

Ohio Bridge Inspection Summary Report

CUY-00480-18.42 C(1812522)

2: District 12 37240 - INDEPENDENCE (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 CUY

5A: Inventory Route 1 00480
 7: Facility On IR-480
 6: Feature Ints Cuyahoga River Valley
 9: Location .5 mi East of IR-77/480

Condition

58: Deck **7 - Good Condition**
 58.01 Wearing Surface 7 - Good (1% distress)
 58.02 Joint 8- Very Good
59: Superstructure **8 - Very Good Condition**
 59.01 Paint & PCS 8 - Very Good (up to 1% corr.)
60: Substructure **8 - Very Good Condition**
61: Channel **7**
61.01 Scour **7 - Good**
62: Culverts **N - Not Applicable**

67.01 GA **8**

Appraisal

Sufficiency Rating 81.0 SD/FO 2 - FO
 36: Rail, Tr, Gd, Term Std 1 1 1 1
 72: Approach Alignment 9 - Superior to present desirable criteria
 113: Scour Critical 8 - Stable for scour conditions
 71: Waterway Adequacy 9 - Bridge Above Flood Water Elevations

Geometric

48: Max Span Length (ft) 300
 49: Structure Length (ft) 4157.5
 52: Deck Width, Out-To-Out (ft) 85
 424: Deck Area (sf) 353387.5

 32: Appr Roadway Width (ft) 37.5
 51: Road Width, Curb-Curb (ft) 82
 50A: Curb/SW Width: Left (ft) 0
 50A: Curb/SW Width: Right (ft) 0
 34: Skew (deg) 0
 33: Bridge Median 3 - Closed median with non-mountable barriers
 54B: Min Vert Underclearance (ft) 99
 336A: Min Vert Clrnce IR Cardinal (ft) 99
 336B: Min V Clr IR Non-Cardinal (ft) 99
 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 (%) 125
 704: Analysis Date 08/25/2020
 63: Analysis Method 8 - Load and Resistance Factor Rating (LRFR) rating report by rating factor (RF) method using HL-93 loadings.

Structure Type

43: Bridge Type 3 - Steel
 02 - Stringer/Multi-beam or Girder
 N- Not Applicable
 45: Spans Main / Approach 15 / 0
 107: Deck Type 1 - Concrete Cast-in-Place
 408: Composite Deck Y - Composite Construction
 414A Joint Type 1 A - Modular
 414B: Joint Type 2 N - None
 108A: Wearing Surface 1 - Monolithic Concrete (concurrently placed with structural deck)
 N- Not Applicable

422: WS Date 09/07/2020
 423: WS Thick (in)
 482: Protective Coating 2 - Unpainted Weathered Steel
 483: PCS Date 09/07/2020
 453: Bearing Type 1 7 - Disk
 455: Bearing Type 2 N - None
 528: Foundn: Abut Fwd 9 - Steel H Piles (HP 14 x 73)
 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 9 - Steel H Piles (HP 14 x 73)

Age and Service

27: Year Built/ 106 Rehab 2020 / 0000
 42A: Service On 1 - Highway
 42B: Service Under 8 - Highway - waterway - railroad
 28A: Lanes on 04
 28B: Lanes Under 04
 19: Bypass Length 3
 29: ADT 53780
 109: % Trucks (%) 5

Inspections

90: Routine Insp. *Months* 12 10/02/2020
 92A: FCM Insp. N
 92B: Dive Insp. N
 92C: Special Insp. N
 92D: UBIT Insp. N
 92E: Drone Insp. N
 Inspector Hammerschmidt, Steven

Inspector: Steven Hammerschmidt

Structure Number: 1812522

Inspection Date: 10/02/2020

Facility Carried: IR-480

Bridge Inspection Report

Element Inspection

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
12 - Reinforced Concrete Deck	3 - Mod.	0354773	sq. ft.	354513	260	0	0
	The reinforced deck condition was rated primarily based on the wearing surface condition due to the stay-in-place forms and removable formwork still in place at the time of inspection.						
805 - Wearing Surface - Monolithic Concrete		340915	sq. ft.	340655	260	0	0
	<p>The reinforced concrete deck exhibits full width transverse cracks, map cracking near the edge of the deck and around isolated scuppers, and minor spalls along the compression seal joint at the Rear Abutment. The transverse cracks range from hairline up to 0.06" wide and have been typically sealed.</p> <p>CS2: Transverse unsealed cracks in Spans 1, 3, and 9, minor unsealed map cracking along north bridge railing in Span 11, and a sound patch along the centerline of bridge in Span 12.</p> <p>For additional information regarding condition states and a table of the condition states broken down by span, refer to the 2020 In-Depth and Element Level Inspection Report, attached in AssetWise.</p>						
107 - Steel Open Girder/Beam	3 - Mod.	29069	ft.	29069	0	0	0
	<p>The girders typically exhibit minor concrete debris and concrete spatter on the girder's web and bottom flanges of the member throughout the length of the bridge. Isolated girders exhibit minor gouges with the south face of Girder 1 exhibiting a 6" diameter area with several gouges up to 1/16" deep.</p> <p>There are isolated locations, typically at the crossframe locations at the piers and hinges, where the protective coating system of the girder has been damaged due to construction activities and has exposed bare steel</p> <p>In Spans 13 through 15, the girder web splices are missing the washers between the nuts and splice plate at the bottom row of bolts along the base of the girder web.</p>						
515 - Steel Protective Coating		704102	sq. ft.	704079	0	23	0
	<p>The primary steel protective coating is weathering steel with paint applied to the girders 20' from the centerline of the abutments, piers, and hinge locations.</p> <p>CS3: Isolated areas of damaged paint due to construction activities, typical at the piers and adjacent to the crossframes.</p> <p>For additional information regarding condition states and a table of condition states broken down by span, refer to the 2020 Routine Element Level Inspection Report, attached in AssetWise.</p>						

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Element Inspection

210 - Reinforced Concrete Pier Wall	3 - Mod.	420	ft.	420	0	0	0
	<p>Piers 4 and 8 have a hairline vertical crack in the pier wall below the access door and Pier 3 has a hairline crack extending from above the center of the access door. At the time of the inspection Piers 9 through 12 were partially sealed.</p> <p>The interior of the piers typically had up to 12" of standing water and had various construction debris. Pier 14 was missing an access hatch door and the latches on Piers 2 and 3 were not welded to the door frame.</p>						
215 - Reinforced Concrete Abutment	3 - Mod.	184	ft.	184	0	0	0
	Sealed over shallow gouges are typical at the Forward Abutment above the slope protection with the largest being a 1" deep by 12" long by 3" high area at the south end.						
234 - Reinforced Concrete Pier Cap	3 - Mod.	1176	ft.	1176	0	0	0
	No cracks were noted in the reinforced concrete pier caps at the time of inspection. The caps of Piers 9 through 12 were partially sealed. Minor concrete splatter and debris were typical on the pier caps.						
302 - Compression Joint Seal	3 - Mod.	164	ft.	158	6	0	0
	CS2: Minor areas of spalled concrete along the edge of the joint on the south half of the deck at the Rear Abutment.						
303 - Assembly Joint with Seal	3 - Mod.	410	ft.	410	0	0	0
	<p>Expansion Joints 1 and 3 exhibit isolated areas along the joint with scattered construction debris between the modular joint beams.</p> <p>The width of the joint opening at Expansion Joint 1 and 2 varied across the bridge with up to a 2" difference at Expansion Joint 1 and a 1" difference at Expansion Joint 2.</p>						
315 - Disk Bearing	3 - Mod.	133	each	133	0	0	0
	<p>There is typically concrete spatter and debris on the bearings and surrounding areas. The disk bearing top sliding plate at Expansion Hinge 1 in Span 4 under Girder 1 has concrete debris covering the majority of the sliding plate.</p> <p>At Pier 9 each masonry plate has slotted oversized holes at the four anchor bolt locations with a square washer welded over the slotted hole.</p> <p>The bearings at the Expansion Hinge 1 was expanded up to 3" and the Expansion Hinge 2 and 3 were typically expanded up to 1/2". All hinges appeared to be expanded during inspection with an ambient temperature of 60°F and partly cloudy. The expansion bearings on Girders 1 and 7 and all the bearings at the abutments were typically close to neutral.</p>						
321 - Reinforced Concrete Approach Slab	3 - Mod.	5120	sq. ft.	5120	0	0	0

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Bridge Inspection Report

Element Inspection

331 - Reinforced Concrete Bridge Railing	3 - Mod.	8315	ft.	8315	0	0	0
	The reinforced concrete bridge rail exhibits isolated honeycombing at locations where the rail was formed up and poured with traditional methods. These locations are adjacent to the light pilasters and expansion joint locations. The honeycombing typically includes unsealed voids 1/4" in diameter with isolated voids up to 1 1/4" in diameter and up to 1" deep.						
815 - Drainage	3 - Mod.	30	each	30	0	0	0
820 - Steel Seated-Hinge Assembly	3 - Mod.	21	each	21	0	0	0
830 - Abutment Backwall	3 - Mod.	184	ft.	184	0	0	0

ODOT District: 12

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Date Built: 09/07/2020

Major Maint: 01 - State Highway Agency

Facility Carried: IR-480

Traffic On: 1 - Highway

Rehab Date:

Routine Maint: 01 - State Highway Agency

Feature Inters: Cuyahoga River Valley

Traffic Under: 8 - Highway - waterway - railroad

Insp: 01 - State Highway Agency

FIPS Code: 37240 - INDEPENDENCE (CUY county)

Location: CUY

.5 mi East of IR-77/480

Resp A:

Insp: Blank

Resp B:

Inspector

Hammerschmidt, Steve
n

Inspection Date 10/02/2020

Reviewer Guion, Carolyn

Inspector Comments - Deck and Approach

Deck

The deck exhibits isolated sealed transverse cracks and sealed map cracking around the scuppers. The reinforced concrete bridge railing exhibits areas of honeycombing at light pilasters and the expansion joint locations. The underside of the edge of deck in Spans 1 through 8 is typically not sealed for the 6" width as shown in the plans.

Approach

Inspector Comments - General Appraisal

Superstructure

The girders exhibit isolated areas of damage to the protective coating, minor gouges/scrapes, and concrete spatter and debris throughout.

Substructure

Work is still underway sealing the substructure units and debris is typically present inside the piers.

Culvert

Inspector Comments - Waterway

Waterway Adequacy

Channel

The channel exhibits vegetation both upstream and downstream of the bridge. No major deficiencies noted at the time of the inspection.

Scour Critical