Inspector: Bardall,Jay
Inspection Date: 05/04/2023
Structure Number: 0704210
Facility Carried: SR 148

Ohio Bridge Inspection Summary Report

BEL-00148-1414 (0704210)

2: District District 11 — 81088 - WASHINGTON TWP (BEL county)
5A: Inventory Route 1 00148

21: Major Maint A/B 01 - State Highway Agency /
225 Routine Main A/B 01 - State Highway Agency /
221 Inspection A/B 01 - State Highway Agency /
220: Inv. Location DISTRICT 11

7: Facility On SR 148
6: Feature Ints CAPTINA CREEK
9: Location 2.18 MI. E OF JCT SR 145
Lat, Lon 39.904397167897805 ,-80.96422075067603

Condition

58: Deck	**7 - Good Condition**
58.01 Wearing Surface	7 - Good (1% distress)
58.02 Joint	2- Critical
59: Superstructure	**7 - Good Condition**
59.01 Paint & PCS	7 - Good (1-5% corr.)
60: Substructure	**7 - Good Condition**
61: Channel	**6**
61.01 Scour	**6 - Satisfactory**
62: Culverts	**N - Not Applicable**
67.01 GA	**7**

Appraisal

Sufficiency Rating	93.6 SD/FO 0 - ND
36: Rail, Tr, Gd, Term Std	1 1 1 1
72: Approach Alignment	7 - Better than present minimum criteria
113: Scour Critical	8 - Stable for scour conditions
71: Waterway Adequacy	8 - Bridge Above Approaches

Geometric

48: Max Span Length (ft)	80.0
49: Structure Length (ft)	208.0
52: Deck Width, Out-To-Out (ft)	33.3
424: Deck Area (sf)	6926.4
32: Appr Roadway Width (ft)	32.0
51: Road Width, Curb-Curb (ft)	32.0
50A: Curb/SW Width: Left (ft)	0
50A: Curb/SW Width: Right (ft)	0
34: Skew (deg)	45
33: Bridge Median	0 - No median
54B: Min Vert Underclearance (ft)	0
336A: Min Vert Clrnce IR Cardinal (ft)	99
336B: Min V Clr IR Non-Cardinal (ft)	0
578: Culvert Length (ft)	0

Load Posting

41: Op/Post/Closed	A - Open
70: Posting	5 - Equal to or above legal loads
70.01: Date	
70.02: Sign Type	
734: Percent Legal (%)	150
704: Analysis Date	07/01/1987
63: Analysis Method	6 - Load Factor (LF) rating reported by rating factor (RF) method using MS18 loading.

Structure Type

43: Bridge Type	4 - Steel continuous 02 - Stringer/Multi-beam or Girder N- Not Applicable
45: Spans Main / Approach	3 / 0
107: Deck Type	1 - Concrete Cast-in-Place
408: Composite Deck	Y - Composite Construction
414A Joint Type 1	3 - Compression Seal
414B: Joint Type 2	N - None
108A: Wearing Surface	1 - Monolithic Concrete (concurrently placed with structural deck) N- Not Applicable
422: WS Date	01/01/1987
423: WS Thick (in)	1.2
482: Protective Coating	2 - Unpainted Weathered Steel
483: PCS Date	
453: Bearing Type 1	2 - Rockers & Bolsters
455: Bearing Type 2	B - Fixed
528: Foundn: Abut Fwd	7 - Steel H Piles (HP 10 x 42)
533: Foundn: Abut Rear	7 - Steel H Piles (HP 10 x 42)
536: Foundn: Pier 1	6 - Rock (including Spread Footing on Rock)
539: Foundn: Pier 2	6 - Rock (Including Spread Footing on Rock)

Age and Service

27: Year Built/ 106 Rehab	1987 / 0000
42A: Service On	1 - Highway
42B: Service Under	5 - Waterway
28A: Lanes on	02
28B: Lanes Under	00
19: Bypass Length	40
29: ADT	1733
109: % Trucks (%)	44

Inspections

		Months	
90: Routine Insp.		24	05/04/2023
92A: FCM Insp.	N	0	
92B: Dive Insp.	N	0	
92C: Special Insp.	N	0	
92D: UBIT Insp.	N	0	
92E: Drone Insp.	N	0	

Inspector Bardall,Jay

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	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
12-Reinforced Concrete Deck	3 - Mod.	6934	sq. ft.	6804	122	8	0
	CS3- 2 SF SPALLS AT ALL 4 DECK CORNERS (8 SF TOTAL).						
805-Wearing Surface - Monolithic Concrete		6656	sq. ft.	5117	1539	0	0
107-Steel Open Girder/Beam	3 - Mod.	1045	ft.	977	52	16	0
	CS3 - Moderate laminate corrosion of beam ends with up to 1/8” deep section loss to bottom flange and 1/16” deep section loss to web (Beam 4 at Rear Abutment - 10 LF), (Beam 1at Forward Abutment, web only - 3 LF), (Beam 5 at Forward Abutment - 3 LF)						
515-Steel Protective Coating		9227	sq. ft.	8922	60	165	80
	CS3 - Areas of surface corrosion and flacking patina (Rear Abutment: Beams 1 to 5 - 75 SF), (Forward Abutment: Beams 1 to 5 - 90 SF). CS4 - Areas of paint failures and section loss at the beam ends (Rear Abutment: Beams 1 to 5 - 60 SF), (Forward Abutment: Beams 1 to 5 - 20 SF)						
210-Reinforced Concrete Pier Wall	3 - Mod.	44	ft.	44	0	0	0
215-Reinforced Concrete Abutment	3 - Mod.	94	ft.	90	4	0	0
234-Reinforced Concrete Pier Cap	3 - Mod.	94	ft.	93	0	1	0
	CS3 - Minor spall with exposed reinforcement (1 LF at Pier 1 on the left end)						
302-Compression Joint Seal	3 - Mod.	94	ft.	23	24	0	47
	CS4- REAR JOINT HAS FAILED WITH MOST OF COMPRESSION SEAL FALLING OUT. ALSO, MUCH BREAKING UP OF REAR HEADER. THERE IS A 4 AND 3/4 INCH GAP BETWEEN THE STEEL AT THE REAR JOINT.						
311-Movable Bearing	3 - Mod.	15	each	5	1	8	1
	CS3 - Moderate laminate corrosion throughout bearing assembly (Rear Abutment Beams 2 - 5), (Forward Abutment Beams 1, 3 - 5) CS4 - Bearing rotated to limit with rocker overhanging right rear corner by 2 1/4” at Beam 2 and Forward Abutment						
313-Fixed Bearing	3 - Mod.	5	each	5	0	0	0
321-Reinforced Concrete Approach Slab	3 - Mod.	1600	sq. ft.	1456	120	24	0
	CS3 - Spalls near expansion joint header (10 SF at Forward Approach). 6 SF broken up area at RT rear. 8 sf of potholes at rear next to expansion joint.						
330-Metal Bridge Railing	3 - Mod.	416	ft.	404	12	0	0
815-Drainage	3 - Mod.	2	each	2	0	0	0
830-Abutment Backwall	3 - Mod.	94	ft.	0	94	0	0

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BEL-00148-1414 _(0704210)

ODOT District:	District 11					Date Built:	07/01/1987
Major Maint:	01 - State Highway Agency	Facility Carried:	SR 148	Traffic On:	1 - Highway	Rehab Date:	
Routine Maint:	01 - State Highway Agency	Feature Inters:	CAPTINA CREEK	Traffic Under:	5 - Waterway	Insp. Resp A:	01 - State Highway Agency
FIPS Code:	81088 - WASHINGTON TWP (BEL county)	Location:	DISTRICT 11	2.18 MI. E OF JCT SR 145		Insp Resp B:	
Inspector	Bardall,Jay	Inspection Date	05/04/2023	Reviewer	Khalifa,Waseem		

Inspector Comments - Deck and Approach

Deck

FLOOR/SLAB (SF)

DECK IS POURED IN FWD HALF AND REAR HALF, NOT RT AND LT.TRANSVERSE CRACKS WITH EFFLORESENCE SEEPAGE 4'- 6' SPACING CENTER SPAN A
FEW IN OTHER SPANS. MINOR CRACKING OF OUTSIDE FWD CORNERS AND AT END
DAMS, BROKEN OUT AT REAR CORNERS.2023 INSP: CS2 -TRANSVERSE HAIRLINE CRACKS (75 SF in Span 2). DIAGONAL CONSTRUCTION JOINT HAS MINOR EFFLO (47 SF). CS3- 2 SF SPALLS AT ALL 4 DECK CORNERS (8 SF TOTAL).

BRIDGE WEARING SURFACE (SF)

TRANSVERSE AND LONGITUDINAL CRACKS REAR & CENTER SPAN. SMALL BROKEN
OUT AREAS @ EXP JOINTS. DURA-PATCHED IN 2017. CS2- REAR HALF OF WEARING SURFACE HAS TRANSVERSE CRACKS 1-4 SPACING FOR 1331 SF. 2 LONGITUDINAL CRACKS IN REAR HALF FOR 208 SF.

BRIDGE RAILING (LF)

CS2- 12 LF OF COLLISION DAMAGE AT RT AND LT FWD (24 LF TOTAL).

DRAINAGE (EA)

EXPANSION JOINT (LF)

CS4- REAR JOINT HAS FAILED WITH MOST OF COMPRESSION SEAL FALLING OUT. ALSO, MUCH BREAKING UP OF REAR HEADER. THERE IS A 4 AND 3/4 INCH GAP BETWEEN THE STEEL AT THE REAR JOINT.

CS2- MINOR DEBRIS IN FWD JOINT (10 LF). ALSO, SIGNS OF THE JOINT LEAKING ONTO THE FWD BACKWALL FOR 14 LF.

Approach

APPROACH WEARING SURFACE

NEW ASPHALT IN 2020. CRACKED AT APPROACH SLAB JOINTS FWD AND REAR.

APPROACH SLABS (SF)

MINOR CRACKING IN CONCRETE AT FORWARD, NEW ASPHALT IN 2020 AT REAR. 2016 INSPECTION: TWO POTHOLES, 1 SF AND 2 SF AT LT FWD APPROACH AND BACKWALL JOINT. POTHOLES 10 LF BREAKING OUT AT JOINT WITH BACKWALL AT REAR. ALL DURA-PATCHED IN 2019. Rear Approach paved over. CS2 - Diagonal cracking in travel lanes (120 SF at Forward Approach). CS3 - Spalls near expansion joint header (10 SF at Forward Approach). 6 SF broken up area at RT rear. 8 sf of potholes at rear next to expansion joint.

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APPROACH GUARDRAIL

DAMAGE AT RT FWD TURN DOWN.

Inspector Comments - General Appraisal

Superstructure

BEAMS /GIRDERS (LF)

Beams labeled Beam 1 to 5 from left to right. WEATHERING STEEL. PAINTED OUT 10' FROM ABUTMENTS WITH PAINT PEELING AND
RUST. HEAVY PITTING & RUST SCALE. SECTION LOSS ON FWD BEAMS AT ABUTMENTS
AND SECTION LOSS AT REAR ABUTMENT. 2023 INSP: CS2 - Minor surface corrosion at beam ends (Rear Abutment: Beam 1 - 4 LF, Beam 2 - 6 LF, Beam 3 - 10 LF, Beam 5 - 6 LF), (Forward Abutment: Beam 1 - 10 LF, Beam 2 - 2 LF, Beam 3 - 6 LF, Beam 4 - 4 LF, Beam 5 - 4 LF)

PROTECTIVE COATING (SF)

Beam perimeter = 8.83'. LARGE FLAKING ON LEFT OUTSIDE BEAM ON BOTTOM FLANGE AND BASE OF WEB. 2023 INSP: CS2 - Areas of dark patina on exterior faces of facia beams (30 SF on Beam 1), (30 SF on Beam 2). CS3 - Areas of surface corrosion and flacking patina (Rear Abutment: Beams 1 to 5 - 75 SF), (Forward Abutment: Beams 1 to 5 - 90 SF). CS4 - Areas of paint failures and section loss at the beam ends (Rear Abutment: Beams 1 to 5 - 60 SF), (Forward Abutment: Beams 1 to 5 - 20 SF)

DIAPHRAGMS/X-FRAMES (EA)

SECTION LOSS AND LAYERED PACK RUST AT ABUTMENTS.

BEARINGS (EA)

15 MOVABLE AND 5 FIXED BEARINGS. TILTING OF ROCKERS MOSTLY AT FORWARD ABUTMENT. ROCKER ALSO HAVE HEAVY
RUST AND MUCH LOSS OF SECTION. FULL TILT TOWARD REAR OF 2ND BEARING FROM
LEFT AT FWD ABUTMENT. PACK RUST. 2023 INSPCS2- BEARING 1 AT REAR HAS LIGHT SURFACE RUST. CS3 - Moderate laminate corrosion throughout bearing assembly (Rear Abutment Beams 2 - 5), (Forward Abutment Beams 1, 3, and 5). CS4 - Bearing rotated to limit with rocker overhanging right rear corner by 2 1/4” at Beam 2 and Forward Abutment.

Substructure

ABUTMENTS (LF)

MINOR VERTICAL CRACKS. CS2 - Isolated minor vertical cracks (2 LF at Rear Abutment), (2 LF at Forward Abutment). THE FACE OF FOOTER AT RT FWD IS EXPOSED FOR 15 LF BY 2 VERTICAL FEET. NO UNDERMINING AT THIS TIME.

PIER WALL (LF)

2021: Minor erosion hole along rear face of Pier 2 approximately 12” deep.

PIER CAPS (LF)

CS3 - Minor spall with exposed reinforcement (1 LF at Pier 1 on the left end)

BACKWALLS (LF)

CRACKS, POTHOLES AND SHALLOW SPALLS IN TOPS OF BACKWALLS, DURA-PATCHED IN 2017. MINOR VERTICAL CRACKS WITH EFFLOR IN FACE OF BACKWALLS. 2023 INSP: CS2 - Isolated minor vertical cracks (5 LF at Rear Abutment). Both backwalls with heavy efflorescence and rust staining from leaking joint above.

SUBSTRUCTURE SCOUR (EA)

PLAN PAGE 17 PIER FOOTINGS SHALL EXTEND A MINIMUM OF 3" INTO BEDROCK, ABUTMENTS ON PILING. TOP OF FOOTER EXPOSED AT RT REAR PIER. 14' OF TOP OF FOOTER AND 32" OF SIDE EXPOSED AT RIGHT SIDE OF FWD ABUTMENT AND UNDERMINING OF RIGHT WINGWALL. 2021: Minor erosion hole along rear face of Pier 2 approximately 12” deep.

SLOPE PROTECTION (EA)

TREE'S GROWING AT REAR EDGES. SLOPE PROTECTION WASHED AWAY AT RIGHT FWD. Riprap missing from right end of Forward Abutment for 15

Culvert

Inspector Comments - Waterway

Waterway Adequacy

Channel

HYDRALIC OPENING (EA)

2021: Large log against upstream side of Pier 1 with timber debris. 6” to 12” of Pier 1 footing exposed. Minor flood debris lodged between the crossframes and on the pier caps.

SCOUR (EA)

2023 INSP: HIGH WATER.

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Scour Critical

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Bridge Inspection Report

Pictures