

SCDOT BRIDGE INSPECTION FORM

(008) BRIDGE ID: 3210002600400			(005) ROUTE: LEXINGTON I-26		
(420) ASSET NO: 3022			(006) CROSSING: SALUDA RIVER		
(419) RAMP NO:			(009) LOCATION: 4 MI W OF COLA		
(026) FUNCTIONAL CLASS: 11			(016) LAT: 34d 1m 25.46s (017) LON: 81d 6m 13.04s		
GENERAL BRIDGE DATA					
EXISTING REVISED			EXISTING REVISED		
(027) Year Built	1959		(042) Type Serv; On(A) Und(B)	1	5
(106) Year Recon	1985		(028) Lanes; On(A) Und(B)	4	0
(031) Design Load	6		(107) Deck Struct	1	
(36A) Railings	0		(108) Wear Surf/Membrane/Prot	1 0 0	
(36B) Transitions	1			MAT-SUP-SUB	MAT-SUP-SUB
(36C) Appr Guard	1		(043) Main Original (A)	5 2 1	
(36D) Appr Guard End	1		Main Reconst (B)	5 02 1	
(037) History	5		(044) Appr Orginal (A)	0 00 0	
(319) Last Paint Date			Appr Reconst (B)	0 00 0	
GEOMETRIC DATA					
EXISTING REVISED			EXISTING REVISED		
(032) Appr Rdway	114		FT IN FT IN		
(033) Bridge Median	3		(053) Vert Clr Above Deck	99 99	
(034) Skew	40		(54A) Vert Clear Ref	N	
(035) Flared	0		(54B) Vert Clear Right	0 0 0 0	
(045) # Main Spans	10		(54C) Vert Clear Left	0 0 0 0	
(046) # Appr Spans	0		(10A) Great Min Clr Over/Und	99 99	
(048) Max Span Lgth	70		(10B) Great Min Right	99 99	
(308) Appr Span Lgth	0		(10C) Great Min Left	99 99	
(049) Struct Length	700				
(47A) Horz Clear Right	40		(55A) Lat Clear Ref	N	
(47B) Horz Clear Left	40.41		(55B) Lat Clear Right	0	
(47UA) Horz Clear Right	0	0	(056) Lat Clear Left	0	
(47UB) Horz Clear Left	0	0			
(50B) Sidewalk Right	0		(038) Navigation Cont	0	
(50A) Sidewalk Left	0		(039) Nav Vert Clear	0	
(051) Curb to Curb	114.50		(040) Nav Horz Clear	0	
(052) Deck Out-Out	122.80		(111) Nav Pier Port		
RATINGS DATA					
EXISTING REVISED			EXISTING REVISED		
(58) Deck	6		(041) Traffic Status	A	
(59) Super Str	6		(063) Rating Method	8	
(60) Sub Str	6		(064) Operating Method	0.89	
(061) Channel	8	7	(065) Rating Method	8	
(062) Culv Ret	N		(066) Inventory Rating	0.68	
(071) Water Adeq	9		(411) Date Rated	05/2020	
(072) Appr Rdway	8		(418) Conditions During Rating	7 6 7	
(113) Scour Critical	5		Freq Mth/Year Freq Mth/Year		
(067) Structure	5		(091, 090) Routine Insp	24 11/2021	
(068) Deck Geom	9		(92A, 93A) Fracture Critical	N	
(069) Underclear	N		(92B, 93B) Underwater Insp	Y60 10/2017	Y48 11/2022
(070) Bridge Post	5		(92C, 93C) Special Insp	N	
Inspection Leader: JAKE COCHRAN, CONSOR			Reviewed By:		
Date:			Date:		

Bridge Element Group Textual Data

Bridge ID: 32-1-00026-0-04-00

30 Dec 2022

Abutments and/or Headwalls:

44" x 30" RC abutment.

Water seeping through construction joints between top of cap and bottom of headwall. Spall with exposed rebar in wingwall, North end, right side [5"L x 5"W x 1/2" deep]

Bents and/or Piers:

up to 4' x 5' RC cap with [6] RC columns at each interior bent. Pier walls between columns 1 through 3.

Hairline to 0.04" cracks several with efflorescence and spalls, several with rust and exposed rebar in caps, (see sketch sheet). Throughout Pier walls diagonal hairline cracks with efflorescence staining. Throughout pier walls abrasion up to 1/8" with no loose aggregate. Dirt and debris on caps. Throughout Columns abrasion up to 1/8" with no loose aggregate.

Bearings:

Steel bearings at beams 1-10 at abutments.
Elastomeric bearings throughout rest of bridge.

Steel bearings at beams 1-10 at abutments, corrosion with pack rust up to 1/4" and pitting up to 1/16"

Girders/Floor Beams/Stringers and/or Beams:

[19] RC beams on each span.

Hairline cracks and spalls with exposed strands throughout beams (see sketch sheet). Hairline cracks and spalls up to 3" x 3" x 1/2" with exposed rebar in diaphragms.

Truss Members:

N/A

Expansion Joints:

Compression and pourable joint material at all interior bents.

Expansion joints have loss of adhesion throughout bridge [See sketch sheets].

Decks and/or Slabs:

8.25" RC deck.

Throughout deck, cracking up to .04"W, abrasion, and spalls/failed patches with exposed rebar. [See sketch sheet]

Throughout Underside of deck, longitudinal and traverse cracking up to hairline with efflorescence staining.

Curbs:

N/A

Bridge Railing/Parapets and/or Median Barriers:

32" RC Parapets and Median Barriers.

WBL of I-26, East end, at construction joint, spall up to 12"L x 12"T x 5" deep with exposed rebar with no section loss. Throughout parapets, Hairline cracks most with efflorescence staining. Throughout parapets at expansion joints [8] spalls up to 10"L x 10"T x 4" deep.

Paint Systems:

Paint system on Steel bearings

Paint has failed on bearings and allowed corrosion with pack rust and pitting.

Waterway and Scour:

Saluda River running underneath bridge.
Steady moving river.

Refer to Underwater Inspection Report for additional waterway information

See Scour sheet

Underwater Inspection performed on 11/21/2022, See Underwater Bridge Inspection Report.

Fender System:

N/A

Roadway Alignment:

RC approach slab on widened section of bridge. Throughout both approach slabs, [19] spalls up to 5"L x 5"W x 1/2" deep. Throughout both approach slabs longitudinal and diagonal cracking up to 1/16"W. Straight no reduction in speed needed.

Traffic Signs:

[1] bridge end marker in place on each approach side.
[1] crash attenuator in place on Northbound lanes.

Encroachments:

6-4" telephone ducts attached to underside of deck between beams 9 and 10.
2-2" metal pipes on left side, attached to parapet wall.

Miscellaneous Notes:

I-26 M/M 108. 'Walter P. Rawl Bridge' memorial plaques on both approaching ends of bridge, right side with traffic.

BRIDGE ORIENTAITON: Labeling diagram orientation is opposite direction from the historic orientation of the bridge (N-S)

Bridge Asset ID is located on the (NW) corner of the bridge.

Bridge Inspected on 11/22/2021. Cloudy 36°degrees.

BITL: Eric Beach, Collins Engineers, Inc.

Assistant(s): Douglas McLendon, Mikayla Young, Jonathan Little.

Underwater Inspection performed on November 21, 2022. Sunny, 48°F.

BITL: Jake Cochran, PE

Assistants: Andrew Harrison, Scott Rowe, Wesley Trescott

Bridge Element Level Data

30 Dec 2022

Element No	Element Name/Description	Units	Env	Defect	Quantity in Each Condition State				Total Qty
					<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	
109	Prestressed Concrete Open Girder/Beam	feet	4	Yes					
109	Delamination/Spall/Patched Area	feet	4	1080	0	5	6	0	11
109	Cracking (PSC)	feet	4	1110	0	355	0	0	355
109	Prestressed Concrete Open Girder/Beam	feet	4	Yes	12934	360	6	0	13300
12	Reinforced Concrete Deck	sq feet	4	Yes					
12	Delamination/Spall/Patched Area	sq feet	4	1080	0	400	70	0	470
12	Efflorescence/Rust Staining	sq feet	4	1120	0	85	0	0	85
12	Cracking (RC and Other)	sq feet	4	1130	0	1720	0	0	1720
12	Reinforced Concrete Deck	sq feet	4	Yes	83706	2205	70	0	85981
205	Reinforced Concrete Column	each	4	Yes					
205	Delamination/Spall/Patched Area	each	4	1080	0	0	1	0	1
205	Exposed Rebar	each	4	1090	0	0	1	0	1
205	Abrasion/Wear (PSC/RC)	each	4	1190	0	51	1	0	52
205	Reinforced Concrete Column	each	4	Yes	0	51	3	0	54
215	Reinforced Concrete Abutment	feet	1	No	313	0	0	0	313
220	Reinforced Concrete Pile Cap/Footing	feet	2	Yes					
220	Delamination/Spall/Patched Area	feet	2	1080	0	0	3	0	3
220	Scour	feet	2	6000	0	227	0	4	231
220	Reinforced Concrete Pile Cap/Footing	feet	2	Yes	0	227	3	4	234
234	Reinforced Concrete Pier Cap	feet	4	Yes					
234	Delamination/Spall/Patched Area	feet	4	1080	0	6	25	0	31
234	Exposed Rebar	feet	4	1090	0	3	5	0	8
234	Efflorescence/Rust Staining	feet	4	1120	0	34	0	0	34
234	Cracking (RC and Other)	feet	4	1130	63	0	0	0	63
234	Reinforced Concrete Pier Cap	feet	4	Yes	1351	43	30	0	1424
301	Pourable Joint Seal	feet	3	Yes					
301	Seal Adhesion	feet	3	2320	0	295	180	0	475
301	Pourable Joint Seal	feet	3	Yes	0	295	180	0	475
302	Compression Joint Seal	feet	3	Yes					
302	Seal Adhesion	feet	3	2320	0	117	205	0	322
302	Compression Joint Seal	feet	3	Yes	548	117	205	0	870

310	Elastomeric Bearing	each	3	No	360	0	0	0	360
313	Fixed Bearing	each	3	Yes					
313	Corrosion	each	3	1000	0	0	20	0	20
313	Fixed Bearing	each	3	Yes	0	0	20	0	20
321	Reinforced Concrete Approach Slab	sq feet	2	Yes					
321	Delamination/Spall/Patched Area	sq feet	2	1080	0	19	0	0	19
321	Cracking (RC and Other)	sq feet	2	1130	241	119	0	0	360
321	Reinforced Concrete Approach Slab	sq feet	2	Yes	5886	138	0	0	6024
331	Reinforced Concrete Bridge Railing	feet	2	Yes					
331	Delamination/Spall/Patched Area	feet	2	1080	0	0	9	0	9
331	Efflorescence/Rust Staining	feet	2	1120	0	291	0	0	291
331	Cracking (RC and Other)	feet	2	1130	72	0	0	0	72
331	Reinforced Concrete Bridge Railing	feet	2	Yes	2500	291	9	0	2800

1.0 INTRODUCTION

1.1 Purpose and Scope

SCDOT Asset ID 03022 carries I-26 over Saluda River in Lexington County. On November 21, 2022, Consor Engineers, LLC performed a routine underwater investigation at the bridge to evaluate the condition of all substructure units (SSUs) located in the water. This report includes a general description of the structure and the method of investigation, as well as a detailed description of the conditions noted. In addition, this report contains an element level condition assessment of the bridge components evaluated and presents recommendations for structural repairs.

The scope of the investigation included a visual inspection of all accessible substructure units located in the water from the high-water mark to the channel bottom. Depth soundings were also taken along the upstream and downstream fascias of the bridge to assist in the identification and documentation of scour conditions.

The underwater investigation generally consisted of a Level I, "swim-by," visual inspection over 100 percent of the accessible substructure unit surfaces from the high-water mark to the channel bottom. A Level II visual/tactile inspection was performed on at least 10 percent of the substructure units, which included cleaning marine growth at the waterline, mid-depth, and channel bottom to facilitate an evaluation of the underlying surfaces. Particular attention was given to any observed areas of excessive deterioration or apparent distress, and the condition of any repairs was noted.

An assessment of the waterway and streambed conditions in the vicinity of the bridge was conducted. The channel bottom material was noted, as well as the location and extent of any observed scour, riprap or debris.

The location of the waterline with respect to a fixed reference on the bridge was noted at the time of the inspection. Depth soundings were taken along the bridge fascias and around each substructure unit using a digital depth sounder.

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1.2 General Description of the Structure

A description of the bridge that was inspected can be found in Table 1. Refer to Figures 1 through 3 for a plan and elevation of the bridge and the typical substructure layout.

Table 1: Bridge Description

Date of As-Built Plans:	Original: May 1959 Widening: January 1986
Length of Bridge:	700 ft.
Number of Spans:	10
SSUs Inspected:	Bents 4 through 9
Superstructure Type:	Prestressed Concrete Girders
Substructure Type:	Reinforced Concrete Columns
Foundation Type:	Reinforced Concrete Spread Footings with Reinforced Concrete Pile Cap/Footings at Bents 4 and 7
Direction of Stationing:	North to South

1.3 Evaluation of Conditions Encountered

A summary of the environmental conditions encountered during the inspection can be found in Table 2.

Table 2: Environmental Conditions

Tidal: Yes/No	No
Time of Soundings (if tidal):	N/A
Tide Status:	N/A
Maximum Water Depth:	20.0 ft. @ D/S Bent 6
Maximum Current:	1.0 fps
Visibility:	3.0 ft.
Weather:	Sunny, 48°F
Waterline Reference:	19.2 ft. Below Top of Deck, D/S Bent 7
Reference Point Elevation:	181.9 (Plans)
Waterline Elevation:	162.7
High Water Elevation:	165.7

1.4 Access and Procedures

A dive team led by a South Carolina-registered professional engineer-diver conducted the underwater inspection. All members of the team are ADCI commercial divers with associated required NHI training courses. Refer to Table 3 for the list of team members that conducted the inspection and to Table 4 for a summary of the access methods and equipment used to inspect the bridge.

Table 3: Inspection Team

Engineer/Team Leader:	Jake Cochran, PE
	Scott Rowe, EI
Divers/Inspectors:	Andrew Harrison
	Wesley Trescott

Table 4: Inspection Access

Method of Inspection:	Commercial SCUBA
Dive Platform:	Boat
Access Location:	Holly Ridge Ln: Latitude: 34.022781° N Longitude: 81.104928° W
Equipment Required:	Standard underwater inspection equipment

2.0 INSPECTION FINDINGS

2.1 Item 61: Channel

Based on the Routine Inspection, the NBI Item 61 (Channel and Channel Protection) condition rating is 8.

Based on the Underwater Inspection, the NBI Item 61 condition rating is 7.

NBI Item 61 should decrease to 7 based on the Underwater Inspection.

- The north embankment is covered in riprap with minor erosion trenches, up to 1 ft. deep (Photos 5 and 6).
- The south embankment is in stable condition with riprap slope protection (Photo 7).
- The stream flow angle of attack is 10-degrees but does not affect the structure.
- Throughout channel along inspected bents, timber debris, up to 2 ft. diameter logs, extending from channel bottom up 5 ft., approximately 10 CY.
- The channel bottom primarily consists of silt and organic material.

2.2 Item 113: Scour

Due to a combination of local and general scour since construction, vertical footing exposure is present at all inspected bents. There has been up to 3 ft. of channel degradation throughout the channel since the 2017 underwater inspection. Undermining was recorded at the following locations:

- Bent 8, Footing 4, northwest corner, 6 in. high x 1.8 ft. penetration.
- Bent 8, Footing 6, southeast corner, 6 in. high x 1.3 ft. penetration.

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Refer to Table 5 for a listing of the sounding measurements and to Figure 1 for an illustration of the channel bottom profiles. Refer to Table 6 for a complete listing of observed footing and seal exposures.

2.3 Item 60: Substructure

Based on the Routine and Underwater Inspections, the NBI Item 60 (Substructure) condition rating is 6.

NBI Item 60 should remain as assigned by the Routine Inspection.

General Notes:

- All inspected bents, from high watermark to channel bottom, abrasion, up to 1/8 in. deep, with exposed secure aggregate (Photos 9 and 10). [CS2]

Bent 4								
Element	Defect	Element/Defect Description	Total Qty.	Units	Condition State Quantity			
					CS1	CS2	CS3	CS4
205		Reinforced Concrete Columns	6	EA		6		
	1190	Abrasion/Wear	6	EA		6		
220		Reinforced Concrete Pile Cap/Footing	9	LF		9		
	6000	Scour	9	LF		9		

- Column 1, west face, 2.5 ft. above channel bottom, rebar protruding from column.

Bent 5								
Element	Defect	Element/Defect Description	Total Qty.	Units	Condition State Quantity			
					CS1	CS2	CS3	CS4
205		Reinforced Concrete Columns	6	EA		6		
	1190	Abrasion/Wear	6	EA		6		
220		Reinforced Concrete Pile Cap/Footing	37	LF		37		
	6000	Scour	37	LF		37		

- No additional deficiencies observed.

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Bent 6								
Element	Defect	Element/Defect Description	Total Qty.	Units	Condition State Quantity			
					CS1	CS2	CS3	CS4
205		Reinforced Concrete Columns	6	EA		6		
	1190	Abrasion/Wear	6	EA		6		
220		Reinforced Concrete Pile Cap/Footing	47	LF		47		
	6000	Scour	47	LF		47		

- No additional deficiencies observed.

Bent 7								
Element	Defect	Element/Defect Description	Total Qty.	Units	Condition State Quantity			
					CS1	CS2	CS3	CS4
205		Reinforced Concrete Columns	6	EA		5	1	
	1190	Abrasion/Wear	6	EA		5	1	
220		Reinforced Concrete Pile Cap/Footing	29	LF		28	1	
	1080	Spalls/Delaminations/Patch Areas	1	LF			1	
	6000	Scour	28	LF		28		

- Column 4, northeast corner, at column/footing interface, area of poor consolidation, 3 in. high x 10 in. wide x 2 in. deep. [CS3]
- Footing 4, northeast corner, top of footing, spall, 3 in. long x 5 in. high x 1.5 in. deep. [CS3]

Bent 8								
Element	Defect	Element/Defect Description	Total Qty.	Units	Condition State Quantity			
					CS1	CS2	CS3	CS4
205		Reinforced Concrete Columns	6	EA		4	2	
	1090	Exposed Rebar	1	EA			1	
	1080	Spalls/Delaminations/Patch Areas	1	EA			1	
	1190	Abrasion/Wear	4	EA		4		
220		Reinforced Concrete Pile Cap/Footing	71	LF		65	2	4
	1080	Spalls/Delaminations/Patch Areas	2	LF			2	
	6000	Scour	69	LF		65		4

- Footing 1, northeast corner, top of footing, spall, 6 in. long x 10 in. high x 1.5 in. deep. [CS3]

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- Column 2, south face, at column/footing interface, [3] spalls due to insufficient cover, up to 9 in. high x 3 in. wide x 1/2 in. deep, with exposed rebar, up to 20% loss (Photo 11). [CS3]
- Column 4, south face, 6 in. above footing, spall/delamination, 2 ft. high x 3.5 ft. wide x up to 2 in. deep (Photo 12). [CS3]
- Footing 5, southeast corner, 3 ft. below top of footing, spall, 6 in. wide x 10 in. high x 2 in. deep. [CS3]

Bent 9								
Element	Defect	Element/Defect Description	Total Qty.	Units	Condition State Quantity			
					CS1	CS2	CS3	CS4
205		Reinforced Concrete Columns	6	EA		6		
	1190	Abrasion/Wear	6	EA		6		
220		Reinforced Concrete Pile Cap/Footing	41	LF		41		
	6000	Scour	41	LF		41		

- No additional deficiencies observed.

Refer to Table 7 for a summary of the elements inspected and defects observed during the underwater inspection. Refer to Figures 1 and 2 for detailed inspection notes and a plan view showing the existing conditions at each of the inspected bents.

Table 5: Bridge Soundings

SSU	Upstream Fascia			Downstream Fascia		
	Waterline To Channel Bottom (ft)	Top of Deck To Waterline (ft)	Top of Deck To Channel Bottom (ft)	Waterline To Channel Bottom (ft)	Top of Deck To Waterline (ft)	Top of Deck To Channel Bottom (ft)
1/2	-	-	16.8	-	-	19.0
Bent 4	8.6	18.6	27.2	8.6	20.5	29.1
1/2	11.4	18.4	29.8	16.3	20.2	36.5
Bent 5	11.5	18.2	29.7	17.8	19.8	37.6
1/2	13.0	18.2	31.2	18.5	19.6	38.1
Bent 6	10.8	18.2	29.0	20.0	19.4	39.4
1/2	13.0	18.3	31.3	19.2	19.3	38.5
Bent 7	10.3	18.4	28.7	11.6	19.2	30.8
1/2	6.5	18.6	25.1	7.8	19.3	27.1
Bent 8	5.6	18.7	24.3	2.6	19.3	21.9
1/2	3.1	18.9	22.0	3.0	19.5	22.5
Bent 9	4.8	19.0	23.8	-	-	18.6
1/2	2.7	19.2	21.9	-	-	-
Bent 10	-	-	16.4	-	-	19.9

Note: The numbers listed in this table represent distances and not elevations. Based on the available SCDOT as-built widening plans dated January 1986, the waterline elevation at the time of the readings was 162.7 based on a measurement taken in the field and calculations using the existing plans.

Table 6: Vertical Footing/Seal Exposures

SSU	Northeast Corner (ft.)		Northwest Corner (ft.)		Southeast Corner (ft.)		Southwest Corner (ft.)	
	2017	2022	2017	2022	2017	2022	2017	2022
4-1	2.0 (F)	Covered	2.5 (F)	Covered	Covered	Covered	Covered	0.7(F)
4-2	Covered	Covered	Covered	Covered	1.0 (F)	Covered	1.0 (F)	Covered
4-3	-	Covered	-	Covered	-	Covered	-	Covered
4-4	-	Covered	-	Covered	-	Covered	-	0.5 (F)
4-5	Covered	Covered	Covered	Covered	0.0 (F)	Covered	0.2 (F)	1.0 (F)
4-6	-	Covered	-	Covered	-	2.1 (F)	-	2.0 (F)
5-1	-	Covered	-	Covered	-	0.8 (F)	-	1.1 (F)
5-2	1.5 (F)	2.0 (F)	2.4 (F)	3.0 (F)	0.6 (F)	2.5 (F)	2.4 (F)	4.0 (F)
5-3	0.5 (F)	Covered	4.0 (F)	Covered	1.0 (F)	1.4 (F)	3.0 (F)	*
5-4	Covered	0.5 (F)	Covered	3.0 (F)	Covered	3.8 (F)	Covered	4.0 (F)
5-5	1.0 (F)	1.6 (F)	2.0 (F)	1.0 (F)	1.3 (F)	1.8 (F)	3.0 (F)	0.5 (F)
5-6	0.0 (F)	0.1 (F)	0.0 (F)	*	0.6 (F)	Covered	1.0 (F)	Covered
6-1	0.3 (F)	Covered	0.3 (F)	Covered	0.3 (F)	Covered	0.3 (F)	Covered
6-2	0.8 (F)	0.5 (F)	1.0 (F)	2.8 (F)	0.8 (F)	0.1 (F)	0.8 (F)	2.1 (F)
6-3	1.5 (F)	0.5 (F)	2.0 (F)	1.8 (F)	0.5 (F)	0.5 (F)	3.0 (F)	2.0 (F)
6-4	0.5 (F)	1.8 (F)	1.0 (F)	0.5 (F)	0.5 (F)	0.5 (F)	1.5 (F)	0.5 (F)
6-5	1.5 (F)	1.0 (F)	2.5 (F)	1.0 (F)	1.0 (F)	0.2 (F)	2.5 (F)	0.5 (F)
6-6	0.0 (F)	1.0 (F)	0.0 (F)	*	0.0 (F)	0.0 (F)	0.0 (F)	*
7-1	0.0 (F)	0.0 (F)	0.0 (F)	Covered	Covered	Covered	Covered	0.0 (F)
7-2	0.4 (F)	Covered	0.1 (F)	Covered	0.3 (F)	Covered	Covered	Covered
7-3	0.4 (F)	0.0 (F)	2.4 (F)	0.0 (F)	0.0 (F)	0.0 (F)	*	0.0 (F)
7-4	0.0 (F)	0.0 (F)	0.0 (F)	2.0 (F)	0.0 (F)	0.0 (F)	0.0 (F)	2.2 (F)
7-5	1.3 (F)	1.0 (F)	0.0 (F)	0.7 (F)	0.0 (F)	*	Covered	*
7-6	-	0.0 (F)	-	0.0 (F)	-	*	-	*
8-1	2.5 (F)	2.5 (F)	5.0 (F)	0.1 (F)	4.0 (F)	2.7 (F)	0.7 (U)	1.9 (F)
8-2	3.3 (F)	2.2 (F)	2.0 (F)	3.7 (F)	3.5 (F)	2.6 (F)	3.7 (F)	3.4 (F)
8-3	3.1 (F)	1.6 (F)	0.8 (U)	3.6 (F)	2.0 (F)	0.0 (F)	3.5 (F)	*
8-4	1.5 (F)	3.7 (F)	3.5 (F)	0.5 (U)	0.0 (F)	2.0 (F)	0.0 (F)	3.9 (F)
8-5	2.3 (F)	3.7 (F)	4.3 (F)	1.8 (F)	3.0 (F)	3.9 (F)	3.0 (F)	3.7 (F)
8-6	3.5 (F)	2.7 (F)	4.0 (F)	0.5 (F)	3.0 (F)	0.5 (U)	2.0 (F)	4.1 (F)
9-1	0.7 (F)	Covered	3.0 (F)	0.1 (F)	0.0 (F)	Covered	0.0 (F)	Covered
9-2	Covered	Covered	2.0 (F)	1.6 (F)	Covered	Covered	Covered	Covered
9-3	1.0 (F)	1.9 (F)	0.7 (F)	1.9 (F)	0.5 (F)	1.7 (F)	0.5 (F)	0.9 (F)
9-4	2.0 (F)	1.0 (F)	2.0 (F)	0.2 (F)	0.0 (F)	1.4 (F)	0.8 (F)	0.5 (F)
9-5	Covered	Covered	1.5 (F)	1.1 (F)	*	Covered	*	Covered
9-6	Covered	0.5 (F)	0.5 (F)	2.5 (F)	Covered	Covered	Covered	0.5 (F)

I-26 over Saluda River

3.0 (F)	Partial footing exposure, measurements taken from the top of the footing to the channel bottom
3.5 (U)	Complete seal exposure and undermining, measurements taken from the bottom of the seal to the channel bottom
*	Location inaccessible due to timber debris

Table 7: Underwater Inspection Elements

NATIONAL BRIDGE ELEMENTS RECORDING SHEET *								
	Asset ID: 03022		By: Consor Engineers, LLC		Date: 11/21/2022			
Element	Defect	Element/Defect Description	Total Qty.	Units	Condition State Quantity			
					CS1	CS2	CS3	CS4
SUBSTRUCTURE								
205		Reinforced Concrete Columns	36	EA		33	3	
	1080	Spalls/Delaminations/Patch Areas	1	EA			1	
	1090	Exposed Rebar	1	EA			1	
	1190	Abrasion/Wear	34	EA		33	1	
220		Reinforced Concrete Pile Cap/Footing	234	LF		227	3	4
	1080	Spalls/Delaminations/Patch Areas	3	LF			3	
	6000	Scour	231	LF		227		4

*Includes only defects on the elements inspected during the underwater inspection.



Photo 1: Upstream/West Fascia



Photo 2: Downstream/East Fascia



Photo 3: View Upstream from Under Bridge

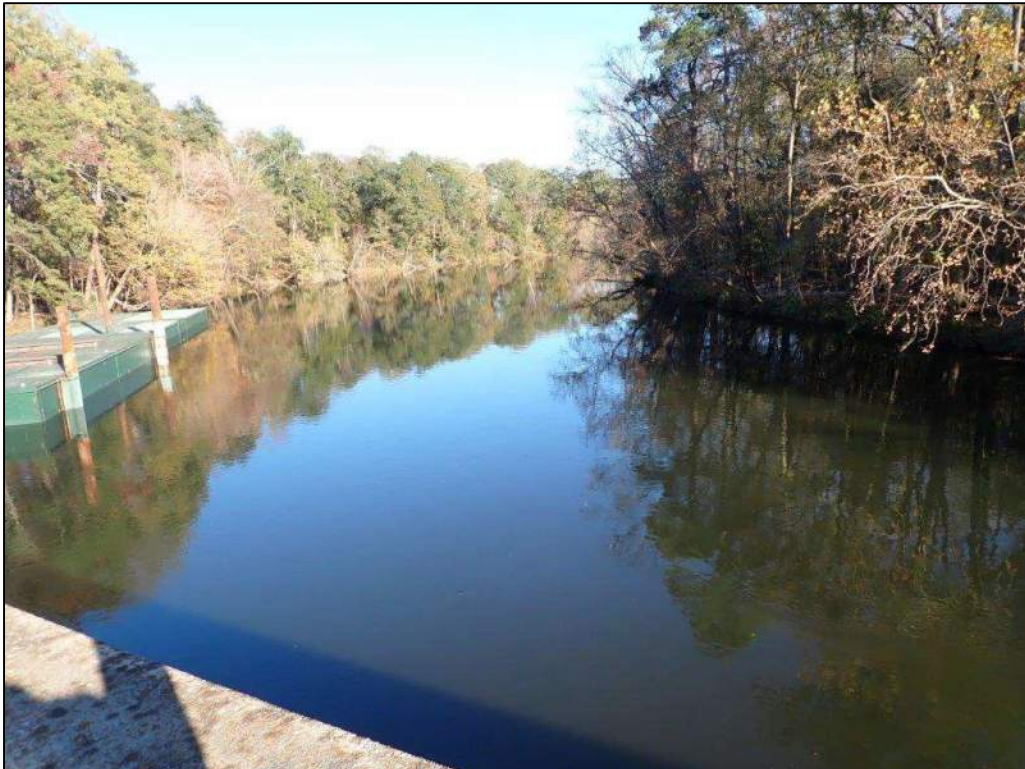


Photo 4: View Downstream from On Bridge



Photo 5: North Embankment



Photo 6: North Channel Bank



Photo 7: South Channel Bank



Photo 8: Bent 4, North Face (Bents 4 through 9 Similar)



Photo 9: Bent 9, Column 5, Typical Concrete Condition at Waterline



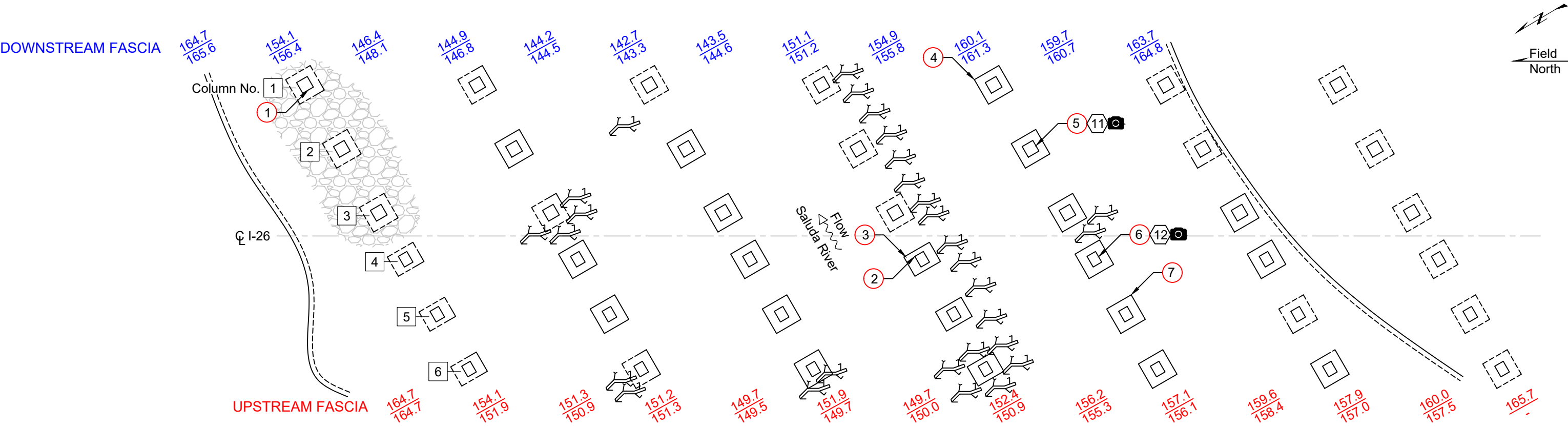
Photo 10: Bent 8, Footing 2, Typical Concrete Condition Below Waterline



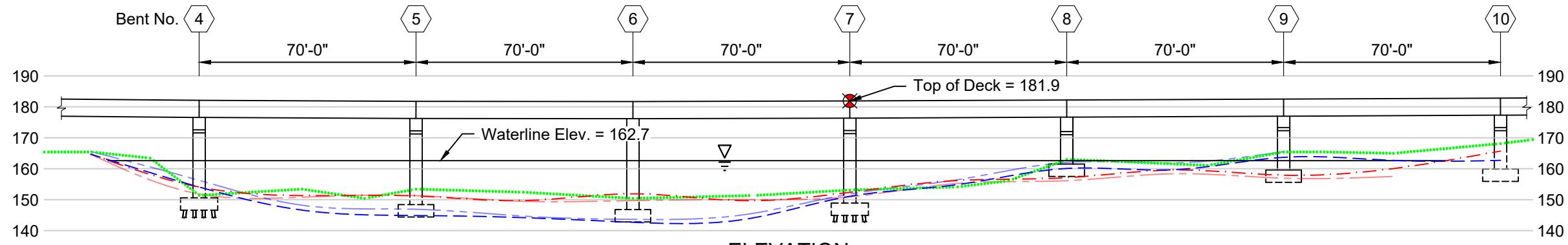
Photo 11: Bent 8, Column 2, Spall with Exposed Rebar



Photo 12: Bent 8, Column 4, Delamination/Spall



PLAN



ELEVATION

Figure Notes:

- At the time of inspection, the waterline was located approximately 19.2 ft. below the top of the deck at the downstream side of Bent 7. This translates to a waterline elevation of 162.7 according to the available as-built plans.
- Soundings across the channel were taken parallel to the bridge at the bents and are actual channel bottom elevations in feet determined on November 21, 2022.
- This figure was developed from field notes, sketches, and South Carolina Department of Transportation as-built plans dated January 1986.

Inspection Notes:

Refer to Figure 2 for detailed inspection notes.

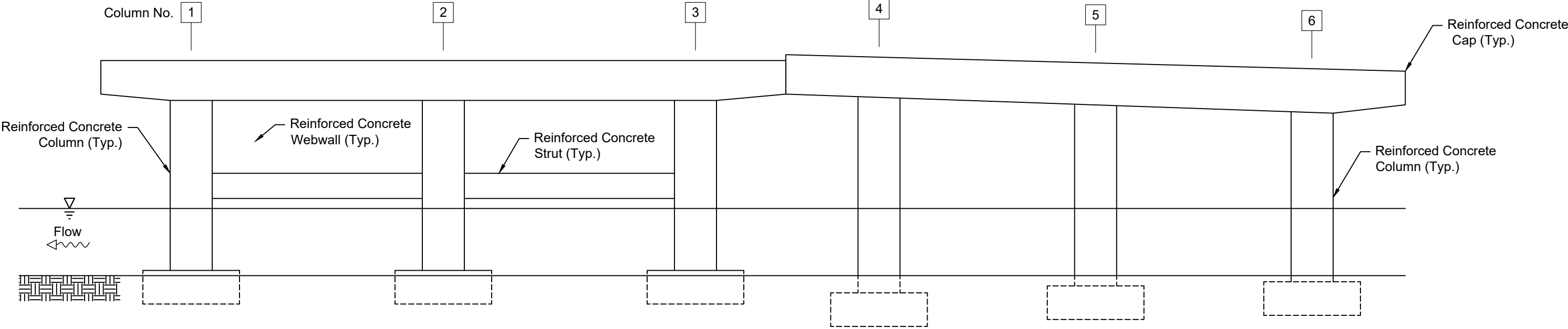
Legend

- 2017 Upstream Fascia
- 2022 Upstream Fascia
- Original Groundline
- 2017 Downstream Fascia
- 2022 Downstream Fascia
- Shoreline
- GN General Note
- # Inspection Note
- Waterline Reference Point
- # Photograph
- Channel Bottom Elevation
- Timber Debris
- Riprap

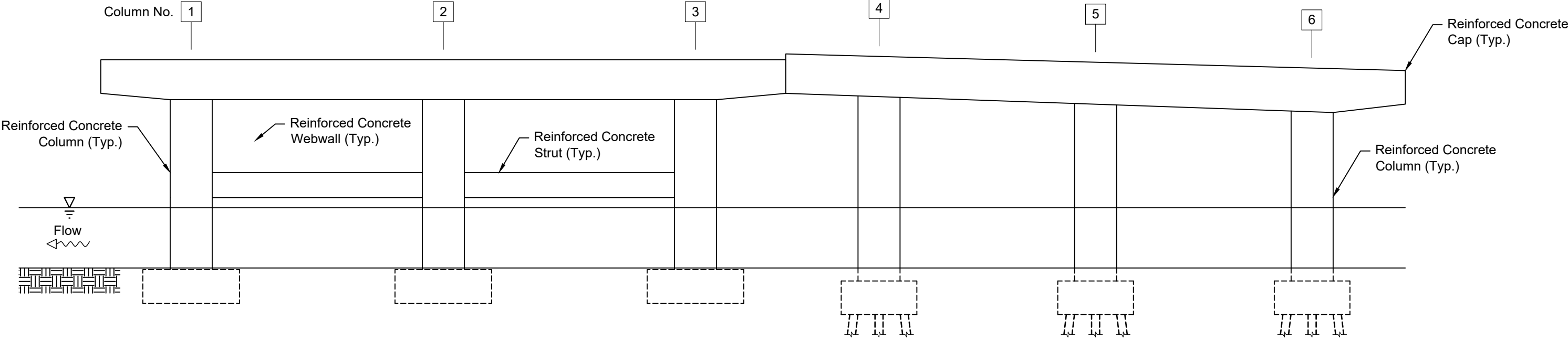
GRAPHIC SCALE 0 40' 80'	DATE November 2022	40 Concourse Way Greer, SC 29650 PH: 864.595.8030	SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION Asset ID: 03022	I-26 over Saluda River Plan and Elevation	FIG NO. 1
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Inspection Notes:

- GN All inspected bents, from high watermark to channel bottom, abrasion, up to 1/8 in. deep, with exposed secure aggregate.
- 1 Bent 4, Column 1, west face, 2.5 ft. above channel bottom, rebar protruding from column.
- 2 Bent 7, Column 4, northeast corner, at column/footing interface, area of poor consolidation, 3 in. high x 10 in. wide x 2 in. deep.
- 3 Bent 7, Footing 4, northeast corner, top of footing, spall, 3 in. long x 5 in. high x 1.5 in deep.
- 4 Bent 8, Footing 1, northeast corner, top of footing, spall, 6 in. long x 10 in. high x 1.5 in deep.
- 5 Bent 8, Column 2, south face, at column/footing interface, [3] spalls due to insufficient cover, up to 9 in. high x 3 in. wide x 1/2 in deep, with exposed rebar, up to 20% loss.
- 6 Bent 8, Column 4, south face, 6 in. above footing, spall/delamination, 2 ft. high x 3.5 ft. wide x up to 2 in. deep.
- 7 Bent 8, Footing 5, southeast corner, 3 ft. below top of footing, spall, 6 in. wide x 10 in. high x 2 in. deep.



North Elevation
(Bents 5, 6, 8, 9, and 10)



North Elevation
(Bents 4 and 7)



Inspection Out-of-Frequency Form

BIGD Attachment 4.3

MAR2022, V1

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REQUIRED STRUCTURE INFORMATION		
ASSET ID NUMBER: (NBI 08) 03022	DISTRICT # (NBI 02): District 1	COUNTY (NBI 03): Lexington
LOCATION (NBI 09): 4 MI W of Cola	FACILITY CARRIED (NBI 07): I-26	FEATURE INTERSECTED (NBI 06): Saluda River
STRUCTURE TYPE (MAIN, NBI 43): 5 - Prestressed Concrete		STRUCTURE TYPE (APPROACH, NBI 44): -

INSPECTION OCCURRING OUT OF FREQUENCY	
SUBJECT INSPECTION TYPE: Underwater	
INSPECTION DUE DATE <u>(IF INSPECTION IS LATE)</u> : 10/31/2022	INSPECTION COMPLETION DATE (IF KNOWN): 11/21/2022
REPORT DUE DATE <u>(IF REPORT IS LATE)</u> :	REPORT COMPLETION DATE (IF KNOWN):
WRITTEN EXPLANATION OUT OF FREQUENCY: DUE TO LATE LNTP, BRIDGE WAS UNABLE TO BE INSPECTED IN OCTOBER 2022.	
NAME/POSITION OF PARTY NOTIFYING OUT-OF-FREQUENCY OCCURRENCE (blank if made by DBIS or Consultant PM)	
Name: _____ Position: _____	
Signed: _____	
SCDOT DBIS from District where bridge is located OR Consultant Project Manager (Consultant Inspection Only), Signature Required:	
Signed: _____	
Comments: _____	
SCDOT BIPM, Signature Required:	
Signed: _____	
Comments from SCDOT BIPM or from BMO: _____	
FHWA ACKNOWLEDGEMENT AND/OR APPROVAL: <input type="checkbox"/> Acknowledgement <input type="checkbox"/> Approval	
Signed: _____	
Comments from FHWA: _____	

TRANSMITTED
12/30/2022



Bridge Inspection QC Form (Consultant Inspection)

BIGD Attachment 5.25
MAR2022, V1
Page 1 of 1

REQUIRED STRUCTURE AND INSPECTION INFORMATION	
ASSET ID (08): 03022	TEAM LEADER: Jake Cochran, PE
INSPECTION TEAM MEMBERS: Scott Rowe, Andrew Harrison, Wesley Trescott	INSPECTION TYPE: Underwater
CONSULTANT NAME: Conzor Engineers, LLC	
QUALITY CONTROL REVIEWER (QCR): (Print Name): Heath K. Pope, PE	

INSPECTION REPORT	OTHER
1) <input checked="" type="checkbox"/> SI&A: Reviewed Report Form SI&A Data (specifically ratings for NBI 58, 59, 60, 62, 71, 72)	
2) <input checked="" type="checkbox"/> Textual: Reviewed the textual sections of the report for consistency and errors	
3) <input checked="" type="checkbox"/> Element-Level: Element Condition States/Defects reviewed and are consistent with NBI Items	
4) <input checked="" type="checkbox"/> Photographs: Reviewed photographs included in report, all included per BIGD 5.4.4.2	
5) <input checked="" type="checkbox"/> Previous Inspection Report: Reviewed against previous inspection, if there is no previous: N/A: <input type="checkbox"/>	
6) <input checked="" type="checkbox"/> Sketch Sheets/Attachments: Required items are included (BIGD 5.4.4.2) & reviewed, or if N/A: <input type="checkbox"/>	
7) <input type="checkbox"/> Condition Rating (58, 59, 60 or 62) 5 or Less: A photograph or attachment is included, or if N/A: <input checked="" type="checkbox"/>	
	8) <input type="checkbox"/> Repair Recommendations: Repair Recommendation Form completed and sent to DBIS, or if N/A: <input checked="" type="checkbox"/>
	9) <input type="checkbox"/> Critical Finding(s): If critical finding found, the Critical Findings Form was submitted, or if N/A: <input checked="" type="checkbox"/>
	10) <input type="checkbox"/> Requests to BMO (HO): Load Rating and/or Scour Re-Evaluation Request(s) sent, or if N/A: <input checked="" type="checkbox"/>
	11) <input type="checkbox"/> Posting: Need for load posting / weight restriction signs were coded as "Priority A Flag" - if N/A: <input checked="" type="checkbox"/>
	12) <input type="checkbox"/> Signs: Need for height clearance or narrow bridge signs were coded as "Priority A Flag" - if N/A: <input checked="" type="checkbox"/>

Initial Inspection Only: ☐ QCR has reviewed initial element quantities for Element-Level
Initial Inspection Only: ☐ QCR has reviewed inventory photos, correctly stored in Bridge File
FCM Inspection Only: ☐ Correct documentation was included, BSIP followed, required access gained
UW Inspection Only: ☒ Correct documentation was included, BSIP followed, required access gained
Complex Bridge Only: ☐ BSIP followed

QC Review Comments: (use another page if additional comments)

1	QC Subject: <u>SI&A Data</u> QC Comment: <u>Minor revisions to SI&A Data</u> BITL Response to Comment: <u>Changes to be made during BIO entry.</u> QC Comment Closed? <input checked="" type="checkbox"/>
2	QC Subject: <u>Element and Defect Quantities</u> QC Comment: <u>Minor revisions to element and defect quantities.</u> BITL Response to Comment: <u>Changes to be made during BIO entry.</u> QC Comment Closed? <input checked="" type="checkbox"/>
3	QC Subject: <u>-</u> QC Comment: _____ BITL Response to Comment: _____ QC Comment Closed? <input type="checkbox"/>
4	QC Subject: <u>-</u> QC Comment: _____ BITL Response to Comment: _____ QC Comment Closed? <input type="checkbox"/>

QC Review Complete

Signed and Dated by QC Reviewer: Heath K. Pope Digitally signed by Heath K. Pope
DN: C=US, E=hpope@consoreng.com, O="CONSOR Engineers, LLC",
OU=Structural Assessment, CN=Heath K. Pope
Date: 2022.12.30 11:44:25-08'00' (Upload to BIO)