90 Inspection Date - 11/15/15
Inspector - ABUSH (194)

059B00054R - **8 Bridge ID**
Fracture Critical (24 months) -**Primary Inspection Type**

Inspection Report with SI&A Data

Structure Description: 415.03 Foot - 4 Span Steel continuous Stringer/Multi-beam or Girder
2 District: 06 **3 County:** Kenton **16 Latitude:** 39º02'06.00" **7 Longitude:** 84º35'58.00"
7 Facility Carried I-275 EB **Milepoint:** 0.020
6A Feature Intersected: I-75 N&S-RAMPS A-C-G-D
9 Location: EB-275 MAINLINE@I75
Structure Description: 415.03 Foot - 4 Span Steel continuous Stringer/Multi-beam or Girder

NBI	X
Element	X
Fracture Critical	X
Underwater	
Special	

NBI CONDITION RATINGS

58 Deck:	6	**61 Channel:**	N
59 Superstructure:	7	**62 Culvert:**	N
60 Substructure:	7	**Sufficiency Rating:**	88

DESIGN

Substandard:	No
Fracture Critical:	No FC Details
43A Main Span Material:	(4) Steel Continuous
43B Main Span Design:	(02) Stringer / Girder
45 Number of Spans Main:	4
44A Approach Span Material:	Not Applicable
44B Approach Span Design:	Not Applicable
46 Number of Approach Spans:	0
107 Deck Type:	(1) Concrete-Cast-in-Place
108A Wearing Surface:	(4) Low Slump Concrete
108B Membrane:	(0) None
108C Deck Protection:	(0) None
Overlay Y/N:	Yes
Overlay Type:	PCC
Overlay Thickness:	2.000 in
Overlay Date:	

APPRAISAL

36A Bridge Railings:	(1) Meets Standards
36B Transitions	(1) Meets Standards
36C Approach Guardrail:	(1) Meets Standards
36D Approach Guardrail Ends:	(1) Meets Standards
71 Waterway Adequacy:	(N) Not Applicable
72 Approach Alignment:	(9) Above Desirable Crit
113 Scour Critical:	(N) Not over Waterway
Recommended Scour Critical:	(N) Not over Waterway

LOAD RATINGS

63 Operating Type:	(1) Load Factor (LF)
64 Operating Rating:	60.0 tons
65 Inventory Type:	(1) Load Factor (LF)
66 Inventory Rating:	36.0 tons
Truck Capacity Type I:	tons
Truck Capacity Type II:	tons
Truck Capacity Type III:	tons
Truck Capacity Type IV:	tons

GEOMETRIC DATA

48 Max Length Span:	121.063 ft
49 Structure Length:	415.026 ft
32 Approach Roadway:	-3.281 ft
33 Median:	(1) Open Median
34 Skew:	30°
35 Flare:	No Flare
50A Curb/Sidewalk Width L:	1.499 ft
50B Curb/Sidewalk Width R:	1.499 ft
47 Horiz. Clearance:	51.181 ft
51 Width Curb to Curb:	-3.281 ft
52 Width Out to Out:	55.118 ft
48 Max Length Span:	121.063 ft

ADMINISTRATIVE

27 Year Built:	1971
106 Year Reconstructed:	0
42A Type of Service On:	(7) 3d Level Intrch
42B Type of Service Under:	(1) Highway
37 Historical Significance:	(5) Not Eligible
21 Maintenance Responsibility:	(01) State Hwy Agency
22 Owner:	(01) State Hwy Agency
101 Parallel Structure:	(R) Right of ll Structure
52 Width Out to Out:	55.118 ft

CLEARANCES

10 Vert. Clearance:	19.583 ft
53 Min. Vert. Clearance Over:	99.999 ft
54A Vert. Under Reference:	(H) Hwy beneath struct.
54B Min. Vert. Underclearance:	16.417 ft
55A Lateral Under Reference:	(H) Hwy beneath struct.
55B Min. Lat. Underclearance R:	0.000 ft
56 Min. Lat. Underclearance L:	0.000 ft
10 Vert. Clearance:	99.999 ft

POSTINGS

41 Posting Status:	(A) Open, No Restriction
Signs Posted Cardinal:	No
Signs Posted Non-Cardinal:	No
Field Postings Gross:	-1 tons
Field Postings Type I:	-1 tons
Field Postings Type II:	-1 tons
Field Postings Type III:	-1 tons
Field Postings Type IV:	-1 tons

Inspection Report with SI&A Data

12: Re Concrete Deck

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
SQ.FT	22,875.46	20,588.46	90%	2,287	10%	0	0%	0	0%

Deck*
Note that diagonal and transverse cracking was found randomly throughout the deck surface. Map cracking conditions were noted in the deck surface above the pier locations randomly.
Random areas of rust seepage staining were found to be seeping upward through the top surface of the deck.
There was a minor amount of roadway dirt and debris as well as ponding were found in the gutter lines of the deck.
See Photos

510: Wearing Surfaces

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
SQ.FT	21,246.88	18,959.88	89%	2,287	11%	0	0%	0	0%

Wearing Surface*
Note that diagonal and transverse cracking was found randomly throughout the deck surface. Map cracking conditions were noted in the deck surface above the pier locations randomly.
Random areas of rust seepage staining were found to be seeping upward through the top surface of the deck.
There was a minor amount of roadway dirt and debris as well as ponding were found in the gutter lines of the deck.
See Photos

1130: Cracking (RC and Other)

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
SQ.FT	2,287	0	0%	2,287	100%	0	0%	0	0%

Cracking*
Note that diagonal and transverse cracking was found randomly throughout the deck surface. Map cracking conditions were noted in the deck surface above the pier locations randomly.
See Photos

Inspection Report with SI&A Data

102: Steel Clsd Box Gird

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	171	170	99%	1	1%	0	0%	0	0%

_This bridge has welded built up steel box girders.

-Note that all structural steel elements of this structure were painted during a recent paint project on 01-2013.
-The Exterior Paint system was found to be performing as designed at this time.
-The interior paint throughout all three box girders has a few isolated areas of paint failure that has exposed the primer. There is a minor amount of corrosion inside Box Girder #3 at the north end below the hatch.
-North access hatch for Box Girder #3 has two missing bolts.
-South access hatch for Box Girder #4 has three missing bolts.

515: Steel Protective Coating

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	1,097.28	1,097.28	100%	0	0%	0	0%	0	0%

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1000: Corrosion

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	1	0	0%	1	100%	0	0%	0	0%

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Inspection Report with SI&A Data

107: Steel Opn Girder/Beam

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	2,884	2,877	100%	2	0%	5	0%	0	0%

Girders*
Note that all structural steel elements of this structure were painted during a recent paint project on 01-2013. Paint system found to be performing as designed.

Cracks are located in the top copes of the girder webs at the following locations:
-1/2" Girder #3 in Span #1 at Pier #2
-1" in Girder #4 in Span#1 at Pier #2
-2 1/4" in Girder #5 in Span #2 at Pier #2
-3/4" in Girder #2 of Span #3 at Pier #3
-11/16" in Girder #4 of Span #3 at Pier #3

Arrestor holes were drilled at the ends of cracks at the top copes of the girders webs at the following locations:
-Girder #3 in Span #2 at Pier #3
-Girder #3 in Span #3 at Pier #3

515: Steel Protective Coating

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	7,911.39	7,911.39	100%	0	0%	0	0%	0	0%

Paint System*
Note that all structural steel elements of this structure were painted during a recent paint project on 01-2013. Paint system found to be performing as designed.

1010: Cracking

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	7	0	0%	2	29%	5	71%	0	0%

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Inspection Report with SI&A Data

205: Re Conc Column

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
EACH	6	6	100%	0	0%	0	0%	0	0%

Pier Columns*
Other than a very minor amount of loss of protective coating the pier columns appear to be performing as designed at this time.

215: Re Conc Abutment

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	128	108	84%	20	16%	0	0%	0	0%

Abutments*
Note that there is some minor water seepage and staining as well a random vertical cracking in the backwall of both abutments.
See Photos

1130: Cracking (RC and Other)

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	20	0	0%	20	100%	0	0%	0	0%

Cracking*
Note that there is some minor water seepage and staining as well a random vertical cracking in the backwall of both abutments.
See Photos

231: Steel Pier Cap

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	171	171	100%	0	0%	0	0%	0	0%

Steel Box Bent Cap*
This bridge has welded built up steel box bent caps.
Note that all structural steel elements of this structure were painted during a recent paint project on 01-2013. Paint system was found to be performing as designed at this time.
Note that hand written labels from recent fracture critical inspection were found at the top cope portion of girder # 4 in span # 3 and girder # 5 of span # 4 at the connection point to the bent cap over pier # 4. Exactly what these labels are indicating could not be determined from ground level where this inspection was conducted from.
See Photos

Inspection Report with SI&A Data

515: Steel Protective Coating									
Units	**Total Qty**	**Qty. St. 1**	**% in 1**	**Qty. St. 2**	**% in 2**	**Qty. St. 3**	**% in 3**	**Qty. St. 4**	**% in 4**
FT	537.89	537.89	100%	0	0%	0	0%	0	0%

Paint System*
Note that all structural steel elements of this structure were painted during a recent paint project on 01-2013. Paint system was found to be performing as designed at this time.

300: Strip Seal Exp Joint									
Units	**Total Qty**	**Qty. St. 1**	**% in 1**	**Qty. St. 2**	**% in 2**	**Qty. St. 3**	**% in 3**	**Qty. St. 4**	**% in 4**
FT	120	120	100%	0	0%	0	0%	0	0%

Joints*
Strip seal joint at both ends of the deck were found to be performing as designed at this time.
Both joints were found to be packed with a minor to moderate amount of roadway dirt and debris at this time.
See Photos

2350: Debris Impaction									
Units	**Total Qty**	**Qty. St. 1**	**% in 1**	**Qty. St. 2**	**% in 2**	**Qty. St. 3**	**% in 3**	**Qty. St. 4**	**% in 4**
FT	120	120	100%	0	0%	0	0%	0	0%

Debris Impaction*
Both joints were found to be packed with a minor to moderate amount of roadway dirt and debris at this time.

Inspection Report with SI&A Data

311: Moveable Bearing

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
EACH	18	16	89%	2	11%	0	0%	0	0%

Moveable Bearings*
The rocker bearings at both abutments have a very minor amount of tilt toward the backwall of the abutment that they are at.
Rocker bearing # 5 at the forward abutment was found to have recently poured concrete spilled on and around it which needs to be removed to allow the rocker bearing to function as designed.
The other rocker bearings appear to be vertical, but could only be seen from ground level.
Note that all structural steel elements of this structure were painted during a recent paint project on 01-2013. Paint system was found to be performing as designed at this time.
Note that the left rear pintle bolt of the bearing on column # 1 of Pier # 3 and the right forward pintle bolt of column # 2 of pier # 4 were both found to be backed out of their originally designed position by up to 8 in. each.
See Photos

515: Steel Protective Coating

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
EACH	6.14	6.14	100%	0	0%	0	0%	0	0%

Paint System*
Note that all structural steel elements of this structure were painted during a recent paint project on 01-2013. Paint system was found to be performing as designed at this time.

2210: Movement

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
EACH	2	2	100%	0	0%	0	0%	0	0%

Movement*
Note that the left rear pintle bolt of the bearing on column # 1 of Pier # 3 and the right forward pintle bolt of column # 2 of pier # 3 were both found to be backed out of their originally designed position by up to 8 in. each.

Inspection Report with SI&A Data

313: Fixed Bearing

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
EACH	2	2	100%	0	0%	0	0%	0	0%

Fixed Bearings*
The fixed bearings could only be seen from ground level and appear to be performing as designed at this time.
Note that all structural steel elements of this structure were painted during a recent paint project on 01-2013. Paint system was found to be performing as designed at this time.
See Photos

515: Steel Protective Coating

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
EACH	0.68	0.68	100%	0	0%	0	0%	0	0%

Paint System*
Note that all structural steel elements of this structure were painted during a recent paint project on 01-2013. Paint system was found to be performing as designed at this time.

331: Re Conc Bridge Railing

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	830	790	95%	40	5%	0	0%	0	0%

Concrete Bridge Railing*
Note that there is a moderate amount of loss of protective coating as well as random roadway traffic impact scrapes randomly throughout the concrete bridge railing.
Vertical flexure cracking was as well as minor concrete spalling were found at random spacing throughout.
Note that there is a tubular railing system mounted to the top side of the concrete bridge railing along both sides of the structure. There is an area of this tubular railing system (approximately 10 ft. long) along the left side of the structure near mid-span that has been damaged by roadway traffic impact.
See Photos

1130: Cracking (RC and Other)

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	30	0	0%	30	100%	0	0%	0	0%

Concrete Cracking*
Vertical flexure cracking was as well as minor concrete spalling were found at random spacing throughout.

Inspection Report with SI&A Data

7000: Damage

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	10	0	0%	0	0%	0	0%	10	100%

Tubular Railing Damage*
Note that there is a tubular railing system mounted to the top side of the concrete bridge railing along both sides of the structure. There is an area of this tubular railing system (approximately 10 ft. long) along the left side of the structure near mid-span that has been damaged by roadway traffic impact.
See Photos

853: Utilities

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
(EA)	1	1	100%	0	0%	0	0%	0	0%

Utilities*
This bridge has one overhead light mounted to the top side of the right side bridge railing that appears to be in good condition, however it is unknown if it functions.

857: Embankment Erosion

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
(EA)	1	1	100%	0	0%	0	0%	0	0%

Embankment Erosion*
Embankment Erosion*
A moderate to heavy amount of soil erosion was found around column # 1 of Pier # 2. This erosion has caused up to 2" of erosion along one side of the column and in time could become a problem. Footing was not detected at this time.
See Photos

Inspection Report with SI&A Data

STRUCTURE NOTES
-Note that this structure recently had both the rear and forward sliding plate expansion joints removed and replaced. (10/30/2013) GTC -Note that this structure was painted on January, 2013. (10/30/2013) GTC -Structure Stamped HS 20-44 -Note that the painters stamped the wrong bridge I.D. on this structure.

INSPECTION NOTES
Inspection performed was just of fracture critical members (Box Girders), bearing devices over the piers and of girder ends at the piers. Only performed inspection on elements 102 and 107. -AJB 11-15-15 Inspected by Andrew Bush, Gary Cochran, Craig Bresch, Greg Cady, Rick Rogers and Nick Reis. Crew worked from 11-15-15 through 11-18-15 using a bucket truck and a man lift. Confined space crew from D5 was utilized for confined space entry. Element 231 for a steel pier cap, after review from Central and District personnel, has been changed to element 102 for a steel closed box girder. The box girders are performing as part of the superstructure and not as part of the substructure. Each Box girder will be labeled with the corresponding pier number it is bearing above. There are three fracture critical box girders inventoried on this structure

WORK	
Action:	1079 - Superstructure-Repair Steel
Generated by user "abush" on 11/19/2015 Five cracsk located in the girders need to have an arrestor hole drilled at the ends of the cracks.	