



**TN** **TDOT**  
Department of  
Transportation



## Hamilton County

### Cursory Inspection Report

Location: 33-I0024-13.58

Federal ID: 33I00240075

Closeout Agency:

TDOT

Description:

2 Barrel Culvert

I-24 Eastbound/Westbound and McBrien Rd

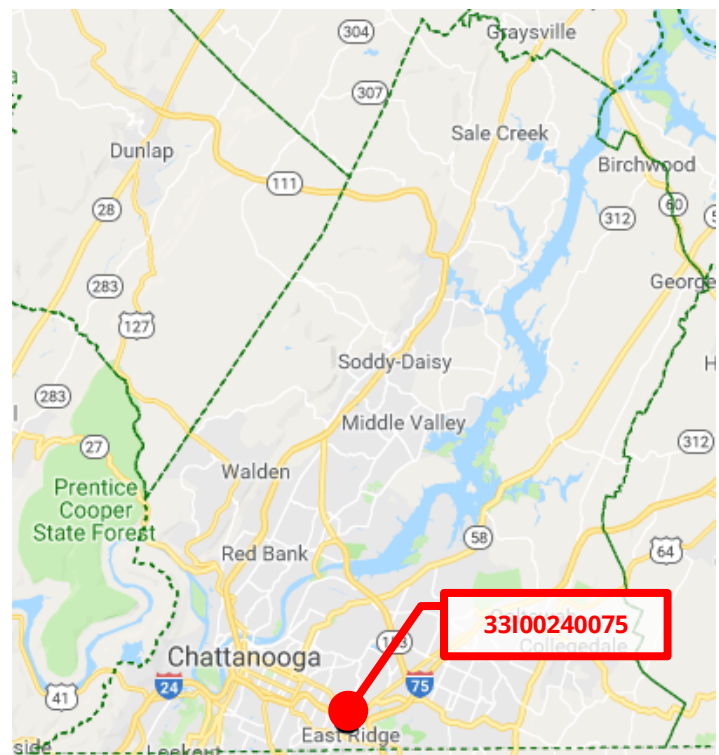
OVER

Branch

Inspection Date: April 4, 2022

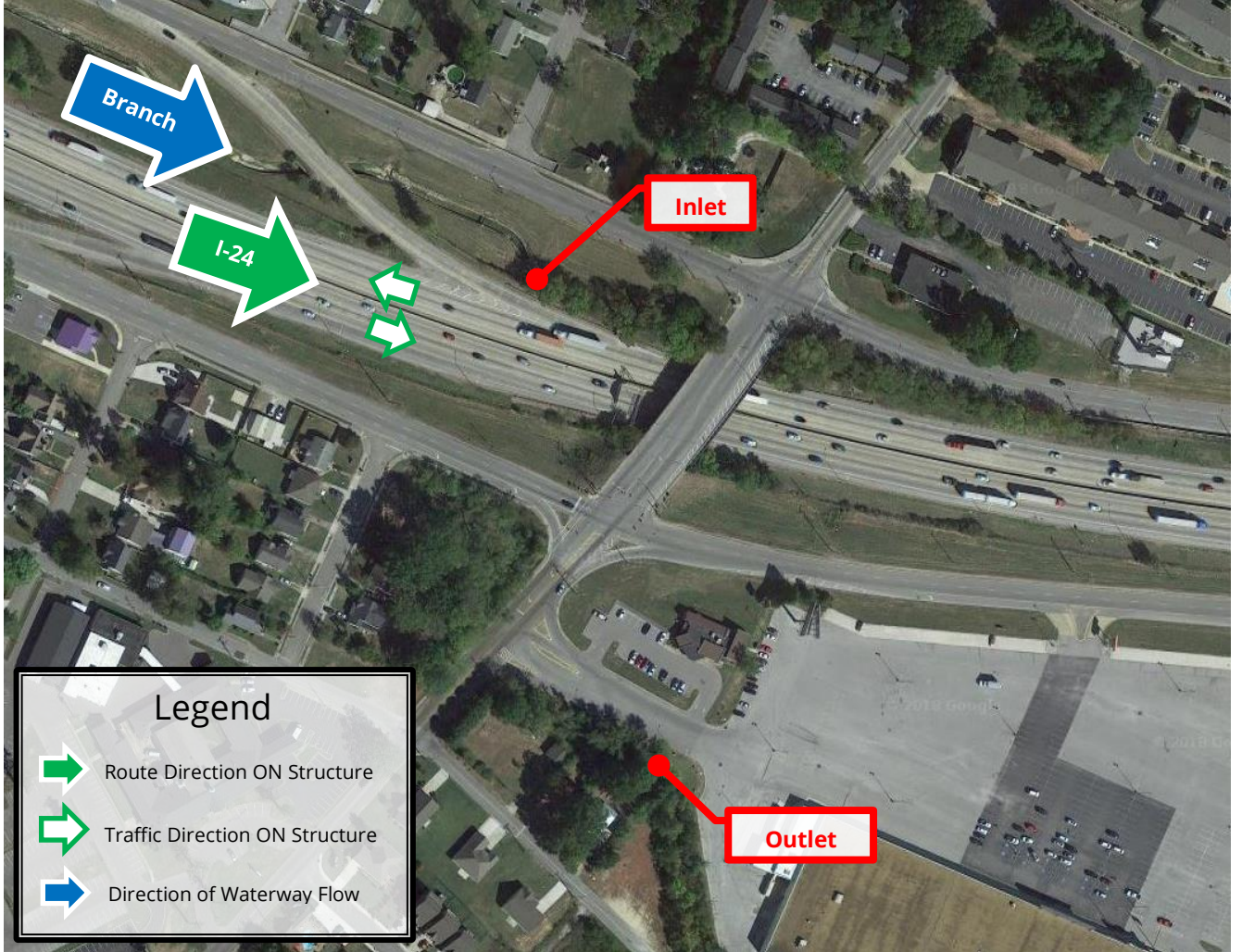
Overall Condition Rating:

# POOR






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# LOCATION MAP



**Legend**

-  Route Direction ON Structure
-  Traffic Direction ON Structure
-  Direction of Waterway Flow

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**BRIDGE MAINTENANCE RECOMMENDATIONS**



Tennessee Department of Transportation

COUNTY: HAMILTON  
 LOCATION: 33-I0024-13.58-  
 CO. SEQ.: 2 SPEC. CASE: 0

CROSSING: BRANCH  
 FED. BRIDGE NO.: 33I00240075  
 MAINT. DIST.: 33

REPAIR LIST NO.: 1  
 DATE ADDED: 10/24/2016  
 REVISED: 10/15/2020

FACILITY CARRIED:	I24 EBL & WBL	NUMBER OF MAIN SPANS:	2
HIGHWAY SYSTEM:	02-INTERSTATE URBAN	NUMBER OF APPROACH SPANS:	0
BRIDGE WIDTH (CURB TO CURB):	N/A FT IN	BRIDGE LENGTH (FT):	31
BRIDGE WIDTH (OUT TO OUT):	N/A FT IN	MAXIMUM SPAN LENGTH (FT):	8
APPROACH ROADWAY (W/SHOULDERS):	255 FT 10 IN	SKEW ANGLE (DEGREES):	45
MAINTAINED BY:	STATE HIGHWAY AGENCY		
MAIN SPAN MATERIAL:	CONCRETE CONTINUOUS		
MAIN SPAN DESIGN TYPE:	CULVERT (INCLUDES FRAME CULVERTS)		
APPROACH SPAN MATERIAL:	OTHER OR NOT APPLICABLE		
APPROACH SPAN DESIGN TYPE:	OTHER OR NOT APPLICABLE		
INSPECTION DATE:	10/15/2020	GENERAL CONDITION:	POOR
EVALUATION DATE:	11/17/2020	STRUCTURALLY DEFICIENT:	YES
PPRM PIN NUMBER:			
H TRUCK RATING @ INV.:	39 TONS	SUFFICIENCY RATING:	26.0

**SUGGESTED ROUTINE MAINTENANCE AND COMMENTS**

REPAIR THE ROOFS OF BOTH BARRELS (SAG, REBAR SPALLS, WIDE CRACKS) ASAP

APPROACH GUARDRAILS ARE SUBSTANDARD

BRIDGERAILS ARE SUBSTANDARD

**GENERAL COMMENTS:**

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STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

# Bridge Condition Coding Form

Revised 04/07/2022

Bridge Number:   
 (Includes Item 5A)

Feature Intersected:

Evaluation Status:

County:

Route:

Special Case:

County Sequence:

Log Mile:

## CODE ONLY THOSE VALUES WHICH HAVE CHANGED

ITEM #	DESCRIPTION	VALUE	CONDITION CODING GUIDELINES (Values for Coding Items 58, 59, 60 and 62)			
90	LAST INSPECTION DATE	<input type="text" value="10/15/2020"/>	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.			
	EARLIEST DATE OF NEXT REGULAR INSPECTION	<input type="text" value="08/16/2022"/>				
		<input type="text" value="/ /"/>				
10	MINIMUM V.C. OVER DECK (ROADWAY + SHOULDERS)	99 FT. 99 IN. <input type="text" value=""/> FT. <input type="text" value=""/> IN.				
520	MINIMUM V.C. OVER DECK (EXCLUDES SHOULDERS)	99 FT. 99 IN. <input type="text" value=""/> FT. <input type="text" value=""/> IN.				
36	TRAFFIC SAFETY FEATURES					
	Br. Rail	Trans.	Appr. Rail	Terminal	SPEED LIMIT	
	0	N	0	N	55	
	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	
41	STRC OPEN/CLOSED/POSTED	A				
	A K P	<input type="text" value=""/>				
58	DECK	N				
59	SUPERSTRUCTURE	N				
60	SUBSTRUCTURE	N				
61	CHANL/CHANL PROTECTION	7				
62	CULVERT AND RETAIN WALL	3				
71	WATERWAY ADEQUACY	7				
72	APPROACH RDWY ALIGNMENT	8				
521	OVERALL CONDITION	POOR				
16	LATITUDE	17 LONGITUDE				
	N 35° .1990'	W 85° 13.6280'				
	<input type="text" value=""/>	<input type="text" value=""/>				
	<input type="text" value="/ /"/>					
	TEAM LEADER SIGNATURE		REVIEW DATE			

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# Photographs

Bridge ID#: 33I00240075

Date: 04/04/2022



**BRIDGE NUMBER - BARREL #1 - EXTERIOR WALL RIGHT**



**BARREL #1 - MEASUREMENT OF SAG IN THE ROOF – MEASURED AT THE EXTERIOR WALL**

# Photographs

Bridge ID#: 33I00240075

Date: 04/04/2022



BARREL #1 - MEASUREMENT OF SAG IN THE ROOF



BARREL #1 - MEASUREMENT OF SAG IN THE ROOF

# Photographs

Bridge ID#: 33I00240075

Date: 04/04/2022



**BARREL #1 - SPALL WITH EXPOSED REBAR**



**BARREL #1 - OFFSET AT THE CONSTRUCTION JOINT**

# Photographs

Bridge ID#: 33I00240075

Date: 04/04/2022



**BARREL #1 - SAG IN ROOF AND DELAMINATIONS**



**BARREL #1 - ROOF - SAG – OFFSET AT CONSTRUCTION JOINT - LOOKING TOWARD THE  
OUTLET**



# Photographs

Bridge ID#: 33I00240075

Date: 04/04/2022



BARREL #2 - MEASUREMENT OF SAG IN THE ROOF – TAKEN AT THE INTERIOR WALL



BARREL #2 - MEASUREMENT OF SAG IN THE ROOF

# Photographs

Bridge ID#: 33I00240075

Date: 04/04/2022



**BARREL #2 - SPALL - EXPOSED REBAR - OFFSET AT CONSTRUCTION JOINT**



**BARREL #2 - OFFSET AT CONSTRUCTION JOINT**

# Photographs

Bridge ID#: 33I00240075

Date: 04/04/2022



**BARREL #2 - SAG IN ROOF- OFFSET AT CONSTRUCTION JOINT – LOOKING TOWARD THE OUTLET**



**BARREL #2 - DELAMINATION-SPALL - EXPOSED REBAR – 115 FEET FROM THE INLET – 5 FEET X 5 FEET**



**STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION**

**REGION 2 BRIDGE**

7508 VOLKSWAGEN DRIVE  
CHATTANOOGA, TENNESSEE 37416  
(423) 892-3430

**JOSEPH GALBATO, III**  
INTERIM COMMISSIONER

**BILL LEE**  
GOVERNOR

Date: April 4, 2022

**Cursory Inspection Report**

County: Hamilton  
Bridge Location Number: 33-I0024-13.58  
Bridge Number: 33I00240075  
Route: I-24 Eastbound & Westbound  
and McBrien Road  
OVER Branch

TDOT Bridge Inspection crews conducted a cursory inspection of the subject structure on April 4, 2022 to monitor the areas of severe concrete deterioration and deflection in the roof. The extent and depth of roof deflection and areas of concrete deterioration were measured and recorded.

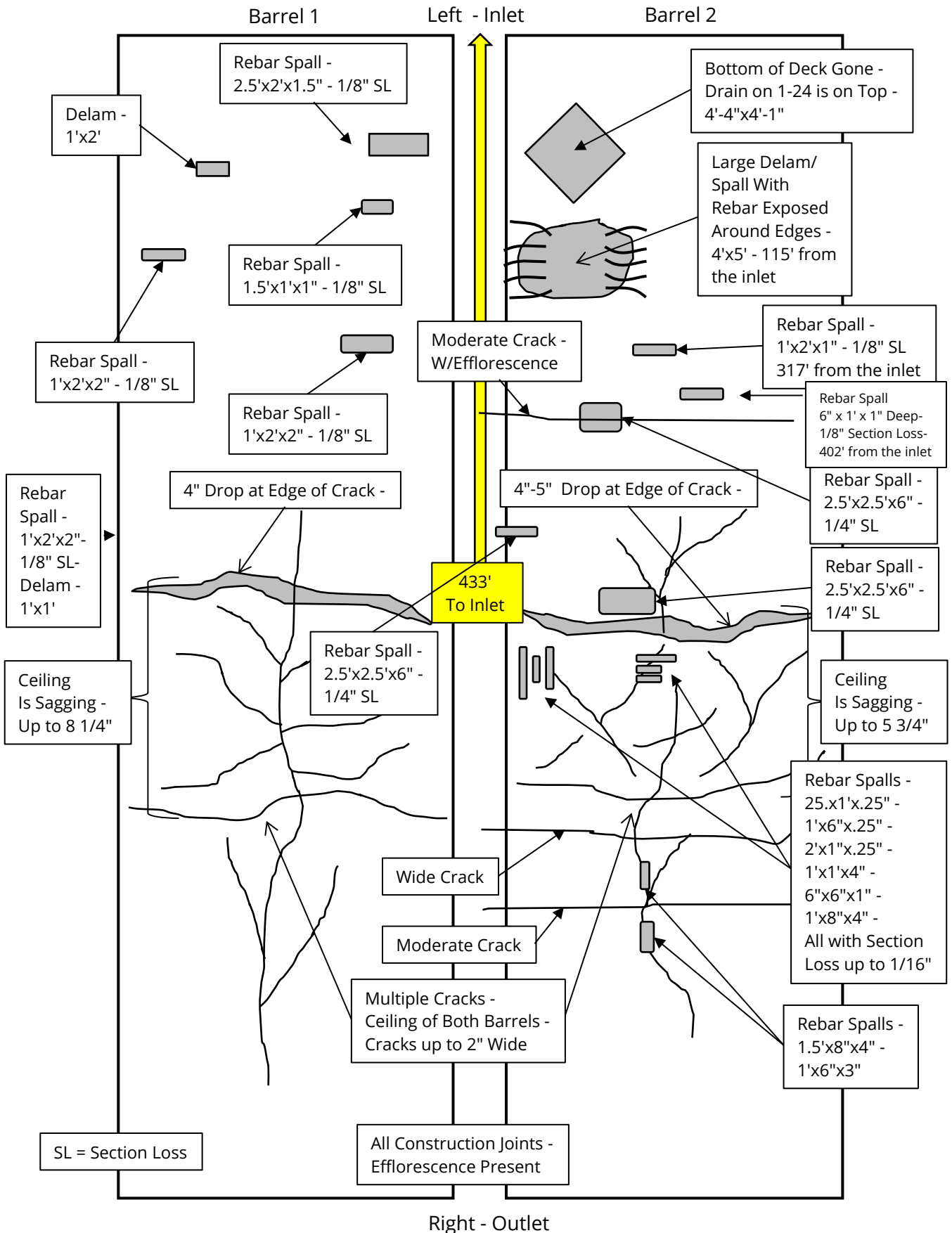
**Conclusions**

The sag in Barrel #1 has worsened. It is now as great as 8 1/4", distributed over 82 feet in length in Barrel #1. There is a sag of up to 5 3/4" distributed over a length of 82 feet in Barrel #2. From the best the inspectors could determine, the sagged area is located under the parking lot of a medical clinic. The floor of the culvert could not be observed due to sediment accumulation of approximately 1' to 1.5' in both barrels. There are wide cracks, spalls, rebar spalls, and delaminations in the sagged area. There are also spalls, rebar spalls, delaminations and cracks throughout the culvert. There are moderate and wide cracks in wingwalls #1 and #2 on the right. The inspectors were Jonathan Edwards (Team Leader), and Wes Spencer.

**Recommendations**

- See Maintenance Item sheet for maintenance recommendations. No additional recommendations were added at this inspection

# Plan View



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# Plan View