

17 November 2020
Barge File Number: 3687179

Mr. Kyle Kirschenmann, PG
Environmental Program Manager – Hazardous Materials Section
State of Tennessee, Department of Transportation
TDOT Environmental Division
James K. Polk Building, Suite 900
505 Deaderick Street
Nashville, TN 37243-0334

RE: Bridge ACM Assessment Report
Bridge Number: 24014580003
SR-193 Bridge over Branch, LM 7.72
Const: 24029-4205-04 PIN: 118540.00
Fayette County, Tennessee

Dear Mr. Kirschenmann:

Enclosed is the bridge asbestos-containing materials (ACM) assessment report for the above-referenced bridge. A total of 12 samples were obtained during the assessment. No asbestos minerals were detected in the collected samples.

If you have any questions, please contact me by phone at 615-252-4349 or via email at Tom.McComb@bargedesign.com.

Sincerely,



Thomas McComb, PG, CPG
Contract Manager / Project Manager
Barge Design Solutions, Inc.

Enclosure



TENNESSEE DEPARTMENT OF TRANSPORTATION ACM ASSESSMENT REPORT

Bridge Number: 24014580003
SR-193 Bridge over Branch, LM 7.72
Const: 24029-4205-04
PIN: 118540.00
Fayette County, Tennessee



PREPARED BY



615 3rd Avenue South, Suite 700
Nashville, TN 37210
Barge Project #: 36871-79

16-November-2020

A handwritten signature in black ink that reads "Ryan Cleveland". The signature is written in a cursive style and is positioned above a horizontal line.

Ryan Cleveland (Signature)

Tennessee Asbestos Inspector Accreditation No: A-I-155641-90112

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1.0 INTRODUCTION

This report presents the findings of an assessment for asbestos-containing materials (ACM) completed on the bridge identified in Section 1.1. The assessment was completed by Barge Design Solutions, Inc. (Barge) in accordance with the State of Tennessee, Department of Transportation Environmental Division, Social and Cultural Resources Office, Hazardous Materials Section requirements.

1.1 TDOT Bridge Identification

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

Bridge Number: 24014580003
Termini: SR-193 Bridge over Branch, LM 7.72
Const: 24029-4205-04
PIN: 118540.00
County: Fayette

1.2 General Description

Bridge Number 24014580003 is located over Branch LM 7.72 (24-SR193-07.71), is a two-lane, 77-foot, four-span bridge constructed of pre-stressed concrete channel beams with a concrete deck and asphalt wearing surface. The end walls and the wing walls were constructed of wood. The bridge was constructed in 1965. The bridge location is shown on Figure 1.

2.0 ASSESSMENT

The identification of ACM is 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 1% asbestos by calibrated visual area estimation by 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 was applied during the same general time. Once the homogeneous sampling areas are identified, bulk samples of suspect materials were obtained from the homogeneous areas at the discretion of our inspectors, based on site conditions and experience.

2.1 Personnel and Date(s) of Assessment

The sampling and field activities were performed on October 27, 2020 by Ryan Cleveland, Accredited State of Tennessee Asbestos Inspector. Copies of the inspector's and Barge's current accreditation from the State of Tennessee are included in Appendix A.

2.2 Visual Survey

Barge's survey began with a walk-through and visual survey of the structures located on the property. The visual survey consisted of:

- Sketching the structure and/or verifying the plans provided
- Locating and identifying homogeneous areas (HAs) of suspect materials that may contain asbestos minerals
- Determining applicable sampling locations

2.3 Access to Bridge Components

Individual bridge components were accessed by the following methods:

2.3.1 Top of Bridge Deck (Homogenous Areas 1 & 2)

Three samples labeled 3-1-1, 3-1-2, 3-1-3 were collected from the new curb. Three samples labeled 3-2-4, 3-2-5, 3-2-6 were collected from the old curb. Samples obtained using a hammer.

2.3.2 Underside of Bridge Deck (Homogeneous Area 3)

Three samples labeled 3-3-7, 3-3-8, 3-3-9 were collected from the bottom of deck. Samples obtained using a hammer.

2.3.3 Bridge Piers/Bents and Support (Homogenous Area 4)

Three samples labeled 3-4-10, 3-4-11, 3-4-12 were collected from the pier bases. The piers were constructed of wood. Samples of the pier bases were obtained using a hammer.

2.3.4 Drains

Cast in place drains are located on both ends of the bridge. Samples were not collected.

2.3.5 Other

No other environmental concerns were noted.

3.0 ANALYTICAL PROCEDURES

3.1 Asbestos Analysis Procedures

The bulk samples are analyzed in the laboratory using PLM coupled with dispersion staining (EPA Method 600/R-93/116). PLM is an analytical method for asbestos identification, which identifies the specific asbestos minerals by their unique optical properties. The optical properties are a result of the mineral's chemical composition, physical atomic structure, and visual morphology. This is the U.S. Environmental Protection Agency (EPA) recommended method of analysis for asbestos identification in bulk samples.

Samples which contain multiple layers, or that have associated mastic or adhesive backing, are analyzed as two or more separate samples when possible.

3.2 Laboratory Name and Accreditation

The bulk samples collected for this assessment were analyzed by a laboratory that has received certification from the American Industrial Hygiene Association's (AIHA) Laboratory Accreditation Program. The name and laboratory number of the analytical laboratory that analyzed the samples for this assessment is indicated in Table 1.

Table 1 - Analytical Laboratory

Laboratory Name	Frost Environmental Services, LLC
Laboratory ID Number	198214

4.0 REGULATORY OVERVIEW

National Emission Standards for Hazardous Air Pollutants

The EPA's National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations (40 CFR 61, Subpart B) requires 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 during demolition or renovation operations.

Definitions

Significant definitions related to regulation of asbestos under NESHAPS regulations include:

Friable asbestos-containing material (ACM), is defined by the Asbestos NESHAP, as any material containing more than one percent (1%) asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy (PLM), that, when dry, can be crumbled, pulverized or reduced to powder by hand pressure. (Sec. 61.141).

Non-friable ACM is any material containing more than one percent (1%) asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy (PLM), that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. EPA also defines two categories of non-friable ACM, Category I and Category II non-friable ACM, which are described as follows:

Category I non-friable ACM is any asbestos-containing packing, gasket, resilient floor covering or asphalt roofing product which contains more than one percent (1%) asbestos as determined using polarized light microscopy (PLM) according to the method specified in Appendix A, Subpart F, 40 CFR Part 763. (Sec. 61.141).

Category II non-friable ACM is any material, excluding Category I non-friable ACM, containing more than one percent (1%) asbestos as determined using polarized light microscopy according to the methods specified in Appendix A, Subpart F, 40 CFR Part 763 that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. (Sec. 61.141).

"Regulated Asbestos-Containing Material" (RACM) is (a) friable asbestos material, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or (d) 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.

Friable materials are defined as those which 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

A total of 12 samples were obtained from the bridge. A depiction of the sample locations is shown on Figure 2. Multiple samples of each homogeneous area were collected in accordance with State of Tennessee, Department of Transportation Environmental Division, Social and Cultural Resources Office, Hazardous Materials Section requirements and delivered to the laboratory for visual observation and microscopic analysis. The samples were selected based on homogeneous areas of suspect materials, as described in Section 2.3.

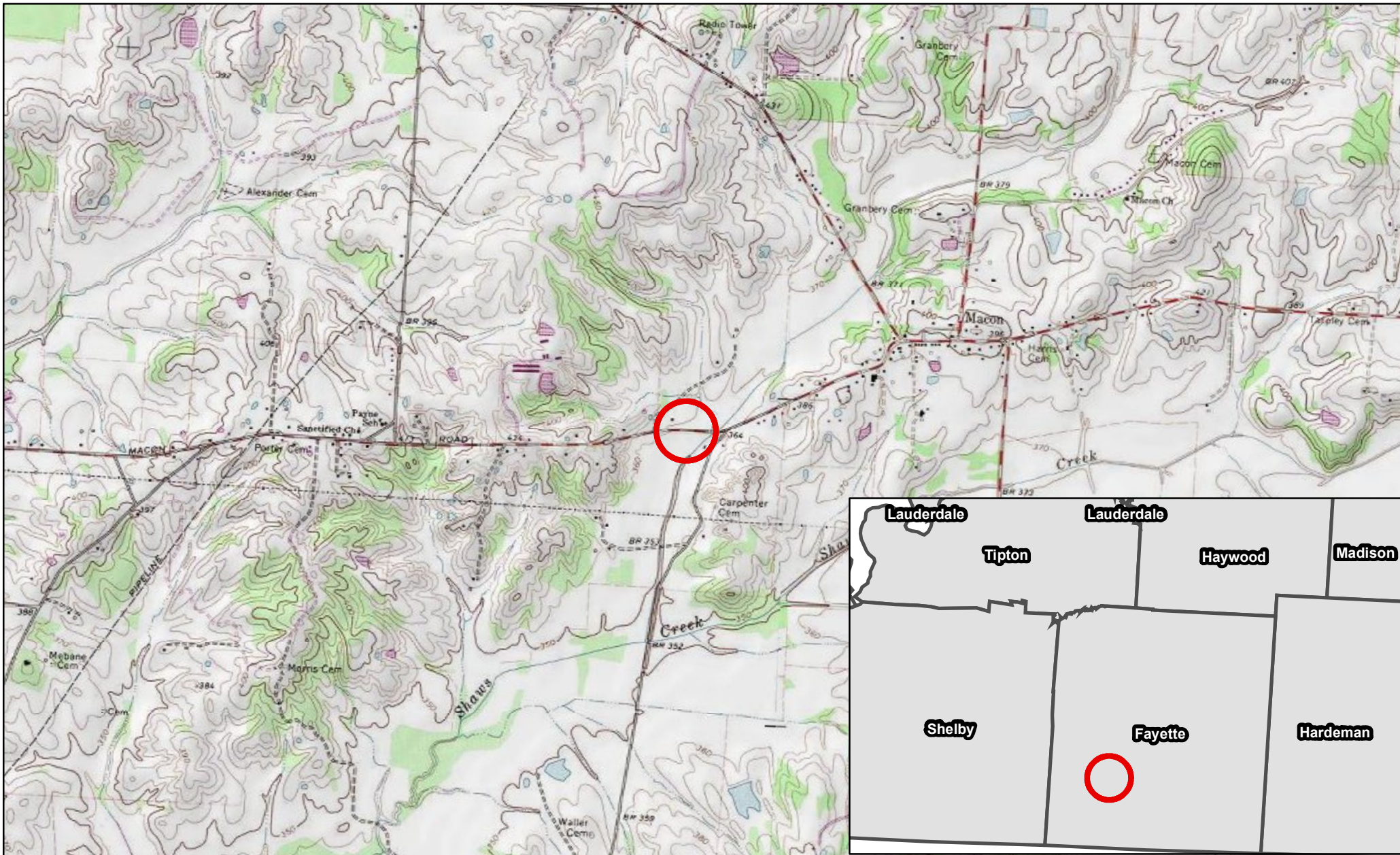
Asbestos minerals were not detected in the collected samples.

6.0 QUALIFICATIONS

The information presented herein is based on information obtained during the site visit(s) and from previous experience. If additional information becomes available, which might impact our conclusions or recommendations, Barge 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.

Figures



2,400
Feet
1 inch = 2,420 feet
Tennessee State Plane 4100 fips
North American Datum (1983)

BARGE
DESIGN SOLUTIONS

**Tennessee Department of Transportation - Asbestos Assessment Report
November 2020**

Bridge Number:24014580003
SR-193 Bridge over Branch, LM 7.72
Const: 24029-4205-04 ,PIN: 118540.00
Fayette County, Tennessee

Figure 1. - Site Location Depiction



HA-2
Old Curb
3-2-4
3-2-5
3-2-6

HA-1
New Curb
3-1-1
3-1-2
3-1-3



HA-4
Bottom of
Deck
3-4-10
3-4-11
3-4-12



HA-3
Pier Base
3-3-7
3-3-8
3-3-9

Tennessee Department of Transportation - Asbestos Assessment Report
November 2020



Bridge No.: 24SR0760001
SR-193 Bridge over Branch, LM 7.72
Const: 24029-4205-04 PIN: 118540.00
Fayette, Tennessee

Figure 2: Sample
Locations

Appendix A:

Asbestos Assessment Credentials

123404-58830



Initial

THE STATE OF TENNESSEE

Department of Environment and Conservation
Division of Solid Waste Management
Toxic Substances Program

Ryan T Cleveland

DOB	Sex	HGT	WGT
20-Dec-1986	M	6'0"	280

Discipline	Accreditation	Expiration
Inspector	A-I-155641-90112	Mar-31-2021

Asbestos Accreditation

Is hereby Accredited pursuant to Rule 1200-01-20 Asbestos Accreditation Requirements to perform Asbestos Activities associated with the Discipline(s) listed on the front of this card.

A false statement pertaining to accreditation(s) is subject to the penalties of perjury.

Date Issued: 5/19/2020

Note: In order for this Tennessee issued accreditation to remain valid through the expiration date, the individual must maintain current applicable accredited asbestos refresher training course(s)

THIS CARD IS NOT TO BE USED FOR ANY OTHER IDENTIFICATION

PURPOSES. IF FOUND, RETURN TO:
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

CN-1324

(Rev 6/13)

RDA-3020

Appendix B: Photographs

Bridge Number: 24014580003

Const: 24029-4205-04 PIN: 118540.00

Location: SR-193 Bridge over Branch, LM 7.72

Photographer: Tom McComb	
Date: 10/27/2020	
Description: Photograph 1: Bridge Number	

Photographer: Tom McComb	
Date: 10/27/2020	
Description: Photograph 2: Exposed rebar along old curb. Utility line wrapped in tape (not sampled)	

Bridge Number: 24014580003

Const: 24029-4205-04 PIN: 118540.00

Location: SR-193 Bridge over Branch, LM 7.72

Photographer: Tom McComb	
Date: 10/27/2020	
Description: Photograph 3: Wooden wing wall	

Photographer: Tom McComb	
Date: 10/27/2020	
Description: Photograph 4: Wooden Endwall/abutment	

Bridge Number: 24014580003

Const: 24029-4205-04 PIN: 118540.00

Location: SR-193 Bridge over Branch, LM 7.72

Photographer: Tom McComb	
Date: 10/27/2020	
Description: Photograph 5: Cast in place drains (not sampled)	

Photographer: Tom McComb	
Date: 10/27/2020	
Description: Photograph 6: HA-1 New Curb 3-1-1 3-1-2 3-1-3	

Bridge Number: 24014580003

Const: 24029-4205-04 PIN: 118540.00

Location: SR-193 Bridge over Branch, LM 7.72

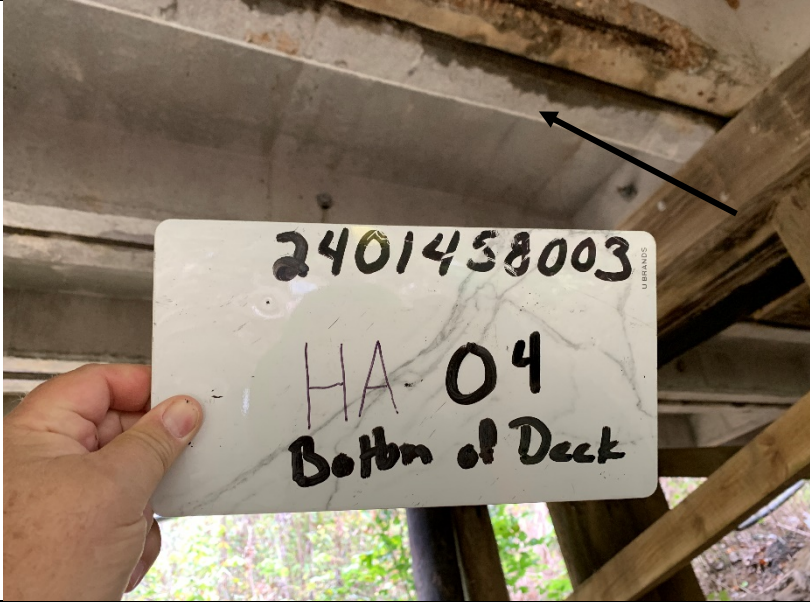
Photographer: Tom McComb	
Date: 10/27/2020	
Description: Photograph 7: HA-2 Old Curb 3-2-4 3-2-5 3-2-6	

Photographer: Tom McComb	
Date: 10/27/2020	
Description: Photograph 8: HA-3 Pier Base 3-3-7 3-3-8 3-3-9	

Bridge Number: 24014580003

Const: 24029-4205-04 PIN: 118540.00

Location: SR-193 Bridge over Branch, LM 7.72

Photographer: Tom McComb	
Date: 10/27/2020	
Description: Photograph 9: HA-4 Bottom of Deck 3-4-10 3-4-11 3-4-12	

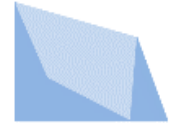
Appendix C:

Asbestos Sample Laboratory Analysis Data

FROST ENVIRONMENTAL SERVICES, LLC

339 ROCKLAND ROAD, SUITE E, HENDERSONVILLE, TENNESSEE 37075

(615) 562-2669 office - (615) 473-9047 cell - email: lab@frostenvironmental.com



POLARIZED LIGHT MICROSCOPY (PLM) LABORATORY ANALYSIS REPORT (EPA/600/R-93/116 (JUNE 1993))

CLIENT: Barge

PROJECT: #79

LOCATION: Bridge#24014580003

Date Received: 10/28/2020

Date Analyzed: 10/29/2020

Date Reported: 10/29/2020

ANALYST: Codi Maddox

Codi Maddox

Sample Number	Location	Material Description	Binder (Non-Fibrous) Material	Non-Asbestos Fiber	Asbestos Type & Percent
3-1-1	Old Curb	Tan & Grey Cementitious Material	100	None Detected	None Detected
		Grey & Black Coating	98	2 Cellulose	None Detected
3-1-2	Old Curb	Tan & Grey Cementitious Material	100	None Detected	None Detected
		Grey & Black Coating	98	2 Cellulose	None Detected
3-1-3	Old Curb	Tan & Grey Cementitious Material	100	None Detected	None Detected
		Grey & Black Coating	98	2 Cellulose	None Detected
3-2-4	New Curb	Tan & Grey Cementitious Material	100	None Detected	None Detected
3-2-5	New Curb	Tan & Grey Cementitious Material	100	None Detected	None Detected
3-2-6	New Curb	Tan & Grey Cementitious Material	100	None Detected	None Detected
3-3-7	Pier Base	Tan & Grey Cementitious Material	100	None Detected	None Detected
3-3-8	Pier Base	Tan & Grey Cementitious Material	100	None Detected	None Detected
3-3-9	Pier Base	Tan & Grey Cementitious Material	100	None Detected	None Detected
3-4-10	Bottom of Decking	Tan & Grey Cementitious Material	100	None Detected	None Detected
3-4-11	Bottom of Decking	Tan & Grey Cementitious Material	100	None Detected	None Detected
3-4-12	Bottom of Decking	Tan & Grey Cementitious Material	100	None Detected	None Detected

Asbestos Containing Material (ACM) is defined as any material containing more than one percent asbestos.

Analysis was performed using EPA/600/R-93/116 (June 1993)), Test Method for the Determination of Asebstos in Bulk Building Materials.

HA #1 and #2 location are switched. (Old Curb is HA-2 and New curb is HA-1)

Appendix D:

Health and Safety Plan

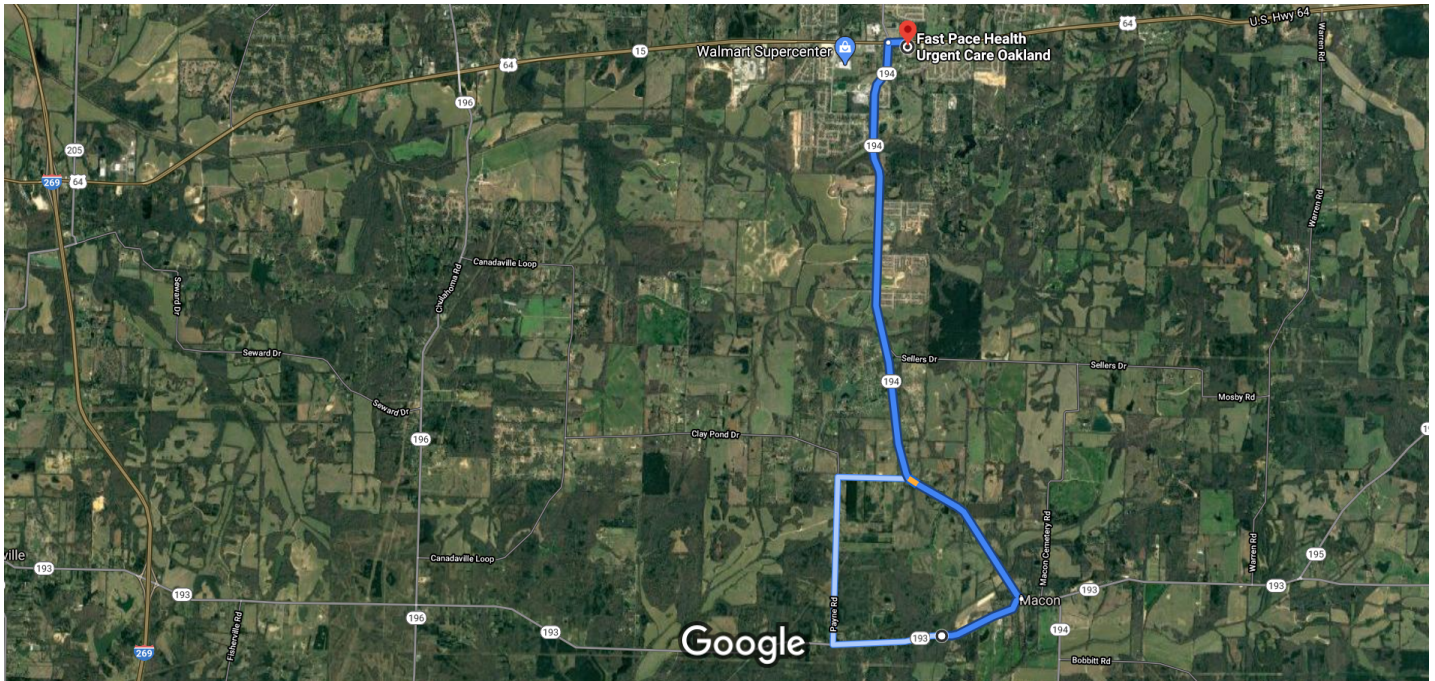
Safety and Compliance Checklist (Scope, Project Planning and Tailgate Meetings)					
Project Name:		Location:		Date:	Job/Project #:
TDOT project #79		SR-193 Bridge over Branch, LM 7.72			3687179
Project Manager:		Office #:		Cell #:	
Tom McComb					
Onsite Contact:		Office #:		Cell #:	
Ryan Celveland				Tom McComb	
				Ryan Cleveland	
Description of Field Activities:					
An Asbestos Containing Material (ACM) bridge survey .					
PROJECT ACTIVITY	WEATHER	BOTANY	TOOLS	JOB BRIEFING	
☐ Site Visit	☐ Hot	☐ Poison Ivy/Oak	☐ Surveying Equipment	☒ Evaluate Surroundings	
☐ Soil Sampling	☐ Cold	☐ Poison Sumac	☐ Machete	☐ Chemical Information (SDS's)	
☐ Surface-Water Sampling	☒ Mild	☐ Thistle	☐ Radio	☒ Project Safety Plan	
☐ Ground-Water Sampling	☐ Sunny	☒ Thorns	☐ Brush hook	☒ Emergency Numbers	
☐ Fish Sampling	☐ Fair	☐ Needle-like	☐ Pick/Ax	☐ Client Safety Requirements	
☐ Macroinvertebrate Sampling	☐ Rain	☐ Other:	☐ Tape Measure	☐ Stored Energy	
☐ Drilling	☐ Lightning		☐ Wet/Dry Bulb	☐ Equipment Check	
☐ Surveying	☐ Sleet/Snow/Ice	WILDLIFE	☒ Hammer	☒ Tool Check	
☒ Other:	☐ Night/Dark	☒ Ticks	☒ Knife	☐ Other:	
	☐ Other:	☐ Spiders	☐ Straight Edge		
Site Inspection:		☐ Chiggers	☐ Thermometer	SAFETY & COMPLIANCE	
☐ Dirt Excavation	UNUSUAL SITE FEATURES	☐ Ants/Fire ants	☐ Truck/UTV	☒ Hardhat	
☐ Trench Excavation	☐ Stored Chemicals	☒ Wasps/Bees	☐ Electrical Equipment	☒ Steel Toe Boots	
☐ Asphalt	☐ Dikes or Bodies of Water	☐ Hornets	☐ Other:	☐ Gloves	
☐ Concrete	☐ Lake	☐ Dogs		☐ Hearing Protection	
☐ Clearing	☒ Steep Terrain	☒ Snakes	TRAFFIC	☐ Waders	
☐ Electrical	☐ Sinkholes / Collapses	☐ Hogs/Cattle	☐ Heavy	☐ Steel Shanks (boots or inserts)	
☐ Building	☐ Wooded Areas	☐ Bears	☒ Light	☒ Safety Vest (reflective/colored)	

☐ Landfill	☐ Open & Clear	☐ Raccoons	☐ Boats	☐ Eye Protection
☐ Site Visit	☐ Overgrown	☐ Skunks	☐ Railroad	☐ Sun Protection
☐ Other:	☐ Trenches	☐ Allergies	☐ Airplanes	☐ Fall Protection
	☐ Flooding or Fast Moving Water	☐ Other:	☐ Trains	☐ Respirator
	☐ Catwalks /Ladders		☐ Types of Roads	☐ Insect Repellent
POTENTIAL CONSTITUENTS	☐ Rocky Areas	SAFETY TRAINING	☐ Heavy Equipment	☐ Chemical Protective Clothing
☐ Strong Acids/Bases	☐ Overhead Powelines	☒ Asbestos	☐ Construction Equipment	☐ Life Vests
☐ Metals	☐ Railroad Tracks	☒ Hazwoper	☐ Parking Areas	☐ Tyvek
☐ Radioactive	☐ Excavation	☐ OSHA General/Construction	☐ Other:	☐ Muck Boots
☐ Pesticides	☐ Dump Site	☐ Lead-Based Paint		☒ First Aid Kit
☒ Asbestos	☐ Unoccupied Buildings	☐ Well Monitoring		☒ Fire Extinguisher
☐ Liquid Asphalt	☐ Other:	☐ Fall Protection		☐ Other:
☐ Cement		☐ Traffic Control		
☐ Chlorinated Solvents		☐ Respiratory Protection		
☐ Lead/Lead Paint		☐ Site Specific		
☐ Explosion		☐ Customer Specific		
☐ Landfill Gas (note type)		☐ Other:		
☐ Other/Unknown:				
<u>Address of Nearest Hospital :</u>	<u>Emergency Phone #'s:</u>	<u>Police</u>	<u>Fire</u>	<u>Ambulance</u>
Fast Past Health urget Care Oakland	(901) 424-0346	Oakland	Kingston Springs Fire	
7400 US-64		Police Department	Department	911 Available? Y or N
Oakland, TN 38060		(901) 465-8523	(901) 465-1911	☐ ☐ ☐
<u>Employee Name:</u>		<u>Signature:</u>		<u>Date:</u>
Ryan Cleveland		<i>Ryan Cleveland</i>		10/27/2020
Tom McComb		<i>Tom McComb</i>		10/27/2020



7747-6801 Macon Rd, Rossville, TN 38066 to Fast
Pace Health Urgent Care Oakland

Drive 6.8 miles, 10 min



Imagery ©2020 Landsat / Copernicus, Maxar Technologies, State of Arkansas, USDA Farm Service Agency, Map data ©2020

1 mi

7747-6801 Macon Rd

Rossville, TN 38066

- ↑ 1. Head east on TN-193 E toward Murrell Rd
0.9 mi
- ↙ 2. Sharp left onto TN-194 N
5.8 mi
- ↘ 3. Turn right onto US-64 E
Destination will be on the right
0.2 mi

Fast Pace Health Urgent Care Oakland

7400 US-64, Oakland, TN 38060

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.