

Inspector: Banaszak, Ken
 Inspection Date: 08/24/2022

Structure Number: 1814923
 Facility Carried: USR 422

Bridge Inspection Report

Ohio Bridge Inspection Summary Report

CUY-00422-1804L (1814923)

2: District 72928 - SOLON (CUY county)
 District 12

5A: Inventory Route 1 00422

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 12

7: Facility On USR 422
 6: Feature Ints SR 91 SOM CENTER RD
 9: Location 5.5 MI E I-271
 Lat, Lon 41.394981 , -81.437908

Condition

58: Deck **5 - Fair Condition**
 58.01 Wearing Surface 6 - Satisfactory (1-10% distress)
 58.02 Joint 6- Satisfactory (isolated leaking)
59: Superstructure **7 - Good Condition**
 59.01 Paint & PCS 4 - Poor PCS (15-20% corr.)
60: Substructure **4 - Poor Condition**
61: Channel **N**
61.01 Scour **N - Not Applicable**
62: Culverts **N - Not Applicable**

Structure Type

43: Bridge Type 4 - Steel continuous
 02 - Stringer/Multi-beam or Girder
 N- Not Applicable
 45: Spans Main / Approach 4 / 0
 107: Deck Type 1 - Concrete Cast-in-Place
 408: Composite Deck N - Non-composite Construction
 414A Joint Type 1 2 - Sliding Metal Plate Angle
 414B: Joint Type 2 N - None
 108A: Wearing Surface 2 - Integral Concrete (separate non-modified layer of concrete added to structural deck)
 1- Super Plasticized

67.01 GA 4

Appraisal

Sufficiency Rating 60.6 SD/FO 1 - SD
 36: Rail, Tr, Gd, Term Std 1 1 1 1
 72: Approach Alignment 8 - Equal to present desirable criteria
 113: Scour Critical N - Not over waterway
 71: Waterway Adequacy N - Not Applicable

422: WS Date 07/01/1975
 423: WS Thick (in) 2.0
 482: Protective Coating 3 - Paint System A
 483: PCS Date 01/01/1975
 453: Bearing Type 1 2 - Rockers & Bolsters
 455: Bearing Type 2 N - None
 528: Foundn: Abut Fwd 2 - Cast-in-Place Reinforced Concrete Piles (Other diameter)
 533: Foundn: Abut Rear 2 - Cast-in-Place reinforced Concrete Piles (Other diameter)
 536: Foundn: Pier 1 2 - Cast-in-Place Reinforced Concrete Piles (Other diameter)
 539: Foundn: Pier 2 0 - Other

Geometric

48: Max Span Length (ft) 51.0
 49: Structure Length (ft) 176.0
 52: Deck Width, Out-To-Out (ft) 58.9
 424: Deck Area (sf) 10366.4
 32: Appr Roadway Width (ft) 60.0
 51: Road Width, Curb-Curb (ft) 54.8
 50A: Curb/SW Width: Left (ft) 0
 50A: Curb/SW Width: Right (ft) 0
 34: Skew (deg) 6
 33: Bridge Median 0 - No median
 54B: Min Vert Underclearance (ft) 14.69
 336A: Min Vert Clrnce IR Cardinal (ft) 99
 336B: Min V Clr IR Non-Cardinal (ft) 0
 578: Culvert Length (ft) 0

Age and Service

27: Year Built/ 106 Rehab 1975 / 0000
 42A: Service On 1 - Highway
 42B: Service Under 1 - Highway, with or w/out pedestrian
 28A: Lanes on 03
 28B: Lanes Under 05
 19: Bypass Length 1
 29: ADT 14583
 109: % Trucks (%) 7

Load Posting

41: Op/Post/Closed A - Open
 70: Posting 5 - Equal to or above legal loads
 70.01: Date
 70.02: Sign Type

Inspections

	Months	
90: Routine Insp.	12	08/24/2022
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

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734: Percent Legal (%) 150

704: Analysis Date 07/01/1975

63: Analysis Method 6 - Load Factor (LF) rating reported by rating factor (RF) method using MS18 loading.

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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.	10370	sq. ft.	6645	3100	625	0
<p>CS 2 - Cracks. Some leaching.</p> <p>CS 3 - Wet/mottled areas, some with stalactites, approximately 150 SF of spalls and delams. Shallow spalls along north edge under light pole base.</p>							
510-Wearing Surfaces		9651	sq. ft.	8421	1200	15	15
<p>CS 2 - Transverse cracks, fine map cracks, minor delams, concrete patches.</p> <p>CS 3 - Failing concrete patch areas. Some wide cracks.</p> <p>CS 4 - Asphalt patches.</p>							
107-Steel Open Girder/Beam	3 - Mod.	1232	ft.	977	225	30	0
<p>CS 2 - Surface rust. Scrapes & minor gouges in lower flange of left fascia. Repaired area to left fascia over NB lanes.</p> <p>CS 3 - Heavier rust along lower flanges. Rusting section loss near beam ends. Section loss as much as 1/16" to lower flange of Beam 4 near bearing at rear abutment. Lower flange of left fascia bent up as much as 1/4" over NB lane #1 & SB lane #2.</p>							
515-Steel Protective Coating		9871	sq. ft.	0	3559	6200	112
<p>CS 2 - Faded paint.</p> <p>CS 3 - Surface rust and peeling.</p> <p>CS 4 - Paint failure at beam ends.</p>							
205-Reinforced Concrete Column	3 - Mod.	12	each	2	2	5	3
<p>CS 2 - P1:C4, 3 SqFt Delam. P3:C4, 3 SqFt Delam.</p> <p>CS 3 - P1:C2, 15 SqFt of delams. P2:C1, 41 SqFt of delams. P2:C2, 22 SqFt of delams and 2 SqFt of spalls. P2:C3, 30 SqFt of delams. P2:C4, 8 SqFt of delams.</p> <p>CS 4 - P3:C1, 5 SqFt of delams and 8 SqFt of spalls with 4+ exposed rebar. P3:C2, 12 SqFt of delams and 20 SqFt of spalls with 4+ exposed rebar. P3:C3, 11 SqFt of delams and 20 SqFt of spalls with 4+ exposed rebar.</p>							
215-Reinforced Concrete Abutment	3 - Mod.	119	ft.	110	8	1	0
<p>CS 2 - Cracks. Rust stains.</p> <p>CS 3 - Spall with exposed rebar in forward bay 1.</p> <p>Note: minor dirt & debris on abutment seats.</p>							
234-Reinforced Concrete Pier Cap	3 - Mod.	178	ft.	164	8	6	0
<p>CS 2 - A few cracks.</p> <p>CS 3 - P1 cap has 2 small spalls that have been sealed. P2 cap has a minor spall below beam #2. P3 cap has a 4 ft area of delamination.</p>							

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303-Assembly Joint with Seal	3 - Mod.	118	ft.	107	11	0	0
CS 2 - Some missing & damaged seal at rear. Sealed pulled out at forward-left.							
311-Movable Bearing	3 - Mod.	28	each	0	14	14	0
CS 2 - Surface rust. CS 3 - Areas of pack rust to abutment bearings. Forward abutment bearings 3 and 6 tipped outward to designed travel limit at 72° F.							
313-Fixed Bearing	3 - Mod.	7	each	0	7	0	0
CS 2 - Surface rust.							
321-Reinforced Concrete Approach Slab	3 - Mod.	3000	sq. ft.	2725	100	155	20
CS 2 - Cracks. CS 3 - Cracks as wide as 1/8". Some areas of breakup. CS 4 - Asphalt patches in Lane #1 at both forward and rear.							
331-Reinforced Concrete Bridge Railing	3 - Mod.	352	ft.	212	123	17	0
CS 2 - Horizontal cracks, other cracks to right rail. A few rust stains. Scaling. CS 3 - Delams & spall with 360° rebar exposure on left rail. Spalling to outside left rail light pole base. Collision scrapes. Note: Broken pull box cover below missing light pole on left rail.							
815-Drainage	3 - Mod.	9	each	3	6	0	0
CS 2 - Partially plugged scuppers.							
830-Abutment Backwall	3 - Mod.	119	ft.	99	12	8	0
CS 2 - A few cracks. CS 3 - Spalls and delams to forward.							

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ODOT District: District 12

CUY-00422-1804L_(1814923)

Date Built: 07/01/1975

Major Maint: 01 - State Highway Agency

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Traffic On: 1 - Highway

Rehab Date:

Routine Maint: 01 - State Highway Agency

Feature Inters: SR 91 SOM CENTER RD

Traffic Under: 1 - Highway, with or w/out pedestrian

Insp. 01 - State Highway Agency

FIPS Code: 72928 - SOLON (CUY county)

Location: DISTRICT 12

5.5 MI E I-271

Resp A:

Insp

Resp B:

Inspector

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Reviewer Seif, Youssef

Inspector Comments - Deck and Approach

Deck

Floor/Slab (SF)

Spalls forming over NB traffic in bay 1 over WB entrance ramp lane, and bay 4 over lane 2, and over SB #1 lane, bay 1.

Drainage

Downspouts have rusting section loss.

Approach

Approach Wearing Surface (EA)

New at 2022 inspection.

Approach Guardrail (EA)

Spall to outside of forward-right concrete approach rail. Minor collision damage throughout.

Inspector Comments - General Appraisal

Superstructure

Diaphragm/X-Frames (EA)

Surface rust. Areas of heavy rusting section loss to endframes. Rear endframe #4 rust severed. Forward endframe #2 almost rust severed. Broken endframe gusset plate welds in forward bays 2 & 4.

Fatigue (LF)

Welded cover plates at center pier.

Substructure

Slope Protection (EA)

Uneven settlement. Rear concrete is undermined below bay 1 & breaking up along drainage trough. Forward concrete has slid near bottom of slope with areas of buckling.

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Culvert

Inspector Comments - Waterway

Waterway Adequacy

Channel

Scour Critical

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Pictures