

Inspection Report with SI&A Data

Structure Description: 417.98 Foot - 3 Span Steel continuous Stringer/Multi-beam or Girder

2 District: 09 **3 County:** Carter **16 Latitude:** 38°19'34.00" **7 Longitude:** 83°07'42.00"

7 Facility Carried: INTERSTATE 64

Milepoint: 160.900

6A Feature Intersected: TYGARTS CREEK

9 Location: .50 MI WEST OF US 60 NTRC

NBI	X
Element	X
Fracture Critical	
Underwater	
Special	

NBI CONDITION RATINGS			
58 Deck:	7	61 Channel:	7
59 Superstructure:	6	62 Culvert:	N
60 Substructure:	6	Sufficiency Rating:	81

GEOMETRIC DATA		
48 Max Length Span:		158.136 ft
49 Structure Length:		417.979 ft
32 Approach Roadway:		37.073 ft
33 Median:		(2) Closed w/o Barrier
34 Skew:		0°
35 Flare:		No Flare
50A Curb/Sidewalk Width L:		0.000 ft
50B Curb/Sidewalk Width R:		0.000 ft
47 Horiz. Clearance:		29.856 ft
51 Width Curb to Curb:		29.856 ft
52 Width Out to Out:		30.000 ft

DESIGN	
Substandard:	No
Fracture Critical:	No
43A Main Span Material:	(4) Steel Continuous
43B Main Span Design:	(02) Stringer / Girder
45 Number of Spans Main:	3
44A Approach Span Material:	(3) Steel
44B Approach Span Design:	(02) Stringer / Girder
46 Number of Approach Spans:	1
107 Deck Type:	(1) Concrete-Cast-in-Place
108A Wearing Surface:	(1) Monolithic Concrete
108B Membrane:	(0) None
108C Deck Protection:	(0) None
Overlay Y/N:	Yes
Overlay Type:	PCC
Overlay Thickness:	8.000 in
Overlay Date:	2002

ADMINISTRATIVE		
27 Year Built:		1969
106 Year Reconstructed:		-4
42A Type of Service On:		(1) Highway
42B Type of Service Under:		(5) Waterway
37 Historical Significance:		(5) Not Eligible
21 Custodian:		(01) State Hwy Agency
22 Owner:		(01) State Hwy Agency
101 Parallel Structure:		(L) Left Of II Structure

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:	(8) Equal Desirable
72 Approach Alignment:	(8) Equal Desirable Crit
113 Scour Critical:	(8) Stable above footing
Recommended Scour Critical:	(8) Stable above footing

CLEARANCES		
10 Vert. Clearance:		99.999 ft
53 Min. Vert. Clearance Over:		99.999 ft
54A Vert. Under Reference:		(N) Feature not hwy or RR
54B Min. Vert. Underclearance:		0.000 ft
55A Lateral Under Reference:		(N) Feature not hwy or RR
55B Min. Lat. Underclearance R:		0.000 ft
56 Min. Lat. Underclearance L:		0.000 ft

LOAD RATINGS	
63 Operating Type:	(1) Load Factor (LF)
64 Operating Rating:	70.0 tons
65 Inventory Type:	(1) Load Factor (LF)
66 Inventory Rating:	42.0 tons
Truck Capacity Type I:	44 tons
Truck Capacity Type II:	46 tons
Truck Capacity Type III:	49 tons
Truck Capacity Type IV:	62 tons

POSTINGS	
41 Posting Status:	(A) Open, No Restriction
Signs Posted Cardinal:	
Signs Posted Non-Cardinal:	
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

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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	12,539.37	12,413.98	99%	125.39	1%	0	0%	0	0%
<p>The deck has some areas of minor transverse and longitudinal cracking. See photos.</p>									

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	12,484.41	12,359.57	99%	124.84	1%	0	0%	0	0%
<p> </p>									

7358: DO NOT USE Concrete Cracking									
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	124.79	0	0%	124.79	100%	0	0%	0	0%
<p>The deck has some areas of minor transverse and longitudinal cracking. See photos.</p>									

7359: DO NOT USE Concrete Efflorescenc									
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	10.76	10.76	100%	0	0%	0	0%	0	0%
<p>The deck has some areas of minor transverse and longitudinal cracking. See photos.</p>									

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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	1,672	842	50%	830	50%	0	0%	0	0%

The exterior beams have some areas of flaking paint with freckled surface rust. The bottom flanges of these exterior beams have flaking paint with areas of minor to moderate rusting corrosion. The splice plates on these exterior beams bottom flanges are bulging from some moderate pack rust. The interior beams have more minor corrosion and bulging at the splice plates. A bolt is missing from the east end of the bottom flange splice plate on beam 3 from the south near pier 3 in span 2. The north exterior beam at abutment 5 has an area of moderate section loss in the lower exterior web near the bottom flange over the bearing. The beam ft.s paint system has some moderate to large areas of paint failure. 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
FT	0.3	0.3	100%	0	0%	0	0%	0	0%

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	4	67%	1	17%	1	17%	0	0%

The south column of pier 4 has minor to moderate cracking in all four faces. Moderate vertical delamination cracking is present in the north and south faces. The north face of this south column has a vertical crack that measures 3/8 in. wide near the groundline (It is approximately 10 ft. in height and narrows at the top). The vertical crack in the south face measures ~ 3/16 in. wide near the ground. This crack grows larger as in progresses into the pier cap. The north column of pier 4 also has minor vertical cracking in all the faces, except the west face. See photos.

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	66	59	89%	7	11%	0	0%	0	0%

Abutment 1 has some minor vertical cracking and discoloration. It has been wet from seepage/drainage. Abutment 5 has some minor horizontal cracking in the breast wall at the north and south ends. The back wall has some minor cracking at the north end as well. See photos.

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234: Re Conc 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	99	72	73%	25	25%	2	2%	0	0%

Pier cap 4 has moderate to large vertical delamination cracking in the south face. This cracking extends from the top of the cap to the groundline of the south column. The north face of the cap has a moderately sized and moderately deep spall with exposed steel. The underside of this pier cap has minor cracking for the majority of its visible length. See photos.

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	33	0	0%	33	100%	0	0%	0	0%

The transverse joint over pier 4 is partially full of debris.

302: Compressn Joint Seal

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	66	33	50%	33	50%	0	0%	0	0%

The transverse joints at abutments 1 and 5 have some local adhesion failures. The gland at abutment 1 has some small tears. See photos.

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	16	12	75%	4	25%	0	0%	0	0%

The moveable bearings over pier 4 appear to have some minor to moderate rusting corrosion at this time. See photos.

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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	0.09	0.09	100%	0	0%	0	0%	0	0%

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	8	3	38%	5	63%	0	0%	0	0%
<p>All the bearings at abutment 1 have moderate to heavy corrosion causing loss of section within the masonry plates and anchor bolts. The lower portions of the bearings have some minor to moderate corrosion at this time. The north exterior bearing at abutment 5 has some moderate corrosion on the lower portion of the bearing. See photos.</p>									

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	0.09	0.09	100%	0	0%	0	0%	0	0%

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	894	889	99%	5	1%	0	0%	0	0%
<p>The barriers have minor vertical cracking throughout. See photos.</p>									

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850: 2nd Elem									
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	0	0%	1	100%	0	0%	0	0%
<p>The second and sixth transverse web stiffener from abutment 1 on beam 2 from the south are slightly bent out of plane near the bottom flange. See photos.</p>									

852: Drains									
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	0	0%	0	0%	1	100%	0	0%
<p>The drains are partially blocked and should be cleaned out. The ends of the downspouts have some moderate corrosion. See photos.</p>									

859: Vegetation									
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	0	0%	0	0%	1	100%	0	0%
<p>Heavy vines are growing on the south column of pier 3. These should be removed. See photos.</p>									

7363: DO NOT USE Steel Section Loss									
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	0	0%	1	100%	0	0%	0	0%
<p>Some section loss is present within some of the exposed steel in the beams, lower bearings, and masonry plates and anchor bolts. A small localized area of minor section loss is present within the north exterior beam at abutment 5 in the lower exterior web near the bottom flange over the bearing. See photos.</p>									

STRUCTURE NOTES
-75

INSPECTION NOTES
This is a routine 24 month inspection and the NBI ratings reflect only what can be visibly seen from the ground. Binoculars were utilized for a closer visual inspection. Inspected by A.Greiner.

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WORK

Action: -1 - Converted Work Candidates

Cleaning and coating the bearings at the abutments and pier 4 should be considered. Generated by agreiner on 03/12/2014

Action: -1 - Converted Work Candidates

Spot painting or replacing the paint system should be considered. Generated by agreiner on 03/12/2014

Action: -1 - Converted Work Candidates

The drains should be cleaned out. Generated by agreiner on 03/12/2014

Action: -1 - Converted Work Candidates

Vines should be removed from pier 3. Generated by agreiner on 03/12/2014

022B00095L



View from the south near abutment 1.



View of the south bearing at abutment 1. Moderate to heavy corrosion is present in the masonry plate and anchor bolts.



View of flaking paint with minor to moderate corrosion in the bottom flange of the south beam at abutment 1.



View of flaking paint with moderate corrosion along the bottom flange of the north beam in span 1.

022B00095L



View of flaking paint with moderate corrosion along the bottom flange of the north beam in span 1.



View of the transverse joint at abutment 1. It has some small tears and local adhesion failure.



View of some minor transverse cracking in the wearing surface in span 1.



View of the transverse joint over pier 4. It is partially full of debris.

022B00095L



View of the transverse joint over abutment 5. It has some local adhesion failures.



View of minor cracking at the north end of abutment 5's backwall.



View of minor cracking at the north end of abutment 5's breastwall.



View of minor cracking at the south end of abutment 5's breastwall.

022B00095L



View of the north bearings over pier 4.



View of minor to moderate cracking at the south end of pier cap 4 in span 4.



View of moderate to heavy cracking at the south end of pier cap 4.



View of moderate vertical cracking (up to 3/16" wide near ground) in the south face of the south column of pier 4.

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View of moderate to heavy vertical cracking (up to 3/16" wide near ground) in the south face of the south column and cap of pier 4.



View of minor cracking in the underside of pier cap 4.



View of moderate vertical cracking (3/8" wide near the ground) in the north face of the south column of pier 4.



View of moderate vertical cracking (3/8" wide near the ground) in the north face of the south column of pier 4.

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View of span 3 and pier 3. Notice the vines growing on the south column.



View of a moderately sized and moderately deep spall with exposed steel at the north end of pier cap 4.



View of span 2 and pier 2.