

## SCDOT BRIDGE INSPECTION FORM

(008) BRIDGE ID: 4070003100100	(005) ROUTE: RICHLAND S-31
(420) ASSET NO: 7937	(006) CROSSING: I-26
(419) RAMP NO:	(009) LOCATION: 4 MI NW OF COLUMBIA
(026) FUNCTIONAL CLASS: 14	(016) LAT: 34d 1m 49.82s (017) LON: 81d 6m 13.48s

### GENERAL BRIDGE DATA

	EXISTING	REVISED		EXISTING	REVISED
(027) Year Built	1985		(042) Type Serv; On(A) Und(B)	6 1	
(106) Year Recon	0		(028) Lanes; On(A) Und(B)	4 11	5
(031) Design Load	6		(107) Deck Struct	1	
(36A) Railings	1		(108) Wear Surf/Membrane/Prot	1 8 8	0 0
(36B) Transitions	0	1		MAT-SUP-SUB	MAT-SUP-SUB
(36C) Appr Guard	1		(043) Main Original (A)	4 2 1	
(36D) Appr Guard End	1		Main Reconst (B)		
(037) History	4		(044) Appr Original (A)	0 00 0	
(319) Last Paint Date			Appr Reconst (B)		

### GEOMETRIC DATA

	EXISTING	REVISED		EXISTING	REVISED
(032) Appr Rdway	67	66		FT IN	FT IN
(033) Bridge Median	2		(053) Vert Clr Above Deck	99 99	
(034) Skew	37		(54A) Vert Clear Ref	H	
(035) Flared	0		(54B) Vert Clear Right	16 11	17 6
(045) # Main Spans	4		(54C) Vert Clear Left	19 4	19 10
(046) # Appr Spans	0		(10A) Great Min Clr Over/Und	99 99	19 10
(048) Max Span Lgth	183	183.30	(10B) Great Min Right	17 1	19 1
(308) Appr Span Lgth	0		(10C) Great Min Left	19 6	19 10
(049) Struct Length	638	638.30			
(47A) Horz Clear Right	67	66	(55A) Lat Clear Ref	H	
(47B) Horz Clear Left	0		(55B) Lat Clear Right	17	10
(47UA) Horz Clear Right	46.70	72	(056) Lat Clear Left	5	
(47UB) Horz Clear Left	46.70	110			
(50B) Sidewalk Right	0		(038) Navigation Cont	N	
(50A) Sidewalk Left	5		(039) Nav Vert Clear	0	
(051) Curb to Curb	67	66	(040) Nav Horz Clear	0	
(052) Deck Out-Out	74	73.5830	(111) Nav Pier Port		

### RATINGS DATA

	EXISTING	REVISED		EXISTING	REVISED
(58) Deck	6		(041) Traffic Status	A	
(59) Super Str	7		(063) Rating Method	8	
(60) Sub Str	7		(064) Operating Method	0.59	
(061) Channel	N		(065) Rating Method	8	
(062) Culv Ret	N		(066) Inventory Rating	0.45	
(071) Water Adeq	N		(411) Date Rated	07/2020	
(072) Appr Rdway	8		(418) Conditions During Rating	6 7 7	
(113) Scour Critical	N			Freq Mth/Year	Freq Mth/Year
(067) Structure	3		(091, 090) Routine Insp	24 02/2019	24 02/2021
(068) Deck Geom	9		(92A, 93A) Fracture Critical	N	
(069) Underclear	5		(92B, 93B) Underwater Insp	N	
(070) Bridge Post	1		(92C, 93C) Special Insp	N	

Inspection Leader: PATRICK LANDRY, CONSOR	Reviewed By: RICARDO CORNEJO, WSP
Date:	Date: 4/16/2021

## **Bridge Element Group Textual Data**

**Bridge ID: 40-7-00031-0-01-00**

16 Apr 2021

### **Abutments and/or Headwalls:**

Reinforced Concrete Abutments

### **Bents and/or Piers:**

7-Good:(6) 42in Reinforced Concrete Columns spaced at 24.11ft, 20.43ft and 18.234ft in Bent 2, Bent 3 and Bent 4 respectively with cap size 48in x 60in at Bent 2 and 42in x 54in at Bent 3 and 4 respectively.

End Bent 5, cap under Beam 6, (2) delaminations (1ft diameter). (Photo 7)

End Bent 1, cap between Beam 9 and 10, horizontal crack (12ft length x .02in thick) with efflorescence.

End Bent 1, cap under Beam 9, vertical crack (3ft length x .016in thick) with efflorescence.

End Bent 1, cap under Beam 2, vertical crack (4ft length x .016in thick) with efflorescence.

### **Bearings:**

End Bents 1 and 5, all bearings, minor corrosion, no section loss.

### **Girders/Floor Beams/Stringers and/or Beams:**

7-Good: (10) Continuous Steel Plate Girders; Both flanges and Web vary in size, at End Bent 1: Bottom Flange (16in x 1.5in) (Girders 1-5) and (16in x 1.625in) (Girders 6-10), Web (66in x 0.4375in), and Top Flange (16in x 1in) spaced at 7.5ft.

Span 2, Beam 5, midspan, right side of web, paint loss (2) areas up to (2ft diameter). (Photo 5)

Typical minor corrosion condition in steel beams. (Photo 8)

Minor corrosion on beams and diaphragm members.

### **Truss Members:**

N/A

**Expansion Joints:**

Expansion joints in good conditions.

**Decks and/or Slabs:**

6-Satisfactory: 7.75in Reinforced Concrete Deck with no asphalt overlay. Spans 1, 2, 3 and 4 are 183.35ft, 178.708ft, 142.208ft and 133.99ft respectively. Structure is (4) span continuous.

All spans, top of deck, patched areas (30% of surface area). (Photo 1)

Underside of deck, all spans, typical cracking with efflorescence (5% of area). (Photo 4)

Top of deck, all spans, hairline map cracking (60% of area).

Span 4, underside of deck, left edge at End Bent 5, spall (10in length x 4in width x 1.5in depth).

All spans, underside of deck, bays 1-4, 6-9 have SIP forms.

**Curbs:**

Transverse hairline cracks and minor settlement in sidewalk, east end, left side. Sidewalk on left side only.

**Bridge Railing/Parapets and/or Median Barriers:**

36A-1 : Reinforced concrete bridge rails  
36B-1 : Thirebeam guardrail transition  
36C-1 : W-Beam approach guard rails in metal post  
36D-1 : Guard rail end treatment

All spans, both rails, vertical crack (full height x up to .018in thick). (Photo 2)

Span 4, top of deck, median, 8ft from End Bent 5, spall (3ft length x 1ft width x 2in depth). (Photo 3)

**Paint Systems:**

Span 2, Beam 5, midspan, right side of web, paint loss (2) areas up to (2ft diameter). (Photo 5)

All spans, all beams, paint loss (2% of area).

**Waterway and Scour:**

N/A

**Fender System:**

N/A

**Roadway Alignment:**

8-Very Good: No speed reduction is required.

**Traffic Signs:**

(4) Delineators at four corners of bridge.

(1) Bridge Identification Number (BIN) in place.

Span 3, attached to Beam 1 over EB lanes, traffic sign.

(1) Vertical clearance sign EBL: 16'11". WBL vertical clearance sign missing.

Incorrect posting on EBLs (posted 16'11", measured MVC is 17'6")

**Encroachments:**

All spans, attached to bottom flange of Beams 1 and 10, 1" diameter PVC pipe.

## Miscellaneous Notes:

Latitude/Longitude:34°01'49.8"N 81°06'13.5"W  
Coordinates:34.030506°, -81.103744°  
Inspected on February 2, 2021, Cloudy, 43°F.  
Labeling diagram orientation verified; bridge inspected from East to West.

DIVIDED HIGHWAY  
VERTICAL CLEARANCE MEASUREMENTS PER BIGD 7.3.8

VERT CL EB (54B):  
-AT LEFT: 20'-0"  
-AT LEFT CENTER: 18'-9"  
-AT CENTER: 17'-7"  
-AT RIGHT CENTER: 17'-7"  
-AT RIGHT: 17'-6"

RAMP EB  
-AT LEFT: 19'-8"  
-AT RIGHT: 18'-0"

VERT CL WB (54C):  
LEFT FORK  
-AT LEFT: 19'-10"  
-AT CENTER: 19'-10"  
-AT RIGHT: 19'-10"  
RIGHT FORK  
-AT LEFT: 21'-1"  
-AT CENTER: 21'-9"  
-AT RIGHT: 22'-0"

RAMP WB  
-AT LEFT: 17'-9"  
-AT CENTER: 17'-7"  
-AT RIGHT: 17'-6"

DIVIDED HIGHWAY  
LATERAL CLEARANCE MEASUREMENTS PER BIGD 7.3.8

LAT CL AT RIGHT (55B):  
-WB LANE TO BENT: 10'-0"  
-EB LANE TO BENT: 18'-11"  
-WB RAMP TO BENT: 13'-0"  
-EB RAMP TO BENT: 9'-6"

LAT CL AT LEFT (56):  
-WB LANE TO BENT: 5'-0"  
-EB LANE TO BENT: 5'-0"  
-WB RAMP TO BENT: 19'-5"  
-EB RAMP TO BENT: 36'-6"

Asset ID plate present in NE corner of bridge.  
Inspection Team-Patrick Landry BITL, Ramesh Mishra ATL

## Bridge Element Level Data

16 Apr 2021

<u>Element No</u>	<u>Element Name/Description</u>	<u>Units</u>	<u>Env</u>	<u>Defect</u>	<u>Quantity in Each Condition State</u>				<u>Total Qty</u>
					<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	
107	Steel Open Girder/Beam	feet	4	Yes					
107	Corrosion	feet	4	1000	0	290	0	0	290
107	Steel Open Girder/Beam	feet	4	Yes	6093	290	0	0	6383
12	Reinforced Concrete Deck	sq feet	4	Yes					
12	Delamination/Spall/Patched Area	sq feet	4	1080	0	14171	4	0	14175
12	Efflorescence/Rust Staining	sq feet	4	1120	0	2362	0	0	2362
12	Cracking (RC and Other)	sq feet	4	1130	0	28341	0	0	28341
12	Reinforced Concrete Deck	sq feet	4	Yes	2088	44874	4	0	46966
205	Reinforced Concrete Column	each	4	No	18	0	0	0	18
234	Reinforced Concrete Pier Cap	feet	4	Yes					
234	Delamination/Spall/Patched Area	feet	4	1080	0	0	2	0	2
234	Efflorescence/Rust Staining	feet	4	1120	0	0	14	0	14
234	Reinforced Concrete Pier Cap	feet	4	Yes	602	0	16	0	618
301	Pourable Joint Seal	feet	3	No	209	0	0	0	209
303	Assembly Joint With Seal	feet	4	No	209	0	0	0	209
311	Movable Bearing	each	3	Yes					
311	Corrosion	each	3	1000	0	20	0	0	20
311	Movable Bearing	each	3	Yes	20	20	0	0	40
313	Fixed Bearing	each	3	No	10	0	0	0	10
321	Reinforced Concrete Approach Slab	sq feet	2	No	2680	0	0	0	2680
331	Reinforced Concrete Bridge Railing	feet	2	Yes					
331	Cracking (RC and Other)	feet	2	1130	0	426	0	0	426
331	Reinforced Concrete Bridge Railing	feet	2	Yes	851	426	0	0	1277
515	Steel Protective Coating	sq feet	1	Yes					
515	Effectiveness (Steel Protective Coatings)	sq feet	1	3440	0	0	0	1087	1087
515	Steel Protective Coating	sq feet	1	Yes	52903	0	0	1087	53990



# Bridge Inspection QC Form (Consultant Inspection)

REQUIRED STRUCTURE AND INSPECTION INFORMATION	
ASSET ID (08):	TEAM LEADER:
INSPECTION TEAM MEMBERS:	INSPECTION TYPE:
CONSULTANT NAME:	
QUALITY CONTROL REVIEWER (QCR): (Print Name):	

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

- 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, procedure followed, required access gained
- UW Inspection Only:** Correct documentation was included, procedure followed, required access gained
- Complex Bridge Only:** Bridge with complex component(s) procedure followed

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

1	QC Subject: _____ QC Comment: _____ BITL Response to Comment: _____ QC Comment Closed? _____
2	QC Subject: _____ QC Comment: _____ BITL Response to Comment: _____ QC Comment Closed? _____
3	QC Subject: _____ QC Comment: _____ BITL Response to Comment: _____ QC Comment Closed? _____
4	QC Subject: _____ QC Comment: _____ BITL Response to Comment: _____ QC Comment Closed? _____

**QC Review Complete**

Signed and Dated by QC Reviewer: \_\_\_\_\_ (Upload to BIO)



**Part I – Bridge Data** *Completed on Page 1*

Asset ID (NBI 08):	Structure Number:	Inspection Date:	
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**Repair Recommendations Form Photographs**

- Consultants may:
1. Add photos to the Photograph Form (Attachment 5.20) or another form with captioned photographs and upload the document to ProjectWise. See instructions on Attachment 5.6 instructions page. Link the ProjectWise location of the document on Page 1.
  2. Add photos to this form and send to the DBIS.

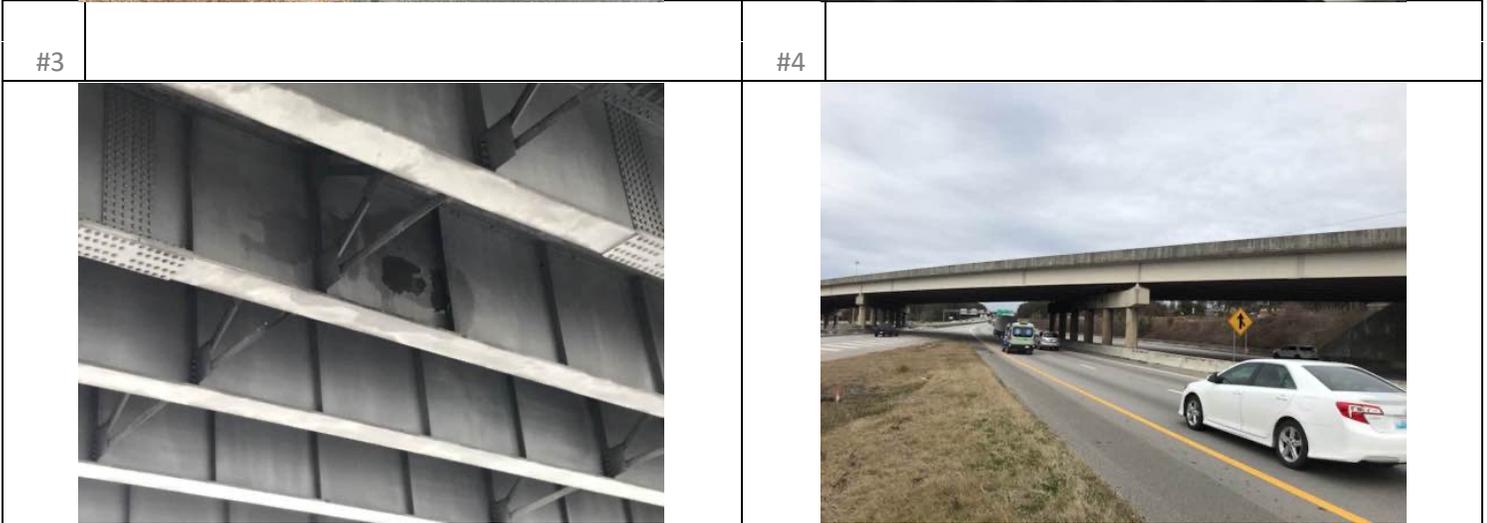


Photo #: \_\_\_ Caption:

Asset ID Number:		Bridge Inspection Date:	
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#3	#4
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#5	#6
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Save This Document

PDF This Form

Add Page (Works on Pg 1 Only)

Asset ID Number:		Bridge Inspection Date:	
			
#7		#8	
#9		#10	
#11		#12	

Save This Document

PDF This Form

Add Page (Works on Pg 1 Only)

Asset ID Number:		Bridge Inspection Date:	
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#1	#2
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#3	#4
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#5	#6
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Asset ID Number:		Bridge Inspection Date:	
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#7



#8



#9



#10



#11



#12

Asset ID Number:		Bridge Inspection Date:	
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#13



#14



#15



#16



#17



#18