	NO

TENN.	YEAR	SHEET NO.
	2025	1
FED. AID PROJ. NO.	BR-I-24-2(184)	
STATE PROJ. NO.	58100-0187-44	





SCALE: 1"= 2640'

0 0.5 1 1.5 MILES

N

NO EXCLUSIONS

ROAD TO BE CLOSED DURING CONSTRUCTION

LINE AND GRADE

SEALED BY

APPROVED: _____ WILL REID, CHIEF ENGINEER

DATE:

APPROVED: _____ HOWARD H. ELEY, COMMISSIONER

R.O.W. LENGTH	0.000 MILES
ROADWAY LENGTH	0.149 MILES
BRIDGE LENGTH	0.029 MILES
BOX BRIDGE LENGTH	0.000 MILES
BOX BRIDGE LENGTH	0.000 MILES ▲
PROJECT LENGTH	0.178 MILES

▲ Not included in the project length (Non Riding Surface).

SURVEY 05-06-24	TRAFFIC DATA	
	ADT (2026)	1,750
	ADT (2046)	1,930
	DHV (2046)	232
	D	65 - 35
	T (ADT)	3 %
	T (DHV)	2 %
	V	30 MPH

COORDINATES ARE NAD/83(2011) ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 USING GEOID18 MODEL

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____ DIVISION ADMINISTRATOR _____ DATE

GENERAL NOTES

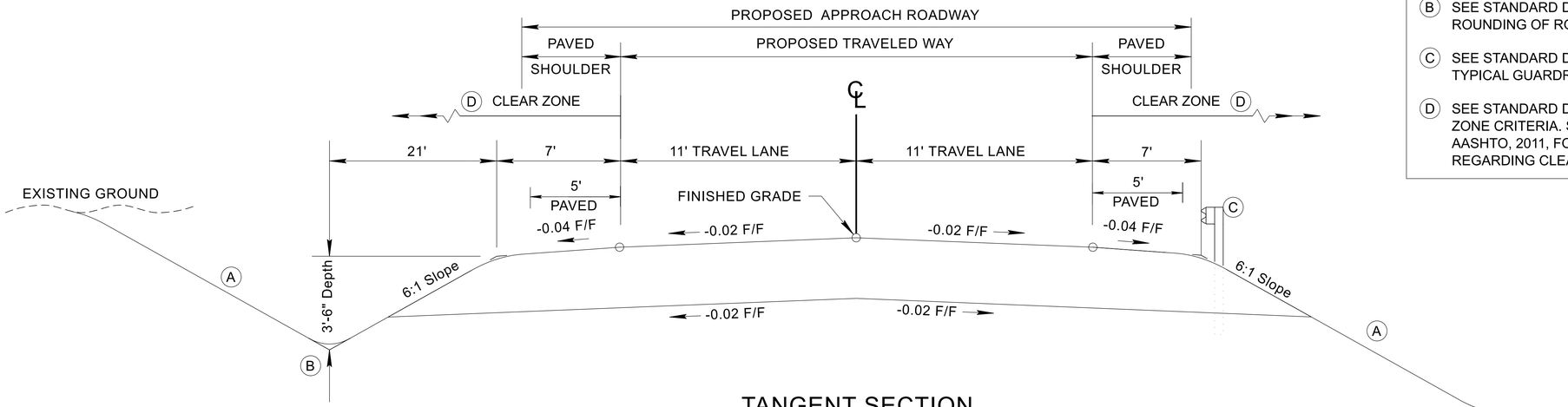
(A) SEE STANDARD DRAWINGS RD11-S-11 AND RD11-S-11B FOR FILL AND CUT SLOPE TABLES, ROUNDING ON TOP OF CUT SLOPES AND TOE OF FILL SLOPES, SPECIAL ROCK TREATMENT AND SUB GRADE ROUNDING IF APPLICABLE.

(B) SEE STANDARD DRAWING RD11-S-11A FOR ROUNDING OF ROADSIDE DITCH SLOPES.

(C) SEE STANDARD DRAWING S-PL-6 FOR TYPICAL GUARDRAIL PLACEMENT.

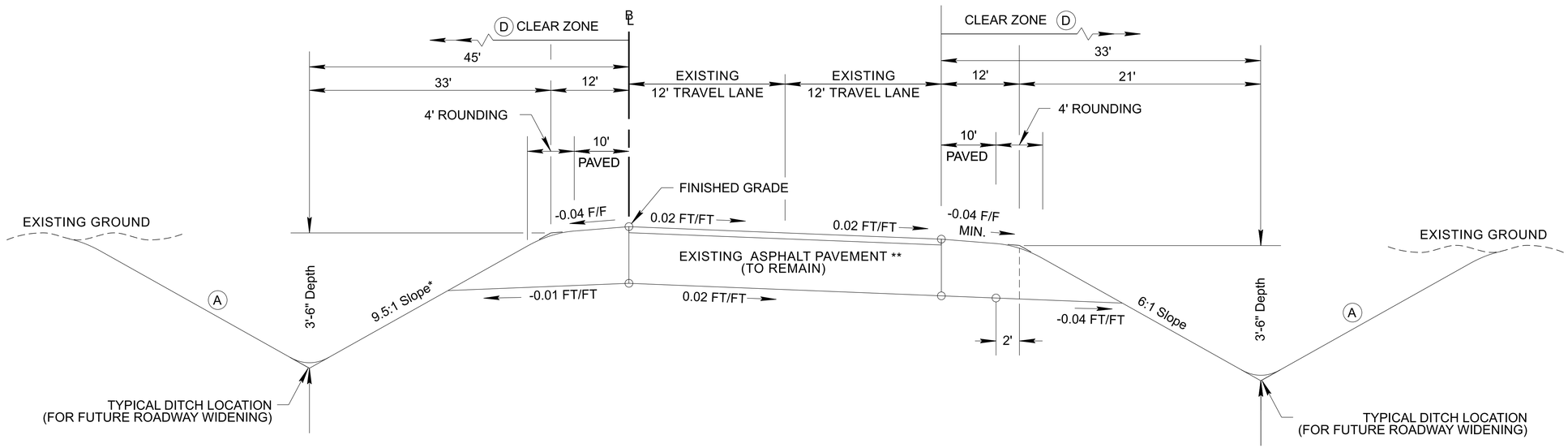
(D) SEE STANDARD DRAWING S-CZ-1 FOR CLEAR ZONE CRITERIA. SEE THE "ROADSIDE DESIGN GUIDE", AASHTO, 2011, FOR FURTHER INFORMATION REGARDING CLEAR ZONES.

TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	2B



TANGENT SECTION (SHELLMOUND ROAD)

(BASED ON STD. DWG. RD11-TS-2)
FROM STA. 56+50.00 TO STA. 60+45.60
FROM STA. 61+99.60 TO STA. 65+90.00



* APPROXIMATE SLOPE TO MEET TYPICAL DITCH AND CLEARZONE LOCATION FOR FUTURE ROADWAY WIDENING INCLUDING THE INSTALLTION OF A 12' TRAVEL LANE LEFT OF BASELINE.

** COLD PLANE AND OVERLAY 1.5 INCHES TOP SURFACE.

TANGENT SECTION (I-24 EASTBOUND)

(BASED ON STD. DWG. RD11-TS-5A)
FROM STA. 108+50.00 TO STA. 109+50.00
FROM STA. 111+20.00 TO STA. 111+50.00

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

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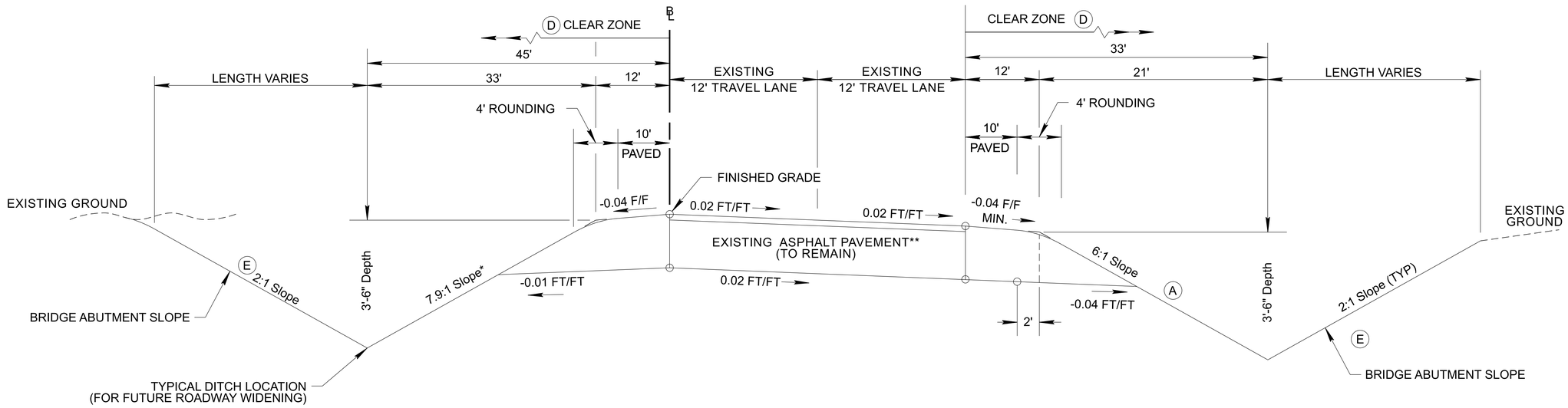

* APPROXIMATE SLOPE TO MEET TYPICAL DITCH AND CLEARZONE LOCATION FOR FUTURE ROADWAY WIDENING INCLUDING THE INSTALLTION OF A 12' TRAVEL LANE LEFT OF BASELINE.

** COLD PLANE AND OVERLAY 1.5 INCHES TOP SURFACE.

TANGENT SECTION (I-24 EASTBOUND)

(BASED ON STD. DWG. RD11-TS-5A)
FROM STA. 109+50.00 TO STA. 111+20.00

GENERAL NOTES

(A) SEE STANDARD DRAWINGS RD11-S-11 AND RD11-S-11B FOR FILL AND CUT SLOPE TABLES, ROUNDING ON TOP OF CUT SLOPES AND TOE OF FILL SLOPES, SPECIAL ROCK TREATMENT AND SUB GRADE ROUNDING IF APPLICABLE.

(D) SEE STANDARD DRAWING S-CZ-1 FOR CLEAR ZONE CRITERIA. SEE THE "ROADSIDE DESIGN GUIDE", AASHTO, 2011, FOR FURTHER INFORMATION REGARDING CLEAR ZONES.

(E) SEE STANDARD DRAWING S-PL-4A FOR SAFETY PLAN FOR BRIDGE PIERS/ ABUTMENTS OUTSIDE OF SHOULDER WHEN BRIDGE ABUTMENT SLOPE IS OUTSIDE THE CLEARZONE.

TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	2B1

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

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TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	3

R.O.W. ACQUISITION TABLE

TRACT NO.	PROPERTY OWNERS	COUNTY RECORDS				TOTAL AREA (ACRES)			AREA TO BE ACQUIRED (ACRES)			AREA REMAINING (ACRES)		EASEMENT (ACRES)			
		TAX MAP NO.	PARCEL NO.	DEED DOCUMENT BOOK	DEED DOCUMENT PAGE	LEFT	RIGHT	TOTAL	LEFT	RIGHT	TOTAL	LEFT	RIGHT	PERMANENT (1)	SLOPE	CONST (2)	AIR RIGHTS
9	CRABTREE CHARLES E ETUX RITA G	131	26.01				24.000	24.000					24.000	1048 S.F.		1080 S.F.	
~~21~~	~~LONG KENNETH ETUX MADELINE CAROL~~	~~131~~	~~29.00~~				~~163.190~~	~~163.190~~					~~163.190~~				
~~22~~	~~LONG KIMBERLY M~~	~~131~~	~~29.03~~				~~0.810~~	~~0.810~~					~~0.810~~				
~~23~~	~~LONG KENNETH WAYNE ETUX MADELINE CAROL~~	~~131~~	~~29.02~~														
~~24~~	~~LONG MADELINE CAROL ETVIR KENNETH W LONG~~	~~131~~	~~29.01~~				~~2.000~~	~~2.000~~					~~2.000~~				
~~25~~	~~HIGGINS RHONDA~~	~~131~~	~~30.00~~				~~6.000~~	~~6.000~~					~~6.000~~				
~~28~~	~~STONE ROY GAIL ETUX ANNIE GRACE~~	~~131~~	~~25.06~~				~~4.340~~	~~4.340~~					~~4.340~~				
~~29~~	~~MEYERS FRED L ETUX~~	~~131~~	~~25.03~~				~~2.420~~	~~2.420~~					~~2.420~~				
ACQUISITION TOTALS (ACRES)														**1048 S.F.**		**1080 S.F.**	

① THE PERMANENT DRAINAGE EASEMENT FOR EPSC MEASURES FOR OUTLET PROTECTION.

② THE CONSTRUCTION EASEMENT FOR EPSC MEASURES FOR OUTLET PROTECTION.

DISTURBED AREA		
IN BETWEEN SLOPE LINES	1.703	(AC)
15 FOOT WIDE STRIP (OUT SIDE SLOPE LINES)	0.671	(AC)
TOTAL DISTURBED AREA	2.374	(AC)
TOTAL PROJECT AREA	2.991	(AC)

LINE AND GRADE

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

RIGHT-OF-WAY ACQUISITION TABLE

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TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	3B

58100-0187-44
BEGIN PROJECT NO. BR-I-24-2(184) PRELIMINARY
STA. 56+50.00
N 257174.6896 E 2087111.1071

LIMIT OF CONST.
STA. 108+50.00

END PROJECT NO.
STA. 65+90.00
N 258108.1342 E 2087221.9274

LIMIT OF CONST.
STA. 111+50.00

STA. 61+36.98 Shellmound Rd=
STA. 110+13.27 I-24 EB
N 257658.2707 E 2087168.5188

INTERSTATE 24 EASTBOUND

PERMANENT DRAINAGE EASEMENT
15' TEMP. CONST. EASEMENT
MISC TRIBUTARY TO SEQUATCHIE RIVER
ACCESS FENCE (REMOVE AND REPLACE)
PRES. R.O.W.
PIERCY RD
SHELLMOUND ROAD
HASS RD
POND
N06°46'14"E
S45°09'44"E

INSET A
N.T.S.

LEGEND
DRAINAGE EASEMENT

SEALED BY

COORDINATES ARE NAD 83(2011), ARE DATUM ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 18.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPERTY MAP

STA. 57+00.00 TO STA. 67+00.00
SCALE: 1" = 200'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	4
–	–	–	

58100-0187-44
BEGIN PROJECT NO. BR-I-24-2(184) PRELIMINARY
STA. 56+50.00
N 257174.6896 E 2087111.1073

24 ~~MADELINE CAROL LONG AND HUSBAND, KENNETH LONG~~

23 ~~KENNETH LONG AND WIFE, MADELINE CAROL LONG~~

22 ~~KIMBERLY M. LONG~~

9 CHARLES E. CRABTREE AND WIFE, RITA G. CRABTREE

25 ~~RHONDA HIGGINS~~

6 ~~AARON ACOMB AND WIFE, KATHY R. ACOMB~~

28 ~~ROY GAIL STONE AND WIFE, ANNIE GRACE STONE~~

60 65 110 115

LIMIT OF CONST.
STA. 108+50.00

LIMIT OF CONST.
STA. 111+50.00

58100-0187-44
END PROJECT NO. BR-I-24-2(184) PRELIMINARY
STA. 65+90.00
N 258108.1342 E 2087221.9278

STA. 61+36.98 Shellmound Rd=
STA. 110+13.27 I-24 EB
N 257658.2707 E 2087168.5188

BRIDGE ID #
58I0024000392

INTERSTATE 24 EASTBOUND

SHELLMOUND ROAD

PIERCY RD

HASKEW RD

N18°01'50"E 270.88'
N17°57'35"E 182.73'
N15°58'48"E 238.57'
N75°58'00"W 243.23'
S71°00'39"E 196.33'
S65°09'44"E 221.42'
N06°46'14"E 646.75'

1BR GARAGE
1BR RES
1SB
1FR RES
1 BL RES
BARN
SHED
GARAGE
METAL CARPORT
BL SHED
MOBILE HOME
TANK
PROPANE TANK
FIELD LINE
STORM SHELTER
3-SPAN CONCRETE BEAM CONCRETE DECK
CONC. SLOPE PAVEMENT
CONC. DITCH
FOREST
GRASS
GRAVEL
BILLBOARD
W-BEAM GUARDRAIL WITH TYPE 21 TERMINAL ANCHOR (TO BE REMOVED)
TDOT R.O.W. MARKER (TYP.)
ACCESS FENCE
WOVEN WIRE
BARBED WIRE
PRES. R.O.W.
FILL
CUT
W.M.
WATER SPIGOT
SIGN
SDY
DYS
OH — WIRE — XING
18" PLASTIC L = 19.32'
12 CMP
18 HDPE
12 CMP TO DIS
1E1T1C
4E1T1C
5E3T
6E3T
3E2T
10' ASP.
24'
4' ASP.

Sheet #	Point	North	East	Elevation	Feature	Station	Offset (ft)	Alignment
4	CP-S18	257748.1740	2087000.3630	625.36	XCP	108+27.26	41.94	I-24 EB
4	CP-S15	258191.0660	2087250.0450	625.69	XCP	66+75.67	18.14	Shellmound Rd

LEGEND

EXISTING BRIDGE STRUCTURE TO BE REMOVED

LINE AND GRADE

SEALED BY

COORDINATES ARE NAD 83(2011), ARE DATUM ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 18.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA. 57+00.00 TO STA. 67+00.00
SCALE: 1" = 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	4A

58100-0187-44
BEGIN PROJECT NO. BR-I-24-2(184) PRELIMINARY
STA. 56+50.00
N 257174.6896 E 2087111.1073

24 ~~MADELINE CAROL LONG AND HUSBAND, KENNETH LONG~~

23 ~~KENNETH LONG AND WIFE, MADELINE CAROL LONG~~

22 ~~KIMBERLY M. LONG~~

9 CHARLES E. CRABTREE AND WIFE, RITA G. CRABTREE

N18°01'50"E 270.88'

N17°57'35"E 182.73'

N15°58'48"E 238.57'

N75°58'00"W 243.23'

N02°02'32"E 17.21'

S71°00'09"E 196.33'

N69°05'20"W 167.40'

N69°11'19"W 491.92'

107+69.21
146.62'

56+89.57
115.25'

60+58.28
145.75'

58+75.18
130.60'

56+53.15
46.92'

N55°10'27"W 40.93'

N54°50'46"W 36.27'

N02°02'32"E 169.03'

N02°02'26"E 183.72'

N03°31'51"E 254.49'

PRES. R.O.W.

EIP

60

65

110

115

LIMIT OF CONST.
STA. 108+50.00

LIMIT OF CONST.
STA. 111+50.00

INTERSTATE 24 EASTBOUND

CP-S18

TEMP. CONST. EASEMENT

PERMENANT DRAINAGE EASEMENT

S10°36'16"W 435.67'

FILL

CUT

N06°46'14"E

SHELLMOUND ROAD

N06°22'10"E 324.54'

N10°14'37"E 217.35'

57+23.33
60.19'

59+40.29
73.36'

S49°09'44"E

S49°12'44"E 643.57'

25 ~~RHONDA HIGGINS~~

TDOT R.O.W. MARKER (TYP.)

61+95.94
89.00'

N02°48'01"E 424.35'

66+19.27
59.62'

58100-0187-44
END PROJECT NO. BR-I-24-2(184) PRELIMINARY
STA. 65+90.00
N 258108.1342 E 2087221.9278

66+75.95
55.79'

N68°11'48"W 37.76'

N73°43'18"W 8.29'

S60°44'59"E 257.28'

N67°20'05"W 221.67'

S60°55'52"E 200.05'

N69°07'28"W 448.32'

115+02.29
98.39'

STA. 61+36.98 Shellmound Rd=
STA. 110+13.27 I-24 EB
N 257658.2707 E 2087168.5188

6 ~~AARON ACOMB AND WIFE, KATHY R. ACOMB~~

28 ~~ROY GAIL STONE AND WIFE, ANNIE GRACE STONE~~

LEGEND

PERMENANT DRAINAGE EASEMENT

Sheet #	Point	North	East	Elevation	Feature	Station	Offset (ft)	Alignment
4	CP-S18	257748.1740	2087000.3630	625.36	XCP	108+27.26	41.94	I-24 EB
4	CP-S15	258191.0660	2087250.0450	625.69	XCP	66+75.67	18.14	Shellmound Rd

LINE AND GRADE

SEALED BY

COORDINATES ARE NAD 83(2011), ARE DATUM ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 18.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

ROW DETAILS

STA. 57+00.00 TO STA. 67+00.00
SCALE: 1" = 50'

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TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	4B

58100-0187-44
BEGIN PROJECT NO. BR-I-24-2(184) PRELIMINARY
STA. 56+50.00
N 257174.6896 E 2087111.1073

N

60

65

LIMIT OF CONST.
STA. 108+50.00

ACCESS FENCE
(REMOVE AND REPLACE)

BEGIN BRIDGE
STA. 60+45.60

BEGIN SHOULDER PVMT.
STA. 56+90.52
OFF. 18.00'

END GUARDRAIL
STA. 60+10.75
OFF. 18.00'

110

INTERSTATE 24 EASTBOUND

12' SHLD
24'
12' SHLD

30' OF RIPRAP CLASS "C"
APRON WIDTH 5' (SHORT SIDE)
APRON WIDTH 34' (LONG SIDE)
APRON DEPTH 3.5'

ACCESS FENCE
(REMOVE AND REPLACE)

BEGIN GUARDRAIL
STA. 62+70.40
OFF. 18.00'

PIERCY RD

THRIE BEAM
BRIDGE CONNECTION

BEGIN GUARDRAIL
STA. 58+01.29
OFF. 18.00'

END SHOULDER PVMT.
STA. 65+90.00
OFF. 18.00'

END GUARDRAIL
STA. 65+86.68
OFF. 18.00'

THRIE BEAM
BRIDGE CONNECTION

TYPE 21 | 7' SHLD | 7' SHLD | TYPE 21

22' | N06°46'14"E | 22'

SHELLMOUND ROAD | 11' | 11' | SHELLMOUND ROAD

TYPE 21 | 7' SHLD | 7' SHLD | TYPE 21

END GUARDRAIL
STA. 65+68.81
OFF. 18.00'

THRIE BEAM
BRIDGE CONNECTION

END SHOULDER PVMT.
STA. 65+90.00
OFF. 18.00'

BEGIN GUARDRAIL
STA. 57+66.50
OFF. 18.00'

END GUARDRAIL
STA. 59+71.17
OFF. 18.00'

12' SHLD
24'
12' SHLD

BEGIN SHOULDER PVMT.
STA. 57+23.52
OFF. 18.00'

ACCESS FENCE
(REMOVE AND REPLACE)

END BRIDGE
STA. 61+99.60

BEGIN GUARDRAIL
STA. 62+48.37
OFF. 18.00'

58100-0187-44
END PROJECT NO. BR-I-24-2(184) PRELIMINARY
STA. 65+90.00
N 258108.1342 E 2087221.9278

THRIE BEAM
BRIDGE CONNECTION

S45°08'44"E

ACCESS FENCE
(REMOVE AND REPLACE)

115

LIMIT OF CONST.
STA. 111+50.00

INTERSTATE 24 EASTBOUND

HASS RD

STA. 61+36.98 Shellmound Rd=
STA. 110+13.27 I-24 EB
N 257658.2707 E 2087168.5188

LINE AND GRADE

SEALED BY

COORDINATES ARE NAD 83(2011), ARE
DATUM ADJUSTED BY THE FACTOR
OF 0.99998 AND TIED TO THE TGRN.
ALL ELEVATIONS ARE REFERENCED
TO THE NAVD 1988 WITH GEOID 18.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED
LAYOUT

STA. 57+00.00 TO STA. 67+00.00
SCALE: 1" = 50'

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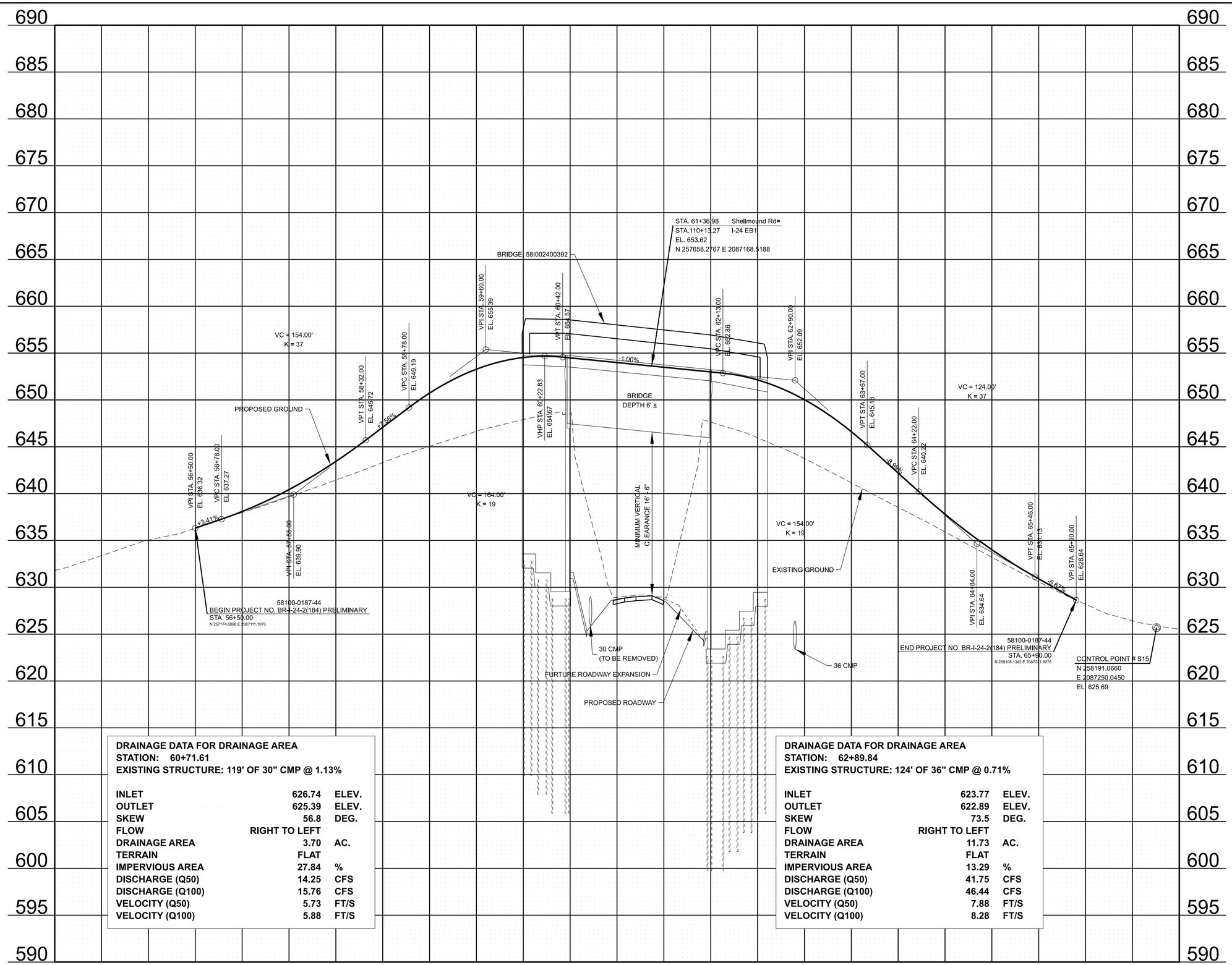
TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	4C



DRAINAGE DATA FOR DRAINAGE AREA
STATION: 60+71.61
EXISTING STRUCTURE: 119' OF 30" CMP @ 1.13%

INLET	626.74	ELEV.
OUTLET	625.39	ELEV.
SKEW	56.8	DEG.
FLOW	RIGHT TO LEFT	
DRAINAGE AREA	3.70	AC.
TERRAIN	FLAT	
IMPERVIOUS AREA	27.84	%
DISCHARGE (Q50)	14.25	CFS
DISCHARGE (Q100)	15.76	CFS
VELOCITY (Q50)	5.73	FT/S
VELOCITY (Q100)	5.88	FT/S

DRAINAGE DATA FOR DRAINAGE AREA
STATION: 62+89.84
EXISTING STRUCTURE: 124' OF 36" CMP @ 0.71%

INLET	623.77	ELEV.
OUTLET	622.89	ELEV.
SKEW	73.5	DEG.
FLOW	RIGHT TO LEFT	
DRAINAGE AREA	11.73	AC.
TERRAIN	FLAT	
IMPERVIOUS AREA	13.29	%
DISCHARGE (Q50)	41.75	CFS
DISCHARGE (Q100)	46.44	CFS
VELOCITY (Q50)	7.88	FT/S
VELOCITY (Q100)	8.28	FT/S

SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED
PROFILE

STA. 55+50.00 TO STA. 67+00.00

SCALE: 1" = 50' HORIZ.
1" = 5' VERT.

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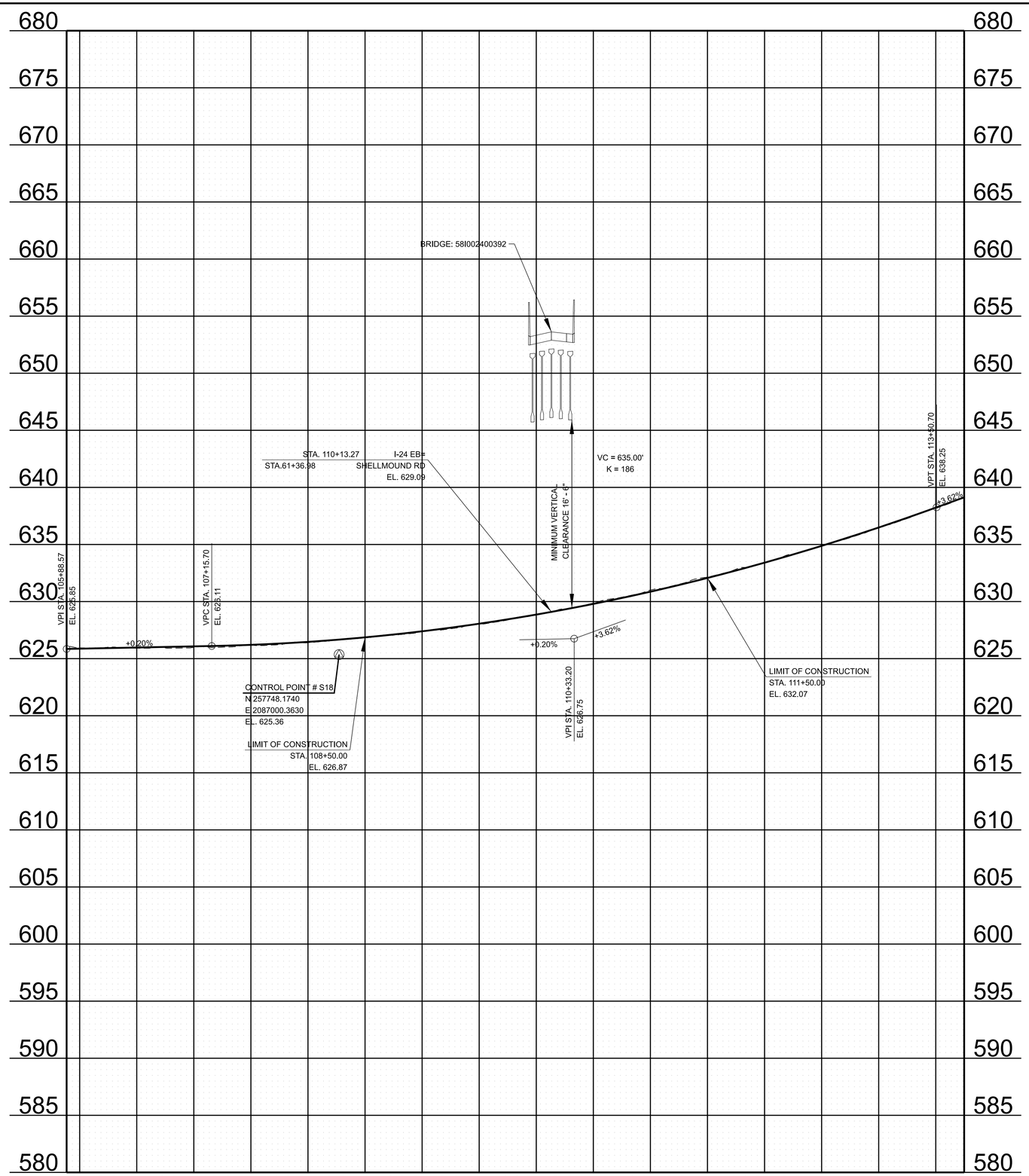
TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	5



SEALED BY

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SIDE ROAD PROFILE

STA. 105+88.57 TO STA. 113+74.88

SCALE: 1" = 50' HORIZ.
1" = 5' VERT.

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TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	6
–	–	–	

DRAINAGE DATA FOR DRAINAGE AREA (A)
STATION: 60+71.61
EXISTING STRUCTURE: 119' OF 30" CMP @ 1.13%

INLET	626.74	ELEV.
OUTLET	625.39	ELEV.
SKEW	56.8	DEG.
FLOW	RIGHT TO LEFT	
DRAINAGE AREA	3.70	AC.
TERRAIN	FLAT	
IMPERVIOUS AREA	27.84	%
DISCHARGE (Q50)	14.25	CFS
DISCHARGE (Q100)	15.76	CFS
VELOCITY (Q50)	5.73	FT/S
VELOCITY (Q100)	5.88	FT/S

DRAINAGE DATA FOR DRAINAGE AREA (B)
STATION: 62+89.84
EXISTING STRUCTURE: 124' OF 36" CMP @ 0.71%

INLET	623.77	ELEV.
OUTLET	622.89	ELEV.
SKEW	73.5	DEG.
FLOW	RIGHT TO LEFT	
DRAINAGE AREA	11.73	AC.
TERRAIN	FLAT	
IMPERVIOUS AREA	13.29	%
DISCHARGE (Q50)	41.75	CFS
DISCHARGE (Q100)	46.44	CFS
VELOCITY (Q50)	7.88	FT/S
VELOCITY (Q100)	8.28	FT/S

58100-0187-44
BEGIN PROJECT NO. BR-I-24-2(184) PRELIMINARY
STA. 56+50.00
N 257174.6896 E 2087111.1073

INSET A
NTS

INSET B
NTS

LIMIT OF CONST.
STA. 108+50.00

LIMIT OF CONST.
STA. 111+50.00

58100-0187-44
END PROJECT NO. BR-I-24-2(184) PRELIMINARY
STA. 65+90.00
N 258108.1342 E 2087221.9278

STA. 61+36.98 Shellmound Rd=
STA. 110+13.27 I-24 EB
N 257658.2707 E 2087168.5188

BRIDGE ID # 58I002400392
3-SPAN CONCRETE BEAM CONCRETE DECK

INTERSTATE 24 EASTBOUND

SHELLMOUND ROAD

PIERCY RD

HASS RD

INV - 627.79'
INV - 627.11'
INV - 623.46'
12 CMP
18 HDPE
INV - 623.03'
CONC. DITCH
INV - 625.39'
INV - 646.63'
INV 646.75'
INV 646.21'
30 CMP
INV - 636.74'
INV - 622.89'
INV - 623.77'
INV - 637.86'
INV - 625.39'
18" PLASTIC
L = 19.32'
INV - 625.18'
INV - 624.19'
12 CMP
INV - 624.23'
INV - 627.52'
12 CMP
INV - 627.70'
N06°46'14"E

A
B

60
65
110
115

Z

LINE AND GRADE

SEALED BY

COORDINATES ARE NAD 83(2011), ARE DATUM ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 18.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

DRAINAGE MAP

STA. 57+00.00 TO STA. 67+00.00
SCALE: 1" = 50'

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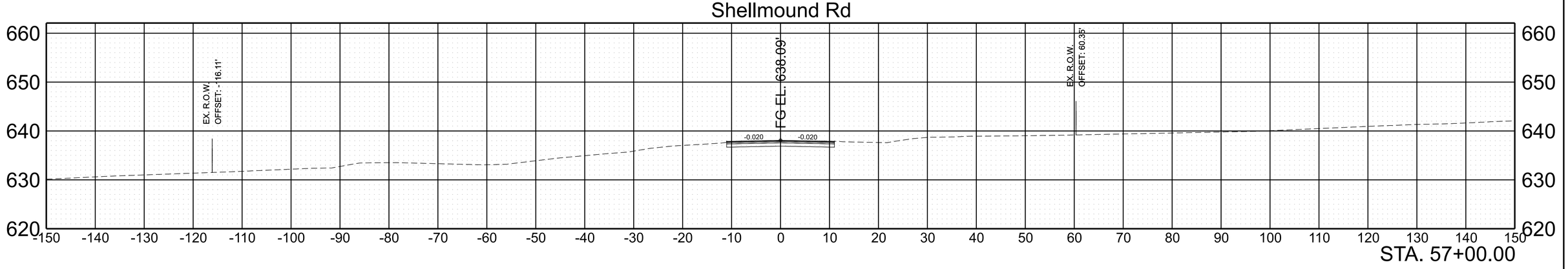
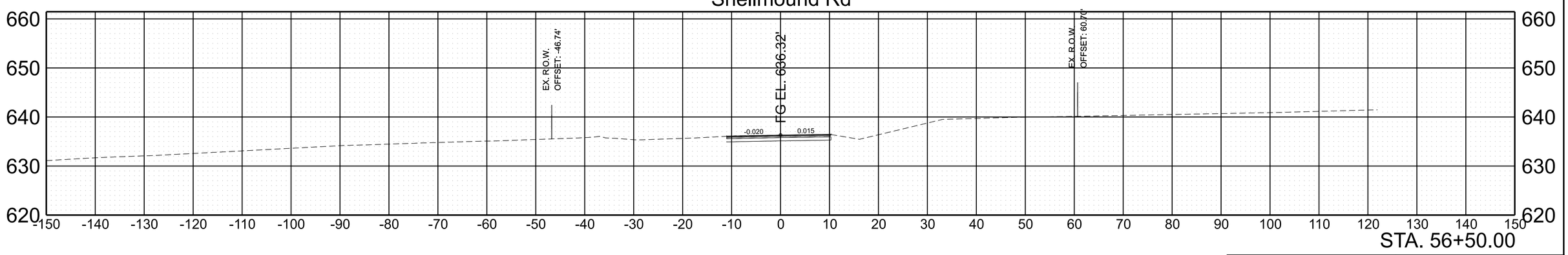
TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	7





SCALE:	1"=10' HORIZ.	BEGIN STA. 56+50.00
	1"=10' VERT.	END STA. 57+00.00

5/21/2025 4:37:47 PM
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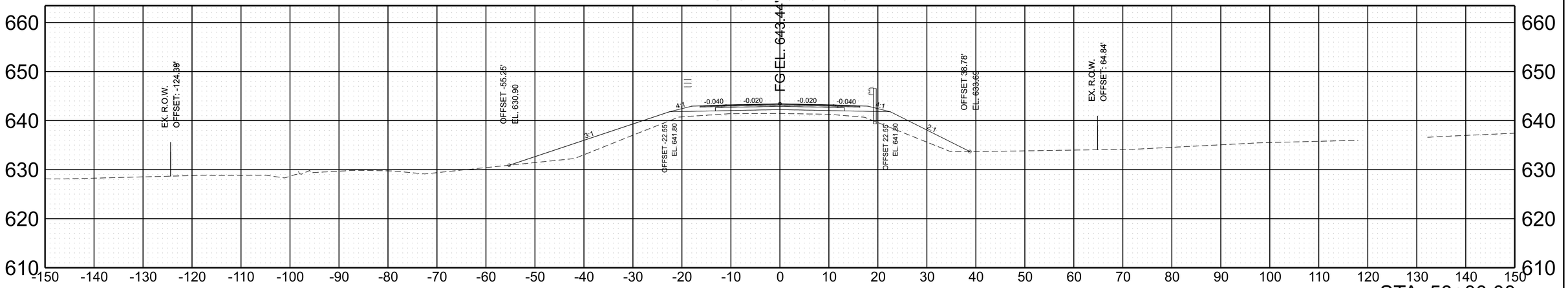
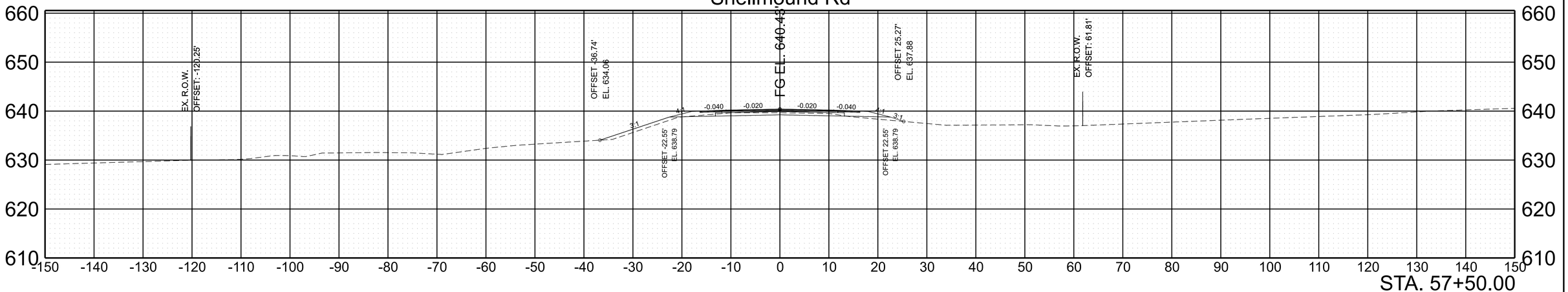
TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	8

Shellmound Rd



STA. 58+00.00

Shellmound Rd



STA. 57+50.00

SCALE:	1"=10' HORIZ. 1"=10' VERT.	BEGIN STA. 57+50.00 END STA. 58+00.00

5/21/2025 4:37:49 PM
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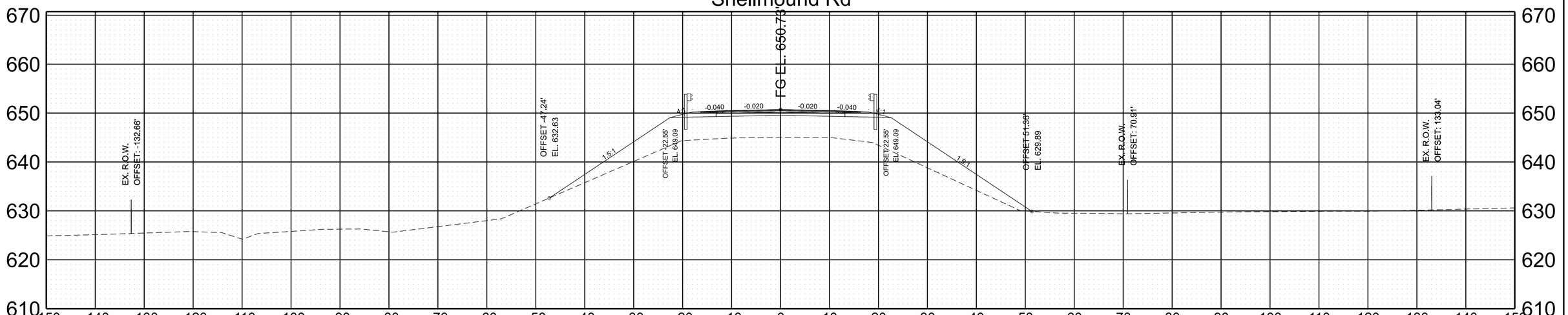
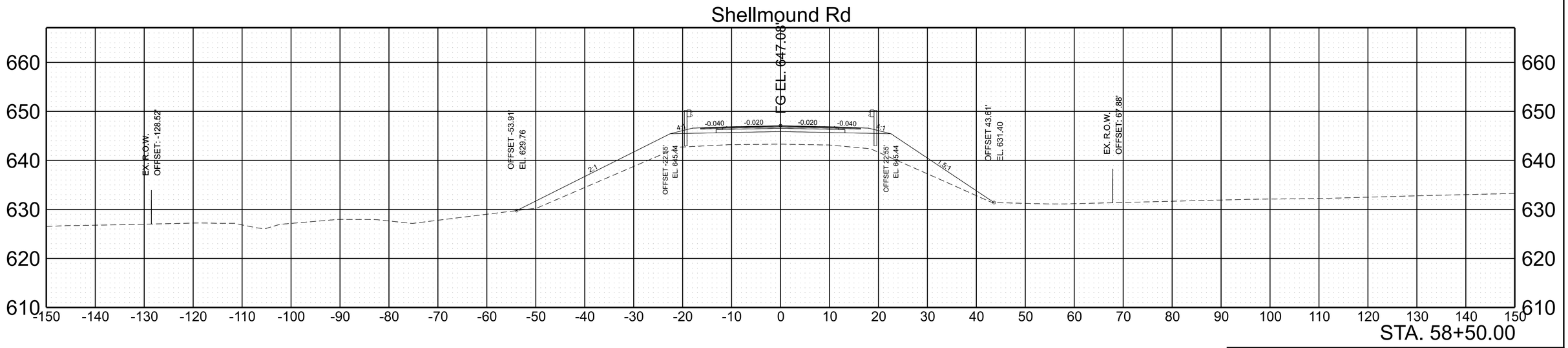
TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	9





SCALE:		
	1"=10' HORIZ.	BEGIN STA. 58+50.00
	1"=10' VERT.	END STA. 59+00.00

5/21/2025 4:37:50 PM
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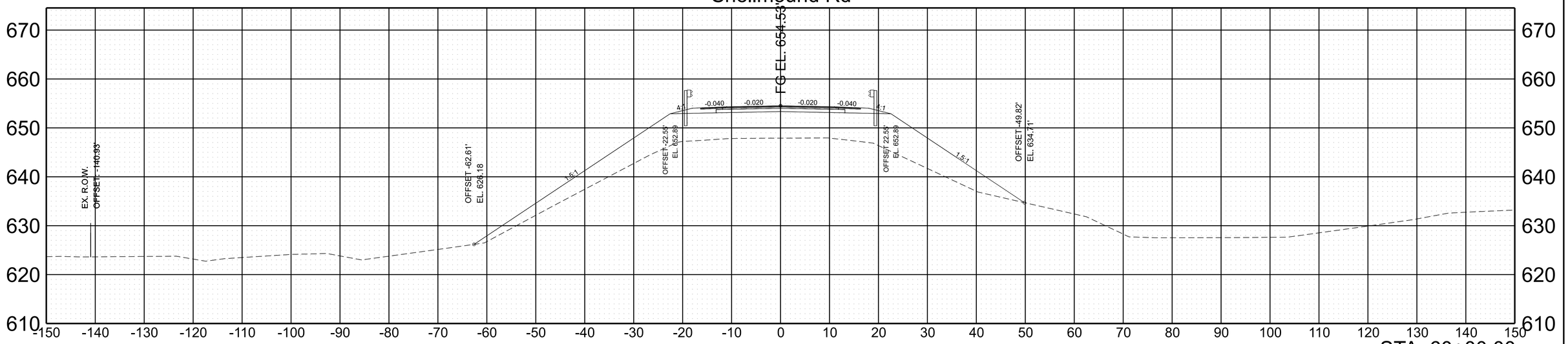
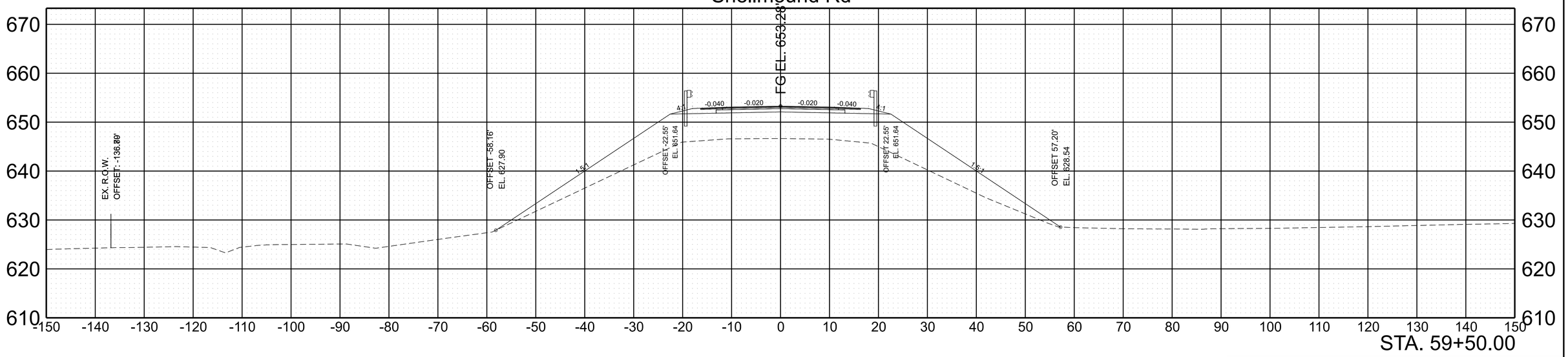
TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	10

Shellmound Rd



Shellmound Rd



SCALE:	1"=10' HORIZ. 1"=10' VERT.	BEGIN STA. 59+50.00 END STA. 60+00.00

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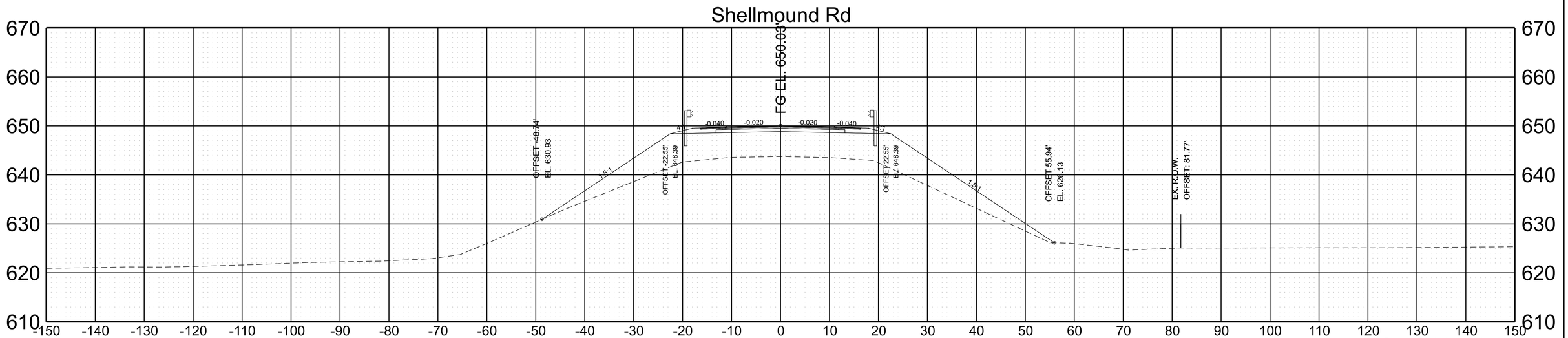
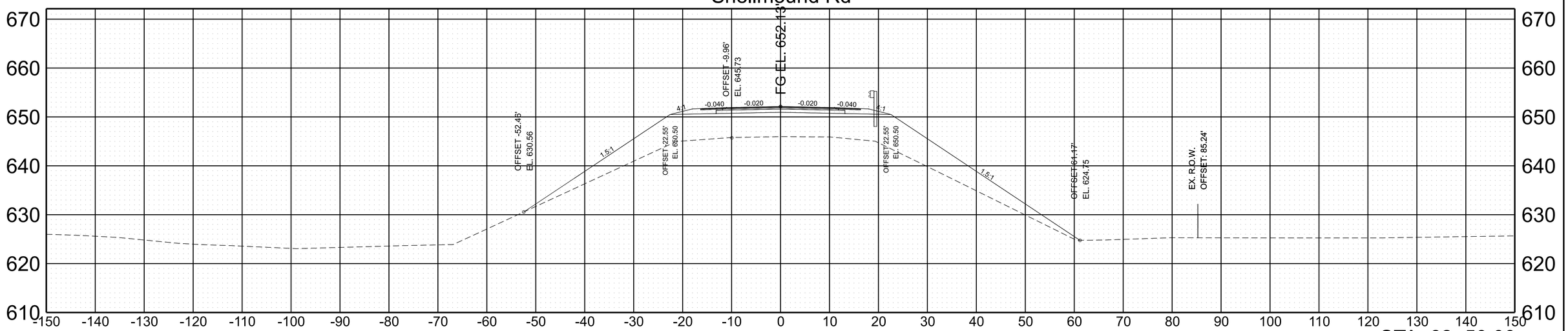
TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	11





SCALE:	1"=10' HORIZ.	BEGIN STA. 62+50.00
	1"=10' VERT.	END STA. 63+00.00

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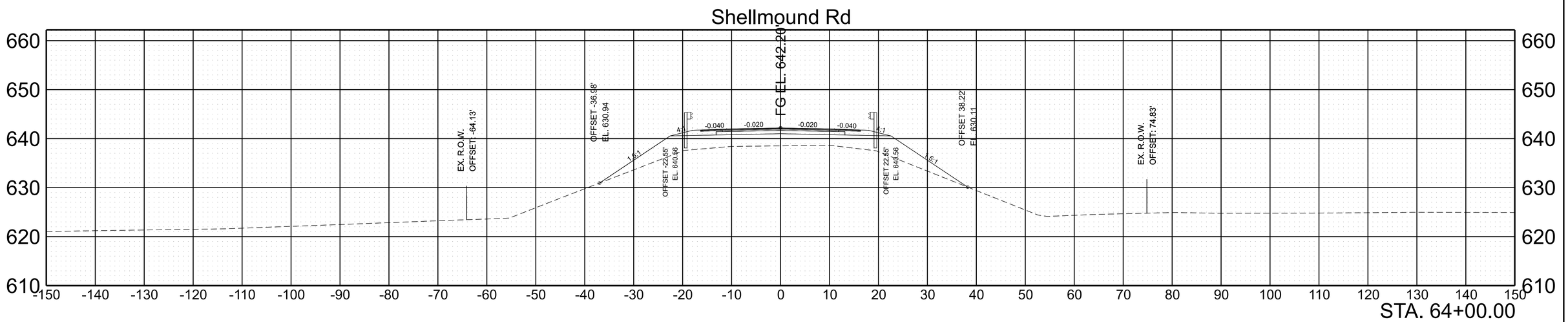
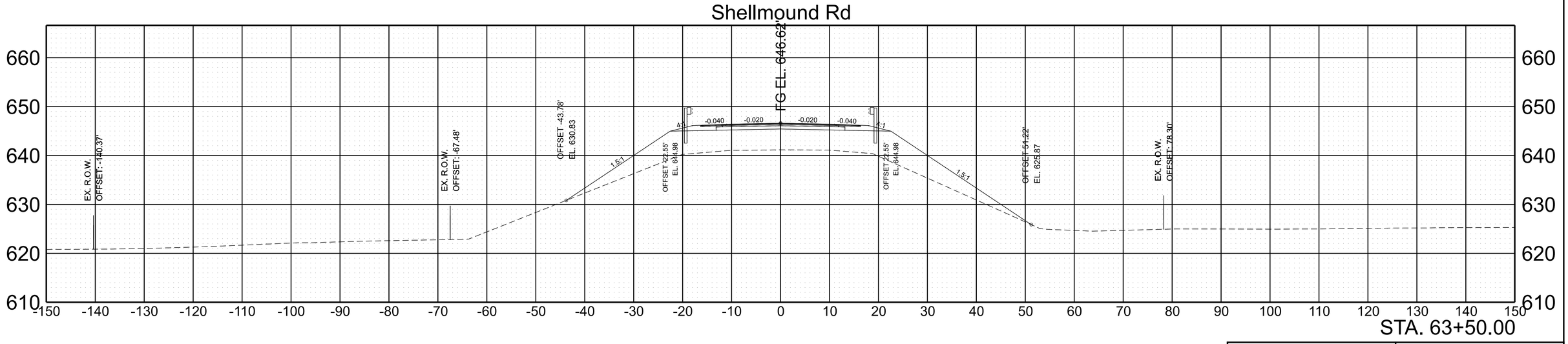
TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	12





SCALE:	1"=10' HORIZ.	BEGIN STA. 63+50.00
	1"=10' VERT.	END STA. 64+00.00

5/21/2025 4:37:54 PM
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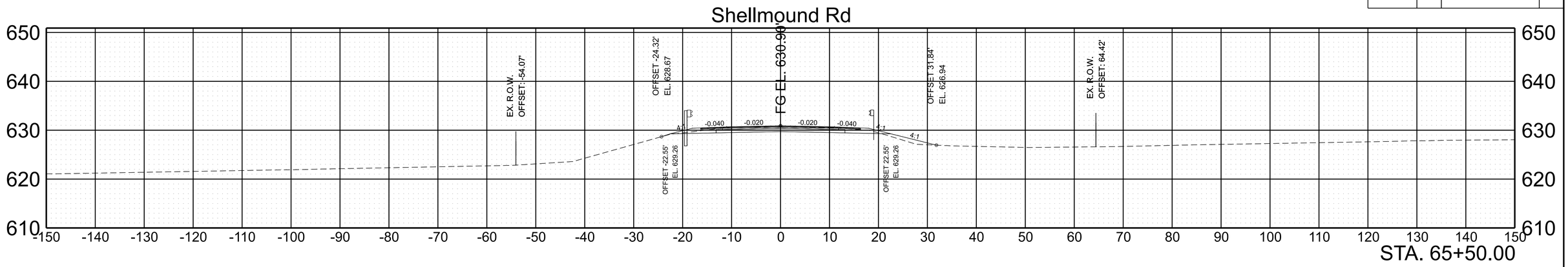
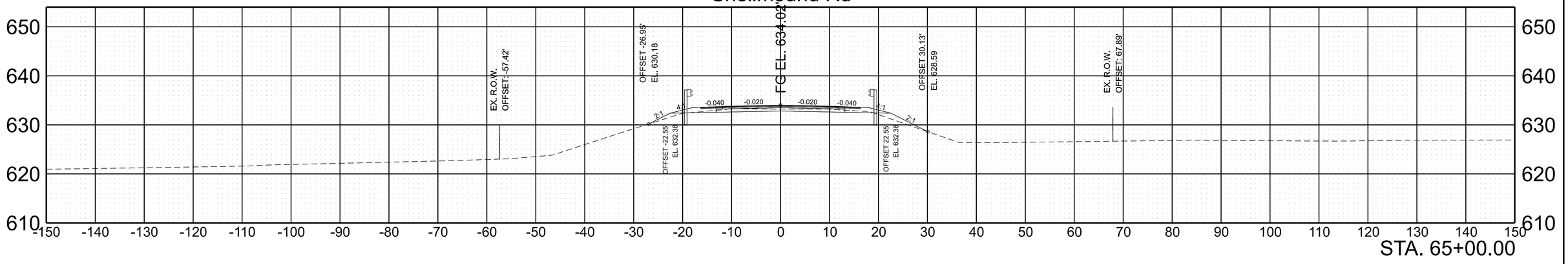
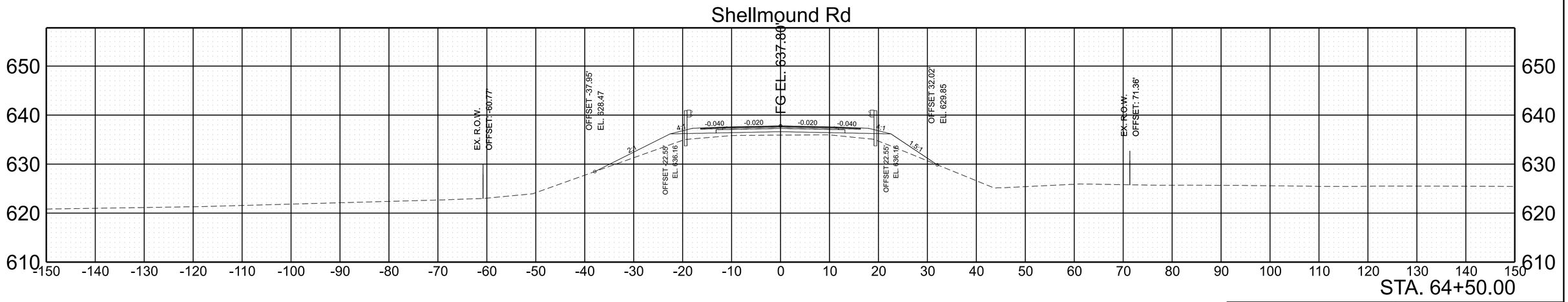
TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	13







SCALE:	1"=10' HORIZ.	BEGIN STA. 64+50.00
	1"=10' VERT.	END STA. 65+50.00

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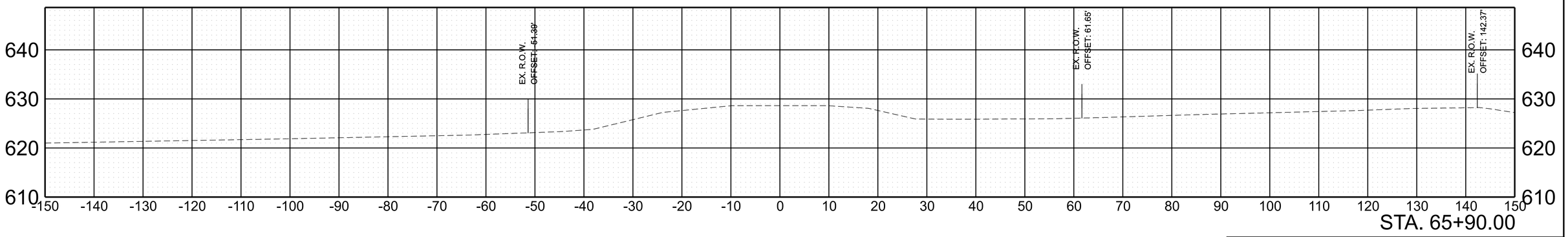
TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	14



SCALE:	1"=10' HORIZ.	BEGIN STA. 65+90.00
	1"=10' VERT.	END STA. 65+90.00

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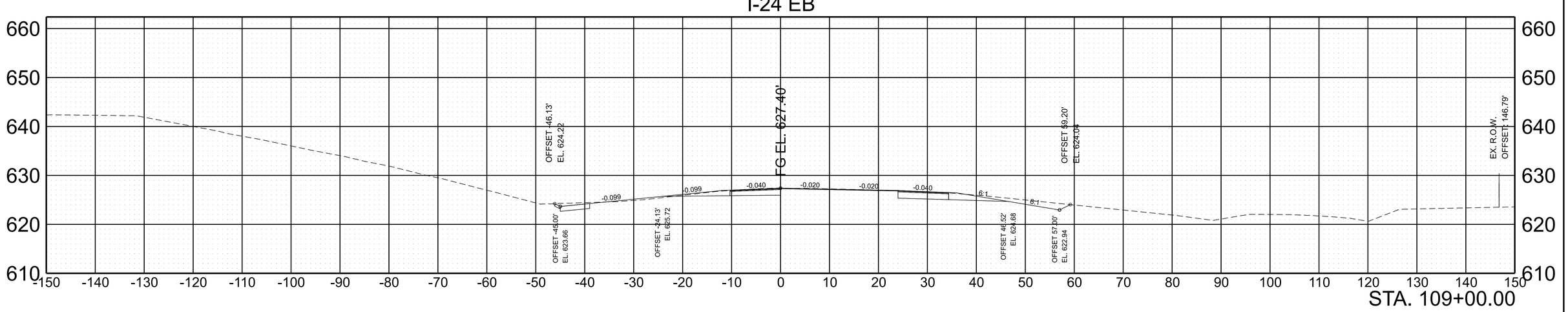
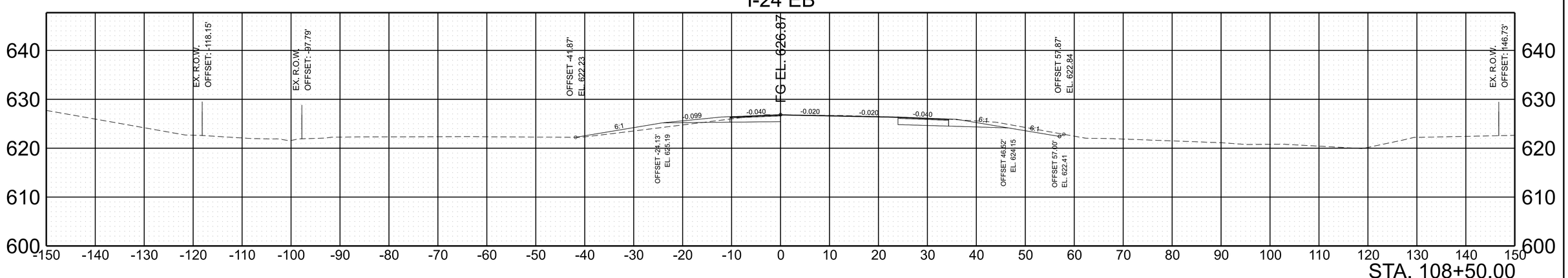
TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	15





SCALE:	1"=10' HORIZ.	BEGIN STA. 108+50.00
	1"=10' VERT.	END STA. 109+00.00

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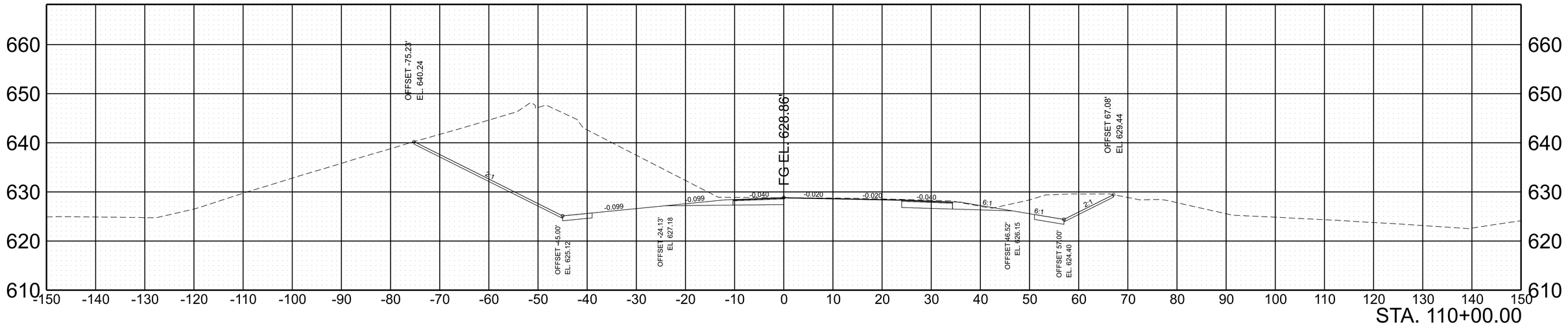
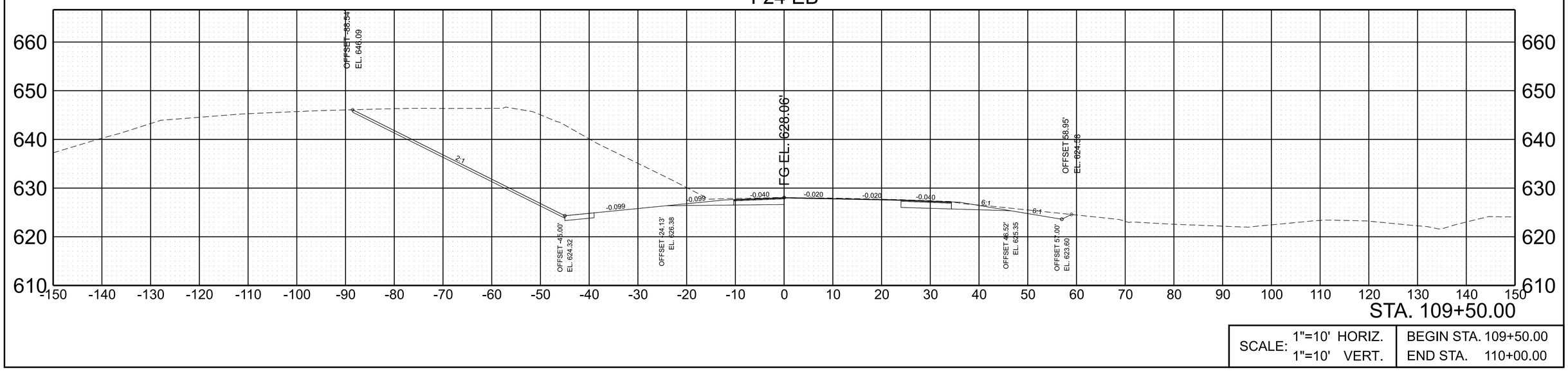
TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	16

I-24 EB



STA. 110+00.00

I-24 EB

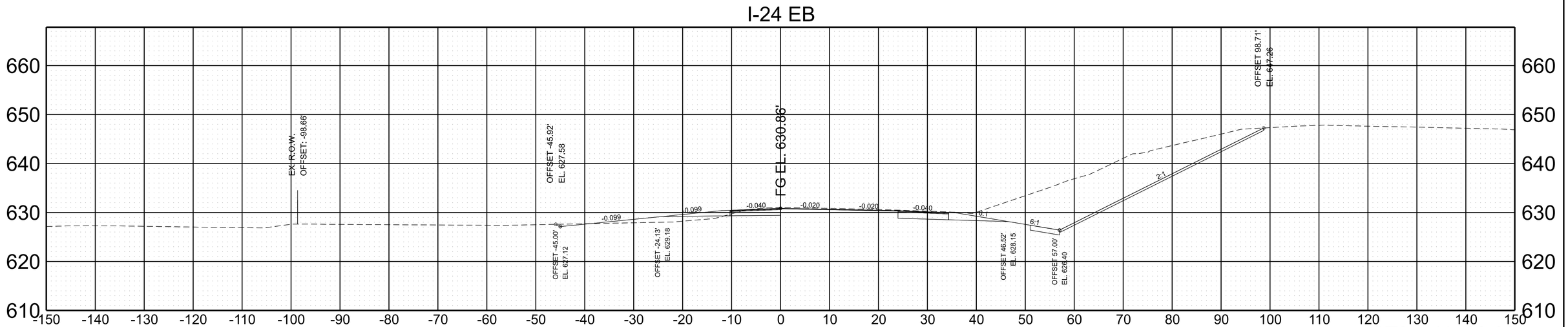


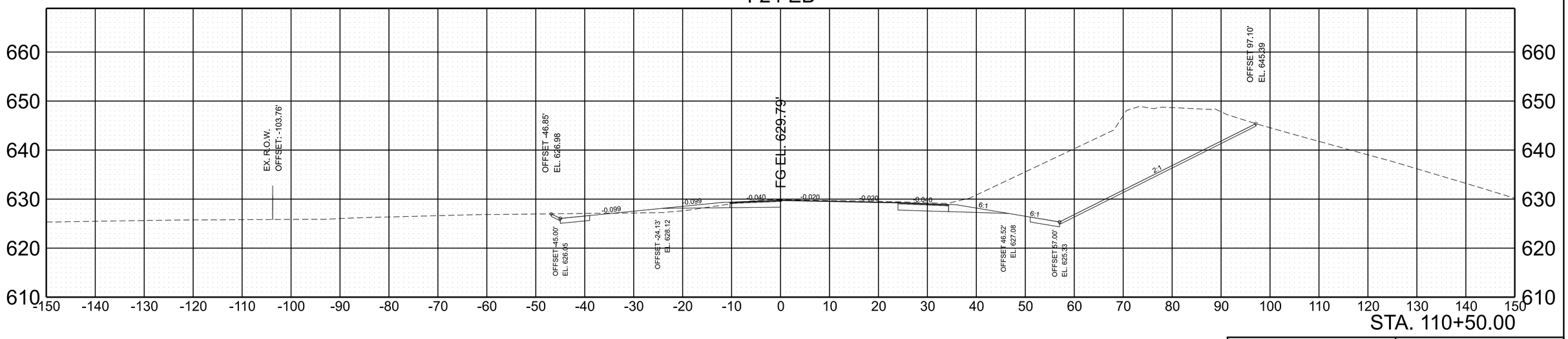
STA. 109+50.00

SCALE:	1"=10' HORIZ.	BEGIN STA. 109+50.00
	1"=10' VERT.	END STA. 110+00.00

5/21/2025 4:38:07 PM
C:\PW_WORK\ARCADISPW01\STEFFAN.HOLDER\D0237516\5\8I0024-SHT-XS-I-24.DGN

TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	17





SCALE:	1"=10' HORIZ.	BEGIN STA. 110+50.00
	1"=10' VERT.	END STA. 111+00.00

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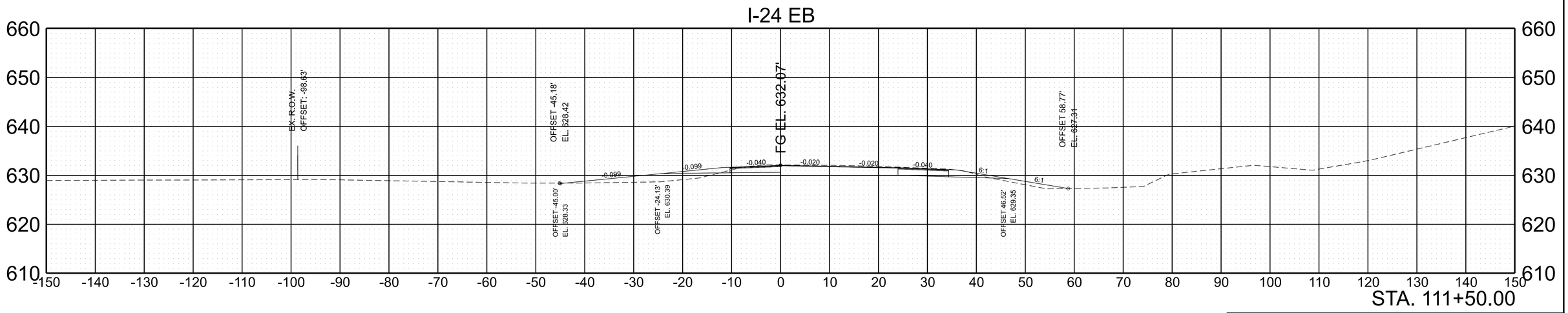
TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	18



SCALE:	1"=10' HORIZ.	BEGIN STA. 111+50.00
	1"=10' VERT.	END STA. 111+50.00

5/21/2025 4:38:09 PM
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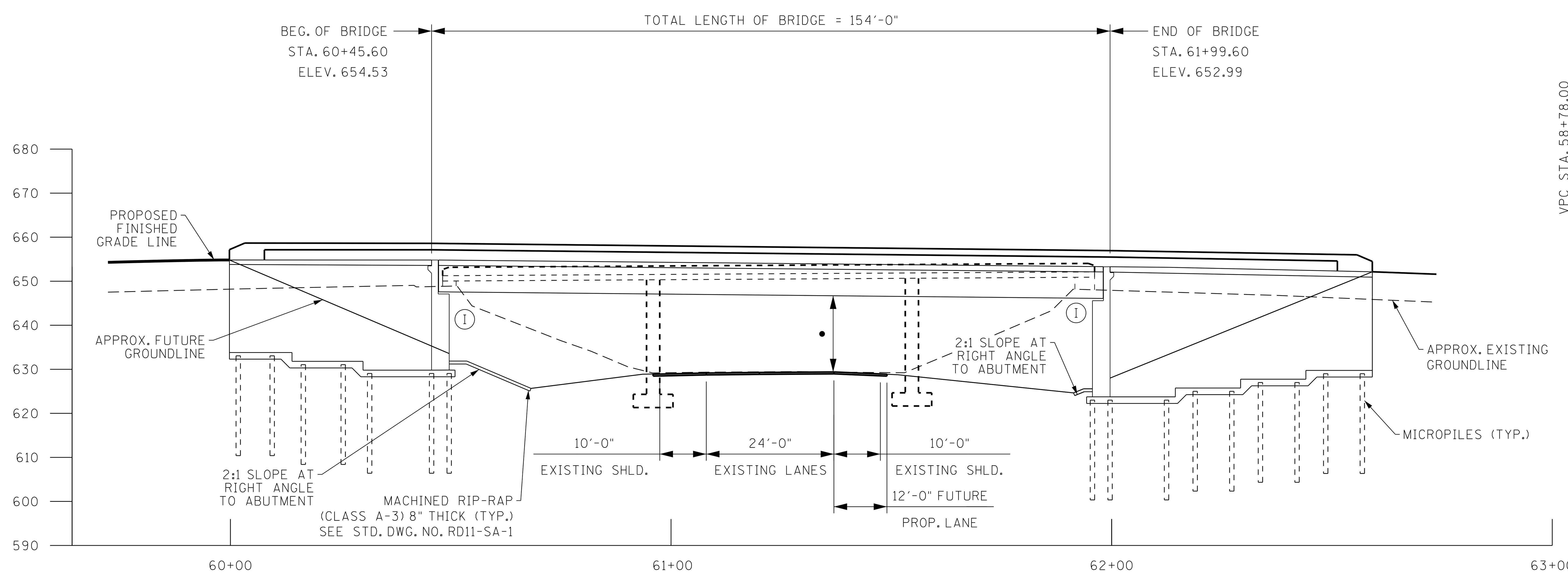
P.E. NO. ____________________

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-2(184)	2025	1

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

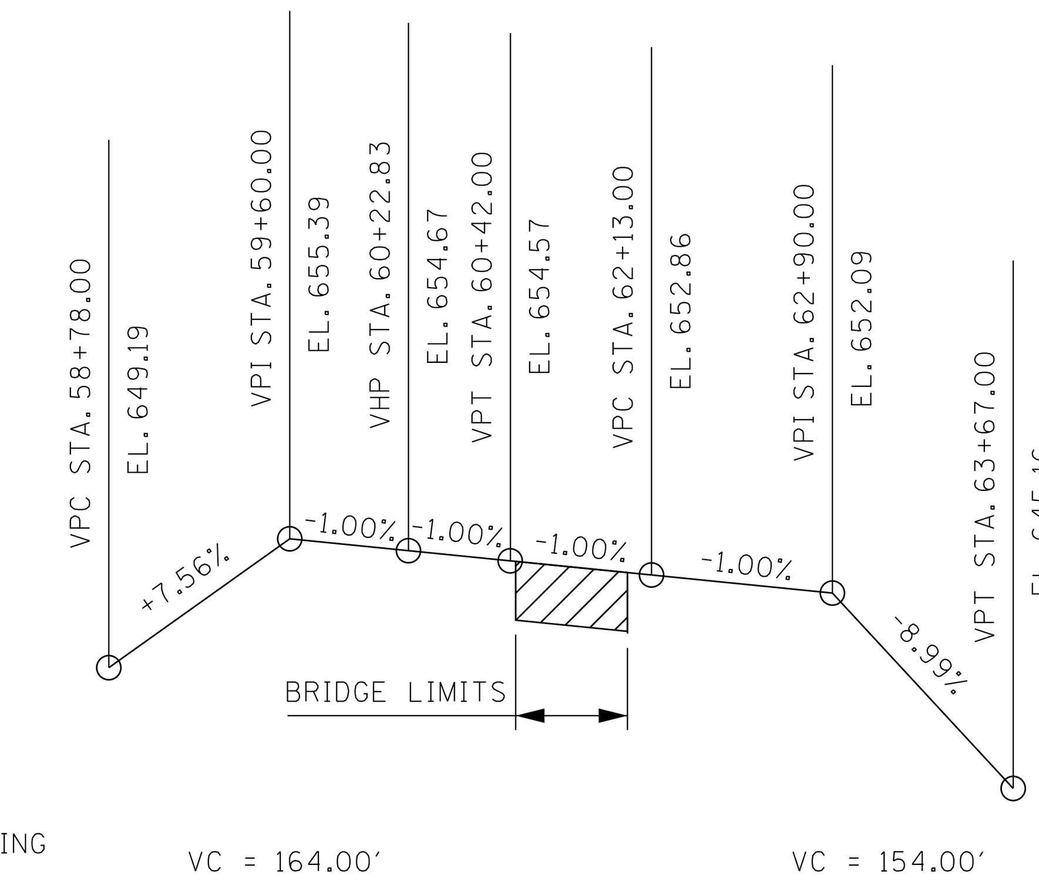


• DENOTES: MIN. VERT. CLEARANCE: REQUIRED: 16'-0" ACTUAL: 16'-6"

(I) DENOTES: INTEGRAL

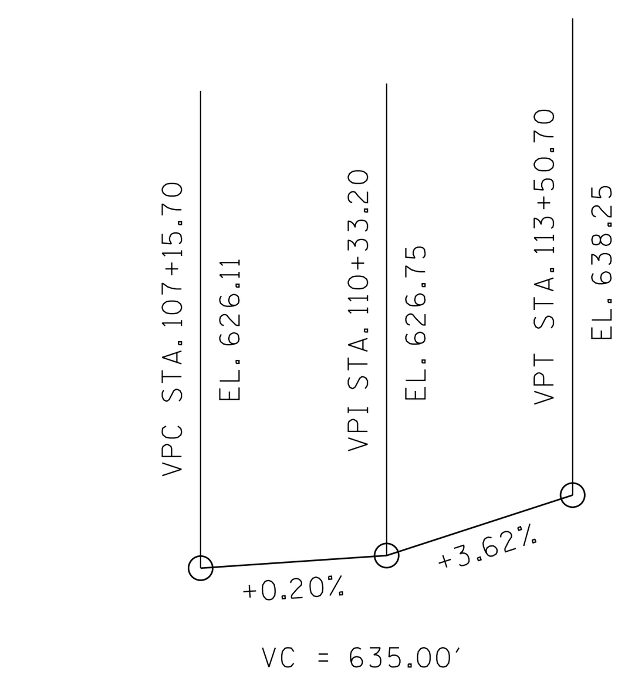
ELEVATION

SCALE: 1" = 20'-0"



GRADE SKETCH

(SHELLMOUND RD.)



GRADE SKETCH

(I-24 EB)

GENERAL NOTES

1) CONSTRUCTION SPECIFICATIONS: TENNESSEE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (JANUARY 1, 2021 EDITION.)

2) DESIGN SPECIFICATIONS: 10TH EDITION (2024) AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND THE (2011) AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN, EDITION 2, WITH INTERIMS.

3) LOADING: HL-93 LIVE LOAD INCREASED BY 10% (MULTIPLIED BY 1.1) IN ADDITION TO ALL LOAD FACTORS SPECIFIED BY AASHTO FOR ALL APPLICABLE LOAD COMBINATIONS; SEISMIC CATEGORY "C" WITH A_s = 0.139, S_{DS} = 0.272, S_{D1} = 0.068 (1000 YEAR RETURN PERIOD); DEAD LOADS SHALL INCLUDE 35 LB/SQ. FT. FOR FUTURE WEARING SURFACE.

4) SUPERSTRUCTURE: TO CONSIST OF 1 SPAN OF BT-72 BEAMS WITH COMPOSITE CONCRETE SLAB.

5) CONCRETE: CLASS A F'C=3000 PSI, CLASS D F'C = 4000 PSI FOR BRIDGE DECK.

5) REINFORCING STEEL: TO BE ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE. EPOXY COAT ALL SLAB STEEL.

6) BRIDGE DECK SURFACE FINISH: TO BE IN ACCORDANCE WITH METHOD 3 IN ARTICLE 604.22 OF THE STANDARD SPECIFICATIONS.

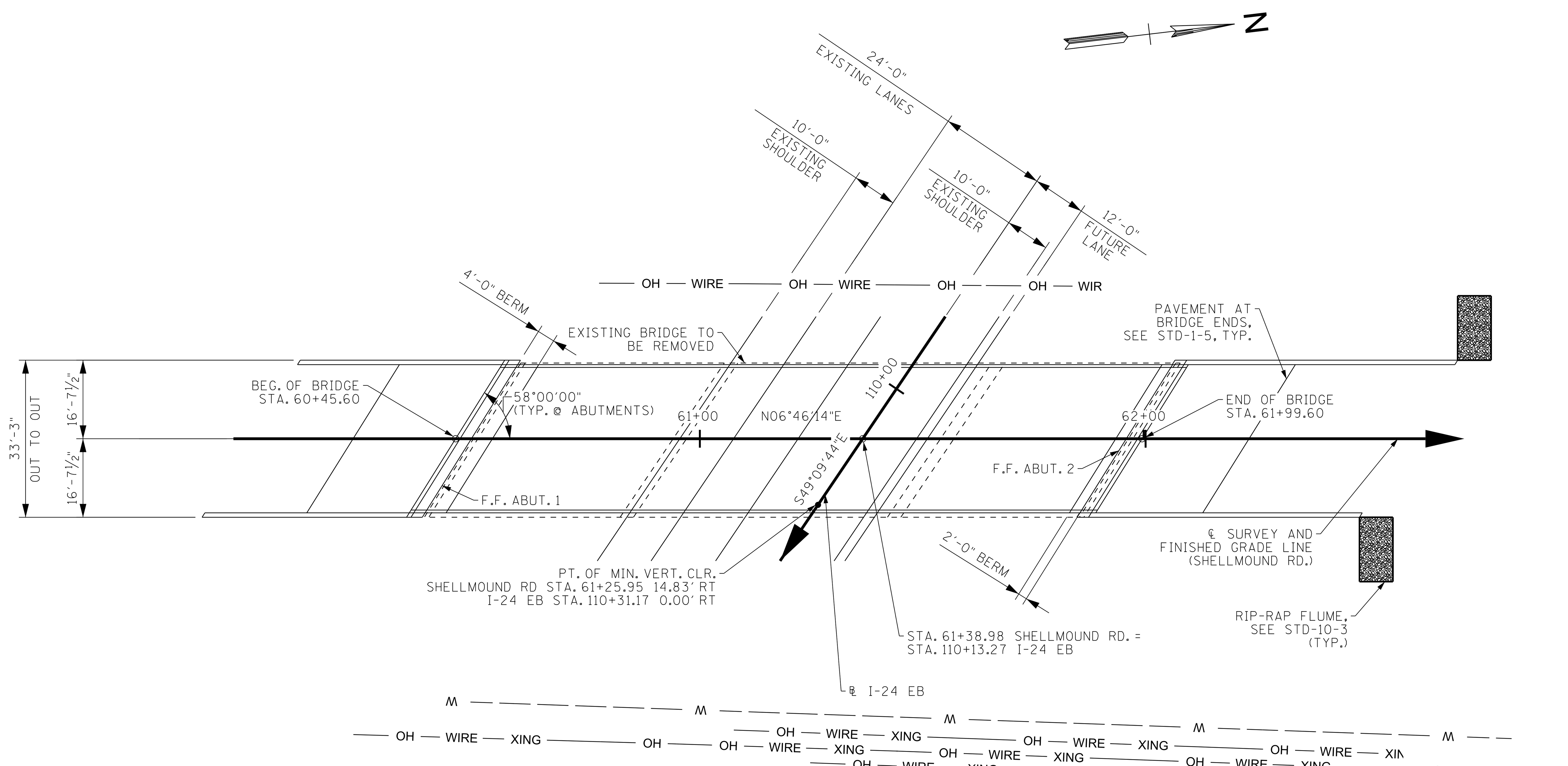
7) USE STD-1-1SS FOR PARAPETS.

8) TEXTURE COATING: TO BE GRAY (36440) EXCEPT TRAFFIC FACE AND TOP OF PARAPET TO BE WHITE (37886).

9) EXCAVATION: TO BE BASED ON FINAL PROFILE AT ABUTMENTS.

10) REMOVE EXISTING BRIDGE NO. 581002400392 AND APPROACHES TO NATURAL GROUND LINE BETWEEN STATIONS 60+51.29+- AND 61+90.75+- IN ACCORDANCE WITH SECTION 202.04 OF THE STANDARD SPECIFICATIONS.

11) EXISTING BRIDGE DESCRIPTION: 139.5' LONG, 3-SPAN CONCRETE BEAM, CONCRETE DECK.



PLAN

SCALE: 1" = 20'-0"

DESIGNED BY	ARCADIS	DATE	5/2025
DRAWN BY	C.McGRAW	DATE	5/2025
SUPERVISED BY	G.HOOVER	DATE	5/2025
CHECKED BY	B.WATSON	DATE	5/2025

DESIGN SPEED = 30 MPH
2046 ADT = 1,930
ROADWAY WIDTH = 32'-0"
STD-1-1SS PARAPET

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

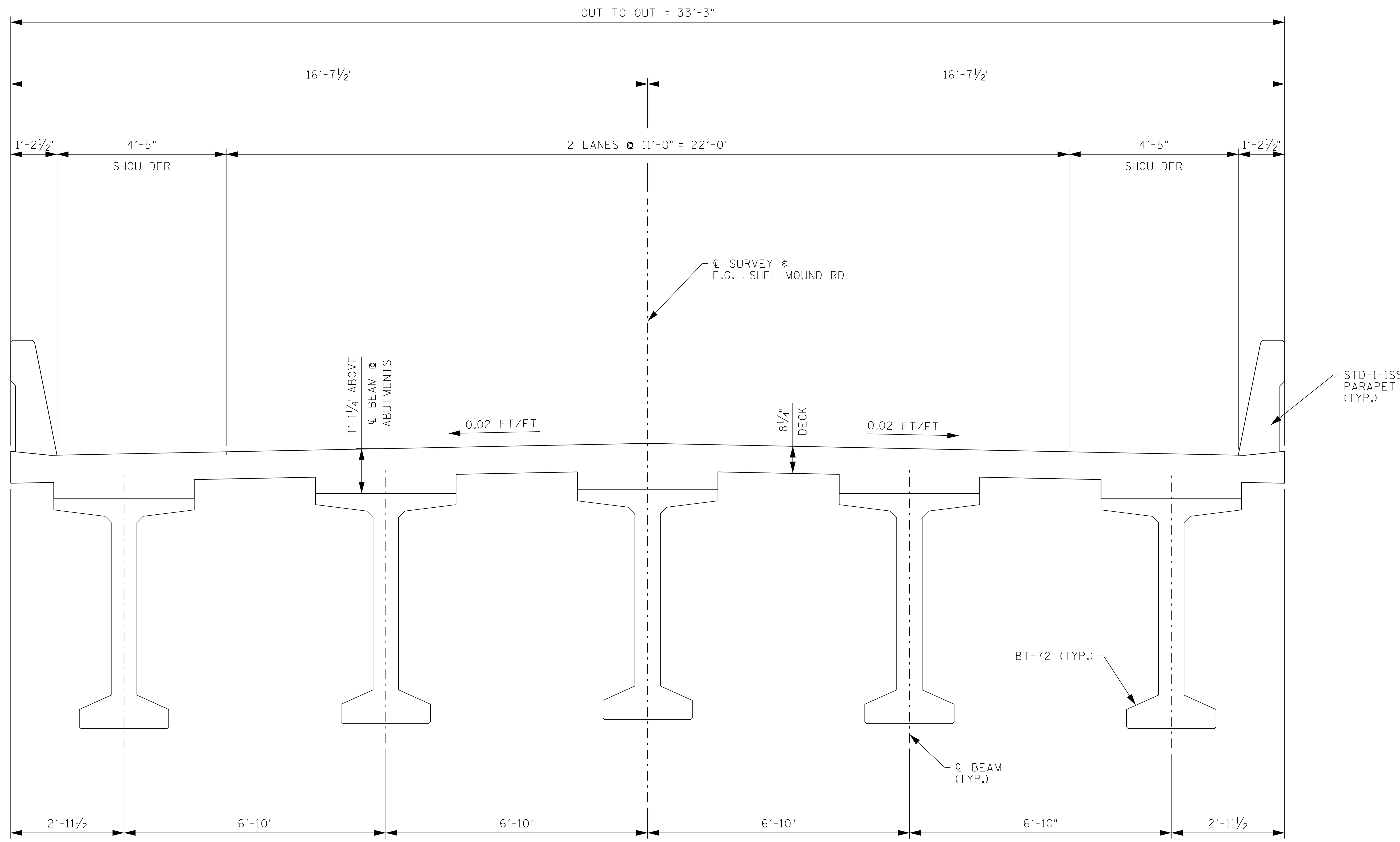
BRIDGE NO. 130902
PRELIMINARY LAYOUT
BRIDGE ID. NO.58100240039
SHELLMOUND RD.
OVER I-24 EB
STA. 61+36.98
MARION COUNTY
2025

P.E. NO. ____________________

PROJECT NO.	YEAR	SHEET NO.
BR-I-24-2(184)	2025	2

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION

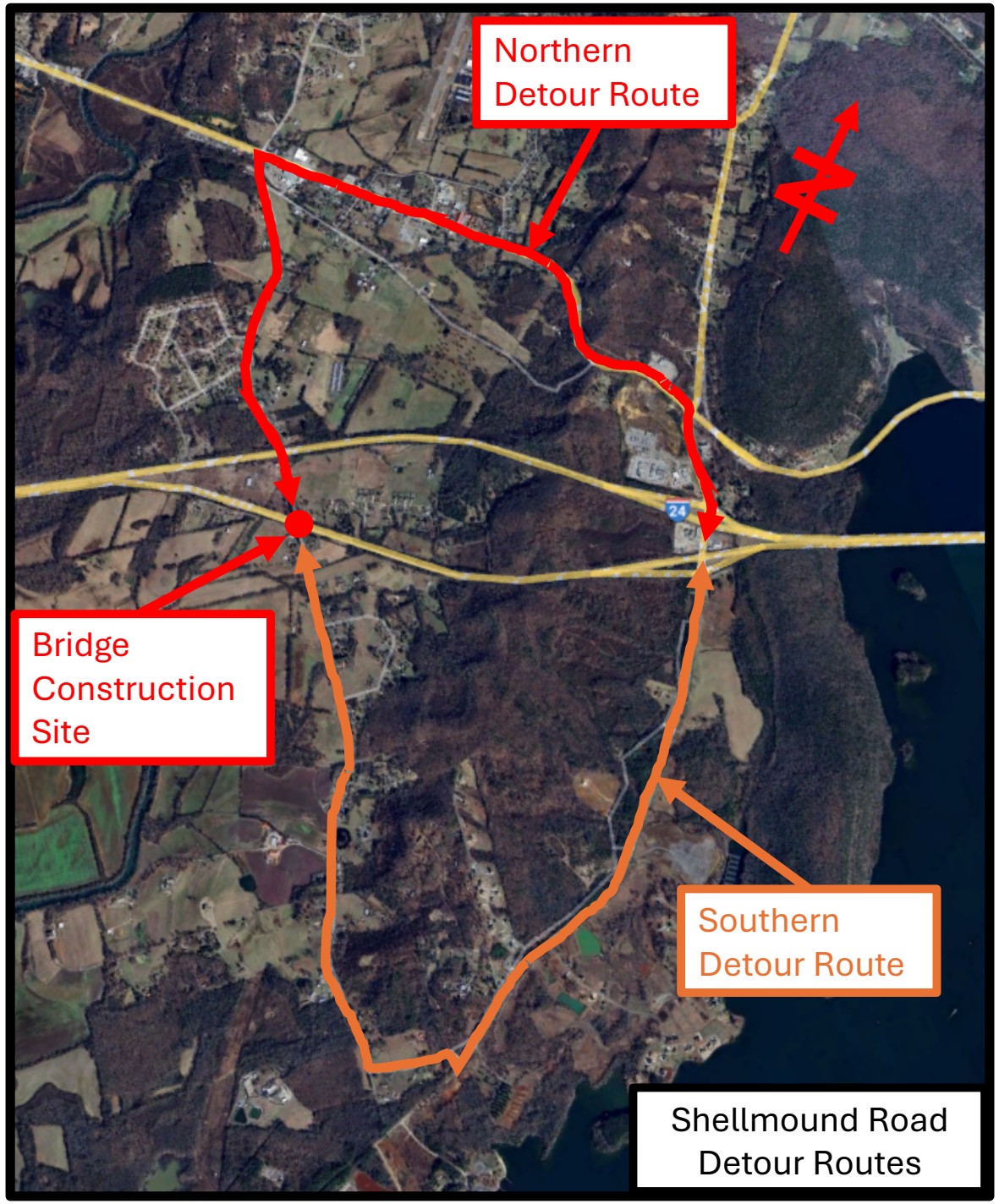


TYPICAL SECTION

DESIGNED BY	ARCADIS	DATE	5/2025
DRAWN BY	C.McGRAW	DATE	5/2025
SUPERVISED BY	G.HOOVER	DATE	5/2025
CHECKED BY	B.WATSON	DATE	5/2025

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 130902
PRELIMINARY LAYOUT
BRIDGE ID. NO.58100240039
SHELLMOUND RD.
OVER I-24 EB
STA. 61+36.98
MARION COUNTY
2025


Northern
Detour Route
Bridge
Construction
Site
Southern
Detour Route
Shellmound Road
Detour Routes


Shellmound Rd
Smith Ln
Connector Road
(To Be Improved)
Shellmound Rd
Tva Rd
Shellmound Road
Connector

Shellmound Road
Typical Section


© 2024 Google
TVA Road
Typical Section

Environmental Studies

Environmental Studies Request

Project Information

Route: Shellmound Road

Termini: Bridge over I-24 Eastbound

County: Marion

PIN: 130902.00

Request

Request Type: Initial Environmental Study

Project Plans: Line and Grade Plans

Date of Plans: 05/21/2025

Location: Link

Certification

Requestor: Rachel Head

Title: TDOT Statewide Technical Specialist

Signature: Rachel M Head Digitally signed by Rachel Head Date: 2025.05.28 14:35:09 -05'00'

Ecology

Environmental Study

Technical Section

Section: Ecology

Study Results

Based on the information provided, an environmental boundaries report dated 7/1/2025 has been completed and uploaded to FileNet for the subject project. Species coordination was completed with TWRA and USFWS for the project, and the coordination documents are included within the EBR and with this response. The project was deemed to fit Condition 1 of the TDEC DNA MOA. Species coordination for this project is based on current understanding of the project scope, any changes to which could lead to additional coordination being required.

Commitments

Did the study of this project result in any environmental commitments? **Yes**

All tree clearing activities will take place between November 16th and March 31st.

Additional Information

Is there any additional information or material included with this study? **Yes**

Type: Environmental Boundaries Report (EBR)

Location: FileNet

Certification

Responder: James Ian Quilliams

Title: Senior Technical Specialist-Ecology

Signature: James Ian Quilliams

Digitally signed by James Ian Quilliams
Date: 2025.07.10 12:42:39 -04'00'

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL DIVISION
ENVIRONMENTAL TECHNICAL STUDIES OFFICE
SUITE 900, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TENNESSEE 37243-1402
(615) 741-3655

BUTCH ELEY
DEPUTY GOVERNOR &
COMMISSIONER OF TRANSPORTATION

BILL LEE
GOVERNOR

MEMORANDUM

To: Jeff Blevins
Alternative Delivery-Manager

From: James Ian Quilliams
Region 2 Ecology-Senior Technical Specialist

James Ian Quilliams
Digitally signed by James Ian Quilliams
Date: 2025.07.01 06:48:10 -04'00'

Date: 7/1/2025

Subject: Environmental Boundaries Report for:
Marion Co., Shellmound Rd. LM 1.27 to LM 1.47 Bridge Replacement
PIN Number: 130902.00

An ecological evaluation of the subject project has been conducted in response to an initial evaluation request with the following results:

STREAMS: There is one (1) stream, and one (1) wet weather conveyance identified within the project limits.

WETLANDS: There is one (1) wetland identified within the project limits.

OTHER FEATURES: There is one (1) pond identified within the project limits.

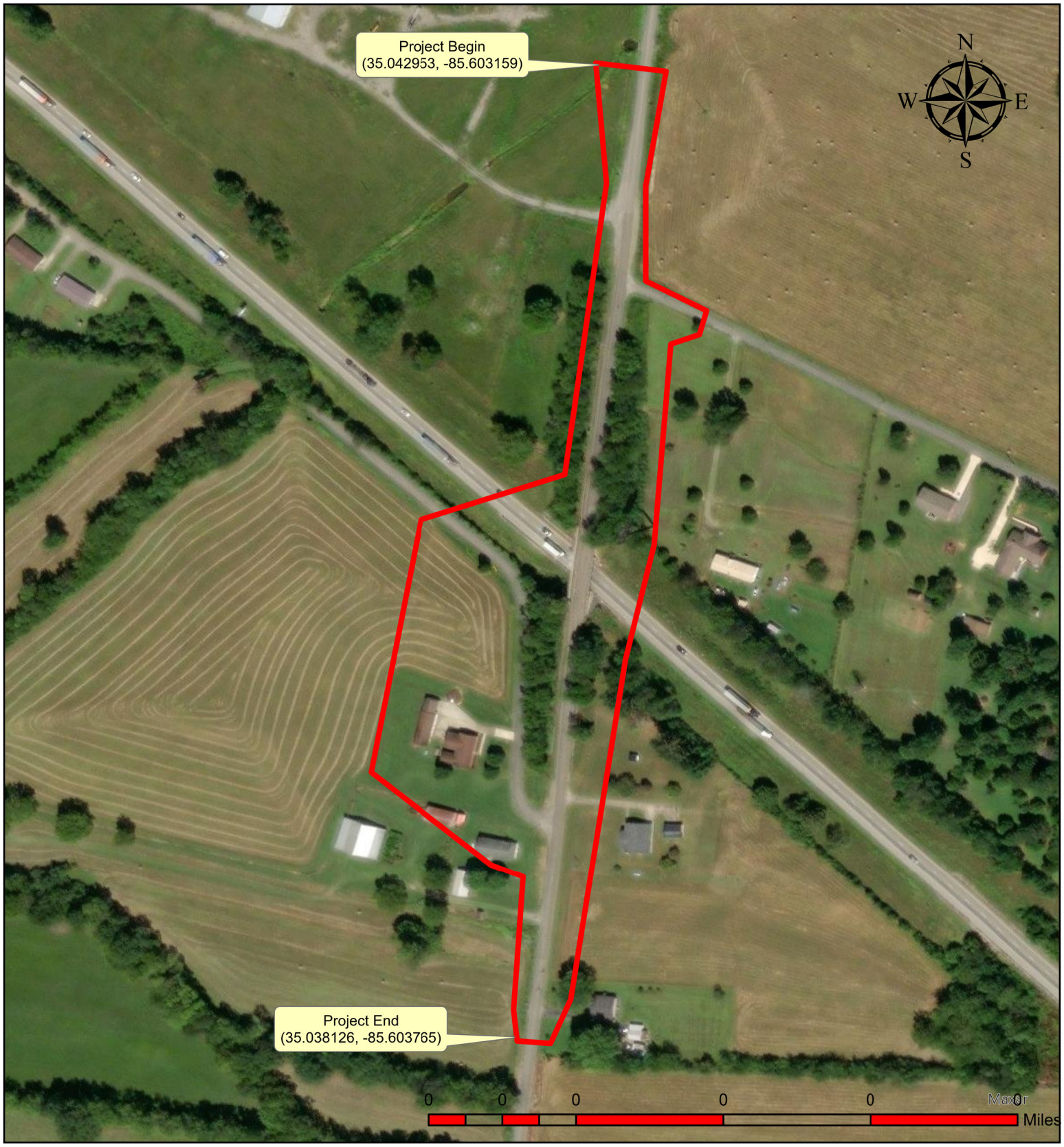
SPECIES:

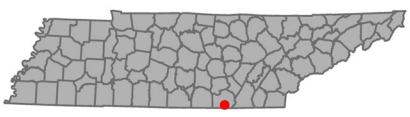
- USFWS: Coordination with USFWS has been completed resulting in a project commitment.
- TWRA: Coordination with TWRA has been completed with no species concerns.
- TDEC DNA: TDOT ecology has determined that the subject project meets condition (1) of the TDEC DNA MOA.

COMMITMENTS: All tree clearing activities will take place between November 16th and March 31st.

Your assistance is appreciated. If you have any questions or comments, please contact me at (423-463-6103) or James.Quilliams@tn.gov.

CC: Region 2 Environmental Section: Scott Medlin, Chester Sutherland, Colby Mann, Rooney Ramos, Jesse Wooden
Region Preconstruction: Doug Ford, Jason Ingram, Rachel Gentry
HQ Ecology: Brendan Barney, Dennis Crumby
HQ Permits: Shawn Wurst
TDOT.Env.Ecology@tn.gov
TDOT.Env.Permits@tn.gov
TDOT.Env.Mitigation@tn.gov
TDOT.Env.NEPA@tn.gov





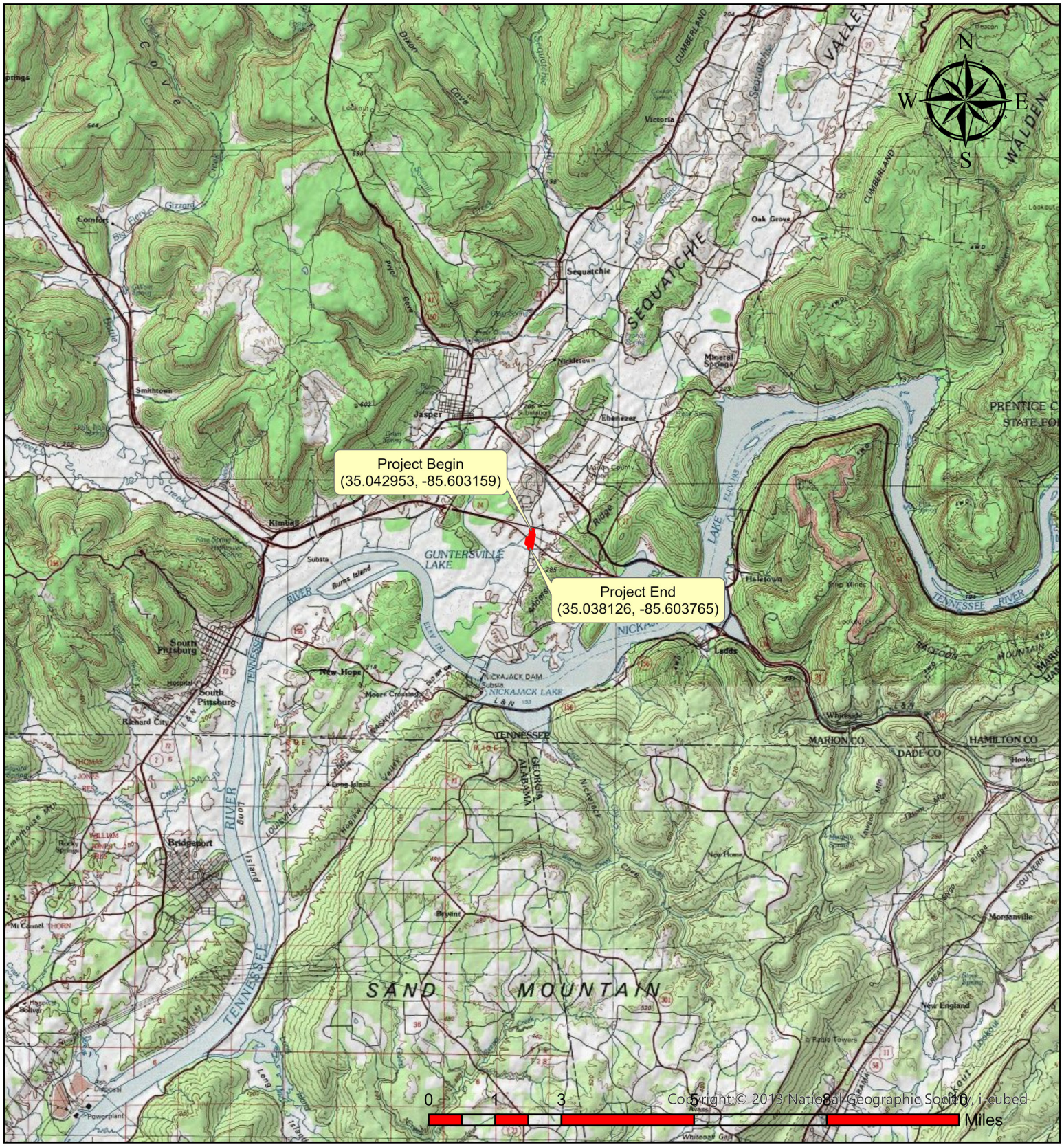
Project Location Aerial Map

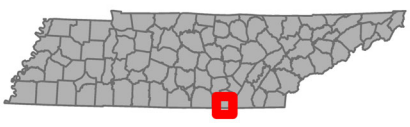
Marion Co., Shellmound Rd. LM 1.27 to LM 1.47 Bridge Replacement

11/1/2024

PIN 130902.00

TN TDOT Department of Transportation





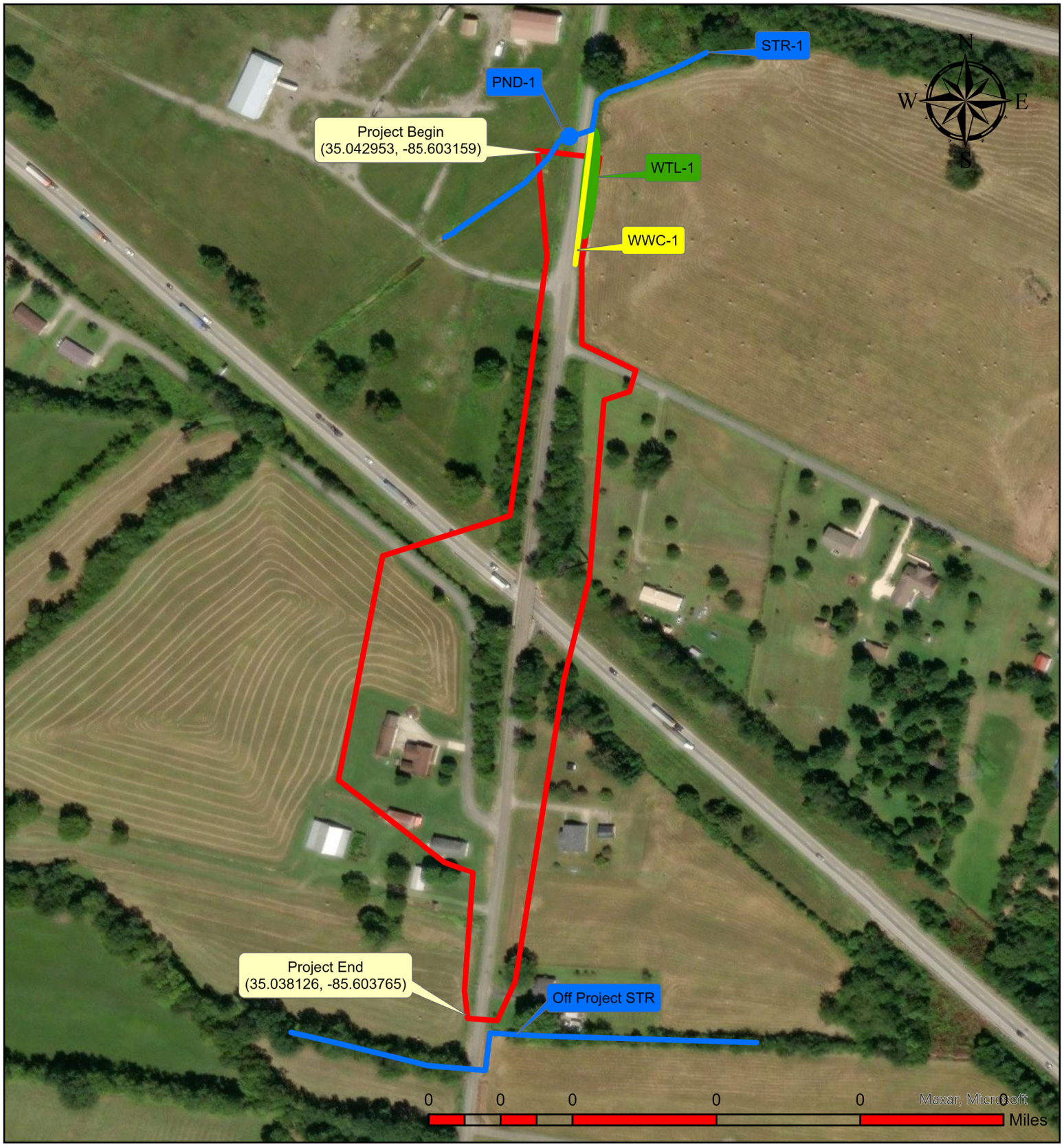
Project Location Topographical Map

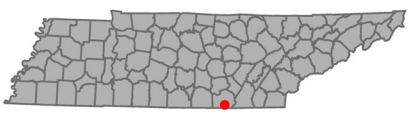
Marion Co., Shellmound Rd. LM 1.27 to LM 1.47 Bridge Replacement

11/1/2024

PIN 130902.00

TN TDOT Department of Transportation





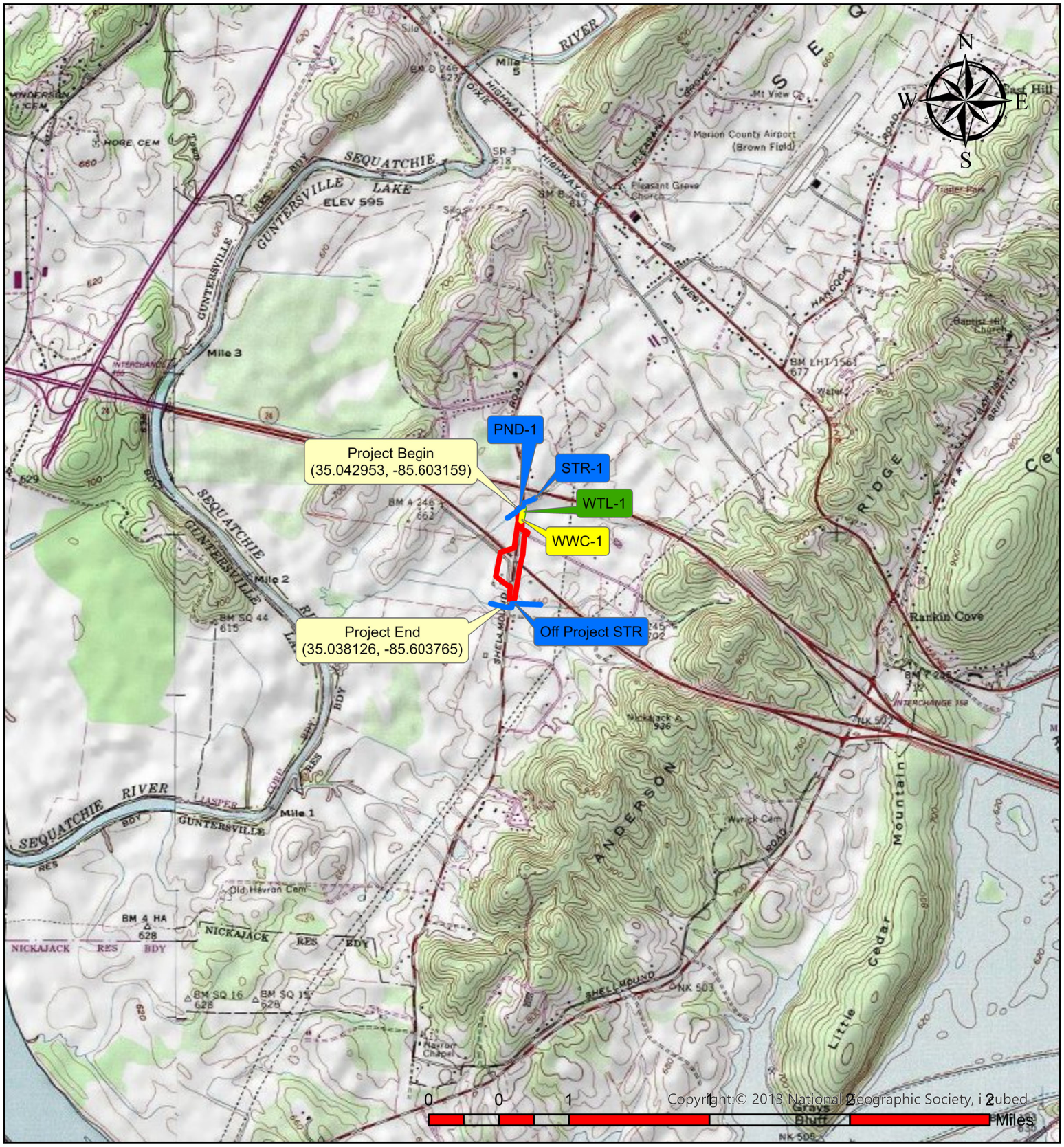
Project Location Water Resource Map

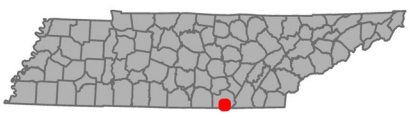
Marion Co., Shellmound Rd. LM 1.27 to LM 1.47 Bridge Replacement

11/1/2024

PIN 130902.00

TN TDOT Department of Transportation





Project Location Water Resource Map

Marion Co., Shellmound Rd. LM 1.27 to LM 1.47 Bridge Replacement

11/1/2024

PIN 130902.00

TN TDOT Department of Transportation

Project Name:	Marion Co., Shellmound Rd. LM 1.27 to LM 1.47	**PIN:** 130902.00

Water Resource Table

Based on: ETSA

Date: 8/22/2024

Water Resources (Non-Wetland)					
Label	**Type**	**Latitude**	**Longitude**	**Receiving Waters**	**Quality**
STR-1	Intermittent Stream	35.043711	-85.601827	Sequatchie River	Unassessed
PND-1	Pond	35.043135	-85.603127	Sequatchie River	Not Applicable
WWC-1 *(130900.00-WWC-2)	Wet Weather Conveyance	35.043083	-85.602997	Sequatchie River	Not Applicable

Water Resources (Wetland)*

Label	**Type**	**Latitude**	**Longitude**	**Receiving Waters**	**Quality**
WTL-1	Emergent	35.043083	-85.602997	Sequatchie River	Low Resource Value

Ecology Field Data Sheet: **Water Resources**

Project: 130902.00 Marion Co., LM 1.29 to LM 1.47 Shellmound Rd., Bridge Replacement					
Biologist:	JIQ	**Affiliation:**	TDOT	**Date:**	8-21-2024

1-Station: from plans	N/A									
2-Map label and name	STR-1									
3-Latitude/Longitude	35.043711, -85.601827									
4-Feature description:										
-channel identification	perennial stream	☐	intermittent stream	✓	ephemeral stream	☐	wwc	☐		
-HD score (if applicable)										
-OHWM indicators	bed & banks	✓	deposition	☐	presence of litter debris	☐	scour	☐	veg absent, bent, matted	✓
	change in plant community	✓	destruction of terrestrial veg	✓	multiple observe flow events	☐	sediment sorting	✓	water staining	✓
	change in soil character	✓	leaf litter disturb or absent	☐	natural line impressed on bank	✓	shelving	☐	wracking	☐
-channel bottom width	3.2FT		-top of bank width		5.5FT					
-width and max depth at ordinary high water mark	3.2FT, 0.3FT									
-width at bankfull	5.5FT									
-bank height	LDB - 3.5FT		RDB - 3.5FT							
-riffle/pool complex or other specialized habitat present?	Yes									
-dominant riparian species: ----------(LDB /RDB)----------	LDB: Ash, Cherry, Elm, Hackberry, Privet									
	RDB: Ash, Cherry, Elm, Hackberry, Privet									
-particle size distribution %	Silt/Sand: 70		Gravel: 20		Cobble: 10		Boulder:		Bedrock:	
5-photo numbers	See Photolog									
6-HUC -8 Code & Name	06020004-Sequatchie River									
7-Assessed	yes	☐	no	✓						
8-ETW	yes	☐	no	✓						
9-303 (d) List	yes	☐	siltation	☐	habitat:	☐	other:	☐		
	no	✓								
10-Notes	-Feature presents as intermittent stream. -Feature crosses under I-24 at multiple locations. -Summer drought conditions. -Isolated pool at headcut containing fish. -Strong geomorphology, moderate/weak hydrology, and biology. -All misc tribs in this waterbody will remain Not Assessed for all designated uses.									

Ecology Field Data Sheet: **Other Resource Features**
(Caves/Rock Houses; Potential Sinkholes; Specialized Habitats; Other)

Project: Marion Co., LM 1.29 to LM 1.47 Shellmound Rd. Bridge **PIN #:** 130902.00

Date of survey: 8-21-2024 **Biologist(s):** JIQ **Affiliation:** TDOT

1-Station: from plans	N/A	
2-Map label	PND-1	
3-Lat/Long	35.043135, -85.603127	
4-Potential impact size	80 SQ FT	
5-Feature name	Pond	
6-Feature description:		
what is the feature	Retention agricultural pond	
portion affected	Entire area in ETSA	
connection to other features	STR-1 conveys hydrology	
photo number(s)	See photolog	
other information		
7- HUC code & name if applicable (12-digit)	060200040306-Sequatchie River Outlet	
8-Notes	-Multiple agricultural ponds are located off project in the general area. -Presence of fish identified on survey date. -Feature act as overflow during heavy precipitation events.	

Ecology Field Data Sheet: **Water Resources**

Project: 130902.00 Marion Co., LM 1.29 to LM 1.47 Shellmound Rd., Bridge Replacement					
Biologist:	JIQ	**Affiliation:**	TDOT	**Date:**	8-14-2024

1-Station: from plans	N/A									
2-Map label and name	WWC-1 *(130900.00-WWC-2)									
3-Latitude/Longitude	35.043083, -85.602997									
4-Feature description:										
-channel identification	perennial stream ☐	intermittent stream ☐	ephemeral stream ☐	wwc ☑						
-HD score (if applicable)										
-OHWM indicators	bed & banks ☑	deposition ☐	presence of litter debris ☐	scour ☐	veg absent, bent, matted ☑					
	change in plant community ☐	destruction of terrestrial veg ☑	multiple observe flow events ☐	sediment sorting ☐	water staining ☑					
	change in soil character ☐	leaf litter disturb or absent ☐	natural line impressed on bank ☐	shelving ☐	wracking ☐					
-channel bottom width	1.5FT	-top of bank width	3FT							
-width and max depth at ordinary high water mark	N/A									
-width at bankfull	N/A									
-bank height	LDB - 5FT	RDB - 7FT								
-riffle/pool complex or other specialized habitat present?	No									
-dominant riparian species: ----------(LDB /RDB)----------	LDB: Ash, Sweetgum, Ironweed, Ragweed, Fescue, Johnson grass									
	RDB: Ash, Sweetgum, Ironweed, Ragweed, Fescue, Johnson grass									
-particle size distribution %	Silt/Sand: 10	Gravel: 30	Cobble: 60	Boulder:	Bedrock:					
5-photo numbers	See Photolog									
6-HUC -8 Code & Name	06020004-Sequatchie River									
7-Assessed	yes ☐	no ☑								
8-ETW	yes ☐	no ☑								
9-303 (d) List	yes ☐	siltation ☐	habitat: ☐	other: ☐						
	no ☑									
10-Notes	-Feature conveys precipitation driven hydrology along roadside ditch on Shellmound Rd. and drains agricultural field. -Discharges hydrology to small retention pond outside of ETSA. -Weak geomorphology, hydrology, and biology. -Hydric soil in channel and banks. -Summer drought conditions.									

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody: Sequatchie River	Date/Time: 8-14-2024
Assessors/Affiliation: TDOT/JIQ	Project ID : 130902.00
Site Name/Description: WWC-1 *(130900.00-WWC-2)	
Site Location: Marion Co., LM 1.29 to LM 1.47 Shellmound Rd., Bridge Replacement	
HUC (12 digit): 060200040306	Lat/Long:
Previous Rainfall (7-days) : 0.0IN	35.043083, -85.602997
Precipitation this Season vs. Normal : abnormally wet ☐ elevated ☐ average ☐ low ☐ abnormally dry ☑ unknown ☐ Source of recent & seasonal precip data : APT	
Watershed Size : 0.18SQ MI	County: Marion
Soil Type(s) / Geology : Lindside silt loam (Hamblen)	Source: Websoil
Surrounding Land Use : Residential/Agricultural	
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) : Severe ☑ Moderate ☐ Slight ☐ Absent ☐	

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	☐	WWC ☑
2. Defined bed and bank absent, vegetation composed of upland and FACU species	☑	WWC ☐
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions	☐	WWC ☐
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	☐	WWC ☐
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	☑	Stream ☐
6. Presence of fish (except *Gambusia*)	☑	Stream ☐
7. Presence of naturally occurring ground water table connection	☑	Stream ☐
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	☑	Stream ☐
9. Evidence watercourse has been used as a supply of drinking water	☑	Stream ☐

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = WWC

Secondary Indicator Score (if applicable) = 12

Justification / Notes :

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 4.5)		Absent	Weak	Moderate	Strong
1. Continuous bed and bank	1	0	1	2	3
2. Sinuous channel	0	0	1	2	3
3. In-channel structure: riffle-pool sequences	0	0	1	2	3
4. Sorting of soil textures or other substrate	1	0	1	2	3
5. Active/relic floodplain	0	0	0.5	1	1.5
6. Depositional bars or benches	0	0	1	2	3
7. Braided channel	0	0	1	2	3
8. Recent alluvial deposits	0.5	0	0.5	1	1.5
9. Natural levees	0	0	1	2	3
10. Headcuts	0.5	0	1	2	3
11. Grade controls	.5	0	0.5	1	1.5
12. Natural valley or drainageway	1	0	0.5	1	1.5
13. At least second order channel on existing USGS or NRCS map		No=0			

B. Hydrology (Subtotal = 3.5)		Absent	Weak	Moderate	Strong
14. Subsurface flow/discharge into channel	0	0	1	2	3
15. Water in channel and >48 hours since sig. rain	0	0	1	2	3
16. Leaf litter in channel (January – September)	1.5	1.5	1	0.5	0
17. Sediment on plants or on debris	0	0	0.5	1	1.5
18. Organic debris lines or piles (wrack lines)	0.5	0	0.5	1	1.5
19. Hydric soils in channel bed or sides of channel		Yes=1.5			

C. Biology (Subtotal = 4)		Absent	Weak	Moderate	Strong
20. Fibrous roots in channel bed [1]	2	3	2	1	0
21. Rooted plants in the thalweg [1]	2	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	0	0	1	2	3
23. Bivalves/mussels	0	0	1	2	3
24. Amphibians	0	0	0.5	1	1.5
25. Macrobenthos (record type & abundance)	0	0	1	2	3
26. Filamentous algae; periphyton	0	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0	0.5	1	1.5
28.Wetland plants in channel bed [2]	0	0	0.5	1	1.5

[1] Focus is on the presence of terrestrial plants.

[2] Focus is on the presence of aquatic or wetland plants.

Total Points = 12

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

-Feature conveys precipitation driven hydrology along roadside ditch on Shellmound Rd. and drains agricultural field.
-Discharges hydrology to small retention pond outside of ETSA.
-Weak geomorphology, hydrology, and biology.
-Hydric soil in channel and banks.
-Summer drought conditions.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: 130902.00 Marion Co., Shellmound Rd. LM 1.29 to LM 1.47 Bridge Replacement City/County: Marion Sampling Date: 8-21-2024

Applicant/Owner: TDOT State: TN Sampling Point: WTL-1

Investigator(s): JIQ Section, Township, Range:

Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): Concave Slope (%): 2-5

Subregion (LRR or MLRA): LRR N Lat: 35.043083 Long: -85.602997 Datum: N/A

Soil Map Unit Name: Lindside silt loam (Hamblen) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☑ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ☑	No ☐	**Is the Sampled Area within a Wetland?** Yes ☑ No ☐
Hydric Soil Present?	Yes ☑	No ☐	
Wetland Hydrology Present?	Yes ☑	No ☐	

Remarks:

Summer drought 8-21-2024.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ Microtopographic Relief (D4)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☑ Depth (inches): _____

Water Table Present? Yes ☐ No ☑ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ☐ No ☑ Depth (inches): _____

Wetland Hydrology Present? Yes ☑ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five Strata) – Use scientific names of plants. Sampling Point: WTL-1

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size:)			
1. *Carex cherokeensis*	40	Y	FACW
2. *Eupatproim serotinum*	10	N	FACW
3. *Vernonia gigantea*	10	N	FAC
4. *Cyperus strigosus*	20	Y	FACW
5. *Sorghum halepense*	10	N	FACU
6. *Schedonorus arundinaceus*	10	N	FACU
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 1 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: 0 (A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☑ 2 - Dominance Test is >50%
- ☐ 3 - Prevalence Index is ≤3.0[1]
- ☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: WTL-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/2	95	10YR 5/6	5	C	M	Clay/Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10) **(LRR N)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7)
- ☐ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ☐ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ☐ Umbric Surface (F13) **(MLRA 136, 122)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ☐ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(MLRA 147)**
- ☐ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☑ **No** ☐

Remarks:

SITUATION **TRAM REQUIRED**

- Wetland is a "roadside ditch" and not part of a larger wetland – constructed primarily to convey runoff……...NO, COMPLETE EXCEPTIONAL STATUS WETLAND SECTION ONLY

- Fringe wetlands associated with ponds, impoundments, reservoirs, large lakes…….YES- USE NON-HGM TRAM

- Created Depression wetlands, semi-permanent to permanently inundated (<6.6-feet deep)……...…….YES-USE NON-HGM TRAM

- Wetland impacts greater than 0.10 acre….....YES

NOTE: The Exceptional Status Wetland section must be completed for all proposed wetland alterations, including wetlands situations where HGM assessment is not required or the Non-HGM TRAM is used, including proposed wetlands impacts less than 0.10 acre.

Wetland Map Label: WTL-1

An affirmative response to 1-6 of the Decision Table identifies the wetland per rule as an Outstanding Natural Resource Water (ONRW) or Exceptional Tennessee Waters (ETW). A positive response to 7-13 requires a final determination by the Department.

#	Wetland Feature Decision Table	Yes/No	Affirmative Result
1	The wetland has been designated as an **Outstanding Natural Resource Water (ONRW)** by the Department under 0400-40-03-.06(5)(a).	No	**ORNW**
2	The wetland has previously been designated and documented as an Exceptional Tennessee Water (ETW) by the Department under 0400-40-03-.06(4)(a)(7)	No	**ETW**
3	The wetland is within state or national parks, wildlife refuges, forests, wilderness areas, natural areas, or is a designated State Scenic Rivers or Federal Wild and Scenic Rivers.	No	**ETW**
4	The wetland is known to contain a documented non-experimental population of state or federally listed threatened or endangered aquatic or semi-aquatic plants, or aquatic animals.	No	**ETW**
5	The wetland or the area it is in has been designated by the U.S. Fish and Wildlife Service as "**Critical Habitat**" for any threatened or endangered aquatic or semi-aquatic plant or aquatic animal species.	No	**ETW**
6	The wetland falls within an area designated as Lands Unsuitable for Mining pursuant to the federal Surface Mining Control and Reclamation Act where such designation is based in whole or in part on impacts to water resource values	No	**ETW**
7	**The wetland exhibits outstanding ecological or recreational values such as, but not limited to, those as outlined in 8-12**	No	Determination Required by TDEC
8	The wetland fits within the species composition concept for any plant community found in the state of Tennessee **ranked G2, G1, or more imperiled** at the "Association" classification level according to the NatureServe and Natural Heritage Ranking system (e.g. "bog", "fen", and "wet prairie/barren" communities).	No	Determination Required by TDEC
9	The wetland is **an uncommon resource** (e.g. vernal pools, headwater wetlands, sinks, spring/seeps, glades, newly described communities, high recreational or socioeconomic value) in the region and/or is deemed such by concurrence of qualified scientists.	No	Determination Required by TDEC
10	The wetland is an **older aged forested wetland** comprised of overstory trees with an average diameter at breast height (dbh) being **greater than or equal to 30 in** within the WAA.	No	Determination Required by TDEC
11	The wetland is observed and documented to be a **significant waterfowl, songbird, shorebird, amphibian, bat, fish habitat area**. These may include rookeries, migratory congregations, nesting sites, breeding areas, etc.	No	Determination Required by TDEC
12	The wetland is **hydrologically connected** to and/or has significant ecological contribution to an **ETW**	No	Determination Required by TDEC
13	The wetland has High Resource Value as determined by a **score of 75 and above** using the TRAM or non-HGM TRAM (to be determined after completing the quantitative portion of this manual)	No	Determination Required by TDEC

End of Narrative Rating. Begin Quantitative Rating on Next Page.

Quantitative Rating

Value Added Section

Wetland Size – Wetland size may increase particular wetland functions or provide greater habitat value to wildlife. In some regions, large wetlands or wetlands of certain types may be rare and may play a vital and significant local and/or regional ecological role. Refer to Tables 1 through 3 below for assessing value added points to wetland size.

Other Significant Value – See Table 4 for value added due to other significant wetland values

Critical Sizes for Tennessee Wetlands by HGM Class and Region of State

Table 1. Depression wetland size throughout Tennessee (max 5 pts). Estimate the area of wetland. Select the appropriate size class and assign score.	**Score**
≥5 acres	5
3 - <5 acres	3

Table 2. Slope and Flat wetland size throughout Tennessee (max 5 pts). Estimate the area of wetland. Select the appropriate size class and assign score.	**Score**
≥50 acres	5
25 - <50 acres	3
10 - <25 acres	2
5 - <10 acres	1

Table 3. Riverine wetland size in central and eastern Tennessee (max 5 pts). Estimate the area of wetland. Select the appropriate size class and assign score.	**Score**
≥50acres	5
25 - <50 acres	3
10 - <25 acres	2
5 - <10 acres	1

Table 4. Other significant value (max 5 pts). Estimate the area of wetland. Select the appropriate size class and assign score.	**Score**
Wetland falls within a category **from lines 8-12 of the Exceptional Status Wetlands Decision Table** (pg. 18) but has not been determined by TDEC to qualify for Exceptional Tennessee Waters status.	5

No value added = 0

Marion Co., Shellmound Rd. LM 1.27 to LM 1.47 Bridge Replacement PIN 130902.00

TH001781: STR-1 facing upstream before inlet on I-24.

TH001780: STR-1 facing downstream towards inlet on I-24.

TN TDOT Department of Transportation

Marion Co., Shellmound Rd. LM 1.27 to LM 1.47 Bridge Replacement PIN 130902.00

TH001745: STR-1 and WWC-1 *(130900.00-WWC-2) confluence before crossing under shellmound Road.

TH001743: PND-1 on Shellmound Road.

TN TDOT Department of Transportation

Marion Co., Shellmound Rd. LM 1.27 to LM 1.47 Bridge Replacement PIN 130902.00

TH001747: WWC-1 *(130900.00-WWC-2) facing upgradient at inlet.

TH001746: WWC-1 *(130900.00-WWC-2) facing downgradient at inlet.

TN TDOT Department of Transportation

Marion Co., Shellmound Rd. LM 1.27 to LM 1.47 Bridge Replacement PIN 130902.00

TH001770: WTL-1 facing upgradient before WWC-1 *(130900.00-WWC-2) and STR-1 confluence.

TH001771: WTL-1 facing downgradient towards WWC-1 *(130900.00-WWC-2) and STR-1 confluence.

TN TDOT Department of Transportation

Tennessee Ecological Services Field Office

FWS Log No: 2024-0145040

The Service concurs with your effect determination(s) for resources protected by the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). This finding fulfills the requirements of the Act. If project design changes are made or new information becomes available, please submit new plans for review.

DANIEL ELBERT Digitally signed by DANIEL ELBERT
Date: 2025.06.27 10:06:55 -05'00'

Field Supervisor Date

Outlook

[EXTERNAL] 130900.00 and 130902.00 Marion Co., I-24 and Shellmound Road Bridge Replacements-Updated Consultation

From James Quilliams <James.Quilliams@tn.gov>
Date Mon 6/9/2025 12:37 PM
To TDOT_USFWS <tdot_usfws@fws.gov>
Cc Harris, Abigail N <abigail_harris@fws.gov>; Giddens, David W <david_giddens@fws.gov>

2 attachments (643 KB)
USFWS Response 130902.00 10-8-2024.pdf; USFWS Response 130900.00 10-8-2024.pdf;

Abigail Harris,

This email is in response to a conversation I had with Wesley Giddens today, 6/9/2025. I inquired about two projects (130900.00 and 130902.00) that were originally coordinated with John Griffith on 10/8/2024 (attached), resulting in the request of a bat survey for the project study area. After speaking with Wesley, it was determined that a bat study would not be sufficient consultation for these projects and the USFWS would propose the time of year tree clearing restrictions (November 16th through March 31st) for both projects instead. Please see below the proposed tree clearing consultation commitment for projects 130900.00 and 130902.00. Please let me know if you need any additional information and it will be provided.

(PIN 130900.00)

Thank you for your time reviewing the subject project: PIN 130900.00 Marion Co., I-24 Bridge replacement over Shellmound Road. Based on your response of the proposed project being located in the winter buffer for the federally endangered Indiana bat (*Myotis sodalis*) and the proposed federally endangered tricolored bat (*Perimyotis subflavus*), TDOT has committed to perform all tree clearing activities in the timeframe of November 16th through March 31st. In adherence to the proposed scope of work, and the aforementioned tree clearing commitment, TDOT concludes the subject project will “not likely adversely affect” the federally endangered Indiana bat (*Myotis sodalis*) or the proposed federally endangered tricolored bat (*Perimyotis subflavus*).

I would appreciate your review and comment regarding concurrence or other findings for these determinations.

The above coordination is in compliance with the U.S. Fish and Wildlife Coordination Act of 1958 and the Endangered Species Act of 1973, as amended. Thank you for your assistance with this project. If you have any questions or need additional information, please contact me at 423-463-6103.

(PIN 130902.00)

Thank you for your time reviewing the subject project: PIN 130902.00 Marion Co., Shellmound Road bridge replacement over I-24. Based on your response of the proposed project being located in the winter buffer for the federally endangered Indiana bat (*Myotis sodalis*) and the proposed federally endangered tricolored bat (*Perimyotis subflavus*), TDOT has committed to perform all tree clearing activities in the timeframe of November 16th through March 31st. In adherence to the proposed scope of work, and the aforementioned tree clearing commitment, TDOT concludes the subject project will "not likely adversely affect" the federally endangered Indiana bat (*Myotis sodalis*) or the proposed federally endangered tricolored bat (*Perimyotis subflavus*).

I would appreciate your review and comment regarding concurrence or other findings for these determinations.

The above coordination is in compliance with the U.S. Fish and Wildlife Coordination Act of 1958 and the Endangered Species Act of 1973, as amended. Thank you for your assistance with this project. If you have any questions or need additional information, please contact me at 423-463-6103.

Kind Regards,
James Ian Quilliams

TN TDOT Department of Transportation

James "Ian" Quilliams | Senior Technical Specialist-Ecology
Region 2 Environmental Section
7512 Volkswagen Drive, Chattanooga, TN 37416
p. 423-510-1101 c. 423-463-6103
james.quilliams@tn.gov
tn.gov/tdot
Follow TDOT: Facebook | X | Instagram | LinkedIn

From: Griffith, John
To: Dennis Crumby
Cc: Sikula, Nicole R; Andy Barlow
Subject: [EXTERNAL] Re: IPaC delivered Official Species List for project: TDOT PIN 130902.00 Marion County Shellmound Road, Bridge over I-24 Eastbound (TMA)
Date: Tuesday, October 8, 2024 3:04:05 PM

Dennis,

Thank you for your correspondence regarding the proposed Shellmound Road Bridge over Interstate 24 at LM 1.36 in Marion County, Tennessee. The scope of work would involve replacement of the existing bridge with a 160-foot-long, 2-span, concrete beam bridge. The typical section on the proposed structure would consist of two 11-foot lanes with 4-foot shoulders. The bridge alignment would be shifted to the east, requiring the project to be extended 0.11-mile to the north and 0.12-mile to the south to tie in the approaches. Tree removal would be required for the project. You are requesting a list of federally threatened or endangered species that may be present in the project area.

Our database indicates that the project lies within the swarming areas of Nickajack Cave, a document hibernaculum for the federally endangered Indiana bat (*Myotis sodalis),* and Little Cedar Mountain Cave, a documented hibernaculum for the proposed endangered tricolored bat (*Perimyotis subflavus*). A qualified individual should assess potential impacts to these species as a result of the project. As a designated representative for the Federal Highway Administration (FHWA), the Tennessee Department of Transportation may submit its assessment and findings directly to this office for review and concurrence. A finding of "may affect" can be addressed through formal consultation by the FHWA, except when the Service concurs, in writing, that a proposed action “is not likely to adversely affect” listed species.

This email will serve as our official project response. Please let me know if we can offer further assistance. Thanks,

John Griffith
Transportation Biologist
U.S. Fish and Wildlife Service
Tennessee Field Office
931-444-1393 (office)
931-261-3755 (cell)

From: Administrator Email <ecosphere_support@ecosphere.fws.gov>
Sent: Wednesday, September 18, 2024 3:02 AM
To: Griffith, John <john_griffith@fws.gov>; Tennessee ES, FWS <tennesseeES@fws.gov>; Sykes,

Robbie <robbie_sykes@fws.gov>; Alexander, Steven <steven_alexander@fws.gov>
Subject: IPaC delivered Official Species List for project: TDOT PIN 130902.00 Marion County Shellmound Road, Bridge over I-24 Eastbound (TMA)

To: IPaC point(s) of contact for Tennessee Ecological Services Field Office
Project Location: Marion County, Tennessee

IPaC has delivered an official Section 7 species list on behalf of your office. For your convenience, IPaC has created an ETK project (2024-0145040) with a new associated 'Species List Provided' event. A PDF file of the species list document is attached to the event and contact information for the project can be found on the last page of the PDF.

IPaC has automatically set the consultation status to "Closed". If you need to do any additional work in this project (*e.g.*, add staff, add events, change lead office, etc.), you must first change the status to "active" so that you can edit the project. You can access the project via the link, above.

Lead FWS Office:
The Tennessee Ecological Services Field Office is currently designated as the lead office for Section 7 on this project. The following additional offices have jurisdiction and have been notified: None. If another office is the lead office on this project, please access the project (via the link above) and update it. IPaC will not reset the Lead Office once it has been updated by a biologist.

*Projects created in ETK by IPaC have not been assigned to an FWS staff member. To identify the staff assigned to this project, please access the project (via the link above) and add their name(s).

TENNESSEE WILDLIFE RESOURCES AGENCY

ELLINGTON AGRICULTURAL CENTER
5107 EDMONDSON PIKE
NASHVILLE, TENNESSEE 37211

10/15/2024

Dennis Crumby / Ecology Section
Environmental Division
James K. Polk BLDG., Suite 900
505 Deaderick Street
Nashville, TN 37242-0334
p. 615-253-2465 c. 615-761-8513

RE: Marion County; Shellmound Road, Bridge over I-24 Eastbound (TMA) PIN 130902.00

Dear Mr. Crumby,

The Tennessee Wildlife Resources Agency has reviewed the information provided for the proposed bridge replacement for the Shellmound Road Bridge over I-24 Eastbound (TMA) in Marion County, Tn. You have requested that we provide your office with a list of threatened or endangered species that may be present in the vicinity of the proposed project.

Our databases show documented occurrences of multiple state listed species within 4.0 miles for the project location however, based on the scope of work and location of the project our agency does not anticipate significant adverse impacts to these species provided that all applicable TDEC and US EPA approved Erosion Prevention/Silt Control measures and Best Management Practices be planned for, implemented, monitored, and maintained throughout construction.

Thank you for the opportunity to review and comment on this proposed project. If I may be of further assistance, please contact me at Andy.Barlow@tn.gov.

Sincerely,

Andy Barlow
Wildlife Biologist/Liaison to TDOT and the Federal Highway Administration

Dennis Crumby

From: twrasurveymgmt@gmail.com
Sent: Tuesday, September 17, 2024 10:28 AM
To: Dennis Crumby; Andy Barlow
Subject: [EXTERNAL] Environmental Review Request: 1726592400000

Dennis Crumby
Auto-generated email
DO NOT REPLY
Tennessee Wildlife Resource Agency has received your submission. If additional information is required, Biodiversity Division staff will reach out via the contact information you provided. Although we strive to respond to review requests as quickly as possible, a formal response may take up to 30 days.
Thank you,
TWRA Biodiversity

Index Of Sheets

58100-0187-44
END PROJECT NO. BR-I-24-2(184) PRELIMINARY
STA. 65+90.00 SHELLMOUND RD
N 258108.1342 E 2087221.9278

58100-0187-44
BEGIN PROJECT NO. BR-I-24-2(184) PRELIMINARY
STA. 56+50.00 SHELLMOUND RD
N 257174.6896 E 2087111.1073

SPECIAL NOTES

PROPOSALS MAY BE REJECTED BY THE COMMISSIONER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED JANUARY 1, 2021 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

TDOT PROJECT MANAGER: CHANEL HIPPIX, PMP

DESIGNED BY: ARCADIS U.S., INC.

DESIGNER : MARC HAWKINS, P.E. CHECKED BY : FRITZ BROGDON, P.E.

P.E. NO. 58100-0187-44 (NEPA)

PIN NO. 130902.00

5/21/2025 4:33:31 PM
C:\PW_WORK\ARCADISPW01\STEFFAN.HOLDER\D0237516\58I024-SHT-1-TITLE.DGN

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

MARION COUNTY

SHELLMOUND ROAD
BRIDGE OVER INTERSTATE 24 EASTBOUND
(LOG MILE 1.36)

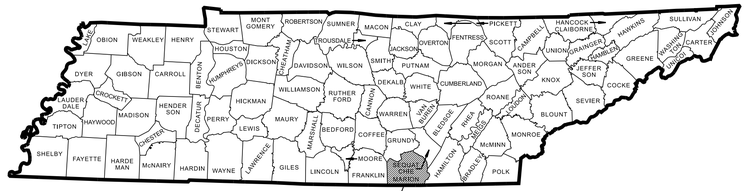
LINE AND GRADE

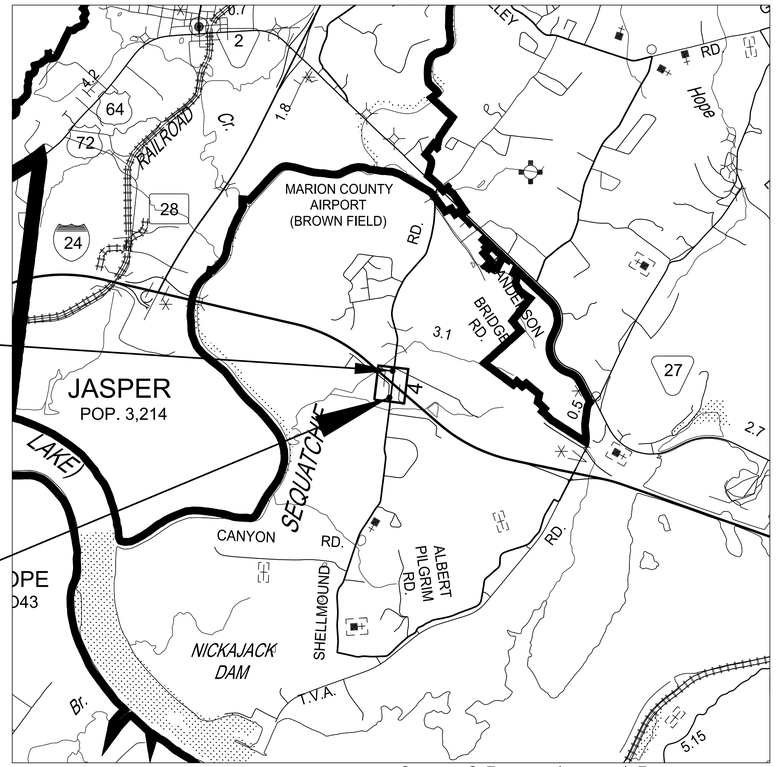
BRIDGE REPLACEMENT

STATE HIGHWAY NO. N/A F.A.H.S. NO. N/A

DOES THIS PROJECT QUALIFY FOR UTILITY CHAPTER 86	YES X	NO

TENN.	YEAR	SHEET NO.
	2025	1
FED. AID PROJ. NO.	BR-I-24-2(184)	
STATE PROJ. NO.	58100-0187-44	





SCALE: 1"= 2640'

0 0.5 1 1.5 MILES

N

NO EXCLUSIONS

ROAD TO BE CLOSED DURING CONSTRUCTION

LINE AND GRADE

SEALED BY

APPROVED: _____ WILL REID, CHIEF ENGINEER

DATE:

APPROVED: _____ HOWARD H. ELEY, COMMISSIONER

R.O.W. LENGTH	0.000 MILES
ROADWAY LENGTH	0.149 MILES
BRIDGE LENGTH	0.029 MILES
BOX BRIDGE LENGTH	0.000 MILES
BOX BRIDGE LENGTH	0.000 MILES ▲
PROJECT LENGTH	0.178 MILES

▲ Not included in the project length (Non Riding Surface).

SURVEY 05-06-24	TRAFFIC DATA	
	ADT (2026)	1,750
	ADT (2046)	1,930
	DHV (2046)	232
	D	65 - 35
	T (ADT)	3 %
	T (DHV)	2 %
	V	30 MPH

COORDINATES ARE NAD/83(2011) ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 USING GEOID18 MODEL

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____ DIVISION ADMINISTRATOR _____ DATE

TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	4
–	–	–	

58100-0187-44
BEGIN PROJECT NO. BR-I-24-2(184) PRELIMINARY
STA. 56+50.00
N 257174.6896 E 2087111.1073

24 ~~MADELINE CAROL LONG AND HUSBAND, KENNETH LONG~~

23 ~~KENNETH LONG AND WIFE, MADELINE CAROL LONG~~

22 ~~KIMBERLY M. LONG~~

9 CHARLES E. CRABTREE AND WIFE, RITA G. CRABTREE

25 ~~RHONDA HIGGINS~~

6 ~~AARON ACOMB AND WIFE, KATHY R. ACOMB~~

28 ~~ROY GAIL STONE AND WIFE, ANNIE GRACE STONE~~

60 65 110 115

LIMIT OF CONST.
STA. 108+50.00

LIMIT OF CONST.
STA. 111+50.00

58100-0187-44
END PROJECT NO. BR-I-24-2(184) PRELIMINARY
STA. 65+90.00
N 258108.1342 E 2087221.9278

STA. 61+36.98 Shellmound Rd=
STA. 110+13.27 I-24 EB
N 257658.2707 E 2087168.5188

BRIDGE ID #
58I0024000392

INTERSTATE 24 EASTBOUND

SHELLMOUND ROAD

PIERCY RD

HASKEW RD

N18°01'50"E 270.88'
N17°57'35"E 182.73'
N15°58'48"E 238.57'
N75°58'00"W 243.23'
S71°00'39"E 196.33'
S65°09'44"E 221.42'
N06°46'14"E 646.75'

1BR GARAGE
1BR RES
1SB
1FR RES
1 BL RES
BARN
SHED
GARAGE
METAL CARPORT
BL SHED
MOBILE HOME
TANK
PROPANE TANK
FIELD LINE
STORM SHELTER
3-SPAN CONCRETE BEAM CONCRETE DECK
CONC. SLOPE PAVEMENT
CONC. DITCH
FOREST
GRASS
GRAVEL
BILLBOARD
W-BEAM GUARDRAIL WITH TYPE 21 TERMINAL ANCHOR (TO BE REMOVED)
TDOT R.O.W. MARKER (TYP.)
ACCESS FENCE
WOVEN WIRE
BARBED WIRE
PRES. R.O.W.
FILL
CUT
W.M.
WATER SPIGOT
SIGN
SDY
DYS
OH — WIRE — XING
18" PLASTIC L = 19.32'
12 CMP
18 HDPE
12 CMP TO DIS
1E1T1C
4E1T1C
5E3T
6E3T
3E2T
10' ASP.
24'
4' ASP.

Sheet #	Point	North	East	Elevation	Feature	Station	Offset (ft)	Alignment
4	CP-S18	257748.1740	2087000.3630	625.36	XCP	108+27.26	41.94	I-24 EB
4	CP-S15	258191.0660	2087250.0450	625.69	XCP	66+75.67	18.14	Shellmound Rd

LEGEND

EXISTING BRIDGE STRUCTURE TO BE REMOVED

LINE AND GRADE

SEALED BY

COORDINATES ARE NAD 83(2011), ARE DATUM ADJUSTED BY THE FACTOR OF 0.99998 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988 WITH GEOID 18.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PRESENT LAYOUT

STA. 57+00.00 TO STA. 67+00.00
SCALE: 1" = 50'

5/21/2025 4:34:53 PM
C:\PW_WORK\ARCADISPW01\STEFFAN.HOLDER\D0237516\68I024-SHT-4-PRESENT LAYOUT.DGN

TYPE	YEAR	PROJECT NO.	SHEET NO.
PRELIM.	2025	58100-0187-44	4B

58100-0187-44
BEGIN PROJECT NO. BR-I-24-2(184) PRELIMINARY
STA. 56+50.00
N 257174.6896 E 2087111.1073

N

60

65

LIMIT OF CONST.
STA. 108+50.00

ACCESS FENCE
(REMOVE AND REPLACE)

BEGIN BRIDGE
STA. 60+45.60

BEGIN SHOULDER PVMT.
STA. 56+90.52
OFF. 18.00'

END GUARDRAIL
STA. 60+10.75
OFF. 18.00'

110

INTERSTATE 24 EASTBOUND

12' SHLD
24'
12' SHLD

30' OF RIPRAP CLASS "C"
APRON WIDTH 5' (SHORT SIDE)
APRON WIDTH 34' (LONG SIDE)
APRON DEPTH 3.5'

ACCESS FENCE
(REMOVE AND REPLACE)

BEGIN GUARDRAIL
STA. 62+70.40
OFF. 18.00'

PIERCY RD

THRIE BEAM
BRIDGE CONNECTION

BEGIN GUARDRAIL
STA. 58+01.29
OFF. 18.00'

END SHOULDER PVMT.
STA. 65+90.00
OFF. 18.00'

END GUARDRAIL
STA. 65+86.68
OFF. 18.00'

THRIE BEAM
BRIDGE CONNECTION

TYPE 21 | 7' SHLD | 7' SHLD | TYPE 21

22' | N06°46'14"E | 22'

SHELLMOUND ROAD | 11' | 11' | SHELLMOUND ROAD

TYPE 21 | 7' SHLD | 7' SHLD | TYPE 21

END GUARDRAIL
STA. 65+68.81
OFF. 18.00'

THRIE BEAM
BRIDGE CONNECTION

END SHOULDER PVMT.
STA. 65+90.00
OFF. 18.00'

BEGIN GUARDRAIL
STA. 57+66.50
OFF. 18.00'

END GUARDRAIL
STA. 59+71.17
OFF. 18.00'

12' SHLD
24'
12' SHLD

BEGIN SHOULDER PVMT.
STA. 57+23.52
OFF. 18.00'

ACCESS FENCE
(REMOVE AND REPLACE)

END BRIDGE
STA. 61+99.60

BEGIN GUARDRAIL
STA. 62+48.37
OFF. 18.00'

58100-0187-44
END PROJECT NO. BR-I-24-2(184) PRELIMINARY
STA. 65+90.00
N 258108.1342 E 2087221.9278

THRIE BEAM
BRIDGE CONNECTION

S45°08'44"E

ACCESS FENCE
(REMOVE AND REPLACE)

115

LIMIT OF CONST.
STA. 111+50.00

INTERSTATE 24 EASTBOUND

HASS RD

STA. 61+36.98 Shellmound Rd=
STA. 110+13.27 I-24 EB
N 257658.2707 E 2087168.5188

LINE AND GRADE

SEALED BY

COORDINATES ARE NAD 83(2011), ARE
DATUM ADJUSTED BY THE FACTOR
OF 0.99998 AND TIED TO THE TGRN.
ALL ELEVATIONS ARE REFERENCED
TO THE NAVD 1988 WITH GEOID 18.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

PROPOSED
LAYOUT

STA. 57+00.00 TO STA. 67+00.00
SCALE: 1" = 50'

5/21/2025 4:35:17 PM
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Project Name: Marion Co., Shellmound Rd. LM 1.29 to 1.47 Bridge Replacement **PIN:** 130902.00

Water Resource Table for NEPA Documentation

Based on: ETSA

Date: 8/22/2024

Table Amounts are based on (choose only one): Estimated extent of resource within ETSA

Water Resources (Non-Wetland)									
Label	**Type**	**Latitude**	**Longitude**	**Receiving Waters**		**USACE Jurisdiction**	**Quality**	**Amount (Linear Feet)**	**Amount (Acres)**
STR-1	Intermittent Stream	35.043711	-85.601827	Sequatchie River		Yes	Unassessed	50	0.0036
PND-1	Pond	35.043135	-85.603127	Sequatchie River		Yes	Not Applicable	0	0
WWC-1	Wet Weather Conveyance	35.043083	-85.602997	Sequatchie River		No	Not Applicable	200	0.0068
							Total:	250	0.0104

Water Resources (Wetland)*								
Label	**Type**	**Latitude**	**Longitude**	**Receiving Waters**	**TDEC Jurisdiction**	**USACE Jurisdiction**	**Quality**	**Amount (Acres)**
WTL-1	Emergent	35.043083	-85.602997	Sequatchie River	Non-Isolated	Yes	Low Resource Value	0.0061
							Total:**	0.0061
*Unless described otherwise in the NEPA document; all wetlands are presumed to serve the following functions to varying degrees, based on location: wildlife habitat, flood storage, groundwater recharge, nutrient processing, contaminant filtering, and recreation.								
**For the purposes of the NEPA document, Amount is assumed to be Permanent Loss.								

Note- Features and estimated amounts referenced in this table are based on information available and may change as the project is further refined througout project development.

MEMORANDUM OF AGREEMENT

BETWEEN

TENNESSEE DEPARTMENT OF TRANSPORTATION

AND

FEDERAL HIGHWAY ADMINISTRATION
TENNESSEE DIVISION OFFICE

AND

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF NATURAL AREAS

March 2023

SUBJECT:

This Memorandum of Agreement (MOA) is being instituted between the Tennessee Department of Environment and Conservation Division of Natural Areas (TDEC DNA), the Tennessee Department of Transportation (TDOT), and the Federal Highway Administration, Tennessee Division Office (FHWA) to streamline TDOT projects and activities which typically result in no adverse effects to state listed plant species or their habitats in Tennessee.

PURPOSE:

FHWA is required, pursuant to the Fish and Wildlife Coordination Act, (Title 16 United States Code (U.S.C) 662(a)) to consult with the head of the State agency exercising administration over wildlife resources if any stream or water body is "controlled or modified for any purpose whatever." "Wildlife resources" includes animals as well as "all types of aquatic and land vegetation upon which wildlife is dependent" (16 U.S.C. 666b). TDOT, on behalf of FHWA, coordinates these projects, in part, with TDEC DNA.

TDEC DNA is charged with conserving rare plant species and their habitats as well as administering a system of state natural areas within Tennessee. In this role, TDEC DNA maintains data on the location and status of rare species and natural communities within the state and maintains a list of rare plants classified as endangered, threatened, or as a species of concern. TDEC DNA provides technical

support regarding the use and interpretation of such data and provides written comments (as needed) regarding potential effects to rare plants (sometimes animals), natural communities, and conservation sites for federally funded and state funded projects.

This MOA applies to both State- and Federally funded projects and is intended to define conditions and provide example categories of projects and activities for which project-specific consultation with TDEC DNA is not required. Documentation for projects covered under this MOA will include a copy of this agreement and a statement from the TDOT Ecology staff citing the applicability of this agreement, rather than written correspondence to and from TDEC DNA. This documentation will be included in the Appendices of all applicable environmental documents (e.g., NEPA, TEER) and in the documentation for all applicable permit applications.

SCOPE:

The following conditions and example projects and activities have been evaluated and a conclusion reached by TDEC DNA, FHWA and TDOT that specific work meeting these conditions within these categories will not result in adverse effects to state listed plant species or their habitats. As a result, this MOA constitutes programmatic consultation/coordination between TDEC DNA, FHWA and TDOT.

CONDITIONS FOR COVERAGE UNDER THIS MEMORANDUM

1. Based on a review of the project study area and the TDEC Natural Heritage Database, both of the following criteria must be met:

    - TDOT ecology project review staff have determined that there are no known records of State- or Federally listed plant species within the project study area; and

    - TDOT ecology project review staff or qualified consultants have determined the project area does not contain habitat for State-listed plant species documented within four miles, or if potential habitat is present, an appropriately timed presence/absence survey has been conducted for State-listed plant species with negative results.

OR

2. TDOT ecology project review staff have determined that proposed activity is such

that it would not impact undeveloped areas or natural vegetation outside the current developed footprint. Examples of such projects are listed below as a project type covered under this MOA which can be completed without regard to proximity of known or potential occurrences of rare plant species.

A. Typical bridge repair projects confined to the structure above the waterline and not requiring disturbance of waterways, provided construction debris or other construction-related materials can be prevented from entering the waterway by implementing Best Management Practices (BMP's) or properly installed erosion controls. Activities in this category include the following:

    - Bridge deck repair (scarification, patching, replacement, etc.)
    - Installation and repair of expansion joints
    - Removal and resurfacing of bridge and approach roadway pavement
    - Patching of substructures
    - Removal, replacement, and repair of beams
    - Removal and replacement of bridge deck cantilevers
    - Modification of piers and abutments above the surface of the water
    - Repair and replacement of bridge and approach guardrails
    - Sand blasting, painting, and sealing

B. Installation of impact attenuators on bridge piers, providing substrate work is not involved, and they do not affect flow downstream

C. Bridge inspections, including the portions of the piers under the surface of the water, if no soil or substrate is disturbed

D. Addition of intersection turning lanes provided new lanes are within the developed footprint of the roadway.

E. Installation, replacement, or addition of traffic control signals or information signs. Included are Intelligent Transportation Systems (ITS), fog detection systems, traffic information systems, flashing lights, reflectors, striping, rumble

strips and stripes, signs, and sidewalks provided such work is in the current developed footprint.

F. Turning radius improvement at intersections

G. Removal and replacement of existing pavement, provided that all old pavement is properly disposed of according to current regulations.

H. Installation and repair of guardrails, cable barriers, and jersey barriers

I. Installation of railroad signals, signs, and other improvements at crossings

J. Maintenance of roadway ditches and catch basins, provided that the original size and dimensions are not increased. This category is confined to sloped ditches which only convey water for a short period during storm events. No work under this exception can occur within 50 feet of any stream.

K. Replacement of overpasses which span roadways or railways

L. Placement of riprap adjacent to existing bridge abutments to repair/prevent scour and protect the integrity of the structure. Work may not extend past the top of bank and no equipment or material is allowed in the stream channel.

M. Enhancement of Rest Areas (e.g., repaving, landscaping, sprinkler system installation, lighting, building replacement or additions, sidewalk refurbishing)

N. Addition of intersection lighting

O. Installation of noise walls

P. Removal of vegetation along roads or under bridges provided such work is within the current developed footprint

Q. Items deemed eligible for Transportation Alternatives Set-Aside (or other) funding, including:

- Construction, planning, and design of on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation, including sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic calming techniques, lighting and other

safety-related infrastructure, and transportation projects to achieve compliance with the Americans with Disabilities Act of 1990.

- Inventory, control, and removal of outdoor advertising

- Construction of turnouts, overlooks, and viewing areas provided such work is within the current developed footprint

- Historic preservation and rehabilitation of historic transportation facilities

- Any environmental mitigation activity, including pollution prevention and pollution abatement activities and mitigation to (1) address stormwater management, control, and water pollution prevention or abatement related to highway construction or due to highway runoff and (2) to reduce vehicle-caused wildlife mortality or to restore and maintain connectivity among terrestrial or aquatic habitats

GENERAL PROVISIONS:

Any signatory agency may unilaterally withdraw from this agreement with 30 days written notice. This MOA will be reviewed every five years and revised as appropriate. Revisions may be requested at any time by any signatory agency. All revisions will be made in writing and require the concurrence of the signatory agencies.

AGREEMENT BY:

Tennessee Department of Environment and Conservation, Division of Natural Areas

Roger McCoy (Mar 1, 2023 13:33 CST)

Date: Mar 1, 2023

Roger McCoy, Director TDEC DNA

Tennessee Department of Transportation

Date: Mar 6, 2023

Howard H. Eley, Deputy Governor and Commissioner

Federal Highway Administration, Tennessee Division Office

Date: Mar 20, 2023

Pamela M. Kordenbrock, Division Administrator

Floodplain Map

Bridge ID#: 58I00240039

Connector Road - Proposed to be improved for detour

MAP SCALE 1" = 2000'

1000 0 2000 4000 FEET

600 0 600 1200 M

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0250D

FIRM

FLOOD INSURANCE RATE MAP

MARION COUNTY, TENNESSEE AND INCORPORATED AREAS

PANEL 250 OF 425

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
JASPER, TOWN OF	475429	0250	D
MARION COUNTY	470114	0250	D
NEW HOPE, TOWN OF	470377	0250	D

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
47115C0250D

MAP REVISED
January 6, 2012

Federal Emergency Management Agency

This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at https://msc.fema.gov.

Air and Noise

Environmental Study

Technical Section

Section: Air and Noise

Study Results

AIR QUALITY

Transportation Conformity
This project is in Marion County which is in attainment for all regulated criteria pollutants. Therefore, conformity does not apply to this project.

Mobile Source Air Toxics (MSATs)
This project qualifies as a categorical exclusion under 23 CFR 771.117 and, therefore, does not require an evaluation of MSATs per FHWA's "Interim Guidance Update on Air Toxic Analysis in NEPA Documents" dated January 2023.

NOISE

This project is Type III in accordance with the FHWA noise regulation in 23 CFR 772 and TDOT's noise policy; therefore, a noise study is not needed.

Commitments

Did the study of this project result in any environmental commitments? **No**

Additional Information

Is there any additional information or material included with this study? **No**

Certification

Responder: Chasity L. Stinson

Title: Senior Technical Specialist, TDOT Environmental Division

Signature: Chasity Stinson

Digitally signed by Chasity Stinson
Date: 2025.05.30 11:57:19 -05'00'

Cultural Resources

Environmental Study

Technical Section

Section: Historic Preservation

Study Results

In a letter dated 02/06/2025, the Tennessee State Historic Preservation Office found no architectural resources eligible for listing in the National Register of Historic Places will be affected by the proposed undertaking.

Should plans change, additional studies may be required.

Commitments

Did the study of this project result in any environmental commitments? **No**

Additional Information

Is there any additional information or material included with this study? **No**

Certification

Responder: Kerri Ross

Title: Architectural Historian

Signature: Kerri Ross

Digitally signed by Kerri Ross
Date: 2025.06.03 09:00:44 -05'00'

From:	TN Help
To:	Kimberly Vasut-Shelby; Kerri Ross
Subject:	Replacement of Bridge on Shellmound Road Extending over I-24 Eastbound from Log Mile 1.29 to Log Mile 1.40, PIN 130902.00 - Project # SHPO0006426
Date:	Thursday, February 6, 2025 10:54:31 AM
Attachments:	image image

TENNESSEE HISTORICAL COMMISSION
STATE HISTORIC PRESERVATION OFFICE
2941 LEBANON PIKE
NASHVILLE, TENNESSEE 37243-0442
OFFICE: (615) 532-1550
www.tnhistoricalcommission.org

2025-02-06 10:53:39 CST

Kimberly Vasut-Shelby
TDOT
kimberly.vasut-shelby@tn.gov

RE: Federal Highway Administration (FHWA), Replacement of Bridge on Shellmound Road Extending over I-24 Eastbound from Log Mile 1.29 to Log Mile 1.40, PIN 130902.00, Project#: SHPO0006426, Jasper, Marion County, TN

Dear Kimberly Vasut-Shelby:

In response to your request, we have reviewed the architectural survey report and accompanying documentation submitted by you regarding the above-referenced undertaking. Our review of and comment on your proposed undertaking are among the requirements of Section 106 of the National Historic Preservation Act. This Act requires federal agencies or applicants for federal assistance to consult with the appropriate State Historic Preservation Office before they carry out their proposed undertakings. The Advisory Council on Historic Preservation has codified procedures for carrying out Section 106 review in 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739).

Considering the information provided, we find that no architectural resources eligible for listing in the National Register of Historic Places will be affected by this undertaking. If project plans are changed please contact this office to determine what further action, if any, will be necessary to comply with Section 106 of the National Historic Preservation Act. Please include the Project # when submitting additional information regarding this undertaking. Questions or comments may be directed to Kelley Reid, who drafted this response, at Kelley.Reid@tn.gov, +16157701099.

Your cooperation is appreciated.

Sincerely,

E. Patrick McIntyre, Jr.
Executive Director and
State Historic Preservation Officer

Ref:MSG17171946_6sBp3RvDCNEJifByxbV

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL DIVISION
ENVIRONMENTAL TECHNICAL STUDIES SECTION
SUITE 900, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TENNESSEE 37243-1402
(615) 741-3655

BUTCH ELEY
DEPUTY GOVERNOR &
COMMISSIONER OF TRANSPORTATION

BILL LEE
GOVERNOR

January 27, 2025

Mr. E. Patrick McIntyre, Jr.
Executive Director and State Historic Preservation Officer
Tennessee Historical Commission
2941 Lebanon Road
Nashville, Tennessee 37214

RE: Historic Architectural Assessment for the 58I00240039 Bridge Replacement in Jasper, Marion County, PIN 130902.00

Dear Mr. McIntyre,

The Tennessee Department of Transportation (TDOT), with funding administered by the Federal Highway Administration (FHWA), is proposing the replacement of the 58I00240039 bridge on Shellmound Road extending over Interstate 24 (I-24) Eastbound (TMA) from Log Mile (LM) 1.29 to LM 1.40 in Jasper, Marion County, Tennessee. The proposed structure is a 154 feet long, single span BT-72 concrete bulb-T beam bridge with an out-to-out width of 33 feet 3 inches. Right-of-way and easement acquisition has not been determined.

In compliance with Section 106 of the National Historic Preservation Act and its implementing regulations 36 CFR 800, TDOT staff reviewed the area of potential effects (APE) to identify National Register of Historic Places (NRHP) listed or eligible historic properties that may be affected by the subject undertaking. Background research at the Tennessee State Historic Preservation Office (TN-SHPO) and a desktop review of the APE determined there is one previously surveyed resource and three newly identified resources that are 45 years of age and older within the study area. TDOT recommends the surveyed resources are not eligible for listing and the project as currently proposed will have no effect. Furthermore, because the proposed undertaking would have no adverse effect nor incorporate any land from any properties listed in or eligible for listing in the NRHP, Section 4(f) of the U.S. Department of Transportation Act (1966, as amended) does not apply.

In compliance with Section 106 of the National Historic Preservation Act (as amended) and implementing regulations 36 CFR 800, please review the enclosed information and provide me with your comments. If additional information is needed, please contact Kerri Ross at kerri.ross@tn.gov.

Sincerely,

Kim Vasut-Shelby, RPA 17950
Cultural Resources Team Lead

Historic Resources Assessment for the 58I00240039 Bridge Replacement over Interstate 24 (I-24) in Jasper

Jasper, Marion County

PIN 130902.00
PE: BR-I-24-2(184)

Kerri Ross, M.S.
Tennessee Department of Transportation
505 Deadrick Street, Suite 900
Nashville, TN 37243

HISTORIC RESOURCES ASSESSMENT FOR THE 58I00240039 BRIDGE REPLACEMENT OVER INTERSTATE 24 (I-24) IN JASPER, MARION COUNTY

PIN 130902.00, PE BR-I-24-2(184)

INTRODUCTION

The Tennessee Department of Transporation (TDOT), in coordination with the Federal Highway Administration (FHWA), is proposing the replacement of the 58I00240039 bridge on Shellmound Road extending over Interstate 24 (I-24) Eastbound (TMA) from Log Mile (LM) 1.29 to LM 1.40 in Jasper, Marion County, Tennessee. The proposed structure is a 154 feet long, single span BT-72 concrete bulb-T beam bridge with an out-to-out width of 33 feet 3 inches. Right-of-way and easement acquisition has not been determined.

Federal laws require TDOT and the FHWA comply with Section 106 of the National Historic Preservation Act of 1966, as amended. In compliance with Section 106 of the National Historic Preservation Act and its implementing regulations 36 CFR 800, TDOT cultural resources staff reviewed the area of potential effects (APE) to identify NRHP-listed or eligible historic properties, or potentially eligible archaeological sites, that may be affected by the subject undertaking. For the purposes of this legislation, historic signficance is defined as those properties that are listed or eligible for listing in the NRHP. In coordination with FHWA, the APE for the proposed undertaking is defined as parcels with right-of-way and easment acquisition.

Background research conducted at the Tennessee State Historic Preservation Office (TN-SHPO) determined there is one previously surveyed resource located in the APE. Pursuant to 36 CFR 800.4, TDOT historians completed a desktop review of the proposed project and found there are three newly identified resources aged 45 years and older within the APE, including the existing bridge. Following background research and field work, TDOT recommends the resources are not eligible for listing in the NRHP and the project will have no effect as currently designed. Section 4(f) of the U.S. Department of Transportation Act of 1966, as amended, gives special consideration to the use of historic sites by federally assisted transportation projects. Regulations concerning TDOT's responsibilities under Section 4(f) are codified at 23 CFR 774. Due to the lack of historic resources in the APE, Section 4(f) of the U.S. Department of Transportation Act of 1966, as amended, does not apply. The NRHP Eligibility Criteria are in Appendix A; the Section 4(f) Criteria are in Appendix B.

PROJECT DESCRIPTION

TDOT proposes the replacement of the Shellmound Road bridge extending over I-24 Eastbound from LM 1.29 to LM 1.40 in Jasper, Marion County. Built in 1965, the existing structure is a three (3) span concrete deck girder bridge with an overall structure length of 140 feet and an out-to-out width of 34 feet 6 inches. The current load limit is twenty (20) tons. Following a bridge inspection report July 21, 2020, the structure was given a sufficiency FAIR rating of 58.3. The proposed structure is a 154 feet long, single span BT-72 concrete bulb-T beam bridge with an out-to-out width of 33 feet 3 inches. The typical section consists of two (2) eleven (11) foot wide lanes each with a five (5) foot wide shoulder. The proposed finished grade of the bridge will need to be raised approximately four (4) feet and will provide a minimum clearance of seventeen (17) feet under the bridge. A 7.8 mile detour will be established while the proposed bridge is being constructed. The new structure will meet all current TDOT standards.

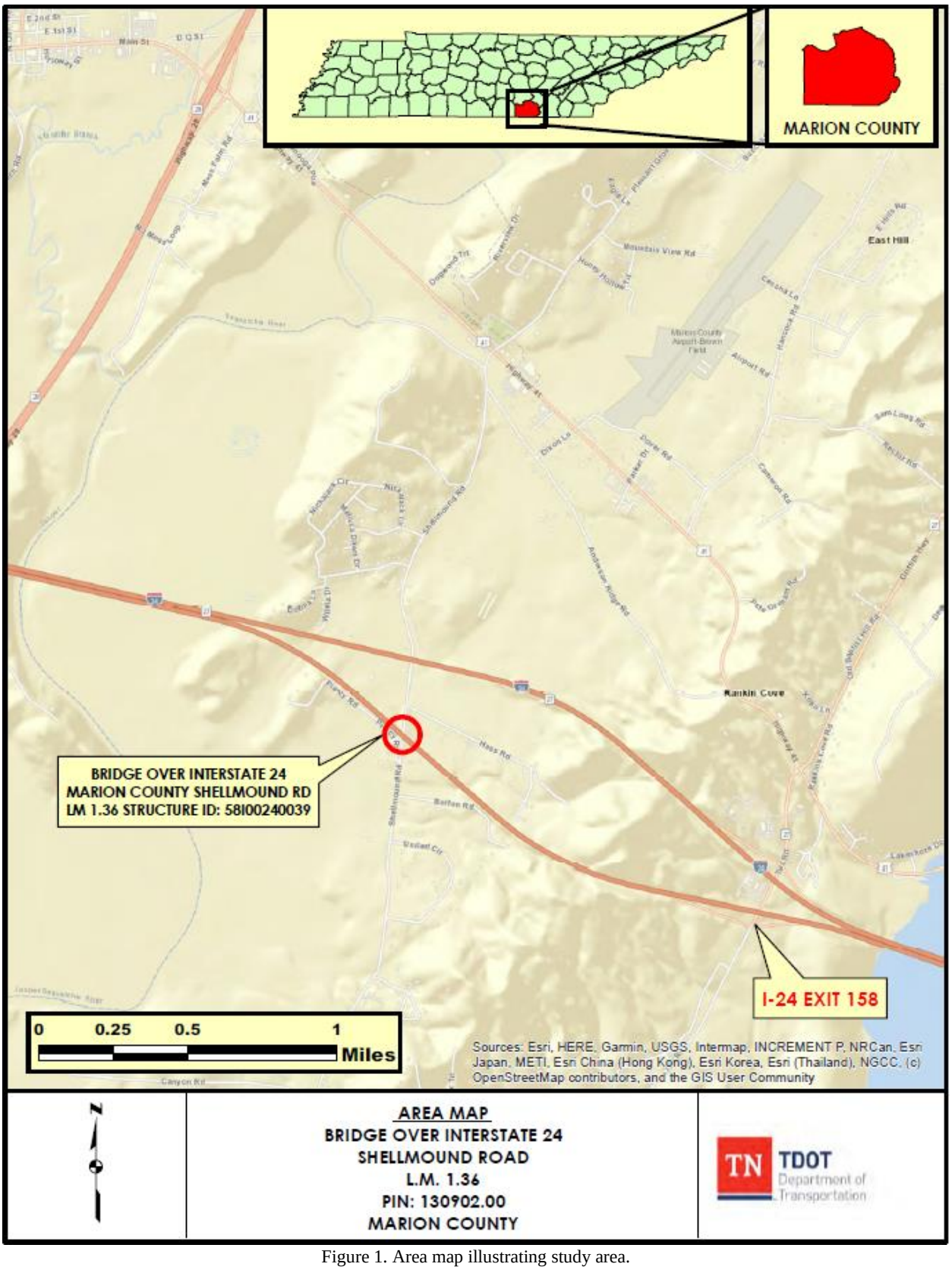

Figure 1. Area map illustrating study area.

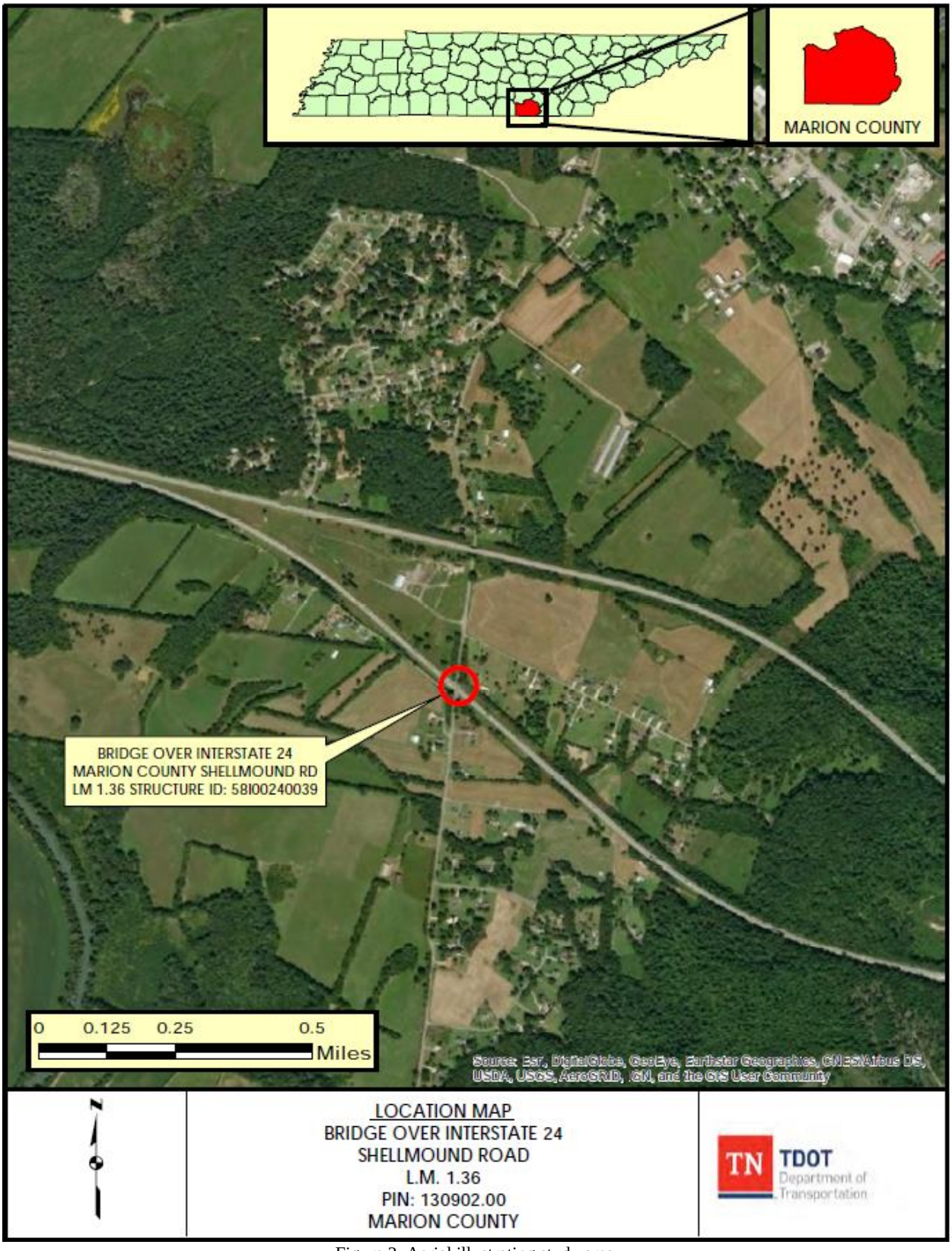

Figure 2. Aerial illustrating study area.

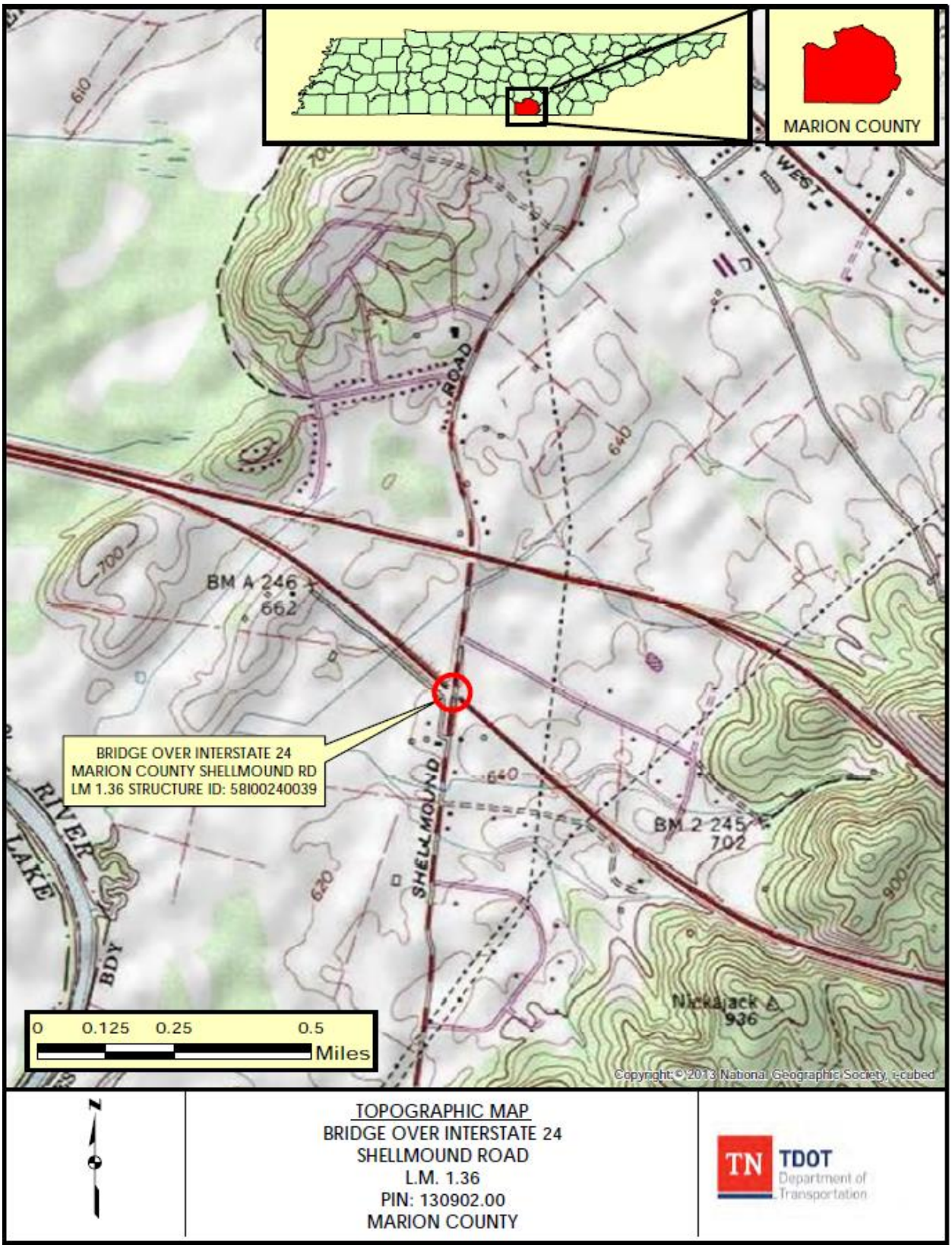

Figure 3. USGS *Sequatchie, Tenn. (100-SE),* (1970), photorevised 1982, 7.5 minute series topographic quadrangle.

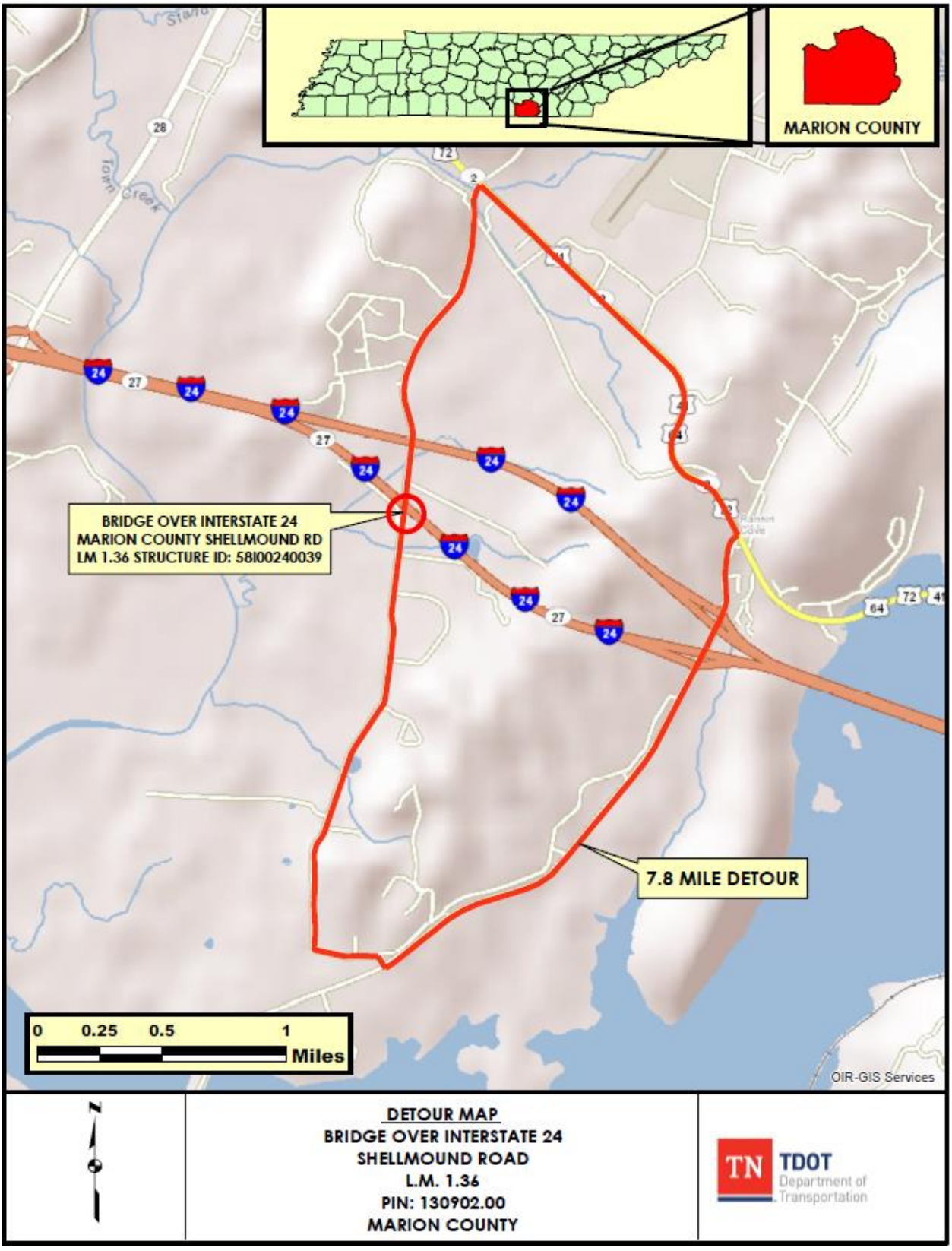

Figure 4. Detour map for the proposed project.

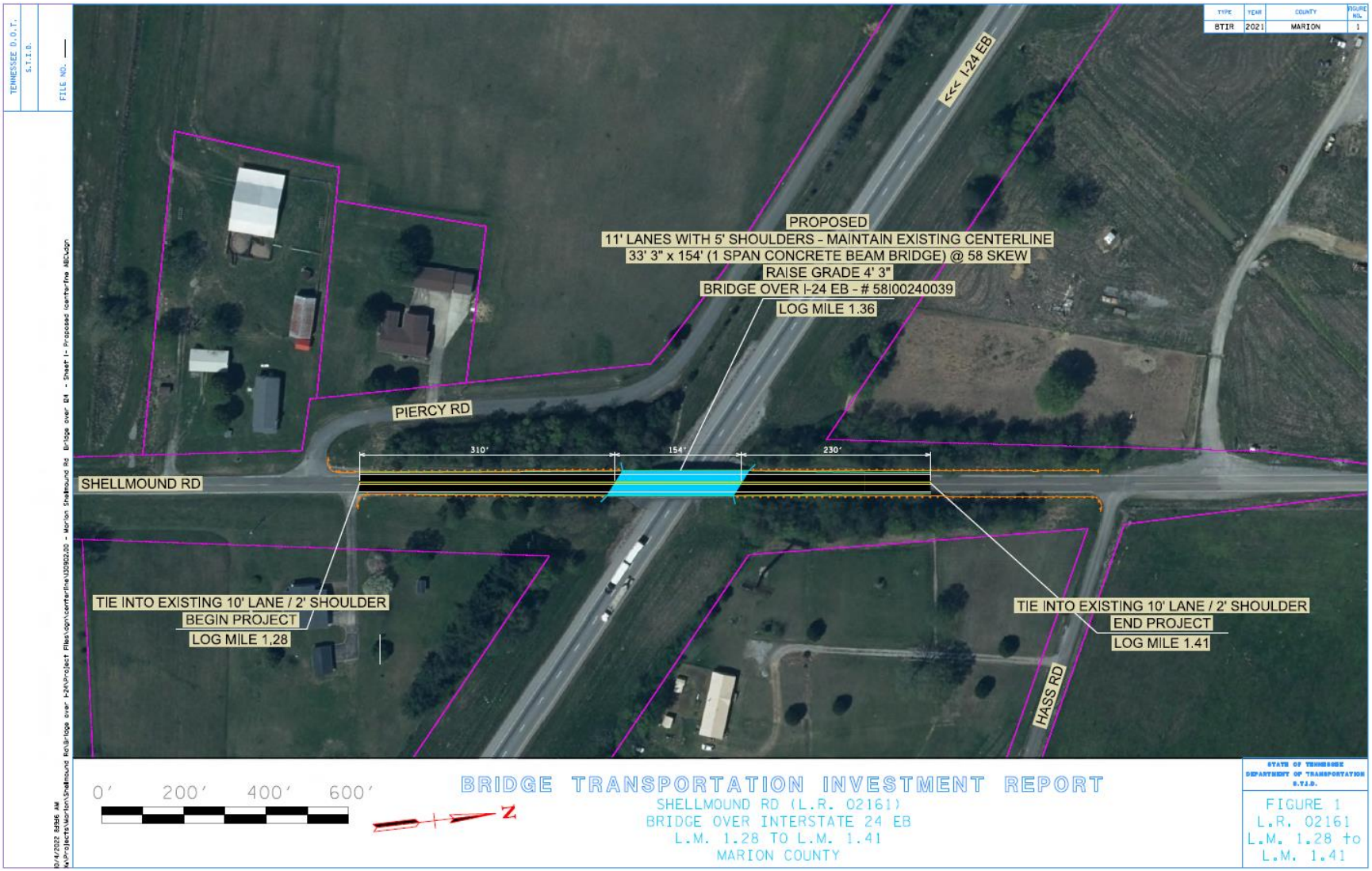

Figure 5. Plan sheet showing the proposed structure.

Figure 6. Aerial showing the Environmental Technical Study Area (ETSA) within the study area.

PUBLIC AND TRIBAL PARTICIPATION

TDOT has begun the process of consultation with eleven Native American tribes or representatives, asking each for information regarding the project and if they would like to participate in the Section 106 review process as a consulting party. To date, there have been no requests to participate.

Absentee-Shawnee Tribe of Indians in Oklahoma
Cherokee Nation
Eastern Band of Cherokee Indians
Eastern Shawnee Tribe of Oklahoma
Jena Band of Choctaw Indians
Kialegee Tribal Town
Poarch Band of Creeks
Shawnee Tribe
The Muscogee (Creek) Nation
Thlopthlocco Tribal Town
United Keetoowah Band of Cherokee Indians in Oklahoma

TDOT historians prepared a list by counties of historic groups and other such organizations that might be interested in proposed projects. This list is regularly updated and refined. From this list, TDOT identified the following in Marion County. To date, TDOT has not received a request to participate.

Southeast Tennessee Development District

ARCHITECTURAL SURVEY METHODS AND RESULTS

Background Research

TDOT staff completed a records review for NRHP property information and architectural survey files for Marion County using the TN-SHPO's online database. Online research was conducted to determine the types of architectural resources in the APE. Online property records, topographic maps, architectural styles displayed, and the online Tennessee Property Viewer were resources used to determine construction dates of resources located in the study area.

Survey Results

Federal law requires TDOT and the FHWA comply with Section 106 of the National Historic Preservation Act of 1966, as amended. This legislation requires TDOT and FHWA to identify any properties (either above ground buildings, structures, objects, or historic sites or below ground archaeological sites) of historic significance located within the project's APE. For the purposes of this legislation, properties with historic significance are defined as those which are included in the NRHP, or which are eligible for inclusion in the NRHP.

A project's APE is defined in 36 CFR 800.16(d) as:

> The geographic area or areas within an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of any undertaking and may be different for different kinds of effects caused by the undertaking.

The APE for this architectural survey is defined as parcels with right-of-way and easement acquisition and corresponds with the plans and images included in Figure 5 and 6. Archival and site file research at the TN-SHPO determined there is one previously surveyed resource (MI-481) within the project's APE located at 1580 Shellmound Rd. The online viewer documents MI-481 as a 1930 house. Correspondence with the Survey Coordinator at the TN-SHPO found there are no historic photographs on file for the resources (Appendix C). Historic aerials, topographic maps, and the architectural style of the resource indicate the dwelling currently on the property is MI-481. A survey of the project study area identified three previously unidentified resources 45 years of age and older located within the APE. All surveyed resources are illustrated in Figure 6 and evaluated in depth below.

LITERATURE/RECORDS SEARCH: 1/30/2025 – Kerri Ross
FIELD SURVEY: 2/3/2025 – Kerri Ross
SURVEY123 SUBMISSION: 2/4/2025 – Kerri Ross

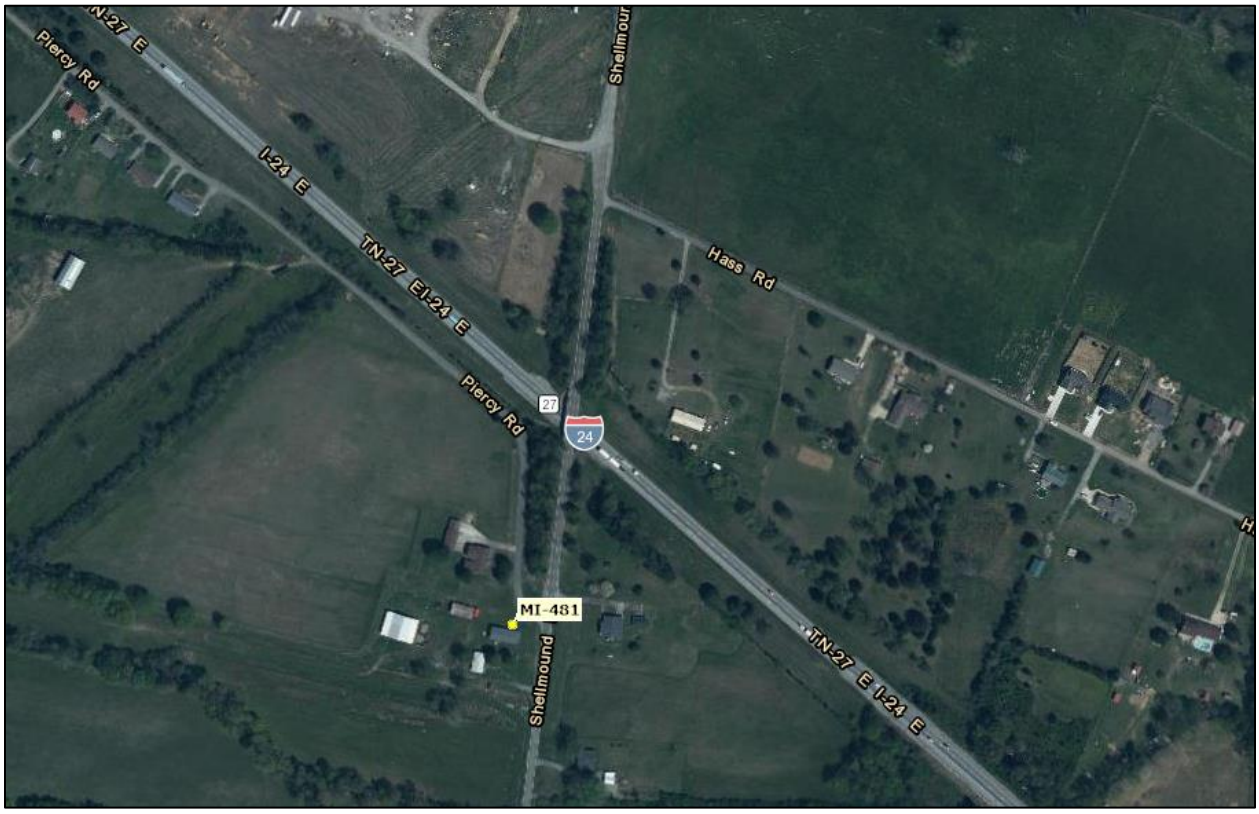

Figure 7. THC Viewer showing the approximate project location. There is one previously surveyed resource within the APE, MI-481.

SURVEYED RESOURCES

MI-481
1580 Shellmound Road

Description: Located at 1580 Shellmound Rd., MI-481 is a one-story single-family dwelling measuring approximately 1,740 square feet and was constructed circa 1930-1936 in the front-gabled form. Oriented southeast, the dwelling features a front-gabled roof clad in asphalt shingles, asbestos exterior siding and rests on a continuous concrete block crawlspace foundation. The façade is divided into three bays characterized by a single-leaf entrance filled with a replacement door sheltered under an asphalt shingle roof supported by metal poles. The southwest elevation is pierced by a single-leaf entrance and three window bays. The pedestrian entrance is sheltered under a shed roof overhang supported by decorative metal posts. The northeast elevation is pierced by four window bays on the primary floor and two sliding track windows on the crawlspace. An exterior brick and concrete chimney pierces the eave of the northeast elevation. Windows throughout have been replaced with six-over-six double-hung vinyl sashes. The northwest, rear, elevation was not accessible. Six outbuildings are associated with the residence including one concrete block shed and one metal clad shed and one frame shed; a side-gable, three-bay concrete block outbuilding; and two side-gable frame barns.

NRHP Evaluation: <u>Not Eligible</u>. MI-481 is recommended not eligible for listing in the NRHP. The property has no known associations with events or persons that have contributed significantly to the broad patterns of American history; therefore, it is not recommended eligible under Criteria A or B. To be eligible for listing in the NRHP under Criterion C a resource must "embody distinctive characteristics of a type, period, or method of construction, represent the work of a master, or possess high artistic value." MI-481 is not the work of a master and does not possess high artistic value. While MI-481 is representative of the front-gable layout, with its form and simplistic design elements, it is not an exceptional example of the style. The building features a replacement roof and replacement windows and doors. Therefore, MI-481 is recommended not eligible under Criterion C. The property is recommended not eligible under Criterion D because it is unlikely to yield information important in history or prehistory. Background research in available sources and fieldwork have no identified any possible significance under Criteria A, B, or C; therefore, does not retain enough integrity to embody the distinctive characteristics of its type or as a representative example of its type within Marion County.

Figure 8. Southeast I of MI-481, looking northwest.

Figure 9. Southwest elevation and southeast I of MI-481, looking northwest.

Figure 10. Northeast elevation of MI-481, looking south.

Figure 11. Two barns and frame shed associated with MI-481, looking west.

Figure 12. Two sheds and three bay outbuilding associated with MI-481, looking northwest.

HS-1
58I00240039 Bridge over Shellmound Road

Description: Constructed in 1965, HS-1 is a three (3) span concrete deck girder bridge crossing over I-24 Eastbound at LM 22.78. The structure has an out-to-out width of 34 feet and six inches with an overall structure length of 140. The existing structure and roadway have two (2) travel lanes with metal railing. The posted load limit is 20 tons. The sufficiency rating is 58.3 (FAIR).

NRHP Evaluation: Not Eligible. According to the TN-SHPO records, HS-1 has not been surveyed. Records reveal the bridge was constructed in 1965 by TDOT and is owned by the State of Tennessee. Decisions on maintenance and improvements fall under the purview of TDOT. The bridge has not been owned by one person or persons over the course of its history and research in available sources did not reveal a historic name or other significance associations. Thus, it is recommended the bridge is not eligible for listing in the NRHP under Criterion A. Archival and site file research in available sources have yet to reveal any association with a historically significant person or people, and it is recommended that it is not eligible under Criterion B.

Because concrete deck girder bridges occur with such frequency throughout the American landscape in suburban, rural, and urban contexts in the twentieth century, examples must demonstrate exceptional architectural characteristics wo warrant listing in the NRHP under Criterion C. According to TDOT records, HS-1 is classified as a Rural Minor Collector and is not a route on the National Highway System. The sufficiency rating for the current structure is 58.3 based on the Bridge Inspection Report from March 11, 2024. The existing structure has two (2) travel lanes with no shoulder.

Standard Drawing RD11-TS-2 was used for design consideration of the proposed bridge. The structure is a 154 foot long, single span BT- 72 concrete bulb-T beam bridge with an out-to-out width of 33 feet and 3 inches. The typical section consists of two 11 foot wide lanes each with a five foot wide shoulder. The proposed finished grade of the bridge will be raised approximately four feet and will provide a minimum clearance of 17 feet under the bridge.

The proposed bridge will retain its original elevation and length with two travel lanes. Alterations include increasing the lane widths, adding a five feet paved shoulder width with a 42 inch bridge rail to accommodate bicycle traffic, and extending the horizontal alignment by raising it approximately four feet. While the original bridge still retains its original materials, the structure does not feature any remarkable architectural characteristics that distinguish it from the numerous other examples of its type nationwide or in Marion County, which would elevate its significance. Additionally, the proposed bridge is a reinforced concrete bridge with a guardrail, maintaining similar materials and overall shape and profile of the original bridge. Thus, Resource HS-1 is recommended not eligible for inclusion in the NRHP under Criteria A, B, or C.

Figure 13. Northern approach looking south.

Figure 14. South approach looking north.

Figure 15. Northern approach looking north.

Figure 16. Drainage feature on Shellmound Road.

Figure 17. Looking northwest along I-24 at the current structure.

Figure 18. Looking north at the concrete girder and concrete piers.

HS-2
1569 Shellmound Road

Description: Located at 1569 Shellmound Rd., HS-2 is a single-family dwelling measuring approximately 2,368 square feet and constructed in 1950. Oriented west, the dwelling features a side-gabled roof clad in asphalt shingles with vertical panel hardy-board exterior siding resting on a continuous concrete block foundation. The façade is divided into four bays with a single-leaf entrance filled with a replacement door sheltered under a renovated partial-width front-gable porch supported by decorative metal posts. The north elevation is pierced by two window bays; the south elevation features one window bay and an exterior brick chimney. A shed-roof overhang, added between 1961 and 1981, extends the full-width of the east, rear, elevation. Windows are filled with sliding track metal sashes. Four outbuildings are association with the house include a concrete block shed, a gambrel roof shed, a metal carport, and a side-gabled garage.

NRHP Evaluation: Not Eligible. Resource HS-2 is recommended not eligible for listing in the NRHP. The property has no known associations with events or persons that have contributed significantly to the broad patterns of American history; therefore, it is not recommended eligible under Criteria A or B. To be eligible for listing in the NRHP under Criterion C a resource must "embody distinctive characteristics of a type, period, or method of construction, represent the work of a master, or possess high artistic value." HS-2 is not the work of a master and does not possess high artistic value. HS-2 features a renovated façade, replacement exterior siding, replacement doors and a rear addition that has altered its history massing. Therefore, HS-2 is recommended not eligible under Criterion C. The property is recommended not eligible under Criterion D because it is unlikely to yield information important in history or prehistory. Background research in available sources and fieldwork have not identified any possible significance under Criteria A, B, or C; therefore, does not retain enough integrity to embody the distinctive characteristics of its type or as a representative example of its type within Marion County.

Figure 19. West I of HS-2, looking east.

Figure 20. North elevation and west I of HS-2, looking southeast.

Figure 21. West I and south elevation of HS-2 and associated gambrel rood shed, looking northeast.

Figure 22. Concrete block outbuilding, metal carport and side-gabled garage associated with HS-2, looking northeast.

HS-3
1633 Shellmound Road

Description: Located at 1633 Shellmound Rd., HS-3 is a single-family house measuring approximately 1,656 square feet and was constructed in 1976. Oriented west, the house features a salt-box roof clad in asphalt shingles with vinyl and stone veneer exterior siding and rests on a continuous concrete block foundation. The façade is divided into four bays with a single-leaf entrance filled with a panel door and full-glass storm door with full-height rectangular sidelights. The primary entrance opens onto an unsheltered concrete block stoop. The gable face on the façade is clad in synthetic shingles. The north elevation is pierced by three window bays; the south elevation features a ribbon of three porch windows at the southeast corner that wraps around to the rear. The east, rear, elevation was not accessible. The windows are filled with one-over-one double-hung vinyl sashes. Google Street images show between 2007 and 2023 the façade was renovated and an original sliding glass door was replaced with a window and two additional windows were added along the north side of the entrance. Two outbuilding are associated with the residence including a frame shed and front-gable single bay garage.

NRHP Evaluation: Not Eligible. Resource HS-3 is recommended not eligible for listing in the NRHP. The property has no known associations with events or persons that have contributed significantly to the broad patterns of American history; therefore, it is not recommended eligible under Criteria A or B. To be eligible for listing in the NRHP under Criterion C a resource must "embody distinctive characteristics of a type, period, or method of construction, represent the work of a master, or possess high artistic value." HS-3 is not the work of a master and does not possess high artistic value. While HS-3 is representative of the salt-box style with its asymmetrical roof line, it is not an exceptional example of the style. Additionally, the building features replacement windows, replacement exterior siding, and a renovated façade. Therefore, HS-3 is recommended not eligible under Criterion C. The property is recommended not eligible under Criterion D because it is unlikely to yield information important in history or prehistory. Background research in available sources and fieldwork have not identified any possible significance under Criteria A, B, or C; therefore, does not retain enough integrity to embody the distinctive characteristics of its type or as a representative example of its type within Marion County.

Figure 23. West I of HS-3, looking east.

Figure 24. North elevation and associated shed, looking southeast.

Figure 25. West I and south elevation of HS-3, looking northeast.

Figure 26. Front gable, single-bay garage, looking east.

APPLICABILITY OF SECTION 4(F)

The FHWA determines if the requirements of the Section 4(f) statute are met. The FHWA will approve the use of the Section 4(f) property only if the requirements are satisfied. The proposed undertaking would not incorporate any land from any properties listed in or eligible for listing in the National Register of Historic Places; therefore, Section 4(f) does not apply.

CONCLUSION

In February of 2025, the Tennessee Department of Transportation (TDOT), in coordination with the Federal Highway Administration (FHWA), completed a historic and architectural survey for the proposed replacement of the 58I00240039 bridge on Shellmound Road extending over Interstate 24 (I-24) Eastbound (TMA) from Log Mile (LM) 1.29 to LM 1.40 in Jasper, Marion County, Tennessee. The proposed structure is a 154’ long, single span BT-72 concrete bulb-T beam bridge with an out-to-out width of 33’3”. Right-of-way and easement acquisition has not been determined.

This survey was completed for review by the TN-SHPO and was performed in compliance with Section 106 of the National Historic Preservation Act of 1966 (as amended) and its implementing regulations at 36 CFR 800. For the purposes of this legislation, properties with historic signficance are defined as those which are included in the NRHP, or which are eligible for inclusion in the NRHP.

Before conducting the field work, a site file review was completed to identify previously surveyed properties and NR-listed resources within the project’s APE, including buildings, sites, structures, and objects. The TN-SHPO records review indicated there is one previously surveyed resource within the study area. Following the records review, TDOT completed a survey of the project area and documented the current condition of three newly identified resources aged 45 years and older, for a total of four surveyed resources.

Following background research, field survey, and data analysis, it is the opinion of TDOT that the surveyed resources are not eligible for listing in the NRHP due to a lack of historic and architectural significance. Thus, TDOT finds the project will have **No Effect** and no additional architectural studies are recommended for the project as it is currently designed.

RESOURCES

Derry, Anne, and Patricia L. Parker
1985 *Guidelines for Local Survey: A Basis for Preservation Planning*. National Register Bulletin 24. National Register of Historic Places, Interagency Resource Division, U.S. Department of the Interior, Washington, D.C.

National Cooperative Highway Research Program
2012 *A Model for Identifying and Evaluating the Historic Significance of Post-World War II Housing.* Accessed online at: http://nap.nationalacademies.org/22709.

National Park Service (NPS)
1995 *How to Apply the National Register Criteria for Evaluation*. National Register Bulletin 15. Accessed online at: https://www.nps.gov/subjects/nationalregister/upload/NRB-15_web508.pdf

2023 *Evaluating Common Resources.* Best Practices Review, Issue 4. Accessed online at: https://www.nps.gov/subjects/nationalregister/upload/BPR_common-resources-2023-07-27-REV.pdf.

Tennessee Historical Commission (THC)
2023 *The Tennessee Historical and Architectural Survey Manual*. Accessed online at: https://www.tn.gov/content/dam/tn/historicalcommission/federal-section-106/thc_survey_manual_6.30.23_Final.pdf.

APPENDIX A

NRHP ELIGIBILITY CRITERIA

NATIONAL REGISTER OF HISTORIC PLACES CRITERIA FOR EVALUATION

According to 36 CFR 60.4, cultural resources eligible for listing on the NRHP are defined as buildings, structures, objects, sites, and districts that have "integrity," and that meet one or more of the criteria outlined below.

- Criteria A (Event). Association with one or more events that have made a significant contribution to the broad patterns of national, state, or local history.
- Criteria B (Person). Association with the lives of persons significant in the past.
- Criteria C (Design/Construction). Embodiment of distinctive characteristics of a type, period, or method or construction; or representation of the work of a master; or possession of high artistic values; or representation of a significant and distinguishable entity whose components may lack individual distinction.
- Criteria D (Information Potential). Properties that yield, or are likely to yield, information important in prehistory or history. Criterion D is most often (but not exclusively) associated with archaeological resources. To be considered eligible under Criterion D, sites must be associated with specific or general patterns in the development of the region. Therefore, sites become significant when they are seen within the larger framework of local or regional development.

For a property to be eligible for listing in the NRHP it must exhibit qualities of physical integrity. This rule also applies to historic districts. The seven NRHP aspects of integrity are as follows:

- Location: the place where the historic property (or properties) was/were constructed or where the historic event(s) occurred;
- Design: the combination of elements that create the form, plan, space, structure, and style of a property (or properties);
- Setting: the physical environment of the historic property (or properties);
- Materials: the physical elements that were combined to create the property (or properties) during the associated period of significance;
- Workmanship: the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;
- Feeling: the property's (or properties') expression of the aesthetic or historic sense of the period of significance; and
- Association: the direct link between the important historic event(s) or person(s) and the historic property (or properties).

APPENDIX B

SECTION 4(F) OF THE U.S. DEPARTMENT OF TRANSPORTATION ACT OF 1966

SECTION 4(F) OF THE U.S. DEPARTMENT OF TRANSPORTATION ACT OF 1966

Section 4(f) gives special consideration to the use of park and recreational lands, wildlife and waterfowl refuges, and historic resources by federally assisted transportation projects. The three main types of use for transportation projects are permanent incorporation or permanent easement, temporary occupancy, and constructive use. To be considered "historic" a property must be either listed in the NRHP or determined eligible for such listing by the Keeper of the Register of the SHPO. Examples of historic sites encountered in the field include buildings, transportation facilities, archaeological sites, traditional cultural places, historic and archaeological districts, and historic trails. Section 4(f) applies only to those projects using federal funds from the U.S. department of Transportation (USDOT).

Section 4(f) provides that once the USDOT determines a project will result in a transportation use of a Section 4(f) property then the project shall undergo a consideration of any avoidance, minimization, mitigation, or enhancement measures. Avoidance alternatives are those that entirely avoid the use of the Section 4(f) property through a feasible and prudent alternative.

According to 23 CFR 774.17, factors to consider when determining if an avoidance alternative is feasible and prudent are outlined below.

- An alternative is not feasible if it cannot be built as a matter of sound engineering judgement.
- An alternative is not prudent if:
    - It compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purposes and need;
    - It results in unacceptable safety or operational problems;
    - After reasonable mitigation, it still causes:
        - Severe social, economic, or environmental impacts;
        - Severe disruption to established communities;
        - Severe disproportionate impacts to minority or low income populations; or
        - Severe impacts to environmental resources protected under other Federal statutes;
    - It results in additional construction, maintenance, or operational cost of an extraordinary magnitude;
    - It causes other unique problems or unusual factors; or
    - It involves multiple factors listed above, that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.

Once a determination of no feasible and prudent avoidance alternative is established, minimization efforts are pursued. Should multiple minimization alternatives exist, the alternative that will cause the least overall harm must be selected. During the minimization process, alternatives must include all possible planning through consultation with local officials and impacts vary according to a variety of factors. After all minimization factors have been explored, mitigation measures shall be considered to compensate for a Section 4(f) impact that cannot be avoided.

However, if the project results in a *de minimis* impact on the property an analysis of avoidance and minimization alternatives is not required, and the Section 4(f) evaluation process is complete. Codified in 23 CFR 774.3 and CFR 774.17, the FHWA determines if the requirements of the Section 4(f) statue are met and will approve the use of the Section 4(f) property only if the requirements are satisfied. A determination of a *de minimis* impact on a historic site is made when all three of the following criteria are met:

1. The process required by Section 106 of the National Historic Preservation Act (NHPA) results in the determination of "no adverse effect" or "no historic properties affected" with the concurrence of the SHPO and/pr Tribal Historic Preservation Office (THPO), and Advisory Council on Historic Preservation (ACHP);
2. The SHPO and/or THPO, and ACHP is informed of USDOT's intent to make a de minimis impact determination based on their written concurrence in the Section 106 determination; and
3. USDOT has considered the views of any consulting parties' participation in the Section 106 consultation.

A determination of *de minimis* impact on parks, recreation areas, and wildlife and waterfowl refuges is made when all three of the following criteria are met:

1. The transportation use of the Section 4(f) resource, together with any impact avoidance, minimization, and mitigation or enhancement measures incorporated into the project, does not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f);
2. The public has been afforded an opportunity to review and comment on the effects of the project on the protected activities, features, and attributes of the Section 4(f) resource; and
3. The official(s) with jurisdiction over the property are informed of USDOT's intent to make the *de minimis* impact determination based on their written concurrence that the project will not adversely affect the activities, features, and attributes that qualify the property for protection under Section 4(f).

APPENDIX C

TN-SHPO CORRESPONDENCE

From: Peggy Nickell
To: Kerri Ross
Subject: RE: 130902.00 Marion Co., Shellmound Rd., Bridge over I-24 Eastbound (TMA)-1EN1 Comments Request
Date: Thursday, January 30, 2025 1:56:33 PM
Attachments: image001.png

Hi Kerri,

I have searched but to no avail. No photo. Sorry

Peggy

From: Kerri Ross <Kerri.Ross@tn.gov>
Sent: Thursday, January 30, 2025 11:22 AM
To: Peggy Nickell <Peggy.Nickell@tn.gov>
Subject: 130902.00 Marion Co., Shellmound Rd., Bridge over I-24 Eastbound (TMA)-1EN1 Comments Request

Morning Peggy,

TDOT is proposing a bridge replacement in Jasper and there is one previously surveyed resource in the APE.
Can you send me anything you have on MI-481?

Thank you!

TDOT Logo

Kerri Ross | Architectural Historian
Environmental Division | Cultural Resources
James K. Polk Building, 9th Floor
505 Deadrick St, Suite 900, Nashville, TN 37243
Work: (615) 880.5995
Email: Kerri.Ross@tn.gov

Environmental Study

Technical Section

Section: Archaeology

Study Results

In a letter dated 5/8/2025 TN SHPO concurred with TDOT Archaeology that no archaeological resources eligible for listing in the NRHP will be affected by this undertaking. Should project plans change, then the project will need to be reevaluated by TDOT Archaeology. Documents posted to R Drive.

Commitments

Did the study of this project result in any environmental commitments? **No**

Additional Information

Is there any additional information or material included with this study? **Yes**

Type: Archaeology Report

Location: \\AG03SDCWF00007.net.ads.state.tn.us\10Shared\ENVRPLAN\ED Social & Cultural Resources Office\A

Certification

Responder: Angela Blankenship

Title: Senior Technical Specialist

Signature: Angela Blankenship

Digitally signed by Angela Blankenship
Date: 2025.06.10 09:14:15 -05'00'

From:	TN Help
To:	Angela L. Blankenship; Kimberly Vasut-Shelby
Cc:	Kimberly Vasut-Shelby
Subject:	Replacement of Bridge on Shellmound Road Extending over I-24 Eastbound from Log Mile 1.29 to Log Mile 1.40, PIN 130902.00 - Project # SHPO0006426
Date:	Thursday, May 8, 2025 10:23:10 AM
Attachments:	image image

TENNESSEE HISTORICAL COMMISSION
STATE HISTORIC PRESERVATION OFFICE
2941 LEBANON PIKE
NASHVILLE, TENNESSEE 37243-0442
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www.tnhistoricalcommission.org

05-08-2025 10:21:54 CDT

Kim Vasut-Shelby
TDOT
kimberly.vasut-shelby@tn.gov

RE: Federal Highway Administration (FHWA), Replacement of Bridge on Shellmound Road Extending over I-24 Eastbound from Log Mile 1.29 to Log Mile 1.40, PIN 130902.00, Project#: SHPO0006426, Jasper, TN, Marion County, TN

Dear Kim Vasut-Shelby:

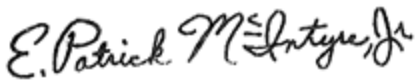
In response to your request, we have reviewed the archaeological report of investigations and accompanying documentation submitted by you regarding the above-referenced undertaking. Our review of and comment on your proposed undertaking are among the requirements of Section 106 of the National Historic Preservation Act. This Act requires federal agencies or applicants for federal assistance to consult with the appropriate State Historic Preservation Office before they carry out their proposed undertakings. The Advisory Council on Historic Preservation has codified procedures for carrying out Section 106 review in 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739).

Considering the information provided, we find that no archaeological resources eligible for listing in the National Register of Historic Places will be affected by this undertaking. If project plans are changed or archaeological remains are discovered during project construction, please contact this office to determine what further action, if any, will be necessary to comply with Section 106 of the National Historic Preservation Act. Complete and/or updated Tennessee Site Survey Forms should be submitted to the Tennessee Division of Archaeology for all sites recorded and/or revisited during the current investigation. Please provide your Project # when

submitting any additional information regarding this undertaking. Questions or comments may be directed to Jennifer Barnett, who drafted this response, at Jennifer.Barnett@tn.gov, +16156874780.

Your cooperation is appreciated.

Sincerely,



E. Patrick McIntyre, Jr.
Executive Director and
State Historic Preservation Officer

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL DIVISION
SUITE 900, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TENNESSEE 37243-1402
(615) 741-3655

BUTCH ELEY
COMMISSIONER

BILL LEE
GOVERNOR

May 6, 2025

Mr. E. Patrick McIntyre, Jr.
Executive Director and State Historic Preservation Officer
Tennessee Historical Commission
2941 Lebanon Road
Nashville, Tennessee 37243

RE: Phase I Archaeological Survey for the Proposed Bridge Replacement Over 1-24 along Shellmound Road, Marion County TDOT PIN 130902.00

Dear Mr. McIntyre,

The Tennessee Department of Transportation (TDOT) proposes to replace the I-24 bridge over Shellmound Rd. Improvements include the replacement bridge as well as widening of the shoulder and guardrail installation from Hass Rd to Piercy Rd. The proposed Area of Potential Effects (APE) is defined as the Environmental Technical Study Area (ETSA) provided by TDOT's Strategic Transportation Investments Division, comprising approximately 9 acres (3.6 hectares; 392,040 square feet) of existing and proposed right-of-way (ROW) and easements centered on the existing bridge and roads along I-24 and Shellmound Rd (log miles 1.28-1.41) in Marion County.

TDOT retained EPI (Edwards-Pitman Environmental, Inc.) to perform an archaeological survey of the APE. Sara Parkin, MA, RPA served as Principal Investigator and oversaw all aspects of work. As a result of this survey no previously identified sites were revisited and no cultural materials were recovered. Therefore, no further archaeological work is recommended. TDOT Archaeology staff have reviewed the proposed project under documentation and concur with this opinion.

In compliance with Section 106 of the National Historic Preservation Act (as amended) and implementing regulations 36 CFR 800, please review this information and provide me with your comments. If any additional information is needed, please contact Kim Vasut-Shelby at (615) 313-3764. I appreciate your assistance.

Sincerely,

Kimberly Vasut-Shelby
Cultural Resources Team
Lead - Environmental
Division

cc: Ms. Jennifer Barnett, TDOA, w/enclosure

Attachment 1: Project location on USGS 7.5 Minute Sequatchie Quadrangle, 100 SE

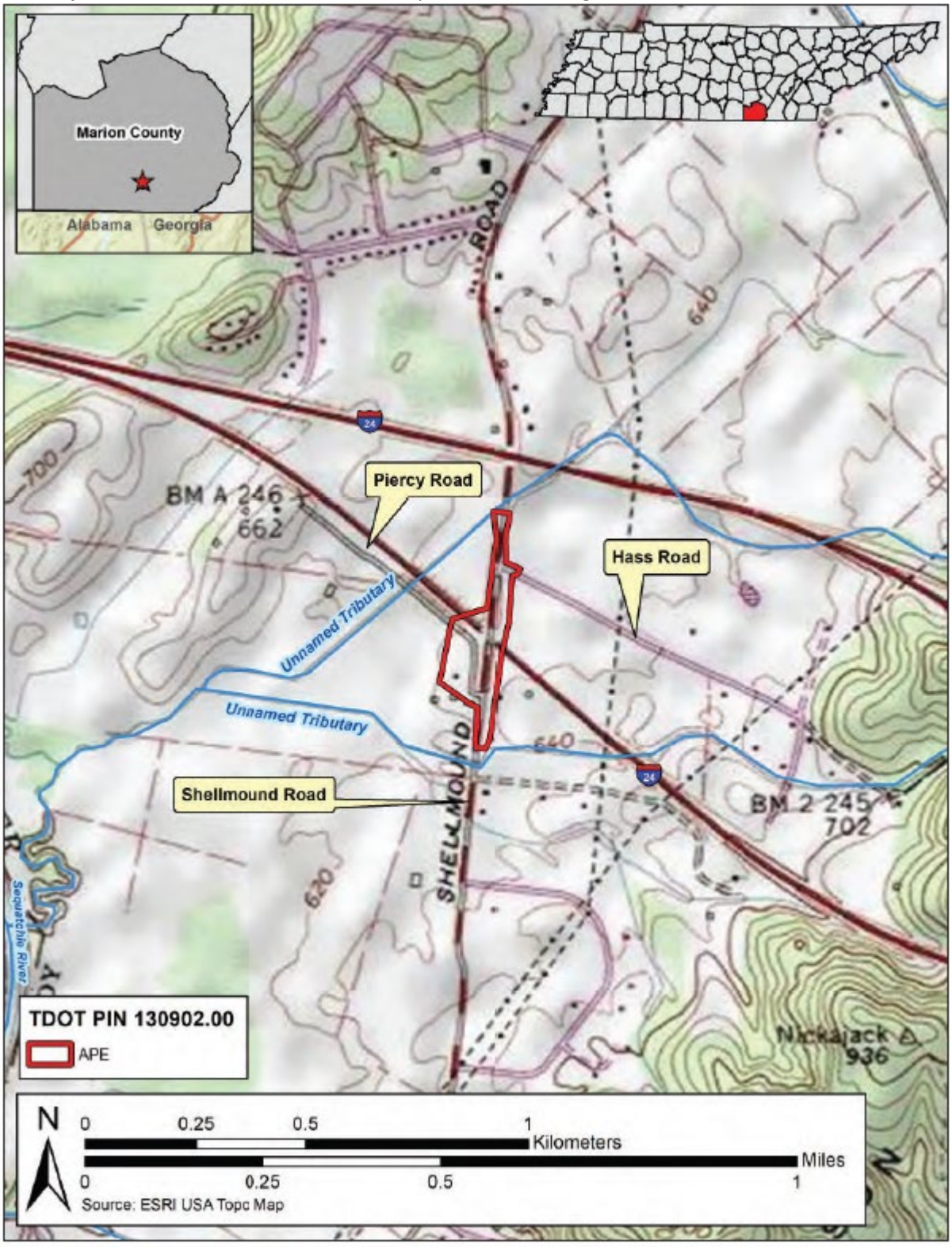
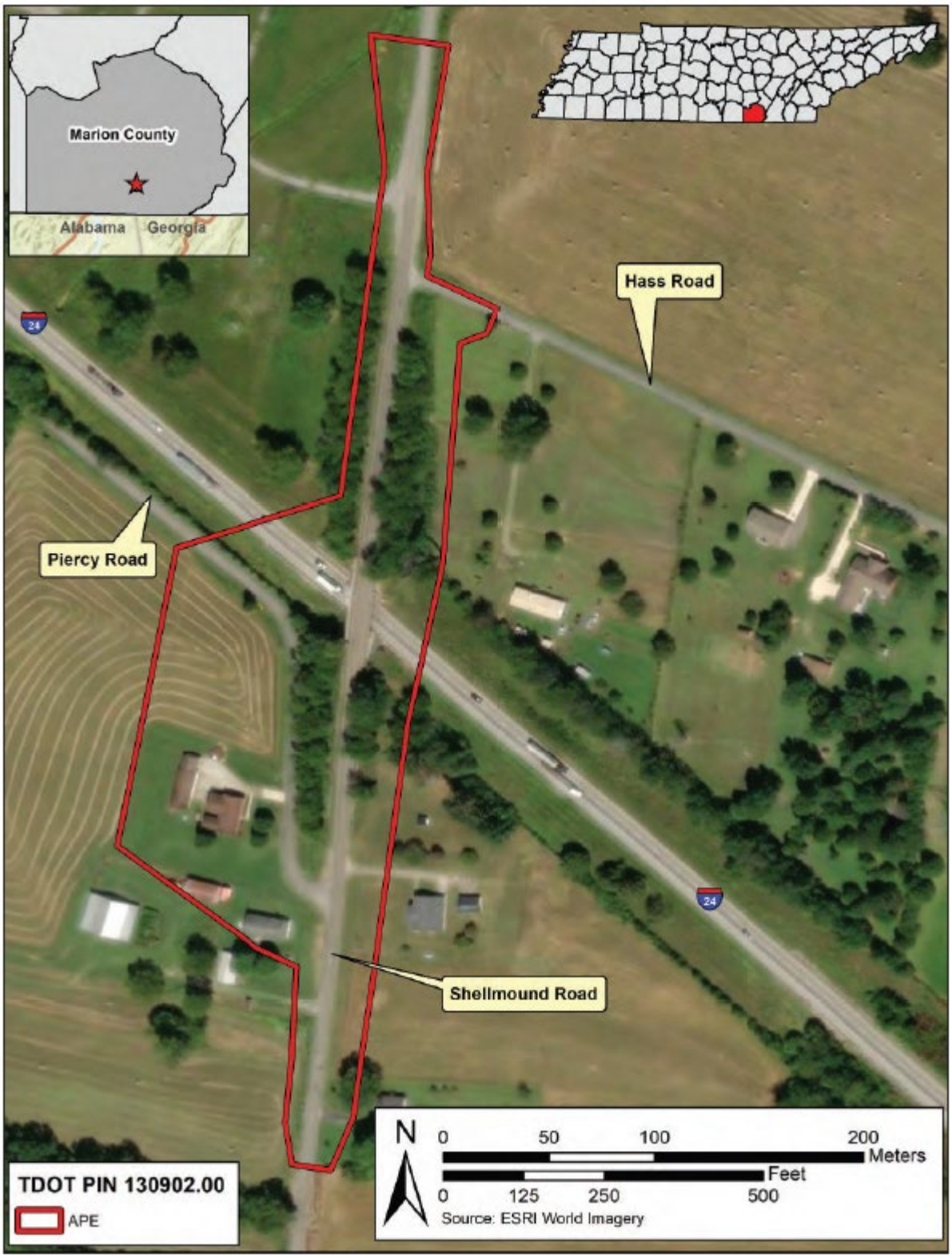


Figure 1.2. Project location depicted on the USGS 7.5 minute Sequatchie, TN quadrangle 100 SE.

Attachment 2: Aerial photo of project area



PHASE I ARCHAEOLOGICAL SURVEY FOR THE PROPOSED BRIDGE REPLACEMENT OVER I-24 ALONG SHELLMOUND ROAD, MARION COUNTY, TENNESSEE

TDOT PIN 130902.00
TDOA PERMIT NO. 001635

Final Report

May 2025

Phase I Archaeological Survey for the Proposed Bridge Replacement over I-24 along Shellmound Road, Marion County, Tennessee

TDOT PIN 130902.00
TDOA Permit No. 001635

Prepared for:
Tennessee Department of Transportation
Office of Social and Cultural Resources
James K. Polk Building, Suite 900
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Prepared by:
Sara Mackenzie Parkin M.A., RPA

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Atlanta, Georgia 30339
(770) 333-9484

Sara Mackenzie Parkin, MA, RPA
Principal Investigator

Final Report

May 2025

Lead Agency: Federal Highway Administration

MANAGEMENT SUMMARY

At the request of the Tennessee Department of Transportation (TDOT), Edwards-Pitman Environmental, Inc. (EP) completed a Phase I archaeological survey for the proposed bridge replacement over Interstate (I-) 24 along Shellmound Road in Marion County, Tennessee (TDOT PIN 130902.00). The goal of the survey was to locate archaeological sites within the Area of Potential Effect (APE), which is defined as the Environmental Technical Study Area (ETSA) provided by TDOT. The survey was conducted in accordance with the Tennessee SHPO Standards and Guidelines for Archaeological Resource Management Studies (Tennessee State Historic Preservation Office [SHPO] 2024) and the TDOT Scope of Work for Consultant Implemented Phase I Archaeological Assessments (TDOT 2021). The effects of the undertaking on identified archaeological resources were evaluated and recommendations are made for further archaeological resource management in compliance with Section 106 of the National Historic Preservation Act (NHPA) (1966, as amended through 2016) and its implementing regulations (36 CFR Part 800), as well as Tennessee Code Annotated (TCA) 11-6.

The APE along Shellmound Road extends for a length of approximately 537 meters (m) (1,762 feet [ft.]); the width varies between 20 and 125 m (65.6 and 410.1 ft.). The APE covers a total of 9 acres (ac.) (3.6 hectares [ha]; 392,040 square feet [sqft.]). Prior to the survey, EP obtained an archaeological permit from the Tennessee Division of Archaeology (TDOA) (Permit No. 001635). Fieldwork was conducted in March 2025, and no archaeological sites were recorded or revisited during the survey. No further work is recommended. Should the project be changed to include areas beyond the limits of the APE, additional archaeological fieldwork may be necessary.

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CHAPTER 1: INTRODUCTION

In March 2025, Edwards-Pitman Environmental, Inc. (EP) conducted a Phase I archaeological survey for the proposed bridge replacement over Interstate (I-) 24 along Shellmound Road in Marion County, Tennessee (PIN 130902.00). The goal of the survey was to locate archaeological sites within the Area of Potential Effects (APE), which is defined as the Environmental Technical Study Area (ETSA) provided by the Tennessee Department of Transportation's (TDOT) Strategic Transportation Division (STID). The survey was conducted in accordance with the Tennessee SHPO Standards and Guidelines for Archaeological Resource Management Studies (Tennessee State Historic Preservation Office [SHPO] 2024) and the TDOT Scope of Work for Consultant Implemented Phase I Archaeological Assessments (TDOT 2021). The effects of the undertaking on identified archaeological resources were evaluated and recommendations are made for further archaeological resource management in compliance with Section 106 of the National Historic Preservation Act (NHPA) (1966, as amended through 2016) and its implementing regulations (36 CFR Part 800), as well as Tennessee Code Annotated (TCA) 11-6, in order to determine their eligibility for inclusion in the National Register of Historic Places (NRHP). The Federal Highway Administration (FHWA) is serving as the lead federal agency for the proposed project.

Project Description

The proposed project is located on Shellmound Road over I-24 from Logmile 1.29 to 1.40 and will replace the bridge over I-24. The proposed structure is a 154 feet (ft.) long, single span BT-72 Concrete Bulb-T Beam bridge with an out-to-out width of 33 ft. 3 inches (in.). The typical section consists of 2-11 ft. wide lanes, each with a 5 ft. shoulder.

Archaeological Investigation and Reporting

The APE along Shellmound Road extends for a length of approximately 537 meters (m) (1,762 feet [ft.]); the width varies between 20 and 125 m (65.6 and 410.1 ft.). The APE covers a total of 9 acres (ac.) (3.6 hectares [ha]; 392,040 square feet [sqft.]). Land use within the APE includes the transportation corridor and right-of-way (ROW) associated with I-24 and Shellmound Road, in addition to residential development and agricultural land (**Figures 1.1 and 1.2**).

Prior to the commencement of fieldwork, EP obtained an archaeological permit from the Tennessee Division of Archaeology (TDOA) (Permit No. 001635) (**Appendix A**) and conducted site file research through the TDOA. A request for site file documentation was made on February 17, 2025, and EP received files back from TDOA on February 18, 2025. The survey consisted of a visual inspection of areas with greater than 25% ground surface visibility, shovel testing of areas with less than 25% ground surface visibility, as well as the collection of field notes and photography of field conditions.

The Principal Investigator in charge of EP's Phase I survey was Sara Mackenzie Parkin, who authored this report. The fieldwork was conducted by Alex Smith and James Binzen. Angela Blankenship is the TDOT Archaeologist responsible for reviewing this report. All artifacts, notes, photographs, maps, and other records produced during the project are temporarily curated at EP's offices in Atlanta, Georgia. Following acceptance of the final report, copies of it and all project materials will be curated at the TDOT offices in Nashville, Tennessee.

This report is organized into five chapters: Chapter 2 describes the environmental setting and cultural history of the project area and vicinity, Chapter 3 contains an explanation of the archaeological field and laboratory methodologies, Chapter 4 reports the results of the archaeological investigation, and Chapter 5 is a summary of findings as well as recommendations. Appendix A is the TDOA Permit.

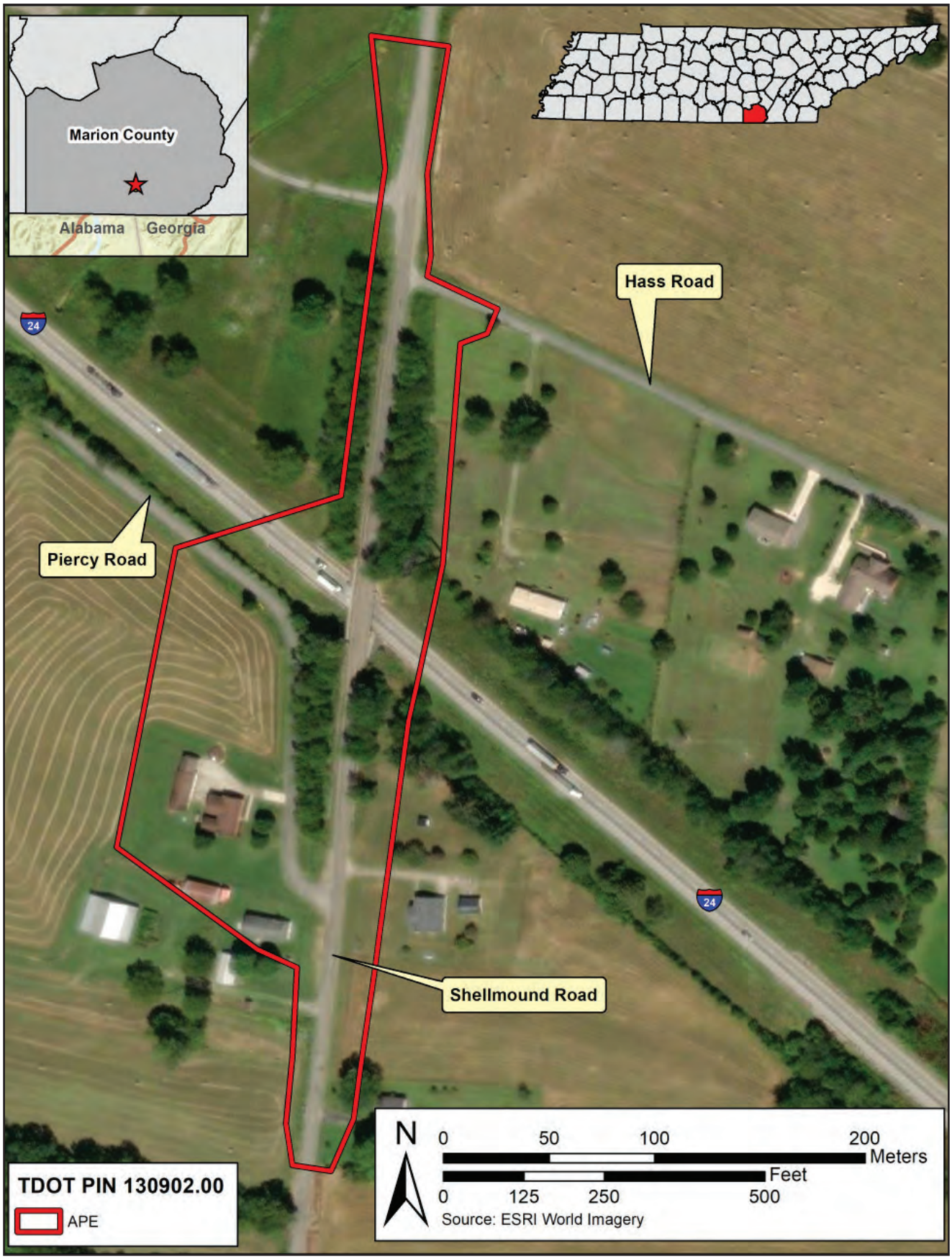

Figure 1.1. Project location depicted on an aerial photograph.

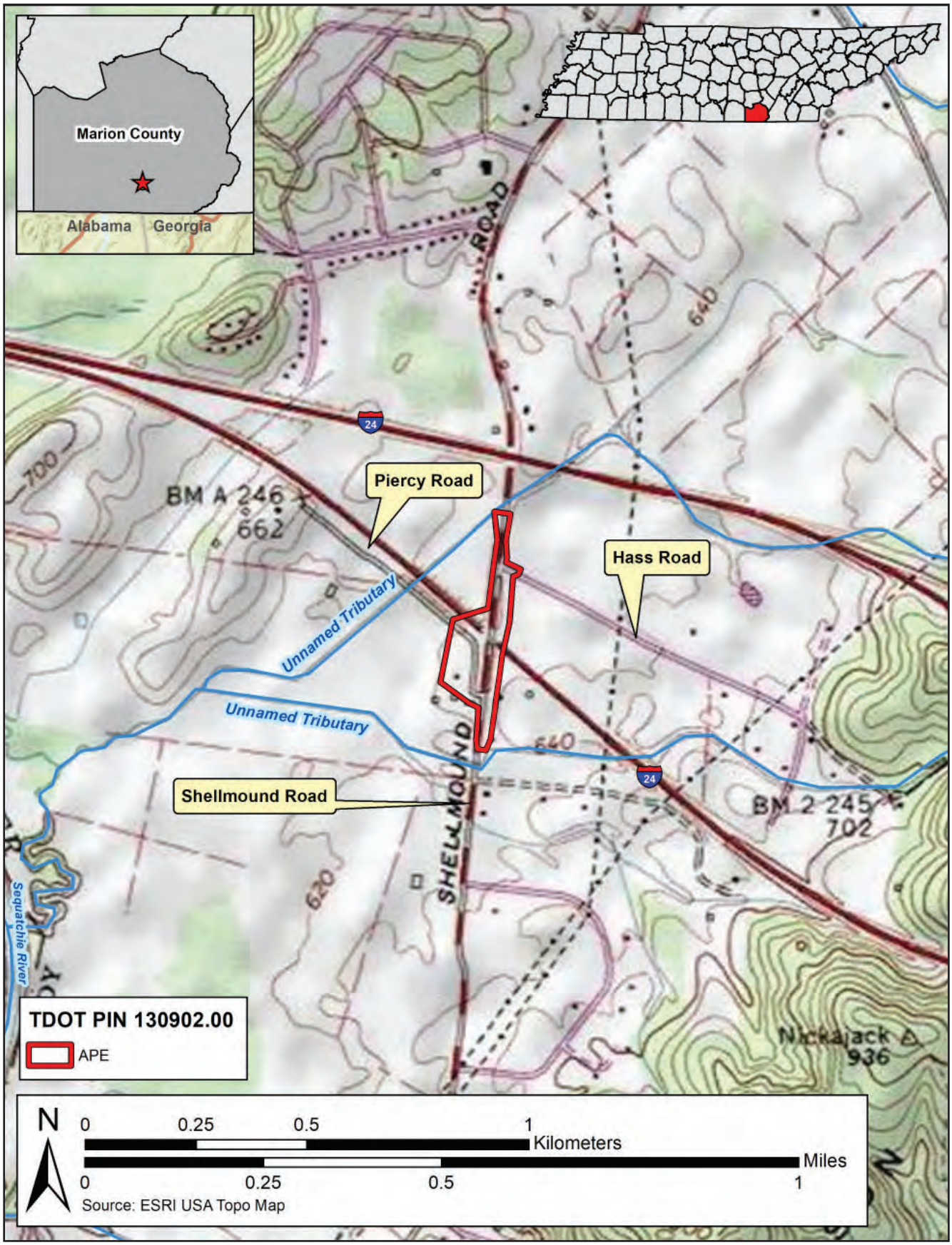

Figure 1.2. Project location depicted on the USGS 7.5 minute Sequatchie, TN quadrangle 100 SE.

CHAPTER 2: ENVIRONMENTAL AND CULTURAL CONTEXT

Environmental Setting

Physical Setting

The APE is located in Marion County and covers a total of 9 ac. (3.6 ha; 392,040 sqft.). It is situated in Jasper, Tennessee, just west of the impoundment of the Tennessee River, Nickajack Lake, and northeast of the Nickajack Dam. Natural terrain within the APE is flat. Land use within the APE includes multiple transportation corridors, as well as residential and agricultural land (**Figures 2.1 and 2.2**). Two unnamed tributaries are located just north and just south of the APE - both of these flow west into the Sequatchie River (see **Figure 1.2**). Vegetation within the APE consisted of mowed grass, plowed agricultural fields, and some forested growth along fence rows between properties.

Natural Setting

Physiography, Geology, and Soils

The APE is located within the Sequatchie Valley subregion of the greater Southwestern Appalachians ecoregion (Griffith et al. n.d.) (**Figure 2.3**). The Sequatchie Valley is a 4 mile (mi.) (6.4 kilometer [km]) wide river valley located within the Cumberland Plateau and Plateau Escarpment that runs parallel to the Ridge and Valley ecoregion, located to the east. This is an agriculturally active region due to the rich soils and flat land created by the river floodplain. The underlying geology of the Southwestern Appalachians varies across the subregions but includes Quaternary deposits of cherty clay, blocky colluvium, and degraded sandstone, with older deposits of sandstone, siltstone, shale, and limestone from the Pennsylvanian, Ordovician, and Mississippian geological eras (Griffith et al. n.d.).

Soils mapped by the Soil Survey Staff (SSS) of the Natural Resources Conservation Service, United States Department of Agriculture (NCRS-USDA) (SSS 2025) indicate five soil series previously recorded within the APE: Capshaw, Emory, Etowah, and Lindside (**Figure 2.4; Table 2.1**). Capshaw soils comprise the largest percentage of the APE (59.3%); these soils are typically very deep, well drained soils that form on stream terraces or on upland flats from underlying clay deposits (SSS 2025). This is congruent with the APE's location within the Sequatchie River Valley.

Hydrology

The APE is directly drained by two unnamed perennial streams that flow west into the Sequatchie River. The Sequatchie River flows into the Tennessee River, immediately west of the Nickajack Dam. The Tennessee River flows west before dipping south into Alabama for approximately 300 km (186.4 mi.) before turning north to form the boundary between Alabama and Mississippi. The

Figure 2.1. Paved driveway and building within the survey area (facing southwest).

Figure 2.2. Creek at the roadside (facing northeast).

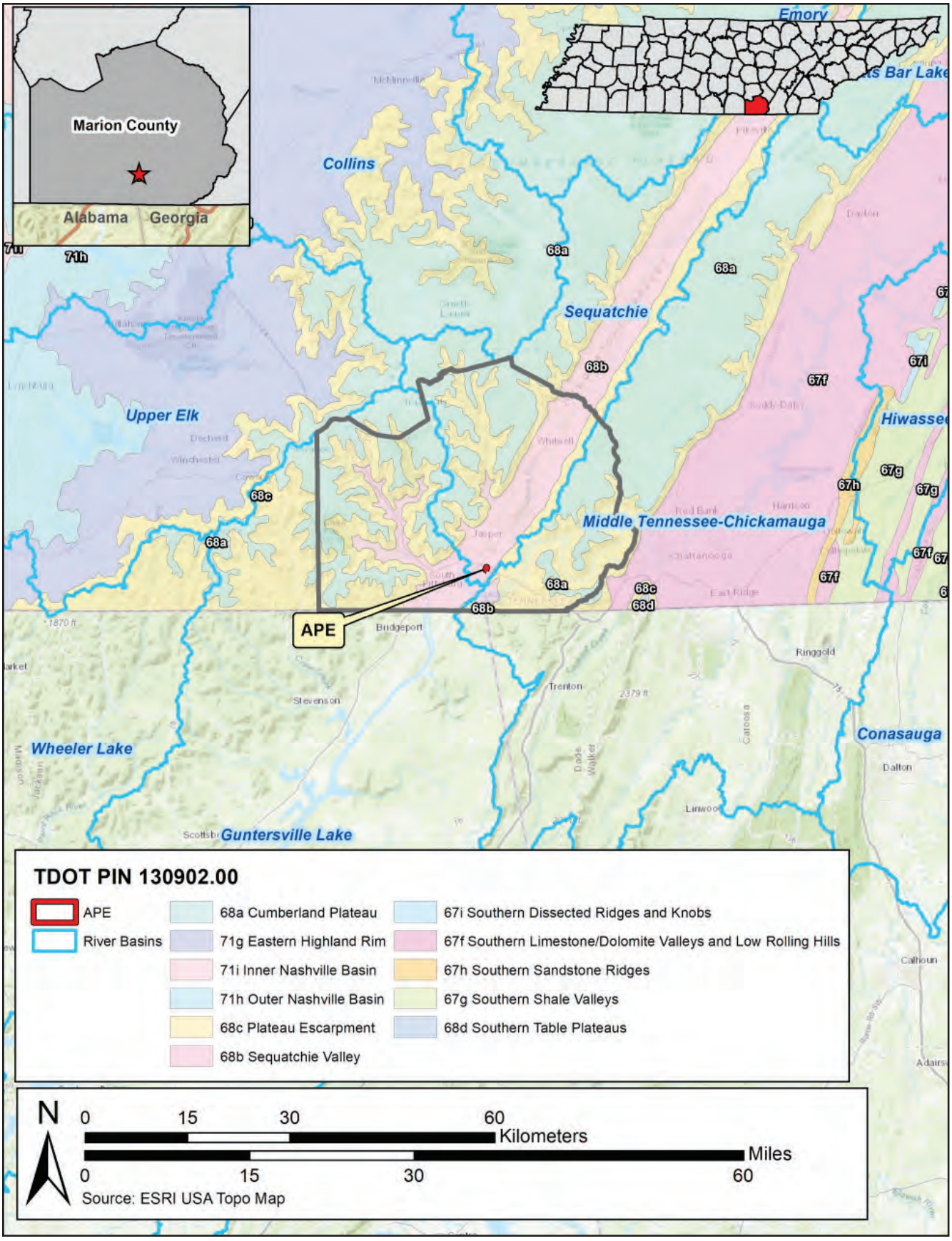

Figure 2.3. The APE depicted on a map of Level IV ecoregions of Tennessee (Griffith et al. n.d.).

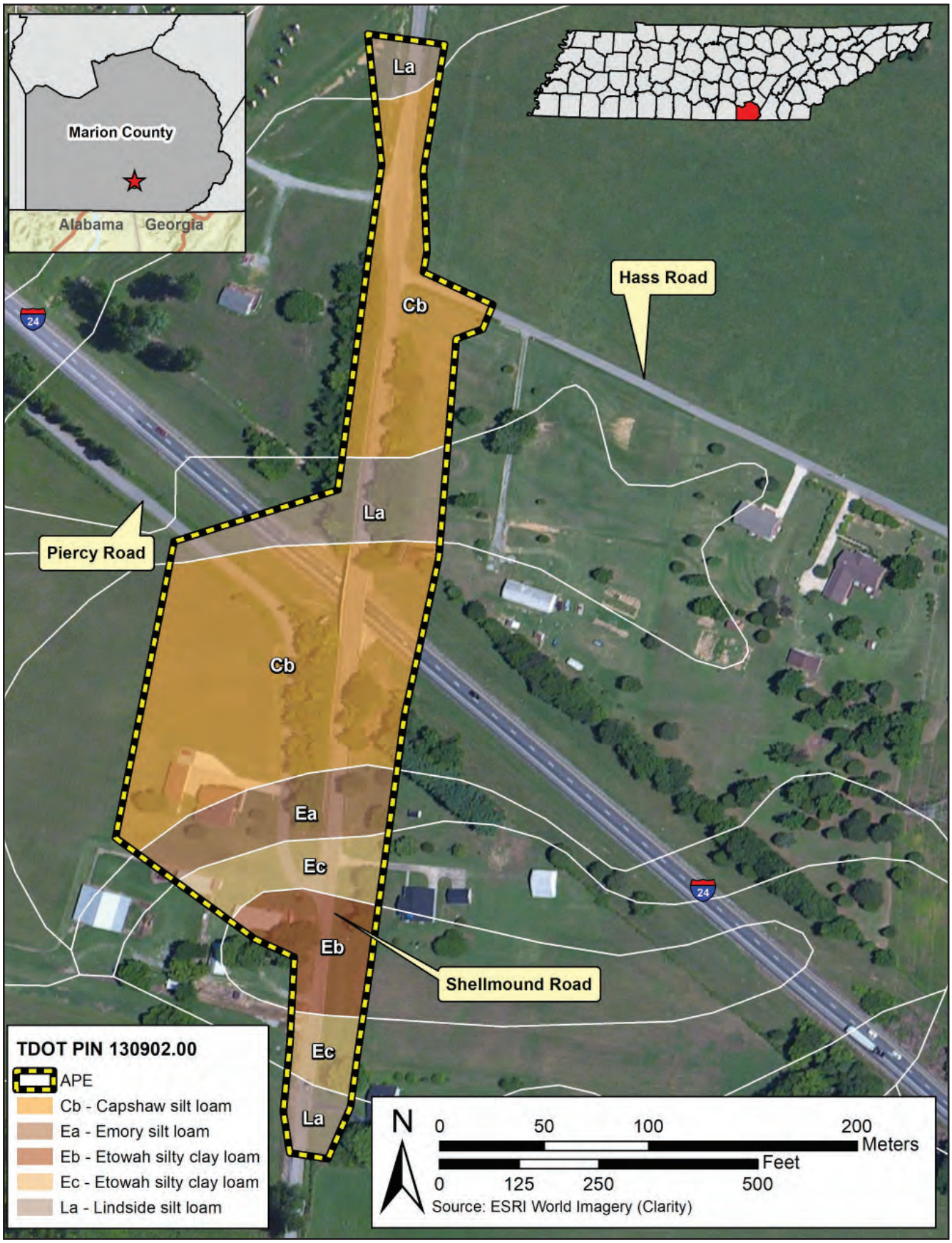

Figure 2.4. Previously recorded soils within the APE (SSS 2025).

Table 2.1. Soils Mapped within the APE (SSS, NRCS, USDA 2025).

Soil Name	Symbol	Soil Type Acreage	Percent of Soil Type in the APE
Capshaw silt loam, eroded undulating phase	Cb	5.4 ac (2.2 ha).	59.3%
Emory silt loam	Ea	0.9 ac. (0.4 ha)	9.4%
Etowah silty clay loam, eroded undulating phase	Eb	0.7 ac. (0.3 ha)	7.6%
Etowah silty clay loam, eroded rolling phase	Ec	0.9 ac. (0.4 ha)	9.5%
Lindside silt loam	La	1.3 ac. (0.5 ha)	14.2%
Totals for the APE	**-**	**9.0 ac. (3.6 ha)**	**100%**

Tennessee River continues for approximately 325 km (201.9 mi) to the west-northwest through Tennessee, emptying into the Ohio River at Paducah, Kentucky. In turn, the Ohio River joins with the Mississippi near the city of Cairo, Illinois; the Mississippi River flows south-southwest through several states, eventually emptying into the Gulf of Mexico southeast of New Orleans, Louisiana.

The vicinity of the APE contains a major source of fresh water, and the local environment would have provided prehistoric peoples with several key natural resources. In addition to providing water, the many streams and creeks in the region would have attracted a diverse range of faunal species and would have served as habitat for exploitable floral species that could be utilized by native populations. Throughout the historic period, the Tennessee River has been a major source of resource extraction as well as transport.

Flora and Fauna

The Southwestern Appalachians are comprised primarily of forests and woodland, in addition to some croplands and pastures. Mixed forests in the Plateau Escarpment generally include mixed oak (*Quercus*), chestnut oak (*Quercus prinus*), beech (*Fagus*), tulip poplar (*Liriodendron tulipifera*), sugar maple (*Acer saccharum*), basswood (*Tilia americana*), ash (*Fraxinus*), buckeye (*Aesculus flava*), hemlock (*Tsuga*), and river birch (*Betula nigra*) (Griffith et al. n.d.). *Rhododendron* species are common in the understory of Appalachian Mountain forests (*Rhododendron maximum*), including azaleas (*Rhododendron calendulaceum*) (Klappenbach 2019). Prior to the chestnut blight in the mid-twentieth century, the American Chestnut (*Castanea dentata*) dominated the

Appalachian Mountain's forests. Chestnuts were an important foodstuff throughout prehistory, and during the historical period, the wood was utilized extensively for log cabins and furniture, in addition to the use of the nuts for livestock feed. The chestnut blight had a devastating effect on the composition of the Appalachian Mountains' forests, and the American Chestnut is listed as an endangered species (Davis 2005).

A variety of mammals, birds, reptiles, and amphibians would have been available in the region throughout both history and prehistory, including: moose (*Alces alces*), white-tailed deer (*Odocoileus virginianus*), black bears (*Ursus americanus*), beavers (*Castor*), chipmunks (*Tamias*), rabbits (*Sylvilagus floridanus*), squirrels (*Sciuridae*), foxes (*Vulpes vulpes*), raccoons (*Procyon lotor*), opossums (*Didelphidae*), skunks (*Mephitidae*), groundhogs (*Marmota monax*), porcupines (*Erethizon dorsatum*), bats (*Chiroptera*), hawks (*Buteo*), woodpeckers and sapsuckers (*Picidae*), warblers (*Parulidae*), thrushes (*Turdidae*), wrens (*Troglodytidae*), nuthatches (*Sitta*), flycatchers (*Tyrannidae*), grouses (*Tetraonini*), frogs (*Anura*), salamanders (*Urodela*), turtles (*Testudines*), rattlesnakes (*Crotalus*), and copperhead snakes (*Agkistrodon contortix*) (Klappenbach 2019).

Climate

Marion County historically has had hot summers and moderate winters. Precipitation has been fairly well distributed throughout the year, with an annual average precipitation of approximately 53.6 in. (136.14 cm). Summer has typically been the wettest season and fall the driest. Winter temperatures averaged around 42.6°F, and summer temperatures averaged around 77.1°F. The county receives on average about 207 frost-free days, which allows for a variety of crops to grow. Snowfall in the county is rare, and less than 8 in. (20.32 cm) on average falls per year (USDA 1958).

Cultural Setting

Prehistoric Overview

Paleoindian Period (ca. 12,000-8,000 BC)

At present, it is uncertain when the first human populations permanently settled the western hemisphere, although most scholars believe it was sometime between 20,000 and 13,000 years ago, in the last stages of the Pleistocene glaciation. Reliable dates as early as ca. 11,800 BC have been obtained from a Paleoindian site in Monte Verde, Chile (Dillehay 1989). In North America, two of the earliest sites are Cactus Hill (44SX202), a stratified multicomponent site in Virginia, and the Topper site (38AL23), a quarry/manufacturing site near Allendale, South Carolina. A number of Paleoindian component sites have been recorded in Tennessee, including the Coats-Hines Site (40WM31), the Wells Creek Crater Site (40SW73), and the Johnson Site (40DV400) (Anderson et al. 1990; Barker and Broster 1996; Deter-Wolf et al. 2011). Initially recorded by the TDOA when

mastodon bones were identified during the construction of a golf course, the Coats-Hines Site unmistakably demonstrates Pleistocene megafauna were incorporated as part of the Paleoindian subsistence base.

The end of the Paleoindian period coincides with the Pleistocene/Holocene transition, and in most areas of the Southeast, is given an arbitrary terminal date of 8,000 BC. In the Southeast, the Paleoindian period is typically divided into three broad temporal categories, Early, Middle, and Late or Transitional, based, in part, on the occurrence of specific point types in the archaeological record (Anderson et al. 1990). Clovis assemblages, highlighted by relatively large, fluted projectile points often having concave, ground basal margins, denote the Early Paleoindian subperiod. The Middle Paleoindian subperiod is generally characterized by smaller fluted points with Clovis projectile points more evident, and in the Late Paleoindian subperiod, Cumberland, Suwannee, Quad, and Dalton point types are observed (Anderson 2005; Anderson et al. 1990; Goodyear 1999). According to the site file search from the TDOA, no sites with a Paleoindian component have been recorded within 1 mi. (1.6 km) of the APE.

Archaic Period (ca. 8,000-1,000 BC)

The transition from the Paleoindian to the Archaic period was gradual and related to the evolution of modern climatic conditions, similar to those the first European explorers and settlers encountered. The Archaic period is typically divided into the Early, Middle, and Late Archaic periods. Several dramatic environmental changes near the beginning of the Early Archaic affected the native populations of the Southeast. The Laurentide Ice Sheet retreated north of the Great Lakes, temperatures became warmer in summer and colder in winter, and sea levels rose considerably (Anderson and Sassaman 1996). Changes in technology, population demography, and diversity in social organization characterize this era. The growth of subregional traditions is indicated in the archaeological record by the appearance of a range of notched and/or stemmed hafted biface types across the Southeast, such as the Big Sandy, Kirk Stemmed, Kirk Serrated, and the Stanly Stemmed (Sassaman et al. 1990).

During the Early Archaic period (ca. 8000-6000 BC), a dramatic increase in population, based on the identification of a larger number of archaeological sites dating to the period, resulted in decreased group mobility and exploitation of a wider range of food resources. The larger variety of Early Archaic tools suggests that more specialized tasks were undertaken as sites were occupied for longer periods. The population was likely organized into small bands of 25-50 individuals that coalesced at specific times of the year to more efficiently exploit seasonal resources and take advantage of the benefits provided by a wider social network. Populations were more sedentary, setting up base camps in river valleys, and smaller, specialized camps in the surrounding area. Early Archaic components are recognized at archaeological sites by the presence of a series of

bifaces from the side and corner-notched traditions, as well as other specialized tools (Anderson and Hanson 1988; Chapman 1975, 1985). In Tennessee, Big Sandy, Eva, Palmer, Kirk Serrated and Kirk Side Notched projectile point types are diagnostic of the Early Archaic (Cambron and Hulse 1986; Franklin 2017; Justice 1987).

The beginning of the Middle Archaic period (ca. 6000-3000 BC) is correlated with the onset of a period of climatic warming and drying known as the Middle Holocene Hypsithermal (Delcourt 1979). During the Middle Archaic, human populations increased and sites became larger and more widely distributed. Sites were still occupied on a temporary basis by mobile bands that were hunting, collecting, and foraging using an exploitive strategy referred to as “adaptive flexibility” by Blanton and Sassaman (1989). Artifacts associated with the Middle Archaic include groundstone items such as atlatl weights, notched netsinkers, and ground axes (Chapman 1985). Projectile point types diagnostic of the Middle Archaic include Eva, Morrow Mountain, Guilford, and Sykes-White Springs (Justice 1987).

The Late Archaic period (ca. 3000-1000 BC) roughly corresponds to a time when warm and dry conditions associated with the Hypsithermal began to moderate, so that by the end of the Late Archaic, conditions had assumed the characteristics of the present-day climate. Many important cultural developments took place during the Late Archaic, which saw populations across the Americas increase at a rapid pace, as evidenced by larger and more numerous sites. Some of the most important cultural developments from this time include the introduction of stone bowls of steatite and sandstone, as well as pottery vessels for use in food preparation, the first instances of plant cultivation, mound building, and the establishment of long-distance trade networks (Bense 1994). It was around 1300 BC that fiber-tempered Wheeler pottery appeared in the Tennessee Valley, coinciding with the beginning of the Middle Gulf Formational (Bense 1994:93; Jackson et al. 2002:239). Late Archaic lithic technology remained basically unchanged from the Middle Archaic. Projectile points were somewhat smaller than those from earlier times, but the basic triangular point and stemmed base form such as the Kays and Savannah River points remained unchanged (Bense 1994; Justice 1987). According to the site file search from the TDOA, no sites with an Archaic component have been previously recorded within 1 mi. (1.6 km) of the APE.

Woodland Period (ca. 1,000 BC-AD 1,000)

The widespread adoption of ceramic technology marks the beginning of the Woodland period, although the date of demarcation is somewhat arbitrary between the Woodland and Terminal Archaic period. The shift from Archaic to Woodland is also marked by the development of numerous distinctive traditions and independent communities across the Southeast. The Woodland period in southeastern Tennessee can be arbitrarily divided into Early Woodland, ca. 900 BC to 400 BC; Middle Woodland, ca. 400 BC to AD 700; and Late Woodland, ca. AD 700 to 1000 (Chapman

1985). Increased social complexity is reflected in widespread Woodland characteristics, such as an increase in long distance trade, changes in ceramic technology, the development of sedentary village life, and the cultivation of domestic plants. Few changes in lithic technology, settlement, or subsistence have been identified during the Late Archaic through Early Woodland periods. Culturally diagnostic artifacts from these periods include the Mud Creek and Flint Creek projectile point types. The transition from Late Archaic to the Early Woodland is characterized by the addition of ceramics to the Late Archaic assemblage and a change toward increased floodplain horticulture (Chapman 1985).

The earliest Early Woodland phase recorded in the region is the Watts Bar Phase, which is recognized by quartz tempered, fabric impressed pottery and Adena-like stemmed and Wade corner-notched projectile points. After about 400 BC, the Long Branch phase is recognized, and is distinguished by limestone tempered, fabric-marked ceramics and the appearance of stemless projectile points (Kimball 1985).

The Middle Woodland in the eastern region of Tennessee can be discussed in terms of two horizons, the Patrick and Ice House Bottom Phases (Kimball 1985). The early Middle Woodland Patrick Phase dates from ca. 200 BC to AD 400, and is characterized by limestone tempered ceramics exhibiting plain, fabric marked, check stamped, and simple stamped surface treatments (Kimball 1985; Faulkner and McCollough 1973). The projectile point types associated with the early Middle Woodland include the Middle Woodland Triangular cluster. The late Middle Woodland Ice House Bottom Phase dates from ca. AD 400 to 700. The relative percentage of limestone tempered fabric marked ceramics decreases, while cord marked ceramics increase correspondingly (Kimball 1985). Projectile point types associated with this period include Lanceolate Expanding Stemmed, and Lanceolate Spike cluster.

The Late Woodland period dates from approximately AD 700 to 1100. The ceramic assemblage for the Late Woodland consists of limestone-tempered plain (Mulberry Creek Plain), cord marked (Candy Creek Cordmarked), and limestone-tempered brushed (Flint River Brushed) (Lewis and Kneberg 1946). Incurvate base Hamilton projectile points, Jacks Reef corner notched, and Jacks Reef pentagonal projectile points are the primary diagnostic lithic artifacts of this period. Woodland burial mounds of the Hamilton culture are known throughout eastern Tennessee. Multiple Hamilton Focus mounds were excavated at the McDonald site (40RH7) in neighboring Rhea County (Schroedl 1973). According to the site file search from the TDOA, no sites with a Woodland component have been previously recorded within 1 mi. (1.6 km) of the APE.

Mississippian Period (ca. AD 1,000-1,650)

A major cultural shift occurred in southeastern North America approximately 1,100-1,000 years ago. Intensive maize agriculture, settlement in the floodplains of rivers, the appearance of

shell-tempered pottery, rectangular wall-trench structures, pyramidal earthen mounds, and the circulation of well-crafted prestige objects are characteristic of what archaeologists refer to as Mississippian culture. Mississippian groups had a distinctive, non-egalitarian form of socio-political organization: the chiefdom. According to Fried (1967:109), ranked societies have differential access to positions of elevated status. For Mississippian societies, chiefly positions of elevated status were typically inherited within a single group of elites. The existence of elevated social statuses are evident in the presence of platform mounds, upon which chiefly elites resided, conducted religious rituals, and were sometimes buried. These chiefdom societies expanded across the Southeast during the Mississippian period and developed a complicated network of villages and mound centers (Hally and Rudolph 1995). Although many mound centers and sites of this period shared a characteristic suite of traits and organizational strategies, there was also a great deal of diversity among Mississippian societies (Anderson and Sassaman 2012).

Mississippian settlements tend to be located on the boundary zone between two ecotones and on the floodplain terraces of major rivers, which allowed their residents to take advantage of multiple diverse natural resources. Riverine environments allowed the Mississippians to utilize arable soils for the cultivation of maize, squash, and bean crops, and there were ample foraging and hunting opportunities at the outskirts of settlements (Bense 1994). Mississippian settlements appear to have been erratic and unstable; populations appear to quickly rise at and around prominent mound centers only to diminish or disperse within a century or two. Such declines may relate to local environmental resource depletion or an inherent instability in chiefdom socio-political organization (Anderson and Sassaman 2012).

The Mississippian period in southeastern Tennessee began circa AD 1000 and continued until 1600 in east Tennessee (Chapman 1985). In East Tennessee, the earliest evidence of Mississippian culture has been defined as the emergent Martin Farm phase, from approximately AD 900 to 1000, based on excavations at the Martin Farm site (40MR20). Martin Farm settlements consisted of a small settlement usually less than two hectares. Small platform mounds upon which were built community buildings and a village plaza were the focal points for individual rectangular houses surrounding these features (Chapman 1985). The Hiwassee Island culture, from ca. AD 1000 to 1300, and Dallas culture, from ca. AD 1300 to 1500, respectively, represent early and late Mississippian cultures in the region (Bense 1994). According to the site file search from the TDOA, no sites with a Mississippian component have previously been recorded within 1 mi. (1.6 km) of the APE.

HISTORIC OVERVIEW

European Contact to Colonialism (ca. 1540-1770)

Whereas little is known about the Protohistoric period in eastern Tennessee, the beginning of this period in the Southeast is generally marked by the de Soto Entrada in 1540. De Soto's expedition began in the vicinity of Tampa Bay, Florida in 1539, and moved northward through Florida. The expedition would eventually traverse through the Piedmont of South Carolina, the mountains of North Carolina and eastern Tennessee, and through northern Georgia, where it is believed to have followed the Coosawattee, Oostanaula, and Coosa Rivers before crossing into Alabama (Duncan 1995). The protohistoric chiefdoms acted as a supply line for de Soto's movement through the Southeast, where the expedition purposely searched for large population centers to furnish them with food, information, and enslaved people (Walthall 1980:251). From these initial interactions with the earliest European explorers, the Native American population drastically declined as epidemics fueled by diseases such as smallpox, mumps, measles, and the flu were introduced to an isolated group with no natural immunity to these pathogens (Bense 1994:257; Smith 2001). The Cherokee maintained villages along the Tennessee River in Marion County through the early 1800s (Beene 2017).

In 1789, American Revolutionary War Colonel James Brown traveled up the Tennessee River with his family to settle lands in Middle Tennessee that he was gifted for his role in the war. The traveling party was overtaken by Native Americans for trespassing on Cherokee lands, and the women and children were captured. The Colonel's son escaped captivity and later led a raiding party to Nickajack in 1794 that destroyed the Cherokee towns of Nickajack, Running Water, and Long Island. By the end of the eighteenth century, the Cherokee settlements around Nickajack had signed a treaty with white settlers that allowed them to settle and travel through the lower part of the Sequatchie Valley, where Marion County is located. Marion County was established in 1817, and the county seat of Jasper was established in 1819 (Beene 2017).

Nineteenth Century

Due to its proximity to Chattanooga, Marion County was heavily involved in the American Civil War (1861-1865). Chattanooga was a major supply point to the South, and Union forces sought to close that supply line by capturing the city. Following the successful Tullahoma Campaign in Middle Tennessee, Union General William Rosecrans chased the Confederate forces, led by Confederate General Braxton Bragg, all the way to Chattanooga in the summer of 1863. Rosecrans easily captured Chattanooga from the decimated Confederate force and established a Union stronghold in the city. Rosecrans divided his forces around Chattanooga to defend the city and push the Confederate Army further into Georgia. During this maneuver, Rosecrans believed Bragg had retreated further south to Rome, Georgia, but his Union forces unexpectedly encountered Bragg's men on the banks of Chickamauga Creek, which led to one of the bloodiest battles of the Civil War.

Over 30,000 men died in the Battle of Chickamauga; even though more Confederate soldiers fell during the assault, the Confederate Army was successful in repelling Rosecran's forces back into Chattanooga. Although the Battle of Chickamauga was technically a success for the Confederates, the decimation of Bragg's forces in northern Georgia ultimately led to the Union's successful capture of Chattanooga. The Battle of Wauhatchie and the establishment of a supply route, called the "Cracker Line," at Brown's Ferry aided the success of the Chattanooga Campaign in late 1863. This allowed the Union to cut off supplies to the South through Chattanooga, which was a major turning point in the Civil War (ABT 2022a; ABT 2022b; ABT 2022c; ABT 2022d; Scaife n.d.). The Chickamauga and Chattanooga National Military Park was established in 1890 to preserve the two associated battlefields, and in 2003, the Moccasin Bend National Archaeological District was created to protect the region's complex, layered history from the Paleoindian period to the Civil War (NPS 2017). The entire state of Tennessee was established by Congress as a Civil War National Heritage Area in 1996 (NPS 2019). The Chattanooga portion of the National Military Park, located primarily on Lookout Mountain, is located approximately 18 km (11.1 mi.) east of the APE.

Twentieth and Twenty-First Century

During the Reconstruction period in Marion County, mining and related industries were established in South Pittsburg (Beene 2017). The city was planned by a civil engineer as an industrial company town to service the various foundries being built in the vicinity (NRHP 1990). Joseph Lodge moved to South Pittsburg in 1877, and in 1896 he founded the Blacklock Foundry, which manufactured cast iron cookware. After a fire in 1910, the company rebranded as the Lodge Cast Iron company, and they are still in operation in South Pittsburg (Lodge Cast Iron 2022). Lodge is the primary manufacturing employer in Marion County. Shaw Flooring, one of the largest carpet manufacturers in the world, is also a major employer in the area (TDECD 2013). Marion County is located on the northern edge of the West Georgia Textile Heritage Trail (WGTHT), which extends down the Tennessee/Georgia state line from Dade County, Georgia to Muscogee County, Georgia. The Heritage Trail encompasses a corridor of textile production that has occurred in the region since the mid-nineteenth century (WGTHT 2022). South Pittsburg is located 16.1 km (10 mi.) southwest of the APE on the western edge of the Sequatchie Valley. The surrounding landscape is comprised of various manufacturing plants, in addition to agricultural cropland and large swaths of mountainous forests. The APE and the surrounding area are located in the floodplain and river terraces of the Tennessee and Sequatchie Rivers, with Anderson Ridge and its toeslopes immediately to the east. The area is primarily croplands, with some residential development. According to the site file search from the TDOA, there are no previously recorded sites with a Historic component within 1 mi. (1.6 km) of the APE.

Background Research

EP conducted a review of recorded archaeological sites within 1 mi. (1.6 km) of the APE through the TDOA Site File Map Viewer. Based on this review, no previously recorded sites or previously conducted surveys are located within the search radius. EP requested the previous sites and surveys data through the TDOA Site File Document Request Form on February 17, 2025 and received the data from the TDOA on February 18, 2025 (**Figure 2.5**).

Survey Expectations

East Tennessee has been occupied in varying degrees from the Paleoindian period through the modern day. Based on previous research from the region and localized landforms, there is some possibility for prehistoric sites within the APE. Due to the location of the APE near the Tennessee and Sequatchie Rivers, older prehistoric deposits, if present, are likely very deeply buried in alluvium deposits. Historic background research indicates that settlement of the area began in the early nineteenth century, and archaeological sites dating to this period and later are possible. However, the APE and its immediate vicinity have been subjected to decades of agriculture and residential development, in addition to the construction of the Interstate and local roads that cross the survey area. This level of disturbance is unlikely to retain any stratigraphic integrity. Surface features for historic sites are more likely, given the long historic occupation of the Sequatchie Valley, and research indicates that historic sites are often found along existing or former transportation corridors (Adams et al. 2011).

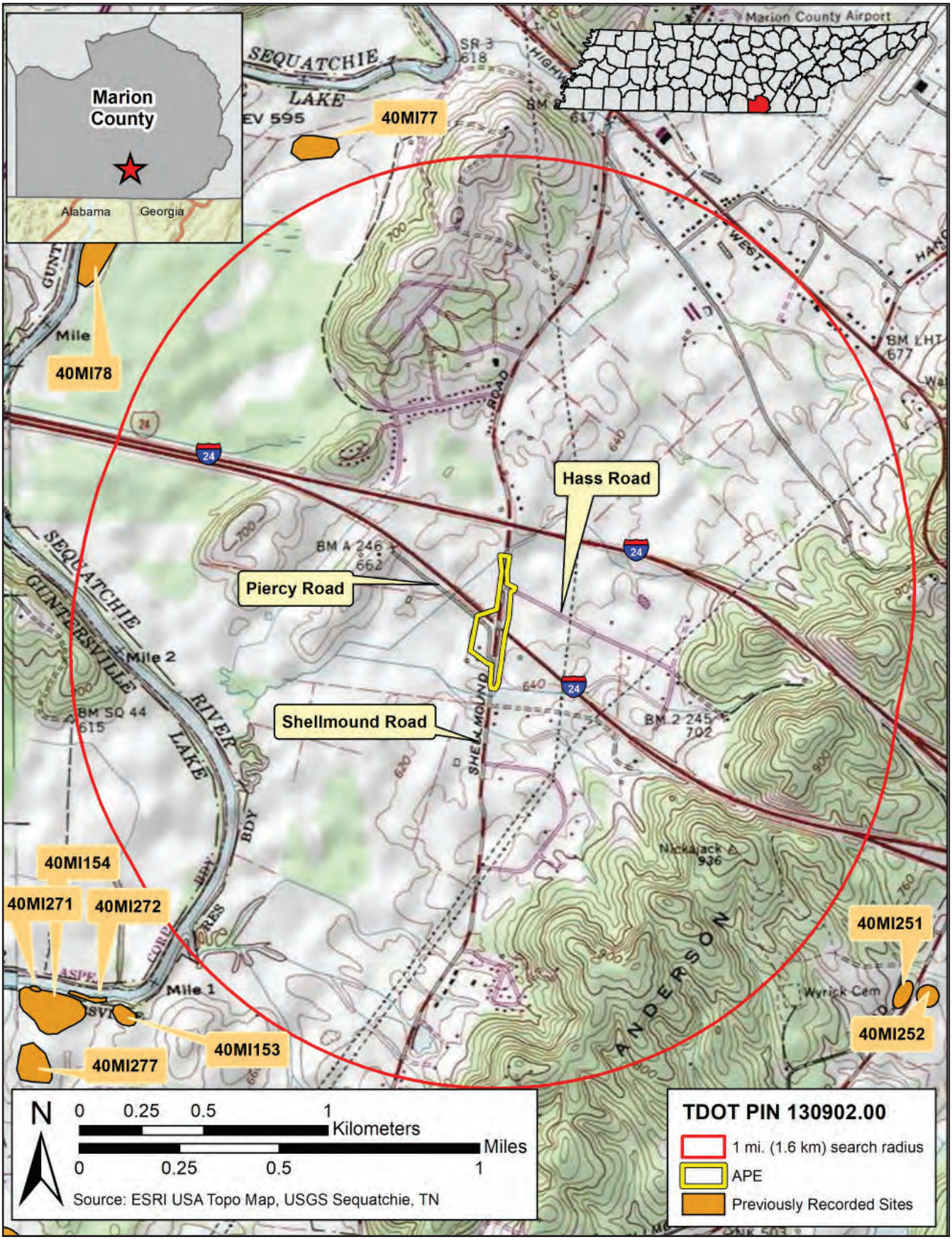

Figure 2.5. Previously recorded sites and previously conducted surveys within 1 mi. (1.6 km) of the APE.

CHAPTER 3: METHODOLOGY

Literature and Records Search

Prior to fieldwork, an archaeological permit was acquired from the TDOA and background research was conducted by electronic request at the TDOA in Nashville. A request for site file documentation from TDOA was made on February 17, 2025, and EP received files back from TDOA on February 18, 2025. This research sought information on previous cultural resource studies in the region and archaeological sites and projects recorded within a 1 mi. (1.61 km) radius of the APE. Research was also conducted online at the Nationwide Environmental Title Research (NETR) and the United States Geological Survey (USGS) Historical Topographic Maps websites. These sources were consulted to provide data relevant to the history of Marion County and the vicinity of the APE. Historic maps (e.g., topographic maps, soil maps, and aerial photographs) were examined, when available, in order to provide data pertaining to changes in the natural and built landscape of the APE. The research was used in the preparation of the cultural context (see Chapter 2) and guided the fieldwork design.

Archaeological Field Survey

The archaeological survey was completed in accordance with the Scope of Work for Consultant Implemented Phase I Archaeological Assessments (TDOT 2021). Survey for this project utilized visual inspection and systematic shovel testing to locate, map, and investigate archaeological sites. Standards and terminology for archaeological survey were conducted in accordance with the Scope of Work for Consultant Implemented Phase I Archaeological Assessments (TDOT 2021), the Tennessee SHPO Standards and Guidelines for Archaeological Resource Management Studies (SHPO 2024), and the Secretary of the Interior's Standards and Guidelines (Federal Register 48[190]:44734-44737).

Throughout the APE, shovel tests were excavated at 20 m (65.6 ft.) intervals along transects spaced 20 m (65.6 ft.) part. All shovel tests were at least 30 cm (11.8 in.) wide and were excavated to sterile clay subsoil or the water table. Shovel tests were not excavated in areas with standing water, pavement, or excessive slope. Excavated soil was screened with 0.64 cm (0.25 in.) hardware cloth to look for the presence of artifacts. For all excavations, soil colors, textures, and stratigraphic depths were recorded, and any soil disturbances were noted. Surface exposures were examined and photographed when present.

Curation

Project materials are temporarily held at the EP offices in Atlanta, Georgia, during preparation of the Phase I report. All project records, field notes, and photographs will be transferred to TDOT following completion of the project under the accession number 25.009.

CHAPTER 4: SURVEY RESULTS

Field Survey Results

The Phase I archaeological survey for the proposed Shellmound Road bridge replacement over Interstate (I-) 24 Eastbound (EB) in Marion County, Tennessee, was conducted by EP on March 24, 2025. Existing conditions within the APE consist primarily of residential lawns and agricultural fields, in addition to the transportation corridors (**Figure 4.1**). Shovel tests were plotted along nine transects at 20 m (65.6 ft.) intervals for a total of 111 shovel tests (**Figure 4.2a** and **4.2b**). Out of those shovel tests, 102 were negative for cultural material, and nine were not excavated due to buildings, pavement, and inundation. The conditions that prevented the excavation of shovel tests were photographed and recorded in field notes. No cultural material was encountered during the survey.

Conditions within the APE varied: the southwestern potion of the APE consisted of a homestead with multiple residential buildings, an associated barn, and a grassy agricultural field, the northern portion of the APE consisted of the Shellmound Road embankment and slope down to residential lawns and grassy agricultural fields, and the southeastern portion of the APE consisted of maintained lawns associated with residential homes and a rock-lined and flooded drainage

Figure 4.1. ROW context within the APE, facing south/southwest.

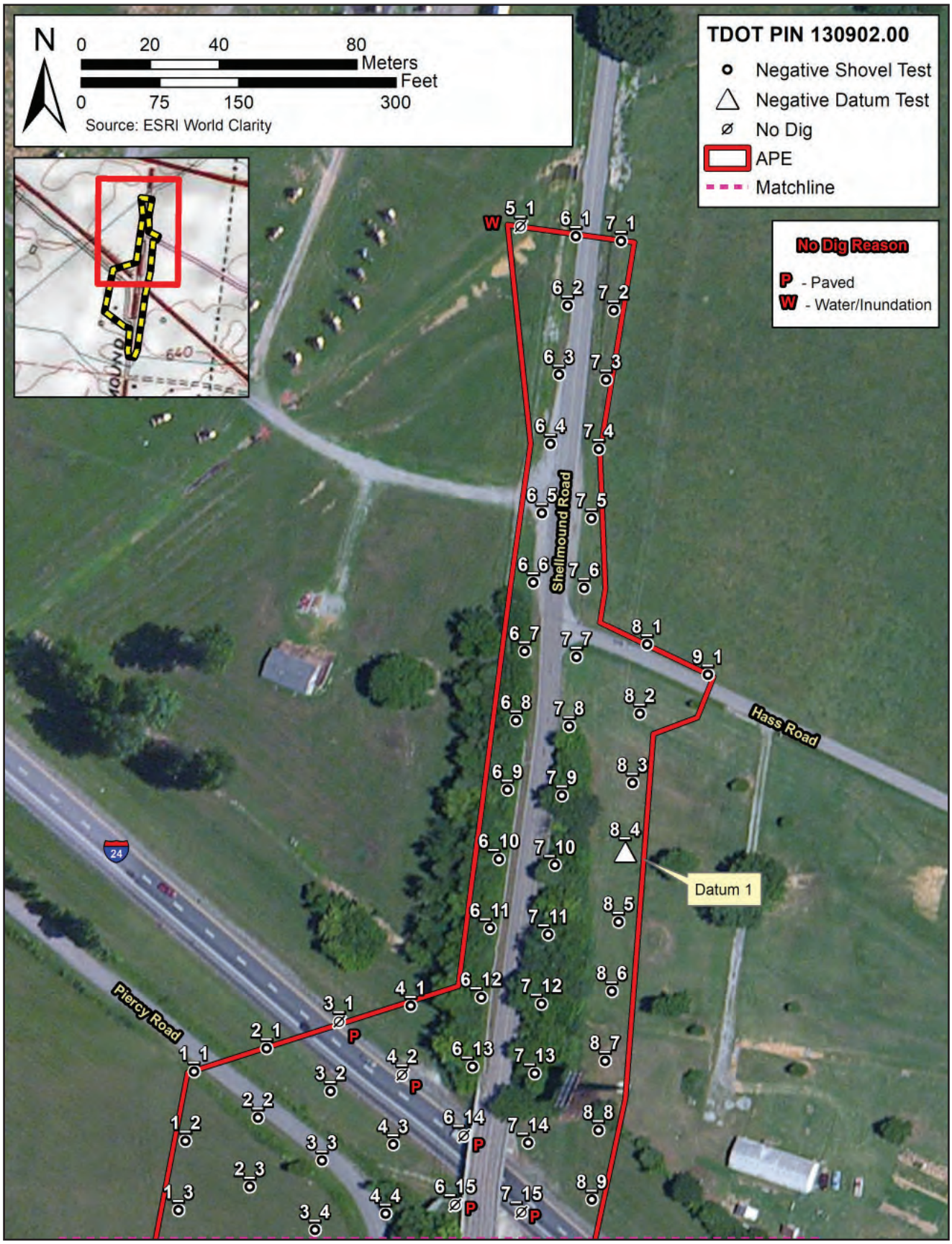

Figure 4.2a. Shovel test results.

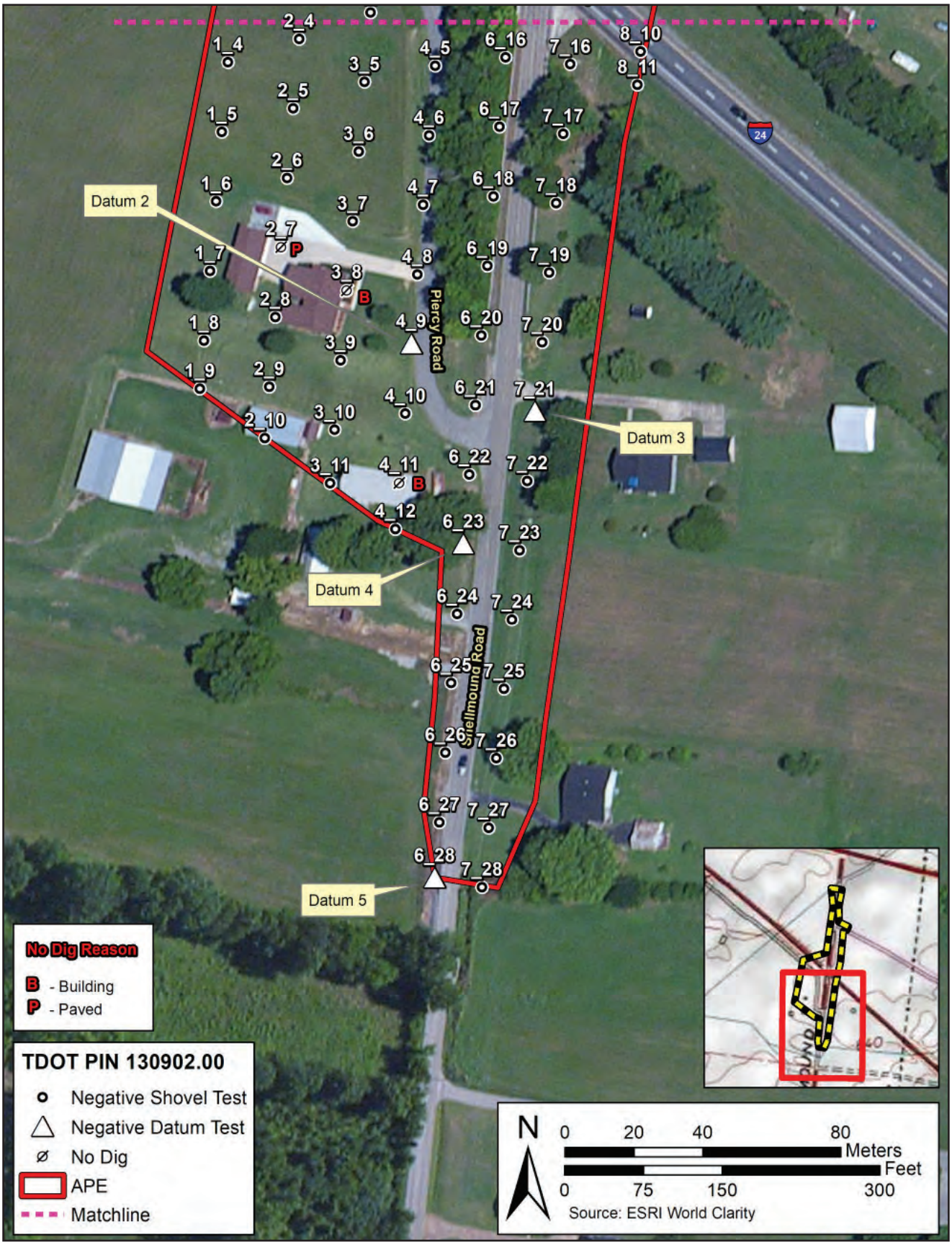

Figure 4.2b. Shovel test results.

system at the very southeastern extent of the APE. The center of the APE consisted of paved roadways, Shellmound Road, and I-24.

Ground surface visibility ranged from 0-10% across the APE. Vegetation within the APE included mowed grass and planted hardwoods within the ROW, as well as short grass in the pastures and fallow agricultural fields.

The APE contained several different soil types. One datum shovel test was excavated for each soil type, with locations selected based on the potential to encounter native soils with the least amount of disturbance from residential and commercial development. The largest percentage of soils within the APE belonged to the Capshaw (Cb) series represented by Datum 1 (ST 8-4), which consisted of a dark yellowish brown (10YR 4/4) silty loam from approximately 0-20 centimeters below surface (cmbs) (0-7.9 inches below surface [inbs.]) and a yellowish brown (10YR 5/6) silty clay from approximately 20-45 cmbs (7.9-17.7 inbs.) (**Figures 4.3 and 4.4**). Within the Emory silt loam (Ea) series (ST 4-9, Datum 2), shovel tests consisted of dark brown (7.5YR 3/2) gravelly clay from approximately 0-10 cmbs (0-3.9 inbs), underlain by a brownish yellow (10YR 6/6) clay mottled with a reddish brown (5YR 4/4) silty clay from approximately 10-40 cmbs (3.9-15.8 inbs) (**Figures 4.5 and 4.6**).

Datum 3 (ST7-21) fell within the Etowah silty clay loam (Ec) soil series, which consisted of dark reddish brown (7.5YR 3/2) silty clay from approximately 0-25 cmbs (0-9.8 inbs) underlain by a yellowish red (5YR 4/6) clay from approximately 25-40 cmbs (9.8-15.8 inbs) (**Figures 4.7 and 4.8**). Adjacent to the Ec series lies the Etowah silty clay loam (Eb) soil series, where Datum 4 (ST6-23) consisted of dark brown (7.5YR 3/2) silty loam from approximately 0-15 cmbs (0-5.9 inbs), dark yellowish brown (10YR 4/6) loamy clay from approximately 15-20 cmbs (5.9-7.9 inbs), underlain by yellowish red (5YR 4/6) loamy clay subsoil from approximately 20-35 cmbs (7.9-13.8 inbs) (**Figures 4.9 and 4.10**). Datum 5 (ST6-28) represented the second largest percentage of soils within the APE, consisting of the Lindside (La) silt loam. Shovel tests within this series were comprised of dark reddish brown (5YR 3/3) silty clay from approximately 0-25 cmbs (0-9.8 inbs) underlain by yellowish red (5YR 4/6) clay subsoil from approximately 25-40 cmbs (9.8-15.8 inbs) (**Figures 4.11 and 4.12**).

Figure 4.3. Photograph of shovel test 8-4 (Datum 1).

0-20 cmbs	dark yellowish brown 10YR 4/4 silty loam
20-45 cmbs	yellowish brown 10YR 5/6 silty clay

Figure 4.4. Soil profile of shovel test 8-4 (Datum 1).

Figure 4.5. Photograph of shovel test 4-9 (Datum 2).

0-10 cmbs	dark brown 7.5YR 3/2 gravelly clay
10-40 cmbs	brownish yellow 10YR 6/6 clay with reddish brown 5YR 4/4 silty clay inclusions

Figure 4.6. Soil profile of shovel test 4-9 (Datum 2).

Figure 4.7. Photograph of shovel test 7-21 (Datum 3).

0-25 cmbs	dark reddish brown 7.5YR 3/2 silty clay
25-40 cmbs	yellowish red 5YR 4/6 clay

Figure 4.8. Soil profile of shovel test 7-21 (Datum 3).

Figure 4.9. Photograph of shovel test 6-23 (Datum 4).

0-15 cmbs	dark brown 7.5YR 3/2 silty loam
15-20 cmbs	dark yellowish brown 10YR 4/6 loamy clay
20-35 cmbs	yellowish red 5YR 4/6 loamy clay

Figure 4.10. Soil profile of shovel test 6-23 (Datum 4).

Figure 4.11. Photograph of shovel test 6-28 (Datum 5).

0-25 cmbs	dark reddish brown 5YR 3/3 silty clay
25-40 cmbs	yellowish red 5YR 4/6 clay

Figure 4.12. Soil profile of shovel test 6-28 (Datum 5).

CHAPTER 5: SUMMARY AND RECOMMENDATIONS

EP's Phase I archaeological survey for the proposed bridge replacement over I-24 along Shellmound Road in Marion County, Tennessee (TDOT PIN 130902.00), was completed in March 2025 under the TDOA Permit No. 001635. The survey included the visual inspection of the entire APE, as well as systematic shovel testing at 20 m (65.6 ft.) intervals; no cultural material was recovered as a result of this work. Should the project be changed to include areas beyond the limits of the current APE, additional archaeological fieldwork may be necessary. No further archaeological work within the APE is recommended at this time.

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APPENDIX A: TENNESSEE DIVISION OF ARCHAEOLOGY PERMIT

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF ARCHAEOLOGY
Cole Building #3, 1216 Foster Avenue
NASHVILLE, TN 37243
(615) 741-1588

ARCHAEOLOGICAL PERMIT

NO. 001635

IN ACCORDANCE WITH THE PROVISIONS OF TENNESSEE CODE ANNOTATED SECTION 11-6-101 ET SEQ. PERMISSION IS HEREBY GRANTED TO:

SARA MACKENZIE PARKIN

REPRESENTING:

EDWARDS-PITMAN, INC.

FOR ARCHAEOLOGICAL INVESTIGATION ON THE FOLLOWING DESIGNATED STATE-OWNED OR CONTROLLED LANDS:

PHASE I ARCHAEOLOGICAL SURVEY OF THE I-24 BRIDGE REPLACEMENT OVER SHELLMOUND ROAD, MARION COUNTY

IN ACCORDANCE WITH THE APPLICATION FILED FEBRUARY 17, 2025 IN THE OFFICE OF THE DIVISION OF ARCHAEOLOGY AND IN CONFORMITY WITH THE DATA SUBMITTED THEREIN WHICH IS CONSIDERED AS A PART OF THIS PERMIT.

ISSUED THIS 25TH DAY OF FEBRUARY 2025

TO EXPIRE THE 25TH DAY OF FEBRUARY 2026

ADDITIONAL TERMS TO PERMIT APPLICATION: ARTIFACTUAL REMAINS AND PROJECT RECORDS ARE THE PROPERTY OF THE STATE OF TENNESSEE. THIS PERMIT IS SUBJECT TO PERIODIC REVIEW AND/OR CANCELLATION BY THE DIVISION OF ARCHAEOLOGY SHOULD CONDITIONS WARRANT SAME.

Phillip R. Hodges
DIRECTOR/STATE ARCHAEOLOGIST

_____
APPLICANT

CN-0939

Native American Consultation (NAC)

Environmental Study

Technical Section

Section: Native American Coordination

Study Results

An invitation to participate in the Section 106 process was sent on January 30, 2025 to all federally recognized Native American tribes with interests in the subject county: Absentee-Shawnee Tribe of Indians in Oklahoma, Cherokee Nation, Eastern Band of Cherokee Indians, Eastern Shawnee Tribe of Oklahoma, Jena Band of Choctaw Indians, Kialegee Tribal Town, Poarch Band of Creeks, Shawnee Tribe, The Muscogee (Creek) Nation, Thlopthlocco Tribal Town, and United Keetoowah Band of Cherokee Indians in Oklahoma.

On February 19, 2025, the Shawnee Tribe responded and concurred that no known properties of significance will be negatively impacted by this project. The Shawnee Tribe requested to be contacted in the event of an inadvertent archaeological finding.

On March 7, 2025, the Cherokee Nation responded with a finding of no impacts to Cherokee cultural resources. The Cherokee Nation requested to be contacted in the event of an inadvertent archaeological finding.

On March 26, 2025, the Eastern Shawnee Tribe responded with a finding of “no adverse effect.” The Eastern Shawnee Tribe requested to be contacted in the event of an inadvertent archaeological finding.

To date, no other responses have been received. In accordance with Section 106 regulations, tribes must be provided a reasonable opportunity to comment on the proposed undertaking. TDOT Cultural Resources staff will document all additional requests for information, comments, or additional communications with recognized tribes on this undertaking. TDOT will re-initiate consultation if additional cultural resources studies are required or if archaeological materials or human remains are discovered during construction.

Commitments

Did the study of this project result in any environmental commitments? **No**

Additional Information

Is there any additional information or material included with this study? **No**

Certification

Responder: Lauren Le Pere

Title: Native American Coordination

Signature: Lauren Le Pere

Digitally signed by Lauren Le Pere
Date: 2025.06.11 13:48:08 -05'00'

Hazardous Materials

Environmental Study

Technical Section

Section: Hazardous Materials

Study Results

Based on the Line and Grade Plans dated 21 May 2025, no known hazardous materials sites affect this project as it is currently planned, and no additional hazardous material studies are recommended at this time. The asbestos bridge survey has been completed, no asbestos was detected, and project commitment EDHZ001 has been submitted in Project Notes. In the event hazardous materials or wastes are encountered within the right-of-way, notification shall be made per TDOT Standard Specifications for Road and Bridge Construction (January 1, 2021) Section 107.08.C. Disposition of hazardous materials or wastes shall be subject to all applicable Federal, State, and local regulations, including the applicable sections of the Federal Resource Conservation and Recovery Act, as amended; the Comprehensive Environmental Response, Compensation, and Liability Act, as amended; and the Tennessee Hazardous Waste Management Act of 1983, as amended. Databases reviewed include Google Earth imagery, EPA National Priorities List, EPA EnviroMapper (Envirofacts), TDEC Registered Underground Storage Tanks Public Data Viewer and Data and Reports, TDEC Division of Water Resources Public Data Viewer and Oil and Gas Wells database, TDEC Division of Remediation Sites Public Data Viewer, TDOT Integrated Bridge Information System, and others, as necessary.

Commitments

Did the study of this project result in any environmental commitments? **Yes**

EDHZ001. An Asbestos Containing Material (ACM) survey was completed on Bridge No. 58I00240039 Shellmound Road over I-24 EB LM 1.36 (58-02161-01.36). No ACM was detected. Please see the report for further details and photographs. No special accommodations for demolition and waste disposal are anticipated for these structures and the material can be deposited in a C&D landfill. Prior to the demolition or rehabilitation of any structure (bridge or building), the contractor is required to submit the National Emission Standards for Hazardous Air Pollutants standard 10-day notice of demolition to the TDEC Division of Air Pollution Control (per TDOT Standard Specifications for Road and Bridge Construction (January 1, 2021) Sections 107.08.D and 202.03).

Additional Information

Is there any additional information or material included with this study? **No**

Certification

Responder: Kyle Kirschenmann

Title: Statewide Technical Specialist

Signature: Digitally signed by Kyle Kirschenmann
Date: 2025.06.02 07:45:40 -04'00'

Multimodal

Environmental Study

Technical Section

Section: Multimodal

Study Results

Multimodal Access Policy exception (VII.Procedures.B.3) given.

Commitments

Did the study of this project result in any environmental commitments? **No**

Additional Information

Is there any additional information or material included with this study? **No**

Certification

Responder: Katie Brown

Title: Team Lead

Signature: Katie Brown Digitally signed by Katie Brown Date: 2025.08.21 09:26:24 -05'00'

TN TDOT Department of Transportation **DEPARTMENTAL POLICY** **State of Tennessee** **Department of Transportation**	**Policy Number: 530-01**
	Effective Date: **July 31, 2015**
Approved By:	**Supersedes:** **December 1, 2010**
SUBJECT: Multimodal Access Policy	

I. RESPONSIBLE OFFICE: Multimodal Transportation Resources Division

II. AUTHORITY: T.C.A. 4-3-2303. If any portion of this policy conflicts with applicable state or federal laws or regulations, that portion shall be considered void. The remainder of this policy shall not be affected thereby and shall remain in full force and effect.

III. PURPOSE: To create and implement a multimodal transportation policy that encourages safe access and mobility for users of all ages and abilities through the planning, design, construction, maintenance, and operation of new construction, reconstruction and retrofit transportation facilities that are federally or state funded. Users include, but are not limited to, motorists, transit-riders, freight-carriers, bicyclists and pedestrians.

IV. APPLICATION: All Tennessee Department of Transportation (TDOT) employees, consultants and contractors involved in the planning, design, construction, maintenance, and operation of state and federally funded projects, and local governments managing and maintaining transportation projects with funding through TDOT's Local Programs Development Office.

V. DEFINITIONS:

a. Highway: A main road or thoroughfare, such as a street, boulevard, or parkway, available to the public for use for travel or transportation
b. Multimodal: For the purposes of this policy, multimodal is defined as the movement of people and goods on state and functionally-classified roadways. Users include, but are not limited to, motorists, transit-riders, freight-carriers, bicyclists and pedestrians, including those with disabilities.
c. Reconstruction: Complete removal and replacement of the pavement structure or the addition of new continuous traffic lanes on an existing roadway.
d. Retrofit: Changes to an existing highway within the general right-of-way, such as adding lanes, modifying horizontal and vertical alignments, structure rehabilitation, safety improvements, and maintenance.
e. Roadway: The portion of a highway, including shoulders, that is available for vehicular, bicycle or pedestrian use.

VI. POLICY: The Department of Transportation recognizes the benefits of integrating multimodal facilities into the transportation system as a means to improve the mobility, access and safety of all users. The intent of this policy is to promote the inclusion of multimodal accommodations in all transportation planning and project development activities at the local, regional and statewide levels, and to develop a comprehensive, integrated, and connected multimodal transportation network. TDOT will collaborate with local government agencies and regional planning agencies through established transportation planning processes to ensure that multimodal accommodations are addressed throughout the planning, design, construction, maintenance, and operation of new construction, reconstruction and retrofit transportation facilities as outlined in TDOT's Multimodal Access Policy Implementation Plan.

VII. PROCEDURES:

A. TDOT is committed to the development of a transportation system that improves conditions for multimodal transportation users through the following actions:

1. Provisions for multimodal transportation shall be given full consideration in new construction, reconstruction and retrofit roadway projects through design features appropriate for the context and function of the transportation facility.

2. The planning, design and construction of new facilities shall give full consideration to likely future demand for multimodal facilities and not preclude the provision of future improvements. If all feasible roadway alternatives have been explored and suitable multimodal facilities cannot be provided within the existing or proposed right of way due to environmental constraints, an alternate route that provides continuity and enhances the safety and accessibility of multimodal travel should be considered.

3. Multimodal provisions on existing roadways shall not be made more difficult or impossible by roadway improvements or routine maintenance projects.

4. Intersections and interchanges shall be designed (where appropriate based on context) to accommodate the mobility of bicyclists and pedestrians to cross corridors as well as travel along them in a manner that is safe, accessible, and convenient.

5. While it is not the intent of resurfacing projects to expand existing facilities, opportunities to provide or enhance bicycle and pedestrian facilities shall be given full consideration during the program development stage of resurfacing projects.

6. Pedestrian facilities shall be designed and built to accommodate persons with disabilities in accordance with the access standards required by the Americans with Disabilities Act (ADA). Sidewalks, shared use paths, street crossings

(including over- and under-crossings) and other infrastructure shall be constructed so that all pedestrians, including those with disabilities, can travel independently.

7. Provisions for transit riders, pedestrians, and bicyclists shall be included when closing roads, bridges or sidewalks for construction projects where pedestrian, bicycle, or transit traffic is documented or expected.

B. It is TDOT's expectation that full consideration of multimodal access will be integrated in all appropriate new construction, reconstruction and retrofit infrastructure projects. However, there are conditions where it is generally inappropriate to provide multimodal facilities. Examples of these conditions include, but are not limited to:

1. Controlled access facilities where non-motorized users are prohibited from using the roadway. In this instance, a greater effort may be necessary to accommodate these users elsewhere within the same transportation corridor.

2. The cost of accommodations would be excessively disproportionate to the need and probable use. Excessively disproportionate is defined as exceeding twenty percent (20%) of the cost of the project. The twenty percent figure should be used in an advisory rather than an absolute sense, especially in instances where the cost may be difficult to quantify. Compliance with ADA requirements may require greater than 20% of project cost to accommodate multimodal access. Costs associated with ADA requirements are NOT an exception.

3. Areas in which the population and employment densities or level of transit service around the facility, both existing and future, does not justify the incorporation of multimodal alternatives.

4. Inability to negotiate and enter into an agreement with a local government to assume the operational and maintenance responsibility of the facility.

5. Other factors where there is a demonstrated absence of need or prudence, or as requested by the Commissioner of the Department of Transportation.

C. Exceptions for not accommodating multimodal transportation users on State roadway projects in accordance with this policy shall be documented describing the basis and supporting data for the exception, and must be approved by TDOT's Chief Engineer and Chief of Environment or their designees.

D. The Department recognizes that a well-planned and designed transportation network is responsive to its context and meets the needs of its users. Therefore, facilities will be designed and constructed in accordance with current applicable laws and regulations, using best practices and guidance, including but not limited to the following: TDOT Standard Drawings and guidelines, American Association of State Highway and Transportation Officials (AASHTO) publications, Institute of

Transportation Engineers (ITE) publications, the Manual of Uniform Traffic Control Devices (MUTCD), National Association of City Transportation Officials (NACTO) publications, the Public Rights-of-Ways Accessibility Guidelines (PROWAG), and the Americans with Disabilities Act Accessibility Guidelines (ADAAG).

Project Commitments

COMMITMENTS

Commitment	Type	Status	Commitment To	Created By	Created On	Plans Report	LT Maint Commit
EDEC001	Environment	Active	USFWS	James Quilliams (JJ10040)	07/01/2025	☑	☐

COMMITMENT DETAILS

SOURCE DIVISION
Environmental Division, Ecology

CONSIDERATION MADE ON
06/25/2025

STATION/LOCATION
Marion Co., Shellmound Rd. LM 1.29 to LM 1.47

GPS
35.042953, -85.603159

DESCRIPTION
All tree clearing activities will take place between November 16th and March 31st.

Items per page: 10

1 – 1 of 1

Quality Assurance Review

Project Information

Route:	Shellmound Road
Termini:	Bridge over I-24 Eastbound
County:	Marion
PIN:	130902.00
Preparer:	Rachel Head

Certification

By signing below, you certify that this document has been reviewed for compliance with all applicable environmental laws, regulations and procedures. The document has been evaluated for quality, accuracy, and completeness, and that all source material has been verified, compiled and included in the attachments and technical appendices.

Reviewer:	Erick Hunt-Hawkins	**Signature:**	Erick Hunt-Hawkins Digitally signed by Erick Hunt-Hawkins Date: 2025.08.29 12:56:19 -05'00'
Title:	NEPA Team Lead	**Comment:**	No commets. Doc approved.
Reviewer:	Enter Reviewer Name	**Signature:**	
Title:	Enter Reviewer Title	**Comment:**	Enter Comment
Reviewer:	Enter Reviewer Name	**Signature:**	
Title:	Enter Reviewer Title	**Comment:**	Enter Comment
Reviewer:	Enter Reviewer Name	**Signature:**	
Title:	Enter Reviewer Title	**Comment:**	Enter Comment
Reviewer:	Enter Reviewer Name	**Signature:**	
Title:	Enter Reviewer Title	**Comment:**	Enter Comment