Quality Assurance Review

Project Information

Route:	SR-87
Termini:	Bridge over Overflow, LM 3.88 (IA)
County:	Lauderdale
PIN:	124637.00
Preparer:	Abby Harris

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:	Joe Santangelo	**Signature:**	Joseph D. Santangelo Digitally signed by Joseph D. Santangelo Date: 2018.08.20 13:47:48 -05'00'
Title:	Environmental Supervisor	**Comment:**	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
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Title:	Enter Reviewer Title	**Comment:**	Enter Comment
Reviewer:	Enter Reviewer Name	**Signature:**	
Title:	Enter Reviewer Title	**Comment:**	Enter Comment

Programmatic Categorical Exclusion

State Route (SR) 87

Bridge over Overflow, Log Mile (LM) 3.88 (IA)

Lauderdale County

PIN 124637.00

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

Environmental Commitments

Owner	Commitment
Ecology **EDEC001**	TDOT has committed to seasonal tree removal on this project. The USFWS has given TDOT a finding of "Not Likely to Adversely Affect" for the Indiana bat and Northern long-eared bat, provided that tree cutting on this project is done between October 15 and March 31.

Project Information

General Information

Route: SR-87

Termini: Bridge over Overflow, LM 3.88 (IA)

Municipality: Unincorporated (west of Henning)

County: Lauderdale

PIN: 124637.00

Plans: Transportation Investment Report (TIR)

Date of Plans: 04/02/2018

Project Funding

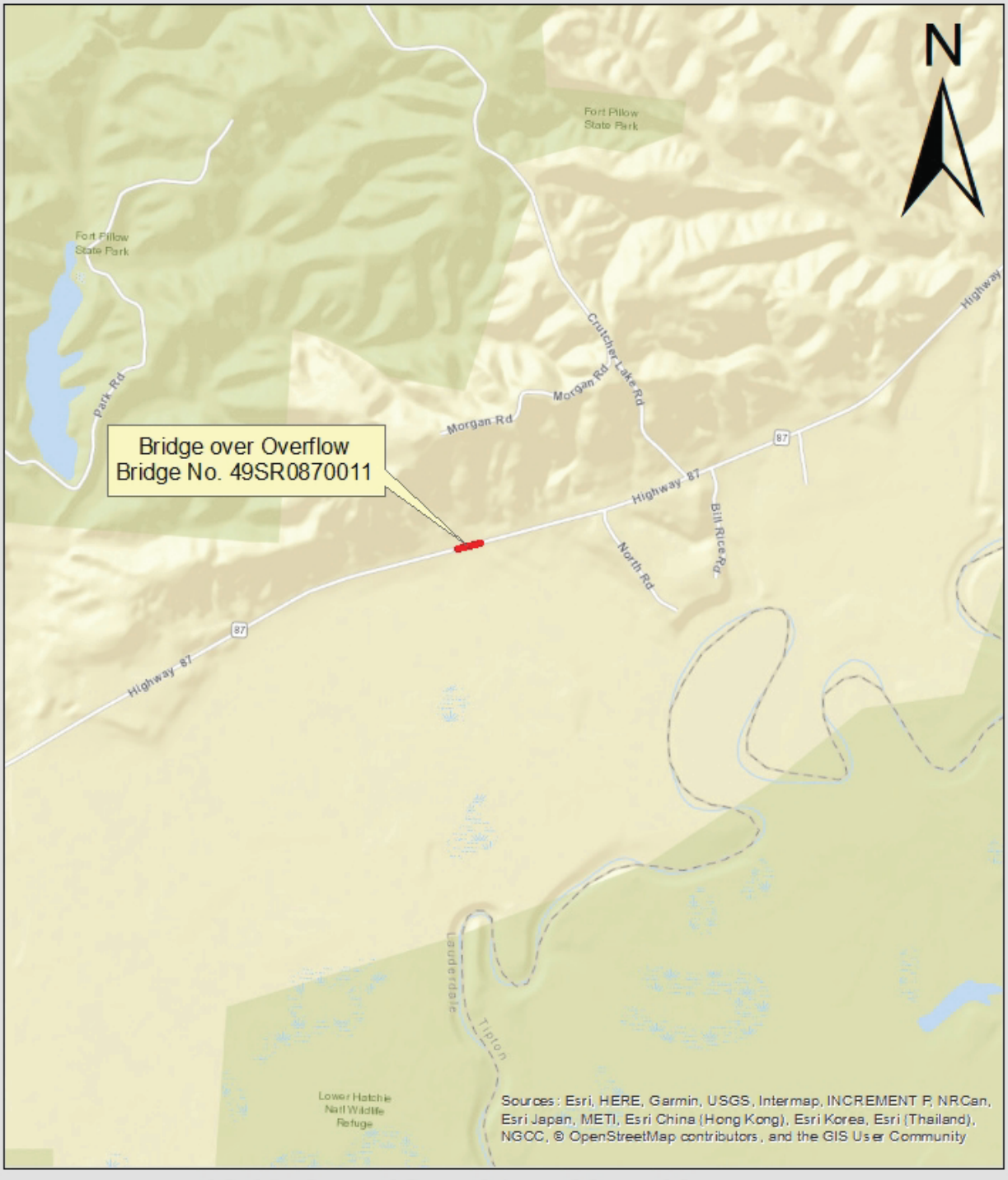
Planning Area: West Tennessee Rural Planning Organization (RPO)

STIP/TIP: 1799001 - Surface Transportation Block Grant Program (STBGP) - Grouping

Funding Source	Preliminary Engineering	Right-of-Way	Construction
Federal	BR-STP-87(9)	BR-STP-87(9)	BR-STP-87(9)
State	49006-1241-94	49006-2241-94	49006-3241-94

Project Location

Project Location Map
PIN 124637.00
Lauderdale County
SR-87
Bridge over Overflow, LM 3.88



Project Overview

Introduction

The Tennessee Department of Transportation (TDOT), in cooperation with the Federal Highway Administration (FHWA), proposes to replace the SR-87 bridge crossing an overflow of the Hatchie River in Lauderdale County, Tennessee.

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.” Bridges that receive a sufficiency rating of less than 80.0 are eligible for rehabilitation; bridges that earn a rating below 50.0 are eligible for replacement. 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 0 being failed condition and 9 being excellent condition.

The National Bridge Inventory (NBI) Tennessee Inventory and Appraisal Report published on 04/05/2016 listed the subject SR-87 bridge as having a sufficiency rating of 40.7, qualifying it for replacement. Since the time of the 2016 report, bridge repairs were performed to improve conditions until a full bridge replacement could occur. The Technical Appendices includes coordination with TDOT's Strategic Transportation Investment Division about the maintenance work, as well as the 2016 report and maintenance recommendations.

According the NBI Tennessee Inventory and Appraisal Report published on 07/27/2018, located in the Technical Appendices, the subject bridge has a sufficiency rating of 53.4. The bridge's superstructure received a condition rating of five or fair condition, indicating that all of the primary structural elements are sound but may have minor section loss, cracking, spalling or scour. The substructure, and stream channel and channel protection both received a condition rating of six or satisfactory condition, indicating that the structural elements show some minor deterioration. The bridge's deck received a condition rating of seven or satisfactory condition, with some structural elements exhibiting minor deterioration.

Project Development

Need

The proposed project is needed to address insufficient structural elements of the project SR-87 bridge as indicated by the assigned conditions ratings and overall sufficiency rating of 53.4.

Purpose

The purpose of the proposed project is to improve the structural elements of the project SR-87 bridge by replacing the existing bridge to meet 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.

Public Involvement

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

Project Design

Existing Conditions and Layout

Based on the TIR, the project bridge was built in 1986, is a single span still I-beam bridge with a timber deck and asphalt overlay. The bridge has an out-to-out width of 28 feet-six inches and a length of 29 feet. The bridge carries two 10-foot lanes, one in either direction, and is classified as a rural major collector.

Scope of Work

The proposed would construct a single-span pre-stressed box beam bridge with a total length of 32 feet-three inches. The new bridge will also require the grade of the roadway to be raised 2.5 inches. According to the TIR, an additional option may be considered at the time of design to lower the vertical clearance of the proposed bridge by 2.5 inches. The proposed structure will consist of two 11-foot travel lanes with three-foot shoulders and single slope concrete parapets. The bridge would have an out-to-out width of 29 feet-4.5 inches. The project limits would extend 100 feet from the structure to the east and to the west in order to install 75 feet of guardrail each direction and provide the necessary length for the vertical curve run out.

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	Drainage Easements	**Total**	Slope Easements	Construction Easements	**Total**
0.140	0.000	**0.140**	0.000	0.000	**0.000**

*Measured in acres

As stated in the TIR, "It is estimated that four tracts of land will be affected resulting in approximately 0.14 acres of right-of-way (ROW) acquisition. It is also estimated that overhead utilities will need to be relocated."

Displacements and Relocations

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

Changes in Access Control

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

Traffic and Access Disruption

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

Phased construction with one lane closed while the other remains open with temporary traffic signals and temporary barricades being utilized. The remaining travel lane must have a 10-foot width.

Environmental Studies

Water Resources

Are there any water resources, wetlands or natural habitat located within the project area? **Yes**

Water Resources				
Resource Type	**Label**	**Quality**	**Impact Type**	**Amount**
Perennial Stream	STR-1	Undetermined	Undetermined	100.00

*Units measured in linear feet.

Mitigation of impacts to streams or any other fluvial systems will be accomplished through the avoidance and minimization of potential impacts during the design process. Permanent stream alterations such as relocations, impoundments or channel modification will be mitigated on-site to the extent possible in order to return the channel to its most probable natural state. Impacts that cannot be mitigated on-site will be subject to a compensatory mitigation plan that may include restoration of a comparable resource or application of an in-lieu fee program.

Protected Species

Is the Grouped Programmatic No Effect Activities (2017) consultation and the TDEC-DNA (2015) MOA applicable to this project? **No**

Rare Species Dataviewer:

The TDEC Rare Species Dataviewer was reviewed on 04/18/2018.

Rare Species List			
Species Name	**Status**	**Species Potential within Right-of-Way**	**Accommodations**
Juglans cinerea	State	Low Potential: Present habitat unsuitable	BMP's
Schisandra glabra	State	Low Potential: Unreliable record	BMP's
Hybognathus placitus	State	Low Potential: Unreliable record	BMP's
Anhinga anhinga	State	Low Potential: Not observed during visit	Not practical
Myotis austroriparius	State	Low Potential: Present habitat unsuitable	Not practical
Atractosteus spatula	State	Low Potential: Present habitat unsuitable	BMP's
Dendroica cerulean	State	Low Potential: Not observed during visit	BMP's
Neotoma floridana illinoensis	State	Low Potential: Not observed during visit	BMP's
Carex hyaline	State	Low Potential: Present habitat unsuitable	Not practical
Egretta caerulea	State	Low Potential: Exctinct or extirpated	BMP's
Sternula antillarum athallassos	Fed/State	Low Potential: Present habitat unsuitable	BMP's
Ictinia mississippiensis	State	Low Potential: Present habitat unsuitable	BMP's
Argea alba	State	Low Potential: Not observed during visit	BMP's

No species were reported within a one mile radius of the project limits and 13 were found within a one to four mile radius of the project. A list of those species can be found in the table above.

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

Coordination with the USFWS was completed on 06/08/2018.

In a letter dated 06/08/2018, located in the Technical Appendices, the USFWS states, "the project is eligible for placement under the [Programmatic Bat Consultation] with determinations of 'not likely to adversely affect' for the Indiana bat and NLEB." The letter also states, "We are unaware of any other federally listed or proposed species that could potentially be impacted by the project. Therefore, based on the best information available at this time, we believe that the requirements of section 7 of the Endangered Species Act (Act) of 1973, as amended, are fulfilled for all species that currently receive protection under the Act. Obligations under the Act should be reconsidered if (1) new information reveals impacts of the proposed action that may affect listed species or critical habitat in a manner not previously considered, (2) the proposed action is subsequently modified to include activities which were not considered during this consultation, or (3) new species are listed or critical habitat designated that might be affected by the proposed action."

Tennessee Wildlife Resources Agency (TWRA):

Coordination with TWRA was completed on 05/15/2018.

In a letter dated 05/15/2018, located in the Technical Appendices, the TWRA states, "The implementation of standard BMP's will be sufficient to satisfy the needs of the Tennessee Wildlife Resources Agency for this proposed project."

Floodplain Management

Flood Zone: Zone X (Shaded Gray) - Area of 500-year Flood

Portions of this project are located in or near a FEMA defined floodplain however there is no detailed study. The project is located on Flood Insurance Rate Maps in Lauderdale County, Panel 325 of 500, Map # 47097C0325D. The design of the roadway system will be consistent with the Memorandum of Understanding (MOU) between FHWA and FEMA and with the floodplain management criteria set forth in the National Flood Insurance Regulations of Title 44 of the Code of Federal Regulations (CFR). It will be consistent with the requirements of floodplain management guidelines for implementing Executive Order 11988 and FHWA guidelines 23 CFR 650A. A portion of the FEMA FIRM is included in the Attachments.

Air Quality

Transportation Conformity:

Correspondence dated 04/13/2018 with TDOT's Air Quality and Noise Section states, "This project is in Lauderdale County which is in attainment for all regulated criteria pollutants. Therefore, conformity does not apply to this project."

Mobile Source Air Toxics (MSAT):

In the correspondence referenced above, it states, "This project qualifies as a categorical exclusion under 23 CFR 771.117 and, therefore, does not require an evaluation of MSATs per FHWA's [Federal Highway Administration] 'Interim Guidance Update on Air Toxic Analysis in NEPA [National Environmental Policy Act] Documents' dated October 2016."

Noise

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

No significant noise impacts are anticipated for this project and 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

Does the Interstate Highway exemption or MOU between TDOT and the SHPO (2015) apply? **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 06/12/2018.

In a letter dated 06/12/2018, located in the Technical Appendices, the TN-SHPO states, "We concur 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 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."

Archaeology Concurrence:

Concurrence from the TN State Historic Preservation Office (TN-SHPO) was received on 06/21/2018.

In a letter dated 06/12/2018, located in the Technical Appendices, the TN-SHPO states, "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."

Native American Consultation

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

Native American Consultation was requested on 04/30/2018. No tribes responded within the consultation period.

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 Tribe of Oklahoma
☐	☐	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	☐	☐	Other

Environmental Justice

Are there any disproportionately high or adverse effects on low-income or minority populations? **No**

The proposed project does not have the potential to cause disproportionately high or adverse effects on low-income or minority populations.

Hazardous Materials

Does the project involve any asbestos containing materials? **No**

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

Bicycle and Pedestrian

Does this project include accommodations for bicycles and pedestrians? **No**

Policy Exception: Other factors where there is a demonstrated absence of need or prudence.

Correspondence dated 04/17/2018 from the TDOT Multimodal Transportation Resources Division, located in the Technical Appendices, states, "This project is exempt from multimodal accommodations. As a bridge replacement project on a facility with no existing accommodations, there is a demonstrated absence of prudence."

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: Programmatic Categorical Exclusion

This federal-aid highway project qualifies for a Categorical Exclusion under 23 C.F.R 771.117(d) and does not exceed the thresholds listed in Section IV(A)(1)(b) of the 2016 Programmatic Agreement between the Federal Highway Administration, Tennessee Division and the Tennessee Department of Transportation. The Department has determined that the specific conditions and criteria for these CEs are satisfied and that significant environmental impacts will not result from this action. This project is therefore designated as a Programmatic Categorical Exclusion and does not require Administration approval.

Reference Material

All source material used in support of the information and conclusions presented in this document are included in the attachments and technical appendices. The attachments are located at the end of the environmental document and include information on funding, agency concurrence, applicable agency agreements, and special commitment support. The technical appendices are compiled as a separate document and include the 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 attachments and technical appendices.

Abby Harris

Digitally signed by Abby Harris
Date: 2018.08.20 13:42:16 -05'00'

Document Preparer

Document Approval

By signing below, you officially concur that this document is in compliance with all applicable environmental laws, regulations and procedures. You have 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.

Joseph D. Santangelo

Digitally signed by Joseph D. Santangelo
Date: 2018.08.20 13:47:00 -05'00'

Tennessee Department of Transportation

Attachments

Acronyms

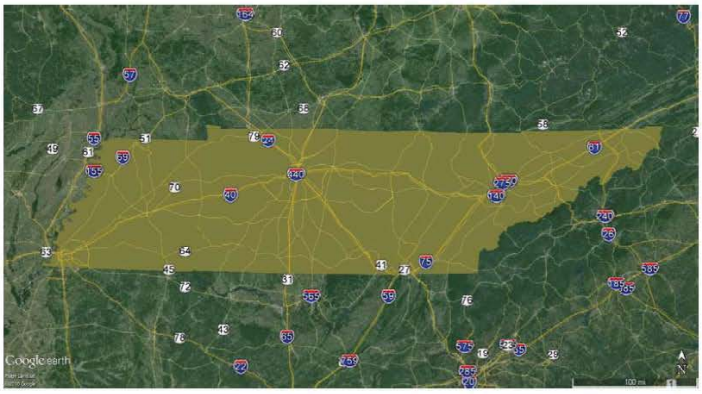
AADT	Annual Average Daily Traffic
ADA	Americans with Disabilities Act
APE	Area of Potential Effect
BMP	Best Management Practice
CAA	Clean Air Act
CE	Categorical Exclusion
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CMAQ	Congestion Mitigation and Air Quality
DEIS	Draft Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
EA	Environmental Assessment
EIS	Environmental Impact Statement
EJ	Environmental Justice
EPA	Environmental Protection Agency
EPH	Ephemeral Stream
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FPPA	Farmland Protection Policy Act
GHG	Greenhouse Gas
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
ROW	Right-of-Way
ROD	Record of Decision
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
USDOT	U.S. Department of Transportation
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
VMT	Vehicle Miles Traveled
VPD	Vehicles Per Day
WWC	Wet Weather Conveyance

STIP Project List

STIP #	1799001	TDOT PIN #		LENGTH IN MILES	
LEAD AGENCY	TDOT				
COUNTY	STATEWIDE - RURAL				
TOTAL PROJECT COST	$426,000,000				
ROUTE					
TERMINI	SURFACE TRANSPORTATION BLOCK GRANT PROGRAM (STBGP) - GROUPING				
PROJECT DESCRIPTION	SEE APPENDIX STATE GROUPING DESCRIPTION FOR A COMPREHENSIVE LISTING OF ACTIVITIES INCLUDED BUT NOT LIMITED FOR ELIGIBILITY				
REMARKS					

COUNTY MAP

FY	PHASE	FUNDING	TOTAL FUNDS	FED FUNDS	STATE FUNDS	LOCAL FUNDS
2017	PE, ROW, CONST	STBG	106,500,000	85,200,000	21,300,000	
2018	PE, ROW, CONST	STBG	106,500,000	85,200,000	21,300,000	
2019	PE, ROW, CONST	STBG	106,500,000	85,200,000	21,300,000	
2020	PE, ROW, CONST	STBG	106,500,000	85,200,000	21,300,000	



VICINITY MAP

ALL SCHEDULES SUBJECT TO AVAILABILITY OF FUNDS

Grouping Category	Function of Grouping Activities	Allowable Work Types
Surface Transportation Block Grant Program (STBG) Grouping **STIP# 1799001**	Projects and programs for the preservation and improvement of the conditions and performance of Federal-aid highways and public roads, including: • Rehabilitation, resurfacing, restoration, preservation, and operational improvements on Federal-aid highways and designated routes of the Appalachian Development Highway System (ADHS) and local access roads under 40 USC 14501, • Traffic operations on Federal-aid highways, • Bridge and tunnel improvements on public roads, • Safety improvements on public roads, • Environmental mitigation • Scenic and historic highway programs, • Landscaping and scenic beautification,	**Activities previously authorized under the Surface Transportation Program (STP):** • Minor rehabilitation, pavement resurfacing, preventative maintenance, restoration,and pavement preservation treatments to extend the service life of highwayinfrastructure, including pavement markings and improvements to roadside hardware or sight distance • Highway improvement work including slide repair, rock fall mitigation, drainage repairs, or other preventative work necessary to maintain or extend the service life of theexisting infrastructure in a good operational condition • Minor operational and safety improvements to intersections and interchanges such as adding turn lanes, addressing existing geometric deficiencies, and extending on/off ramps • Capital and operating costs for intelligent transportation systems (ITS) and traffic monitoring, management, and control facilities and programs: ○ Infrastructure-based intelligent transportation systems (ITS) capital improvements ○ Traffic Management Center (TMC) operations and utilities ○ Freeway service patrols ○ Traveler information • Bridge and tunnel construction (no additional travel lanes), replacement, rehabilitation, preservation, protection, inspection, evaluation, and inspector training and inspection and evaluation of other infrastructure assets, such as signs, walls, and drainage structures • Development and implementation of a State Asset Management Plan including data collection, maintenance and integration, software costs, and equipment costs thatsupport the development of performance-based management systems for infrastructure • Rail-highway grade crossing improvements • Highway safety improvements: ○ Installation of new or improvement of existing guardrail ○ Installation of traffic signs and signals/lights ○ Spot safety improvements • Sidewalk improvements • Pedestrian and/or bicycle facilities • Traffic calming and traffic diversion improvements • Transportation Alternatives as defined by 23 USC 213(B), 23 USC. 101(A)(29),and Section 1122 of MAP-21 • Noise walls • Wetland and/or stream mitigation • Environmental restoration and pollution abatement • Control of noxious weeds and establishment of native species **Activities previously authorized under the Transportation Enhancement Program:**

Surface Transportation Block Grant Program (STBG) Grouping **(continued)** **STIP# 1799001**	• Historic preservation, • On- and off-road pedestrian and bicycle facilities, • Infrastructure projects for improving non-driver access to public transportation and enhanced mobility, • Community improvement activities, • Recreational Trail Program projects, • Safe Routes to School (SRTS) projects, • Transportation Enhancement projects, • Transportation Alternatives projects, • Projects for the creation, rehabilitation, and maintenance of multi-use recreational trails.	○ Pedestrian and bicycle facilities, safety, and educational activities ○ Acquisition of scenic easements and scenic or historic sites ○ Scenic or historic highway programs ○ Landscaping and other scenic beautification activities ○ Historic preservation ○ Rehabilitation and operation of historic transportation buildings, structures, or facilities ○ Preservation of abandoned railway corridors ○ Inventory, control, and removal of outdoor advertising ○ Archaeological planning and research ○ Environmental mitigation to address water pollution due to highway runoff or reduce vehicle-caused wildlife mortality while maintaining habitat connectivity ○ Establishment of transportation museums ○ Activities under the Tennessee Roadscapes grant program, including landscaping, irrigation, benches, trash cans, paths and signage **Activities previously authorized under the Safe Routes to School Program (SRTS):** • Sidewalk improvements • Traffic calming and speed reduction improvements • Pedestrian and bicycle crossing improvements • On-street bicycle facilities • Off-street bicycle and pedestrian facilities • Secure bicycle parking facilities • Traffic diversion improvements approximately within 2 miles of a school location • Non-infrastructure related activities: ○ Public awareness campaigns and outreach to press and community leaders ○ Traffic education and enforcement in the vicinity of schools ▪ Student sessions on bicycle and pedestrian safety, health, and environment ▪ Funding for training, volunteers, and managers of safe routes to school program **Activities previously authorized under the Transportation Alternatives Program (TAP):** • Construction, planning, and design of on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation, including: ○ Sidewalk improvements ○ Bicycle infrastructure ○ Pedestrian and bicycle signals ○ Traffic calming techniques ○ Lighting and other safety-related infrastructure

Surface Transportation Block Grant Program (STBG) Grouping **(continued)** **STIP# 1799001**	• Projects for the planning, design or construction of boulevards and other roadways largely in the right-of-way of former Interstate System routes or other divided highways.	○ Transportation projects to achieve compliance with the Americans with Disabilities Act of 1990 • Construction, planning, and design of infrastructure-related projects and systems that will provide safe routes for non-drivers, including children, older adults, and individualswith disabilities to access daily needs • Conversion and use of abandoned railroad corridors for trails for pedestrians, bicyclists, or other non-motorized transportation users • Construction of turnouts, overlooks, and viewing areas • Community improvement activities, which include but are not limited to: ○ Inventory, control, or removal of outdoor advertising ○ Historic preservation and rehabilitation of historic transportation facilities ○ Vegetation management in transportation rights-of-way to improve roadwaysafety, prevent invasive species, and provide erosion control ○ Archaeological activities relating to impacts from implementation of atransportation project eligible under Title 23 of the USC • Any environmental mitigation activity, including pollution prevention and pollution abatement activities and mitigation to: ○ Address stormwater management, control, and water pollution preventionor abatement related to highway construction or due to highway runoff ○ Reduce vehicle-caused wildlife mortality or to restore and maintain connectivity among terrestrial or aquatic habitats • Recreational Trails Program activities under 23 USC 206 • SRTS Program infrastructure-related projects, non-infrastructure-related activities (suchas pedestrian and bicycle safety and educational activities advanced under the SRTS program), and SRTS Coordinator positions. • Planning, designing, or constructing boulevards and other roadways largely in the right-of-way of former Interstate System routes or other divided highways **Activities previously authorized under the Recreational Trails Program (RTP):** • Maintenance and restoration of existing recreational trails • Development and rehabilitation of trailside and trailhead facilities and trail linkages for recreational trails • Purchase and lease of recreational trail construction and maintenance equipment • Construction of new recreational trails • Acquisition of easements and fee simple title to property for recreational trails or recreational trail corridors • Assessment of trail conditions for accessibility and maintenance • Development and dissemination of publications and operation of educational programs to promote safety and environmental protection • Payment of costs to the State incurred in administering the program

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Tennessee ES Office
446 Neal Street
Cookeville, Tennessee 38501

June 8, 2018

Mr. Eric Philipps
Tennessee Department of Transportation
Environmental Technical Office
300 Benchmark Place,
Jackson, Tennessee 38301

Subject: FWS# 18-I-0517. Proposed State Route 87 Bridge replacement over an overflow to the Hatchie River at LM 3.88; PIN# 124637.00, Lauderdale County, Tennessee.

Dear Mr. Philipps:

Thank you for your correspondence dated May 17, 2018, regarding the proposed replacement of the State Route 87 Bridge over an overflow to the Hatchie River in Lauderdale County, Tennessee. The Tennessee Department of Transportation (TDOT) has chosen to place the project under the Range-wide Programmatic Consultation between the Federal Highway Administration, Federal Railroad Administration, Federal Transit Administration, and the U.S. Fish and Wildlife Service (Service) (Programmatic Bat Consultation), and has submitted project specific information through the IPaC Assisted Determination Key. Personnel of the Service have reviewed the subject proposal and offer the following comments.

The Programmatic Bat Consultation addresses transportation-related impacts to the federally endangered Indiana bat (*Myotis sodalis*) and threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*) from removal of potentially suitable summer roosting habitat. Under the Programmatic Bat Consultation, transportation-related activities resulting in a "not likely to adversely affect" finding include all wintertime forested clearing within 100 feet of roadway surface or railroad ballast that does not remove known roosts or documented foraging/travel corridors and is no closer than one-half mile from the entrance of a documented hibernaculum. Based on the information provided, the project is eligible for placement under the consultation herein referenced with determinations of "not likely to adversely affect" for the Indiana bat and NLEB.

We are unaware of any other federally listed or proposed species that could potentially be impacted by the project. Therefore, based on the best information available at this time, we believe that the requirements of section 7 of the Endangered Species Act (Act) of 1973, as amended, are fulfilled for all species that currently receive protection under the Act. Obligations under the Act should be reconsidered if (1) new information reveals impacts of the proposed action that may affect listed species or critical habitat in a manner not previously considered, (2) the proposed action is

subsequently modified to include activities which were not considered during this consultation, or (3) new species are listed or critical habitat designated that might be affected by the proposed action.

If you have any questions regarding our comments, please contact John Griffith at 931/525-4995 or by email at *john_griffith@fws.gov*.

Sincerely,

Michael Gale
Acting Field Supervisor

Tennessee Wildlife Resource Agency Coordination

From: Casey Parker
To: Eric Philipps; TDOT Env.LocalPrograms
Cc: Rob Todd
Subject: RE: Request for Comment; Lauderdale, SR-87 Bridge over Overflow, PIN 124637.00
Date: Tuesday, May 15, 2018 12:39:08 PM
Attachments: image001.png
image002.png

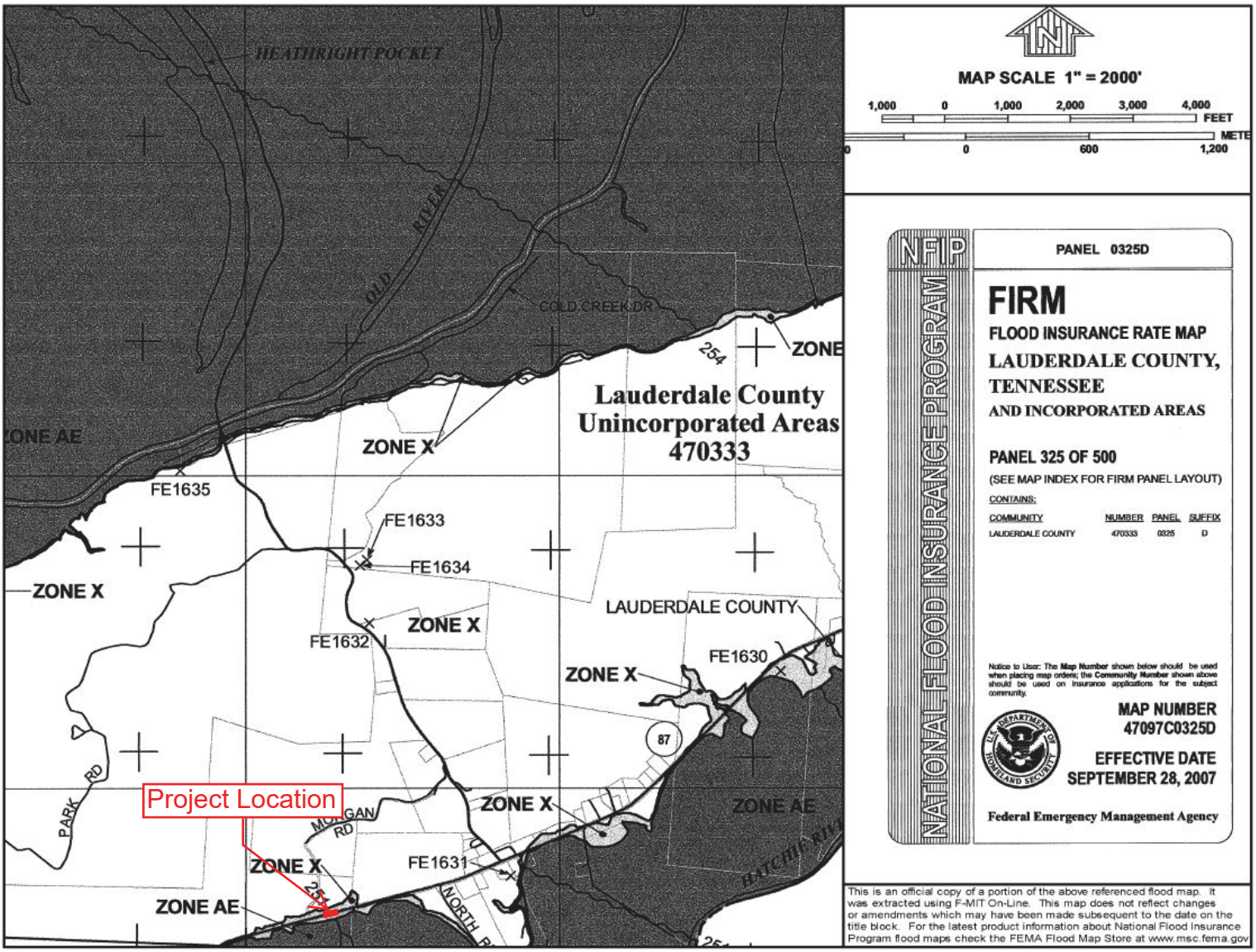
Subject: Request for Comment; Lauderdale, SR-87 Bridge over Overflow, PIN 124637.00

Mr. Eric Phillips,

I have reviewed the information that you provided regarding the proposed bridge replacement on SR-87 in Lauderdale County, Tennessee. The implementation of standard BMP's will be sufficient to satisfy the needs of the Tennessee Wildlife Resources Agency for this proposed project. Thank you for the opportunity to review and comment, please contact me if you need further assistance.

Casey Parker - Wildlife Biologist
Liaison to TDOT & Federal Highway Administration
Tennessee Wildlife Resources Agency
Environmental Services Division
Email: casey.parker@tn.gov

Floodplain Map



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

June 12, 2018

Ms. Katherine Looney
Tennessee Department of Transportation
505 Deaderick St
Suite 900
Nashville, TN 37243-1402

RE: FHWA / Federal Highway Administration, Replacement of the SR 87 Bridge over Overflow, Log Mile 3.88/ PIN 124637.00, , Lauderdale County, TN

Dear Ms. Looney:

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 concur 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 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. Questions or comments may be directed to Casey Lee (615 253-3163).

Your cooperation is appreciated.

Sincerely,

E. Patrick McIntyre, Jr.

E. Patrick McIntyre
Executive Director and
State Historic Preservation Officer

EPM/cjl

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

June 21, 2018

Mr. Phillip R. Hodge
Tennessee Department of Transportation
Suite 900, James K. Polk Building
505 Deaderick Street
Nashville, TN 37243-1402

RE: FHWA / Federal Highway Administration, SR-87 Bridge Replacement at Log Mile 3.88, Lauderdale County, TN

Dear Mr. Hodge:

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. Questions or comments may be directed to Jennifer Barnett (615) 687-4780.

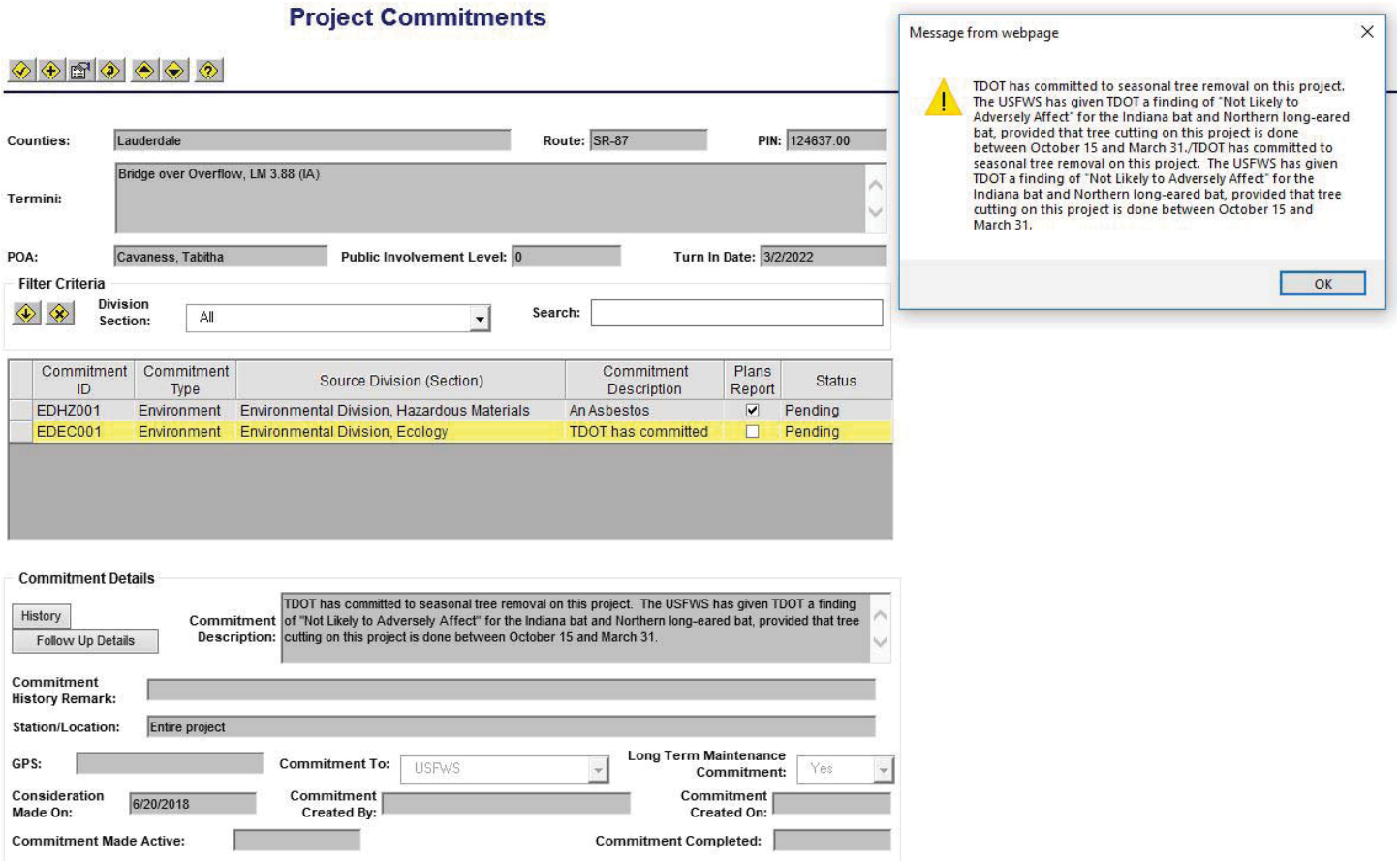
Your cooperation is appreciated.

Sincerely,

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

EPM/jmb

Environmental Commitments



Technical Appendices

Programmatic Categorical Exclusion

State Route 87 (SR-87)

Bridge over Overflow, LM 3.88 (IA)

Lauderdale County

PIN 124637.00

Project Development

TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRANSPORTATION INVESTMENT REPORT
IMPROVE Act

State Route 87
Bridge over Overflow,
Log Mile 3.88 Lauderdale County
PIN 124637.00

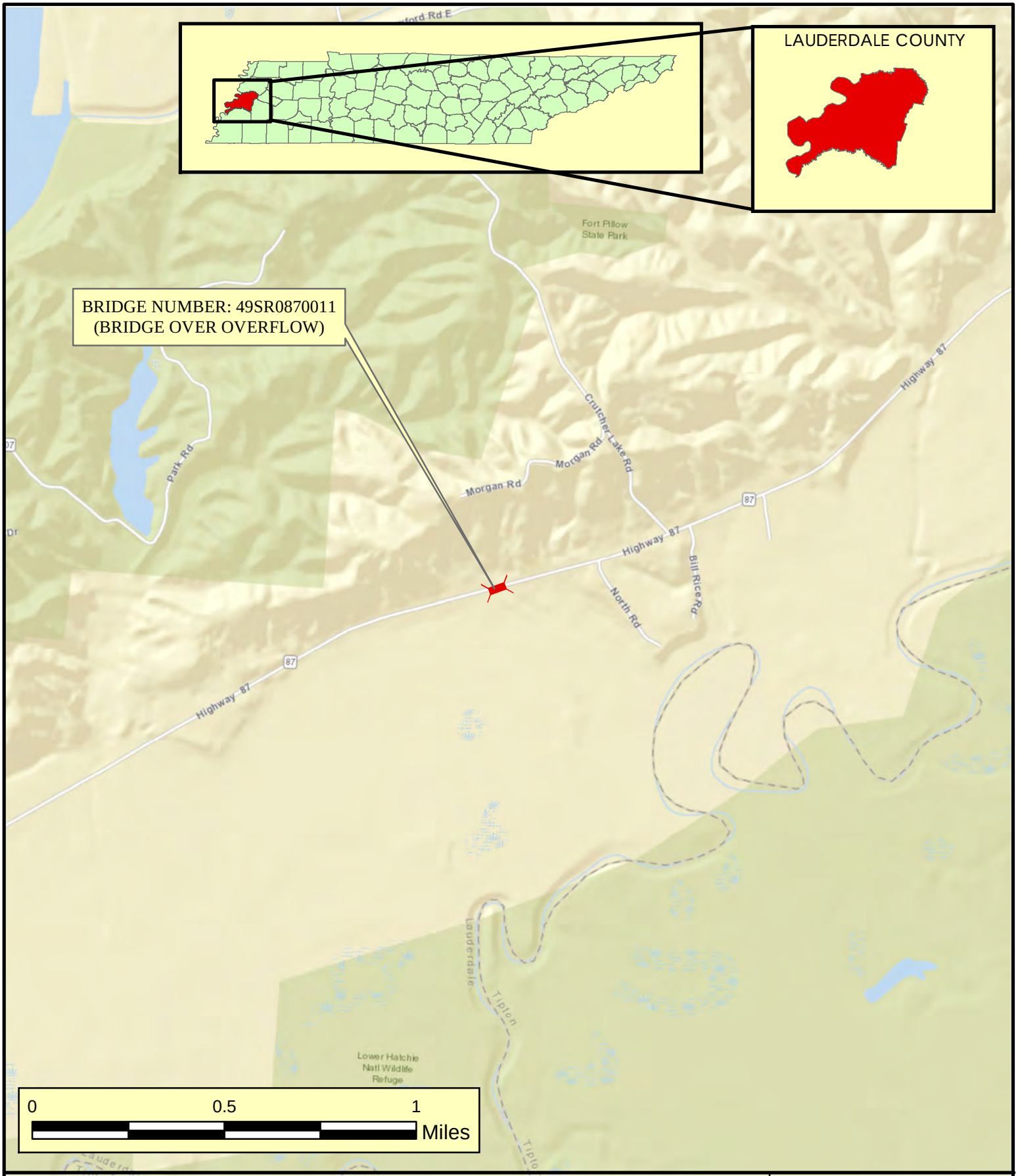
PREPARED BY KCI TECHNOLOGIES INC. FOR THE TENNESSEE DEPARTMENT OF TRANSPORTATION

Approved by _____ *Date* 04.02.18
Chief of Environment and Planning

Approved by _____ *Date* 4/2/18
Deputy Commissioner and Chief Engineer

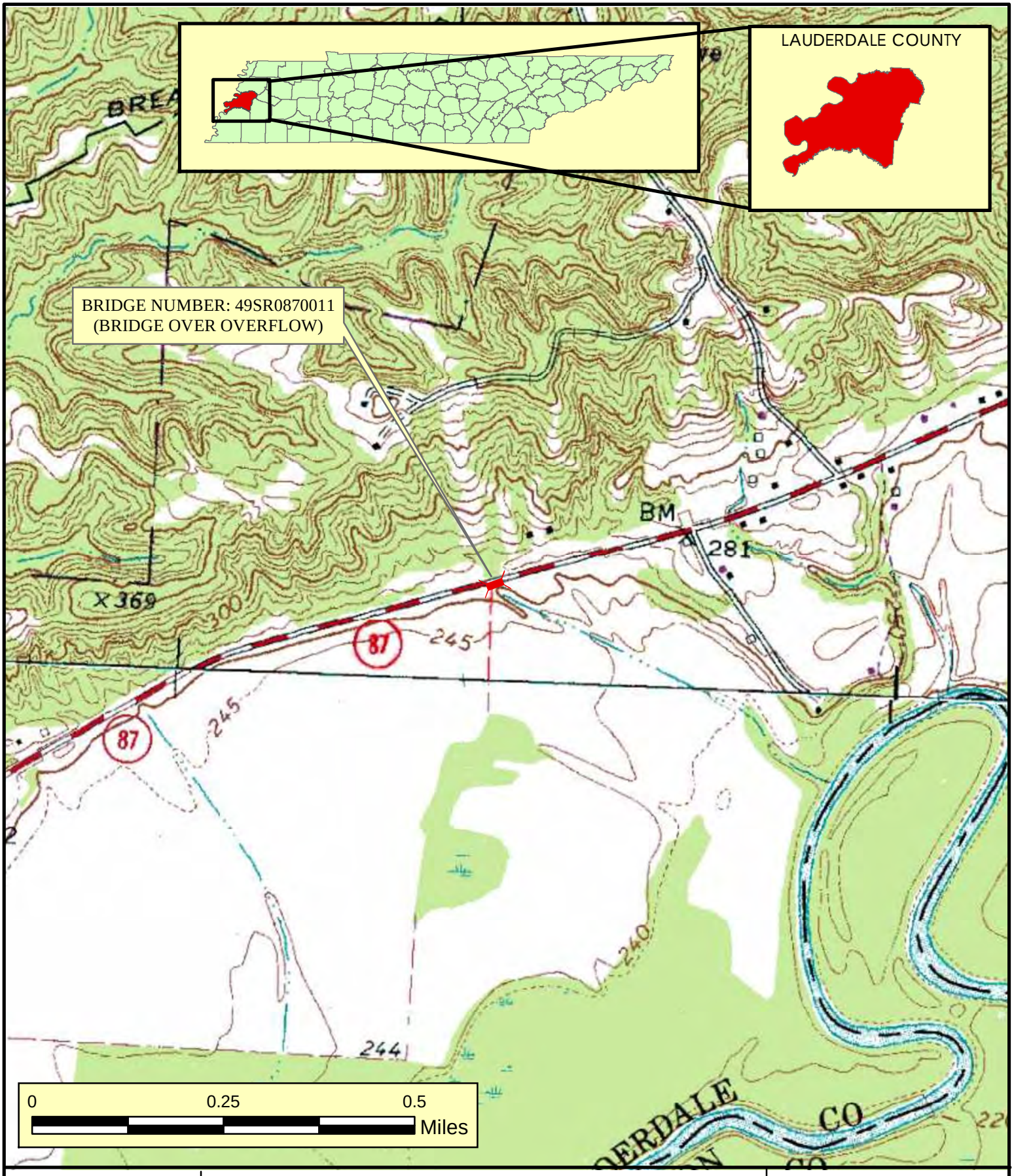
Approved by:	Signature	DATE
TRANSPORTATION DIRECTOR STRATEGIC TRANSPORTATION INVESTMENTS DIVISION		3-26-18
ENGINEERING DIRECTOR DESIGN DIVISION	Tabitha S. Cavaness	03/22/18
ENGINEERING DIRECTOR STRUCTURES DIVISION		3/27/18

This document is covered by 23 USC § 409 and its production pursuant to fulfilling public planning requirements does not waive the provisions of § 409.



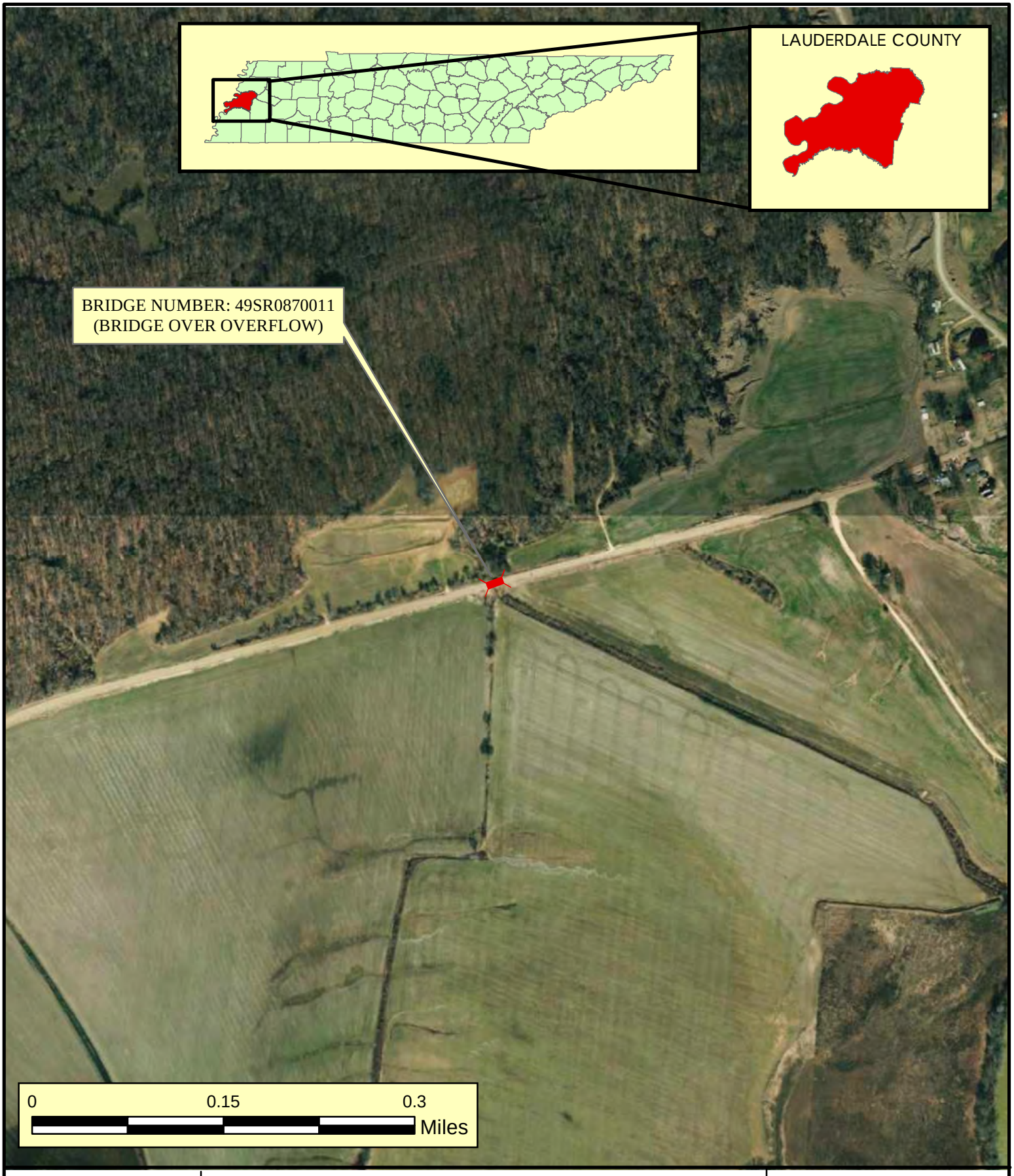
AREA MAP
BRIDGE TIR
STATE ROUTE 87 (SR087)
BRIDGE OVER OVERFLOW (LM 3.88)
LAUDERDALE COUNTY

TN TDOT Department of Transportation



TOPO MAP
BRIDGE TIR
STATE ROUTE 87 (SR087)
BRIDGE OVER OVERFLOW (LM 3.88)
LAUDERDALE COUNTY

TN TDOT Department of Transportation



PROJECT MAP
BRIDGE TIR
STATE ROUTE 87 (SR087)
BRIDGE OVER OVERFLOW (LM 3.88)
LAUDERDALE COUNTY

TN TDOT Department of Transportation

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION
SUITE 1000, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TN 37243
(615) 741-2208

JOHN C. SCHROER
COMMISSIONER

BILL HASLAM
GOVERNOR

MEMORANDUM

TO: Steve Allen, Transportation Director
Strategic Transportation Investments Division

FROM: David Duncan P.E., C.E. Manager 1
Strategic Transportation Investments Division

DATE: March 14, 2018

SUBJECT: TIR Field Review (IMPROVE Act)
State Route 87 (SR087), Bridge over Overflow
Bridge ID: 49SR0870011
Log Mile 3.88
Lauderdale County
PIN: 124637.00

A field review was held for the above-mentioned project on January 11, 2018.

The existing structure, built in 1986, is a single span steel I-beam bridge with a timber deck and asphalt overlay crossing an overflow of the Hatchie River. The structure has an out-to-out width of 28 feet 6 inches. The overall structure length is 29 feet, and the sufficiency rating for this structure is 40.7 based on the Bridge Inspection Report from April 5, 2016.

The discharges for the drainage basin were determined using StreamStats, which used a drainage area of 0.04 square miles. The 10-year discharge rate (Q10) was 128 cubic feet per second (cfs), Q50 was 162 cfs, and Q100 was 176 cfs.

The bridge project will potentially need a bat survey to be performed and a fish sweep since these studies may be required by TWRA as part of the project.

The proposed alignment and grade for the replacement structure will remain the same as the existing structure including the 90-degree skew with the river channel. There is a 55 mph posted speed limit on State Route 87, which will also be the design speed based on the tangent

alignment. The TDOT Hydraulics Section has recommended that the proposed structure be a reinforced concrete box bridge with two (2) barrels with a length of 16 feet and a total clearance of 9 feet (2 @ 16’ x 9’) giving a total structure length of 34 feet per TDOT structures standard STD-17-83. However, this bridge will likely not pass TWRA permitting standards due to the proximity of the project area to the Lower Hatchie National Wildlife Refuge and the design standards of a box culvert could have a negative impact on the stream. Based on the TDOT recommendations after TWRA input it was determined that the proposed structure be a single span pre-stressed box beam structure with a total length of 32 feet 3 inches. The new pre-stressed box beam bridge will also require the grade of the roadway to be raised 2.5 inches. An additional option that may be considered at the time of design is to lower the vertical clearance of the proposed bridge by 2.5 inches. TDOT Hydraulics would need to determine if lowering the vertical clearance is feasible due to the drainage area being 0.04 square miles. Lowering of the vertical clearance will keep the roadway on grade and lessen the potential impacts to TWRA land. It is estimated that four (4) tracts of land will be affected resulting in approximately 0.14 acres of right-of-way (ROW) acquisition. It is also estimated that overhead utilities will need to be relocated. It is recommended that this bridge be stage constructed since no viable detour route is available.

The route has a base year 2022 AADT of 410 and a design year 2042 AADT of 490. The existing structure and roadway approaches consist of two (2) 10-foot travel lanes. The route is classified as a Rural Collector Road and Standard Drawing RD01-TS-2 was used for design considerations. Based on Tables I and II from the standard drawing, it is recommended that the proposed curb-to-curb width over the structure will be 28 feet based on a design year AADT between 400-1,500 and a design speed of 55 MPH. Therefore, the typical section on the proposed structure will consist of two (2) 11-foot travel lanes, three (3) foot shoulders, and single slope concrete parapets giving an out-to-out structure width of 29 feet 4.5 inches. The additional 1.5 inches of bridge width is due to the phasing required for construction of the bridge. The project will extend 100 feet from the structure to the east and to the west in order to install 75 feet of guardrail each direction and provide the necessary length for the vertical curve run out.

The total cost for the estimated required approach work, estimated replacement and estimated preliminary engineering for this bridge replacement is approximately $581,000.

cc: File

TENNESSEE D.O.T.
S.T.I.D.
FILE NO. ____

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2018	LAUDERDALE	-

0' 100' 200' 300'

N

BRIDGE TIR

STATE ROUTE 87 (SR087)
BRIDGE OVER OVERFLOW @ L.M. 3.88
LAUDERDALE COUNTY

55 MPH DESIGN SPEED

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

BRIDGE REPLACEMENT
SR087
L.M. 3.88

3/23/2018 3:52:30 PM
M:\2017\1604080.04 (TDOT TIR - SR-87 Bridge over Overflow,Lauderdale County)\Design\Sheets\Proposed Alignment (Lauderdale Co.Bridge Over Over-flow).dgn

TENNESSEE D.O.T.
S.T.I.D.
FILE NO. ____

TYPE	YEAR	COUNTY	FIGURE NO.
BRIDGE	2018	LAUDERDALE	1

STUDY AREA IS APPROX. 95 FEET FROM EXISTING CENTERLINE (50.0 FEET FROM PROP. R.O.W.)

STUDY AREA BEGINS 300 FEET BEFORE BEGINNING OF PROJECT

BEGIN PROJECT

END PROJECT

STUDY AREA ENDS 300 FEET AFTER END OF PROJECT

100'

100'

SR 87

EXISTING 50' R.O.W.

PROPOSED R.O.W.

STUDY AREA IS APPROX. 95 FEET FROM EXISTING CENTERLINE (50.0 FEET FROM PROP. R.O.W.)

OVERFLOW

ENVIRONMENTAL TECHNICAL STUDY AREA

0' 100' 200' 300'

N

ENVIRONMENTAL TECHNICAL STUDY AREA

STATE ROUTE 87 (SR087)
BRIDGE OVER OVERFLOW @ L.M. 3.88
LAUDERDALE COUNTY

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

FIGURE 1
BRIDGE REPLACEMENT
SR087
L.M. 3.88

3/23/2018 3:53:38 PM
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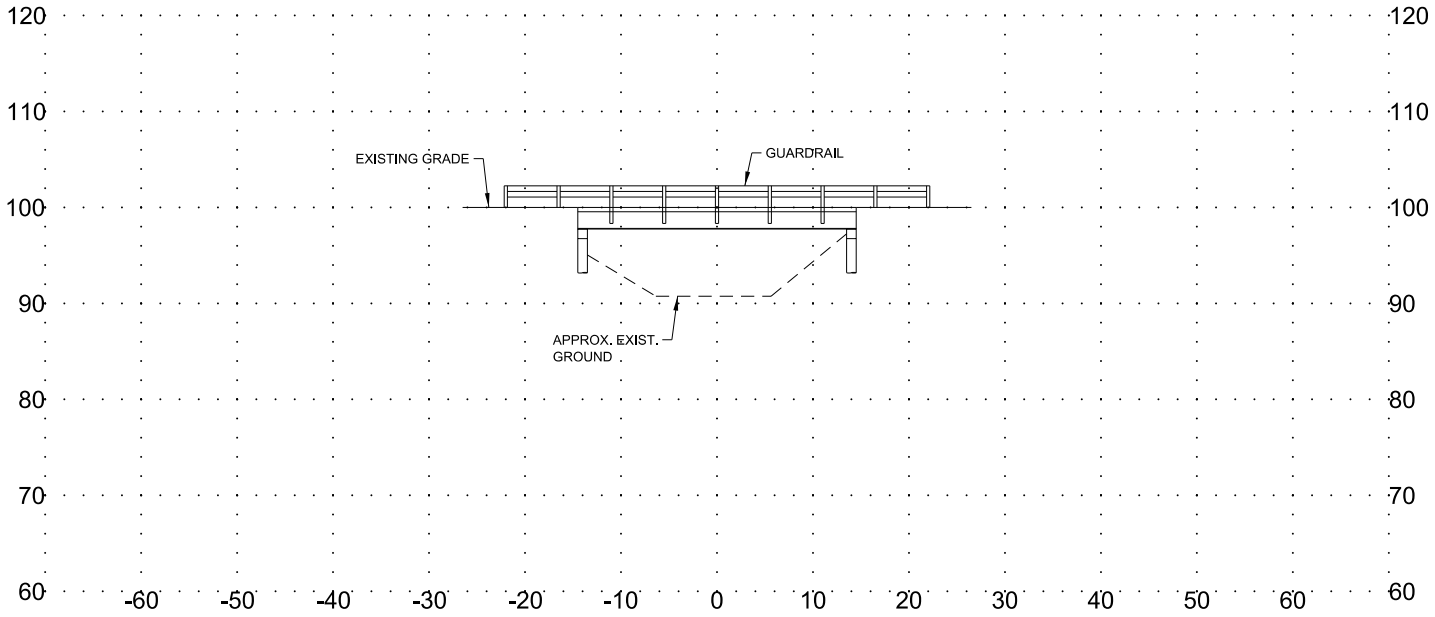
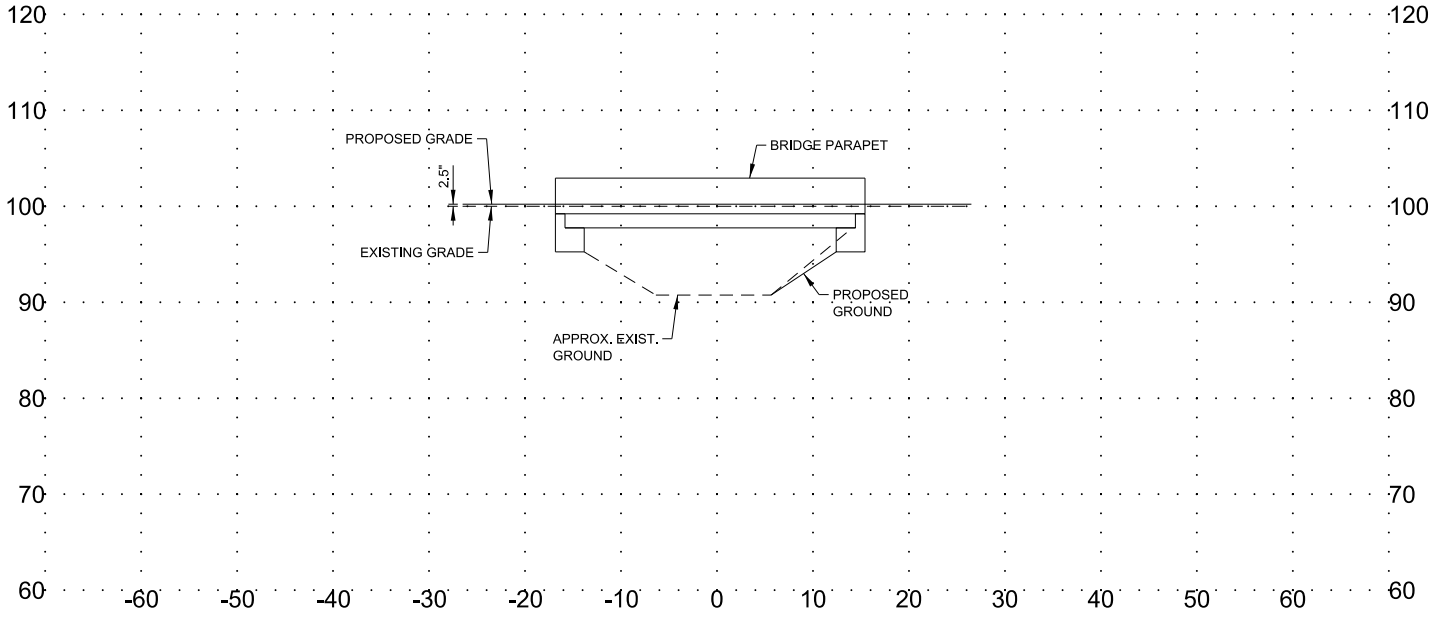
EXISTING STRUCTURE (INLET)



PROPOSED STRUCTURE (INLET)



0' 10' 20' 30'

SCALE: 1" = 20'

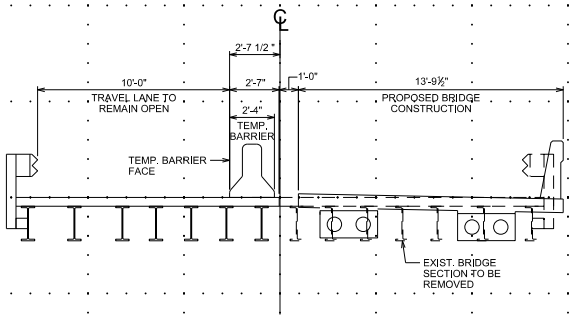
PROPOSED PROFILE

STATE ROUTE 87(SR087) LAUDERDALE COUNTY

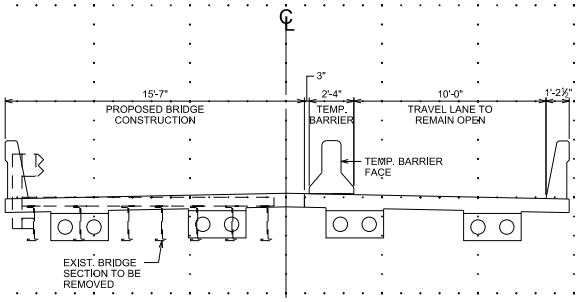
BRIDGE OVER OVERFLOW L.M. 3.88

BRIDGE ID: 49SR0870011

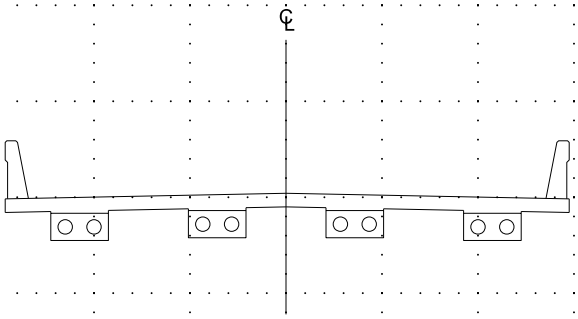
PHASE ONE



PHASE TWO



COMPLETED PROPOSED STRUCTURE



TOTAL WIDTH: 29'-4½"

0' 5' 10' 15'

SCALE: 1" = 10'

PROPOSED TYPICAL SECTION

STATE ROUTE 87 (SR087) LAUDERDALE COUNTY

BRIDGE OVER OVERFLOW L.M. 3.88

BRIDGE ID: 49SR0870011

COST ESTIMATE SUMMARY

Route: SR087 STATE ROUTE 87
Description: REPLACEMENT OF BRIDGE OVER OVERFLOW
County: LAUDERDALE
Length: 0.038 MILES
Date: March 14, 2018

DESCRIPTION		LOCAL 0%	STATE 100%	FEDERAL 0%	TOTAL
Construction Items					
Pavement Removal		$0	$3,900	$0	$3,900
Asphalt Paving		$0	$21,600	$0	$21,600
Concrete Pavement		$0	$0	$0	$0
Drainage		$0	$5,800	$0	$5,800
Appurtenances		$0	$0	$0	$0
Structures		$0	$151,800	$0	$151,800
Fencing		$0	$0	$0	$0
Signalization		$0	$40,000	$0	$40,000
Railroad Crossing or Separation		$0	$0	$0	$0
Earthwork		$0	$74,600	$0	$74,600
Clearing and Grubbing		$0	$10,600	$0	$10,600
Seeding & Sodding		$0	$2,200	$0	$2,200
Rip-Rap or Slope Protection		$0	$0	$0	$0
Guardrail		$0	$31,500	$0	$31,500
Signing		$0	$300	$0	$300
Pavement Markings		$0	$900	$0	$900
Maintenance of Traffic		$0	$16,500	$0	$16,500
Mobilization (5%)		$0	$18,000	$0	$18,000
Other Items =	10%	$0	$37,800	$0	$37,800
Const. Contingency =	15%	$0	$39,600	$0	$39,600
Construction Estimate		$0	$455,100	$0	$455,100
Interchanges & Unique Intersections					
Roundabouts		$0	$0	$0	$0
Interchanges		$0	$0	$0	$0

Right-of-Way & Utilties	LOCAL 0%	STATE 100%	FEDERAL 0%	TOTAL
Right-of-Way	$0	$14,800	$0	$14,800
Utilities	$0	$14,300	$0	$14,300
Preliminary & Construction Engineering and Inspection				
Prelim. Eng. 10%	$0	$48,400	$0	$48,400
Const. Eng. & Inspec. 10%	$0	$48,400	$0	$48,400
Total Project Cost	$0	$581,000	$0	$ 581,000

PAY ITEM SUMMARY

TDOT PAY ITEM	TDOT DESCRIPTION	UNIT	TOOL QUANTITIES	ADDITIONAL QUANTITIES	TOOL QUANTITIES + ADDITIONAL QUANTITIES	Statewide UNIT COST	TOTAL COST
Pavment Removal							
202-03.01	Removal of Asphalt Pavement	SY	16		16	$ 25.99	$ 404.25
415-01.02	Cold Planning Bituminous Pavement	SY	446		446	$ 7.64	$ 3,405.36
						PAVEMENT REMOVAL TOTAL (ROUNDED)	$ 3,900
Asphalt Roads							
303-01	Mineral Aggregate, Type A Base, Grading D	TON	446		446	$ 32.06	$ 14,310.37
307-02.01	Asphalt Concrete Mix (PG70-22) (BPMB-HM) Grading A	TON	8		8	$ 101.35	$ 779.48
307-02.02	Asphalt Cement (PG70-22)(BPMB-HM) Grading A-S	TON	0		0	$ 727.27	$ 131.33
307-02.03	Aggregate (BPMB-HM) Grading A-S Mix	TON	6		6	$ 74.36	$ 434.17
307-02.08	Asphalt Concrete Mix (PG70-22) (BPMB-HM) Grading B-M2	TON	5		5	$ 113.85	$ 573.62
402-01	Bituminous Material For Prime Coat (PC)	TON	0		0	$ 713.81	$ 176.35
402-02	Aggregate For Cover Material (PC)	TON	1		1	$ 66.16	$ 59.00
403-01	Bituminous Material For Tack Coat (TC)	TON	0		0	$ 781.30	$ 137.23
411-01.07	ACS (PG64-22) GR "E"	TON	11		11	$ 112.59	$ 1,214.22
411-02.10	ACS Mix(PG70-22) Grading D	TON	32		32	$ 115.33	$ 3,747.35
						PAVING TOTAL (ROUNDED)	$ 21,600
Concrete Roads							
						CONCRETE RAMPS AND ROADWAYS TOTAL (ROUNDED)	$ -
Drainage							
607-05.02	24" Concrete Pipe Culvert (Class III)	LF	24		24	$ 85.56	$ 2,048.22
611-07.01	Class A Concrete (Pipe Endwalls)	CY	1		1	$ 1,055.18	$ 1,291.12
611-07.02	Steel Bar Reinforcement (Pipe Endwalls)	LB	116		116	$ 2.31	$ 268.69
710.02	Aggregate Underdrains (with pipe)	LF	401		401	$ 5.46	$ 2,190.99
						DRAINAGE TOTAL (ROUNDED)	$ 5,800
Appurtenances							
						ROADWAY AND PAVEMENT APPURTENANCES TOTAL (ROUNDED)	$ -
Earthwork & Mineral							
105-01	Constrction Stakes, Lines, and Grades	LS	1	-0.7	0.3	$ 112,407.96	$ 33,722.39
203-01	Road & Drainage Excavation (Unclassified)	CY	1391		1391	$ 16.79	$ 23,357.35
203-03	Borrow Excavation (Unclassified)	CY	1159		1159	$ 15.04	$ 17,436.79
						EARTHWORK & MINERAL TOTAL (ROUNDED)	$ 74,600
Structures							
N/A	Removal of Bridge	SF	827	827	1654	$ 20.00	$ 33,070.00
N/A	New Bridge (Concrete Girder):	SF	950		950	$ 125.00	$ 118,702.50
						STRUCTURES TOTAL (ROUNDED)	$ 151,800
Interchanges and Unique Intersections							
						INTERCHANGES AND UNIQUE INTERSECTIONS TOTAL (ROUNDED)	$ -
Lighting & Signalization							
730-40	Temporary Traffic Signal System	EA		2	2	$ 20,000.00	$ 40,000.00
						LIGHTING & SIGNALIZATION TOTAL (ROUNDED)	$ 40,000
Guardrail							
705-01.01	Guardrail at Bridge Ends	LF	100		100	$ 73.64	$ 7,364.49
705-02.02	Single Guardrail (Type 2)	LF	110		110.352	$ 18.82	$ 2,077.32
705-04.04	Guardrail Terminal (Type 21)	EA		4	4	$ 1,866.97	$ 7,467.87
705-04.07	Tan Energy Absg Term (NCHRP, 350, TL3)	EA	5	-1	4	$ 2,352.59	$ 9,410.38
705-04.09	Earth Pad for Type 38 GR End Treatment	EA	5	-1	4	$ 1,294.80	$ 5,179.21
						GUARDRAIL TOTAL (ROUNDED)	$ 31,500
Seeding and Sodding							
801-01	Seeding (With Mulch)	UNIT	18		18	$ 78.33	$ 1,375.14
801-01.07	Temporary Seeding (With Mulch)	UNIT	13		13	$ 29.95	$ 394.29
801-02	Seeding (Without Mulch)	UNIT	13		13	$ 28.54	$ 375.78
						SODDING TOTAL (ROUNDED)	$ 2,200
Maintenace of Traffic							
N/A	Traffic Control	LS	1		1		$ 13,728.00
712-02.02	Interconnected Portable Barrier Rail	LF	10	75	85	$ 31.96	$ 2,717.57
						MAINTENANCE OF TRAFFIC TOTAL (ROUNDED)	$ 16,500
Signs							
Not Listed	Signs (Construction)	LS	1		1	$ -	$ 300
						SIGNING TOTAL (ROUNDED)	$ 300
Pavement Markings							
716-13.06	Spray Thermo P.M. (40 mil 4")	LM	0.3		0.3	$ 2,889.50	$ 834.49
						PAVEMENT MARKINGS TOTAL (ROUNDED)	$ 900
Fencing							
						FENCE TOTAL (ROUNDED)	$ -
Rip-Rap							
						RIP-RAP & SLOPE PROTECTION TOTAL (ROUNDED)	$ -
Clearing and Grubing							
201-01	Clearing and Grubbing	LS		0.04	0.04	$ 264,380.06	$ 10,575.20
						CLEAR AND GRUBBING TOTAL (ROUNDED)	$ 10,600.00
Railroad At-Grade Crossing							
						RAILROAD CROSSING OR SEPARATION TOTAL (ROUNDED)	$ -
Utilties							
N/A	Overhead Distribution	LM	0.038		0.038	$ 375,000	$ 14,250
						UTILITIES TOTAL (ROUNDED)	$ 14,300.00
Right-of-Way							
N/A	Right-of-Way	LS	1	7	8	$ 1,842.42	$ 14,739.39
						RIGHT-OF-WAY TOTAL (ROUNDED)	$ 14,800.00

BRIDGE TIR

LOCATION			
Bridge #:	49SR0870011	Feature Crossed:	Overflow
Road Name:	State Route 87	Log mile:	3.88
Route ID:	SR087	System:	5-STP Rural, State
City:	Fulton	Functional Class:	Rural Collector
County:	Lauderdale	State Project Number	49006-0240-04
PIN:	124637.00		

ROADWAY		
	Existing	**Proposed (Preliminary Design Estimate)**
Design Standard		RD01-TS-2 / 2011 Green Book
Route Characteristics		
AADT:	410	490
AADT Year:	2022	2042
Terrain:	Rolling	Rolling
No. Lanes:	2	2
Speed(Posted):	55	55
Speed (Design):		55
Approach Character.		
Lane Width (ft):	10	11
Shoulder Width (ft):	4	3
ROW Width (ft):	50	90
ROW Tracts Affected		4
ROW Required (acre)		0.14
Cross Section Width (ft):	20/28/50	22/28/90
Approach Length (ft):		100' (east), 100' (west)
Alignment:	tangent	tangent
Grade:		raising grade 2.5"
Surface Material:	Pavement	Pavement
Sidewalks (R/L):	No	No
App. Lower Than Structure	No	Yes
Utilities (list)	OH electric	N/A
Utilities to be Relocated	N/A	OH Electric
Comments		Bridge to be built in a phased construction since no detour is available.

BRIDGE TIR

Lauderdale
State Route 87

STRUCTURE		
	Existing	**Proposed (Preliminary Design Estimate)**
Bridge Characteristics		
Year Built	1986	
Load Limit	17 tons(inspection report), 40 tons(signed)	
Sufficiency Rating	40.7	
Skew	90	90
Structure Type	Steel I-beam	Prestressed Box Beam
Structures in Channel	No	No
Length (ft)	29	32.3
No. Spans (App./Main)	0 | 1	0 | 1
Width (curb to curb) (ft)	25.3	28
Width (o to o) (ft)	28.5	29.4
Sidewalks on Structure	No	No
Vert. Clearance (ft)	7	7
Superstructure Depth (in)	54	62.3
Girder Depth (in)	21	17
Finish Grade-Low Girder (in)	27	29.5
High Water Marks	N/A	
Bridge Rail Type	Guardrail	Single Slope Concrete Parapet
Bridge Rail Height (ft)	2.25	3
Indication Overtopping	No	
Local Scour	No	
Obstructions	No	
Other Structures	N/A	N/A
Comments	Timber substructure in poor condition. Approach #2 A/C has up to 1" settlement & up to half inch cracks. Medium weathering on timber structure, deck boards & nailed timber. Steel I-beams have light corrision.	

BRIDGE TIR

Lauderdale
State Route 87

FLOW RATES (from USGS StreamStats)	
Drainage Area (sq. miles)	0.04
10 Year Discharge Rate (Q10) cfs	128
50 Year Discharge Rate (Q50) cfs	162
100 Year Discharge Rate (Q100) cfs	176

CHANNEL	
Depth (ft)	N/A
Width of Normal Flow (ft)	9
Depth of Normal Flow (ft)	N/A
Skew of Channel with Roadway	90
Type of Material in Stream Bed	silt
Type of Vegetation on Banks	low growth, large timber
Are Channel Banks Stable	No
Signs of Stream Aggradation	No
Signs of Stream Degradation	No
Drift or Drift Potential	Yes
Comments	

FLOODPLAIN	
Skew Same as Channel	Yes
Symmetrical About Channel	Yes
Approx. Floor Elevations	N/A
Type of Vegetation in Floodplain	low growth, large timber, grass
Any Buildings in Floodplain	No
Flood Information From Locals	N/A
Comments	

MAINTENANCE OF TRAFFIC	
Method of Maintaining Traffic	stage construct
Description	The phased construction will consist of one lane closed while the other remains open with temporary traffic signals and temporary barriers being utilized for traffic control. The remaining travel lane must have a width of at least 10 feet.
Comments	

TENNESSEE DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

PROJECT NO.: 49006-0240-04 ROUTE: S.R. 87
COUNTY: LAUDERDALE CITY:
PROJECT PIN NUMBER: 124637.00
PROJECT DESCRIPTION: BRIDGE OVER OVERFLOW (L.M. 3.88)

DIVISION REQUESTING:

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

YEAR PROJECT PROGRAMMED FOR CONSTRUCTION:
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
410	2022	490	64	13	2042	65-35	9	14		

REQUESTED BY: NAME CALEB SMITH DATE 11/6/17
DIVISION S.T.I.D.
ADDRESS 505 DEADERICK STREET
NASHVILLE, TN. 37243

REVIEWED BY: TONY ARMSTRONG DATE 11·29·17
TRANSPORTATION MANAGER I
SUITE 1000, JAMES K. POLK BUILDING

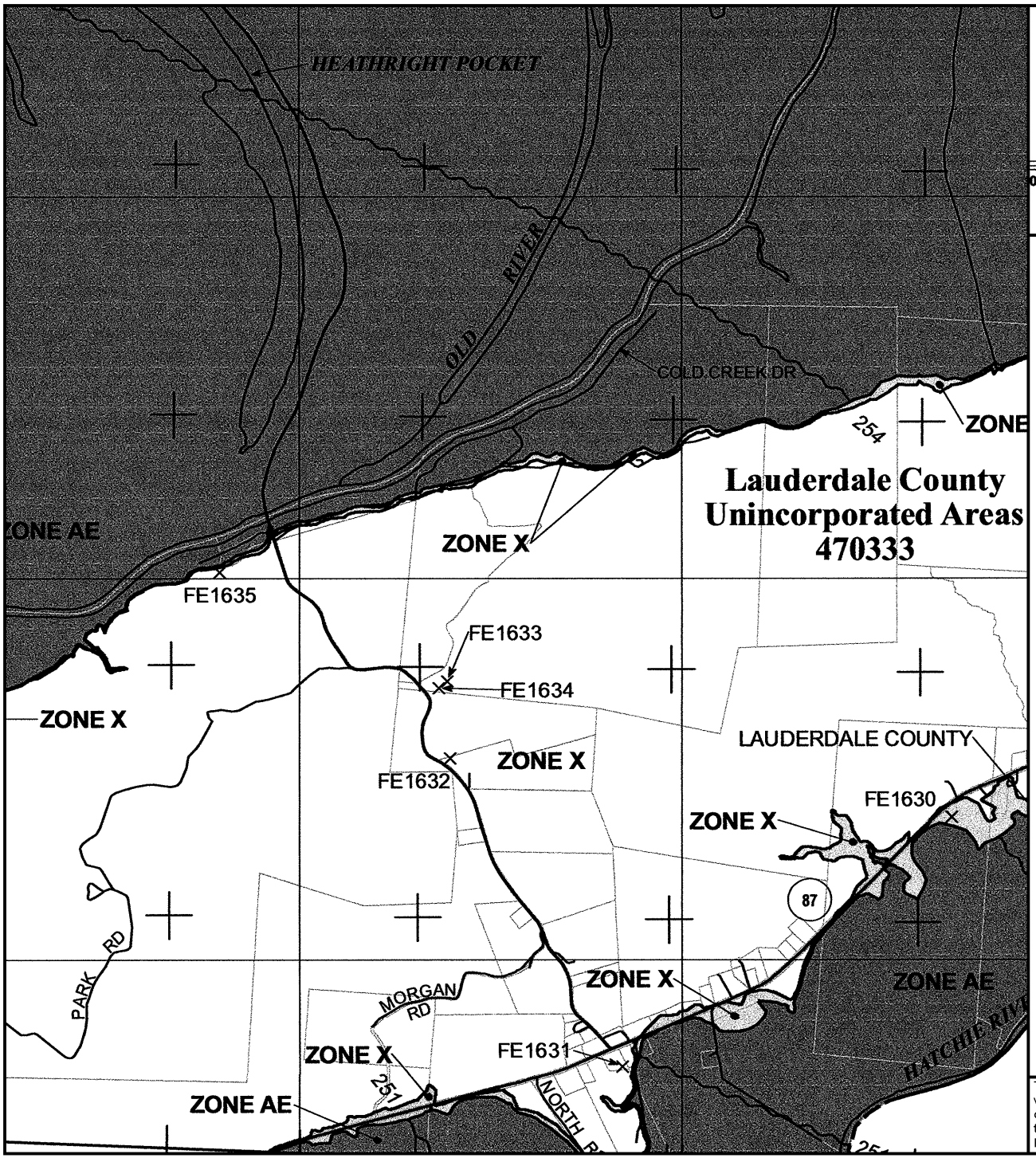
APPROVED BY: JIM WATERS DATE 11/29/17
ASSISTANT DIRECTOR
SUITE 1000, JAMES K. POLK BUILDING

COMMENTS:

THIS TRAFFIC BASED ON 2017 CYCLE COUNTS. 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. 2/22/17)



MAP SCALE 1" = 2000'

1,000 0 1,000 2,000 3,000 4,000 FEET

METE

0 600 1,200

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0325D

FIRM

FLOOD INSURANCE RATE MAP

LAUDERDALE COUNTY, TENNESSEE

AND INCORPORATED AREAS

PANEL 325 OF 500

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
LAUDERDALE COUNTY	470333	0325	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
47097C0325D

EFFECTIVE DATE
SEPTEMBER 28, 2007

Federal Emergency Management Agency

StreamStats Report

Region ID: TN
Workspace ID: TN20180105150212737000
Clicked Point (Latitude, Longitude): 35.62688, -89.82609
Time: 2018-01-05 09:01:43 -0600

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CONTDA	Area that contributes flow to a point on a stream	0.0425	square miles
DRNAREA	Area that drains to a point on a stream	0.04	square miles
RECESS	Number of days required for streamflow to recede one order of magnitude when hydrograph is plotted on logarithmic scale	32	days per log cycle
PERMGTE2IN	Percent of area underlain by soils with permeability greater than or equal to 2 inches per hour	86.734	percent
CLIMFAC2YR	Two-year climate factor from Lichy and Karlinger (1990)	2.393	dimensionless
SOILPERM	Average Soil Permeability	1.212	inches per hour

Peak-Flow Statistics Parameters [DAOnly Area 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
CONTDA	Contributing Drainage Area	0.0425	square miles	0.76	2308

Peak-Flow Statistics Disclaimers [DAOnly Area 4]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Peak-Flow Statistics Flow Report [DAOnly Area 4]

Statistic	Value	Unit
2 Year Peak Flood	82.5	ft^3/s
5 Year Peak Flood	111	ft^3/s
10 Year Peak Flood	128	ft^3/s
25 Year Peak Flood	148	ft^3/s
50 Year Peak Flood	162	ft^3/s
100 Year Peak Flood	176	ft^3/s
500 Year Peak Flood	206	ft^3/s

Peak-Flow Statistics Citations

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/)

Low-Flow Statistics Parameters [Low Flow West Region 2009 5159]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.04	square miles	2	2405
RECESS	Recession Index	32	days per log cycle	32	350
PERMGTE2IN	Percent permeability gte 2 in per hr	86.734	percent	2	98

Low-Flow Statistics Disclaimers [Low Flow West Region 2009 5159]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Low-Flow Statistics Flow Report [Low Flow West Region 2009 5159]

Statistic	Value	Unit
7 Day 10 Year Low Flow	0.000195	ft^3/s
30 Day 5 Year Low Flow	0.000375	ft^3/s

Low-Flow Statistics Citations

Law, G.S., Tasker, G.D., and Ladd, D.E.,2009, Streamflow-characteristic estimation methods for unregulated streams of Tennessee: U.S. Geological Survey Scientific Investigations Report 2009–5159, 212 p., 1 pl. (http://pubs.usgs.gov/sir/2009/5159/)

Annual Flow Statistics Parameters [Low Flow West Region 2009 5159]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.04	square miles	2	2405
RECESS	Recession Index	32	days per log cycle	32	350
CLIMFAC2YR	Tennessee Climate Factor 2 Year	2.393	dimensionless	2.307	2.455
PERMGTE2IN	Percent permeability gte 2 in per hr	86.734	percent	2	98

Annual Flow Statistics Disclaimers [Low Flow West Region 2009 5159]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Annual Flow Statistics Flow Report [Low Flow West Region 2009 5159]

Statistic	Value	Unit
Mean Annual Flow	0.052	ft^3/s

Annual Flow Statistics Citations

Law, G.S., Tasker, G.D., and Ladd, D.E.,2009, Streamflow-characteristic estimation methods for unregulated streams of Tennessee: U.S. Geological Survey Scientific Investigations Report 2009–5159, 212 p., 1 pl. (http://pubs.usgs.gov/sir/2009/5159/)

Seasonal Flow Statistics Parameters [Low Flow West Region 2009 5159]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.04	square miles	2	2405
RECESS	Recession Index	32	days per log cycle	32	350
PERMGTE2IN	Percent permeability gte 2 in per hr	86.734	percent	2	98

Seasonal Flow Statistics Disclaimers [Low Flow West Region 2009 5159]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Seasonal Flow Statistics Flow Report [Low Flow West Region 2009 5159]

Statistic	Value	Unit
Summer Mean Flow	0.0115	ft^3/s

Seasonal Flow Statistics Citations

Law, G.S., Tasker, G.D., and Ladd, D.E.,2009, Streamflow-characteristic estimation methods for unregulated streams of Tennessee: U.S. Geological Survey Scientific Investigations Report 2009–5159, 212 p., 1 pl. (http://pubs.usgs.gov/sir/2009/5159/)

Flow-Duration Statistics Parameters [Low Flow West Region 2009 5159]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.04	square miles	2	2405
RECESS	Recession Index	32	days per log cycle	32	350
PERMGTE2IN	Percent permeability gte 2 in per hr	86.734	percent	2	98
CLIMFAC2YR	Tennessee Climate Factor 2 Year	2.393	dimensionless	2.307	2.455
SOILPERM	Average Soil Permeability	1.212	inches per hour	0.97	2.44

Flow-Duration Statistics Disclaimers [Low Flow West Region 2009 5159]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Flow-Duration Statistics Flow Report [Low Flow West Region 2009 5159]

Statistic	Value	Unit
99.5 Percent Duration	0.000176	ft^3/s
99 Percent Duration	0.000234	ft^3/s
98 Percent Duration	0.000291	ft^3/s
95 Percent Duration	0.000388	ft^3/s
90 Percent Duration	0.000485	ft^3/s
80 Percent Duration	0.000718	ft^3/s
70 Percent Duration	0.000994	ft^3/s
60 Percent Duration	0.000983	ft^3/s
50 Percent Duration	0.00178	ft^3/s
40 Percent Duration	0.00375	ft^3/s
30 Percent Duration	0.011	ft^3/s
20 Percent Duration	0.0366	ft^3/s
10 Percent Duration	0.079	ft^3/s

Flow-Duration Statistics Citations

Law, G.S., Tasker, G.D., and Ladd, D.E.,2009, Streamflow-characteristic estimation methods for unregulated streams of Tennessee: U.S. Geological Survey Scientific Investigations Report 2009–5159, 212 p., 1 pl. (http://pubs.usgs.gov/sir/2009/5159/)

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	X
2.	Airport (existing or proposed)	
3.	Commercial area, shopping center	
4.	Floodplains	X
5.	Forested land	X
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	X
	b. Game preserve or wildlife area	X
10.	Residential establishment	
11.	Urban area, town, city, or community	
12.	Waterway, lake, pond, river, stream, spring	X

Permit required:		
	Coast Guard	
	Section 404	X
	TVA Section 26a review	
	NPDES	X
	Aquatic Resource Alteration	X

13.	Other	
14.	Location coordinated with local officials	
15.	Railroad crossings	
16.	Hazardous materials site	

Comments: Additional environmental information includes perform a bat survey and fish sweep.

BRIDGE TIR

Lauderdale
State Route 87

SITE VISIT ATTENDEES			DATE: 1/11/2018
Name	Organization	Phone	Email
David Duncan	TDOT (STID)	615-532-6131	david.a.duncan@tn.gov
Joseph Clement	TDOT (STID)	615-770-1035	joseph.clement@tn.gov
Willie Coleman	TDOT Utilities	731-935-0160	willie.coleman@tn.gov
Robert Hope	TDOT Survey	731-935-0241	robert.hope@tn.gov
Branden Garcia	TDOT Operations	731-695-5776	branden.garcia@tn.gov
Burt Hutchins	R4 Project Dev.	731-935-0142	burt.hutchins@tn.gov
Nicholas Stephens	R4 Project Dev.	731-935-0133	nicholas.stephens@tn.gov
Evelyn DiOrio	R4 Env. Tech	731-935-0302	evelyn.diorio@tn.gov
Eric Philipps	R4 Env. Tech	731-935-0174	eric.philipps@tn.gov
Derek Ryan	R4 Traffic		derek.ryan@tn.gov
Brandon Taylor	KCI	615-559-0158	brandon.taylor@kci.com
Daniel Keener	KCI	980-288-6763	daniel.keener@kci.com
Drew Randolph	KCI	615-559-0157	drew.randolph@kci.com

Transportation Investment Report for Bridge ID: 49SR0870011
Lauderdale County
State Route 87

Bridge Number

Upstream

Transportation Investment Report for Bridge ID: 49SR0870011
Lauderdale County
State Route 87

Downstream

Inlet

Outlet

Floodplain Right (West) Downstream

Floodplain Left (East) Downstream

Floodplain Right (East) Upstream

Transportation Investment Report for Bridge ID: 49SR0870011
Lauderdale County
State Route 87

Floodplain Left (West) Upstream

East Approach of Bridge Looking West

Transportation Investment Report for Bridge ID: 49SR0870011
Lauderdale County
State Route 87

West Approach of Bridge looking East

Looking West From Bridge

Transportation Investment Report for Bridge ID: 49SR0870011
Lauderdale County
State Route 87

Looking East From Bridge

Weight Limit Sign at East Approach

Utility Poles West of Bridge Downstream

Utility Poles East of Bridge Downstream

East Abutment at Outlet

West Abutment at Outlet

Corrosion of Girders at Outlet

Corrosion and Vegetation of Girders at Inlet

Transportation Investment Report for Bridge ID: 49SR0870011
Lauderdale County
State Route 87

Cracking and Spalling of Pavement at West Approach

Cracking and Poor pavement patching conditions at East approach

Transportation Investment Report for Bridge ID: 49SR0870011
Lauderdale County
State Route 87

Severe Cracking on Bridge Surface

East Abutment

Transportation Investment Report for Bridge ID: 49SR0870011
Lauderdale County
State Route 87

West Abutment

Bridge Beams

NATIONAL BRIDGE INVENTORY
TENNESSEE INVENTORY AND APPRAISAL REPORT

TDOT DEPARTMENT OF TRANSPORTATION

BRIDGE ID NUMBER: **49SR0870011**
BRIDGE OWNER: **STATE OF TENNESSEE**
FIPS CODE: **00000**
ROAD NAME: **SR-87**
CROSSING: **OVERFLOW**
LOCATION: **1.68 MI. E OF SR-207 JCT.**

COUNTY: **LAUDERDALE**
ROUTE: **SR087**
SPECIAL CASE: **0**
COUNTY SEQUENCE: **1**
LOG MILE: **3.88**
SUFFICIENCY RATING: **53.4**

IDENTIFICATION

(16a,b) LATITUDE:	N	35.62689	DEGREES
(17a,b) LONGITUDE:	W	89.82611	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: **STEEL**
(44a) APPR SPAN MATERIAL: **NOT APPLICABLE**

(45) NUMBER OF MAIN SPANS: **1**
(46) NUMBER OF APPROACH SPANS: **0**
(107) TYPE OF DECK: **WOOD OR TIMBER**
(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: **1986**
(106) YEAR THE BRIDGE WAS REHABILITATED: **N/A**
(42a) SERVICE ON BRIDGE: **HIGHWAY**
(42b) UNDER BRIDGE: **WATERWAY**
(28a) NUMBER OF LANES CARRIED BY BRIDGE: **2**
(28b) NUMBER OF LANES UNDER THE BRIDGE: **0**

GEOMETRIC DATA

(48) MAXIMUM SPAN LENGTH: **28.9 FT**
(49) TOTAL BRIDGE LENGTH: **28.9 FT**
(50a) LEFT SIDEWALK WIDTH: **0.0 FT**
(50b) RIGHT SIDEWALK WIDTH: **0.0 FT**
(51) BRIDGE CURB TO CURB WIDTH: **25.3 FT**
(52) BRIDGE OUT TO OUT WIDTH: **28.5 FT**
(32) APPROACH ROADWAY (W/ SHLDS) WIDTH: **28.9 FT**
(33) BRIDGE MEDIAN: **NO MEDIAN**
(34) BRIDGE SKEW: **0 DEGREES**
(35) BRIDGE FLARE: **NO FLARE**
(520) MIN VERTICAL CLEARANCE OVER RD: **NO RESTRICTION**
(47) MIN HORIZONTAL CLEARANCE ON ROADWAY: **25.3 FT**
(54a) VERT UNDERCLR: **NOT A HIGHWAY OR RAILROAD**
(54b) MIN VERTICAL UNDERCLEARANCE: **NOT APPLICABLE**
(55a) HORZ UNDERCLR: **NOT A HIGHWAY OR RAILROAD**
(55b) MIN HORZ UNDERCLR ON RIGHT: **NOT APPLICABLE**
(56) MIN HORZ UNDERCLR ON LEFT: **NOT APPLICABLE**

NAVIGATION DATA

(38) NAV CONTROL: **NO NAVIGATION CONTROL**
(39) NAVIGATION VERTICAL CLEARANCE: **N/A**
(116) LIFT BRIDGE VERT CLEARANCE: **N/A**
(40) NAVIGATION HORZ CLEARANCE: **N/A**

PUBLICATION DATE
27-Jul-18

CLASSIFICATION

(112) MEETS NBIS BRIDGE LENGTH: **YES**
(104) NATIONAL HIGHWAY SYSTEM: **NOT A NHS ROUTE**
(26) FUNCTIONAL CLASS: **RURAL MAJOR 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: **6**
(61) STREAM CHANNEL AND CHANNEL PROTECTION: **6**
(62) CULVERT CONDITION (IF APPLICABLE): **N**

DESIGN LOAD AND WEIGHT POSTING

(31) DESIGN LOADING: **OTHER OR UNKNOWN**
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: **4**
(69) UNDERCLEARANCE RATING: **N**
(71) WATERWAY ADEQUACY: **6**
(72) APPROACH ROADWAY ALIGNMENT: **8**
(36) TRAFFIC SAFETY FEATURES: **0000**
(113) SCOUR CONDITION RATING: **U**

RECOMMENDED IMPROVEMENTS

(75) TYPE OF WORK: **BRIDGE REPLACEMENT**
(76) LENGTH OF BRIDGE IMPROVEMENT: **50.9 FT**
(94) BRIDGE IMPROVEMENT COST: **$338,000.00**
(95) ROADWAY IMPROVEMENT COST: **$34,000.00**
(96) TOTAL PROJECT COST: **$508,000.00**
(97) YEAR OF IMPROVEMENT COST ESTIMATE: **2018**

INSPECTION DATES

(90) DATE OF LAST REGULAR INSPECTION: **3/7/2018**
(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**

From:	Christopher Armstrong
To:	Abby Harris
Cc:	Joseph Santangelo; Zane Pannell
Subject:	RE: PIN 124637.00, Lauderdale, SR-87 Brigde over Overflow
Date:	Thursday, August 16, 2018 3:26:18 PM
Attachments:	image001.png image002.png

Yes I am positive they will continue with its replacement. Since its barely above the 50% rating, it will be replaced since its funded through the Improve Act. I think the repairs were just a stop gap measure to delay the replacement as long as they could because they didn't have funding at the time of the repairs to replace it.

Chris Armstrong, BS, MA
Transportation Manager 1 | TDOT Strategic Transportation Investments Division
505 Deaderick St. Suite 1000
Nashville, TN 37243
Tel: (615) 741-3216
Fax: (615) 532-0353
E-mail: Christopher.Armstrong@Tn.Gov
http://www.tn.gov/tdot/section/strategic-transportation-investments

From: Abby Harris
Sent: Thursday, August 16, 2018 3:14 PM
To: Christopher Armstrong
Cc: Joseph Santangelo; Zane Pannell
Subject: RE: PIN 124637.00, Lauderdale, SR-87 Brigde over Overflow

Thanks, Chris! Do you happen to know why the project is going forward as a replacement then since the sufficiency rating after the repair is now within the rehab range?

I just want to make sure I am covering all my bases for the NEPA document.

From: Christopher Armstrong
Sent: Thursday, August 16, 2018 3:08 PM
To: Jeremy Bowlan; Abby Harris
Cc: Joseph Santangelo; Zane Pannell
Subject: RE: PIN 124637.00, Lauderdale, SR-87 Brigde over Overflow

Abby,
Attached is the 2016 report and a small document saying repair/replacement work was done. That work led to the higher rating in 2018.

Chris Armstrong, BS, MA
Transportation Manager 1 | TDOT Strategic Transportation Investments Division
505 Deaderick St. Suite 1000
Nashville, TN 37243
Tel: (615) 741-3216
Fax: (615) 532-0353
E-mail: Christopher.Armstrong@Tn.Gov
http://www.tn.gov/tdot/section/strategic-transportation-investments

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From: Jeremy Bowlan
Sent: Thursday, August 16, 2018 1:52 PM
To: Abby Harris
Cc: Joseph Santangelo; Zane Pannell; Christopher Armstrong
Subject: RE: PIN 124637.00, Lauderdale, SR-87 Brigde over Overflow

Abby,

Typically when the sufficiency rating increases that means that a repair/rehab project has been done. I don't see one in PPRM, but I don't handle Region 4. I have copied Chris Armstrong and Zane Pannell, who handle Region 4, and they will get you a definitive response ASAP.

Sorry I can't be more helpful.

Jeremy

From: Abby Harris
Sent: Thursday, August 16, 2018 1:45 PM
To: Jeremy Bowlan
Cc: Joseph Santangelo
Subject: PIN 124637.00, Lauderdale, SR-87 Brigde over Overflow

Hi Jeremy,

I was hoping you could help clear something up for me, or maybe direct me to someone who can.

I am working on the subject project for NEPA. In reviewing the TIR, I noticed that it states the sufficiency rating as 40.7 based on the Bridge Inspection Report from 04/05/2016. However, the most up to date Bridge Inspection Report from 07/27/2018 lists the sufficiency rating as 53.4. Do you know of any reason that the sufficiency rating would have increased, and/or do you have a copy of the 2016 Bridge Inspection Report that would have been utilized in the TIR?

Thank you for any help you can provide!

Abby

Abby Harris
TDOT Environmental Studies Specialist (TESS) - NEPA
Tennessee Department of Transportation¦Environmental Division
James K. Polk Building, 9th Floor
505 Deadrick St, Suite 900, Nashville, TN 37243
(615) 741-4599
abby.harris@tn.gov

Bridge Maintenance Recommendations

TDOT

Bridge Location No.: **49 - SR087 - 0390**
Co. Route Log Mile

Bridge Number: **49SR0870011**

Over/Underpass No:

Crossing: BRANCH

Road Name:

Road Name #2:

Bridge Rating: POOR

Region: 04
District: 49 Spec.Cas -0-
Maint.Resp 02 Co.Seq: 01

Inspection Cycle: 23 County: Lauderdale

Inspection Date: 4/5/2016 City:

G.P.S.:
N35 37.6133
W89 49.5666

Comments:

Pipes:
@ ' x '
Barrels Length Width

RECOMMENDATIONS:

Maintenance Completed: by/date

200	**REPAIR OR REPLACE _TIMBER _ CAP AT ABUTMENT NO. _1 & 2**

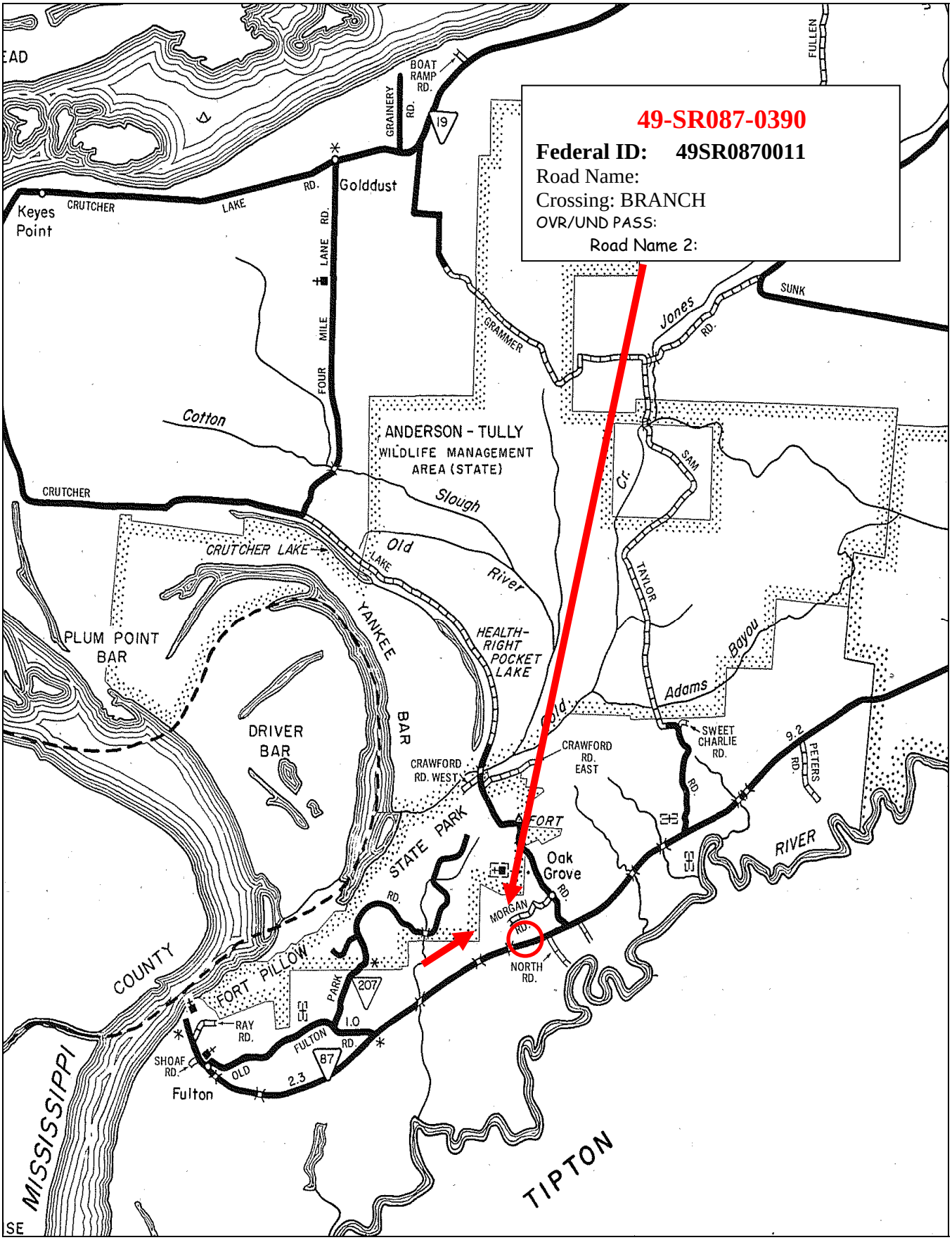
SUGGESTED ROUTINE MAINTENANCE:

238	**BRIDGERAILS ARE SUBSTANDARD**
228	**APPROACH GUARDRAILS ARE SUBSTANDARD**
226	**APPROACH GUARDRAIL TERMINALS ARE SUBSTANDARD**
001	**LEVEL APPROACH NO. _1 & 2**

COMMENTS:
Repaired or replaced cap @ Abut 1 & 2
completed 4/25/16
RR

RECEIVED
MAY 03 2016
REGION 4
BRIDGE INSPECTION

LAUDERDALE COUNTY



BRIDGE MAINTENANCE RECOMMENDATIONS

COUNTY: LAUDERDALE
LOCATION: 49-SR087-03.88-
CO. SEQ.: 1 SPEC. CASE: 0

Tennessee Department of Transportation

CROSSING: OVERFLOW
FED. BRIDGE NO.: 49SR0870011
MAINT. DIST.: 49

REPAIR LIST NO.: 3
DATE ADDED: 05/01/2014
REVISED: 04/05/2016

FACILITY CARRIED:	FAS 87			NUMBER OF MAIN SPANS:	1
HIGHWAY SYSTEM:	05-STP	RURAL,	STATE	NUMBER OF APPROACH SPANS:	0
BRIDGE WIDTH (CURB TO CURB):	25 FT	3	IN	BRIDGE LENGTH (FT):	29
BRIDGE WIDTH (OUT TO OUT):	28 FT	6	IN	MAXIMUM SPAN LENGTH (FT):	29
APPROACH ROADWAY (W/SHOULDERS):	28 FT	10	IN	SKEW ANGLE (DEGREES):	90

MAINTAINED BY:	STATE HIGHWAY AGENCY
MAIN SPAN MATERIAL:	STEEL
MAIN SPAN DESIGN TYPE:	STRINGER/MULTI-BEAM OR GIRDER
APPROACH SPAN MATERIAL:	OTHER OR NOT APPLICABLE
APPROACH SPAN DESIGN TYPE:	OTHER OR NOT APPLICABLE

INSPECTION DATE:	04/05/2016	GENERAL CONDITION:	POOR
EVALUATION DATE:	05/01/2014	STRUCTURALLY DEFICIENT:	YES
PPRM PIN NUMBER:			
H TRUCK RATING @ INV.:	17 TONS	SUFFICIENCY RATING:	40.7

No.	RECOMMENDATIONS	REPAIR DATE	REPAIRED BY
1.	REPAIR CAPBEAM AT ABUTMENT NO. 1 & 2		

SUGGESTED ROUTINE MAINTENANCE AND COMMENTS
LEVEL THE WEARING SURFACE AT BOTH APPROACHES.
APPROACH GUARDRAIL TERMINALS ARE SUBSTANDARD
APPROACH GUARDRAILS ARE SUBSTANDARD
BRIDGRAILS ARE SUBSTANDARD

GENERAL COMMENTS:

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

Bridge Condition Coding Form

Revised 04/07/2016

Bridge Number: (Includes Item 5A)	49SR08700111
Feature Intersected:	OVERFLOW
Evaluation Status:	OTHER ITEM(S) HAVE BEEN CHANGED
County:	49
Route:	SR087
Special Case:	0
County Sequence:	1
Log Mile:	3.88

CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE
90	LAST INSPECTION DATE	04/05/2016
	EARLIEST DATE OF NEXT REGULAR INSPECTION	02/04/2018
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN. / FT. IN.
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN. / FT. IN.
36	TRAFFIC SAFETY FEATURES	Br. Rail 0 / Trans. 0 / Appr. Rail 0 / Terminal 0 / SPEED LIMIT 55
41	STRC OPEN/CLOSED/POSTED (A K P)	A
58	DECK	7
59	SUPERSTRUCTURE	6
60	SUBSTRUCTURE	4
61	CHANL/CHANL PROTECTION	6
62	CULVERT AND RETAIN WALL	N
71	WATERWAY ADEQUACY	6
72	APPROACH RDWY ALIGNMENT	8
521	OVERALL CONDITION	POOR
16	LATITUDE	N 35° 37.6133′
17	LONGITUDE	W 89° 49.5667′

TEAM LEADER SIGNATURE

REVIEW DATE

CONDITION CODING GUIDELINES
(Values for Coding Items 58, 59, 60 and 62)

- 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 CORRECTIVE ACTION.

Bridge Loc. No: 49-SR087-03.90 Date: 04-05-16

LOOKING AHEAD ON ROUTE

VIEW ACROSS TOP OF DECK

Bridge Loc. No: 49-SR087-03.90 Date: 04-05-16

APPROACH # 1 A/C SETTLED & CRACKED

DOWN STREAM

Bridge Loc. No: 49-SR087-03.90 Date: 04-05-16

UP STREAM

APPROACH # 2 A/C CRACKS

Bridge Loc. No: 49-SR087-03.90 Date: 04-05-16

LOOKING BACK ON ROUTE

APPROACH # 2 A/C CRACKS

Bridge Loc. No: 49-SR087-03.90 Date: 04-05-16

BRIDGE NUMBER

RIGHT ELEVATION

Bridge Loc. No: 49-SR087-03.90 Date: 04-05-16

DONW STREAM

UP STREAM

Bridge Loc. No: 49-SR087-03.90 Date: 04-05-16

ABUTMENT # 2

BOTTOM OF DECK

Bridge Loc. No: 49-SR087-03.90 Date: 04-05-16

ABUTMENT # 2

LEFT ELEVATION

Bridge Loc. No: 49-SR087-03.90 Date: 04-05-16

ABUTMENT # 1

ABUTMENT # 1 CAP DECAYED OVER PILE "F"

Bridge Loc. No: 49-SR087-03.90 Date: 04-05-16

ABUTMENT # 1 CAP DECAYED OVER PILE "F"

STEEL I BEAM "N" SETTLED TO ABUTMENT # 2 CAP

Bridge Loc. No: 49-SR087-03.90 Date: 04-05-16

STEEL I BEAM "N" SETTLED TO ABUTMENT # 2 CAP

ABUTMENT # 2 TOP OF CAP DECAYED

Bridge Loc. No: 49-SR087-03.90 Date: 04-05-16

ABUTMENT # 1

ABUTMENT # 2 RIGHT TOP OF CAP DECAYED

Bridge Loc. No: 49-SR087-03.90 Date: 04-05-16

ABUTMENT # 2 RIGHT TOP OF CAP DECAYED

ABUTMENT # 2 RIGHT TOP OF CAP DECAYED

Bridge Loc. No: 49-SR087-03.90 Date: 04-05-16

ABUTMENT # 2 RIGHT TOP OF CAP DECAYED

ABUTMENT # 2 RIGHT TOP OF CAP DECAYED

APR 0 5 2016

BRIDGE INSPECTION REPORT

Form BIR 3.0
(Rev. 9-22-98)
DT-0069

Field Report No.: 23 Date: 4/5/16
Previous Report No.: 22 Date: 4-23-14
Co. Seq 01 Plans: YES ( ) NO ( )

Bridge No. 49SR0870011 (Eleven Digit No.) Bridge Location No. 49 - SR087 - 0390 (Co. Route Log Mile) - - (OVER/UNDER PASS)

(Road Name) BRANCH (Feature Intersected) (CITY)

Year Constructed 1986 County Lauderdale Maint. Dist: 49 Maint.Resp: 02

Year Widened ____ Year Rehabilitated ____ (Structure Name (If Named))

FEATURES

Wearing Surface Concrete ( ) Timber ( ) Asphalt (X) Depth 3 (in.)
Flared Width Yes ( ) No (X) Median Width Open ( ) None (X) Closed ( )
Navigational Control Yes ( ) No (X) Bridge Skew 90 ° LT ( ) RT ( )
Structure Type (Main Span) STEEL I. BEAM
Structure Type (Appr.Spans) ____
No. Main Spans 1 No. Approach Spans ____
Maximum Span Length 29.0 (**.* ft.)
Total Length 29.0 (**.* ft.)

INSPECTORS

1. MOORE (TL)
2. LANE
3. STEPHENSON
4. ____
5. ____
6. ____
7. ____
8. ____

WIDTHS (*.* ft.)

Deck Out-to-Out 27.8
Roadway Curb/Curb 26.8
Roadway Rail/Rail ____
Sidewalk Rt. ____ Lt. ____
*Approach Roadway 20.0
*(Does Not Include Shoulders)
Approach Shoulder Rt. 4.0
Lt. 4.0

CLEARANCES

Min. Vertical Clearance over Deck ____ (ft.-in.)
Min. Vertical Under Clearance ____ (ft.-in.)
Min. Lateral Under Clearance Rt. ____ (*.* ft.)
Min. Lateral Under Clearance Lt. ____ (*.* ft.)
FRACTURE CRITICAL: ____
(If Yes, Include BIR 3.9)

NBIS Bridge Length (<25 ft.) ____ (ft.-in.)

UNDERWATER INSPECTION

To Be Performed By: ____ Date ____

DOT FIELD TEAM ( ) CONTRACT DIVERS ( ) NONE REQUIRED (X)

Change in Structural Condition: Yes ( ) No (X) Major Repairs Made: Yes ( ) No (X)

COMMENTS:

LATITUDE: N35 ° 37.6133 '
LONGITUDE: W89 ° 49.5666
G.P.S. Location

BRIDGE RATING: ( ) ( ) (X) ( )
GOOD FAIR POOR CRITICAL

Supervising Bridge Inspector: Ronnie W. Moore II

Form BIR 3.1
(Rev. 9-22-98)
DT-0080

APR 0 5 2016

Bridge Location No. 49 - SR087 - 3.90 (Co. - Route - Log Mile) Date _____

PERFORMANCE EVALUATION

Time of Day Inspected 1:45 PM Weather Conditions SUNNY, 62°F

Vehicles Observed PICKUPS

LIVE LOAD BEHAVIOR

	YES	NO	Comments
Substructure			
Horiz./ Vert. Defl.	( )	(X)	
Vibration	( )	(X)	
Superstructure			
Horiz./ Vert. Defl.	( )	(X)	
Vibration	( )	(X)	

APPROACH

	Rating	Comments
Alignment	(G) F P C	
Slab	G F P C	—
Joints	G F P C	—
Pavement	G F (P) C	APP #1 & #2 (001)
Embankment	(G) F P C	
Drains	G F P C	—

TRAFFIC SAFETY FEATURES

	Rating	STANDARD	SUB-STANDARD	Comments
Bridgerailing	(G) F P C	( )	(X)	
Transitions	G F P C	( )	( )	—
Guardrail	(G) F P C	( )	(X)	
Guardrail Terminal	(G) F P C	( )	(X)	

SIGNING

	YES	NO	NEEDED
Paddleboards	(X)	( )	( )
Vertical Clearance (<14'-6")	( )	(X)	( )
NARROW ( )	( )	(X)	( )
ONE LANE BRIDGE ( )	( )	(X)	( )

Weight Limit Posted
YES ( ) NO (X)
Gross..... _____ Tons
2 Axle..... _____ Tons
3 or more Axles.. _____ Tons

Other Signs or Plaques: NONE

Comments Regarding any Problems with Signing: NONE

APR 0 5 2016

Form BIR 3.2
(Rev. 9-22-98)
DT-0081

Bridge Location No. 49 - SR087 - 0390 (Co. - Route - Log Mile) Date _____

	Rating	Comments
DECK		
Wearing Surface	G (F) P C	
Deck - Structural Condition	G (F) P C	
~~Curbs~~ WHEELGUARDS	G (F) P C	
Median	G F P C	
Sidewalks	G F P C	
Parapet	G F P C	
Railing	(G) F P C	
Paint	G F P C	
Drains	G F P C	
Lighting Standards	G F P C	
Utilities	G F P C	
Joint Leakage	G F P C	
Expansion Joints	G F P C	
SUPERSTRUCTURE		
Bearing Devices	G F P C	
Beams STB	G (F) P C	
~~Girders~~ NAILING TIMBERS	G (F) P C	
P C C S	G F P C	
BOLTS (PCCS)	G F P C	
Floor Beams	G F P C	
Stringers	G F P C	
Diaphragms	G F P C	
Bracing	G F P C	
Trusses - General	G F P C	
Portals	G F P C	
Bracing	G F P C	
Paint	G (F) P C	
Alignment of Members	(G) F P C	

TEXTURE COAT

Condition Rating G F P C
Overall Appearance G F P C N/A
Staining Rating G F P C

Fading G F P C
Needs Spot Painting YES ( ) NO ( )
Needs Repainting YES ( ) NO ( )

Comments _____ Scaling Rating G F P C

RECOMMENDATIONS: _____ CLEAN SEAL JOINTS ( )

CLEAN DRAINS ( )

Form BIR 3.3
(Rev. 9-22-98)
DT-0082

APR 0 5 2016

Bridge Location No. 49 - SR087 - 3.90
Co. Route Log Mile

Date _____

SUBSTRUCTURE

ABUTMENTS

	Rating	Comments	PILES TO BE REPLACED PILE(S)	ABUTMENT
Caps	G F (P) C	ABUT #1 + #2 (200) (1)		
Breastwall	G F P C			
Wings	G (F) P C			
Backwall	G (F) P C			
Plumb	(G) F P C			
Footing	G F P C	—		
Piles	G (F) P C			
Embankment	(G) F P C			
Bearing	G F P C	—		
Slope Paving	G F P C	—		
Rip Rap	G F P C	—		
Earthquake Devices	G F P C	—		

PIERS

		PILE(S)	PIER
Caps	G F P C		
Columns	G F P C		
Plumb	G F P C		
Footings	G F P C		
Piles	G F P C		
Bearing	G F P C		
Web	G F P C		
Earthquake Devices	G F P C		

BENTS

		PILE(S)	BENT
Caps	G F P C		
Columns	G F P C		
Plumb	G F P C		
Footings	G F P C		
Piles	G F P C		
Bearing	G F P C		
Bracing	G F P C		
Earthquake Devices	G F P C		

Piles Need Replacement: NO (X) YES ( )

CUT VEGETATION NO (X) YES ( )

CLEAR DRIFT NO (X) YES ( )

RECOMMENDATIONS: _____

Form BIR 3.8
(Rev. 9-22-98)
DT-1508

APR 0 5 2016

Bridge Location No. 49 - SR087 - 0390 (Co. - Route - Log Mile) Date _____

STREAM CHANNEL DATA AND CONDITIONS

Stream Crossing: BRANCH

I. 1. Type of bed material? SILT
2. Has channel shifted? YES ( ) NO (~~/~~) NOT APPARENT ( )
3. Condition of rip-rap? G F P C Est. % failed _____ % N/A (~~/~~)
4. Overall condition of channel? G (F) P C
5. Item 61 - Code values 0 thru 9 according to the recording and coding guide currently in effect: 6
6. Underwater diver inspection recommended? YES ( ) NO (~~/~~)
   If yes, why? _____

II. Channel and bank stability conditions: (check if applicable)
1. Steep bank conditions: - Failures upstream ( ) Failures downstream ( )
2. Moderate bank erosion (X)
3. Bank vegetation: a. low growth (~~/~~) b. large timber (~~/~~) c. clear banks ( )
   d. dead trees upstream ( ) e. dead trees downstream ( )
4. Sediment or gravel accumulation: YES ( ) NO (~~/~~) UNKNOWN ( )
5. Channel altered or straightened: YES ( ) NO (~~/~~) UNKNOWN ( )
6. Stable conditions: a. live growth (~~/~~) b. bedrock ( )
   c. boulders ( ) d. flat slopes (<=2:1) ( )

III. Waterway adequacy and debris characteristics: (check if applicable
1. Bridge deck elevations:
   a. level with approach roadway. . . . . ( )
   b. higher than approach roadway. . . . . (~~/~~)
   c. roadway approach >= 2 ft. above natural ground line. . (~~/~~)
2. Abutment encroaches into channel. . . . . ( )
3. Large scour (blowhole) under bridge. . . . . ( )
4. Indications that flood waters overtop bridge:
   NO (~~/~~) YES ( ) OCASSIONALLY ( ) FREQUENTLY ( ) UNKNOWN ( )
5. Debris characteristics:
   a. debris/drift present YES ( ) NO (~~/~~)
   b. debris/drift likely to accumulate YES (~~/~~) NO ( )
   c. dead trees upstream ( ) dead trees downstream ( )

IV. Comments: _____

SPECIAL INSPECTION DATA - FOR REASONS OTHER THAN FC OR SCOUR

I. Does this bridge need a special inspection? YES ( ) NO (~~/~~)

II. Reason for special inspection: _____

Inspection Team's Summary

Bridge Location No. **49 -SR087 -03.90**

Inspection Date 04-05-16

Bridge Rating **POOR**

THIS 1 SPAN STEEL I BEAM BRIDGE WITH A TIMBER DECK, A/C OVERLAY, TIMBER WHEEL GUARDS, METAL APPROACH & BRIDGE RAILS, 4 PADDLE BOARDS & A TIMBER SUBSTRUCTURE IS IN (POOR) CONDITION

APPROACH # 2 A/C HAS UP TO 1" SETTLEMENT & UP TO ½" CRACKS THE A/C WEARING SURFACE HAS UP TO 1/8" CRACKS.THE TIMBER DECK BOARDS & NAILED TIMBERS HAV LIGHT TO MEDIUM WEATHERING. THE STEEL I BEAMS HAVE LIGHT CORROSION ABUTMENTS # 1 & # 2 CAPS ARE DECAYED ALONG THE TOP. THE REST OF THE TIMBER SUBSTRUCTURE HAS MEDIUM WEATHERING & FEW DECAYED AREAS

THE SCOUR HAS NO PROBLEMS

JEFFERY STEPHENSON

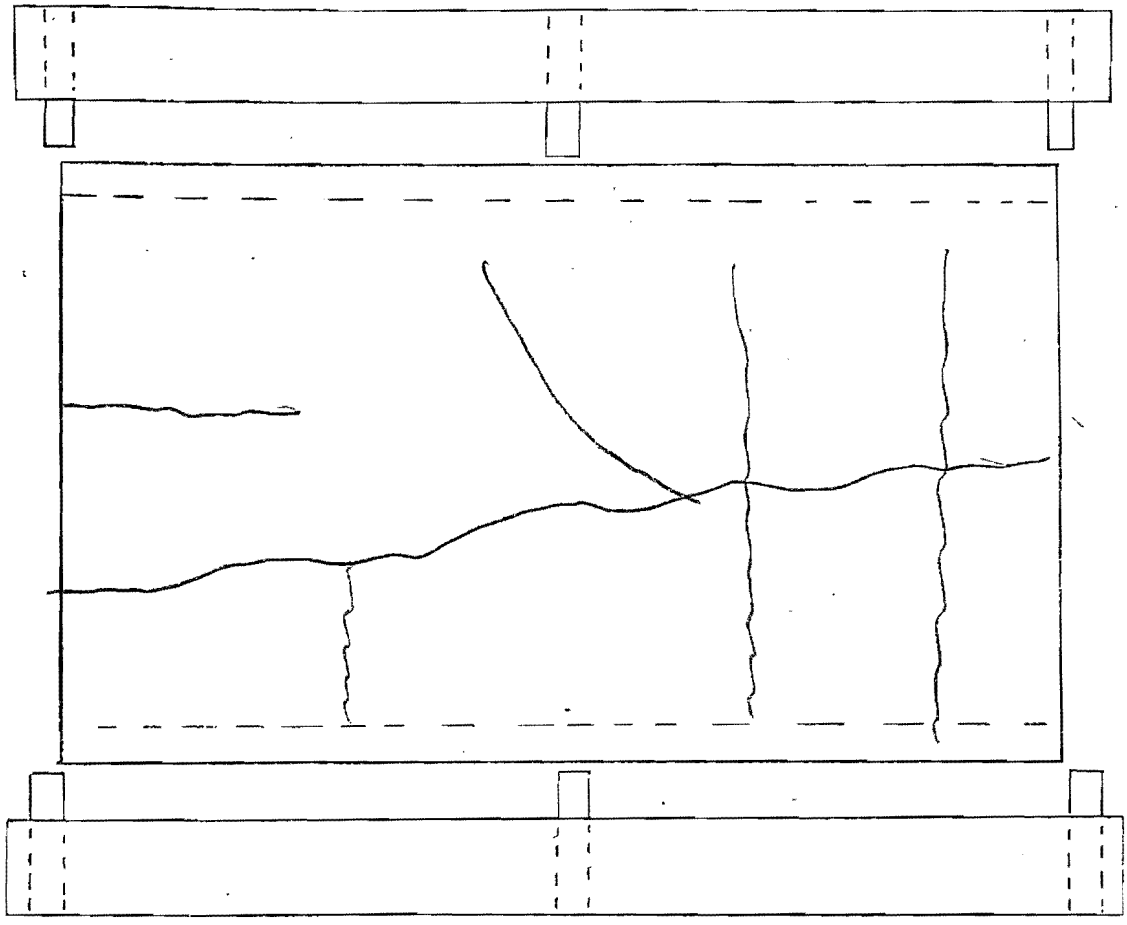
INSPECTOR

CROSS SECTION: YES () NO (X) BRM: YES (X) NO ()

APR 0 5 2016

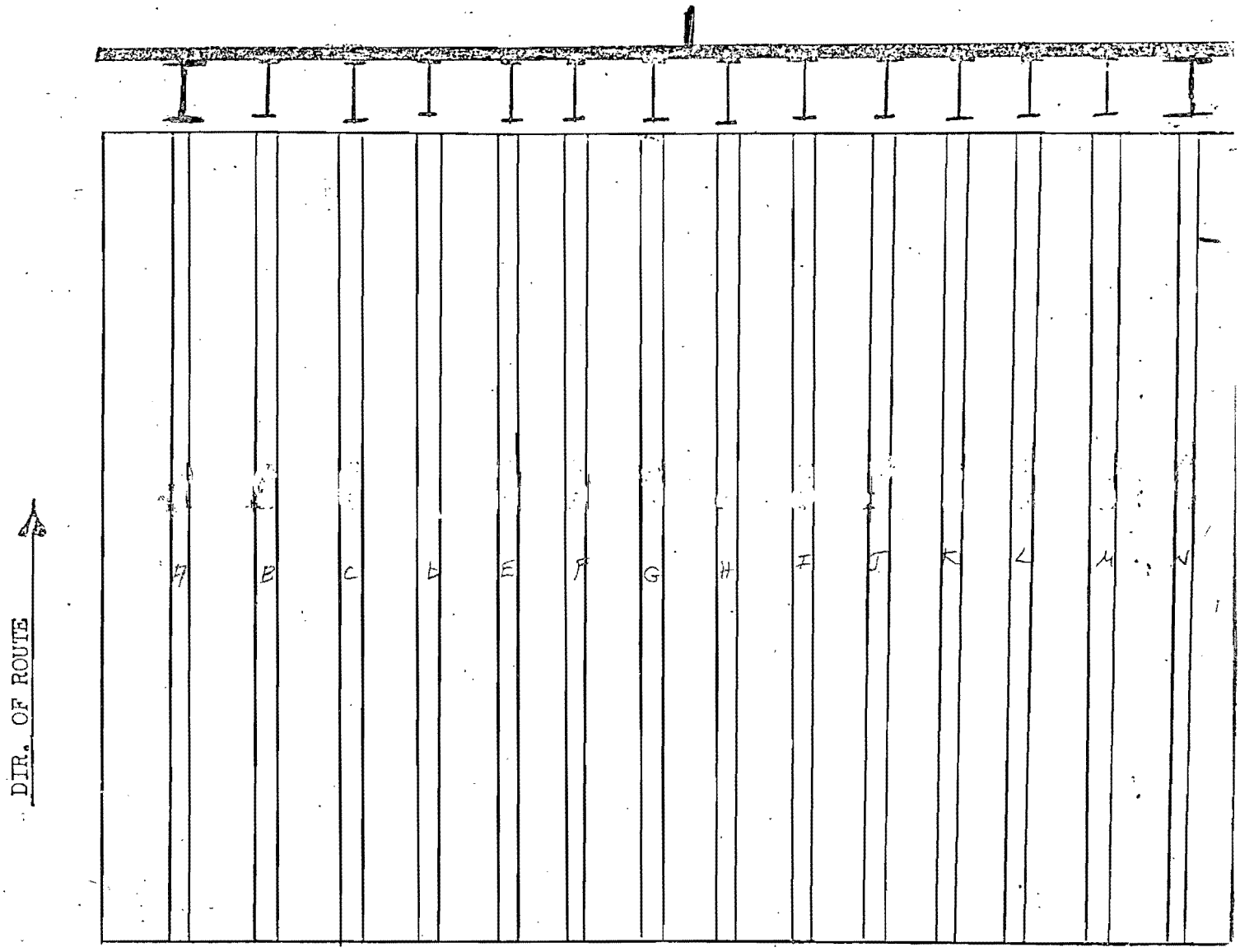
BR. NO. 49 87 ~~3.98~~ 390 SK. 90° SPAN NO. 1

DIR. OF ROUTE →



ELEMENT	RATING	COMMENT
TOP DECK	G (F) P C	FINE TO ⅛" CRACKS IN AC
RAILS & POST	(G) F P C	
PAINT	G F P C	N/A
DRAINS	G F P C	NONE
JOINTS W6	G F P C	NONE
	G (F) P C	TREATED TIMBER LIGHT WEATHERING

BR. NO. 49 87 ~~3.98~~ 3.90 SKEW 90° SPAN NO. APR 05 2016



ELEMENT	RATING	COMMENT
BOTTOM DECK	G (F) P C	Light WEATHERING
S. I. B.		
A – N	G (F) P C	Light CORROSION Top FLANGE 1/16" SEVERAL BEAMS
_____	G F P C	
_____	G F P C	
_____ DIA.	G F P C	NONE
PAINT	G (F) P C	Light Scaling
Tim. Nailers	G (F) P C	Light TO MEDIUM WEATHERING

APR 0 5 2016

Rev. 08/03/00

Date:_____

BRIDGE NUMBER: 49SR0870011 **49 SR087 0390**

Pg. # _____ of _____

CROSSING: BRANCH

DATE _____

LAST EXPOSURE	ABUT/BENT/ PIER NUMBER	TOTAL HEIGHT TOP OF CAP TO (OR GROUND LINE/ DATE FOR PILES	(t) FOOTING THICKNESS	W/FTG @ H= TOP OF CAP TO TOP OF FOOTING	EXPOSURE
	A-1				3.7'
	A-2				1.5'

TOP OF CAP TO TOP OF WATER: _____ RIP-RAP: YES: ( ) NO: ~~(A~~

100.00' UPSTREAM: _____ @ ABUTMENTS: _____

THRU STRUCTURE: _____ @ BENTS/PIERS: _____

100.00' DOWNSTREAM: _____

UPSTREAM ☐ _____

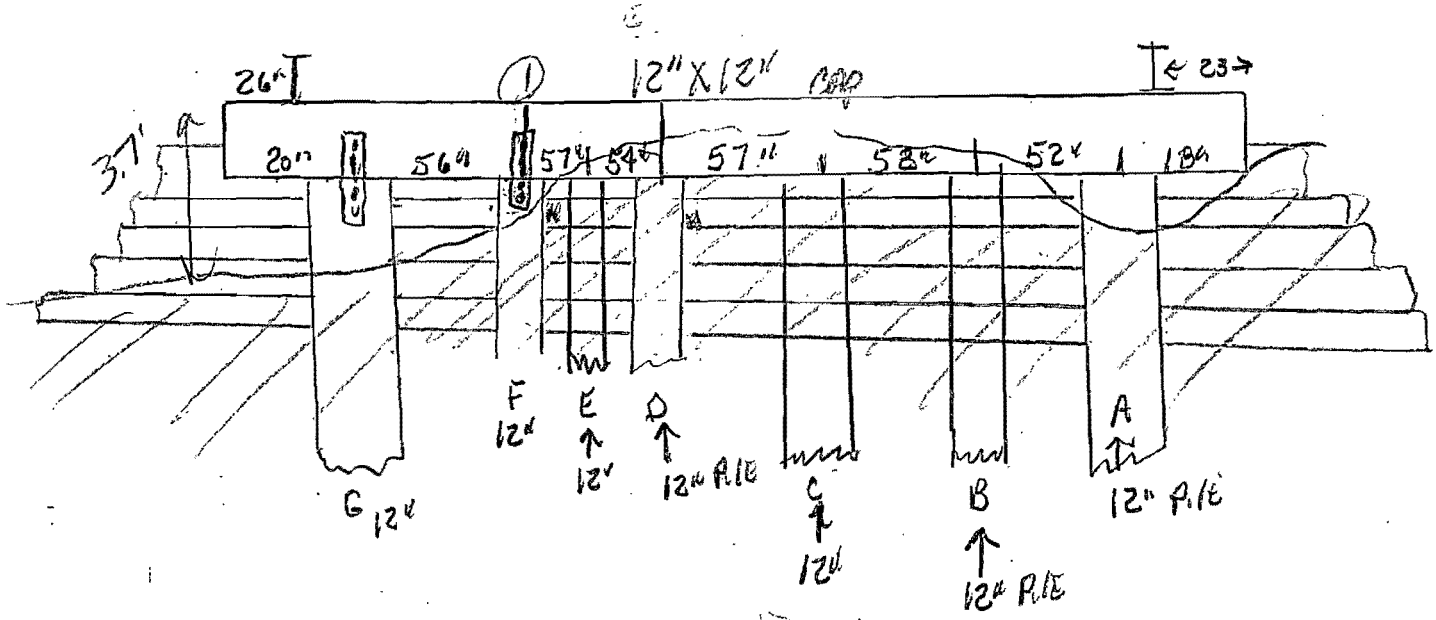
DOWNSTREAM ☐ _____

THRU STRUCTURE ☐ _____

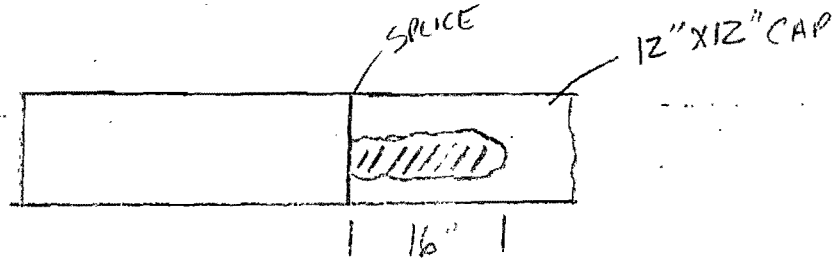
COMMENTS: _____

APR 0 5 2016

BR. NO. 49 87 3.78 SK. ___ ABUT. NO. 1



LOOKING BACK

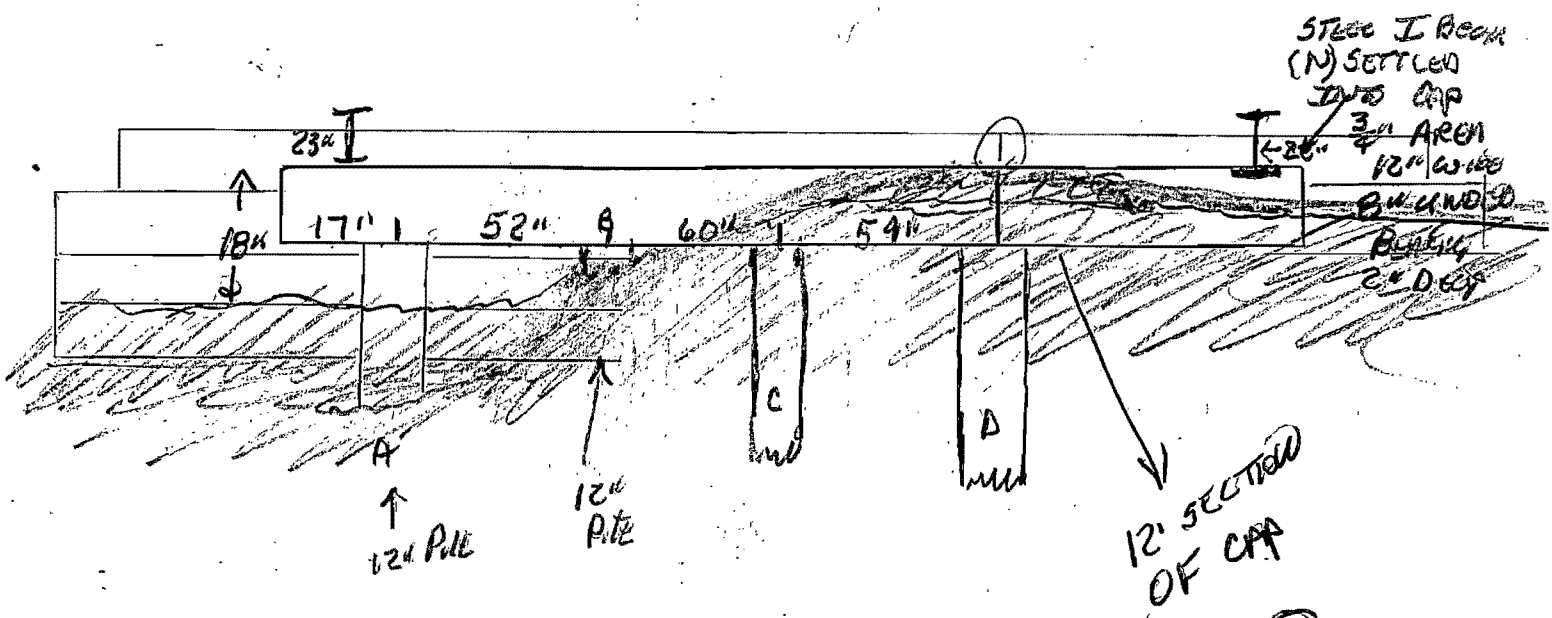


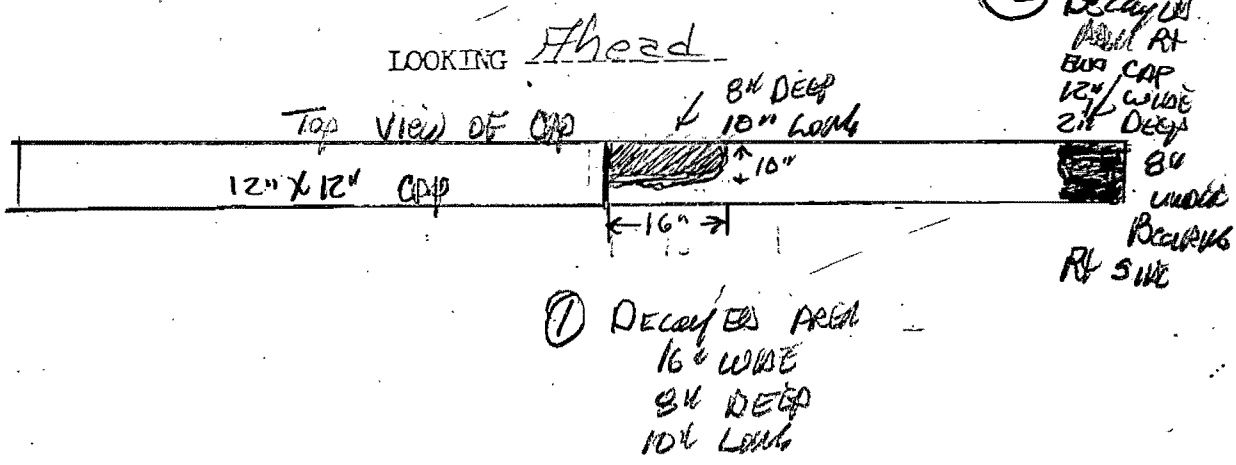
DECAYED
16"W x 11"D x 4"L

ELEMENT	RATING	COMMENT
CAP Breastwall	G F (H) C	DECAY @ TOP OF CAP 16" X 11" X 4" Core
	G (F) P C	MEDIUM WEATHERING Scattered pockets of Decay
PILING A, F, G	G (B) P C	MEDIUM WEATHERING
	G F P C	
End.	(G) F P C	
Veg.	G (E) P C	
WINGS	G (E) P C	MEDIUM WEATHERING
	G F P C	

APR 0 5 2016

BR. NO. 49 87 390 SK. ___ AEUT_NO. 2





(1) DECAYED AREA
16" WIDE
8" DEEP
10" LONG

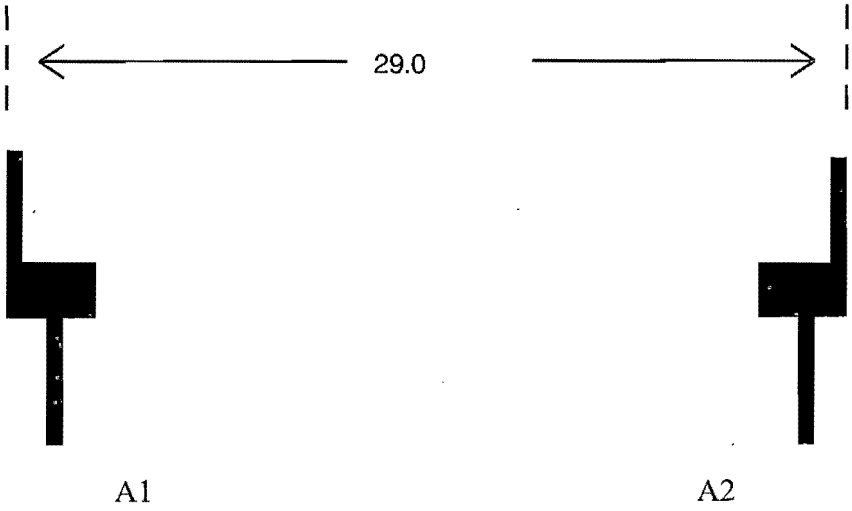
ELEMENT	RATING	COMMENT
BEARINGS	G F P C	WNL
CAP Mud Sill	G F (P) C	DECAYED AREAS SEE (1) & (2)
PILING A	G (P) P C	MEDIUM WEATHERING
B	G (P) P C	
End	(G) F P C	
Veg.	G (F) P C	
WINGS	G (F) P C	MEDIUM WEATHERING
	G F P C	

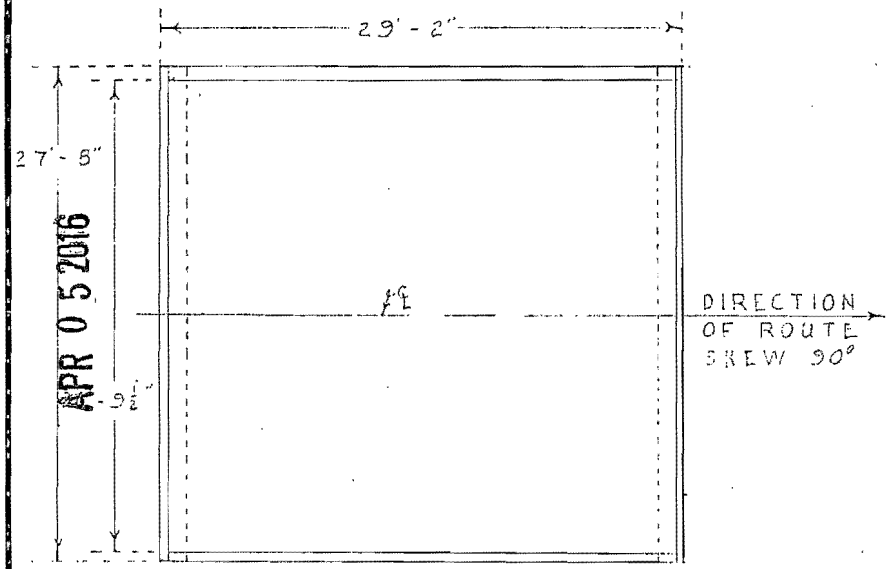
49SR0870011	49	SR087	0390		SKEW: 90
BRIDGE NO.:	CO.	ROUTE	L.M.	L/R	

Direction of Route →

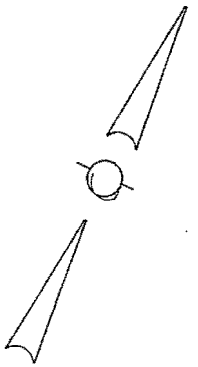
A1 A2

F = FIXED
E = EXPANSION
S = SIMPLE
C = CONTINUOUS

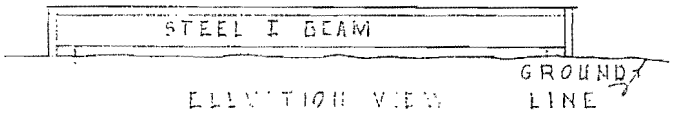




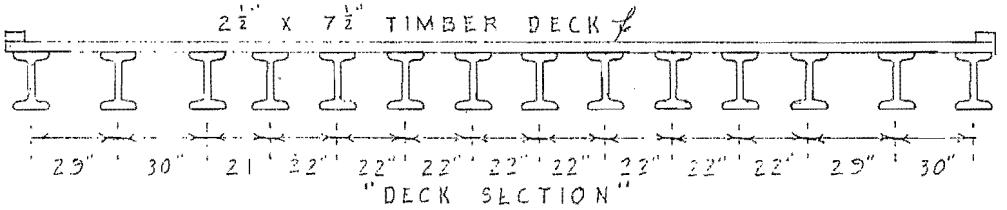
PLAN VIEW



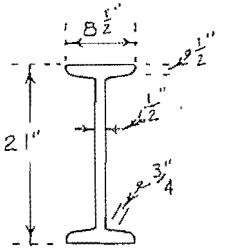
:NOTE:
ABUT. NO. 1 & 2
ARE NOT VISBLE
11" X 11" TIMBER CAP



ELEVATION VIEW



"DECK SECTION"



TYPICAL
STEEL I BEAM

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORT
DIVISION OF STRUCTURE

LAYOUT SHEET

BRIDGE NO. 49 - 87 - 3.9
CROSSING: OVERFLOW

COUNTY: LAUDERDALE

DRAWN H A B G L L
DATE 07 - 01 - 87

REVISION
DATE

Project Design

Public Involvement

Ecology

Environmental Studies Request

Project Information

Route: State Route 87

Termini: Bridge over Overflow, LM 3.88 (IA)

County: Lauderdale

PIN: 124637.00

Request

Request Type: Initial Environmental Study

Project Plans: Transportation Investment Report

Date of Plans: 04/02/2018

Location: Email Attachment

Certification

Requestor: Abby Harris

Title: TESS - NEPA

Signature: Abby Harris Digitally signed by Abby Harris Date: 2018.04.10 11:02:31 -05'00'

Environmental Study

Technical Section

Section: Ecology

Study Results

An ecological study has been conducted on the project area displayed in the transportation investment report dated 4/2/2018. One stream and two wet weather conveyances were found in the project limits. Please see the special notes included in the environmental boundaries report

Commitments

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

TDOT has committed to seasonal tree removal on this project. The USFWS has given TDOT a finding of "Not Likely to Adversely Affect" for the Indiana bat and Northern long-eared bat, provided that tree cutting on this project is done between October 15 and March 31.

Additional Information

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

Type: Environmental Boundaries Report (EBR)

Location: FileNet

Certification

Responder: Dustin Tucker

Title: TESS Advanced

Signature: Dustin Tucker

Digitally signed by Dustin Tucker
Date: 2018.06.15 10:22:08 -05'00'

Environmental Boundaries Report

SR-87, Bridge over Overflow, LM 3.88

Project No.: 49006-0241-94

PIN: 124637.00

Lauderdale County, Tennessee

Prepared by:
Tennessee Department of Transportation – TDOT
Region 4

Environmental Boundaries Report Index

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
REGION 4 ENVIRONMENTAL TECH OFFICE
300 BENCHMARK PLACE
JACKSON, TENNESSEE 38301
(731) 935-0139

JOHN C. SCHROER
COMMISSIONER

BILL HASLAM
GOVERNOR

MEMORANDUM

To: Dennis Moultrie
Design Division

From: Eric Philipps
Environmental Tech Office, Region 4

Dustin Tucker Digitally signed by Dustin Tucker
Date: 2018.06.15 10:10:53 -05'00'

Date: June 13, 2018

Subject: **Environmental Boundaries For**: Lauderdale County, SR-87,
Bridge over Overflow, LM 3.88
PE: 49006-0241-94 **PIN:** 124637.00

An ecological evaluation of the subject project has been conducted with the following results:

SPRINGS/STREAMS

There is **one (1)** stream within the project limits.

- Information concerning the quality and amount of impact can be found in the attached impact table.

WET WEATHER CONVEYANCES/UPLAND DRAINAGE FEATURES

There are two (2) wet weather conveyances/upland drainage features within the project limits.

WETLANDS

There are **no** wetlands within the project limits.

OTHER FEATURES

There are **no** other features noted within the project limits.

PROTECTED SPECIES

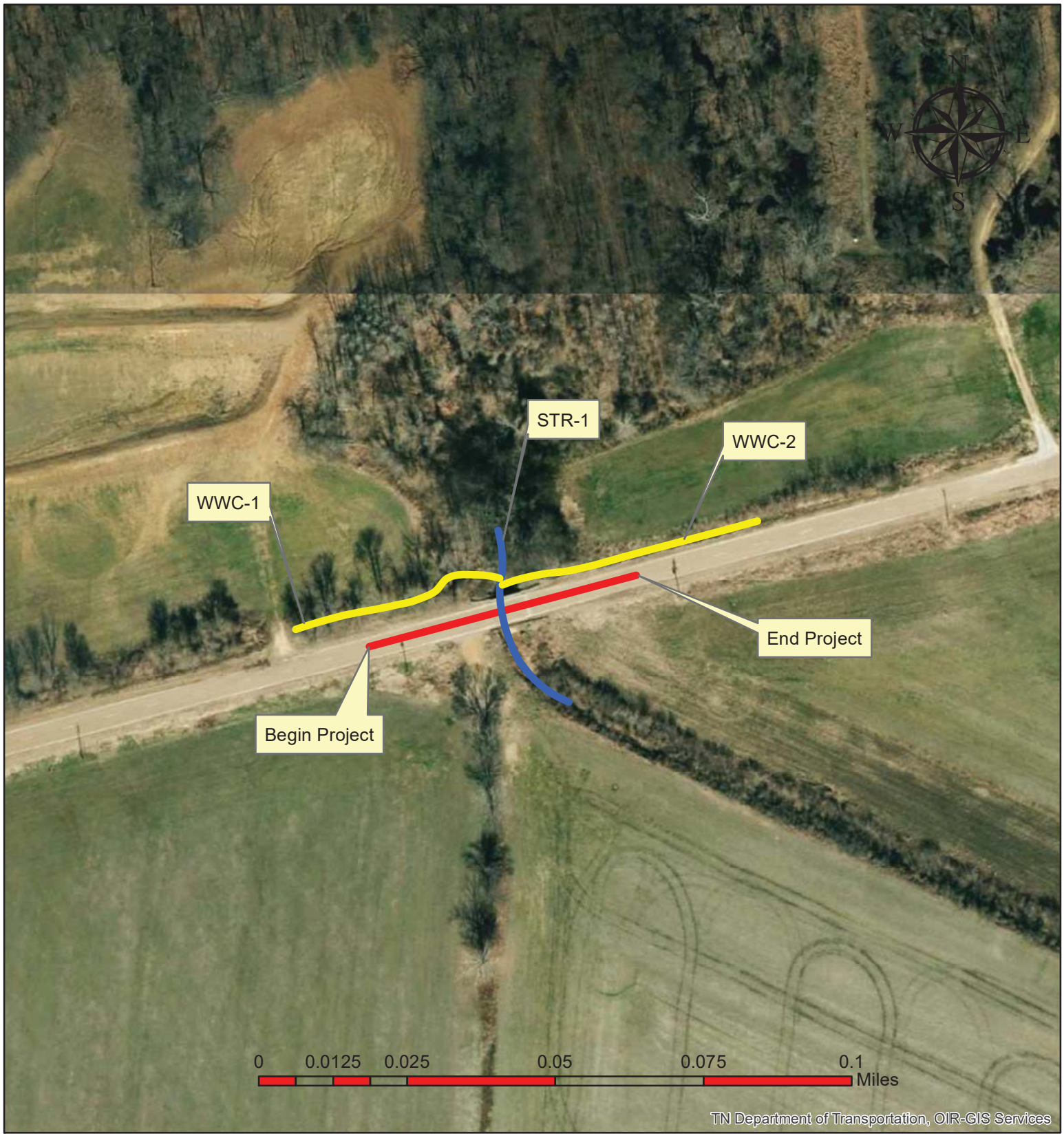
A search of the TDEC rare species database was performed on April 18, 2018. Coordination with TWRA and USFWS is included within this report.

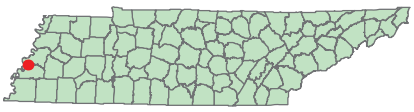
This project is covered under the programmatic agreement for bats. The USFWS has given TDOT a finding of "Not Likely to Adversely Affect" for the Indiana and Northern long-eared bats, provided that tree cutting on this project is performed between October 15th and March 31st.

Your assistance is appreciated. If you have any questions or comments, please contact Eric Philipps in the Region 4 Environmental Tech Office at 731-935-0174 or eric.philipps@tn.gov.

xc: Tabitha Cavaness
Rachel Webb
Gary Scruggs
Randall Mann
Lou Timms
Jared McCoy
Glen Blakenship
James Boyd
John Hewitt
D.J. Wiseman
Michael White
Khalid Ahmed
Sharon Sanders
Rita Thompson
Greg Harris

TDOT.ENV.NEPA
R4.ENVTechOffice
TDOT. Env. Ecology
TDOT.Env.Mitigation



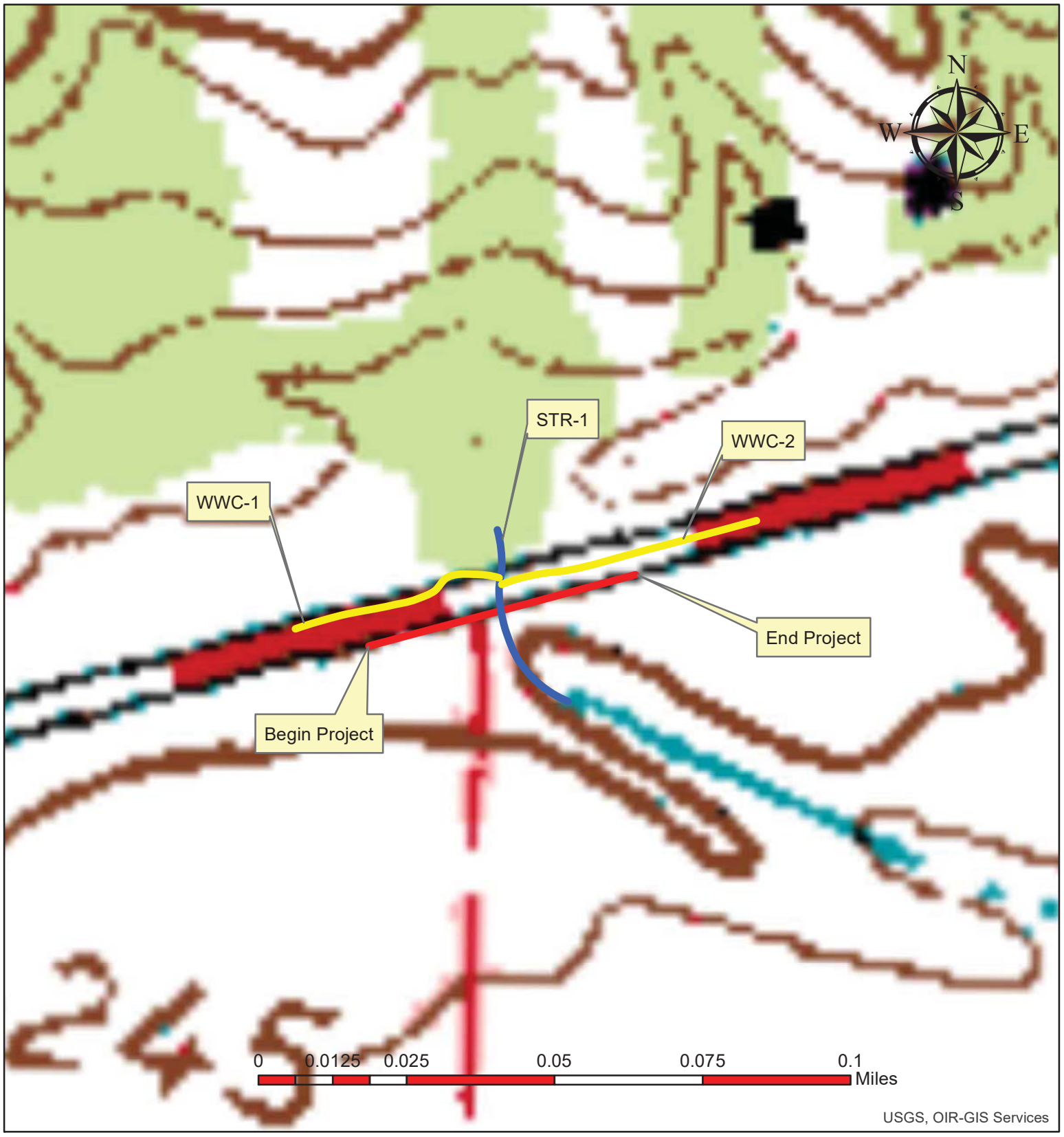


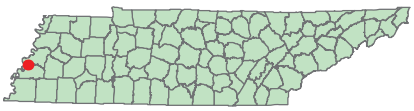
Lauderdale County; SR-87, Bridge over Overflow LM 3.88

PIN 124637.00

5/15/2018

TN TDOT Department of Transportation





Lauderdale County; SR-87, Bridge over Overflow LM 3.88

PIN 124637.00

5/15/2018

TN TDOT Department of Transportation

Preliminary Impact Form

County: Lauderdale Route: SR-87 PIN: 124637.00

Date Prepared: 5/15/18

Prepared by:
Eric Philipps

NOTE: *This document is for "preliminary" use only and will not be considered accurate until the time of permit application.*

Streams

Labels	Type *	Function	Quality	Impacts (feet)		
				Permanent	Temporary	Total
STR-1	Stream		Undetermined at this time	100.00		100.00
			Total	**100.00**		**100.00**

* Identification of features has not been reviewed by regulatory agencies and determinations could possibly be changed.

Table 1. Calculation of Normal Weather Conditions / Covington, TN - May 2018

		Long-term Rainfall Records							
	Month	Minus one Std. Dev (DRY)	Normal (Mean Inches)	Plus One Std. Dev. (WET)	Actual Rainfall	Condition	Condition Value	Month Weight Value	Product of Previous two columns
1st month prior	Apr	3.17	4.4	5.2	3.41	Normal	2	3	6
2nd Month prior	Mar	3.67	5.24	6.22	6.15	Normal	2	2	4
3rd month prior	Feb	4.14	5.91	7.02	15.43	Wet	3	1	3
								Sum	13

Note:	
If sum is:	
6-9	then prior period has been drier than normal
10-14	then prior period has been normal
15-18	then prior period has been wetter than normal

Condition Value	
Dry =	1
Normal =	2
Wet=	3

Conclusions:

Prior period has been normal.

Ecology Field Data Sheet: **Water Resources**

Project:	SR-87, Bridge over Overflow, LM 3.88				
Biologist:	Eric Philipps	**Affiliation:**	TDOT	**Date:**	4/30/2018

1-Station: from plans	Unavailable									
2-Map label and name	STR-1									
3-Latitude/Longitude	35.626942, -89.826218									
4-Potential impact	Runoff, Encapsulation, Fill, Relocation									
5-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 observed flow events	✓	sediment sorting	✓	water staining	✓
	change in soil character	✓	leaf litter disturbed absent	✓	natural line impressed on bank	✓	shelving		wracking	✓
-sinuosity	absent		weak	✓	moderate		strong			
-channel bottom width	~3 ft		-top of bank width		~17 ft					
- avg. gradient of stream (%)	Low									
-bank height and slope ratio	LDB - ~6 ft				RDB - ~6 ft					
-water flow	fast		moderate		slow	✓	isolated pools		none	
-water depth (riffles / pools)	~(.5/1) ft		water width (riffles / pools)		~3 ft					
-bank stability: LDB, RDB	LDB: Stable	✓	Eroding		Undercutting		Sloughing		Exposed Roots	✓
	RDB: Stable	✓	Eroding		Undercutting		Sloughing		Exposed Roots	
-dominant riparian species: ----------(LDB /RDB)----------	LDB: Boxelder, poison ivy, grapevine									
	RDB: Boxelder, poison ivy, grapevine									
-habitat assessment score	97									
	epifaunal substrate	14			channel alteration	13				
	channel substrate	10			channel sinuosity	5				
	pool variability	4			bank stability	LDB	7	RDB	7	
	sediment deposition	5			bank vegetative protection	LDB	4	RDB	4	
	channel flow status	20			riparian veg zone width	LDB	2	RDB	2	
-benthos	None observed									
-fish	None observed									
-algae or other aquatic life	Algae & periphyton observed									
6-photo numbers	1 & 2									
7-rainfall information	2.20" last 7 days									
8-HUC -12 Code & Name	080102080806 Hatchie River Outlet									
9-Confirmed by:										
10-Assessed	yes		no	✓						
11-ETW	yes		no	✓						
12-303 (d) List	yes		siltation		habitat:		other:			
	no	✓								
13-Notes										

Ecology Field Data Sheet: **Water Resources**

Project:	SR-87, Bridge over Overflow, LM 3.88				
Biologist:	Eric Philipps	**Affiliation:**	TDOT	**Date:**	4/30/2018

1-Station: from plans	Unavailable				
2-Map label and name	WWC-1				
3-Latitude/Longitude	35.627003, -89.826286				
4-Potential impact	Runoff, Encapsulation, Fill, Relocation				
5-Feature description:					
-channel identification	perennial stream	intermittent stream	ephemeral stream	WWC	
-HD score (if applicable)	14				
-OHWM indicators	bed & banks ☐	deposition ☐	presence of litter / debris ☐	scour ☐	veg absent, bent, matted ☐
	change in plant community ☐	destruction of terrestrial veg ☐	multiple observed flow events ☐	sediment sorting ☐	water staining ☐
	change in soil character ☐	leaf litter disturbed absent ☐	natural line impressed on bank ☐	shelving ☐	wracking ☐
-sinuosity	absent ☐	weak ☑	moderate ☐	strong ☐	
-channel bottom width	~2 ft	-top of bank width	~6 ft		
- avg. gradient of stream (%)	Low				
-bank height and slope ratio	LDB - ~4 ft	RDB - ~4 ft			
-water flow	fast ☐	moderate ☐	slow ☐	isolated pools ☑	none ☐
-water depth (riffles / pools)	~1 in	water width (riffles / pools)	~1.5 ft		
-bank stability: LDB, RDB	LDB: Stable ☑	Eroding ☐	Undercutting ☐	Sloughing ☐	Exposed Roots ☑
	RDB: Stable ☑	Eroding ☐	Undercutting ☐	Sloughing ☐	Exposed Roots ☑
-dominant riparian species: ----------(LDB /RDB)----------	LDB: Boxelder, American elm, sweetgum, virginia creeper				
	RDB: Boxelder, American elm, sweetgum, virginia creeper				
-habitat assessment score	0				

	epifaunal substrate		channel alteration				
	channel substrate		channel sinuosity				
	pool variability		bank stability	LDB		RDB	
	sediment deposition		bank vegetative protection	LDB		RDB	
	channel flow status		riparian veg zone width	LDB		RDB	

-benthos	None observed							
-fish	None observed							
-algae or other aquatic life	None observed							
6-photo numbers	3, 4							
7-rainfall information	2.20" last 7 days							
8-HUC -12 Code & Name	080102080806 Hatchie River Outlet							
9-Confirmed by:								
10-Assessed	yes ☐		no ☐					
11-ETW	yes ☐		no ☐					
12-303 (d) List	yes ☐		siltation ☐		habitat: ☐		other: ☐	
	no ☐							
13-Notes								

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.4

County: Lauderdale	Named Waterbody:	Date/Time: 4/30/2018
Assessors/Affiliation: Eric Philipps, TDOT		Project ID: 124637.00
Site Name/Description: WWC-1		
Site Location: Approximately .48 miles west of intersection of SR-87 and Crutcher Lake Road		
USGS quad: Golddust, TN-AR 2016	HUC (12 digit): 080102080806	Lat/Long: 35.627003, -89.826286
Previous Rainfall (7-days) : 2.20"		
Precipitation this Season vs. Normal : very wet wet **average** dry drought unknown Source of recent & seasonal precip data : AgACIS		
Watershed Size : <0.03 sq miles	Photos: Yes	Number : 3, 4
Soil Type(s) / Geology : Adler silt loam, occasionally flooded		
Surrounding Land Use : Agricultural, Forested		
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, dominated by upland vegetation / grass	✓	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 precipitation 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 STOP; absent directly contradictory evidence, determination is complete.

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 1.4*

Overall Hydrologic Determination = WWC

Secondary Indicator Score (if applicable) = 14

Justification / Notes :

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal =) 6.5		**Absent**	**Weak**	**Moderate**	**Strong**
1. Continuous bed and bank	3	0	1	2	3
2. Sinuous channel	1	0	1	2	3
3. In-channel structure: riffle-pool sequences	1.5	0	1	2	3
4. Sorting of soil textures or other substrate	0.5	0	1	2	3
5. Active/relic floodplain	0	0	1	2	3
6. Depositional bars or benches	0	0	1	2	3
7. Braided channel	0	0	1	2	3
8. Recent alluvial deposits	0	0	0.5	1	1.5
9. Natural levees	0	0	1	2	3
10. Headcuts	0	0	1	2	3
11. Grade controls	0.5	0	0.5	1	1.5
12. Natural valley or drainageway	0	0	0.5	1	1.5
13. At least second order channel on existing USGS or NRCS map		No = 0			

B. Hydrology (Subtotal =) 4.5		**Absent**	**Weak**	**Moderate**	**Strong**
14. Subsurface flow/discharge into channel	1	0	1	2	3
15. Water in channel and >48 hours since sig. rain	1	0	1	2	3
16. Leaf litter in channel (January – September)	0.5	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 stream bed or sides of channel		Yes = 1.5			

C. Biology (Subtotal =) 3		**Absent**	**Weak**	**Moderate**	**Strong**
20. Fibrous roots in channel [1]	1	3	2	1	0
21. Rooted plants in channel [1]	1	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	0	0	0.5	1	1.5
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	0.5	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0	0.5	1	1.5
28.Wetland plants in channel [2]	0.5	0	0.5	1	2

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

Total Points = 14

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

Notes : Fallen limbs, tree roots, and leaf packs acting as grade control. Well-developed channel--gravel, sand in channel bottom. Not much water or biological indicators observed. Enters STR-1 north of bridge, from the west.

Ecology Field Data Sheet: **Water Resources**

Project:	SR-87, Bridge over Overflow, LM 3.88				
Biologist:	Eric Philipps	**Affiliation:**	TDOT	**Date:**	4/30/2018

1-Station: from plans	Unavailable				
2-Map label and name	WWC-2				
3-Latitude/Longitude	35.626991, -89.826134				
4-Potential impact	Runoff, Encapsulation, Fill, Relocation				
5-Feature description:					
-channel identification	perennial stream	intermittent stream	ephemeral stream	WWC	
-HD score (if applicable)	17.5				
-OHWM indicators	bed & banks ☐	deposition ☐	presence of litter / debris ☐	scour ☐	veg absent, bent, matted ☐
	change in plant community ☐	destruction of terrestrial veg ☐	multiple observed flow events ☐	sediment sorting ☐	water staining ☐
	change in soil character ☐	leaf litter disturbed absent ☐	natural line impressed on bank ☐	shelving ☐	wracking ☐
-sinuosity	absent ☑	weak ☐	moderate ☐	strong ☐	
-channel bottom width	~2.5 ft	-top of bank width	~4.5 ft		
- avg. gradient of stream (%)	Low				
-bank height and slope ratio	LDB - ~3 ft	RDB - ~3 ft			
-water flow	fast ☐	moderate ☐	slow ☑	isolated pools ☐	none ☐
-water depth (riffles / pools)	~(2/3) in	water width (riffles / pools)	~2.5 ft		
-bank stability: LDB, RDB	LDB: Stable ☑	Eroding ☐	Undercutting ☐	Sloughing ☐	Exposed Roots ☐
	RDB: Stable ☑	Eroding ☐	Undercutting ☐	Sloughing ☐	Exposed Roots ☐
-dominant riparian species: ----------(LDB /RDB)----------	LDB: American elm, grasses, boxelder, curlydock				
	RDB: American elm, grasses, boxelder, curlydock				
-habitat assessment score	0				
	epifaunal substrate		channel alteration		
	channel substrate		channel sinuosity		
	pool variability		bank stability	LDB	RDB
	sediment deposition		bank vegetative protection	LDB	RDB
	channel flow status		riparian veg zone width	LDB	RDB
-benthos	None observed				
-fish	None observed				
-algae or other aquatic life	None observed				
6-photo numbers	5, 6				
7-rainfall information	2.20" last 7 days				
8-HUC -12 Code & Name	080102080806 Hatchie River Outlet				
9-Confirmed by:					
10-Assessed	yes ☐	no ☐			
11-ETW	yes ☐	no ☐			
12-303 (d) List	yes ☐	siltation ☐	habitat: ☐	other: ☐	
	no ☐				
13-Notes					

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Pollution Control, Version 1.4

County: Lauderdale	Named Waterbody:	Date/Time: 4/30/2018
Assessors/Affiliation: Eric Philipps, TDOT		Project ID: 124637.00
Site Name/Description: WWC-2		
Site Location: Approximately .47 miles west of intersection of SR-87 and Crutcher Lake Road		
USGS quad: Golddust, TN-AR 2016	HUC (12 digit): 080102080806	Lat/Long: 35.626991, -89.826134
Previous Rainfall (7-days) : 2.20"		
Precipitation this Season vs. Normal : very wet wet **average** dry drought unknown Source of recent & seasonal precip data : AgACIS		
Watershed Size : <0.03 sq miles	Photos: Yes	Number : 5, 6
Soil Type(s) / Geology : Adler silt loam, occasionally flooded		
Surrounding Land Use : Agricultural, Forested		
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, dominated by upland vegetation / grass	✓	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 precipitation 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 STOP; absent directly contradictory evidence, determination is complete.

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 1.4*

Overall Hydrologic Determination = WWC

Secondary Indicator Score (if applicable) = 17.5

Justification / Notes :

Secondary Field Indicator Evaluation

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

B. Hydrology (Subtotal =) 5.5		**Absent**	**Weak**	**Moderate**	**Strong**
14. Subsurface flow/discharge into channel	1	0	1	2	3
15. Water in channel and >48 hours since sig. rain	1	0	1	2	3
16. Leaf litter in channel (January – September)	1	1.5	1	0.5	0
17. Sediment on plants or on debris	0.5	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 stream bed or sides of channel		Yes = 1.5			

C. Biology (Subtotal =) 5		**Absent**	**Weak**	**Moderate**	**Strong**
20. Fibrous roots in channel [1]	1	3	2	1	0
21. Rooted plants in channel [1]	1	3	2	1	0
22. Crayfish in stream (exclude in floodplain)	0	0	0.5	1	1.5
23. Bivalves/mussels	0	0	1	2	3
24. Amphibians	0.5	0	0.5	1	1.5
25. Macrobenthos (record type & abundance)	0	0	1	2	3
26. Filamentous algae; periphyton	1.5	0	1	2	3
27. Iron oxidizing bacteria/fungus	0	0	0.5	1	1.5
28.Wetland plants in channel [2]	1	0	0.5	1	2

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

Total Points = 17.5

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

Notes : Riprap acting as grade control, impeding water flow and allowing for development of wetland-type conditions in standing water. Water entering feature downslope of bluff off fallow fields at private driveway east of bridge. Feature enters STR-1 north of bridge, from the east.

Date of field study: 4/30/2018 Date TDEC database checked: 4/18/2018 Completed by: Eric Philipps

Species reported within 1 mile radius of project:

Species Scientific and common names, followed by (A) for animal or (P) for plant	Status		Species is potentially present in R-O-W because: **(A)** it is listed by TDEC within ROW **(B)** habitat is present **(C)** observed during site visit **(D)** critical habitat present within ROW	Species is considered likely NOT present in R-O-W because: **(A)** Present habitat unsuitable **(B)** Not observed during site visit **(C)** Original record questionable **(D)** Considered extinct/extirpated	Accommodations to minimize impacts: **(A)** BMPs are sufficient to protect species **(B)** Special Notes are included on project plans **(C)** Individuals will be impacted. **(D)** Accommodations not practical due to broad habitat description or mobility of species	Habitat (include blooming, breeding or other information; where found according to TDEC database; year last observed; reference)	Notes
	Fed	TN					
None							

Species reported within 1-mile to 4-mile radius of project:

Species Scientific and common names, followed by (A) for animal or (P) for plant	Status		Species is potentially present in R-O-W because: **(A)** it is listed by TDEC within ROW **(B)** habitat is present **(C)** observed during site visit **(D)** critical habitat present within ROW	Species is considered likely NOT present in R-O-W because: **(A)** Present habitat unsuitable **(B)** Not observed during site visit **(C)** Original record questionable **(D)** Considered extinct/extirpated	Accommodations to minimize impacts: **(A)** BMPs are sufficient to protect species **(B)** Special Notes are included on project plans **(C)** Individuals will be impacted. **(D)** Accommodations not practical due to broad habitat description or mobility of species	Habitat (include blooming, breeding or other information; where found according to TDEC database; year last observed; reference)	Notes
	Fed	TN					
Juglans cinerea, Butternut (P)		T		A	A	Rich Woods and Hollows	
Schisandra glabra, Red Starvine (P)		T		C	A	Rich Mesic Woods, Bluffs	
Hybognathus placitus, Plains Minnow (A)		D		C	A	Clear to turbid rivers and creeks with sandy bottom; Mississippi River and imm.environs.	

Species Scientific and common names, followed by (A) for animal or (P) for plant	Status		Species is potentially present in R-O-W because: **(A)** it is listed by TDEC within ROW **(B)** habitat is present **(C)** observed during site visit **(D)** critical habitat present within ROW	Species is considered likely NOT present in R-O-W because: **(A)** Present habitat unsuitable **(B)** Not observed during site visit **(C)** Original record questionable **(D)** Considered extinct/extirpated	Accommodations to minimize impacts: **(A)** BMPs are sufficient to protect species **(B)** Special Notes are included on project plans **(C)** Individuals will be impacted. **(D)** Accommodations not practical due to broad habitat description or mobility of species	Habitat (include blooming, breeding or other information; where found according to TDEC database; year last observed; reference)	Notes
Anhinga anhinga, Anhinga (A)		D		B	D	Swamps,lakes, and sluggish streams at low elevations	
Myotis austroriparius, Southeastern Myotis (A)		Rare		A	D	Caves, but especially hollow trees and abandoned buildings, usually near water	
Atractosteus spatula, Alligator Gar (A)		D		A	A	Sluggish pools of large rivers, oxbows, swamps, and backwaters; West Tennessee	
Dendroica cerulean, Cerulean Warbler (A)		D		B	A	Mature deciduous forest, particulary in floodplains or mesic conditions	
Neotoma floridana illinoensis, Eastern Woodrat (A)		D		B	A	Forested areas, caves and outcrops; West Tennessee generally	
Carex hyaline, Tissue sedge (P)		S		A	D	Forested Bottomland Swamps	
Egretta caerulea, Little Blue Heron (A)		D		D	A	Bodies of calm shallow water; colonial nester	
Sternula antillarum athalassos, Interior Least Tern (A)	LE	E		A	A	Mississippi River sand bars and islands, dikes	
Ictinia mississippiensis, Mississippi Kite (A)		D		A	A	Undisturbed stands of lowland and floodplain forests and along major rivers	
Ardea alba, Great Egret, (A)		D		B	A	Marshes, swampy woods, streams, lakes, and ponds; also fields and meadows; colonial nester	

Migratory Birds

List *significant concentrations* of migratory birds encountered within the project area (rookeries, aggregations, nesting areas, etc).

Species (Scientific and Common Name)	Approximate No. of Nests (or Individuals)	Location of Nests (or Individuals) (Include Latitude & Longitude)	Nesting Dates and Reference	Photograph #
None				

USFWS letter: Yes __X__ (attached) No ___ (explain)

Biological Assessment: Yes ____ (response letter attached; see below) No _X__

Species (scientific and common names)	USFWS conclusion[1]
Myotis sodalist (Indiana bat)	NLAA
Myotis septentrionalis (Northern long-eared bat)	NLAA

[1] Choose from “no effect"; "not likely to adversely affect;" or "likely to adversely affect;". If “likely to adversely affect” is chosen, indicate "no jeopardy to species and no adverse modification to habitat” or “jeopardy to species, or adverse modification to habitat” based on FWS concurrence letter

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Tennessee ES Office
446 Neal Street
Cookeville, Tennessee 38501

June 8, 2018

Mr. Eric Philipps
Tennessee Department of Transportation
Environmental Technical Office
300 Benchmark Place,
Jackson, Tennessee 38301

Subject: FWS# 18-I-0517. Proposed State Route 87 Bridge replacement over an overflow to the Hatchie River at LM 3.88; PIN# 124637.00, Lauderdale County, Tennessee.

Dear Mr. Philipps:

Thank you for your correspondence dated May 17, 2018, regarding the proposed replacement of the State Route 87 Bridge over an overflow to the Hatchie River in Lauderdale County, Tennessee. The Tennessee Department of Transportation (TDOT) has chosen to place the project under the Range-wide Programmatic Consultation between the Federal Highway Administration, Federal Railroad Administration, Federal Transit Administration, and the U.S. Fish and Wildlife Service (Service) (Programmatic Bat Consultation), and has submitted project specific information through the IPaC Assisted Determination Key. Personnel of the Service have reviewed the subject proposal and offer the following comments.

The Programmatic Bat Consultation addresses transportation-related impacts to the federally endangered Indiana bat (*Myotis sodalis*) and threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*) from removal of potentially suitable summer roosting habitat. Under the Programmatic Bat Consultation, transportation-related activities resulting in a "not likely to adversely affect" finding include all wintertime forested clearing within 100 feet of roadway surface or railroad ballast that does not remove known roosts or documented foraging/travel corridors and is no closer than one-half mile from the entrance of a documented hibernaculum. Based on the information provided, the project is eligible for placement under the consultation herein referenced with determinations of "not likely to adversely affect" for the Indiana bat and NLEB.

We are unaware of any other federally listed or proposed species that could potentially be impacted by the project. Therefore, based on the best information available at this time, we believe that the requirements of section 7 of the Endangered Species Act (Act) of 1973, as amended, are fulfilled for all species that currently receive protection under the Act. Obligations under the Act should be reconsidered if (1) new information reveals impacts of the proposed action that may affect listed species or critical habitat in a manner not previously considered, (2) the proposed action is

subsequently modified to include activities which were not considered during this consultation, or (3) new species are listed or critical habitat designated that might be affected by the proposed action.

If you have any questions regarding our comments, please contact John Griffith at 931/525-4995 or by email at *john_griffith@fws.gov*.

Sincerely,

Michael Gale
Acting Field Supervisor

From: Eric Philipps
To: "john_griffith@fws.gov"
Cc: Randall E. Mann; Lou Timms; Jared McCoy; Dustin Tucker; Rita M. Thompson; Greg Harris
Subject: Lauderdale Co; SR-87; PIN 124637.00
Date: Thursday, May 17, 2018 8:41:00 AM
Attachments: image001.png

John,

I have submitted this project on IPaC under the programmatic and received a result of "may affect – NLAA." I am requesting a letter stating Section 7 clearance under the Endangered Species Act 1973 (amended). If you have any questions or need additional information, please do not hesitate to contact me.

Thanks,

Eric Philipps | Environmental Studies Specialist
Region 4 | Environmental Tech Office
Project Development | Building A, 1st floor
300 Benchmark Place, Jackson, TN 38301
p. 731-935-0174 c. 731-513-0021
eric.philipps@tn.gov
tn.gov/tdot

From: Casey Parker
To: Eric Philipps; TDOT Env.LocalPrograms
Cc: Rob Todd
Subject: RE: Request for Comment; Lauderdale, SR-87 Bridge over Overflow, PIN 124637.00
Date: Tuesday, May 15, 2018 12:39:08 PM
Attachments: image001.png
image002.png

Subject: Request for Comment; Lauderdale, SR-87 Bridge over Overflow, PIN 124637.00

Mr. Eric Phillips,

I have reviewed the information that you provided regarding the proposed bridge replacement on SR-87 in Lauderdale County, Tennessee. The implementation of standard BMP's will be sufficient to satisfy the needs of the Tennessee Wildlife Resources Agency for this proposed project. Thank you for the opportunity to review and comment, please contact me if you need further assistance.

Casey Parker - Wildlife Biologist
Liaison to TDOT & Federal Highway Administration
Tennessee Wildlife Resources Agency
Environmental Services Division
Email: casey.parker@tn.gov

From: Eric Philipps
Sent: Tuesday, April 17, 2018 3:07 PM
To: Casey Parker
Cc: Randall E. Mann; Lou Timms; Jared McCoy; Dustin Tucker; Rita M. Thompson; Greg Harris; Rob Todd
Subject: Request for Comment; Lauderdale, SR-87 Bridge over Overflow, PIN 124637.00

Casey,

TDOT proposes to replace the subject bridge in Lauderdale County. Please find attached KMZ file, species maps, and species list. According to our review of the TDEC database, there are no species within a one-mile radius of the project limits and thirteen species within four miles. If you have any questions or require additional information, please do not hesitate to contact me.

Thanks,

Eric Philipps | Environmental Studies Specialist
Region 4 | Environmental Tech Office

Project Development | Building A, 1st floor
300 Benchmark Place, Jackson, TN 38301
p. 731-935-0174 c. 731-513-0021
eric.philipps@tn.gov
tn.gov/tdot

Special Notes

TDOT has committed to seasonal tree removal on this project. The USFWS has given TDOT a finding of "Not Likely to Adversely Affect" for the Indiana bat and Northern long-eared bat, provided that tree cutting on this project is done between October 15 and March 31.

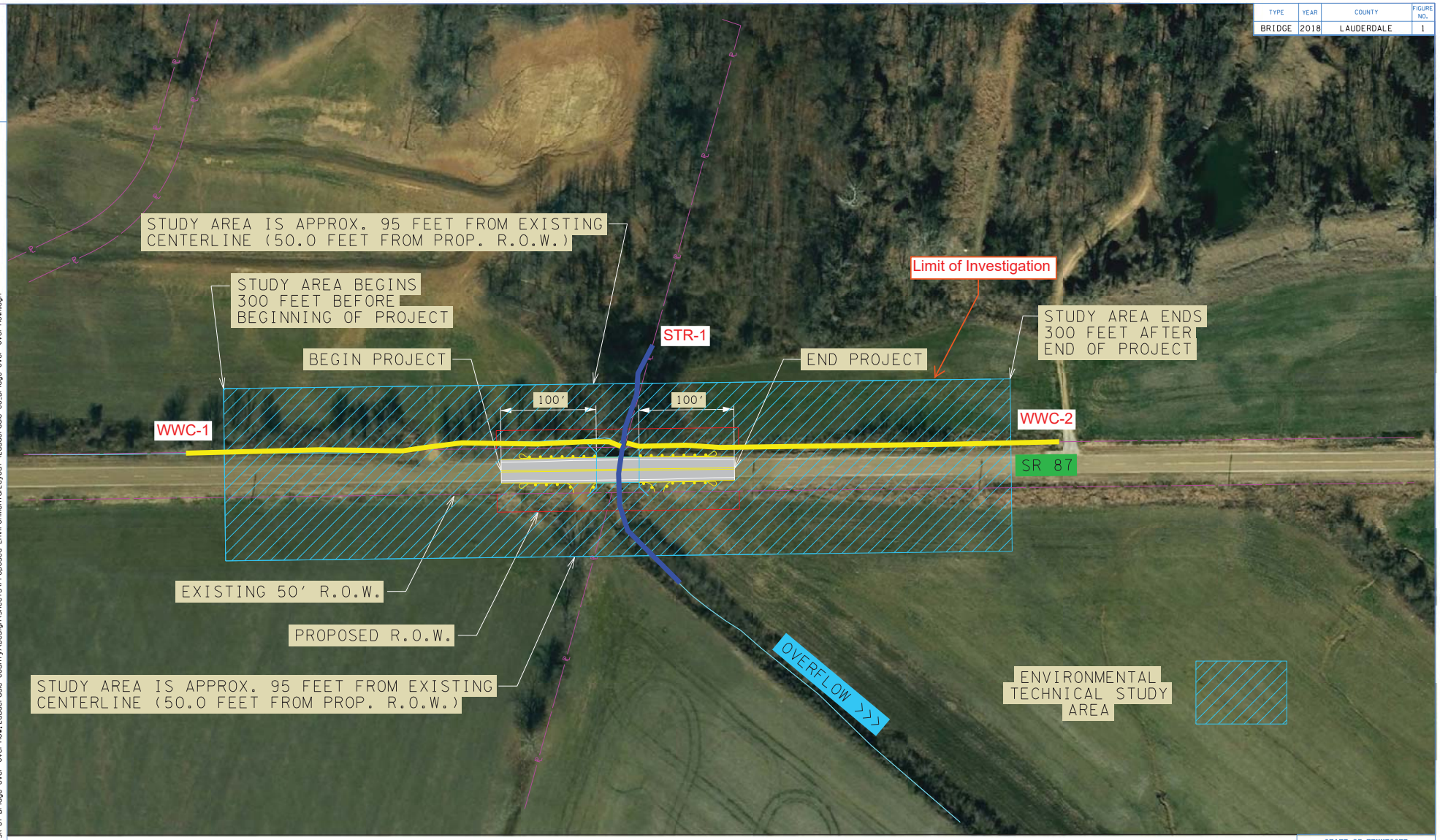

TYPE
YEAR
COUNTY
FIGURE NO.
BRIDGE
2018
LAUDERDALE
1
TENNESSEE D.O.T.
S.T.I.D.
FILE NO.
STUDY AREA IS APPROX. 95 FEET FROM EXISTING CENTERLINE (50.0 FEET FROM PROP. R.O.W.)
STUDY AREA BEGINS 300 FEET BEFORE BEGINNING OF PROJECT
BEGIN PROJECT
STR-1
Limit of Investigation
END PROJECT
STUDY AREA ENDS 300 FEET AFTER END OF PROJECT
100'
100'
WWC-1
WWC-2
SR 87
EXISTING 50' R.O.W.
PROPOSED R.O.W.
STUDY AREA IS APPROX. 95 FEET FROM EXISTING CENTERLINE (50.0 FEET FROM PROP. R.O.W.)
OVERFLOW
ENVIRONMENTAL TECHNICAL STUDY AREA
0'
100'
200'
300'
N
ENVIRONMENTAL TECHNICAL STUDY AREA
STATE ROUTE 87 (SR087)
BRIDGE OVER OVERFLOW @ L.M. 3.88
LAUDERDALE COUNTY
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
S.T.I.D.
FIGURE 1
BRIDGE REPLACEMENT
SR087
L.M. 3.88
9/23/2018 3:53:38 PM
M:\Civil\60408.04 (TDOT TIR - SR-87 Bridge over Overflow, Lauderdale County)\Design\Sheets\Proposed Environmental Layout (Lauderdale Co. Bridge Over Overflow).dgn

Photo 1. STR-1 — Looking downstream from bridge

Photo 2. STR-1 — Looking upstream from bridge

Photo 3. WWC-1 — Looking up gradient

Photo 4. WWC-1 — Looking down gradient, toward confluence with STR-1

Photo 5. WWC-2 — Looking down gradient, toward confluence with STR-1

Photo 6. WWC-2 — Looking up gradient

Air and Noise

Environmental Studies Request

Project Information

Route: State Route 87

Termini: Bridge over Overflow, LM 3.88 (IA)

County: Lauderdale

PIN: 124637.00

Request

Request Type: Initial Environmental Study

Project Plans: Transportation Investment Report

Date of Plans: 04/02/2018

Location: Email Attachment

Certification

Requestor: Abby Harris

Title: TESS - NEPA

Signature: Abby Harris Digitally signed by Abby Harris Date: 2018.04.10 11:02:31 -05'00'

Environmental Study

Technical Section

Section: Air and Noise

Study Results

AIR QUALITY
Transportation Conformity
This project is in Lauderdale 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 does not require a Mobile Source Air Toxics (MSATs) evaluation per FHWA's "Interim Guidance Update on Air Toxic Analysis in NEPA Documents" dated October 2016.

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: Darlene D Reiter

Title: TDOT Environmental Division Consultant

Signature: Darlene D Reiter

Digitally signed by Darlene D Reiter
Date: 2018.04.13 12:59:27 -05'00'

Section 4(f)

Section 6(f)

Cultural Resources

Environmental Studies Request

Project Information

Route: State Route 87

Termini: Bridge over Overflow, LM 3.88 (IA)

County: Lauderdale

PIN: 124637.00

Request

Request Type: Initial Environmental Study

Project Plans: Transportation Investment Report

Date of Plans: 04/02/2018

Location: Email Attachment

Certification

Requestor: Abby Harris

Title: TESS - NEPA

Signature: Abby Harris Digitally signed by Abby Harris Date: 2018.04.10 11:02:31 -05'00'

Environmental Study

Technical Section

Section: Historic Preservation

Study Results

In a letter dated 6/12/2018, the TN-SHPO concurred that no architectural resources eligible for listing in the National Register of Historic Places will be affected by this undertaking.

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: Historical-Architectural Report & SHPO Letter

Location: FileNet

Certification

Responder: Laura van Opstal

Title: TESS-AD, Historic Preservation

Signature: Laura van Opstal

Digitally signed by Laura van Opstal
Date: 2018.06.15 11:10:12 -05'00'

BRIDGE REPLACEMENT PROJECT: LAUDERDALE COUNTY

State Route 87 Bridge over Overflow, Log Mile 3.88
PIN 124637.00

PROJECT DESCRIPTION

The Tennessee Department of Transportation (TDOT), with funding made available through the Federal Highway Administration (FHWA), is proposing to remove and replace the State Route 87 (SR-87) bridge over an overflow of the Hatchie River in Lauderdale County, Tennessee. The project proposes to replace the existing bridge with a new structure on the same alignment. The bridge replacement project will require approximately 0.14 acres of new right-of-way (ROW) acquisition.

The existing bridge is a single-span steel I-beam structure with a timber deck and asphalt overlay, 29 feet long and 28.5 feet wide. The proposed replacement structure is a single-span pre-stressed box beam bridge approximately 32 feet long and 29 feet wide. The replacement bridge will maintain the two travel lanes with shoulders. The project includes transition work along SR-87 east and west of the bridge to install 75 feet of guardrail in each direction.

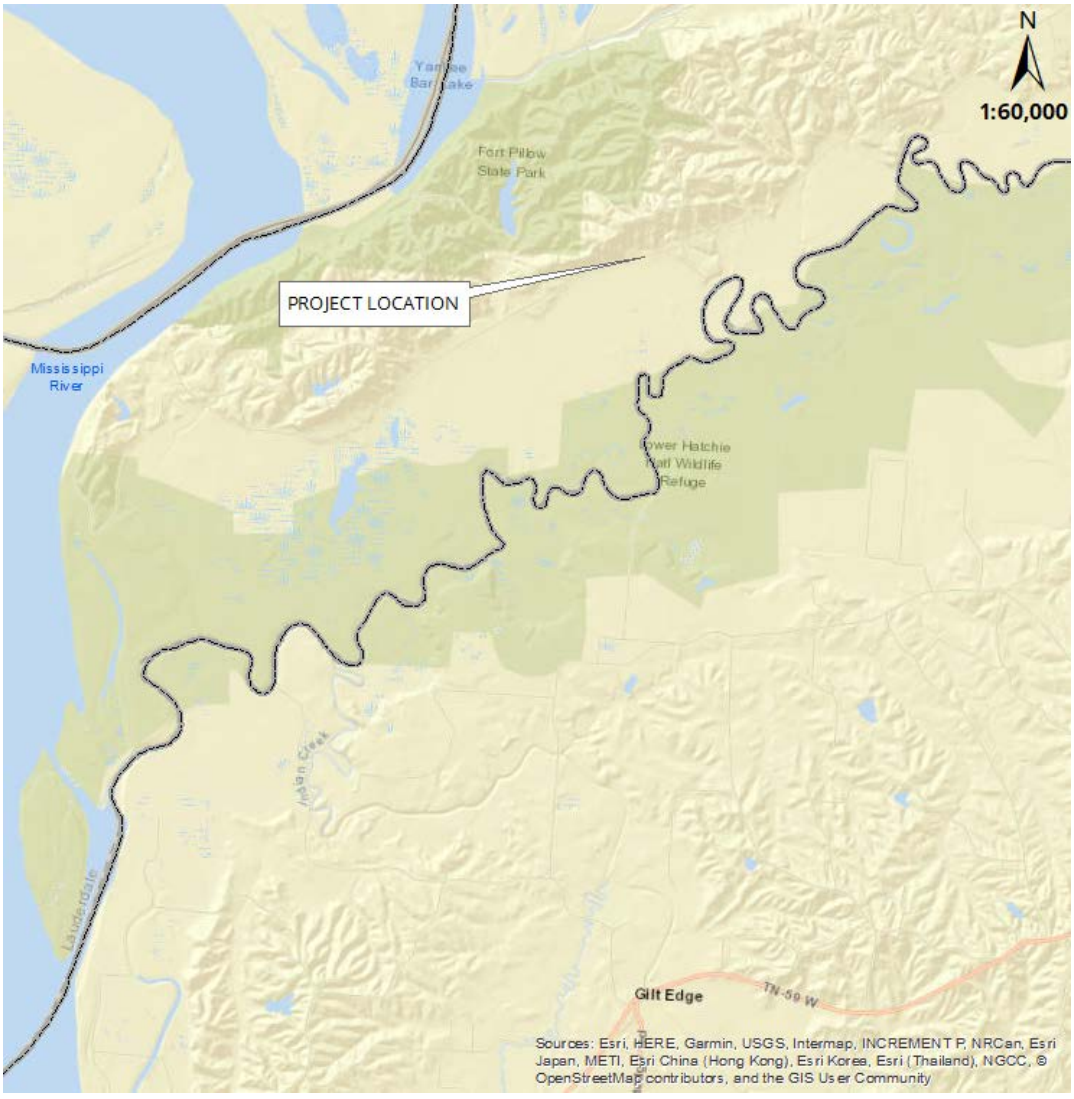


Figure 1: *Project location map.*

PUBLIC AND TRIBAL PARTICIPATION

TDOT will write to five 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. The tribes with historic interest in Lauderdale County are:

The Chickasaw Nation
Eastern Shawnee Tribe of Oklahoma
Quapaw Tribe of Oklahoma
Shawnee Tribe
United Keetoowah Band of Cherokee Indians

TDOT invited the Lauderdale County Mayor to be a consulting party in the Section 106 process via letter dated April 23, 2018. To date, TDOT has not received any response regarding historic resources.

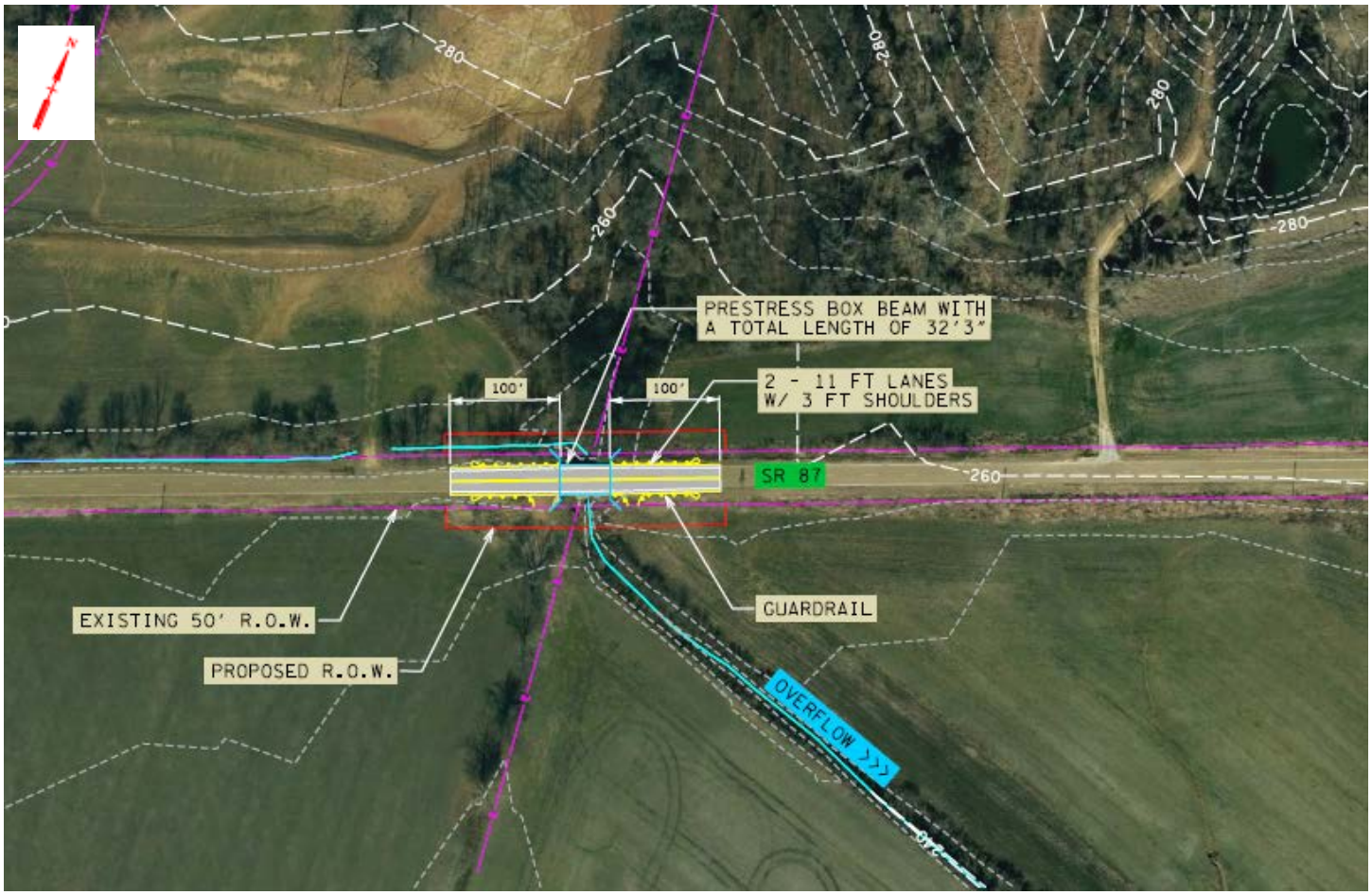


Figure 2: *Functional layout for proposed bridge replacement, aerial view. Proposed ROW lines are for planning purposes.*

ARCHITECTURAL/HISTORICAL SURVEY

In compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, TDOT staff historians reviewed the Area of Potential Effect (APE) for this project. An archaeological assessment is being prepared separately. A TDOT historian checked the survey records of the Tennessee State Historic Preservation Office (TN-SHPO) to determine if any previous architectural surveys had identified historic properties in the area. There are no previously surveyed properties within the APE of the proposed project (Figure 3).

LIT/RECORDS SEARCH: 4/12/2018—Laura van Opstal
FIELD STUDY: 5/23/2018—Laura van Opstal & Katherine Looney

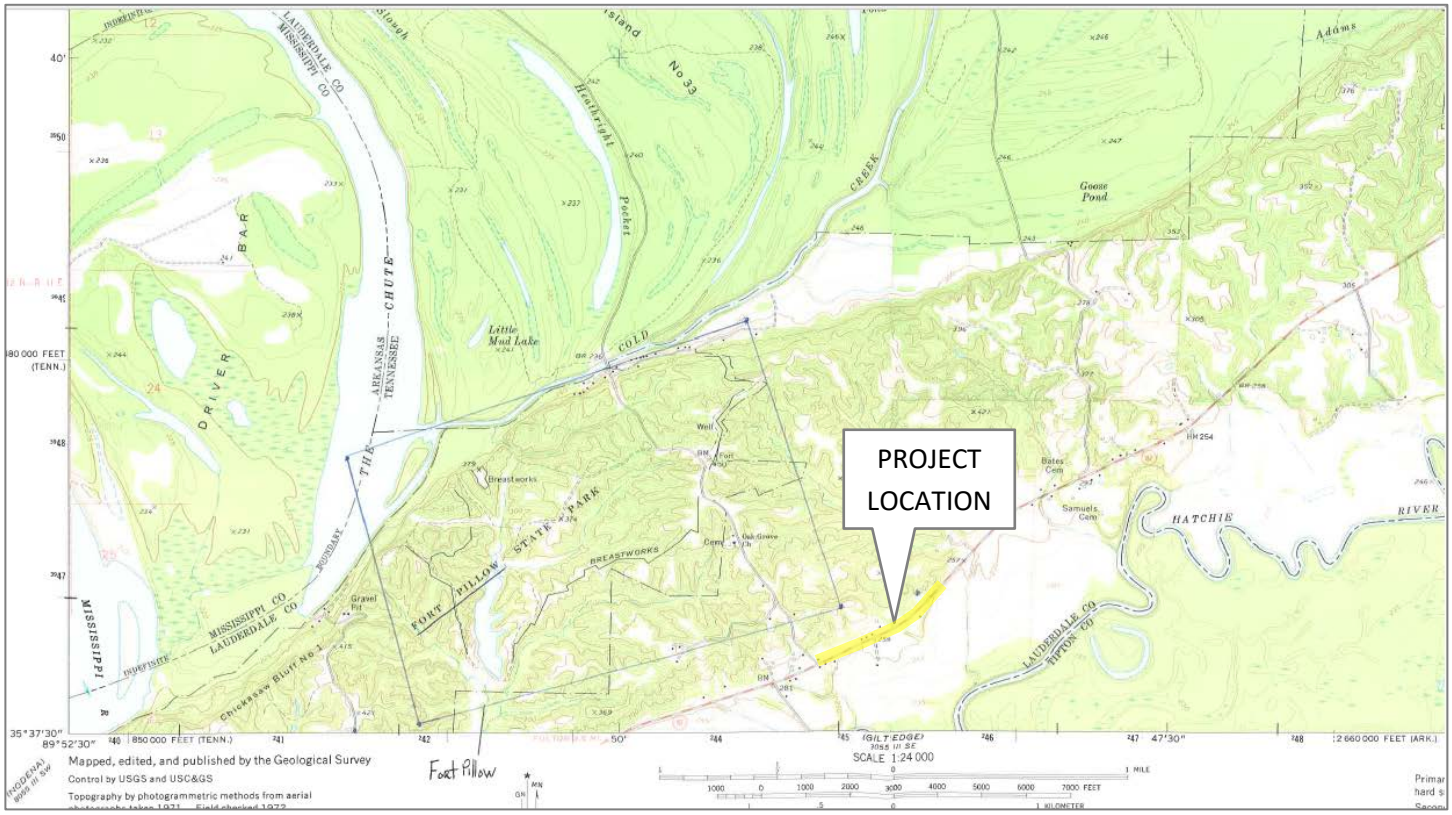


Figure 3: *TN-SHPO survey map. USGS topographic quadrangle Golddust 407NE. There are no previously surveyed properties within the APE of the proposed project. The National Register listed Fort Pillow Historic District is outside the APE of the proposed project. Roads driven by TDOT historians during the field survey are highlighted in yellow.*

TDOT historians field reviewed the APE for the proposed project in compliance with 36 CFR 800 regulations. The purpose of this survey was to identify any resources either included in or eligible for inclusion in the National Register of Historic Places (eligibility criteria are set forth in 36 CFR 60.4). The survey area included land needed for additional ROW as well as areas that might possibly be affected by changes in air quality, noise levels, setting, and land use. The area surrounding the bridge is rural and mostly agricultural fields.

The field survey did not identify any buildings within the APE. The existing bridge was built in 1986, and is a single-span steel I-beam structure with a timber deck and asphalt overlay crossing an overflow of the Hatchie River. The bridge has had repairs and replacement of components over time since its construction.

Therefore, it is the opinion of TDOT that there are no properties listed in or eligible for listing in the National Register of Historic Places within the proposed project's APE.

View east along SR-87 toward the bridge.

CONCLUSION

The Tennessee Department of Transportation, with funding made available through the Federal Highway Administration (FHWA), is proposing the replacement of the SR-87 bridge over an overflow of the Hatchie River at log mile 3.88 in Lauderdale County.

In compliance with 36 CFR 800, TDOT historians surveyed the proposed project APE for historic resources. No National Register listed or eligible properties exist in the project area, and no historic resources were identified by the survey. It is the opinion of TDOT that there are no historic resources in the project area. Additionally, the lack of historic resources indicates that Section 4(f) does not apply.

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

June 12, 2018

Ms. Katherine Looney
Tennessee Department of Transportation
505 Deaderick St
Suite 900
Nashville, TN 37243-1402

RE: FHWA / Federal Highway Administration, Replacement of the SR 87 Bridge over Overflow, Log Mile 3.88/ PIN 124637.00, , Lauderdale County, TN

Dear Ms. Looney:

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 concur 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 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. Questions or comments may be directed to Casey Lee (615 253-3163).

Your cooperation is appreciated.

Sincerely,

E. Patrick McIntyre, Jr.

E. Patrick McIntyre
Executive Director and
State Historic Preservation Officer

EPM/cjl

Environmental Studies Request

Project Information

Route: State Route 87

Termini: Bridge over Overflow, LM 3.88 (IA)

County: Lauderdale

PIN: 124637.00

Request

Request Type: Initial Environmental Study

Project Plans: Transportation Investment Report

Date of Plans: 04/02/2018

Location: Email Attachment

Certification

Requestor: Abby Harris

Title: TESS - NEPA

Signature: Abby Harris Digitally signed by Abby Harris Date: 2018.04.10 11:02:31 -05'00'

Environmental Study

Technical Section

Section: Archaeology

Study Results

In a letter dated June 21, 2018, the TN SHPO concurred that no listed, eligible, or potentially eligible National Register of Historic Places properties would be affected by this undertaking.

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: SHPO Letter

Location: Email Attachment

Certification

Responder: Sarah Kate McKinney

Title: TESS Archaeology

Signature: Sarah Kate McKinney

Digitally signed by Sarah Kate McKinney
Date: 2018.07.02 14:10:50 -05'00'

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

June 21, 2018

Mr. Phillip R. Hodge
Tennessee Department of Transportation
Suite 900, James K. Polk Building
505 Deaderick Street
Nashville, TN 37243-1402

RE: FHWA / Federal Highway Administration, SR-87 Bridge Replacement at Log Mile 3.88, Lauderdale County, TN

Dear Mr. Hodge:

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. Questions or comments may be directed to Jennifer Barnett (615) 687-4780.

Your cooperation is appreciated.

Sincerely,

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

EPM/jmb

Native American Consultation

Environmental Studies Request

Project Information

Route: State Route 87

Termini: Bridge over Overflow, LM 3.88 (IA)

County: Lauderdale

PIN: 124637.00

Request

Request Type: Initial Environmental Study

Project Plans: Transportation Investment Report

Date of Plans: 04/02/2018

Location: Email Attachment

Certification

Requestor: Abby Harris

Title: TESS - NEPA

Signature: Abby Harris Digitally signed by Abby Harris Date: 2018.04.10 11:02:31 -05'00'

Environmental Study

Technical Section

Section: Native American Coordination

Study Results

Native American Coordination was sent to all federally recognized tribes between 4/30/2018-7/2/2018. No tribes responded within the consultation period.

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: Native American Coordination

Location: Email Attachment

Certification

Responder: Sarah Kate McKinney

Title: TESS Archaeology

Signature: Sarah Kate McKinney

Digitally signed by Sarah Kate McKinney
Date: 2018.08.14 11:42:11 -05'00'

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

JOHN C. SCHROER
COMMISSIONER

BILL HASLAM
GOVERNOR

April 30, 2018

Mr. Everett Bandy
Tribal Historic Preservation Officer
Quapaw Tribe of Oklahoma
PO Box 765, Quapaw OK
74363-0765

SUBJECT: Section 106 Initial Consultation for Proposed Bridge Replacement of State Route 87 Bridge over Overflow in Lauderdale County, Tennessee (TDOT PIN 124637.00).

Dear Mr. Bandy,

The Tennessee Department of Transportation (TDOT), in coordination with the Federal Highway Administration (FHWA), is proposing to replace the State Route 87 bridge over an overflow, log mile 3.88, in Lauderdale County, Tennessee (maps attached). The bridge will remain on the same alignment, however, approximately 0.14 acres of additional right-of-way is expected and there will be ground disturbance in the area of potential effects.

The National Historic Preservation Act (NHPA) recognizes that federally funded undertakings, like the subject project, can affect historic properties to which your tribe attaches religious, cultural, and historic significance. In accordance with 36 CFR 800 regulations implementing compliance with Section 106 of the NHPA, we are providing general project information so that you can determine if your tribe has an interest in the project area or nature of the work proposed and so you have an opportunity to bring to our attention any interests and concerns about the potential for impacts to properties of religious and cultural significance. In addition, do you wish to be a consulting party on the project? Early awareness of your concerns can serve to protect historic properties valued by your tribe.

If you act as a consulting party you will receive archaeological assessment reports and related documentation, be invited to attend project meetings with FHWA, TDOT, and the Tennessee State Historic Preservation Office (TN-SHPO), if any are held, and be asked to provide input throughout the process. If you choose to not act as a consulting party at this time, you can do so at a later date simply by notifying me.

Please respond to me via letter, telephone (615-741-0977), fax (615-741-1098), or E-mail (Phillip.Hodge@tn.gov). I respectfully request responses (email is preferred) to project reports and other materials within thirty (30) days of receipt if at all possible. Thank you for your assistance.

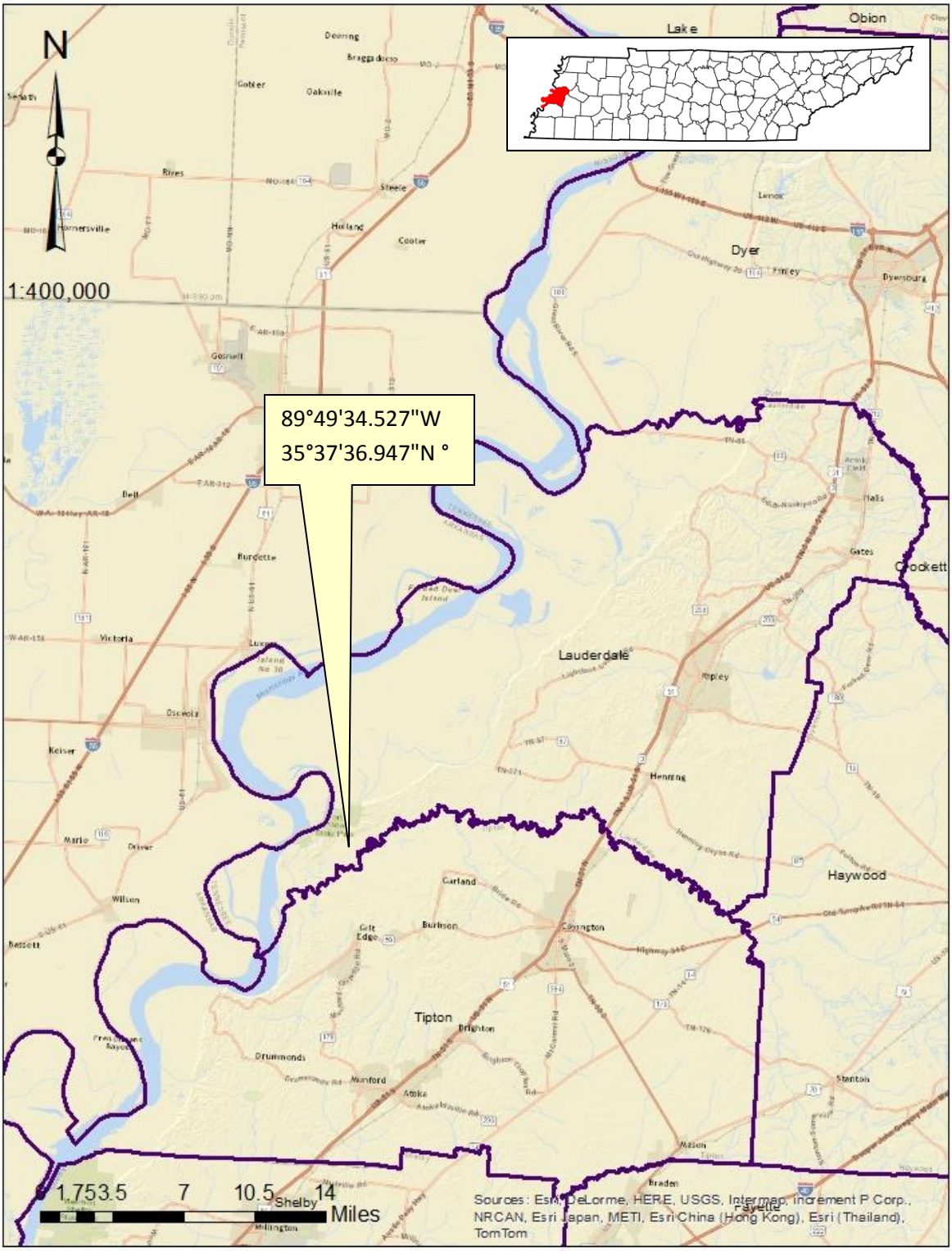
Sincerely,

Phillip R. Hodge
Archaeology Program Manager

Enclosure

cc Karen Brunso, The Chickasaw Nation
Brett Barnes, Eastern Shawnee Tribe of Oklahoma
Tonya Tipton, Shawnee Tribe
Sheila Bird, United Keetoowah Band of Cherokee Indians

Lauderdale County, TN. PIN 124637.00

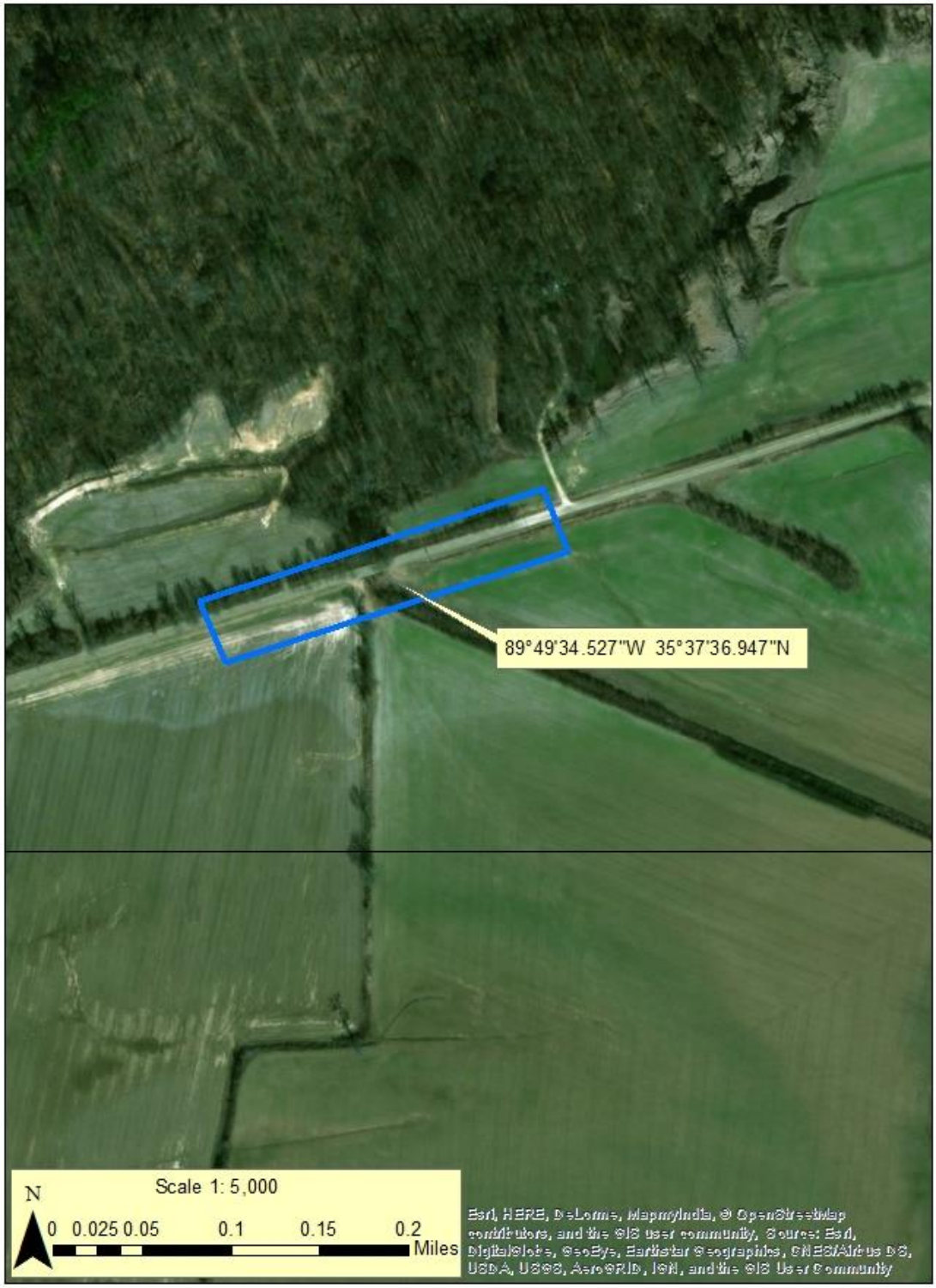


Project Vicinity Map

TDOT PIN 124637.00
Lauderdale County
USGS TOPO Golddust 407 NE

USGS Quad

TDOT PIN 124637.00
Lauderdale County
USGS TOPO Golddust 407 NE



Project Location: Aerial View

From:	Fottrell, Gary (FHWA)
To:	Chickasaw Nation (HPO@chickasaw.net)
Cc:	Phillip Hodge
Subject:	Section 106 Coordination; State Route 87 Bridge over Overflow, Lauderdale County, Tennessee PIN 124637.00
Date:	Wednesday, July 11, 2018 6:54:01 AM
Attachments:	Lauderdale SR 87 Bridge 124637.00 NAC Brunso.pdf Lauderdale County, TN, SR-87 over Overflow, Architectural-Historical Rep....pdf Lauderdale County TN SR-87 over Overflow Archaeological Report PIN 1....pdf

Dear Ms. Brunso:

Please find attached information for a project proposed by the Tennessee Department of Transportation (TDOT):

- **State Route 87 Bridge over Overflow, Lauderdale County, PIN 124637.00**

In accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and as promulgated in 36 CFR 800, we are providing general project information so that you can determine if your tribe has an interest in the project area or nature of the work proposed and so you have an opportunity to bring to our attention any interests and concerns about the potential for impacts to properties of religious and cultural significance. In addition, do you wish to be a consulting party on the project? If possible, we would appreciate your response via email by August 10th.

TDOT has attached a map of the project site with coordinates, architectural/historical and archaeological assessments, and SHPO letters. Thank you for your assistance on this project. If you have questions or need additional information, please feel free to call at any time.

Sincerely,

Gary Fottrell
Environmental Program Engineer
TN Division, Federal Highway Administration
404 BNA Drive, Suite 508
Nashville, TN 37217
Phone (615) 781-5766

Hazardous Materials

Environmental Studies Request

Project Information

Route: State Route 87

Termini: Bridge over Overflow, LM 3.88 (IA)

County: Lauderdale

PIN: 124637.00

Request

Request Type: Initial Environmental Study

Project Plans: Transportation Investment Report

Date of Plans: 04/02/2018

Location: Email Attachment

Certification

Requestor: Abby Harris

Title: TESS - NEPA

Signature: Abby Harris Digitally signed by Abby Harris Date: 2018.04.10 11:02:31 -05'00'

Environmental Study

Technical Section

Section: Hazardous Materials

Study Results

Based on the Transportation Investment Report dated 2 April 2018, no known hazardous materials sites appear to affect this project as it is currently planned. The asbestos bridge survey has been completed, no asbestos was detected. The following project commitment was previously submitted and is pending in PPRM.

Miscellaneous Tributaries to the Hatchie River have not been assessed by TDEC DWR.

In the event hazardous substances/wastes are encountered within the right-of-way, their disposition shall be subject to all applicable regulations, including the applicable sections of the Federal Resource Conservation and Recovery Act, as amended; and 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, TDEC Registered UST database, TDEC Division of Water Resources Public Data Viewer, TDOT IBIS, and others as necessary.

Commitments

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

An Asbestos Containing Material (ACM) survey was conducted on No. 49SR0870011, SR-87 over Overflow, LM 3.90 (49-SR087-03.90). No ACM was detected. 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, 2015) 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

Signature: Kyle Kirschenmann

Digitally signed by Kyle Kirschenmann
DN: cn=Kyle Kirschenmann, o=TDOT, ou=Environmental Division, email=kyle.kirschenmann@tn.gov, c=US
Date: 2018.04.11 09:08:54 -04'00'

Title: Environmental Program Manager, Hazardous Materials Section

TENNESSEE DEPARTMENT OF TRANSPORTATION

ASBESTOS INSPECTION REPORT

SR-87 Bridge over Overflow
PE-N Number 49006-0240-04
PIN Number 124637.00
Bridge ID Number 49SR0870011

Prepared by:

K. S. WARE & ASSOCIATES, L.L.C.
54 Lindsley Avenue
Nashville, Tennessee 37210

February 23, 2018
KSWA Project Number: 100-17-0078

Victoria Gallagher
Tennessee Asbestos Inspector Accreditation A-I-109147-63293

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FIGURES

APPENDICES

1.0 INTRODUCTION

This report presents the findings of an inspection for asbestos-containing materials (ACM) completed on the bridge identified in Section 1.1. The inspection was completed in accordance with the State of Tennessee, Department of Transportation Environmental Division, Hazardous Materials Section requirements.

1.1 TDOT BRIDGE IDENTIFICATION

The bridge is identified in the TDOT Project System/Bridge Management System as:

TDOT PE-N Number: 49006-0240-04
TDOT PIN Number: 124637.00
Bridge Inventory Number: 49SR0870011
Termini: SR-87 Bridge over Overflow
Log Mile Number: 3.88

1.2 GENERAL DESCRIPTION

The SR-87 bridge over Overflow at LM 3.88 (49-SR087-0011) is a 29-foot, 2-lane, single-span bridge constructed of steel I-beams with a wooden deck and asphalt wearing surface. The bridge was originally constructed in 1986. The general location of the bridge is shown in **Figure – 1**. Photographs of the subject Lauderdale County bridge are presented in **Appendix A.** The analytical results of all the samples collected from the bridge and the chain-of-custody records are included in **Appendix B**.

2.0 INSPECTION

The identification of ACM was performed by collecting bulk samples of suspect materials and having those samples analyzed by a laboratory. ACM are those materials found to contain greater than one percent asbestos by calibrated visual area estimation (CVAE) using Polarized Light Microscopy (PLM).

Bulk sampling is a procedure in which representative homogeneous sampling areas in a structure are identified and then sampled. A homogeneous sampling area is defined as an area that contains material of the same type (uniform in color and texture) and is applied during the same general time period. Once the homogeneous sampling areas are identified, bulk samples of suspect materials are obtained at the discretion of our inspectors, based on site conditions and past experience.

2.1 PERSONNEL AND DATE(S) OF INSPECTION

The sampling and field activities were performed on January 18, 2018 by KWSA representative Ms. Victoria Gallagher. Ms. Gallagher is an accredited State of Tennessee Asbestos Inspector. A copy of Mr. Gallagher's current accreditation from the State of Tennessee is included in **Appendix C**. Field activities were conducted under a Health and Safety Plan (**Appendix D**) and an Activity Hazard Analysis (**Appendix E**) prepared prior to mobilizing to the site.

2.2 VISUAL SURVEY

The KSWA field crew began with a visual survey of the bridge. The visual survey consisted of:

- producing a sketch of the structure and/or verifying the plans provided;
- locating and identifying homogeneous areas of suspect materials that may contain asbestos minerals; and
- determining applicable sampling locations.

The homogeneous areas identified during the visual survey are listed in **Table – 1**. The general locations of the identified homogeneous areas are shown in **Figure – 2.**

Table – 1: Bridge Component Descriptions

Homogeneous Area	Description	Sample Numbers
A	Rubber Deck Padding	SR-01, SR-02, SR-03
B	Concrete Floor/Base	SR-04, SR-05, SR-06

2.3 ACCESS TO BRIDGE COMPONENTS

Individual bridge components were accessed by the following methods.

2.3.1 Rubber Deck Padding – Homogeneous Area A

The rubber deck padding was accessed and sampled from beneath on the southeast side of the bridge.

2.3.2 Concrete Floor/Base – Homogeneous Area B

The concrete floor/base was accessed and sampled from beneath the bridge.

2.4 BRIDGE DRAINAGE SYSTEM

The KSWA field crew did not observe a bridge drainage system on the subject Lauderdale County bridge.

2.5 UTILITY CONDUITS

The KSWA field crew did not observe utility conduits on the subject Lauderdale County bridge.

3.0 ANALYTICAL PROCEDURES

3.1 ASBESTOS ANALYSIS PROCEDURES

The bulk samples collected from the subject bridge were analyzed in the laboratory using PLM coupled with dispersion staining. PLM is used as an analytical method to identify the specific asbestos minerals by their unique optical properties. The optical properties are a result of the chemical composition, physical atomic structure, and visual morphology specific to that mineral. PLM is the recommended method of analysis for asbestos identification in bulk samples specified in the Environmental Protection Agency Toxic Substances Control Act (appendix E, subpart E, 40 CFR part 763, section 1).

Materials that contain multiple layers or have associated mastic or adhesive backing are separated and analyzed as multiple samples. Standard procedure for samples that are reported to contain 1% or less asbestos minerals is to complete a quantitative point count analysis by the laboratory for confirmation.

3.2 LABORATORY NAME AND ACCREDITATION

The bulk samples collected for this inspection were analyzed by a laboratory that has received accreditation from the National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP). The name and accreditation number of the analytical laboratory that analyzed the samples for this inspection are indicated in **Table - 2**:

Table – 2: Analytical Laboratory

Laboratory	EMSL Analytical, Inc.
NVLAP Number	102104-0

4.0 REGULATORY OVERVIEW

4.1 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

The EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations (40 CFR §61, Subpart M) require that all regulated asbestos-containing materials (RACM) be properly removed prior to any renovation or demolition activities that will disturb them. These regulations define RACM as:

- Friable ACM.
- Category I non-friable ACM that has become friable.
- Category I non-friable ACM that will be or has been subject to sanding, grinding, cutting, or abrading.
- Category II non-friable ACM that has a high probability of becoming, or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.

4.1.1 Definitions

Significant definitions related to regulation of asbestos under NESHAP include:

Friable asbestos-containing material ACM is defined by the National Emissions Standard for Asbestos (subpart M, 40 CFR part 61) under NESHAP as "any material containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarizing Light Microscopy, that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure" (40 CFR §61.141).

Non-friable ACM is defined as "any materials containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarizing Light Microscopy, that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure" (40 CFR §61.141). The National Emission Standard for Asbestos (subpart M, 40 CFR part 61) also defines two categories of nonfriable ACM, Category I and Category II non-friable ACM, which are described as follows:

Category I non-friable ACM is defined as any "asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarizing Light Microscopy" (40 CFR §61.141).

Category II non-friable ACM is defined as "any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos as determined using the methods specified in appendix E, subpart E, 40 CFR part 763, section 1, Polarizing Light Microscopy, that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure" (40 CFR §61.141).

Regulated Asbestos-Containing Material (RACM) is defined as any "(a) Friable asbestos material, (b) Category I nonfriable ACM that has become friable, (c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations" (40 CFR §61.141).

Friable materials are defined as those that can be crumbled, pulverized, or reduced to powder by hand pressure when dry. The NESHAP regulations also establish specific notification and control requirements for renovation and demolition work.

5.0 RESULTS

The results of the asbestos inspection are presented in the following sections.

5.1 RESULTS OF ASBESTOS BULK SAMPLE ANALYSIS

The KSWA field crew collected six (6) samples from the SR-87 Bridge over Overflow at LM 3.88. Multiple samples of each homogeneous area were collected in accordance with State of Tennessee, Department of Transportation Environmental Division, Hazardous Materials Section requirements and delivered to the laboratory for visual observation and microscopic analysis. The samples were selected based on the identified homogeneous areas of suspect materials, as described in Section 2.2.

Building material homogeneous areas sampled included: rubber deck padding and concrete floor/base.

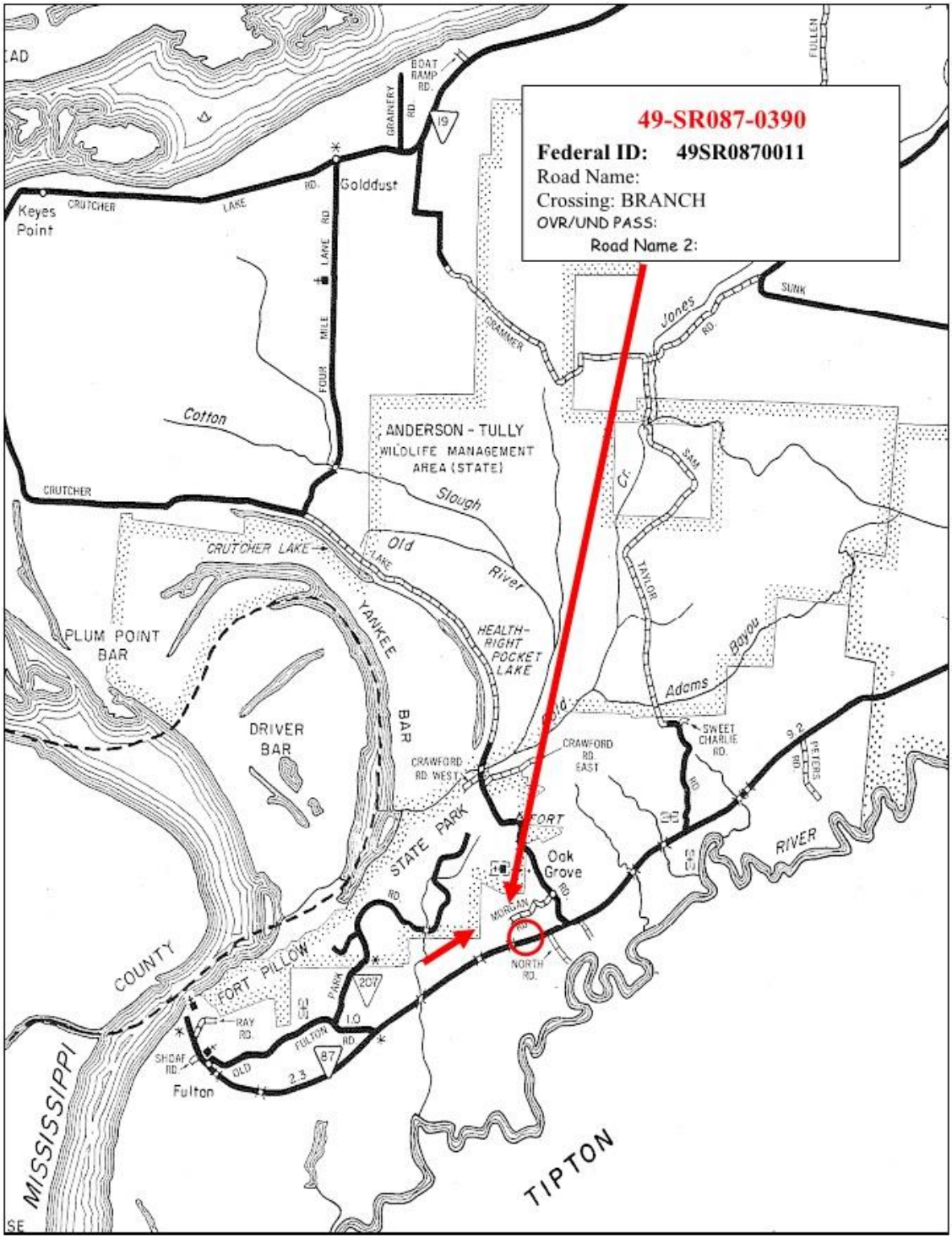
No asbestos was found to be present in any of the materials sampled from the SR-87 Bridge over Overflow at LM 3.88.

6.0 QUALIFICATIONS

The information presented herein is based on information obtained during the site visit and from previous experience. If additional information becomes available which might impact our conclusions or recommendations, K.S. Ware & Associates, L.L.C. requests the opportunity to review the information, reassess the potential concerns, and modify opinions, if warranted.

This report has been prepared on behalf of the Tennessee Department of Transportation. This document is not a Bid Document or a Contract Document. Use of this report or reliance upon information contained in this report by any other party implies an agreement by that party to the same terms and conditions under which service was provided. Furthermore, any party, other than our Client, relying on this document is cautioned that all conclusions made or decisions arrived at based on their review of this document are those solely of the third party, without warranty, guarantee or promise by the author. These findings are relevant to the dates of our services and should not be relied upon to represent conditions at substantially earlier or later dates.

Figure – 1: Site Vicinity Map
Lauderdale County



Homogeneous Areas:

A- Rubber Deck Padding

B- Concrete Floor/Base

*Homogeneous area locations are generalized and do not represent actual sample locations.

FIG. NO. 2

TN TDOT Department of Transportation

49SR0870011 BRIDGE PROFILE HOMOGENEOUS AREAS

TERMINI:

SR-87 Bridge over Overflow, LM 3.88

COUNTY: Benton	INSPECTOR: Victoria Gallagher	ANALYTICAL LABORATORY: EMSL Kernersville, NC	DATES SAMPLED: 01/18/18
SCALE: NTS	TDOT PE-N NO: 49006-0240-04	PIN: 124637.00	Source: FIELD PHOTOGRAPHS

KSWA
K. S. Ware & Associates, L.L.C.
Geotechnical • CEI • Environmental

KSWA PROJ.NO. 100-17-0078

APPENDIX A:
PHOTOGRAPHS

Homogeneous areas that tested positive for asbestos are captioned in red.

Photo 1: View of HA-A on the SR-87 bridge over Overflow

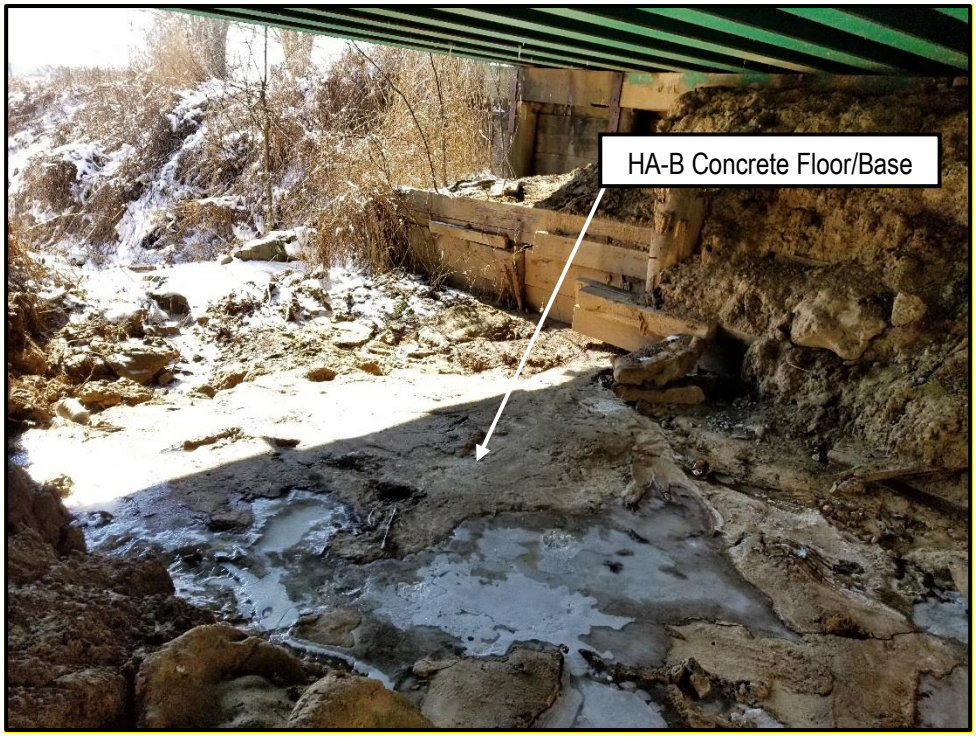


Photo 2: View of HA-B on the SR-87 bridge over Overflow

APPENDIX B:
ASBESTOS SAMPLE LABORATORY ANALYSIS DATA

EMSL Analytical, Inc.

706 Gralin Street Kernersville, NC 27284

Tel/Fax: (336) 992-1025 / (336) 992-4175

http://www.EMSL.com / greensborolab@emsl.com

EMSL Order:	021800673
Customer ID:	KSWA77
Customer PO:	
Project ID:	

Attention:	Victoria Gallagher	**Phone:**	(615) 742-7476
	K.S. Ware LLC	**Fax:**	(615) 256-5873
	54 Lindsley Avenue	**Received Date:**	02/01/2018 9:15 AM
	Nashville, TN 37210	**Analysis Date:**	02/05/2018
		Collected Date:	01/18/2018

Project: 100-17-0078 SR-87 Lauderdale

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
SR-01 *021800673-0001*	Rubber Deck Padding	Brown/Black Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
SR-02 *021800673-0002*	Rubber Deck Padding	Brown/Black Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
SR-03 *021800673-0003*	Rubber Deck Padding	Brown/Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
SR-04 *021800673-0004*	Concrete Floor /Base	Gray/Tan/Black Non-Fibrous Heterogeneous		30% Quartz 70% Non-fibrous (Other)	None Detected
SR-05 *021800673-0005*	Concrete Floor /Base	Gray/Tan Non-Fibrous Heterogeneous	<1% Cellulose	30% Quartz 70% Non-fibrous (Other)	None Detected
SR-06 *021800673-0006*	Concrete Floor /Base	Gray/Tan Non-Fibrous Homogeneous		30% Quartz 70% Non-fibrous (Other)	None Detected

Analyst(s)

Kristie Elliott (2)

Stephen Bennett (4)

Stephen Bennett, Laboratory Manager
or Other Approved Signatory

Initial report from: 02/05/2018 16:26:19

OrderID: 021800673

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number *(Lab Use Only)*: 673

706 Gralin Street
Kernersville, NC 27284
PHONE: (336) 992-1025
FAX: (336) 992-4175

Company : K.S. Ware & Associates, LLC	**EMSL-Bill to:** ☐ Same ☑ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: 54 Lindsley Ave	
City: Nashville **State/Province:** TN	**Zip/Postal Code:** 37210 **Country:** US
Report To (Name): Victoria Gallagher	**Telephone #:** 6152559702
Email Address: vgallagher@kswarellc.com	**Fax #:** 6152559702 **Purchase Order:**
Project Name/Number: 100-17-0078 SR-87 Lauderdale	**Please Provide Results:** ☐ Fax ✓ Email ☐ Mail
U.S. State Samples Taken: TN	**CT Samples:** ☐ Commercial/Taxable ☐ Residential/Tax Exempt

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ■ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week

*For TEM Air 3 hr through 6 hr, please call ahead to schedule.*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.

PLM - Bulk (reporting limit)	TEM – Bulk
■ PLM EPA 600/R-93/116 (<1%)	☐ TEM EPA NOB – EPA 600/R-93/116 Section 2.5.5.1
☐ PLM EPA NOB (<1%)	☐ NY ELAP Method 198.4 (TEM)
Point Count ☐ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ Chatfield Protocol (semi-quantitative)
Point Count w/Gravimetric ☐ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ TEM % by Mass – EPA 600/R-93/116 Section 2.5.5.2
☐ NIOSH 9002 (<1%)	☐ TEM Qualitative via Filtration Prep Technique
☐ NY ELAP Method 198.1 (friable in NY)	☐ TEM Qualitative via Drop Mount Prep Technique
☐ NY ELAP Method 198.6 NOB (non-friable-NY)	**Other**
☐ OSHA ID-191 Modified	☐
☐ Standard Addition Method	

☐ **Check For Positive Stop – Clearly Identify Homogenous Group** **Date Sampled:** 1/18/2018

Samplers Name: Victoria Gallagher **Samplers Signature:** Victoria Gallagher

Sample #	HA #	Sample Location	Material Description
SR-01	A	SOUTHEAST	Rubber Deck Padding
SR-02	A	SOUTHEAST	Rubber Deck Padding
SR-03	A	SOUTHEAST	Rubber Deck Padding
SR-04	B	MIDDLE	Concrete Floor/Base
SR-05	B	MIDDLE	Concrete Floor/Base
SR-06	B	MIDDLE	Concrete Floor/Base

Client Sample # (s): SR-01A - SR-06B **Total # of Samples:** 6

Relinquished (Client): Victoria Gallagher **Date:** 1/29/18 **Time:** 3:00 p.m.

Received (Lab): NS **Date:** 2/1/18 **Time:** 9:15

Comments/Special Instructions:
Please separate and analyze all layers.
BillTo: K.S. Ware & Associates, LLC, 54 Lindsley Ave, Nashville, TN, 37210, US
Attention: Jo-Ann Poharcyk Phone: 6152559702 Email: jpoharcyk@kswarellc.com
(3) EMSL FX 7954 2016 91606

APPENDIX C:
ASBESTOS ACCREDITATIONS


THE STATE OF TENNESSEE
Department of Environment and Conservation
Division of Solid Waste Management
Tenn Substances Program
Victoria M Gallagher
DOB
23-Nov-1990
Sex
F
HGT
5' 10"
WGT
180
Discipline
Accreditation
Expiration
Inspector
Aug-31-2019
Initial
Asbestos Accreditation

THE STATE OF TENNESSEE

Department of Environment and Conservation Division of Solid Waste Management
Toxic Substances Program
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 14th Floor Nashville TN 37243

By virtue of the authority vested by the Division of Solid Waste Management, the Company named below is hereby accreditted to offer and/or conduct Asbestos activities pursuant to Rule 1200-01-20:

K. S. Ware and Associates, LLC

54 Lindsley Avenue Nashville TN, 37210

to conduct ASBESTOS ACTIVITIES in schools or public and commercial buildings in Tennessee. This firm is responsible for compliance with the applicable requirements of Rule 1200-01-20.

Discipline	Type	Accreditation Number	Effective Date	Expiration Date
Accreditation	Re-Accreditation	A-F-620-62396	November 01, 2017	November 30, 2018

Given under the Seal of the State of Tennessee in Nashville.

This **2nd** Day of **November 2017**

Division of Solid Waste Management
Toxic Substance Program

CN-1324 (Rev 6/13) RDA-3020

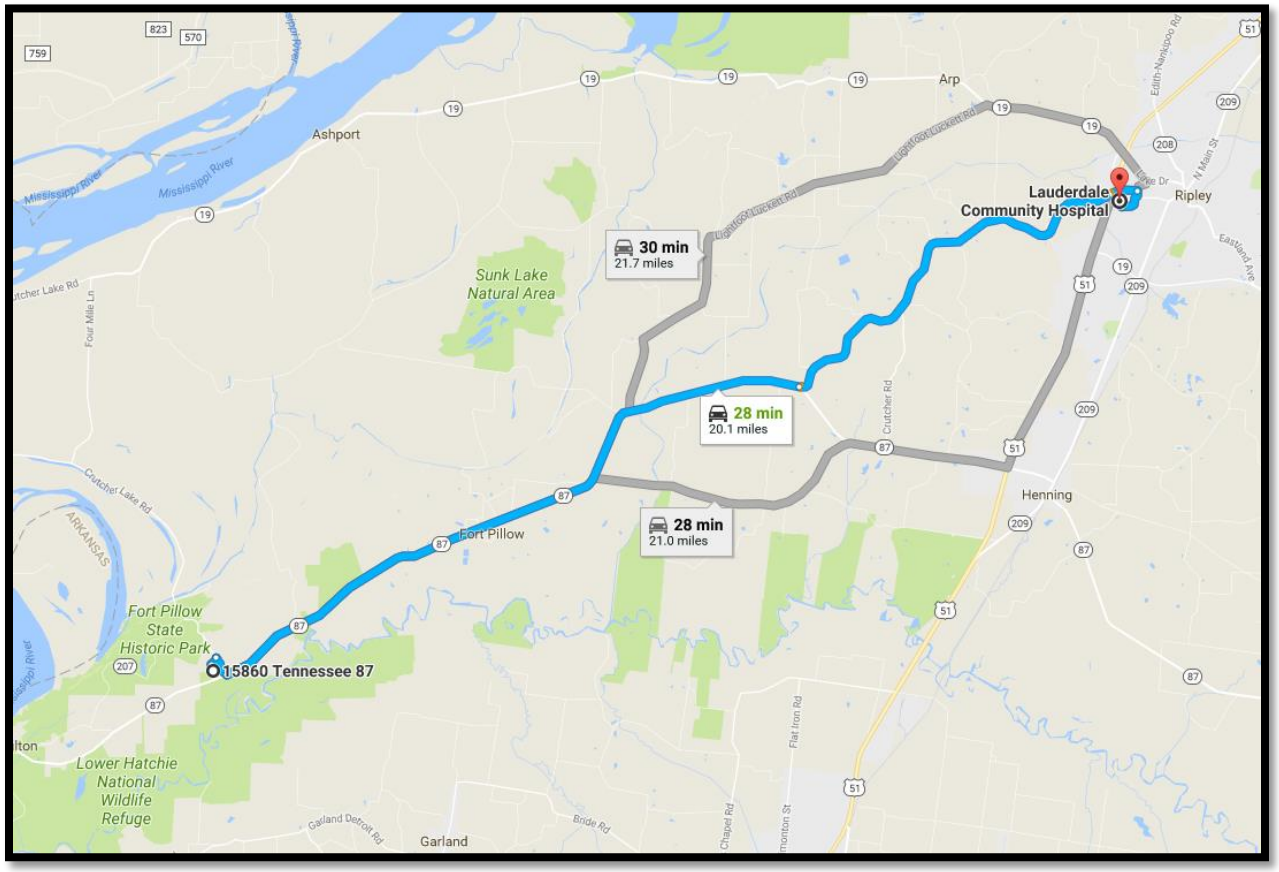
APPENDIX D:
HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN FOR

ASBESTOS CONTAINING MATERIALS SURVEY SERVICES

K. S. WARE AND ASSOCIATES, L.L.C.

54 Lindsley Ave.
Nashville, Tennessee 37210



Directions to Hospital

Head NE on TN-87 (11.3 mi)
Continue onto Asbury Glimp Rd./Asbury Ave. (7.7 mi)
Turn right onto Willow Creek Dr. (0.5 mi)
Turn right onto Lankford Dr. (0.1 mi)

Hospital Address

Lauderdale Community Hospital
326 Asbury Ave.
Ripley, TN 38063
(731) 221-2200

This facility has been verified as mappable by phone (goo.gl/og4u1K):_____

Project Number:	100-17-0078
Name:	TDOT Lauderdale Co SR-87 Bridge ACM Survey
Location:	Lauderdale County, Tennessee
Client:	Tennessee Department of Transportation
Client Contact :	Kyle Kirschenmann
Phone No.:	(615) 598-1522

KSWA Personnel Contact Information:

Title	Name	Work	Mobile
Field Safety Coordinator	Tori Gallagher	(615) 255-9702	(931) 808-9199
Project Manager	Tori Gallagher	(615) 255-9702	(931) 808-9199
Health and Safety QA	Ryan Elliott	(850) 530-9209	(850) 865-3056

Review and Approval:

Field Safety Coordinator — September 20, 2017
Tori Gallagher — Date

Project Manager — September 20, 2017
Tori Gallagher — Date

Health and Safety QA — September 20, 2017
Ryan Elliott, PE — Date

Responsibilities for Field Safety Coordinator:

- Primary on-site contact for KSWA's health and safety procedures during field activities.
- Has the authority to stop KSWA operations if conditions are judged to be hazardous to on-site personnel or the public.
- Perform discretionary audits to determine compliance of Health and Safety Plan requirements.
- Responsible for providing access to the health and safety for all on-site employees.
- Responsible for instructing on-site personnel on the location of emergency communication equipment (i.e. phones and radios as necessary).
- Has no responsibility for health and safety procedures of any contractor, subcontractor, client personnel or others on the site.

Date of Plan Preparation	Dates of Planned Field Activities
September 20, 2017	September 2017

TABLE OF CONTENTS

1.0 PURPOSE

The purpose of this health and safety plan (HASP) is to provide standards for worker safety and protection during field activities conducted on a frequent or routine basis. The plan outlines standards and mandatory procedures relative to physical and chemical hazards encountered at sites, communication, training, worker health monitoring, decontamination procedures and levels of personal protection. Any questions concerning this information should be directed to the K.S. Ware and Associates, L.L.C. (KSWA) Project Manager identified at the beginning of this Health and Safety Plan, at 615-255-9702.

2.0 APPLICABILITY

This plan is applicable to all personnel working at the above referenced site, where mandatory worker health and safety training is required by State or Federal agencies. It is intended for use at the above referenced site where information regarding potential site hazards is available in the form of background research, personal communication with past or present property owners or workers, previous sampling results, etc.

A site specific hazard evaluation is included in Section 4. Available information should be provided to site workers as outlined in Section 5.

Sampling of items that may contain asbestos containing material (ACM) and other routine field activities are activities for which this plan is applicable. Activities involving contact with unknown substances and activities on sites where little background information is available will require more extensive and specific HASP development.

This plan does not cover procedures for entry into confined spaces. Project-specific attachments should be prepared and appended to this Health and Safety Plan if those activities are planned. Work of this nature shall be performed in accordance with 29 CFR 1926.250 subpart P "Excavation, Trenching and Shoring", 29 CFR 1910.146 "Permit Required Confined Space Entry" and the KSWA "Employee Confined Space Entry Program".

3.0 SITE DESCRIPTION AND HISTORY

The project consists of performing an asbestos bridge survey on one bridge located on SR-87 over Overflow in Lauderdale County, Tennessee.

The SR-87 Bridge over Overflow is a 29-foot, 2-lane, single-span bridge constructed of steel I-beams with a concrete deck and asphalt wearing surface. The bridge was constructed in 1986 and is scheduled for repair.

3.1 BRIDGE INSPECTION EQUIPMENT

KSWA will be on site to perform an asbestos survey on the SR-87 Bridge. Equipment to be used during the survey will include asbestos sample collection equipment.

3.2 WORK PRECAUTIONS

- No eating, drinking, using tobacco products, chewing gum, or putting hands in mouth while on the site.
- Wear the TDOT required roadway safety gear (hard hat, Class III reflective vest, boots) at all times while on the project site.
- Wear gloves at applicable times while at the work site.
- Wear protective eyewear at applicable times while at the work site.
- Wash all exposed skin areas with soap and water before departing from the site.
- Remove and change any non-impervious clothing that becomes contaminated during site activities.
- Do not go anywhere on the site other than where directed by the Field Safety Coordinator.
- Use safe and legal procedures for sample storage and shipment.

3.3 DISPOSAL RESTRICTIONS

Treat disposable items as ordinary refuse except when gross contamination is expected. In the event that refuse including disposable personnel protective equipment is suspected of being contaminated, the refuse will be collected and stored on site for future disposal.

4.0 HAZARD EVALUATION

4.1 PHYSICAL HAZARDS

4.1.1 Operational Hazards

Prior to commencement of field activities, the Field Safety Coordinator will conduct a site reconnaissance to identify any visible or operational hazards.

Additionally, because there is a possibility that asbestos may be present at the site, the appropriate Personal Protective Equipment (PPE) will be worn at all times that work is being performed.

4.1.2 Fall Hazards

Field activities can have the potential for fall hazards. Be aware of any uneven terrain, clear paths of debris and materials that may be a hazard. While on the bridges, be aware of slick surfaces and gaps while accessing the different components.

4.1.3 Heat Stress

Field activities in hot climates create a potential for heat stress. The warning symptoms of heat stress include fatigue; loss of strength; reduced accuracy; comprehension and retention; and reduced alertness and mental capacity. To prevent heat stress, personnel shall drink adequate amounts of water and/or electrolyte replacement fluids, and maintain scheduled work/rest periods.

4.1.4 Cold Stress

Field activities in cold climates create a potential for cold stress. The warning symptoms of cold stress include fatigue; shivering; numbness; blue or pale skin; and reduced alertness and mental capacity. To prevent cold stress, personnel shall wear adequate clothing, and maintain scheduled work/rest periods.

4.1.5 Tools and Equipment

Tools and equipment used by KSWA shall be inspected and maintained to be safe and adequate for their designated use. Housekeeping of the site shall be maintained as to prevent tripping hazards.

4.1.6 Traffic Hazard

Field activities will encounter traffic on this project. Be aware of surroundings and watch for traffic.

4.1.7 Noise Hazard

Operation of equipment may present a noise hazard to workers. KSWA personnel will be provided with hearing protection to be utilized when noise levels are excessive.

4.1.8 Water Hazards

Field activities will encounter a creek on this project. Use caution in or near the creek. Additional PPE including but not limited to a personal flotation device (PFD) and waders shall be taken to the project area and utilized if necessary.

4.1.9 Asbestos Containing Material

Collecting samples from bridge components may release asbestos fibers into the air. KSWA personnel will wear a respirator while sampling, and all sampling equipment will be properly decontaminated between sample collection and after field activities. KSWA personnel will limit exposure by adhering to this health and safety plan.

4.2 CHEMICAL HAZARDS

Chemical hazards are not anticipated at this site.

4.3 BIOLOGICAL HAZARDS

4.3.1 Stinging Insects

The most common stinging insects are bees, wasps, and ants. Few species of ants have medically significant stings. While most bees possess a defensive sting, and will sting if grasped or crushed, only a few social species sting often enough, or have sufficiently venomous stings to be of medical significance. These include the honeybees and the bumblebees. Most fatalities from bee and wasp stings occur in hypersensitive individuals; death is most often induced by a single sting, and occurs most often within 1 hour after the sting. The victim is typically over 40 years of age and stung on the head or neck. Most deaths are caused by respiratory dysfunction with the second most common cause being anaphylaxis; arteriosclerosis may be a compounding factor. If stung, seek medical attention immediately.

Precautions: In order to reduce the health and safety risk to workers due to physical hazards at the project site, the following precautions will be observed:

5 ANSI Class III High Visibility clothing will be worn by personnel at all times on the project site.

6 Hard hats shall include high visibility reflective tape.

7 Protective eyewear will be worn by personnel in the work area when appropriate.

8 Hearing protection will be worn by personnel as deemed necessary by the Field Safety Coordinator (typically noised levels greater than 85 dBA).

9 Safety toed boots with non-conductive soles will be worn by personnel at all times on the project site.

10 Hand protection (leather gloves) will be worn by personnel when moving and/or lifting equipment as well as when using large hand tools (machetes, sledges, shovels, etc.).

11 All equipment and related support equipment and vehicles shall have a daily safety inspection (29 CFR 1926.550). The inspections shall include, but are not limited to: all hydraulic lines and fittings for wear and damage, all cable systems and pull ropes for damage and proper installation, exhaust systems and drill controls, electrical lines for damage and/or contact with standing water, etc. Inspection schedules, the vehicle and equipment description, nomenclature, the license plate or ID number for the equipment, the findings of the inspections and the corrective action(s) taken shall be maintained.

12 Before beginning each work shift, the area will be checked for site hazards including overhead lines, underground lines, above ground obstructions, tripping hazards, etc.

13 All vehicles will be fitted with a cab-top rotating or strobe light bar. Light bar is to be active when vehicle is on site.

5.0 COMMUNICATIONS AND TRAINING

Workers at State and Federally listed or recognized sites must be provided with adequate information and training to recognize and evaluate potential hazards. Training shall comply with applicable regulations including 29 CFR 1910.1200 "Hazard Communication Standard".

5.1 COMMUNICATION

The Field Safety Coordinator shall supply all on site personnel with readily available access to this Health and Safety Plan. This plan shall cover, at a minimum, the following topics:

A. A brief description of the history of the location with regard to health and environmental hazards.
B. A description of the activities to which the hazard evaluation summary is applicable.
C. A description of any hazards which may be encountered, including:
    1. Physical Hazards - terrain, traffic, equipment, severe weather (heat stress and frostbite), electrical hazards, noise, water hazards.
    2. Chemical Hazards - materials used and stored at the site, materials released at the site.
    3. Biological Hazards - insects, plants, animals, pathogens, and infectious materials.
D. A description of the levels of protection selected for the operation.
E. Equipment decontamination procedure if different from those specified herein.
F. Summary of emergency contacts for use in the event of fire, explosion, medical emergency or other emergency, including the project address and phone number to provide to emergency personnel.
    1. Emergency 911
    2. Lauderdale County Ambulance Authority (731) 635-3242
    3. Ripley Fire Deparment (731) 635-2284
G. A map showing the route to the nearest hospital.

Prior to any employee or subcontractor beginning work on the site, the Field Safety Coordinator shall brief all KSWA employees as well as subcontractors on the contents of this plan. Personnel will have the opportunity to review the plan, and ask questions about the planned work or hazards. Also, the Field Safey Coordinator will conduct site reconnaissance in order to to familiarize all personnel with site conditions, boundaries, and physical hazards.

By KSWA voluntarily sharing this information with subcontractors and contractors, those firms are not relieved of the responsibility to provide their personnel with adequate and proper supervision, safety information, instruction, and equipment.

5.2 HEALTH AND SAFETY TRAINING

All personnel will be provided with approved health and safety training as outlined in 29 CFR 1910.120(e). Documentation for KSWA employees should also be maintained at a central location at the KSWA office.

5.3 RESPIRATOR USAGE TRAINING AND FIT TESTING

Prior to assignment to a site where respirator use may be required, employees will be provided with respirator training as outlined in 29 CFR 1910.134(e)(5). Respirator fit tests are to be conducted at 6 to 10 month intervals, or at any time when a condition that may change the fit of a respirator has occurred, such as change in weight, change in facial structure, extensive dental work, etc. All use of respirators shall comply with KSWA's written respiratory program.

6.0 SITE CONTROL - WORK ZONES

It is anticipated that conditions will not require special measures to achieve site security or restriction of normal site activities and access. The work area includes the SR-87 bridge and adjacent areas. The work will be performed along the side and underneath the bridge. The work zone will be delineated in accordance with TDOT temporary lane closure guidelines. Work zones will be identified with flashing lights, illuminated and non-illuminated signage, traffic spotter, etc.

7.0 PERSONAL PROTECTION

PPE and safety requirements must be appropriate to protect against the known or worst potential hazards on the site. Protective equipment should be selected based on the concentrations and possible routes of exposure to known or potential worst case substances. All KSWA engineering or assessment personal engaged in work on site will be participants in the KSWA medical monitoring program described in Section 11, or a similar program.

KSWA anticipates that Level D protection and basic site safety measures will be sufficient at this project site. Level D PPE is described in Section 8. Any conditions warranting upgrading of the required level of protection to Level C, B, or A will be cause for all personnel to immediately leave the work site. The site will be re-evaluated and a new site Health and Safety Plan will be prepared which incorporates the additional site information.

8.0 LEVELS OF PROTECTION

This plan is not intended for use at sites where levels of protection above Level D is required. Levels D is described below.

8.1 LEVEL D

Level D is the basic work uniform for all site operations. Level D should be selected when performing environmental sampling involving dilute concentrations of contaminants on sites that have been characterized by previous analyses or research.

8.1.1 Personal Protective Equipment

The following equipment is necessary for Level D personal protection:

- Standard work clothing.
- Optional disposable chemical-resistant clothing appropriate for known or expected levels of contamination.
- Boots/Shoes - safety or chemical-resistant boots.
- Safety glasses or safety goggles.
- Gloves - disposable latex or nitrile.
- Optional moisture resistant outer gloves.
- Hardhat.

8.1.2 Criteria for Use of Level D

The following criteria indicate situations where Level D personal protection is adequate:

- No indication of airborne health hazards present.
- No gross indication, above background concentrations, on the photoionization detector and/or organic vapor analyzer.

Additionally, a half-face, full-face, or powered air purifying respirator will be used with appropriate particulate filter(s).

9.0 DECONTAMINATION PROCEDURES

9.1 PERSONNEL DECONTAMINATION

If Level D protection is used, any disposable inner gloves or protective clothing should be sealed in a plastic bag and disposed of properly. Moisture resistant outer gloves and outer boots should be scrubbed with a stiff brush in soapy water, then rinsed to remove possible residual contamination. Disposable equipment should be used whenever possible.

9.2 EQUIPMENT DECONTAMINATION

Proper decontamination of all equipment is necessary to avoid transferring contaminants from the site, thereby increasing potential for exposure of on site and off site personnel. The measures described below should be followed prior to leaving all sites, as applicable to the equipment being used. Any variations from the procedures described below for reasons of worker health or safety must be described by the Project Manager in the site-specific hazard summary.

These measures are separate from, and may not be substituted for, other decontamination procedures associated with proper sampling protocol.

A. The equipment may be thoroughly rinsed with clean water or an appropriate cleaning solution and wiped dry with paper towels before leaving the work site. Alternatively, the equipment may be wrapped in absorbent material and/or stored in plastic bags sealed to prevent contact with workers, vehicles, etc.

B. The rinse water from this operation will be allowed to percolate into the ground or as specified.

10.0 EMERGENCY PROCEDURES

10.1 INHALATION

If warning signals such as: dizziness, nausea, headache, shortness of breath, burning sensation in mouth, throat or lung or symptoms specific to hazard found at the site are apparent, the victim should leave the contaminated air space immediately. Have someone contact emergency services and obtain health and safety information about potential contaminants.

If unconscious, the victim should be pulled out of the contaminated area immediately if they do not have any injuries which would prohibit moving them (i.e. spinal injury). The rescuers should make sure that the area is safe to enter. If the area cannot be safely entered, attempt to ventilate this area. Do not attempt a rescue. Rescuers should make sure they are properly trained in First Aid and rescue and that they are wearing proper respiratory and protective equipment before attempting the rescue.

If the victim is no longer breathing, mouth-to-mouth resuscitation or some other form of artificial respiration should administered by a person who is properly trained and certified in a location away from the contaminated area.

Medical attention should be obtained immediately.

10.2 SKIN EXPOSURE

The skin should be washed with copious amounts of soap and water. If clothing is contaminated, it should be removed immediately and the skin washed thoroughly with running water. If a shower is available, it should be used immediately. Clothes should be removed while showering. This procedure may be life-saving as certain highly toxic chemicals are rapidly absorbed through the skin.

All contaminated parts of the body, including the hair, should be thoroughly decontaminated. It may be necessary to wash repeatedly.

10.3 INGESTION

A poison control center or emergency service should be contacted immediately to determine an appropriate course of action. If possible, have health and safety information on the poison available when you call for help. Vomiting should be induced except when the substance presents an aspiration hazard, such as from a petroleum product; or when the substance is a strong acid or base. To induce vomiting, a tablespoon of salt or powdered mustard in a glass of warm water, or syrup of ipecac from the First Aid Kit, can be taken as an emetic.

Drinking plenty of water and placing a finger down the throat may also be effective in inducing vomiting. The treatment should be repeated until vomit is clear.

Medical attention should be obtained immediately.

10.4 EYES

If a toxicant should get in the eyes, they should be washed with plenty of water. The eye itself should be held open, rotated, and flooded with water so that all surfaces are washed thoroughly. Washing should be continued for at least 15 minutes.

Medical attention should be obtained immediately.

10.5 EXPOSURE TO HEAT OR COLD

When working under severe weather conditions, personnel should be aware of the signs of heat stress, hypothermia and frostbite as well as the appropriate response actions.

Heat Stress - If a worker shows signs of heat stroke (dry, hot, red skin, high body temperature) or heat exhaustion (cool, moist, pale or red skin, dilated pupils, nausea, dizziness), the worker must be removed from the work area and cooled. Loosen clothing, elevate feet, and provide cool liquids. Heat stroke can be life threatening and requires rapid action.

Hypothermia - If a worker shows signs of hypothermia (shivering, impaired judgement, drowsiness, clumsiness) the worker must be removed from the work area and warmed gradually.

Frostbite - If a worker shows signs of frostbite (skin color changes to white or grayish-yellow then grayish-blue), the worker must be moved to a warm place. The affected area should be placed in warm (100-105°F) water. Do not rub or massage.

10.6 STINGS AND BITES

If still present, remove stinger with fingernail. Wash the the location of the sting with soap and water, cover with bandage and apply ice. If severe allergic reactions appear (hives, itching, rash, nausea, vomiting, dizziness, swelling) seek medical attention immediately.

10.7 PERSONAL INJURY

A first aid kit shall be readily available in case of an injury. Administer first aid and/or seek medical help, if necessary. Medical emergencies take precedence over decontamination procedures. A map showing the route to the nearest hospital is provided at the end of this Health and Safety Plan. It is the responsibility of the field safety coordinator to ensure that a phone is readily available on-site, and to identify which personnel have phones and provide this information to all on site personnel.

10.8 SPILL OR RELEASE OF HAZARDOUS MATERIAL

Clean up, isolate or contain spill as appropriate. Contact emergency response personnel, project manager, and/or client company officials as appropriate.

10.9 POTENTIAL OR ACTUAL FIRE/EXPLOSION

If it is safe to do so, on site personnel may use available fire fighting equipment to control or extinguish the fire, and remove or isolate materials which may contribute to the fire. Contact the fire department project manager and/or client company officials as appropriate.

10.10 EVACUATION

In the event of an emergency that requires an evacuation of the site, verbal instruction will be given by the Field Safety Coordinator to evacuate the area. Personnel will immediately exit the site to the pre-designated upwind "clean" location. The Field Safety Coordinator will account for KSWA personnel, and will advise personnel of further instructions, if necessary. The Field Safety Coordinator will also advise responding off site emergency personnel, if necessary. Personnel shall not re-enter the site until the emergency conditions have been corrected and the Field Safety Coordinator has authorized re-entry.

11.0 MEDICAL MONITORING

All engineering and assessment personnel engaged in on site activities shall be participants in a medical monitoring program similar to the following. As participants in this program, these individuals will have had recent physical examinations.

The following personnel will be accessing the site during field activities and the dates at which their medical monitoring program was last updated:

1. Victoria Gallagher (April 2017)

The primary goal of this medical monitoring program is to provide evaluation and ongoing surveillance of the health status of employees potentially exposed to toxic substances as a result of their work-related activities. An active health monitoring program for those employees potentially at risk is an important tool in evaluating the effects of chronic low-level exposures or acute exposures related to operations at hazardous waste sites. The effects of low-level exposures may not become apparent until years after the initial exposure.

This medical monitoring program includes laboratory testing, personnel medical history evaluation, physical examination and other specific testing.

Each participant in this medical monitoring program undergoes a complete occupational history evaluation and baseline physical examination including the following parameters:

- Pulmonary Function Studies
- Complete Blood Count
- Chemical Blood Profile
- Urinalysis
- Chest X-Ray
- Electrocardiogram
- Specific parameters as necessary dependent upon exposure

Following the establishment of each participant's baseline values for the above parameters, an annual re-evaluation is conducted to monitor potential changes due to work with hazardous materials.

In addition to this annual re-examination, provisions are made for specific post-exposure examinations in the event of a suspected exposure during a particular field event.

The program shall meet or exceed the minimum requirements established in OSHA standard 20 CFR 1910.120.

12.0 PERSONNEL AUTHORIZATION

All personnel engaged in on site activities must read this Health and Safety Plan. By signing and dating this form, the listed individual acknowledges that he/she has read, understands and will comply with the requirements of this Health and Safety Plan.

Personnel Authorized to Enter Site

Name	Signature	Date
Victoria Gallagher		1/18/18
Mohammed Naser		1-18-2018

13.0 FIELD SAFETY COORDINATOR'S SUMMARY

(To be completed by Field Safety Coordinator after completion of each phase of field work, and returned to Project Manager.)

Project Summary

Project Name:	TDOT Lauderdale Co. SR-87 Bridge ACM Survey
Project Number:	100-17-0078
Activities Completed:	Asbestos Bridge Survey
Date of Activities:	1/18/18

During the execution of the activities covered by this Health and Safety Plan, there were:

a) No violations of the Safety Plan provisions and no obvious contamination of KSWA employees or subcontractors.

b) The following incidents, violations of the Safety Plan provisions, or obvious contamination of KSWA personnel or subcontractors. (Give details of who, when, type of contamination, circumstances, first aid or medical assistance administered in the space below.)

Time and Date of Incident	People Involved	Description of Incident

Signature _____ Date 1/18/18
Field Safety Coordinator

APPENDIX E:
ACTIVITY HAZARD ANALYSIS

ACTIVITY HAZARD ANALYSIS

Asbestos Survey
SR-87 Bridge over Overflow, LM 3.88
Lauderdale County,Tennessee

PIN: 124637.00

TDOT Project No.: 49006-0240-04

Bridge No.: 49SR0870011

KSWA Project Number: 100-17-0078

Prepared by:

K. S. WARE AND ASSOCIATES, L.L.C
54 Lindsley Avenue
Nashville, Tennessee 37210

September 20, 2017

ACTIVITY HAZARD ANALYSIS FOR ASBESTOS SURVEY

EM 385-1-1 Reference:
Hard hats and safety toe boots are mandatory. Eye and hearing protection are mandatory during sampling and as appropriate.

Principal Steps	Potential Hazards	Action to Minimize Hazard
1. Asbestos exposure	1. Inhalation, skin irritation	1. All personnel that will be present on the project must wear the proper PPE. Use all safety precautions to ensure that all state and federal guidelines are followed and to limit the exposure to asbestos. Asbestos samplers are to use a respirator when sampling.
2. Heat stress exposure	2. Heat stroke	2. Monitor all personnel for signs of fatigue, dizziness or other physical abnormalities. Personnel should wear clothing suited for the weather conditions and breaks will be given for intake of fluids, etc. Ensure that water or sports hydration fluid (Gatorade, PowerAde) is available on site.
3. Cold stress exposure	3. Hypothermia, frostbite, trench foot	3. Monitor all personnel for signs of shivering, loss of coordination, confusion, disorientation, slowed pulse and breathing, and loss of consciousness. Personnel should wear clothing suited for the weather conditions, including effects of wind and extreme cold. Ensure that a location shielded from the wind and with a heat source is available. If cold temperatures and wind chill conditions are present, warming breaks should be planned to avoid prolonged exposure.
4. Traffic Hazards	4. Moving vehicles	4. Field activities will encounter traffic on this project. Be aware of your surroundings, watch for traffic when performing in areas that have moving vehicles. Use a spotter or traffic control when sampling in the roadway or crossing the road. Maintain safe positioning. Use “Men Working” signs to delineate the work area and slow down drivers.
5. Site Maintenance	5. Slip, trip, and fall.	5. Prior to field activities, the Field Safety Coordinator should observe the terrain on site and monitor the conditions throughout the survey. Be aware of steep and/or rocky slopes. Also be aware of potholes around the bridge.
6. Overhead Utilities	6. Electrocution, explosion, fire	6. Be aware of fallen or low hanging utility lines while on the ground level. Remain at least 10 feet from all utility lines with all equipment.
7. Biological Hazards	7. Small animals, insects	7. Be aware of animal habitat in and around the work area. Do not put hands into areas you cannot inspect for potential insects, mammals, and reptiles. Beware of waterborne snakes, colonies of stinging insects, and vector species that could transmit disease.
8. Noise	8. Damage to hearing	8. Operations that generate sound levels 85 dBA and above require hearing protection. Either muffs or plugs are acceptable. Heavy traffic can be a cause.

Principal Steps	Potential Hazards	Action to Minimize Hazard
9. Hand/Finger Protection	9. Physical injury to personnel	9. Wear gloves when there is exposure to potential hazards that could produce scrapes and cuts. Do not wear jewelry. Any jewelry can be dangerous. Handle sharp or pointed tools with extreme care. Be careful when using a hammer to not smash hand or fingers. Use the proper gloves for the job at hand.
10. Hand Tools and Equipment	10. Physical injury to personnel	10. Use the right tool or piece of equipment for the job. Use only tools in safe condition. Tools and equipment must be used properly and not abused. Take precautions to avoid injury by cutting tools by keeping them sheathed until use.
11. Ladders	11. Fall from excessive height	11. Use caution and maintain three points of contact when climbing a ladder. Always have other site personnel support the ladder while in use. Maintain a safe distance from overhead utilities and obstructions. Always place the ladder on stable, even ground.
12. Severe Weather	12. Thunderstorms, lightning hazard	12. Cease work immediately and take cover in a vehicle or structure until lightning has ceased.
13. Waterways	13. Rise/fall of water level, current, holes in waterbed, slippery surfaces	13. Be conscious of the water level and current. When walking through water, be careful when stepping in case of holes and/or slippery surfaces. Use a personal flotation device (PFD) if water is above knee height or is swift moving.

This Activity Hazard Analysis has been prepared by K.S. Ware and Associates.

The KSWA field safety coordinator for this project will be Ms. Tori Gallagher. Ms. Gallagher's health and safety training and certifications include:

- Completed OSHA 10 Hour Construction Safety Course
- Completed OSHA 40 Hour HAZWOPER Course

Multimodal

Environmental Studies Request

Project Information

Route: State Route 87

Termini: Bridge over Overflow, LM 3.88 (IA)

County: Lauderdale

PIN: 124637.00

Request

Request Type: Initial Environmental Study

Project Plans: Transportation Investment Report

Date of Plans: 04/02/2018

Location: Email Attachment

Certification

Requestor: Abby Harris

Title: TESS - NEPA

Signature: Abby Harris Digitally signed by Abby Harris Date: 2018.04.10 11:02:31 -05'00'

Environmental Study

Technical Section

Section: Multimodal

Study Results

This project is exempt from multimodal accommodations. As a bridge replacement project on a facility with no existing accommodations, there is a demonstrated absence of prudence.

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: Jessica Wilson

Title: Transportation Program Supervisor

Signature: Jessica Wilson

Digitally signed by Jessica Wilson
DN: cn=Jessica Wilson, o=TDOT, ou, email=Jessica.L.Wilson@tn.gov, c=US
Date: 2018.04.17 07:13:49 -05'00'

TN TDOT Department of Transportation

MULTIMODAL ACCESS POLICY

EFFECTIVE DATE:

July 31, 2015

AUTHORITY:

TCA 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.

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.

APPLICATION:

The policy applies to Department of Transportation 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.

DEFINITIONS:

Highway:	A main road or thoroughfare, such as a street, boulevard, or parkway, available to the public for use for travel or transportation.
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.
Reconstruction:	Complete removal and replacement of the pavement structure or the addition of new continuous traffic lanes on an existing roadway.

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.
Roadway:	The portion of a highway, including shoulders, that is available for vehicular, bicycle or pedestrian use.

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.

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. Existing multimodal provisions on 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.

EXCEPTIONS:

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 total 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.

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 and Planning or their designees.

DESIGN GUIDANCE:

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 on 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).

Signed:

PAUL DEGGES
Chief Engineer/Deputy Commissioner

TOKS OMISHAKIN
Chief of Planning/Deputy Commissioner

JOHN SCHROER
Commissioner