



# OKLAHOMA DEPARTMENT OF TRANSPORTATION - Bridge Inspection Report

Suff. Rating: 49.5  
SD

Health Index :  
98.0

NBI No.: 13688      Structure No.: 6602 0368EX      Local ID:-1

Inspection Date: 11/9/2017      Reported By: MKRONANDER

Invoice No.: -1      Inspected With: -1

Agency :

### Structure / Inspection Notes

140-foot thru-truss (span 2), 210-foot thru-truss (span 3), 160-foot thru-truss (span 4) and three 100-foot pony trusses (Spans 1,5&6)  
CLEARANCE FOR ROAD UNDER BRIDGE WAS MEASURED TO BE 14.5' FOR NEW ADJACENT BRIDGE. SIGN READS 14FT 11IN. SIGN NEEDS REPOSTED. SIGN FOR TRUSS OVER ROADWAY IS GOOD. 11/2017

O/S Inspection Items Include: Cracks and overcuts at stringer copes; Section loss/welded repairs to stringer and floor beam ends; Section loss to lower chord truss gusset plates; Sweep in floor beams over piers; Bearing rotations; pack rust distressing fb and truss connections areas;crack and corrosion hole in top of fb 5, e truss, span 1; impact damage or bowing of gusset plates;exposed concrete pile at north abutment.

PX-Replace or repaint numbers on vc sign at the s portal bracing of span 2 and e truss lower chord in span 5;Replace the damaged portion of the se approach rail;Clear the deck drains;Replace patches and fill in spalls in the deck;Replace the jt header for the south abut jt;Replace the jt material for the jts at piers 1 and 3;Repair the delaminations and spalls, and seal cracks along jt headers;Install stiff-leg repairs to the end fbs and fbs with sweep;Repair areas of significant section loss to the fbs;Replace floor system gps, angles, and hanger rods with section loss or are broken;Reconnect conduit piping in span 5 and replace broken supports in spans 1 and 5;Remove or trim vegetation from the interiors of eps and near the truss in spans 1 and 6;Remove constr debris from on top of end stay plate for U4L5 west in span 6 and w truss brg at south abut;Remove loose conc and patch spall in capitol of w column of pier 1;Reset the brgs at pier 3, span 3.  
FX-Monitor:wider cracks developing throughout deck for efflor;spalling in the deck soffit for additional growth;cracking with efflorescence in the deck soffit;repairs to the stringers;crack lengths and overcuts to the str copes;reactivating pr between the str web and fb connection angles;sheared rivet head on the west face of str 6, s face of fb 1, span 6;1" long layer of steel which has peeled away at the top cope of str 6, south face of fb 2, span 3;areas of section loss to the floor beam;welded repair plates for cracks or distress;areas of pack rust at the fb to truss connection;gap between fb 5 of span 5 and fb 0 of span 6;2" vertical crack and corrosion hole in top of connection of floor beam 5 to east truss in span 1;pr between llb gps and fb bfs;impact damage to inboard gusset plate of pp U1 of the e truss in span 4 for cracks;ib gps for additional section loss;truss web members for additional section loss and pack rust around fb/railing;floor system deflection;exposed pile at north abut;brgs for movement.

Elm.	Env.	Description	Un.	Qty.	Qty.St. 1	% 1	Qty.St. 2	% 2	Qty.St. 3	% 3	Qty.St. 4	% 4	Qty.St. 5	% 5
12	4	Reinforced Concrete Deck	(SF)	24,576	21,471	87 %	3,054	12 %	51	0 %	0	0 %	0	0 %
113	4	Steel Stringer/Floorbeam	(LF)	206,400	206,400	100 %	0	0 %	0	0 %	0	0 %	0	0 %
120	1	Steel Truss (Pony)	(LF)	600	425	71 %	100	17 %	75	13 %	0	0 %	0	0 %
152	4	Steel Floor Beam	(LF)	1,426	826	58 %	200	14 %	400	28 %	0	0 %	0	0 %
162	4	Steel Gusset Plate	(EA)	396	0	0 %	346	87 %	50	13 %	0	0 %	0	0 %
205	4	Reinforced Conc Column or Pile Extension	(EA)	10	3	0 %	7	70 %	0	30 %	0	0 %	0	0 %
215	4	Reinforced Conc Abutment	(LF)	76	26	34 %	50	66 %	0	0 %	0	0 %	0	0 %
227	1	Reinforced Conc Pile	(EA)	1	1	100 %	0	0 %	0	0 %	0	0 %	0	0 %
301	4	Pourable Joint Seal	(LF)	90	0	0 %	0	0 %	90	100 %	0	0 %	0	0 %
304	4	Open Expansion Joint	(LF)	60	0	0 %	60	100 %	0	0 %	0	0 %	0	0 %
311	4	Moveable Bearing (roller, sliding, etc.)	(EA)	12	5	42 %	5	42 %	2	17 %	0	0 %	0	0 %
313	4	Fixed Bearing	(EA)	12	8	67 %	4	33 %	0	0 %	0	0 %	0	0 %
321	4	Reinforced Conc Approach Slab w/ or w/o AC O	(EA)	2	2	100 %	0	0 %	0	0 %	0	0 %	0	0 %
330	4	Metal Bridge Railing	(LF)	1,620	620	38 %	200	12 %	800	49 %	0	0 %	0	0 %
515	4	Steel (Superstructure) Protective Coating	(SF)	145,456	0	0 %	145,456	100 %	0	0 %	0	0 %	0	0 %
821	4	Steel Truss (Overhead)	(LF)	1,020	870	85 %	100	10 %	50	5 %	0	0 %	0	0 %
859	4	Soffit of Concrete Decks and Slabs	(EA)	1	0	0 %	0	0 %	1	100 %	0	0 %	0	0 %
877	4	Steel Stringer End (5 Ft.)	(LF)	2,580	2,130	83 %	100	4 %	350	14 %	0	0 %	0	0 %
909	4	Pourable Fixed Joint Seal	(LF)	246	0	0 %	246	100 %	0	0 %	0	0 %	0	0 %
919	4	Steel (Railing) Protective Coating	(SF)	7,128	0	0 %	7,128	100 %	0	0 %	0	0 %	0	0 %
956	4	Steel Cracking/Fatigue	(EA)	1	0	0 %	1	100 %	0	0 %	0	0 %	0	0 %
957	4	Pack Rust	(EA)	1	0	0 %	0	0 %	1	100 %	0	0 %	0	0 %
958	4	Concrete Cracking	(EA)	1	0	0 %	1	100 %	0	0 %	0	0 %	0	0 %
963	4	Steel Section Loss	(EA)	1	0	0 %	0	0 %	1	100 %	0	0 %	0	0 %
968	4	Erosion	(EA)	1	0	0 %	1	100 %	0	0 %	0	0 %	0	0 %
969	4	Out-Of-Plane Distortion/Loading	(EA)	1	0	0 %	0	0 %	1	100 %	0	0 %	0	0 %

Additional Elements \_\_\_\_\_

Elem.	Element Notes (Include Size and Location of Deterioration)
12	PX - Isolated areas of the deck exhibit spalls or delaminations up to 4 square feet. Some of the spalls have been filled in with asphalt. FX - Isolated longitudinal cracking up to 1/16-inch wide was noted in spans 2 through 6. Low density map cracking less than 1/64-inch wide is typical to isolated locations throughout the deck. The worst location of map cracking was noted to be a 5 square-foot area of 1/16-inch wide cracking with efflorescence in the west shoulder at pier 2.
113	Most of the deficiencies are for element 877-stringer ends.

Elem.	Element Notes (Include Size and Location of Deterioration)
120	<p>Upper Chord - Reactivating surface corrosion with minor section loss is present to the lacing bars on the underside of the upper chord members in spans 1, 5, and 6.</p> <p>Lower Chord - FX – Isolated gusset plates exhibited section loss 1/8-inch deep along the interface with the top flange of lower chord channels. Isolated batten plates throughout the lower chord exhibit multiple corrosion holes up to 1-inch long by 1/2-inch wide. Isolated gusset plates exhibited pack rust up to 1/8-inch wide and a maximum of 3/8-inch between the gusset plate and lower chord channels. Isolated gusset plates exhibited minor bowing due to the painted over pack rust. The outboard channel bottom flange of L4L5 of the east truss in span 3 is bent downward 1 1/2-inch with a 3/16-inch deep gouge.</p> <p>Web Members - FX – The vertical connection plates above the floor beam flanges typically exhibit section loss up to 1/8-inch deep due to deck drainage from the associated joints. Pack rust up to 1/4-inch thick occurs between the bridge rail and truss web members. Section loss up to 1/8-inch deep is present at several of these locations. Additional areas of minor 1/8-inch thick pack rust was noted at several mid-height member connections.</p> <p>End Posts - Minor pack rust is typical between the top cover plates of the end posts and channel top flanges and between the various members and gusset plates. The end stay plate for U4L5 of the west truss in span 1 exhibits several corrosion holes up to 1-inch in diameter with active corrosion.</p>
152	<p>PX – Member Alignment - Multiple floor beams were noted to exhibit sweep; however, an analysis performed by the OKDOT on November 20, 2015 determined that a load restriction was not necessary. Floor beam sweep measurements for the end floor beams are as follows (see 13688(2017-11-09)FC for locations). Multiple floor beams exhibit areas of significant section loss and corrosion holes. Many of these locations have been repaired with a welded plate repair. The locations of significant section loss and repairs are documented in the following table (see 13688(2017-11-09)FC for locations). End floor beams typically exhibit heavy section loss of 1/4-inch deep throughout all the faces with additional corrosion holes due to the leaking joints above.</p> <p>FX – The underside of the floor beam bottom flange exhibits up to 3/16-inch section loss at the interface with the floor bracing connection plate. Floor beam top flanges exhibit typically full width by 1/8-inch deep section and a maximum of 1/4-inch deep section loss to the exterior bays and in multiple locations extending into the first interior bay. Multiple floor beam to truss connections exhibit reactivating pack rust up to 3/8-inch thick between the floor beam web plate and truss connection plates and angles at the top of the connection.</p> <p>A 3/8-inch gap is present between the bottom flanges of floor beam 5 of span 5 and floor beam 0 of span 6 at 55°F. Additional expansion of the truss could be restricted at this location under high temperature conditions. A previously noted 2-inch long vertical crack exists in the top of the floor beam 5 to east truss connection in span 1. This deficiency has been cleaned and painted, however, is still visible. A 5/8-inch diameter corrosion hole exists adjacent to the cracks. No changes were observed since the last inspection with these conditions.</p>
162	<p>FX – Isolated gusset plates exhibited section loss 1/8-inch deep along the interface with the top flange of lower chord channels. Inboard gusset plate of U1 of the east truss in span 4 exhibits a 3-inch high by 1/8-inch deep gouge in the edge of the gusset plate on the north side.</p> <p>Member Alignment - Inboard gusset plates throughout the upper chord typically exhibit minor 1/8-inch bowing due to construction. No signs of distress were noted at any locations. Member Alignment - The gusset plates at L7 of the west truss in span 2 are both bowed 1/8-inch towards each other.</p>
205	<p>PX – A spall 12 inches long by 5 inches high by 2 inches deep with no exposed reinforcing steel exists in the capitol of the west column of pier 1 on the south face. Spall is currently not undermining bearing.</p> <p>A horizontal crack is emanating from a patch on the north face of pier 1 at the east end of the patch, however, patch appears sound. Hairline circumferential and vertical hairline cracks exist in several of the pier columns. Many of the previously noted spalls in the web walls have been patched.</p>
215	<p>FX – One concrete pile is partially exposed up to 6-inches vertically at the north abutment beneath the west truss bearing. The previously noted spalls and cracks at the south abutment have been repaired.</p>
227	<p>FX – One concrete pile is partially exposed up to 6-inches vertically at the north abutment beneath the west truss bearing. No significant deficiencies.</p>
301	<p>PX – The expansion joints at piers 1 and 3 exhibit isolated locations of adhesion failure totaling approximately 5 feet at each joint. Isolated asphalt and concrete patches adjacent to the joints exhibit cracking and spalling. Additional joints exhibited spalls up to 2 square feet by 2 inches deep to the joint headers. Several joints exhibited full width transverse hairline cracks up to 1/8-inch wide adjacent to the floor beams</p>
304	<p>PX – At the south abutment open joint, the approach slab is offset approximately 2 inches vertically in the left travel lane near the centerline</p>
311	<p>PX – Excessive bearing rotations were noted to the span 3, pier 3 bearings for both truss lines. The most significant bearing rotation was noted to be 14° to the west truss. Bearing measurements were taken at all the bearings at 50°F. Measurements are documented below (see 13688(2017-11-09)FC for bearing measurements). The east anchor bolt at the east truss bearing for span 5 and pier 5 is backed off nearly 2-inches. The truss bearings at pier typically exhibit minor surface corrosion on the rockers and masonry plates.</p>
313	<p>The truss bearings at pier typically exhibit minor surface corrosion on the rockers and masonry plates.</p>
321	<p>No significant deficiencies were noted at the time of inspection. The approaches have been repaired since the last inspection.</p>
330	<p>The bridge railing exhibits 1/8-inch deep painted over section loss throughout the interior face of the railing. Isolated locations of peeling paint with minor corrosion and minor impact damage were noted to the bridge rail.</p>
515	<p>The bridge was painted in January 2014. Isolated areas exhibit reactivating corrosion typically at leaking deck joints and interfaces between various connection plates. Most of paint throughout truss above the deck has no deficiencies.</p>
821	<p>Upper Chord - FX – Inboard gusset plate of U1 of the east truss in span 4 exhibits a 3-inch high by 1/8-inch deep gouge in the edge of the gusset plate on the north side.</p> <p>Lower Chord - Member Alignment - Isolated gusset plates exhibited pack rust up to 1/8-inch wide and a maximum of 3/8-inch between the gusset plate and lower chord channels. Isolated gusset plates exhibited minor bowing due to the painted over pack rust. The outboard channel bottom flange of L4L5 of the east truss in span 3 is bent downward 1 1/2-inch with a 3/16-inch deep gouge.</p>
859	<p>FX – Isolated areas of the deck soffit exhibit spalling with exposed reinforcing steel typically adjacent to the floor beams. Some of these spalls have been patched or the exposed reinforcing steel has been painted.</p> <p>The deck soffit exhibits isolated locations of cracks with efflorescence which is allowing water to leak through the cracks onto the floor beams.</p>
877	<p>FX – Heavy section loss to the stringers near the top of the floor beam connections with repairs or repair recommendations are as follows (see 13688(2017-11-08)FC for locations). Stringers exhibited cope cracks and overcuts throughout the structure. Locations and measurements are as follows (see 13688(2017-11-08)FC for locations). Pack rust up to 1 5/8 inch thick between the stringer/floor beam webs and connection angles has begun to reactivate in isolated locations. One sheared rivet head is present on the west face of the stringer 6 connection to the south face of floor beam 1 in span 6. Rivet shank is not in shear plane. A 1-inch long layer of steel has peeled away at the top cope on the west face of stringer 6 at the connection to the south face of floor beam 2 in span 3 with an adjacent pin hole to the stringer web.</p>
909	<p>PX – Isolated asphalt and concrete patches adjacent to the joints exhibit cracking and spalling. Additional joints exhibited spalls up to 2 square feet by 2 inches deep to the joint headers. Several joints exhibited full width transverse hairline cracks up to 1/8-inch wide adjacent to the floor beams</p>
919	<p>Isolated locations of peeling paint with minor corrosion and minor impact damage were noted to the bridge rail.</p>
956	<p>See element 877.</p>
957	<p>Pack rust between truss web and railing, floor beam and 1lb gusset plates, connection angles of floor beams and stringers.</p>
958	<p>FX – Isolated longitudinal cracking up to 1/16-inch wide was noted in spans 2 through 6.</p> <p>Low density map cracking less than 1/64-inch wide is typical to isolated locations throughout the deck. The worst location of map cracking was noted to be a 5 square-foot area of 1/16-inch wide cracking with efflorescence in the west shoulder at pier 2.</p>
963	<p>Stringer copes at floor beams and throughout floor beams under leaking joints.</p>

# OKLAHOMA DEPARTMENT OF TRANSPORTATION - Bridge Inspection Report

Suff. Rating: 49.5  
SD

Health Index :  
98.0

NBI No.: 13688

Structure No.: 6602 0368EX

Local ID:-1

Elem.	Element Notes (Include Size and Location of Deterioration)				
968	FX – One concrete pile is partially exposed up to 6-inches vertically at the north abutment beneath the west truss bearing. A 2-foot deep erosion ditch extending from panel point 3 of the east truss into span 2 to the channel was noted. The ditch has been partially lined with dump rock.				
969	PX – Member Alignment - Multiple floor beams were noted to exhibit sweep; however, an analysis performed by the OKDOT on November 20, 2015 determined that a load				
<del>ROADWAY</del> Floor beam sweep means information applicable to the Route Under the Structure (2017-11-09)FC for locations).					
Roadway Name : <del>COULTER RD</del>					
5.	Inventory Route (Route Under Structure :	2 - 4 - 1 - 00000 - 0	102.	Traffic Dir.:	2 2-way traffic
10.	Min. Vert. Clr.(ft.):	14.5	104.	Highway System :	0 Not on NHS
12.	Base Hwy Network :	Not on Base Network	105.	Fed Land Hwy :	0 N/A (NBI)
13.	LRS Inv. Rt./ Subroute :	-1 / -1	109.	Truck ADT% :	15
19.	Detour Len.(Mi.):	0.0	110.	Natl. Truck Network :	0 Not part of natl netwo
20.	Toll Facility :	3 On free road	114.	Future ADT :	160
26.	Function Class.:	07 Rural Mjr Collector	100.	Defense Highway :	0 Not a STRAHNET hwy
Agency Field: 1.(Under Rte.): <input type="text" value="U"/> 2.(Vert. X-Ref.): <input type="text" value="-1"/> 3.(Compass Dir.): <input type="text" value="N"/> 4.(Vert. Post. Inc.): <input type="text" value="1411"/> 5.(Vert. Post. Dec.): <input type="text" value="1411"/>					