

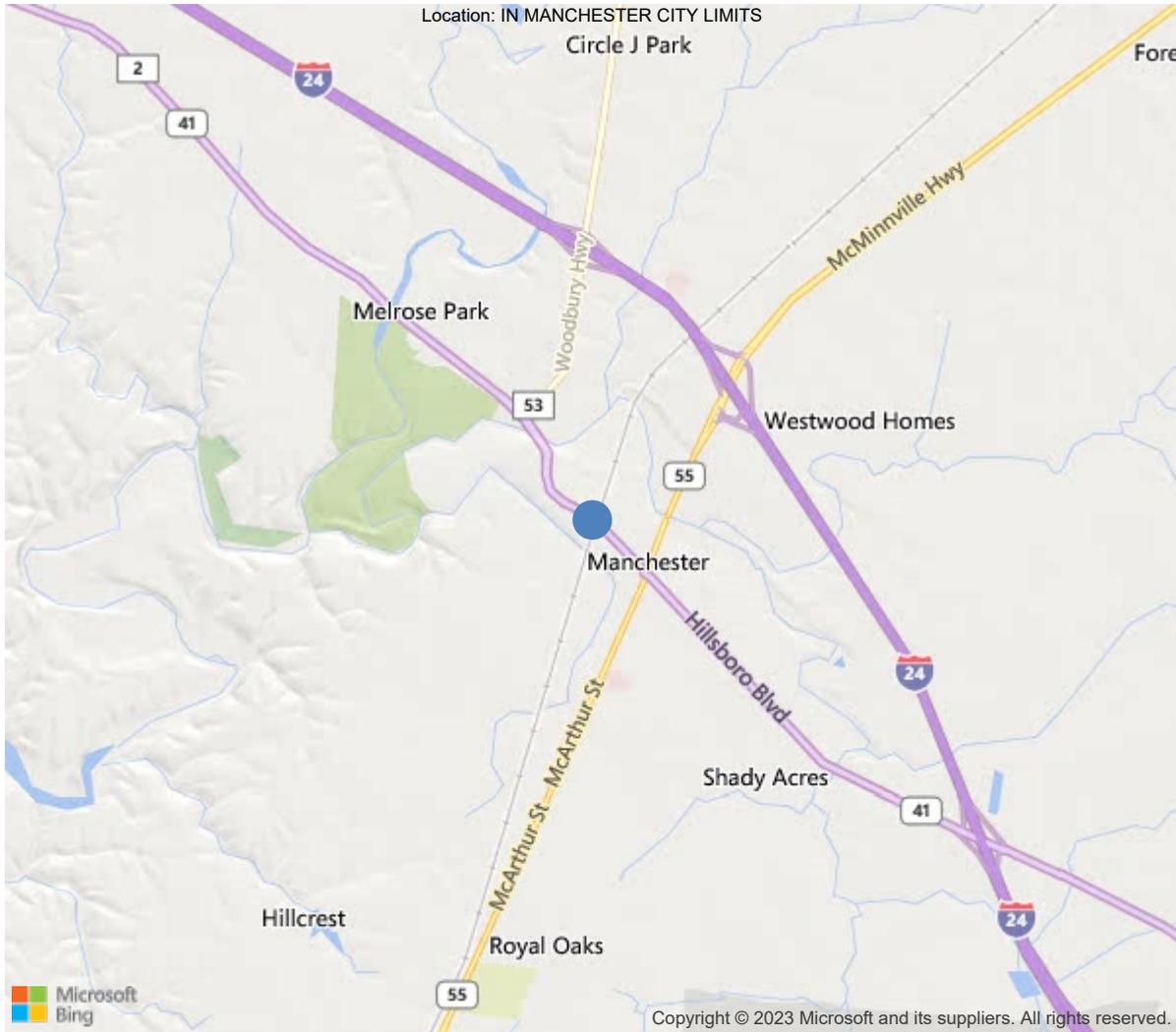


Latitude:35.48025, Longitude:-86.08580

Region 02, 16 - Coffee County

Team Leader: Elizabeth Rodinger

Inspectors: Bradley Dagenais

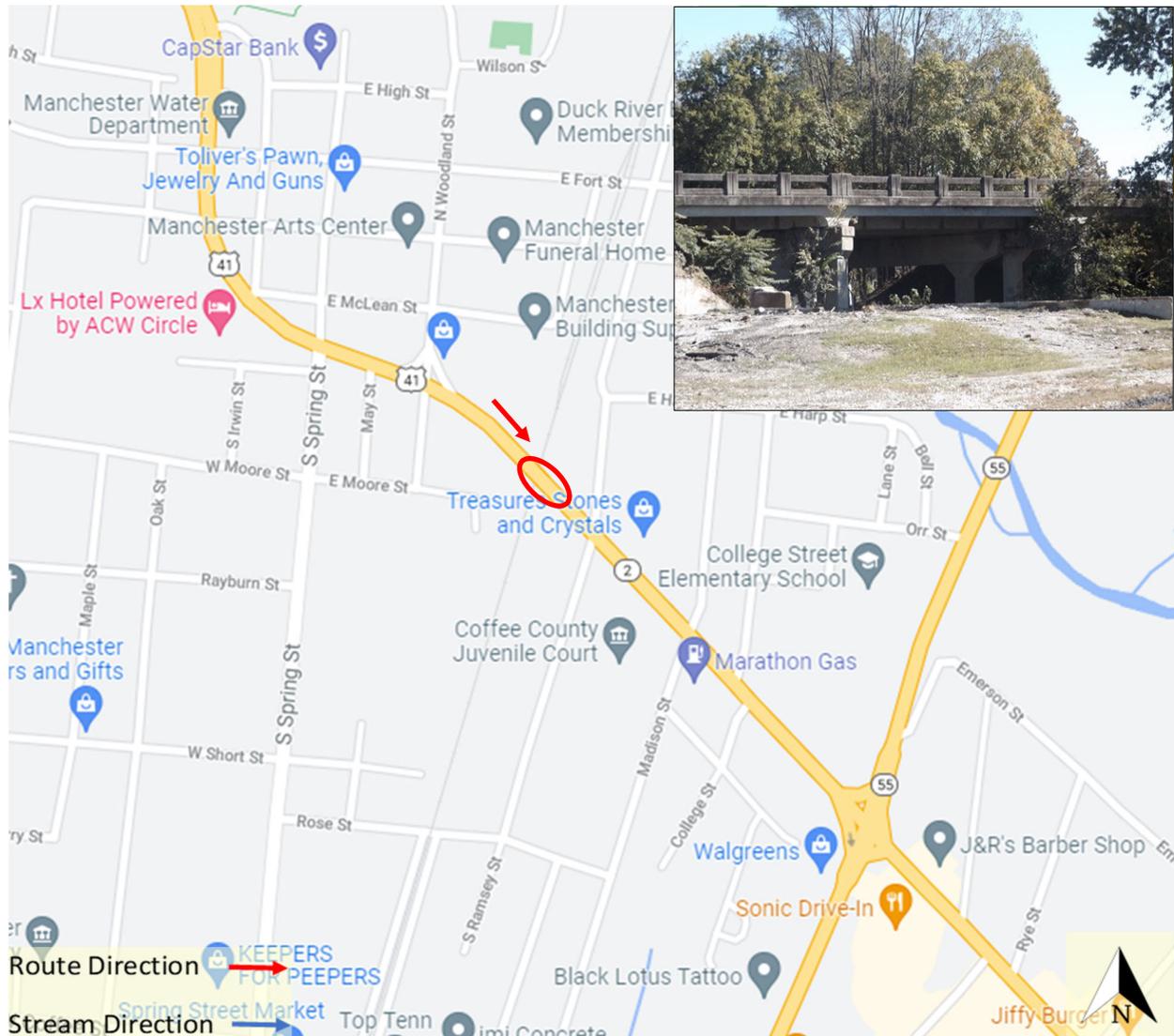


HILLSBORO BLVD. Crossing CFW RAILROAD

35.48025, -86.08580

# Routine Bridge Inspection Report

City of Manchester in Coffee County	
Federal ID	16SR0020015
Location	16-SR002-14.28
Description	Hillsboro Road over CFW Railroad
GPS Coordinates	35.480250, -86.085800
Date	10/12/2023
Overall Condition	Fair



### Maintenance Recommendations

525 - Repair List # 2      523 - Repair List Add Date 3/1/2016 1      524 - Repair List Revise Date 10/12/2021

Date Added	Recommendation	Priority
09/21/1998	APPROACH GUARDRAILS ARE NON-EXISTENT	
02/09/2010	BRIDGERAILS ARE SUBSTANDARD	
10/28/2021	REPAIR SIDEWALK ON BOTH SIDES OF BRIDGE	
11/02/2017	CLEAN AND SEAL ROADWAY EXPANSION JOINTS	
11/12/2021	PATCH BOTTOM OF DECK IN ALL SPANS	
10/12/2023	REPAIR CRACKS, SPALLS, AND DELAMINATED AREAS THROUGHOUT DECK AND SUPERSTRUCTURE	

90 - LAST INSPECTION DATE 10/12/2023

10 - MIN. V.C. OVER DECK  
(ROADWAY + SHOULDERS) 99.99 FT.

520 - MIN. V.C. OVER DECK  
(EXCLUDES SHOULDERS) 99.99 FT.

**36 - TRAFFIC SAFETY FEATURES**

Br. Rail	Trans.	Appr. Rail	Terminal	SPEED LIM.
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>40</u>

41 - STRC OPEN/CLOSED/POSTED P

58 - DECK 5

59 - SUPERSTRUCTURE 5

60 - SUBSTRUCTURE 5

61 - CHANL/CHANL PROTECTION N

62 - CULVERT AND RETAIN WALL N

71 - WATERWAY ADEQUACY N

72 - APPROACH RDWY ALIGNMENT 8

521 - OVERALL CONDITION 2 - Fair

16 - LATITUDE	17 - LONGITUDE
<u>35.480250</u>	<u>-86.085800</u>

**N NOT APPLICABLE**

**9 EXCELLENT CONDITION**

**8 VERY GOOD CONDITION - NO PROBLEMS NOTED.**

**7 GOOD CONDITION - SOME MINOR PROBLEMS.**

**6 SATISFACTORY CONDITION - MINOR DETERIORATION OF STRUCTURAL ELEMENTS.**

**5 FAIR CONDITION - ALL PRIMARY STRUCTURAL ELEMENTS ARE SOUND BUT MAY HAVE MINOR SECTION LOSS, CRACKING, SPALLING OR SCOUR.**

**4 POOR CONDITION - ADVANCED SECTION LOSS, DETERIORATION, SPALLING OR SCOUR.**

**3 SERIOUS CONDITION - LOSS OF SECTION, DETERIORATION, SPALLING OR SCOUR HAVE SERIOUSLY AFFECTED PRIMARY STRUCTURAL COMPONENTS. LOCAL FAILURES ARE POSSIBLE. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT.**

**2 CRITICAL CONDITION - ADVANCED DETERIORATION OF PRIMARY STRUCTURAL ELEMENTS. FATIGUE CRACKS IN STEEL OR SHEAR CRACKS IN CONCRETE MAY BE PRESENT OR SCOUR MAY HAVE REMOVED SUBSTRUCTURE SUPPORT. UNLESS CLOSELY MONITORED IT MAY BE NECESSARY TO CLOSE THE BRIDGE UNTIL CORRECTIVE ACTION IS TAKEN.**

**1 "IMMINENT" FAILURE CONDITION - MAJOR DETERIORATION OR SECTION LOSS PRESENT IN CRITICAL STRUCTURAL COMPONENTS OR OBVIOUS VERTICAL OR HORIZONTAL MOVEMENT AFFECTING STRUCTURAL STABILITY. BRIDGE IS CLOSED TO TRAFFIC BUT CORRECTIVE ACTION MAY PUT IT BACK IN LIGHT SERVICE.**

**0 FAILED CONDITION - OUT OF SERVICE AND BEYOND CORREC**

*Elizabeth Roadinger*  
**TEAM LEADER SIGNATURE**

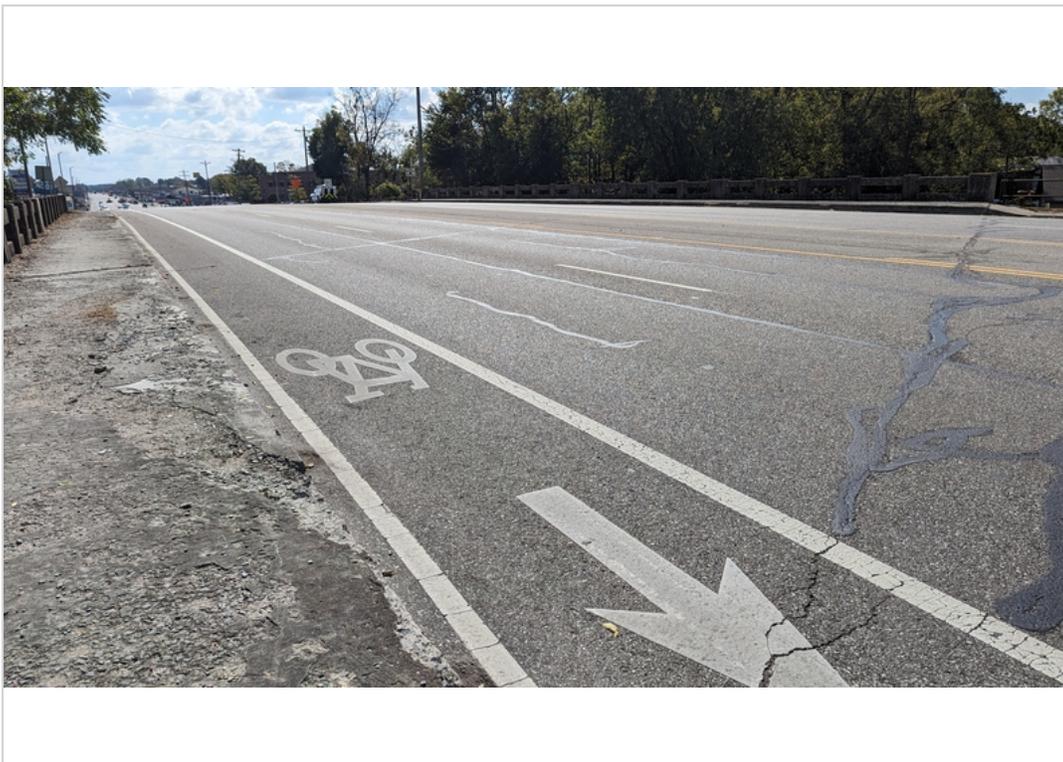
IDENTIFICATION	
(1) State Names	47 - Tennessee
(8) Structure Number	16SR0020015
(5) Inventory Route	1
(2) Highway Agency District	Region 2
(3) County Code	16 - Coffee
(4) Place Code	45500
(6) Features Intersected	CFW RAILROAD
(7) Facility Carried	FAU 2 349448N
(9) Location	IN MANCHESTER CITY LIMITS
(11) Mile Point	14.280 mi
(12) Base Highway Network	Yes
(13) LRS Inventory Rte & Subrte	16SR002001
(16) Latitude	35.480250
(17) Longitude	-86.085800
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	14
Material	1 - Concrete
Type	4 - Tee beam
(44) Approach Structure Type	00
Material	0 - Other / None
Type	0 - Other / None
(45) No. of Spans in Main Unit	4
(46) No. of Approach Spans	0
(107) Deck Structure Type	1 - Concrete Cast-in-Place
(108) Wearing Surface/Protective System	
Type of Wearing Surface	6 - Bituminous
Type of Membrane	8 - Unknown
Type of Deck Protection	0 - None
AGE AND SERVICE	
(27) Year Built	1940
(106) Year Reconstructed	1956
(42) Type of Service	52
On	5 - Highway-pedestrian
Under	2 - Railroad
(28) Lane	
On	4
Under	0
(29) Average Daily Traffic	12952
(30) Year of ADT	2021
(109) Truck ADT	9 %
(19) Bypass, Detour Length	4 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	39.0 ft
(49) Structure Length	156.0 ft
(50) Curb or Sidewalk Width	
Left	6.0 ft
Right	6.0 ft
(51) Bridge Roadway Width Curb to Curb	26.0 ft
(52) Deck Width Out to Out	84.5 ft
(32) Approach Roadway Width (W/Shoulders)	24.0 ft
(33) Bridge Median	2 - Closed median(no
(34) Skew	60 Deg
(35) Structure Flared	0 - No flare
(10) Inventory Route Min Vert Clear	99.99 ft
(47) Inventory Route Total Horiz Clear	30.4 ft
(53) Min Vert Clear Over Bridge Rdwy	99.99 ft
(54) Min Vert Underclear	17.50 ft
Ref:	
(55) Min Lat Underclear RT	8.7 ft
Ref:	
(56) Min Lat Underclear LT	21.8 ft
NAVIGATION DATA	
(38) Navigation Control	N - Not applicable, no waterwa
(111) Pier Protection	
(39) Navigation Vertical Clearance	0.0 ft
(116) Vert-Lift Bridge Nav Min Vert Clear	ft
(40) Navigation Horizontal Clearance	0.0 ft

CLASSIFICATION	
(112) NBIS Bridge Length	Y
(104) Highway System	0
(26) Functional Class	14 - Urban Other Principal Art
(100) Defense Highway	0 - The inventory route is not
(101) Parallel Structure	N - No parallel structure exis
(102) Direction of Traffic	2 - way traffic
(103) Temporary Structure	
(105) Federal Lands Highways	0 - N/A
(110) Designated National Network	0 - The inventory route is not
(20) Toll	3 - On free road. The structu
(21) Maintain	1 - State Highway Agency
(22) Owner	1 - State Highway Agency
(37) Historical Significance	4 - Historical significance is
CONDITION	
(58) Deck	5
(59) Superstructure	5
(60) Substructure	6
(61) Channel & Channel Protection	N
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	2 - M 13.5 / H 15
(63) Operating Rating Method	8
(64) Operating Rating	
Type	8 - Load and Resistance Factor Rating (LRF
Rating	32.40
(65) Inventory Rating Method	8 - Load and Resistance Factor
(66) Inventory Rating	
Type	
Rating	25.27
(70) Bridge Posting	5 - Equal to or above legal loads
(41) Structure Open/Posted/Closed	P - Posted for load (may inclu
APPRAISAL	
(67) Structural Evaluation	6
(68) Deck Geometry	9
(69) Clearances, Vertical/Horizontal	4
(71) Waterway Adequacy	N
(72) Approach Roadway Alignment	8
(36A) Bridge Railings	0 - Inspected feature does not meet
(36B) Transitions	0 - Inspected feature does not meet
(36C) Approach Guardrail	0 - Inspected feature does not meet
(36D) Approach Guardrail Ends	0 - Inspected feature does not meet
(113) Scour Critical Bridges	N - Bridge not over waterway.
PROPOSED IMPROVEMENTS	
(75) Type of Work	
(76) Length of Structure Improvement	ft
(94) Bridge Improvement Cost	\$
(95) Roadway Improvement Cost	\$
(96) Total Project Cost	\$
(97) Year of Improvement Cost Estimate	
(114) Future ADT	20723
(115) Year of Future ADT	2042

INSPECTIONS *			
(90) Inspection Date			10/12/2021
(91) Frequency			24
(92) Critical Feature Inspection	Done	Freq. (Mon)	Date
A: Fracture Critical Detail	No		
B: Underwater Inspection	No		
C: Other Special Inspection			
* The inspection date and frequency information in this box contains the current NBI date and frequency information. Please refer to the report header for the date this inspection was conducted.			



Looking ahead on route



View across top of deck



Looking back on route



Side view of structure



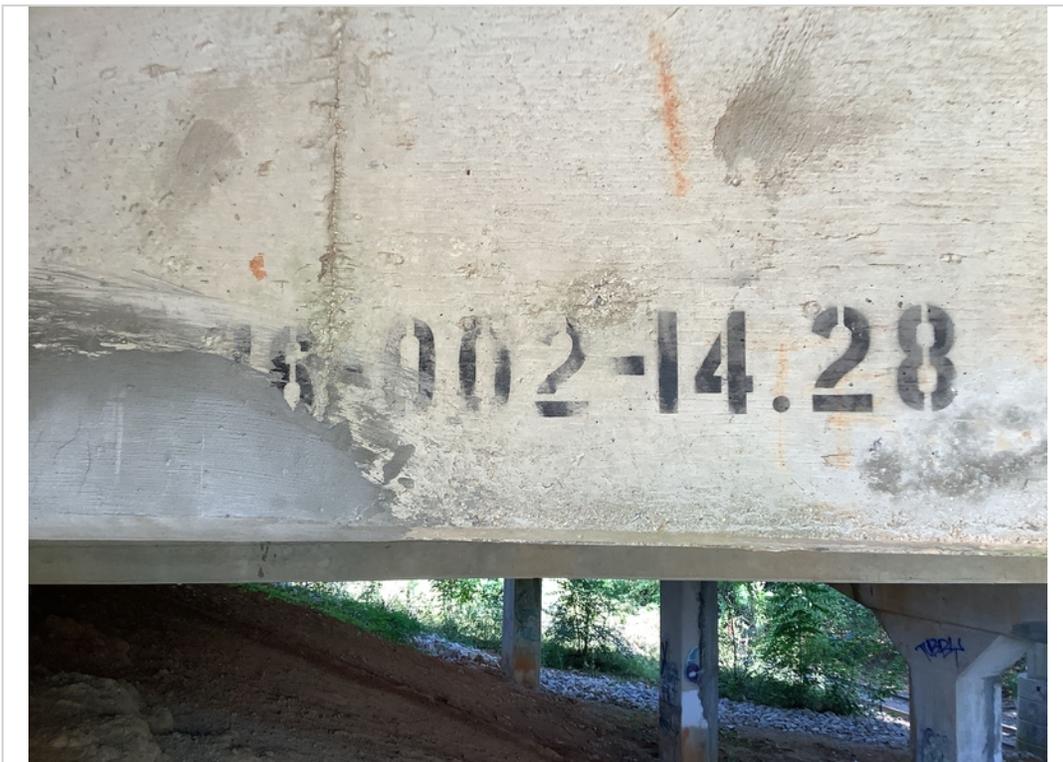
Underclearance looking North



Underclearance looking South



Bottom of deck



Bridge number



Weight posting sign at approach #1



Weight posting sign at approach #2



Typical abutment



Typical bent



Typical sealed cracks in wearing surface



Typical scaling on bridge rail



Typical sidewalk deterioration



Typical repaired area



Typical spall with exposed rebar in bottom of deck



Typical moderate efflorescence in bottom of deck



Typical delaminated area



Typical embankment erosion at abutments



Typical void at abutment #1

**PERFORMANCE EVALUATION**

Time of Day Inspected 10:45 AM

Weather Conditions Sunny, 71°

Vehicles Observed Autos

**LIVE LOAD BEHAVIOR**

Sub Horiz./ Vert. Defl (No) \_\_\_\_\_

Sub Vibration (No) \_\_\_\_\_

Super Horiz./ Vert. Defl (No) \_\_\_\_\_

Super Vibration (No) \_\_\_\_\_

**APPROACH**

Alignment (Good) \_\_\_\_\_

Slab (NA) \_\_\_\_\_

Joints (NA) \_\_\_\_\_

Pavement (Good) \_\_\_\_\_

Embankment (Good) \_\_\_\_\_

Approach Drains (NA) \_\_\_\_\_

**TRAFFIC SAFETY FEATURES**

Bridge Railing Rating (Fair) Scaling throughout and some rebar pop-outs

Transitions Rating (NA) \_\_\_\_\_

Guardrail Rating (NA) \_\_\_\_\_

Guardrail Terminal Rating (NA) \_\_\_\_\_

**SIGNS POSTED ON ROUTE**

Paddleboards No Weight Limit Posted Yes

Vertical Clearance (<14'-6") No Gross .....        Tons

Posted Height \_\_\_\_\_ Single-unit Vehicle 13 Tons

Narrow Bridge Signs No Multi-unit Vehicle 23 Tons

One Lane Bridge Signs No

Other Signs or Plaques \_\_\_\_\_ 564 Assigned Bridge Name \_\_\_\_\_

**ATTACHED SIGNS**

Sign No	Location	Text on Sign	Noted Defects
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### DECK

Wearing Surface Type	Asphalt	Wearing Surface Depth	4
Wearing Surface	(Good)	Asphalt with sealed cracks	
Deck - Structural Condition	(Fair)	Some moderate spalls with exposed rebar, delaminated areas, minor cracking, and moderate efflorescence	
Curbs	(Fair)	Scaling throughout	
Median	(NA)		
Sidewalks	(Poor)	Widespread moderate scaling and overall concrete deterioration	
Parapet	(NA)		
Railing	(Fair)	Scaling throughout and some rebar pop-outs	
Rail Paint	(NA)		
Deck Drains	(Poor)	Paved over	
Lighting Standards	(NA)		
Utilities	(NA)		
Expansion Joints	(Not Visible)	Paved over	

### SUPERSTRUCTURE

Bearing Devices	(NA)	Not visible	
Girders	(Fair)	Widespread repaired areas; delaminated areas; minor and moderate cracking, some with moderate efflorescence	
Beams	(NA)		
Floor Beams	(NA)		
Stringers	(NA)		
Diaphragms	(Fair)	Some have hairline to moderate width cracks, some with efflorescence	
Superstructure Bracing	(NA)		
Trusses - General	(NA)		
Trusses - Portals	(NA)		
Trusses - Bracing	(NA)		
Superstructure Paint	(NA)		
Alignment of Members	(Good)		

### TEXTURE COAT

### ABUTMENTS

<b>Abutment Caps</b>	(Fair)	Widespread repaired areas; some cracking
<b>Abutment Breastwall</b>	(NA)	
<b>Abutment Wings</b>	(Good)	
<b>Abutment Backwall</b>	(Good)	
<b>Abutment Plumb</b>	(Good)	
<b>Abutment Footing</b>	(Not visible)	
<b>Abutment Piles</b>	(Not Visible)	
<b>Abutment Embankment</b>	(Poor)	Erosion ditches; voids at abutment #1; step footing added at abutment #2
<b>Abutment Bearing Surface</b>	(Good)	
<b>Abutment Slope Paving</b>	(NA)	
<b>Abutment Rip Rap</b>	(NA)	

### PIERS

<b>Pier Caps</b>	(NA)	
<b>Pier Columns I Walls</b>	(NA)	
<b>Pier Plumb</b>	(NA)	
<b>Pier Footing</b>	(NA)	
<b>Pier Piles</b>	(NA)	
<b>Pier Bearing Surface</b>	(NA)	

### BENTS

<b>Bent Caps</b>	(Fair)	Widespread repaired areas; scaling, cracking, delaminated areas
<b>Bent Columns</b>	(Fair)	Widespread repaired areas; scaling and cracking
<b>Bent Plumb</b>	(Good)	
<b>Bent Footing</b>	(Not Visible)	
<b>Bent Piles</b>	(NA)	
<b>Bent Bearing Surface</b>	(Good)	
<b>Piles Need Replacement</b>	(No)	

### Inspection Team's Summary

This bridge consists of four simply-supported concrete deck girder spans. It has a length of 156 feet with a maximum span length of 39 feet. It is situated on a 60° right skew. It has an estimated construction date of 1940 and a widened estimated date of 1956. It was rehabilitated in 1997 and repaired in 2021. It was inspected on October 12, 2023 by a Region 2 bridge inspection team from Tullahoma and was found to be in overall fair condition.

The approach alignment, pavement, and embankments are rated good. The approach traffic safety features are non-existent. The bridge railing is in fair condition due to widespread scaling and rebar pop-outs. The bridge railing does not meet the current safety standards. The structure has a weight posting sign of 13 tons for 2 axle vehicles and 23 tons for 3+ axle vehicles at both approaches.

The deck is rated fair. There are moderate spalls with exposed rebar, delaminated areas, minor cracking, and moderate efflorescence in the bottom of the deck. The sidewalks are rated poor due to large areas of heavy scaling and concrete deterioration. The drains are rated poor due to being paved over. The expansion joints are not visible due to being paved over.

The superstructure is rated fair. The beams are rated fair due to delaminated areas, moderate cracks, and moderate efflorescence. There are widespread repaired areas. The diaphragms are rated fair due to some hairline to moderate width cracks, some with efflorescence.

The substructure is rated fair. The abutments and bents have widespread repaired areas. There is some cracking, scaling, and delaminated areas. The abutment embankments are rated poor due to erosion ditches and voids at abutment #1. A step footing has been added at abutment #2.

### General Inspection Comment

**Deck Elevation**

Benchmark height 997.14    Benchmark location Top of bridge seat on right side of abutment #1    Edge location \_\_\_\_\_

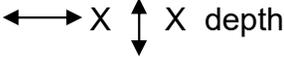
Comment All distances and elevations are in feet

Location	Top Lt. Curb	Left Gutter	Center Line	Right Gutter	Top Rt. Curb
Abutment #1	1000.56	999.9	1000.36	1000.37	1000.98
Bent #1	1000.98	1000.37	1000.76	1000.68	1001.25
Bent #2	1001.57	1000.57	1000.96	1000.74	1001.31
Bent #3	1001.21	1000.66	1000.89	1000.59	1001.13
Abutment #2	1001.13	1000.56	1000.76	1000.21	1000.83

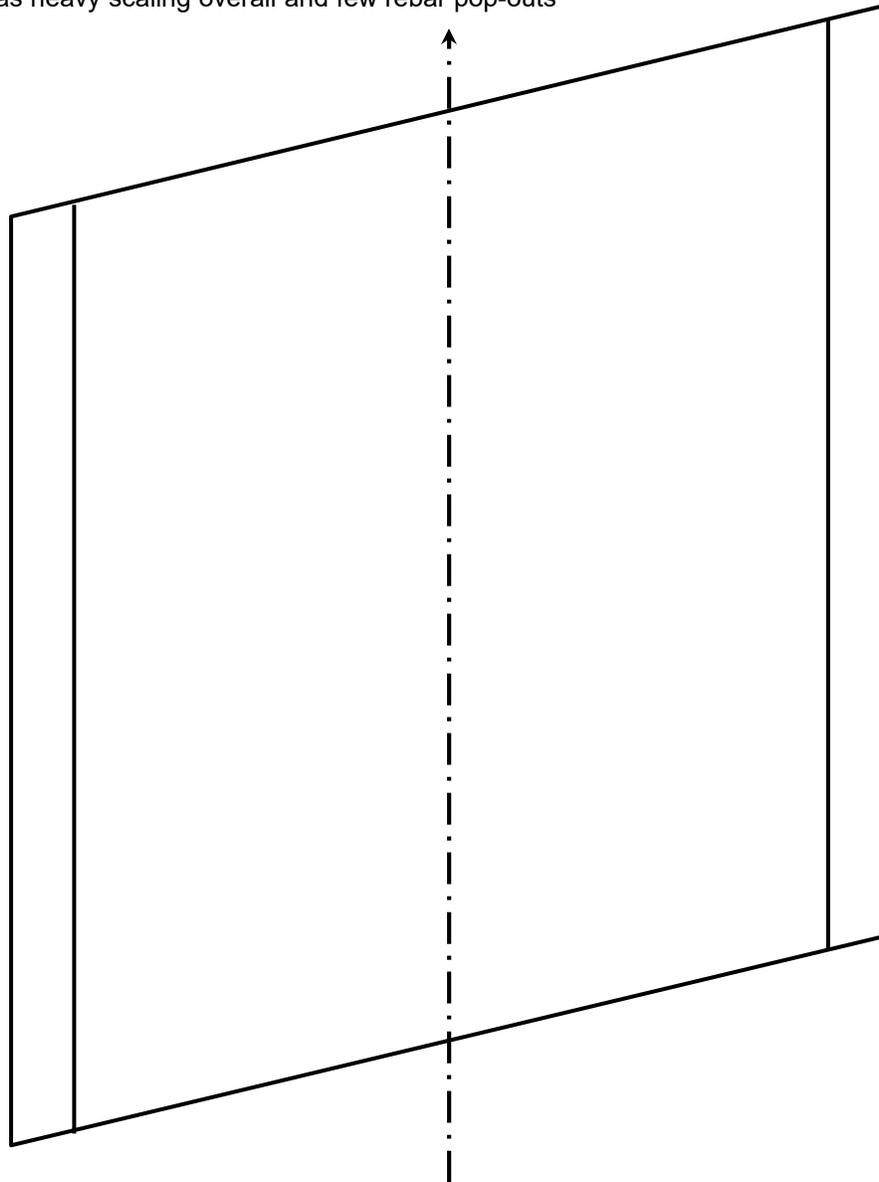
# Top of Deck Span No. 1

Date October 12, 2023

Bridge Location No. 16 SR002 14.28  
 County Route Log Mile

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

Sidewalks have large areas of heavy to severe scaling with some delamination  
 Bridge railing has heavy scaling overall and few rebar pop-outs

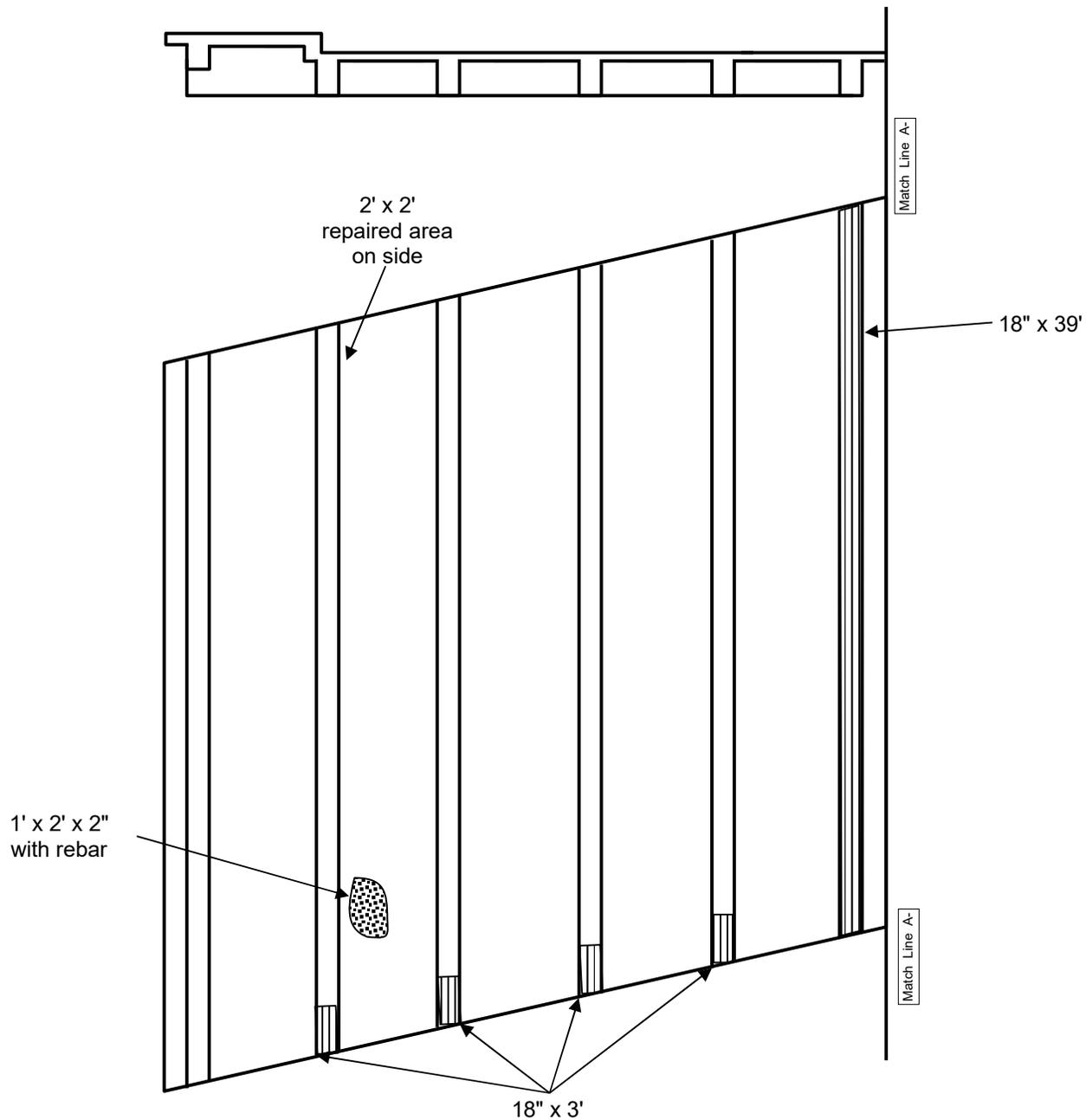


Bottom of Deck Span No. 1L

Date October 12, 2023

Bridge Location No. 16 SR002 14.28  
 County Route Log Mile

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



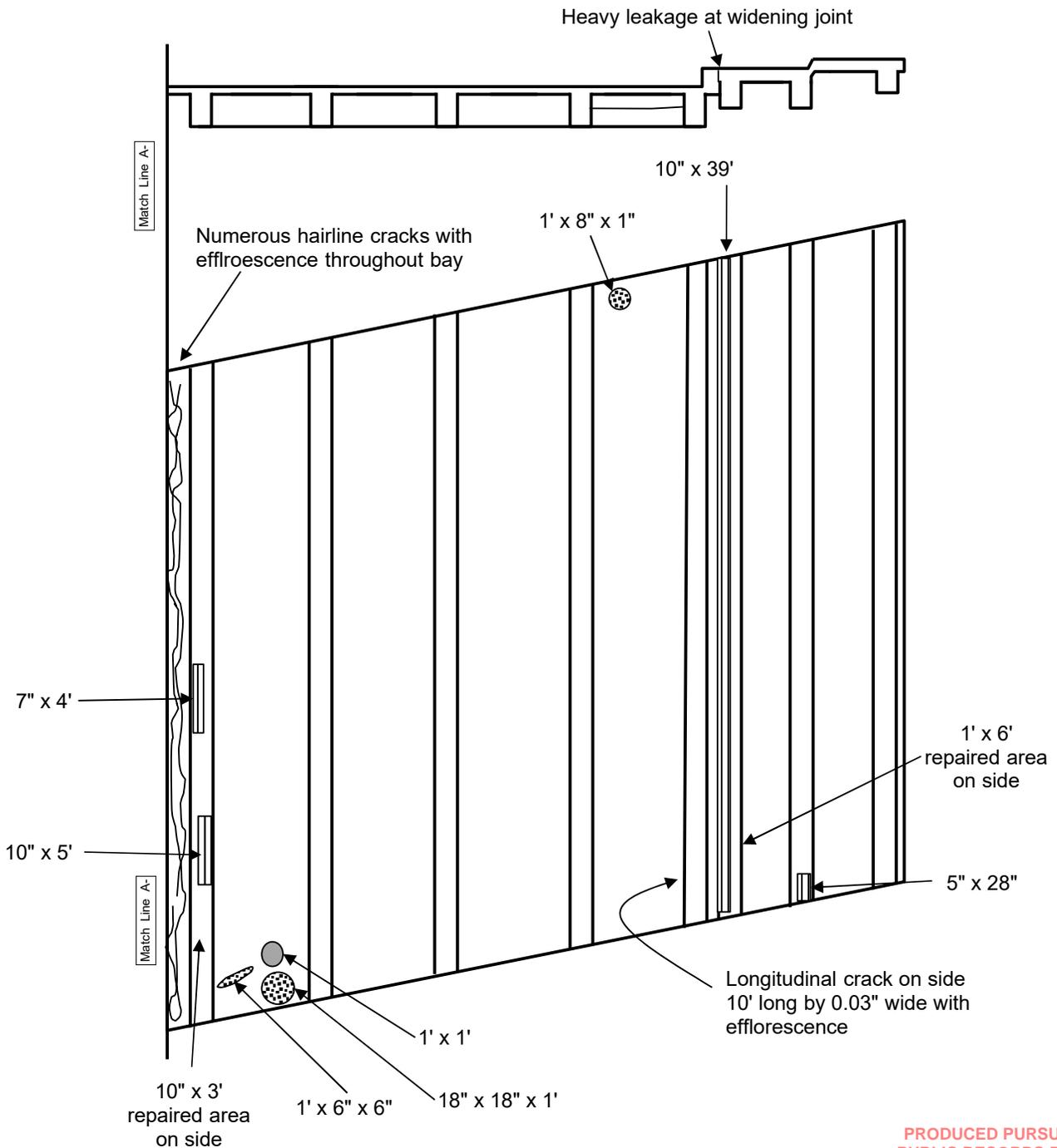
# Bottom of Deck Span No. 1R

Date October 12, 2023

Bridge Location No. 16 SR002 14.28  
 County Route Log Mile

Legend:	Cracking		Repairs		(light vertical)
	Spalling		Voids		(large checker board)
	Scaling		Dimensions are noted as		
	Delamination		← X ↑ X depth		

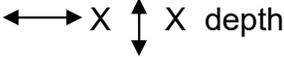
All spalls have exposed rebar



Top of Deck Span No. 2

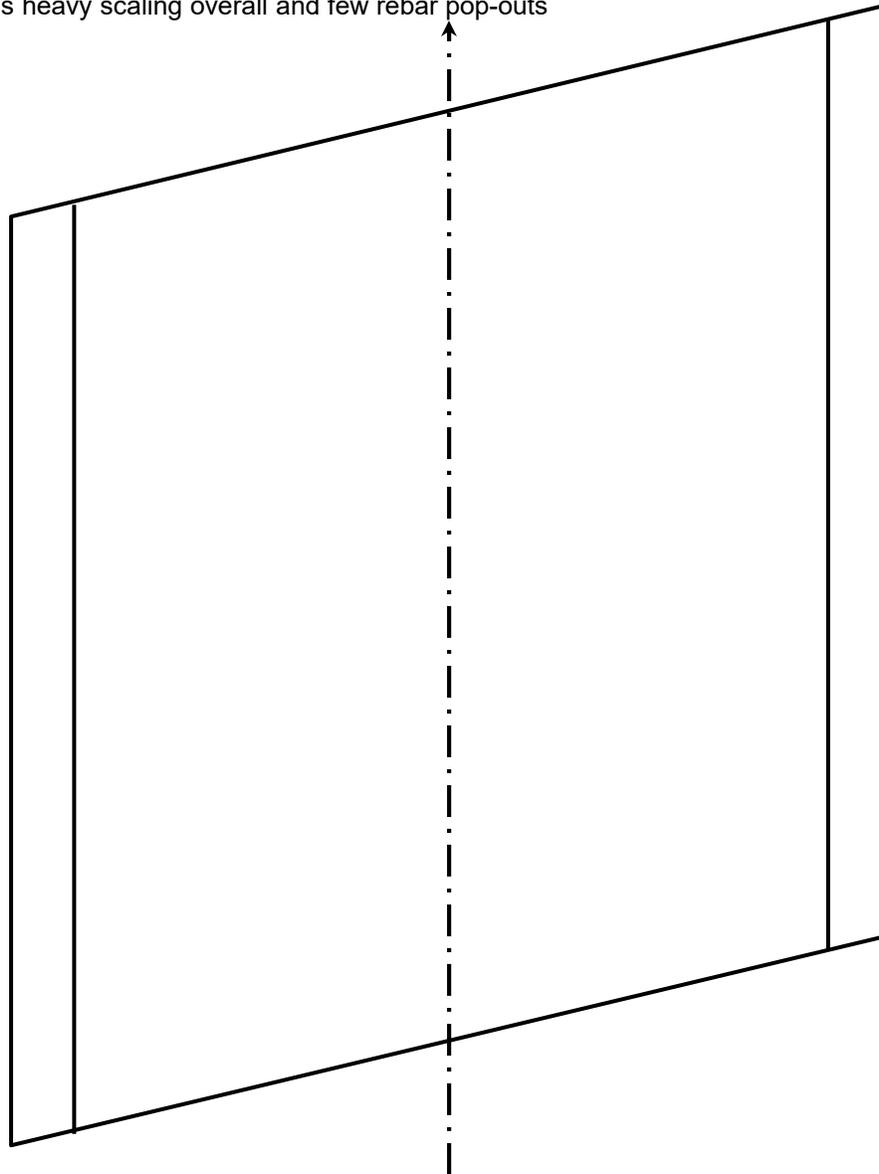
Date October 12, 2023

Bridge Location No. 16 SR002 14.28  
County Route Log Mile

Legend:	Cracking		Repairs		(light vertical)
	Spalling		Voids		(large checker board)
	Scaling		Dimensions are noted as		
	Delamination				

Sidewalks have large areas of heavy to severe scaling with some delamination

Bridge railing has heavy scaling overall and few rebar pop-outs

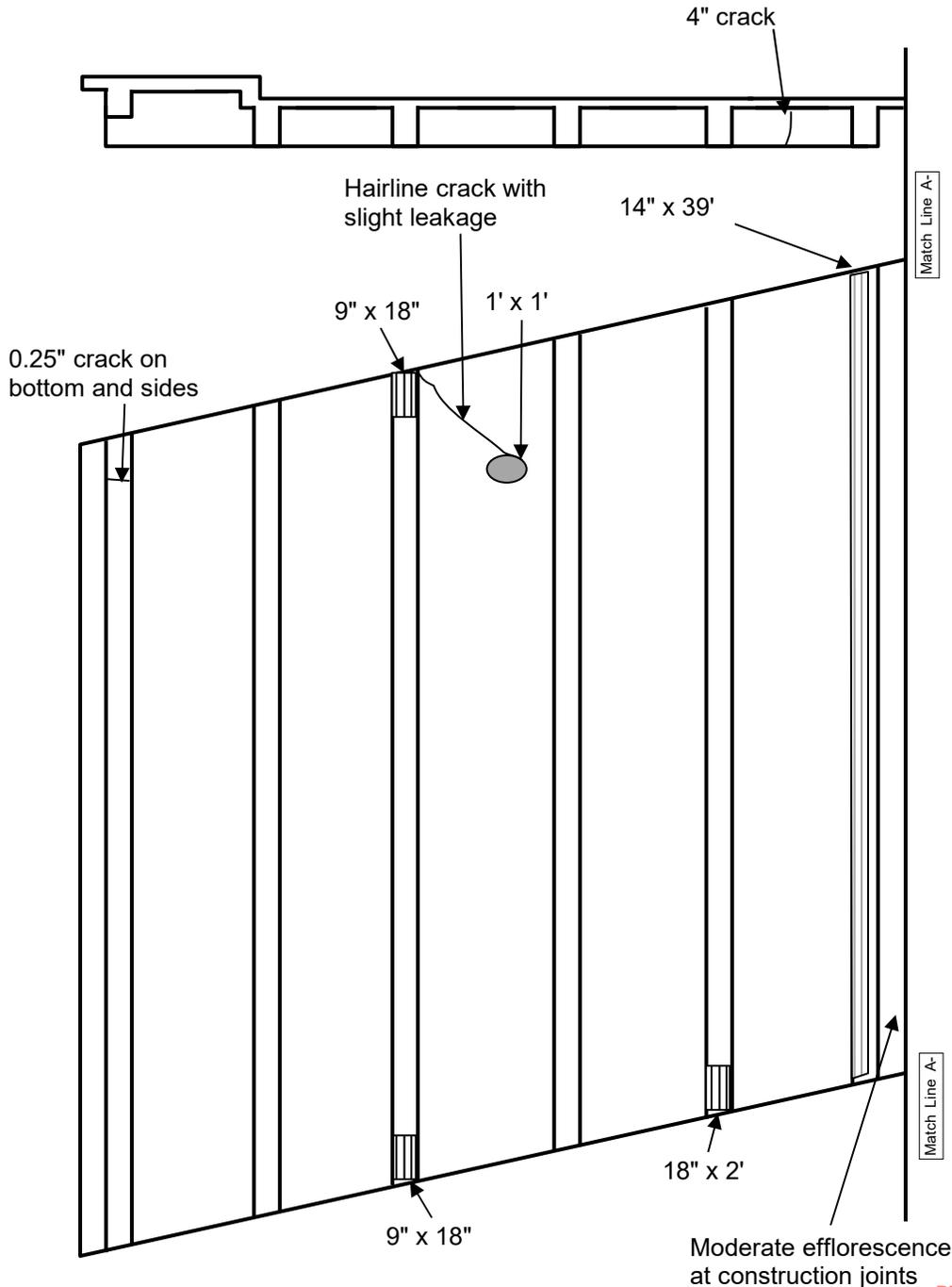


Bottom of Deck Span No. 2L

Date October 12, 2023

Bridge Location No. 16 SR002 14.28  
 County Route Log Mile

Legend:	Cracking		Repairs		(light vertical)
	Spalling		Voids		(large checker board)
	Scaling		Dimensions are noted as	↔ X    ↕ X depth	
	Delamination				



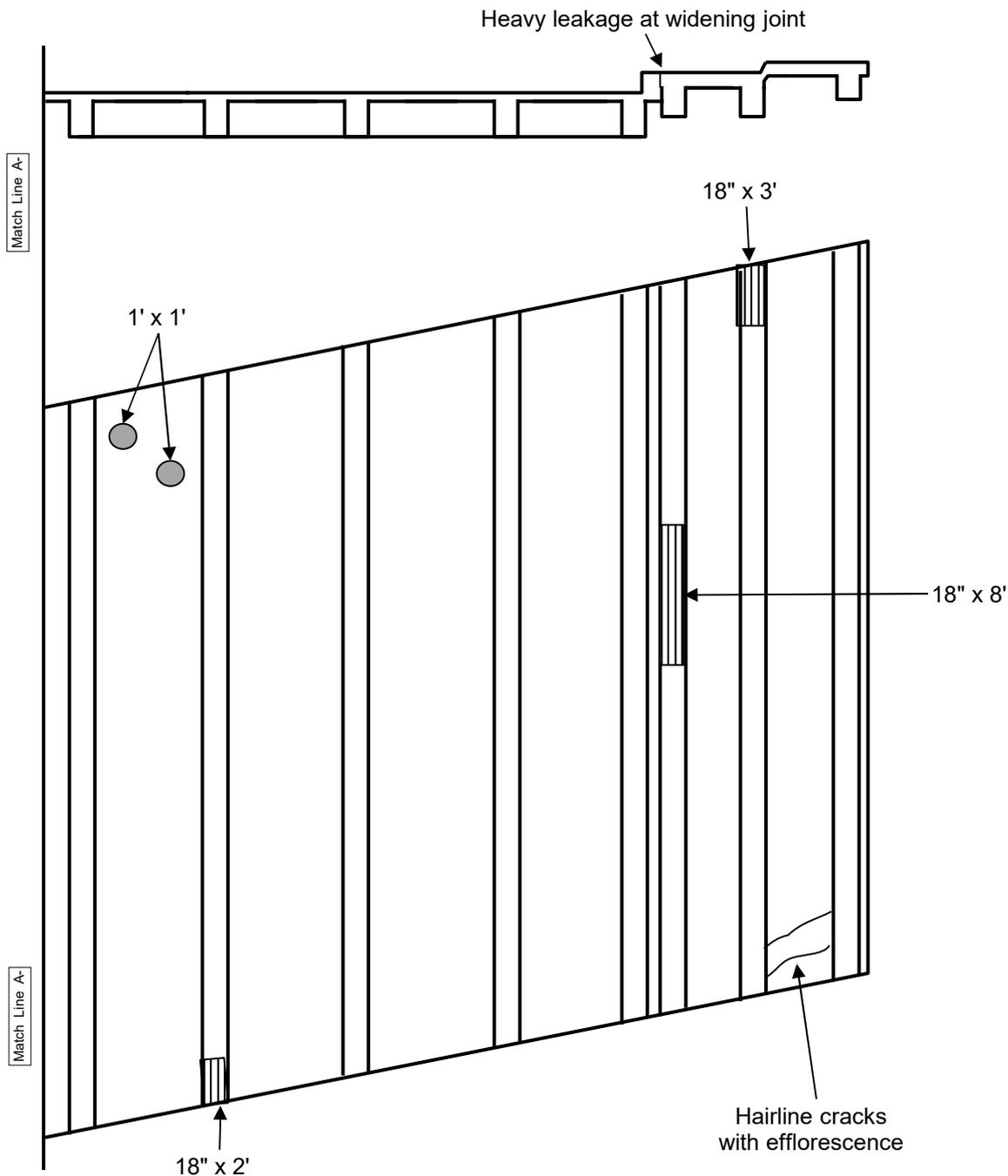
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 PUBLIC RECORDS REQUEST  
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 §407 and its production pursuant to a  
 public document records request does  
 not waive the provisions of §407.

# Bottom of Deck Span No. 2R

Date October 12, 2023

Bridge Location No. 16 SR002 14.28  
 County Route Log Mile

Legend:	Cracking		Repairs		(light vertical)
	Spalling		Voids		(large checker board)
	Scaling		Dimensions are noted as		
	Delamination		 X  X depth		



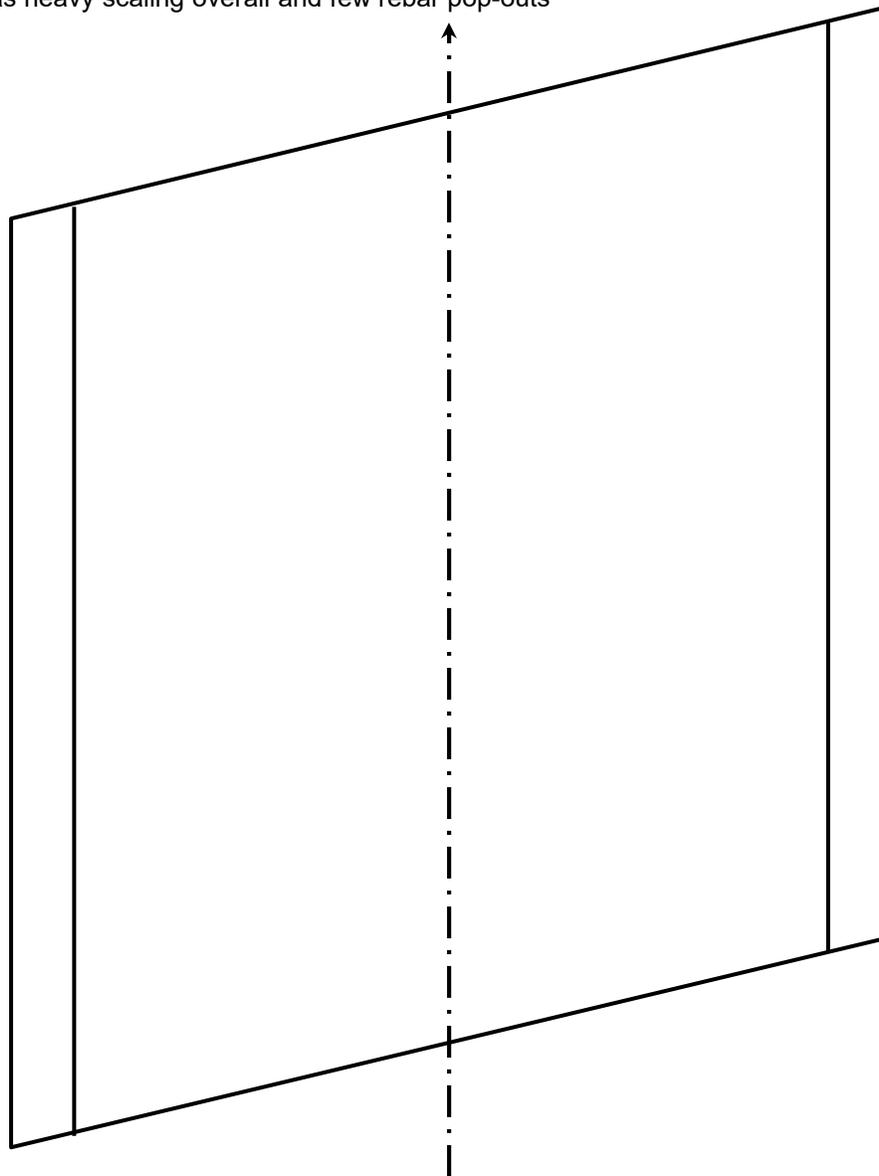
# Top of Deck Span No. 3

Date October 12, 2023

Bridge Location No. 16 SR002 14.28  
County Route Log Mile

Legend:	Cracking		Repairs		(light vertical)
	Spalling		Voids		(large checker board)
	Scaling		Dimensions are noted as		
	Delamination				

Sidewalks have large areas of heavy to severe scaling with some delamination  
Bridge railing has heavy scaling overall and few rebar pop-outs

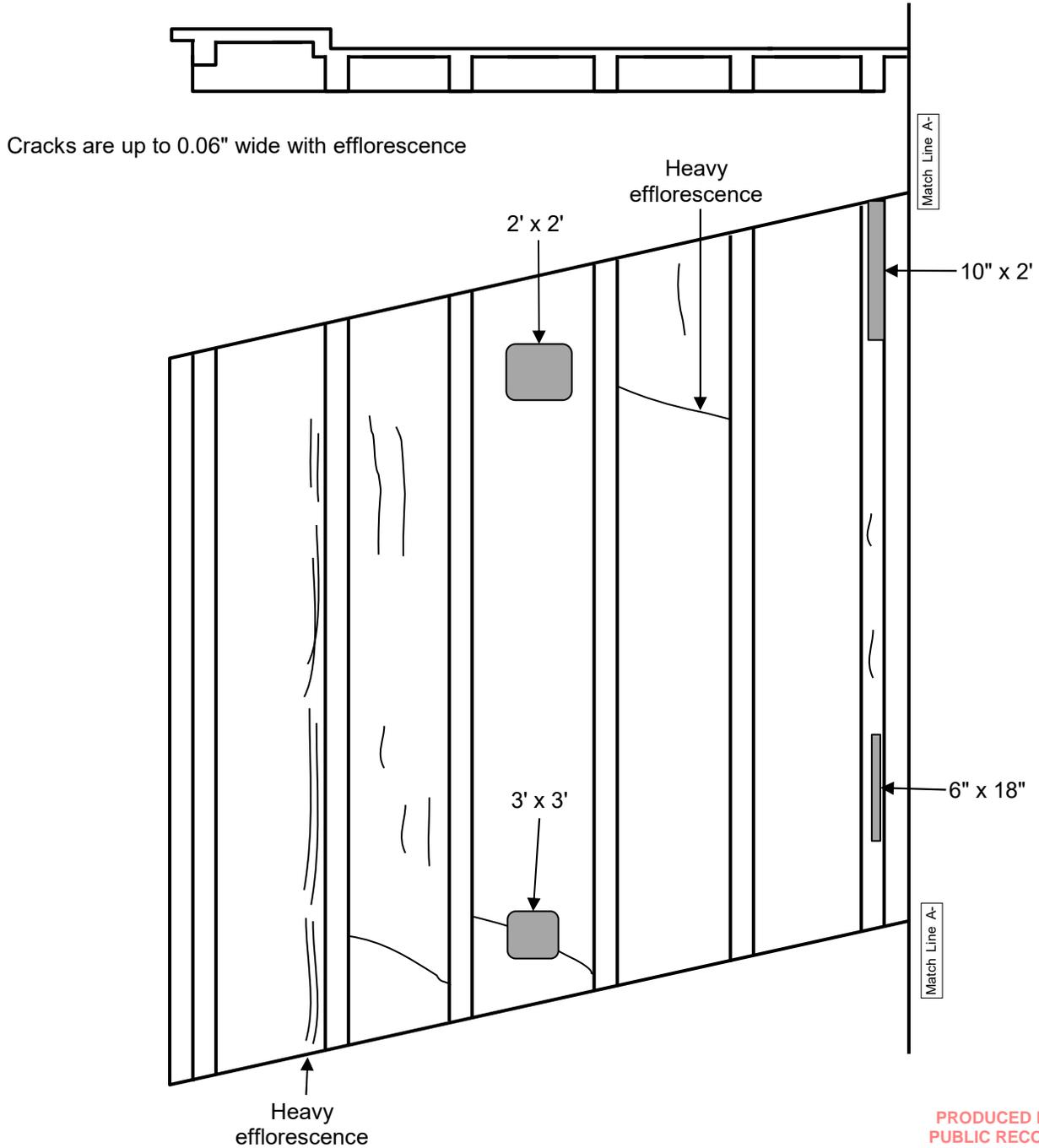


# Bottom of Deck Span No. 3L

Date October 12, 2023

Bridge Location No. 16 SR002 14.28  
 County Route Log Mile

Legend:	Cracking		Repairs		(light vertical)
	Spalling		Voids		(large checker board)
	Scaling		Dimensions are noted as		
	Delamination		 X  X depth		

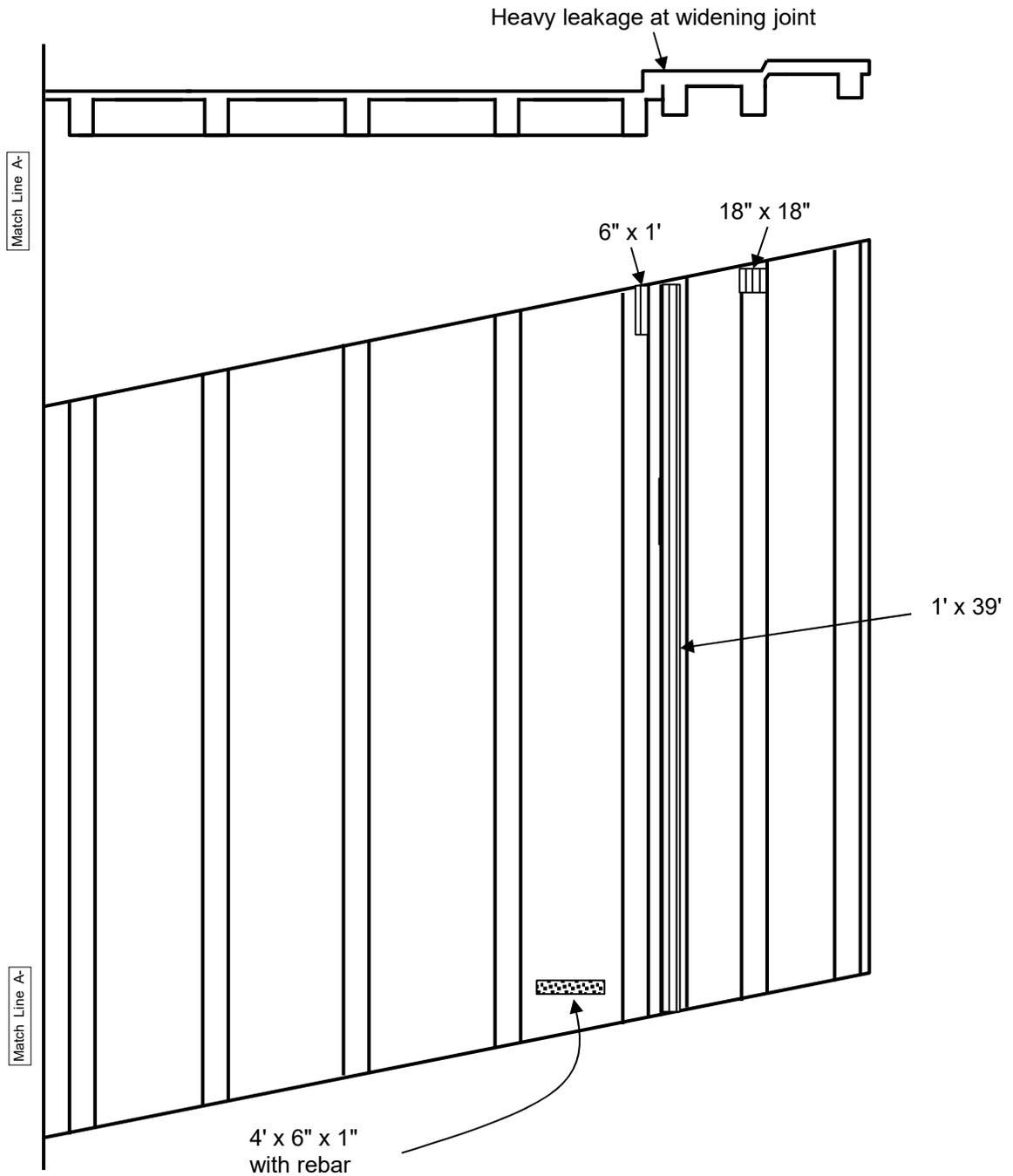


# Bottom of Deck Span No. 3R

Date October 12, 2023

Bridge Location No. 16 SR002 14.28  
 County Route Log Mile

Legend:	Cracking		Repairs		(light vertical)
	Spalling		Voids		(large checker board)
	Scaling		Dimensions are noted as		
	Delamination				



# Top of Deck Span No. 4

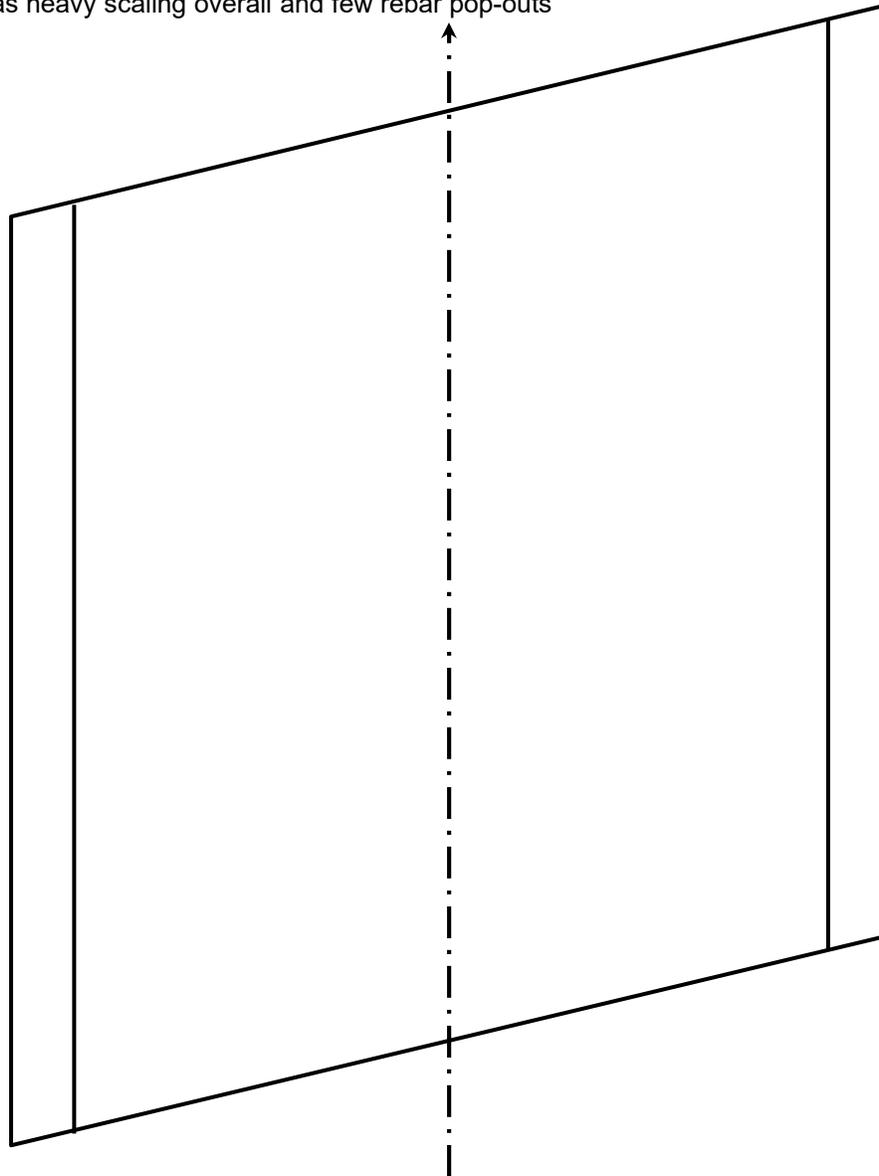
Date October 12, 2023

Bridge Location No. 16 SR002 14.28  
County Route Log Mile

Cracking			Repairs		(light vertical)
Spalling		(confetti)	Voids		(large checker board)
Scaling		(10% dots)	Dimensions are noted as		
Delamination		(40% gray)			

Sidewalks have large areas of heavy to severe scaling with some delamination

Bridge railing has heavy scaling overall and few rebar pop-outs



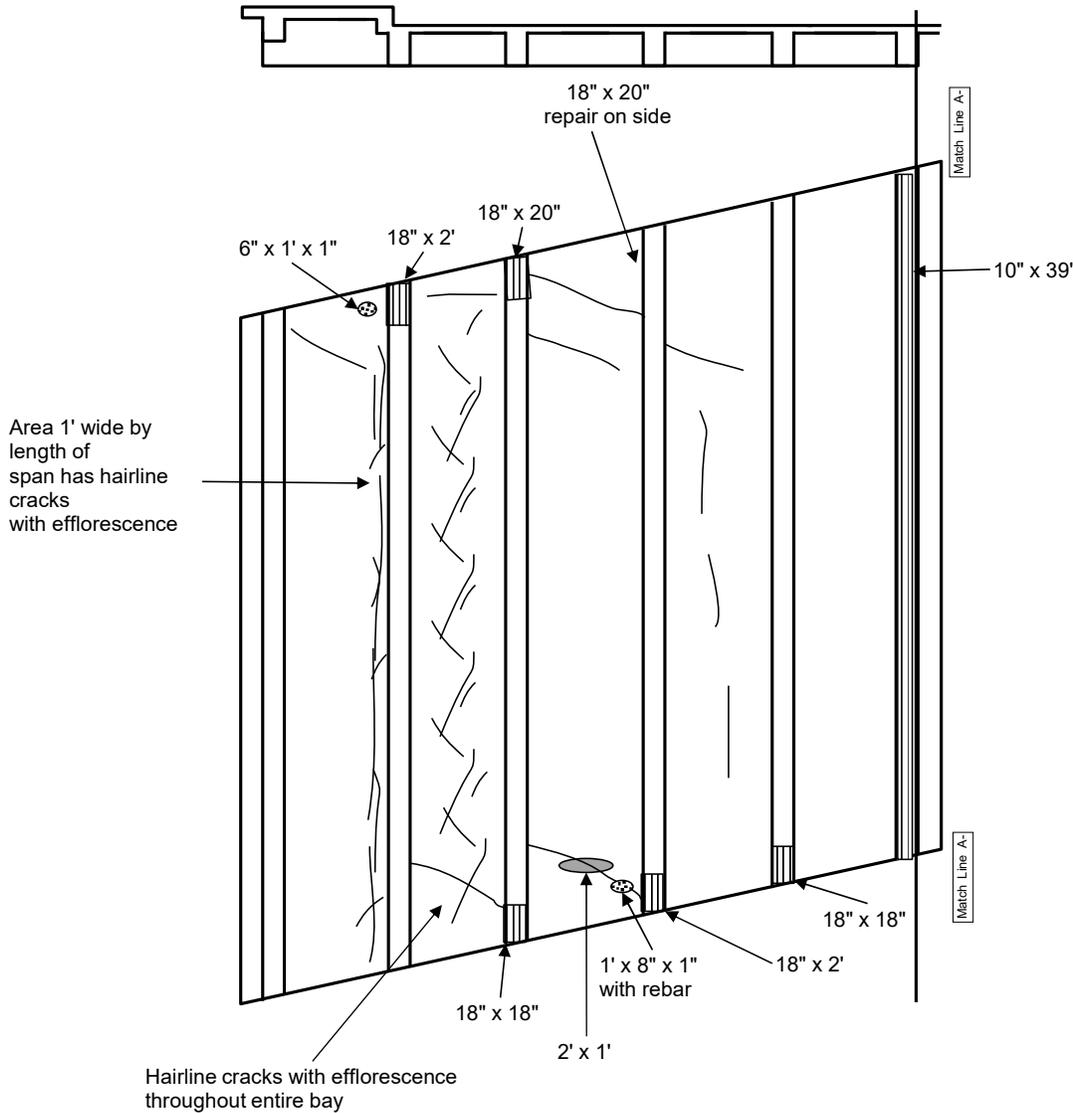
Bottom of Deck Span No. 4L

Date October 12, 2023

Bridge Location No. 16 SR002 14.28  
 County Route Log Mile

Legend:	Cracking		Repairs		(light vertical)
	Spalling		Voids		(large checker board)
	Scaling		Dimensions are noted as		
	Delamination		↔ X    ↑ X depth		

All cracks are hairline with efflorescence



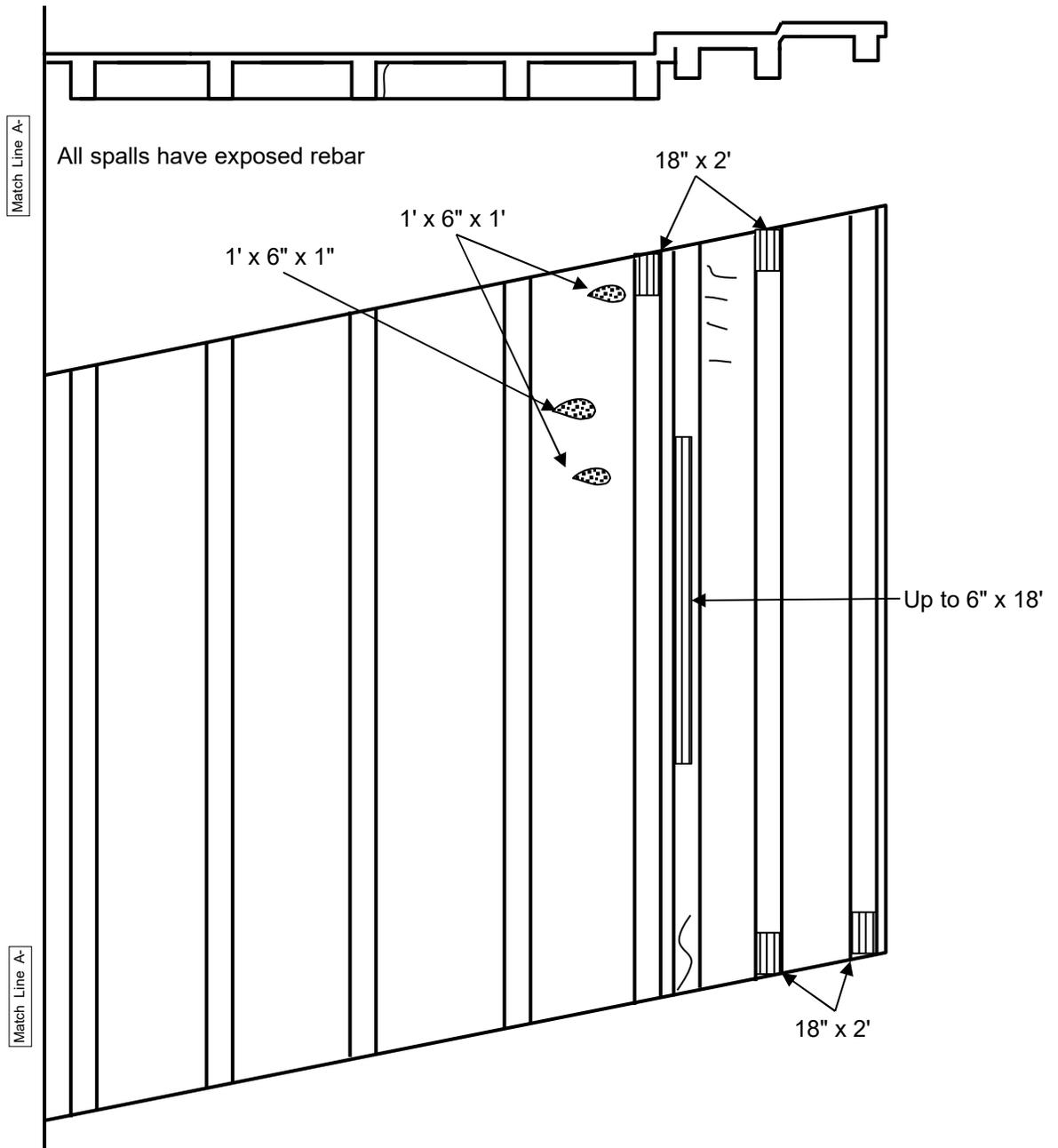
# Bottom of Deck Span No. 4R

Date October 12, 2023

Bridge Location No. 16 SR002 14.28  
 County Route Log Mile

Legend:	Cracking		Repairs		(light vertical)
	Spalling		Voids		(large checker board)
	Scaling		Dimensions are noted as		
	Delamination		 X  X depth		

Heavy leakage at widening joint



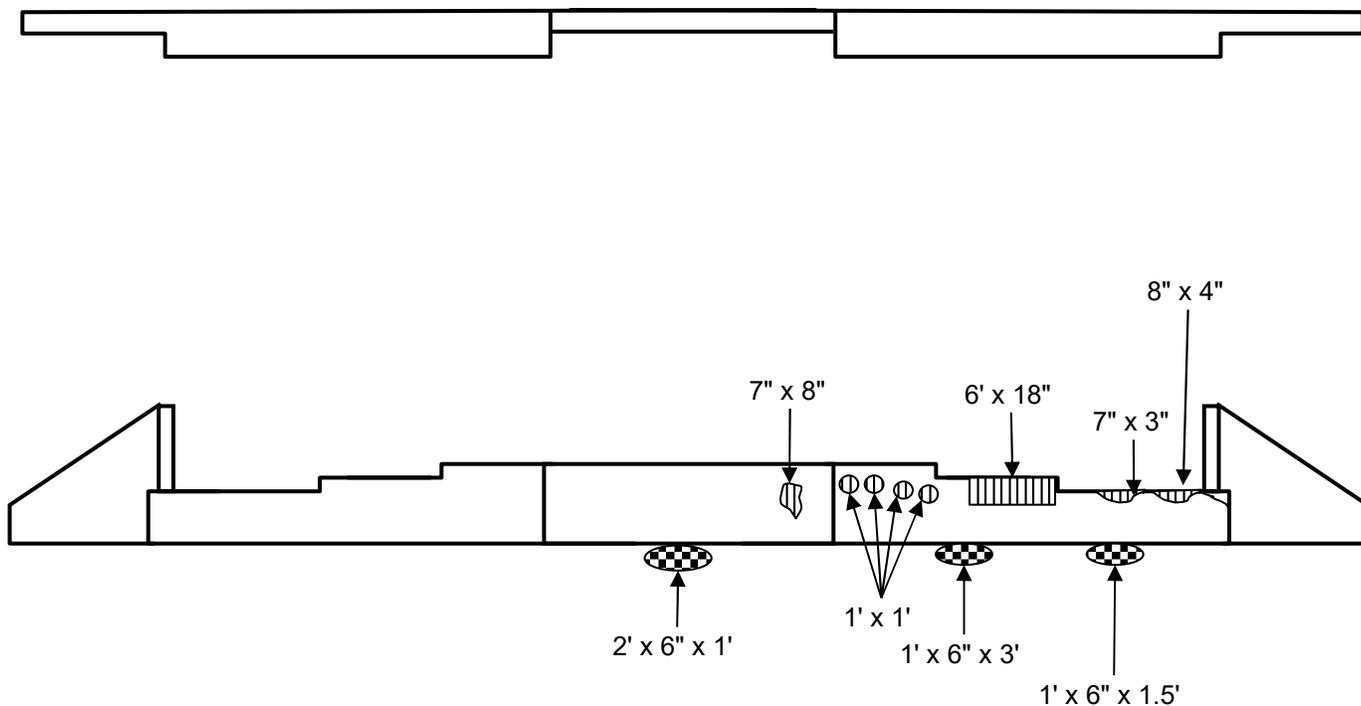
# Abutment No. 1

Date October 12, 2023

Bridge Location No. 16 SR002 14.28  
 County Route Log Mile

Legend:	Cracking		Repairs		(light vertical)
	Spalling		Bearings		(light upward diagonal)
	Scaling		Voids		(large checker board)
	Delamination		Dimensions are noted as		
					X
					X depth

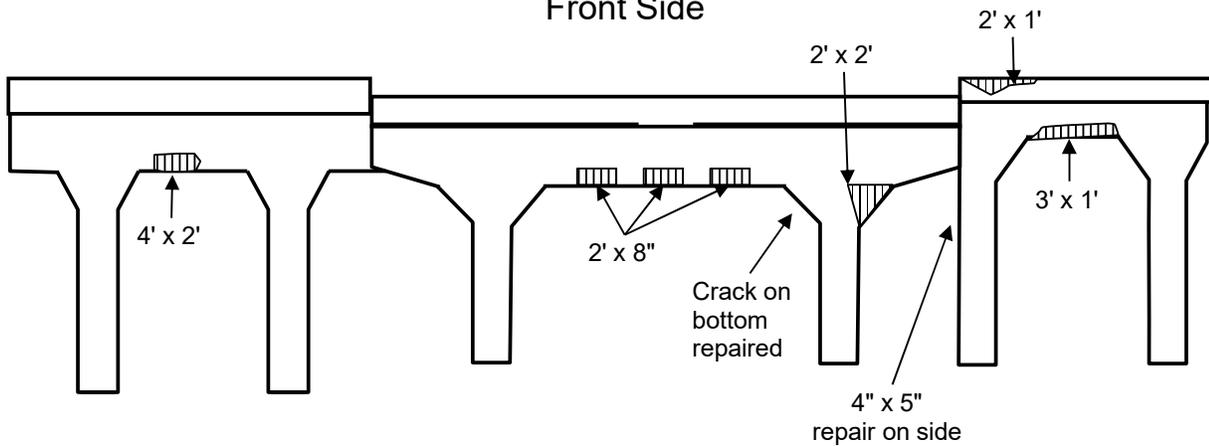
cracks are hairline



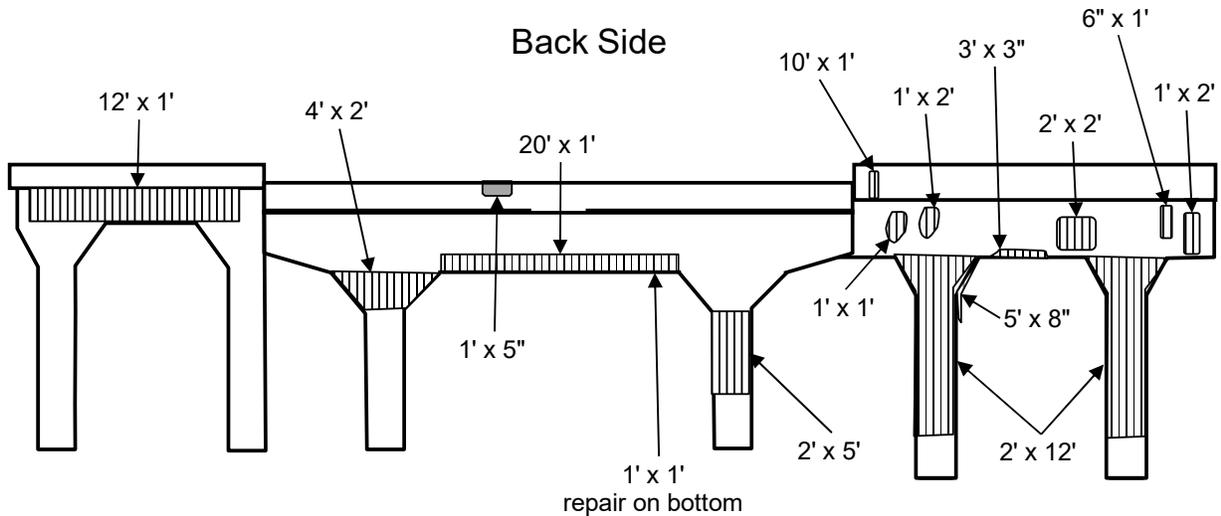
Bridge Location No. 16 SR002 14.28  
 County Route Log Mile

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

Front Side



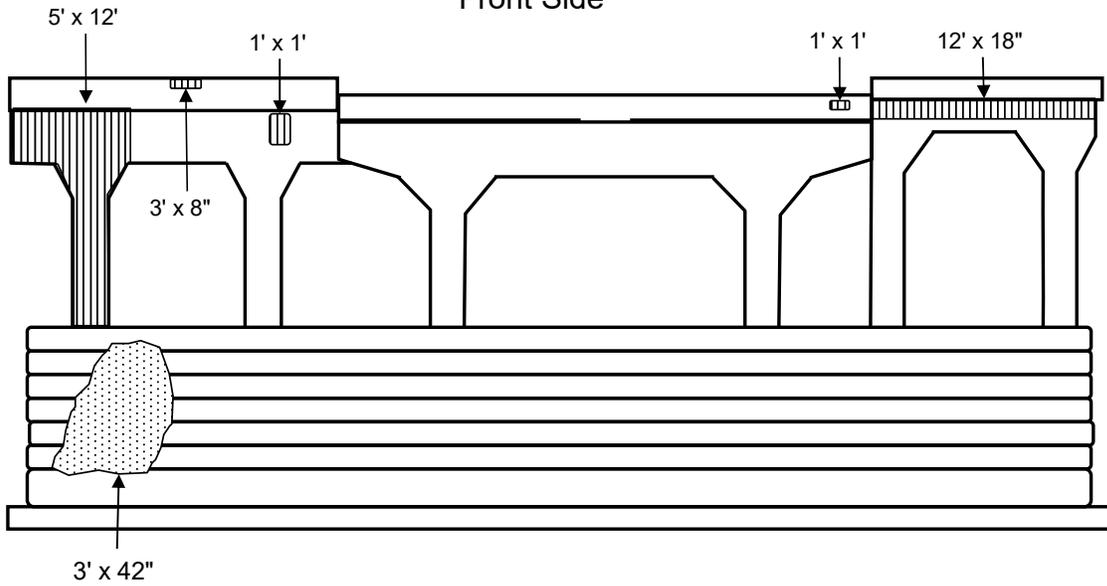
Back Side



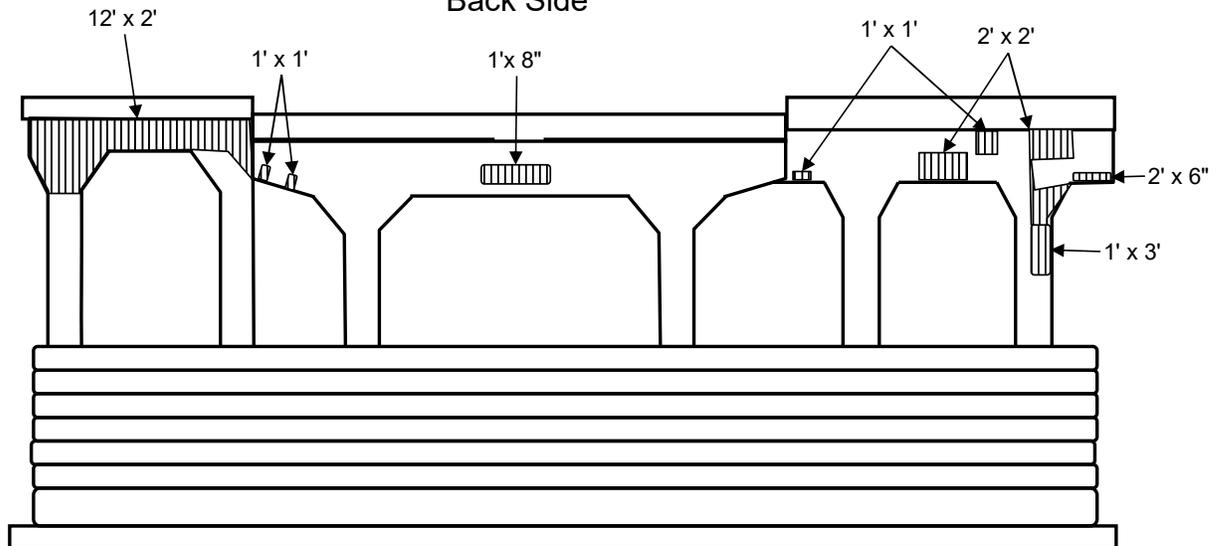
Bridge Location No. 16 SR002 14.28  
 County Route Log Mile

Legend:	Cracking		Repairs		(light vertical)
	Spalling		Bearings		(light upward diagonal)
	Scaling		Voids		(large checker board)
	Delamination		Dimensions are noted as	← X ↑ X depth	

Front Side



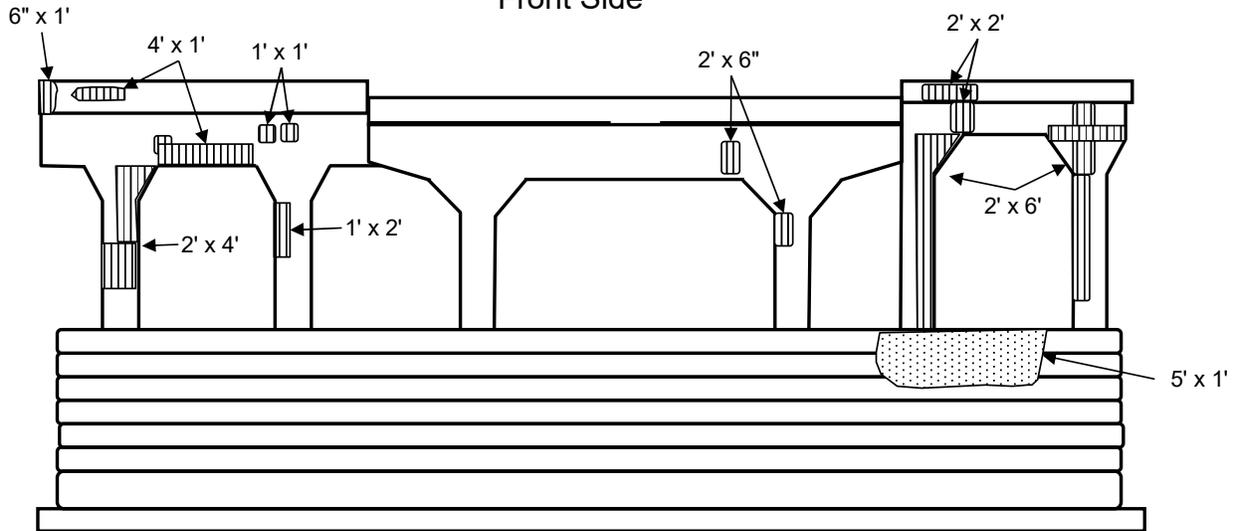
Back Side



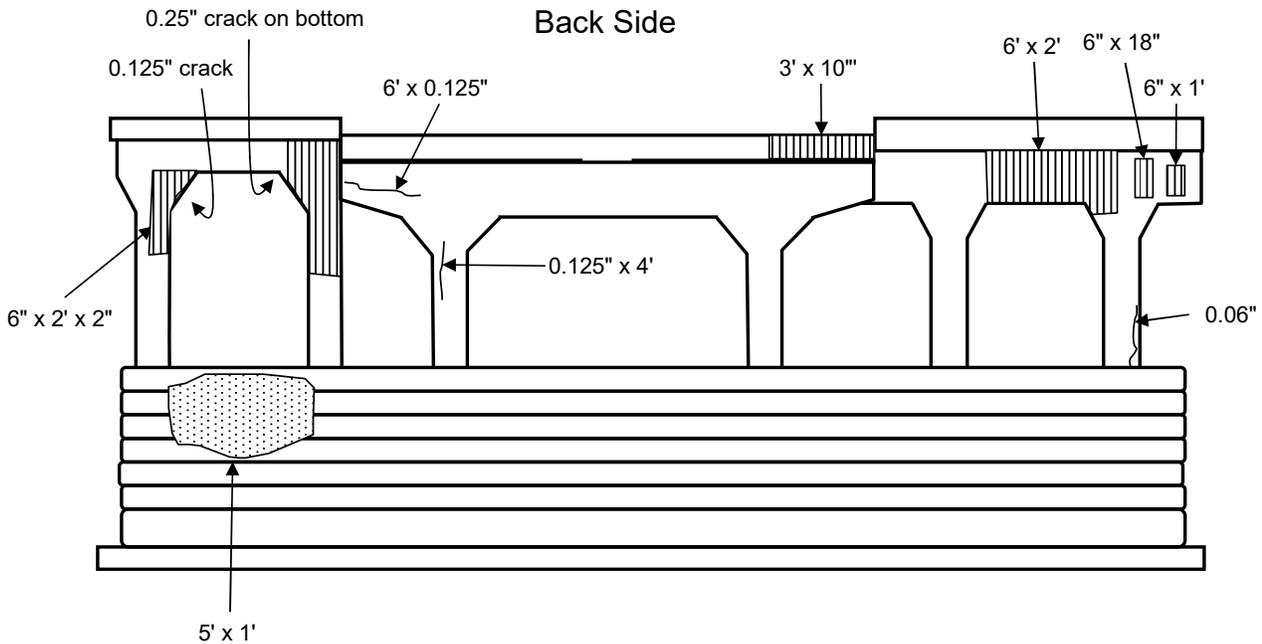
Bridge Location No. 16 SR002 14.28  
 County Route Log Mile

Legend: Cracking		Repairs		(light vertical)
Spalling		Bearings		(light upward diagonal)
Scaling		Voids		(large checker board)
Delamination		Dimensions are noted as	← X ↑ X depth	

Front Side



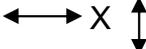
Back Side



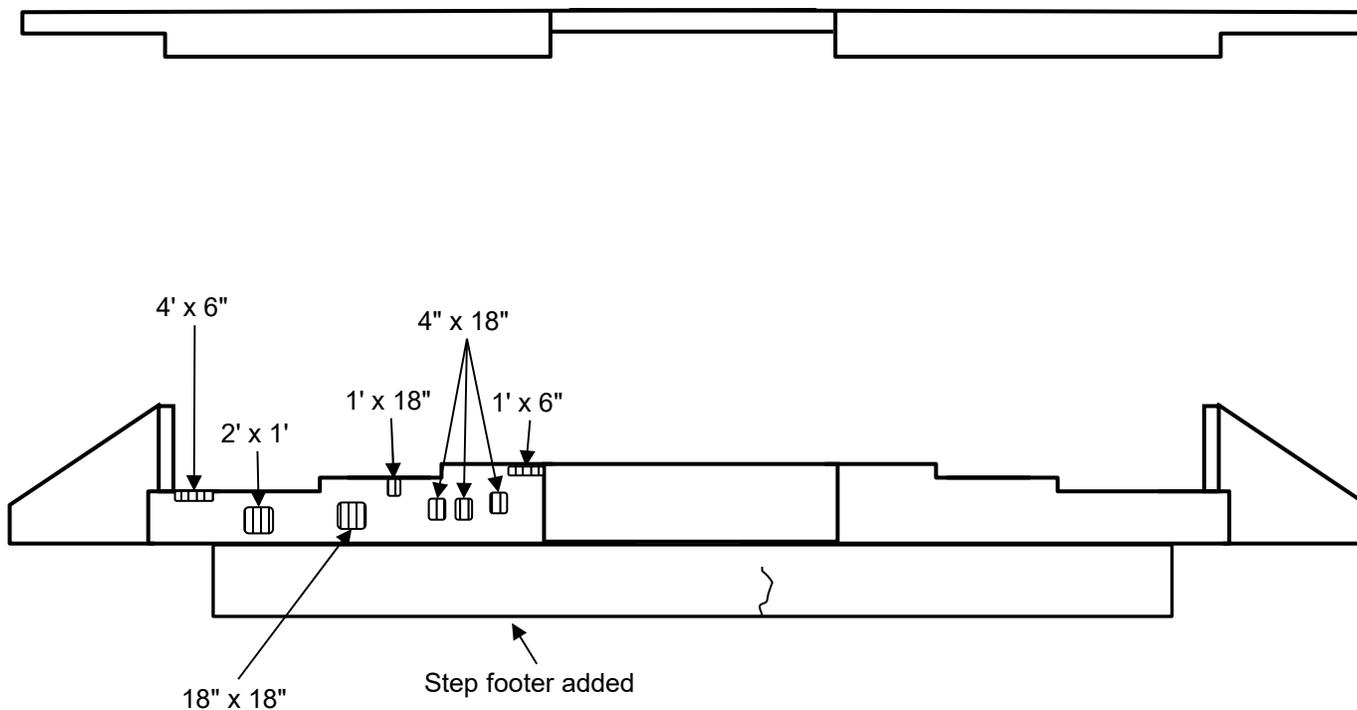
# Abutment No. 2

Date October 12, 2023

Bridge Location No. 16 SR002 14.28  
 County Route Log Mile

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

All cracks are hairline unless otherwise noted



Form BIR 3.10

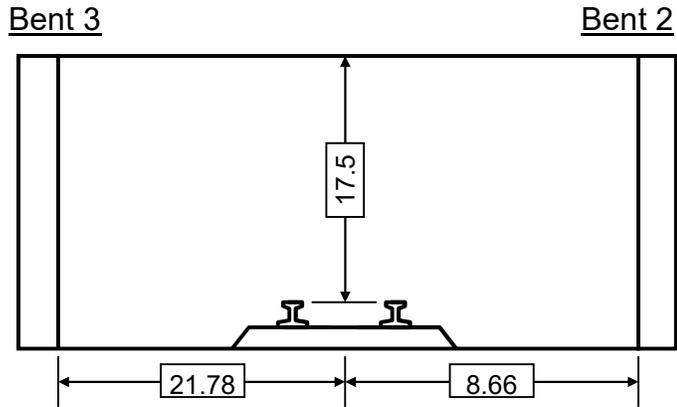
REVISED 6-9-92

Date October 12, 2023

Bridge Location No. 16 SR002 14.28  
County Route Log Mile

**NOTE: ALL DISTANCES AND ELEVATIONS ARE IN FEET.**

**Lateral and Vertical Clearances for CFW Railroad**



## Equipment List

### General Inspection

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

### Visual Aid

- Binoculars
- Flashlight
- Magnifying glass
- Hand mirror

### Cleaning

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

### Tools For Access

- Ladders
- Rope
- Waders
- Machete or bush axe

### Comment

### Tools For Measuring

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

### Special Purpose Equipment

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

### Special Purpose Equipment

- Laser measurer

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
16	Re Conc Top Flange	SF	13182	10435	22	2725	0
1080	Delamination/Spall/Patched Area	SF	35	0	19	16	0
1120	Efflorescence/Rust Staining	SF	400	0	3	397	0
1130	Cracking (RC and Other)	SF	50	0	0	50	0
1190	Abrasion/Wear(PSC/RC)	SF	2262	0	0	2262	0
510	Wearing Surfaces	SF	10920	10920	0	0	0
3220	Crack (Wearing Surface)	SF	650	650	0	0	0
(16) Element record added 2016-03-01.							
(1080-16) Element record added 2016-03-01.							
(1120-16) Element record added 2016-03-01.							
(510-16) Element record added 2016-03-01.							
110	Re Conc Opn Girder/Beam	LF	2184	1875	296	13	0
1080	Delamination/Spall/Patched Area	LF	286	0	286	0	0
1120	Efflorescence/Rust Staining	LF	12	0	0	12	0
1130	Cracking (RC and Other)	LF	13	2	10	1	0
(110) Element record added 2016-03-01.							
(1080-110) Element record added 2016-03-01.							
(1120-110) Element record added 11/9/2021							
205	Re Conc Column	EA	18	8	9	1	0
1080	Delamination/Spall/Patched Area	EA	8	0	8	0	0
1130	Cracking (RC and Other)	EA	2	0	1	1	0
(205) Element record added 11/14/2017							
210	Re Conc Pier Wall	LF	198	190	8	0	0
1190	Abrasion/Wear(PSC/RC)	LF	8	0	8	0	0
(210) Element record added 2016-03-01.							
215	Re Conc Abutment	LF	242	156	86	0	0
1080	Delamination/Spall/Patched Area	LF	31	0	31	0	0
6000	Scour	LF	55	0	55	0	0
(215) Element record added 2016-03-01.							
(1080-215) Element record added 2016-03-01.							
234	Re Conc Pier Cap	LF	297	213	76	8	0
1080	Delamination/Spall/Patched Area	LF	76	0	76	0	0

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ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
1130	Cracking (RC and Other)	LF	8	0	0	8	0
	(234) Element record added 2016-03-01.						
	(1080-234) Element record added 2016-03-01.						
302	Compressn Joint Seal	LF	169	0	0	169	0
2310	Leakage	LF	169	0	0	169	0
	(302) Element record added 11/14/2017						
310	Elastomeric Bearing	EA	112	0	112	0	0
1000	Corrosion	EA	112	0	112	0	0
	(310) Element record added 2016-03-01.						
	(1000-310) Element record added 2016-03-01.						
311	Moveable Bearing	EA	28	0	28	0	0
1000	Corrosion	EA	28	0	28	0	0
	(311) Element record added 2016-03-01.						
	(1000-311) Element record added 2016-03-01.						
331	Re Conc Bridge Railing	LF	312	275	37	0	0
1090	Exposed Rebar	LF	25	0	25	0	0
1130	Cracking (RC and Other)	LF	100	88	12	0	0
	(331) Element record added 2016-03-01.						
	(1090-331) Element record added 11/9/2021						
	(1130-331) Element record added 11/9/2021						