

SCDOT BRIDGE INSPECTION FORM

(008) BRIDGE ID: 3270027300200	(005) ROUTE: LEXINGTON S-273
(420) ASSET NO: 7272	(006) CROSSING: I-20
(419) RAMP NO:	(009) LOCATION: 5 MI NW OF WEST COLUMBIA
(026) FUNCTIONAL CLASS: 14	(016) LAT: 34d 1m 53.76s (017) LON: 81d 7m 16.98s

GENERAL BRIDGE DATA

	EXISTING	REVISED		EXISTING	REVISED
(027) Year Built	1979		(042) Type Serv; On(A) Und(B)	5	1
(106) Year Recon	0		(028) Lanes; On(A) Und(B)	6	7
(031) Design Load	6		(107) Deck Struct		1
(36A) Railings	0		(108) Wear Surf/Membrane/Prot	1	0 0
(36B) Transitions	0			MAT-SUP-SUB	MAT-SUP-SUB
(36C) Appr Guard	0		(043) Main Original (A)	3	2 1
(36D) Appr Guard End	0	N	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
				FT	IN
(032) Appr Rdway	79		(053) Vert Clr Above Deck	99	99
(033) Bridge Median	2		(54A) Vert Clear Ref		H
(034) Skew	18		(54B) Vert Clear Right	16	6
(035) Flared	0		(54C) Vert Clear Left	17	6
(045) # Main Spans	4		(10A) Great Min Clr Over/Und	99	99
(046) # Appr Spans	0		(10B) Great Min Right	16	7
(048) Max Span Lgth	85		(10C) Great Min Left	17	7
(308) Appr Span Lgth	0				
(049) Struct Length	249		(55A) Lat Clear Ref		H
(47A) Horz Clear Right	78		(55B) Lat Clear Right	31	27.10
(47B) Horz Clear Left	0		(056) Lat Clear Left	6	
(47UA) Horz Clear Right	74				
(47UB) Horz Clear Left	80		(038) Navigation Cont		N
(50B) Sidewalk Right	5.80	5	(039) Nav Vert Clear		0
(50A) Sidewalk Left	5.80	5	(040) Nav Horz Clear		0
(051) Curb to Curb	79.20		(111) Nav Pier Port		
(052) Deck Out-Out	91.50				

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		2.10
(061) Channel	N		(065) Rating Method		8
(062) Culv Ret	N		(066) Inventory Rating		1.62
(071) Water Adeq	N		(411) Date Rated		11/2020
(072) Appr Rdway	8		(418) Conditions During Rating	6	6 6
(113) Scour Critical	N			Freq	Mth/Year
(067) Structure	6		(091, 090) Routine Insp	24	11/2020
(068) Deck Geom	5		(92A, 93A) Fracture Critical		N
(069) Underclear	6		(92B, 93B) Underwater Insp		N
(070) Bridge Post	5		(92C, 93C) Special Insp		N

Inspection Leader: BRIAN EGGERTON, HDR	Reviewed By: MURDZIA, DAN
Date:	Date: 2/16/2023

Bridge Element Group Textual Data

Bridge ID: 32-7-00273-0-02-00

16 Feb 2023

Abutments and/or Headwalls:

(2) [95.5ft] RC concrete abutments supported by 22 [1ft Dia.] treated timber piles concealed by compacted soil slope protection. Abutments are annotated from East to West, and Piles from South to North.

End Bent 1:

- (1) 1' vertical hairline crack with efflorescence between beams 2 and 3.
- (2) 1' vertical hairline cracks between beams 5 and 6.

End Bent 5:

- 1' vertical hairline crack under beam 3.
- 1' vertical hairline crack between beams 4 and 5.

Hairline cracks and minor spalls in headwalls at beams. spalls-4sf(CS2)

Hairline cracks in wingwalls.

Hairline cracks in concrete slope protection.

Bents and/or Piers:

(3) [97.5ft] pier caps supported by (5) [3ft Dia.] RC columns per bent. Bents are annotated from East to West, and columns from South to North.

Bent 2 Cap:

36" x 48" spall with exposed rebar on bottom of cap between columns 1 and 2,
36" x 1/16" horizontal crack in North face.
2' x 0.02" Horizontal crack w/rust between columns 2 and 3 in the North face.
Hairline map cracking between columns 2 and 3, in North face.
2' long x 0.02" horizontal crack w/rust on bottom between columns 2 and 3.
4" x 4" x 1/2" deep spall on bottom between columns 2 and 3.
6" vertical hairline crack under beam 3, South face.
36" dia. area of delamination with 2' L x 1/8" horizontal crack between columns 4 and 5 in the North face.
8" x 8" spall between beams 9 and 10 in the North face.
Hairline cracks with efflorescence at construction joints.

Bent 3 Cap:

(3) 2' vertical hairline cracks above column 2, South face.
1' vertical hairline crack with efflorescence and rust under beam 2, South face.
3' vertical hairline crack between columns 2 and 3 in South face.
(2) 2' x 0.02" horizontal crack with efflorescence and rust under beam 3 in South face.
36" x 24" x 1" deep spall and hairline map cracking in bottom of cap between columns 2 and 3.
2' x 0.02" horizontal crack with efflorescence/rust between columns 2 and 3, North face.
(3) 3' diagonal hairline cracks with efflorescence under beams 3 in both faces.
2' horizontal hairline crack with efflorescence under beam 4, North side.
(2) 3' diagonal hairline cracks with efflorescence between beams 4 and 5, North face.
2' vertical hairline cracks with efflorescence between beams 4 and 5 in both faces.
(2) 3' transverse hairline cracks in bottom of cap between columns 4 and 5.
3' vertical hairline crack under beam 9, South face.
6" x 6" x 1" deep spall in bottom of cap at left end.
Hairline map cracking at left end of cap on South face.
Hairline cracks with efflorescence at construction joints.
Hairline map cracking bottom at left end of cap.
14" diameter spall with exposed rebar with moderate corrosion underside at left end.

Columns at Bent 3:

Column 1 has a 4' x 1/8" vertical crack at top, North face.
Column 5 has a 20" x 18" x 2" deep spall with exposed rebar w/rust in South face near bottom.
Column 5 has a 2' vertical hairline crack at top, South face.
Column 5 has 12" x 12" x 1" deep spall near top, South face.

Cap bent 4:

Hairline map cracking in bottom of cap between columns 1 and 2.
Hairline map cracking between columns 1 and 2, North face.
8" x 12" spall in bottom of cap between columns 4 and 5.
Hairline map cracking in cap build-up under beam 2, North face.
8" vertical hairline crack under beam 3, South face.
3' vertical hairline crack above column 3, South face.
6" vertical hairline crack with rust in cap build-up under beam 8, South face.
Hairline map cracking with efflorescence in cap build-up under beam 9, South face.
Hairline map cracking w/rust in cap build-up under beam 10, North face.
Hairline map cracking w/rust in cap build-up under beam 11, North face.
Hairline map cracking under beam 11, South face.
Hairline cracks with efflorescence at construction joints.
3' horizontal hairline crack in cap build-up under beam 3, West face.
24" x 6" area of delamination in SW corner of cap build-up under beam 2.
(3) areas of delamination up to 36" x 24" in bottom of cap between beams 4 and 5

Bearings:

(44) Fixed and (44) movable steel bearings.

Loose anchor bolts at following Bearing locations:

2-1B North 2-2B South 2-3B South
3-8A South 3-7A North 3-5A South
3-3A North 3-4A North 4-1A North
4-2A North and South 4-10A North

Girders/Floor Beams/Stringers and/or Beams:

(11) simply supported steel girders with interior beam cover plates per span. BEams are annotated from South to North.

Surface corrosion forming on flanges and web at beams ends, with Heavy rust on exterior cover plates.
Minor surface corrosion on diaphragms at joints. Corrosion forming where sign supports connections are welded.
Diaphragms at beams 8-11, span 2 are welded.

Collision Damage:

Span 2, beam 1, scrape marks bottom flange.
Span 2, beam 3-5, scrape marks bottom flange.
Span 2, beams 3-7, have collision damage.
Span 2, beams 8, 9 are new.
Span 2, beams 10-11, have collision damage.
Span 2, beam, 10 has slight bend bottom flange.
Span 2, beam, 11 has minor bend bottom flange approx. 3" out of plumb.

Truss Members:

N/A

Expansion Joints:

(3) strip[seal expansion joints at bents 2 through 4.
(2) defection joints at End Bents 1 and 5.

Expansion material cracked, pulling loose, and missing throughout.

Settlement of both approach slabs has caused up to 5" of joint separation at both End Bents.

End Bent 1 and 5, FQ Impaction (CS3) Dirt and Debris accumulation with vegetation growth throughout.
End Bent 1, Up to to 72" x 6" edge spalls and 18" x 5" area of delamination along End Bent 1 header.

Bents 2,3,4:

FQ Seal Damage (CS4) cracked torn and missing joint material thought joints.

Decks and/or Slabs:

[8in thick] CIP RC deck with no asphalt wearing surface.

Top of Deck notes:

Span 1:

1200sf of 0.016" diagonal, transverse, and map cracking.
Abrasion throughout all travel lanes.

Span 2:

1460 sf of 0.025" diagonal and transverse cracks, and hairline map cracking.
11' x 24" x 12" deep spall along bent 2 joint in Southbound lane.
42" x 16" x 2" deep spall with exposed rebar in Southbound lane
9" x 5" x 1" deep spall in Northbound lane.
63' x 5' patched area along median in Northbound lane.

Abrasion throughout all travel lanes.

Span 3:

1200 sf of 0.025" diagonal and transverse cracks, and hairline map cracking.
72" x 18" x 2" deep area of delamination with alligator cracking along Bent 3 Joint in Southbound lane.
Abrasion throughout all travel lanes.

Span 4:

900 sf of 0.016" diagonal and transverse cracks, and hairline map cracking.
44" x 16" area of delamination along Bent 3 joint in Northbound Lane.
Abrasion throughout all travel lanes.

Underside of Deck:

Transverse cracks and Hairline map cracking with and without efflorescence throughout.
Moderate spall with rust between beams 10 and 11 at deck drain on bottom of deck.
Minor spalls on bottom of deck at joints, (concrete on caps)

Approach Slabs:

Abrasion and hairline map cracking throughout both approach slabs.

Curbs:

(2) RC curb with [10in] reveals at each corner. [5ft wide] RC sidewalk along each shoulder, and RC mountable median along centerline.

Hairline cracks in sidewalks. Transverse hairline cracks in raised median.

Bridge Railing/Parapets and/or Median Barriers:

36A: (0) Metal bridge rail along each shoulder. Railing does not meet current standards.
36B: (0) No approach guardrail or transition.
36C: (0) No approach guardrail or transition.
36D: (N) No approach guardrail or transition.

Paint Systems:

See Beam and Bearing section for detailed Paint System notes.

Areas of limited effectiveness on beams, diaphragms, and bearings. 600sf(CS4)

Waterway and Scour:

N/A

Fender System:

N/A

Roadway Alignment:

Straight roadway, no reduction in speed required.
Structure carries two lanes of traffic.

Traffic Signs:

(4) delineators in place. One located at each corner of structure.

Clearance signage at North fascia over I-20 reads [17ft 6in]
Clearance signage at South fascia over I-20 reads [16ft 6in]

Encroachments:

3/4" metal conduit and electric box mounted to wingwall, South end, left side.
3/4" metal conduit attached to soffit, spans 1 and 2, left side.

Miscellaneous Notes:

VERTICAL/LATERAL CLEARANCES (DIVIDED HIGHWAY)
VERTICAL CLEARANCE MEASUREMENTS PER BIGD 7.3.8
VERT CL EB (54B)
-AT LEFT (16'-6")
-AT RIGHT (16'-8")
VERT CL WB (54C)
-AT LEFT (17'-6")
-AT RIGHT (17'-7")

LATERAL CLEARANCE MEASUREMENTS PER BIGD 7.3.8
LAT CL AT RIGHT (55B)
-EB LANE TO BENT (27'-1")
-WB LANE TO BENT (31'-0")
LAT CL AT LEFT (56)
-EB LANE TO BARRIER (6'-0")
-WB LANE TO BARRIER (6'-0")

WEATHER: Sunny (54°F).

BITL: Brian Eggerton

ASSISTANT INSPECTOR(S): Lee Hardee

INSPECTION DATE: 11/01/2022

ORIENTATION: Inspection follows labeling diagram (East to West) which matches the historical (11/2020) orientation (East to West)

ASSET ID: Located at Southeast corner of bridge rail.

Bridge Element Level Data

16 Feb 2023

<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	440	0	0	440
107	Damage	feet	4	7000	0	147	85	0	232
107	Steel Open Girder/Beam	feet	4	Yes	2067	587	85	0	2739
12	Reinforced Concrete Deck	sq feet	4	Yes					
12	Delamination/Spall/Patched Area	sq feet	4	1080	0	202	0	0	202
12	Exposed Rebar	sq feet	4	1090	0	0	9	0	9
12	Efflorescence/Rust Staining	sq feet	4	1120	0	325	0	0	325
12	Cracking (RC and Other)	sq feet	4	1130	350	395	0	0	745
12	Abrasion/Wear (PSC/RC)	sq feet	4	1190	0	5952	0	0	5952
12	Reinforced Concrete Deck	sq feet	4	Yes	15900	6874	9	0	22783
205	Reinforced Concrete Column	each	4	Yes					
205	Delamination/Spall/Patched Area	each	4	1080	0	1	0	0	1
205	Cracking (RC and Other)	each	4	1130	2	0	0	0	2
205	Reinforced Concrete Column	each	4	Yes	14	1	0	0	15
234	Reinforced Concrete Pier Cap	feet	4	Yes					
234	Delamination/Spall/Patched Area	feet	4	1080	0	20	0	0	20
234	Exposed Rebar	feet	4	1090	0	1	0	0	1
234	Efflorescence/Rust Staining	feet	4	1120	0	47	0	0	47
234	Cracking (RC and Other)	feet	4	1130	43	2	0	0	45
234	Reinforced Concrete Pier Cap	feet	4	Yes	411	70	0	0	481
301	Pourable Joint Seal	feet	1	Yes					
301	Seal Damage	feet	1	2330	0	0	0	166	166
301	Pourable Joint Seal	feet	1	Yes	0	0	0	166	166
302	Compression Joint Seal	feet	3	Yes					
302	Seal Damage	feet	3	2330	0	0	0	249	249
302	Compression Joint Seal	feet	3	Yes	0	0	0	249	249
311	Movable Bearing	each	3	Yes					
311	Corrosion	each	3	1000	0	33	11	0	44
311	Movable Bearing	each	3	Yes	0	33	11	0	44
313	Fixed Bearing	each	3	Yes					

313	Corrosion	each	3	1000	0	28	16	0	44
313	Fixed Bearing	each	3	Yes	0	28	16	0	44
321	Reinforced Concrete Approach Slab	sq feet	2	Yes					
321	Cracking (RC and Other)	sq feet	2	1130	180	0	0	0	180
321	Abrasion/Wear (PSC/RC)	sq feet	2	1190	0	1440	0	0	1440
321	Settlement	sq feet	2	4000	0	1185	0	0	1185
321	Reinforced Concrete Approach Slab	sq feet	2	Yes	2025	2625	0	0	4650
330	Metal Bridge Railing	feet	3	No	496	0	0	0	496
515	Steel Protective Coating	sq feet	1	Yes					
515	Effectiveness (Steel Protective Coatings)	sq feet	1	3440	0	0	0	571	571
515	Steel Protective Coating	sq feet	1	Yes	22249	0	0	571	22820

Asset ID Number:	07272	Bridge Inspection Date:	11.01.2022
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1	LOOKING NORTH	2	SOUTH APPROACH
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3	NORTH APPROACH	4	NORTH APPROACH LOOKING SOUTH
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5	LOOKING EAST	6	LOOKING WEST
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7 | TRANSITION ALONG SOUTH APPROACH SLAB



8 | END BENT 1 JOINT, END BENT 5 JOINT SIMILAR



9 | ASSET ID



10 | LEFT RAIL, RIGHT RAIL SIMILAR



11 | BENT 2 JOINT, BENTS 3 AND 4 SIMILAR



12 | END BENT 5, END BENT 1 SIMILAR

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13 TYPICAL END BENT BEARING



14 TYPICAL INTERIOR BENT BEARING



15 BENT 3, BENTS 2 AND 4 SIMILAR



16 SPAN 2 UNDERDECK, OTHER SPANS SIMILAR



17 SIGN ATTACHED TO BEAM 1 IN SPAN 2



18 WEST PROFILE LOOKING EAST

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19	SETTLEMENT AT SOUTH APPROUCH	20	TORN, DETACHED AND MISSING JOINT MATERIAL, BENT 2
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21	1/8" HORIZONTAL CRACK IN FACE OF BENT 2 CAP	22	BENT 2 SPALL WITH EXPOSED REBAR ON BOTTOM OF CAP BETWEEN COLUMNS 1 AND 2
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23	TYPICAL SURFACE CORRSION ON EDGES OF FLANGES	24	VEGETATION OVERGROWTH THROUGHOUT CONCRETE SLOPE PROTECTION
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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) SI&A: Reviewed Report Form SI&A Data (specifically ratings for NBI 58, 59, 60, 62, 71, 72) 2) Textual: Reviewed the textual sections of the report for consistency and errors 3) Element-Level: Element Condition States/Defects reviewed and are consistent with NBI Items 4) Photographs: Reviewed photographs included in report, all included per BIGD 5.4.4.2 5) Previous Inspection Report: Reviewed against previous inspection, if there is no previous: N/A: 6) Sketch Sheets/Attachments: Required items are included (BIGD 5.4.4.2) & reviewed, or if N/A: 7) Condition Rating (58, 59, 60 or 62) 5 or Less: A photograph or attachment is included, or if N/A:
OTHER	8) Repair Recommendations: Repair Recommendation Form completed and sent to DBIS, or if N/A: 9) Critical Finding(s): If critical finding found, the Critical Findings Form was submitted, or if N/A: 10) Requests to BMO (HQ): Load Rating and/or Scour Re-Evaluation Request(s) sent, or if N/A: 11) Posting: Need for load posting / weight restriction signs were coded as "Priority A Flag" - if N/A: 12) Signs: 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, 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: _____ 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)