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.

			Gen	eral Proj	ect Informat	tion				
Project Name	Bridge over	Lost Creek								
PIN	134879.00									
Route Information	Route	NHS (Y/N)	Functional Class				City		Coun	ty
	SR-180	No		Rural Majo	r Collector	N	lutbush		Haywo	bod
Project Information	Begin Lo Mile	og End Mi		AADT ¹	Design Hour Vol. (DHV) ¹	Truck % ¹	Design Speed (MPH)	Posted Speed (MPH)	Base Year	Design Year
	4.75			1,180	142	3.00	50	45	2029	2049
Project Description & Standard Drawings Used	The proposed bridge is to be a 100' single span bridge. The typical section for the approach and bridge will be 2-10' foot travel lanes with 4' shoulders. The out-to-out width based on the above recommendations will be 29'3". The proposed grade and vertical clearance will be raised 1'. A detour is recommended. The state route detour is 42 minutes (32.1miles) the local route detour is 12 minutes (7.4 miles). Superstructure depth is 67.51" = 54" (beam) + 10" (deck) + 3.51" (width (in inches) x0.02/2).									
lmportant Project History or Related Projects	The existing structure is a 5 span timber bridge, 95' long with an out-to-out width of 25'. The existing structure has 2-9' travel lanes with minimal to no shoulders. The listed weight limit on the inspection report is 40 tons 8/22/2023 The discharges for the drainage basin (StreamStats Version 4.19.4) for drainage area of 5.33 square miles: Q10 is 1860 cfs, Q50 is 2550 cfs, and Q100 is 2830 cfs.							Project Details		
Project Purpose/Need	This project is not expected to utilize federal funding. The need to replace this bridge is due to the present condition of the existing bridge: -Built in 1961 -Timber bridges are being phased out and is near the end of it's service life -Current typical section does not meet TDOT standards -The bridge is in POOR condition							Proje		
Major Environmental Considerations	Historic Pre Ecology: Wa	y: A survey v servation: A ater resourc project ren	surve es like	y will be rec ly within pro		produced (unless there	e is a fede	ral	

Multi-Modal Considerations	This project is in a rural area with a proposed 2-lane bridge width of less than 44 ft where the cost of dedicated multimodal accommodations is excessively disproportionate to the need and probable use. Excessively disproportionate is defined as exceeding 20 percent of the cost of the project.	
	Approx. 0.94 acres of ROW to be acquired under the detour option and 3.86 acres for the realignment option. Power, Telecom, and Gas Utilities are present.	
Major Project Risks	This bridge replacement should be coordinated with the replacements at L.M. 4.57.	
	This document is covered by 23 USC § 407 and its production pursuant to fulfilling public planning requirements does not waive the provisions of § 407.	

¹ Traffic numbers reflect identified design year

Approvals

Executed for approval of this Concept Report

David Duncan (Nov 25, 2024 14:12

David Duncan (Nov 25, 2024 14:12 CST)

Engineering Concepts and Statewide Programs Director

Date

The following individuals to execute if a bridge concept report:

J

Structures Director

Regional Project Management Director

11/25/2024

11/25/2024

11/26/2024

Date

		Action Checklist	
0SD1 Init	iate (Concept Report and Request Funding	
Complete	NA		Date Completed
√		Request and Finalize Safety Data	04/05/2024
1		Request Project Number, PIN, and Task Profile Numbers	01/22/2024
	1	Coordinate with Long Range Planning	
1		Request and Finalize Traffic Data	02/21/2024
	✓	Request Preliminary Survey Data	
	1	Initiate Division Reviews	
	✓	Schedule Site Review (with appropriate Divisions)	
0EN1 Con	duct	Environmental Desktop Review	
Complete	NA		Date Completed
√		Confirm Environmental Desktop Review is Complete	10/17/2024
0MM1 Co	nduc	t Multimodal Review	
Complete	NA		Date Completed
	1	Confirm Multimodal Review is Complete	
	1	Review Multimodal Considerations & Recommendations	
0TO1 Con	duct	Initial Traffic Ops/TSMO Review (include HQ Traffic Ops and Regional Traffic Office)	
Complete	NA		Date Completed
	1	Confirm Transportation Systems Management & Operations (TSMO) Alignment & Operations Review is Complete	
	✓	Request Concept Report Review	
0ST1 Dev	elop	Structures Recommendations	
Complete	NA		Date Completed
√		Confirm Recommended Structure Type for Concept Report is Complete	08/12/2024
√		Confirm Hydraulic Recommendations for Concept Report is Complete	08/12/2024
OSY1 Prov	vide I	Preliminary Survey Data	
Complete	NA		Date Completed
	1	Confirm Control Ground Survey Set	
	1	Review Preliminary Survey Data	
	1	Determine Time to Complete the Aerial Survey	
0GT1 Con	duct	Preliminary Geotechnical Assessment	
Complete	NA		Date Completed
	✓	Confirm Geotechnical Division Review is Complete	
0RD1 Pro	vide	Roadway Desktop Review	
Complete	NA		Date Completed
		Confirm Roadway Division Review is Complete	

		Action Checklist	
	elop	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	
	✓	Compile Initial Divisional Reviews for Site Visit	
	✓	Prepare & Send Site Visit Packet	
	✓	Lead Site Visit	
	~	Initiate Interstate Access Requests (IAR) Concept Coordination with FHWA (if applicable)	
1		Develop, Compile, and Distribute the Draft Concept Report	10/02/2024
0TO2 Dev	elop	TSMO Scope Items (include HQ Traffic Ops and Regional Traffic Office)	
Complete	NA		Date Completed
	1	Confirm Signal Warrants Analysis is Complete	
	✓	Confirm Lighting Warrants Analysis is Complete	
	1	Review and Confirm TSMO & ITS Scope and Budget	
0RW1 Cor	nple	te Preliminary Right-of-Way Estimates	
Complete	NA		Date Completed
	1	Review and Confirm Preliminary Right-of-Way Cost Estimates	
0UT1 Con	nplet	e Utility Preliminary Estimates	
Complete	NA		Date Completed
✓		Review and Confirm Preliminary Utility Estimate	10/17/2024
	✓	Review and Confirm Preliminary Railroad Cost Estimate	
0SD3 Fina	alize (Concept Report	
Complete	NA		Date Completed
	✓	Compile and Review Initial Risk Assessment	
✓		Finalize Conceptual Layouts	11/21/2024
✓		Develop Environmental Technical Study Area (ETSA)	10/02/2024
✓		Address Comments and Finalize Concept Report	11/21/2024
	~	Address Comments and Finalize Interstate Access Requests (IAR) Document and Memo (if applicable)	
	1	Develop Roadway Safety Audit (RSA) No Plans Document	
√		Submit the final Concept Report for Review and Signatures (as needed; see 0SD3 for additional information)	11/21/2024
√		Finalize Document and Upload All Needed Electronic Files	12/2/2024
1		Notify the Project Management Director or Assigned Project Manager to Set Up Project (1PM1)	12/2/2024

NA Justification

Coordinate with Long Range Planning-Long Range Planning coordination not needed for STID BCR document

Request Preliminary Survey Data- survey data not needed for STID BCR document

Schedule a site visit-site visit not required

0MM1 Conduct Multimodal Review- multimodal coordination not required

0SY1 Provide Preliminary Survey Data- survey data not needed for STID BCR document

0GT1 Conduct Preliminary Geotechnical Assessment- geotechnical data not received for STID BCR document

0SD2 Develop Draft Concept Report-no site visit was held for this bridge and no interchange or signal warrants were required 0TO2 Develop TSMO Scope Items-no signals or lighting needed within project limits

0RW1 Complete Preliminary Right-of-Way Estimates-ROW estimate calculated in cost estimate

0UT1 Complete Utility Preliminary Estimates-utility cost calculated in cost estimate

Compile and Review Initial Risk Assessment-Risk Assessment not needed for STID BCR document

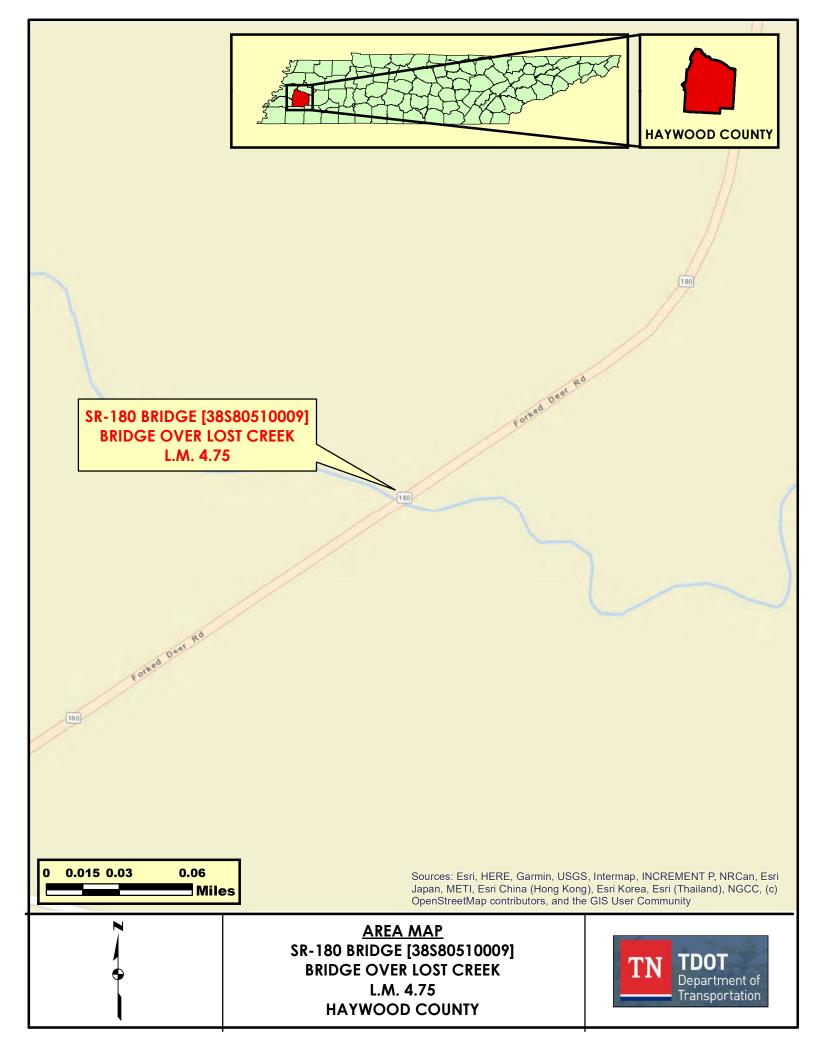
Address Comments and Finalize Interstate Access Requests (IAR) Document and Memo (if applicable)-no interstate within project limits

Develop Roadway Safety Audit (RSA) No Plans Document- no plans document not needed for STID BCR document

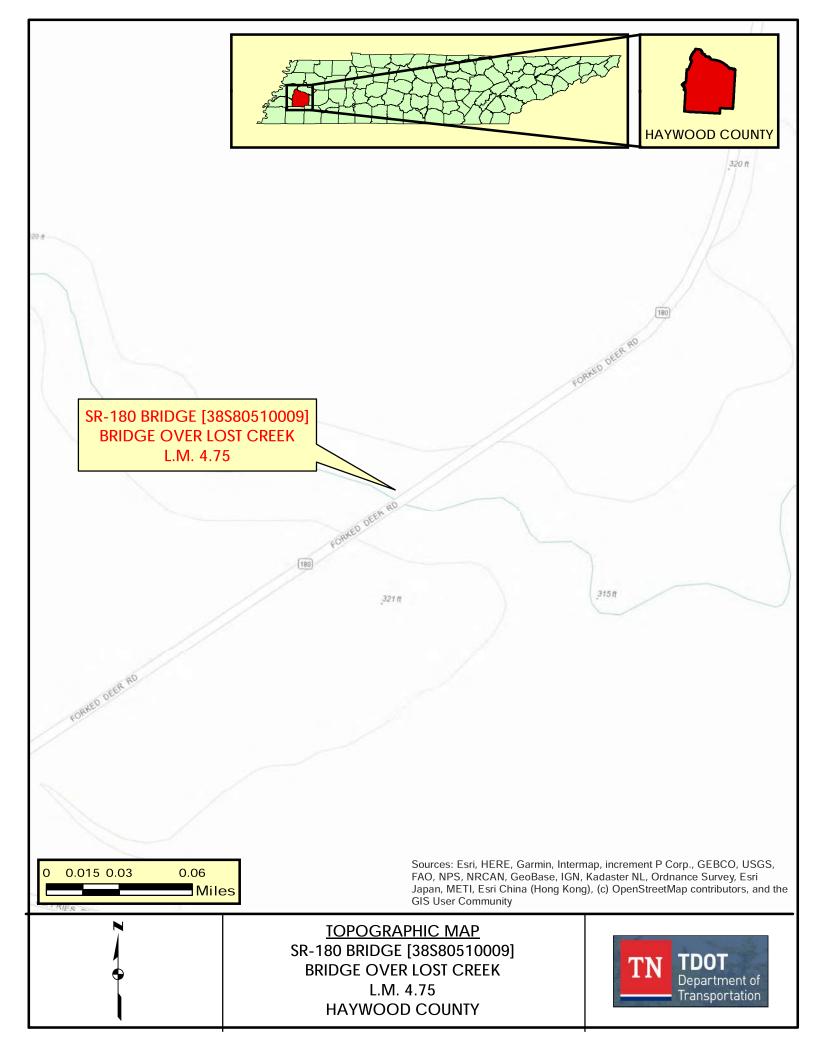
	Included	NA
One-Page Summary (with project location map)	√	
Conceptual Layout(s) and Cross Section	✓	
Environmental Technical Study Area (ETSA) Layout	✓	
Concept Cost Estimate (Construction Year Estimate)	✓	
TSMO & ITS Scope and Budget ¹		1
ROW Form 44-A ¹		1
Crash Packet ¹	✓	
Crash Prediction Analysis ¹		1
Site Visit Attendee List		1
Environmental Desktop Review Form ¹		
Multimodal Considerations & Recommendations ¹		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		1
Traffic Analysis Summary/Tables	✓	
Forecasted Traffic Sheets ¹	✓	
Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output) ¹		1
Signal Warrant ¹		1
Lighting Warrant ¹		1
Initial Risk Assessment using the Risk Assessment Form		1
Final Interstate Access Request (IAR) Document and Memo with Letter from STID Director		1
Road Safety Audit (RSA) No Plans ¹		1
NA Justification	·	

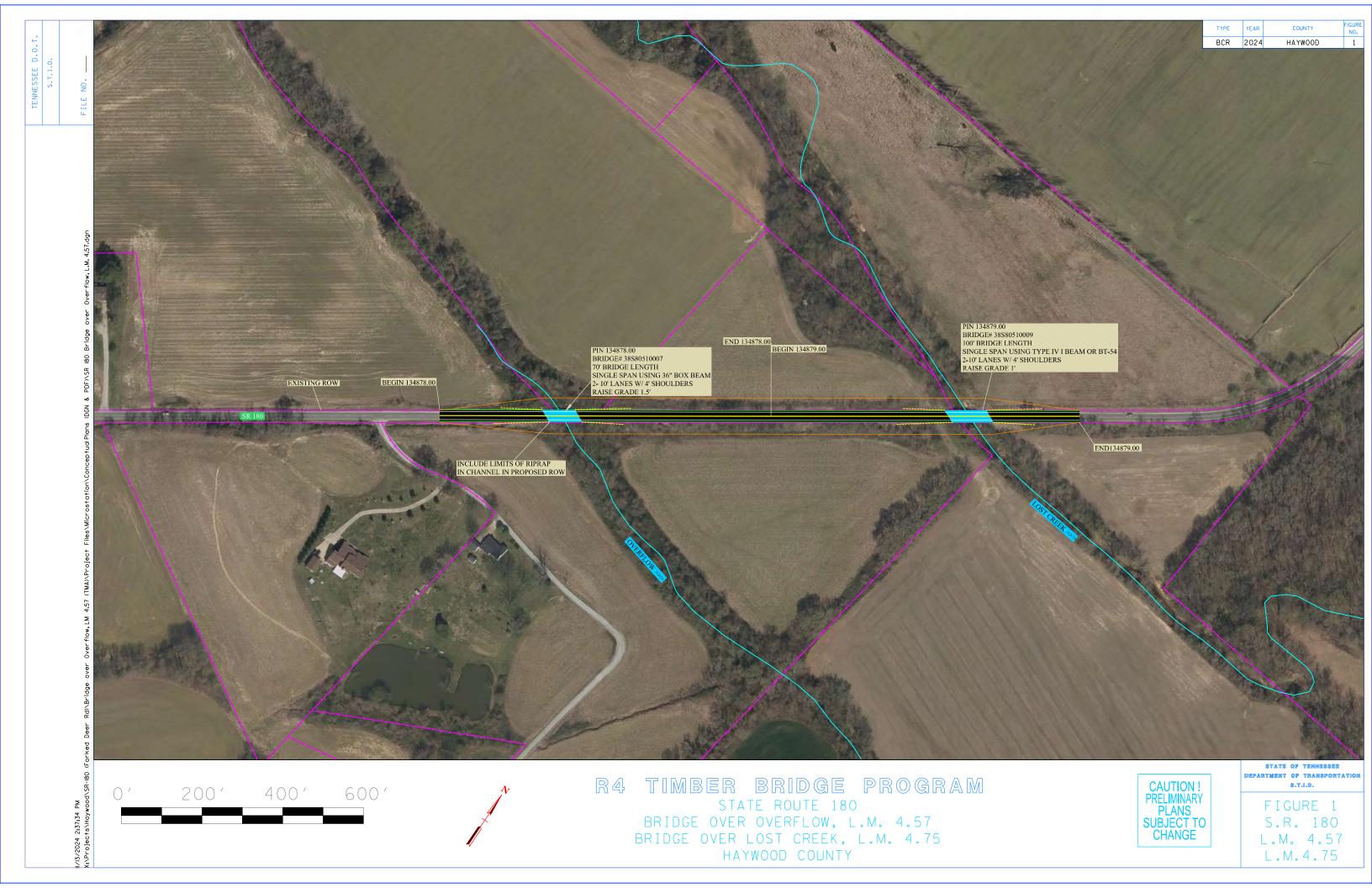
List-no site visit was held; Multimodal Considerations & Recommendation-no multimodal coordination; Intersection and Interchange Evaluation (IIE) Analysis and Summary Form- AADT is too low for IIE Analysis Traffic Modeling (e.g., Synchro, VISSIM, Highway Capacity Software (HCS) Output)- AADT too low to model Signal Warrant-no signals warranted within project limits; Lighting Warrant-no lighting warranted within project limits Initial Risk Assessment using the Risk Assessment Form-Risk Assessment not needed for STID BCR document Final IAR Document and Memo with Letter from STID Director-no interstate access within project limits Road Safety Audit (RSA) No Plans-RSA no plans document not needed for STID BTIR document

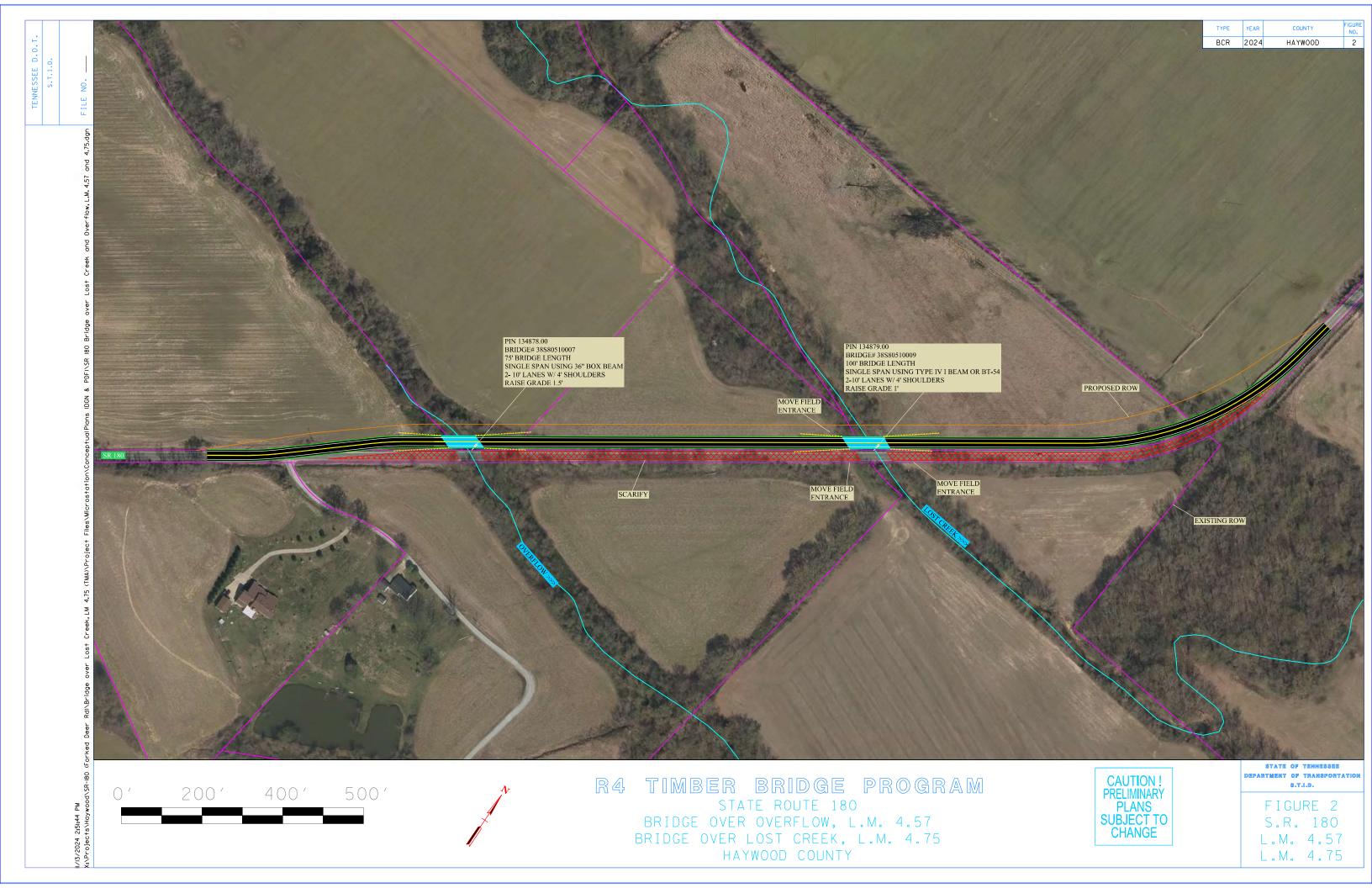
¹ External document to STID

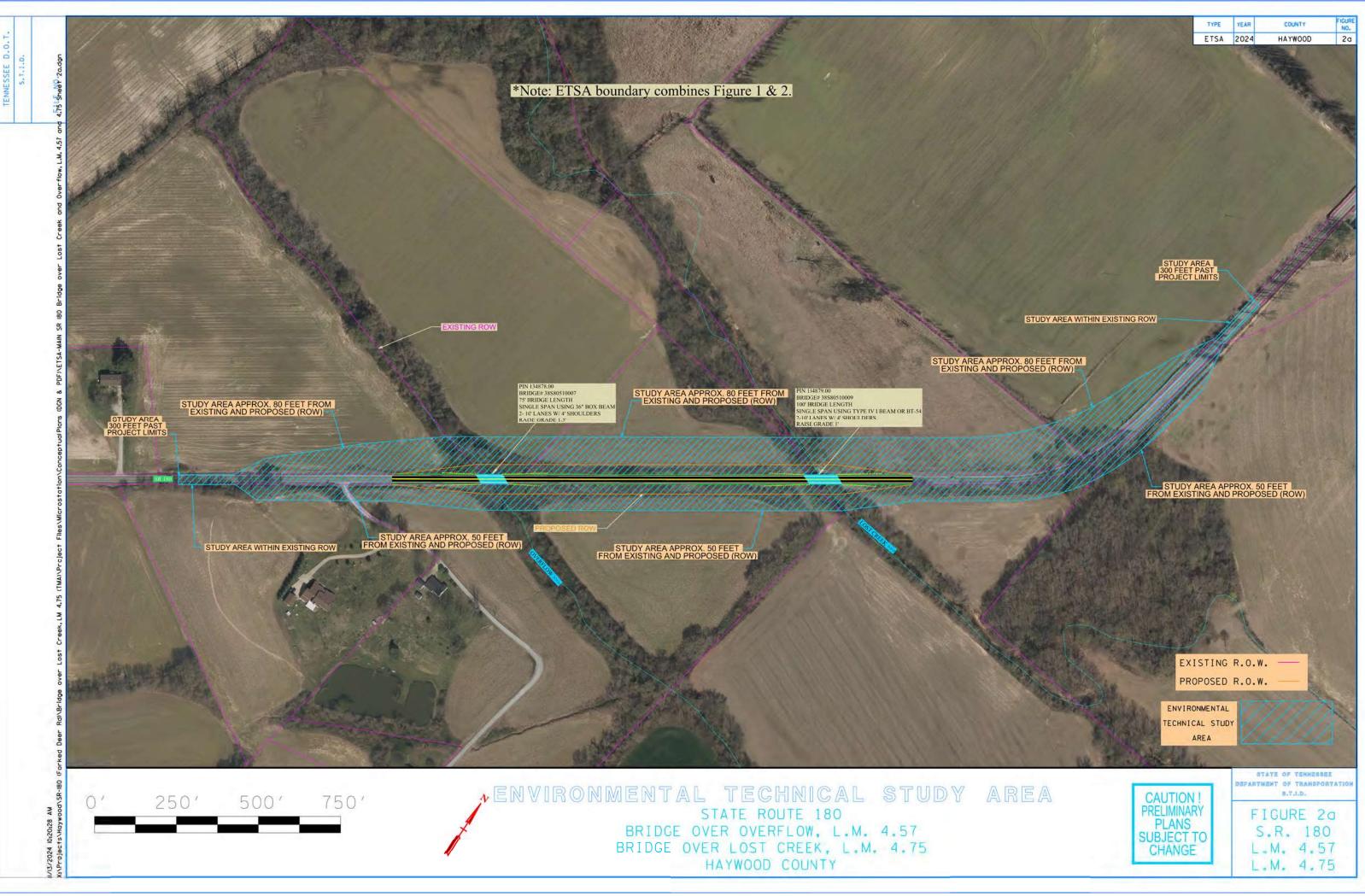


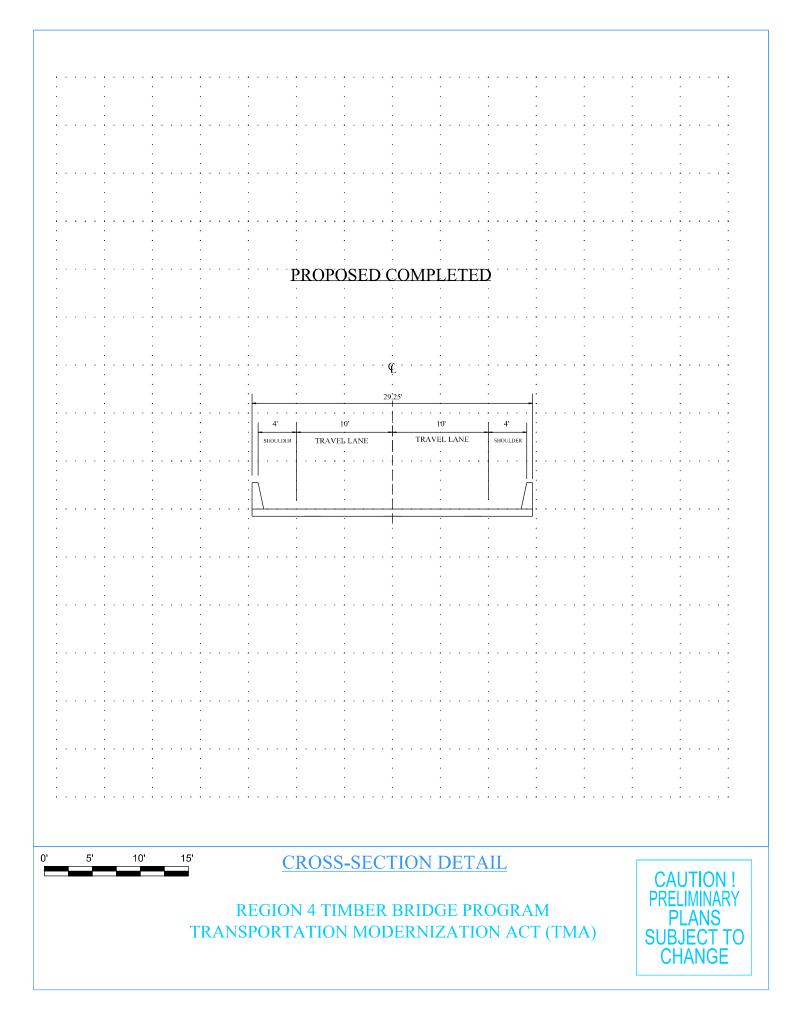




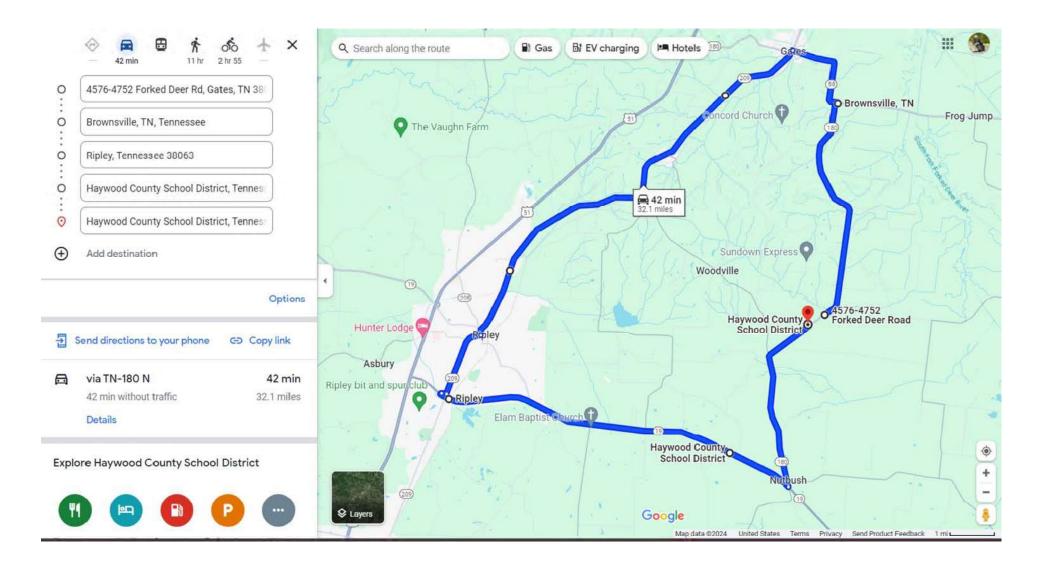




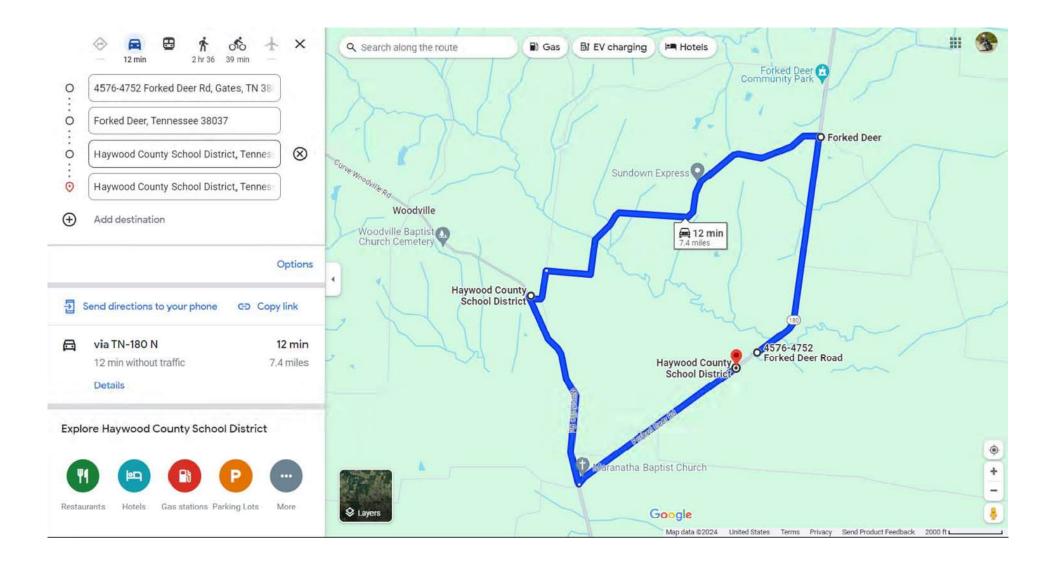




DETOUR MAP - STATE ROUTE



DETOUR MAP - LOCAL ROUTE



Haywood Co SR180 - Bridge over Overflow

Created on April 4, 2024 Created by JOSHUA CLOUD Data extents: March 28, 2021 to March 28, 2024



Applied Filters		
County = Haywood Shape: Polygon		
â		
	© Mapbox © Op	enStreetMap
Total Crashes 2 Fatal Crashes		0
Summary		Crash
Total Crashes	2	100.00%
+ 5 more	0	0%
Type of Crash		Crash
(B) Suspected Minor Injury	1	50.00%
(O) Property-Damage Only	1	50.00%
+ 3 more	0	0%
Date of Crash (Year)		Crash
2023	1	50.00%
2021	1	50.00%
+ 9 more	0	0%
		Crash
Manner of First Collision		
Manner of First Collision No Collision W/ Vehicle	2	100.00%

First Harmful Event		Crash
Ditch	1	50.00%
Earth Embankment	1	50.00%
+ 63 more	0	0%
Crash Location		Crash
Along Roadway	2	100.00%
+ 6 more	0	0%
Light Conditions		Crash
Dark-Not Lighted	1	50.00%
Daylight	1	50.00%
+ 6 more	0	0%
Weather Conditions		Crash
Clear	2	100.00%
+ 11 more	0	0%



Asset **#38S80510009**(Routine) **Region:** 04, **County:** 38 - Haywood **Team Lead:** Jason Ellison, **Inspection Date:** 08/22/2023



Latitude:35.75331, Longitude:-89.39081 Region 04, 38 - Haywood County Team Leader: Jason Ellison Inspectors: Tonjuanita James, Stuart Wood, Nathan Bedford, Shayne Hayes, Ty Patrick





Span 1







Spall steel slab F span 2



Typical span 1 slab B



Asset **#38S80510009**(Routine) **Region:** 04, **County:** 38 - Haywood **Team Lead:** Jason Ellison, **Inspection Date:** 08/22/2023



Span #5 PCCS "E" spall to steel



Span #5 PCCS "B" spall to steel





Span #5 PCCS "A" spall to steel



Bottom deck span #3





Right elevation



Span #4 PCCS "B" spall to steel





Bottom deck span #4



Span #3 PCCS "B" spall to steel





Approach 1 weight limit sign



Approach 2 weight limit sign





Approach 2 right embankment washing



Right side downstream





Left side upstream



Approach 2 asphalt





Approach 1 asphalt



Bent 4 pile f crack 1/4" wide





Bent 4 pile C decayed



Abutment 2





Rear side bent 1



Front side bent 1





Abutment 1



Approach 2 weight limit sign





Opposite direction of route



End of span 4 right side curb spalled





Span 3 view across top deck



Span 2 top deck spalled





Approach 1 weight limit sign



Direction of route





View across deck span 1



Left elevation





Bent 3 pile D splintered area



Bent 3 pile C decayed to a 1.5" shell





Bent 3 pile A decayed area

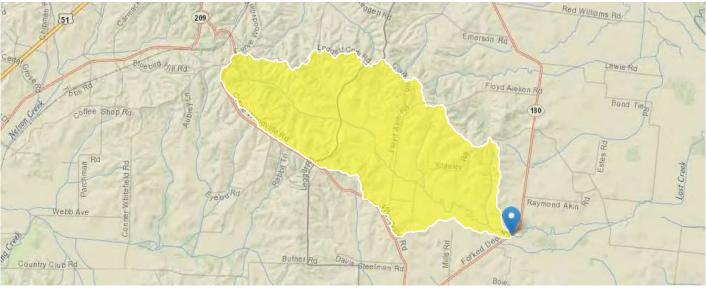


Bent 2 pile B decayed to a 1" shell

PRODUCED PURSUANT TO PUBLIC RECORDS REQUEST This document is covered by 23 USC §407 And its production pursuant to a public Document records request does not Waive the provisions of §407

Haywood Co SR180 - Bridge over Lost Creek (LM 4.75)

Region ID: TN Workspace ID: TN20240409154010670000 Clicked Point (Latitude, Longitude): 35.75334, -89.39060 Time: 2024-04-09 10:40:33 -0500



🗄 Collapse All

> Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CONTDA	Area that contributes flow to a point on a stream	5.33	square miles
DRNAREA	Area that drains to a point on a stream	5.33	square miles

> Peak-Flow Statistics

Peak-Flow Statistics Parameters [DAOnly Area 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CONTDA	Contributing Drainage Area	5.33	square miles	0.76	2308

Peak-Flow Statistics Flow Report [DAOnly Area 4]

PIL: Lower 90% Prediction Interval, PIU: Upper 90% Prediction Interval, ASEp: Average Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PIL	PIU	SE	ASEp	Equiv. Yrs.
50-percent AEP flood	1050	ft^3/s	560	1970	38.7	38.7	1.8
20-percent AEP flood	1540	ft^3/s	839	2830	37.2	37.2	2.4
10-percent AEP flood	1860	ft^3/s	1000	3450	38	38	3.1
4-percent AEP flood	2260	ft^3/s	1180	4330	40.1	40.1	3.8
2-percent AEP flood	2550	ft^3/s	1290	5050	42.2	42.2	4.2
1-percent AEP flood	2830	ft^3/s	1380	5810	44.7	44.7	4.4
0.2-percent AEP flood	3490	ft^3/s	1550	7860	51.1	51.1	4.7

Law, G.S., and Tasker G.D.,2003, Flood-Frequency Prediction Methods for Unregulated Streams of Tennessee, 2000: U.S. Geological Survey Water-Resources Investigations Report 03-4176, 79p. (http://pubs.usgs.gov/wri/wri034176/)

> Maximum Probable Flood Statistics

Maximum Probable Flood Statistics Parameters [Crippen Bue Region 3]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit			
DRNAREA	Drainage Area	5.33	square miles	0.1	10000			
Maximum Probable Flood Statistics Flow Report [Crippen Bue Region 3]								
Maximum Probable Flo	od Statistics Flow Report	Crippen Bue R	egion 3]					
Maximum Probable Flo Statistic	od Statistics Flow Report (Crippen Bue R	egion 3]	Value	Unit			

Maximum Probable Flood Statistics Citations

Crippen, J.R. and Bue, Conrad D.1977, Maximum Floodflows in the Conterminous United States, Geological Survey Water-Supply Paper 1887, 52p. (https://pubs.usgs.gov/wsp/1887/report.pdf)

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

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USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.19.4 StreamStats Services Version: 1.2.22 NSS Services Version: 2.2.1

TENNESSEE DEPARTMENT OF TRANSPORTATION STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

PROJECT NO .:	38S180-S1-006		ROUTE:	S.R. 180	
COUNTY:	HAYWOOD		CITY:		
PROJECT PIN N	UMBER: <u>134879.00</u>		-		
PROJECT DESC	RIPTION: BRIDGE	OVER LOST CREE	EK @ L.M. 4	4.75	
DIVISION RI	EQUESTING:				
	•		PAVEME	NT DESIGN	
MAINTENANO	CE		STRUCTU	JRES	
S.T.I.D.		\boxtimes	SURVEY	& ROADWAY DESIGN	
PROG. DEVEL	OPMENT & ADM.		TRAFFIC	SIGNAL DESIGN	
PUBLIC TRAN	S. & AERO.		OTHER		

TRAFFIC ASSIGNMENT:

PROJECTED LETTING DATE: 2029

YEAR PROJECT PROGRAMMED FOR CONSTRUCTION: 2029

BASE YEAR		DESIGN YEAR					DESIGN ROADWAY % TRUCKS		DESIGN AVERAGE DAILY LOADS	
AADT	YEAR	AADT	DHV	%	YEAR	DIR.DIST.	DHV	AADT	FLEX	RIGID
820	2029	1,180	142	12	2049	65-35	3	4		

REQUESTED BY:	NAME	CALEB SMITH	DATE	2/15/24
	DIVISION	S.T.I.D.		
	ADDRESS	1000 J. K. POLK BUILDING		
		NASHVILLE TN 37243		

REVIEWED BY:	RANDY BOGUSKIE	Randy Boguskie	DATE	2/22/2024
	TRANSPORTATION M	IANAGER I		
	SUITE 1000, JAMES K.	POLK BUILDING		

APPROVED BY:	TONY ARMSTRONG	Tony Armstron	ig	DATE	2/22/2024
	TRANSPORTATION MAI	NAGER 2	0	-	
	SUITE 1000, JAMES K. PO	OLK BUILDING			

COMMENTS:

FURNISH THE 2029-2049 TRAFFIC DATA.

THIS TRAFFIC IS BASED ON A 2023 CYCLE COUNT. THE DESIGN YEAR TRAFFIC IS BASED ON GROWTH RATE FROM THE TN-TIMES LINEAR REGRESSION TOOL.

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



Environmental Division

0SD2 Environmental Desktop Review Form

Part 1 – Project Information				
PIN	134879.00			
Project Number (if available)				
County	Haywood			
Route	SR180			
Termini	Bridge over Lost Creek (TMA)			
Type of Document				
Date ENV DIV Comments are Due	10/17/24 by noon			

Part 2: Provide information identifying known Environmental Resources within the proposed project area using the attached information. If no known resources are identified, each study area should note that none were identified.

Air & Noise

Transportation Conformity

This project is in Haywood 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.

<u>NOISE</u>

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.

Cultural Resources

Archaeology: No resources within a 1 mile radius. A survey will be required.

Historic Preservation – There are no previously surveyed resources within 0.25 miles of the proposed project. However, the bridge itself is over 50 years old. A survey will be required.

Ecology

Water resources likely within project area.

HazMat

No known hazardous materials sites affect the area around this bridge replacement. No additional hazardous material studies are recommended at this time. The asbestos bridge survey has been completed and the following project commitments have been submitted in PPRM. 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 Oil and Gas Wells database, TDEC Division of Remediation Sites Public Data Viewer, TDOT Integrated Bridge Information System, and others, as necessary.

EDHZ001. An Asbestos Containing Material (ACM) survey was completed on Bridge No. 38S80510009 SR-180 over Lost Creek LM 4.75 (38-SR180-04.75). The bridge has asbestos in the pad material between the curb and guard rail supports; approximately 50 square feet at 60% chrysotile. Please see the report for further details and photographs.

EDHZ002. The State of Tennessee asbestos accreditation requirements (TDEC Rules Chapter 1200-01-20) mandates that ACM abatement work be performed by an accredited firm (contractor) using accredited abatement workers and supervisors. Abatement of this material shall be accomplished per SP202ACM Special Provision Regarding Removal of Asbestos-Containing Materials. ACM abatement should be completed prior to any demolition activities if possible. 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).

NEPA

If the project remains state-funded, a TEER will be produced unless there is a federal nexus.

Based on a preliminary review, there are No Section 6(f) properties within the project area.

Based on the 2022 ACS data, there are no EJ populations.

Consider combining the ETSA boundaries from Figure 1a and Figure 2a. A single ETSA should be reasonably conservative to minimize the risk of a Reevaluation.