

# Ohio Bridge Inspection Summary Report

CUY-00422-1804L (1814923)

2: District 12 72928 - SOLON (CUY county)  
 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

5A: Inventory Route 1 00422  
 7: Facility On USR 422  
 6: Feature Ints SR 91 SOM CENTER RD  
 9: Location 5.5 MI E I-271

## Condition

**58: Deck** **6 - Satisfactory Condition**  
 58.01 Wearing Surface 7 - Good (1% distress)  
 58.02 Joint 7- Good (no leaking)  
**59: Superstructure** **6 - Satisfactory Condition**  
 59.01 Paint & PCS 4 - Poor PCS (15-20% corr.)  
**60: Substructure** **5 - Fair Condition**  
**61: Channel** **N**  
**61.01 Scour** **N - Not Applicable**  
**62: Culverts** **N - Not Applicable**

67.01 GA 5

## Appraisal

Sufficiency Rating 78.2 SD/FO 2 - FO  
 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

## 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

## 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 07/01/1975  
 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 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  
 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

## 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

## Inspections

90: Routine Insp. *Months* 12 06/28/2021  
 92A: FCM Insp. N  
 92B: Dive Insp. N  
 92C: Special Insp. N  
 92D: UBIT Insp. N  
 92E: Drone Insp.  
 Inspector Persanyi, Andrea

Inspector: Andrea Persanyi  
 Inspection Date: 06/28/2021

Structure Number: 1814923  
 Facility Carried: USR 422

**Bridge Inspection Report**

**Element Inspection**

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
<b>12 - Reinforced Concrete Deck</b>	3 - Mod.	10370	sq. ft.	7657	2088	625	0
	CS 2 - Leached cracks. CS 3 - Wet/mottled areas, some with stalactites, some delams, approximately 150 SF of spalls. Shallow spalls along north edge under light pole base.						
510 - Wearing Surfaces		9651	sq. ft.	8686	965	0	0
	CS 2 - Transverse cracks, fine map cracks, minor delams, approximately 170 SF of concrete patches, a few asphalt patches.						
<b>107 - Steel Open Girder/Beam</b>	3 - Mod.	1232	ft.	0	1048	184	0
	CS 2 - Surface rust, Scrapes & minor gouges in lower flange of left fascia. 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.  Note: repaired area to left fascia over NB lanes.						
515 - Steel Protective Coating		9871	sq. ft.	0	3559	6200	112
	CS 2 - faded paint. CS 3 - Surface rust, peeling. CS 4 - Paint failure at beam ends.						
<b>205 - Reinforced Concrete Column</b>	3 - Mod.	12	each	2	7	3	0
	CS 2 - Delams as large as 30 sf to P1C2 & C4 and all P2 & P3 columns. CS 3 - Spalls with exposed rebar & deep delams to P3,C1-3.						
<b>215 - Reinforced Concrete Abutment</b>	3 - Mod.	119	ft.	97	5	17	0
	CS 2 - Cracks. Rust stains. CS 3 - Spall with exposed rebar in forward bay 1.  Note: minor dirt & debris on abutment seats.						
<b>234 - Reinforced Concrete Pier Cap</b>	3 - Mod.	178	ft.	169	8	1	0
	CS 2 - A few cracks, delams, CS 3 - minor spall on P2 cap below beam 2.						
<b>303 - Assembly Joint with Seal</b>	3 - Mod.	118	ft.	107	11	0	0
	CS 2 - Some missing & damaged seal at rear. Sealed pulled out at forward-left.						
<b>311 - Movable Bearing</b>	3 - Mod.	28	each	0	14	14	0
	CS 2 - Surface rust. CS 3 - Heavy rust at abutments. Areas of pack rust. Pier 1 rockers slightly tipped in at 90° F.						
<b>313 - Fixed Bearing</b>	3 - Mod.	7	each	0	7	0	0
	CS 2 - Surface rust.						

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**Element Inspection**

<b>321 - Reinforced Concrete Approach Slab</b>	3 - Mod.	3000	sq. ft.	2310	600	90	0
	CS 2 - Cracks, three concrete patches in lane #1 (two at rear & one at forward). CS 3 - Cracks as wide as 1/8". Patch at rear along approach pavement is breaking up.						
<b>331 - Reinforced Concrete Bridge Railing</b>	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.  Broken pull box cover below missing light pole on left rail.						
<b>815 - Drainage</b>	3 - Mod.	9	each	9	0	0	0
<b>830 - Abutment Backwall</b>	3 - Mod.	119	ft.	105	12	2	0
	CS 2 - A few cracks. CS 3 - spalls, delam/bulge in forward bay 2.						

ODOT District: 12

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Traffic On: 1 - Highway

Rehab Date:

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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)

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5.5 MI E I-271

Resp A:

Insp

Resp B:

Inspector

Persanyi,Andrea

Inspection Date 06/28/2021

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.

#### **Approach**

##### **Approach Wearing Surface (EA)**

A few cracks. Small asphalt and epoxy patches with minor break up against both slabs.

##### **Approach Guardrail (EA)**

Spall to outside of forward-right concrete approach rail.

### **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.

#### **Culvert**

### **Inspector Comments - Waterway**

#### **Waterway Adequacy**

**Channel**

**Scour Critical**