

Oklahoma Dept. of Transportation - Bridge Inspection Report

NBI No.: 18769	Structure No.: 5507 0071EX	Local ID: -1	Suff. Rating: 80.80	FO																														
Bridge Description: IDENTIFICATION 47ft.,2-74ft.,47ft. CONT. I-BM. SPANS SK. 70 DEG.30ft.		INSPECTION <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Type</th> <th>Insp. Req.</th> <th>Insp. Done</th> <th>Freq.</th> <th>Insp. Date</th> <th>Next Insp.</th> </tr> </thead> <tbody> <tr> <td>NBI:</td> <td></td> <td>1</td> <td>24 months</td> <td>11/27/2018</td> <td>11/27/2020</td> </tr> <tr> <td>FC:</td> <td>N</td> <td>0</td> <td></td> <td>NA</td> <td>NA</td> </tr> <tr> <td>UW:</td> <td>N</td> <td>0</td> <td></td> <td>NA</td> <td>NA</td> </tr> <tr> <td>OS:</td> <td>N</td> <td>0</td> <td></td> <td>NA</td> <td>NA</td> </tr> </tbody> </table>			Type	Insp. Req.	Insp. Done	Freq.	Insp. Date	Next Insp.	NBI:		1	24 months	11/27/2018	11/27/2020	FC:	N	0		NA	NA	UW:	N	0		NA	NA	OS:	N	0		NA	NA
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UW:	N	0		NA	NA																													
OS:	N	0		NA	NA																													
1. State: Oklahoma 2. Division: Division 4 3. County: OKLAHOMA 4. City: OKLA. CITY Admin Area: Unknown 5a. On/Under: Route On Structure 5b. Kind of Hwy: Interstate Hwy 5c. Lvl of Srvc: Mainline 5d. Route No.: 00044 5e. Dir. Sufx: N/A (NBI)		7. Facility Carried: I-44 NB 6. Feat. Intersect: U.P. R.R. & ST. UNDER 9. Location: 0.7 MI N I-40 11. Mile Post: 0.710 mi 13. LRS Inv. / Sub Rte: 5507 0000 / 01 16. Latitude: 35° 28' 13.50" 17. Longitude: 097° 34' 44.48" 98. Border Brdg: Not Applicable (P) % Responsible: 0.00 99. Border Brdg #: Unknown																																
STRUCTURE TYPE AND MATERIALS 43a/b. Main Span: Steel Cont. / Stringer/Girder 44a/b. Appr. Span: N/A / Not Applicable (P) 45. # of Main Spans: 4 46. # of Appr. Spans: 0 107. Deck Type: Concrete-Cast-in-Place 108a. Wearing Surface: Low Slump Concrete 108b. Membrane: None 108c. Deck protection: Other		CLASSIFICATION 12. Base Hwy Net.: On Base Network 20. Toll Facility: On free road 21. Custodian: State 22. Owner: State 26. Function Class: 11 Urban Interstate 37. Historical Sig.: Not eligible for NRHP 100. Def. Hwy: On Interstate STRAHNE																																
AGE AND SERVICE 19. Detour Length: 0.1 mi 27. Year Built: 1974 28a/b. Lanes on/und: 4 / 4 29. ADT: 70,350 30. Year of ADT: 2016 42a/b. Type of Svc on/und: Highway / Hwy-R.R.		CONDITION 58. Deck: 5 Fair 62. Culvert: N/A (NBI) Flowline Notes 59. Sup.: 5 Fair 60. Sub: 5 Fair 61. Chan./Chan. Prot.: N/A (NBI)																																
GEOMETRIC DATA 10. Vert. Clearance: 99.99 ft 32. Appr Rwy Width: 70.70 ft 33. Median: No median 34. Skew: 20.00° 35. Struct. Flared: No flare 47. Horizontal Clr: 70.70 ft 48. Length Max Span: 74.00 ft 49. Struct. Length: 246.00 ft		LOAD RATING AND POSTING 31. Design Load: MS 18 (HS 20) 41. Post. Status: A Open, no restriction 70. Posting: 5 At/Above Legal Loads 63. Op / 65. Inv. Rating Meth.: 1 LF Load Factor / 1 LF Load Factor <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>H</th> <th>HS</th> <th>3-3</th> <th>EV3</th> <th>SHV</th> </tr> </thead> <tbody> <tr> <td>64. Operating Rating (tons):</td> <td>44.60</td> <td>57.30</td> <td>91.10</td> <td>-1.00</td> <td>0.00</td> </tr> <tr> <td>66. Inventory Rating (tons):</td> <td>26.70</td> <td>34.40</td> <td>54.70</td> <td>-1.00</td> <td></td> </tr> </tbody> </table>				H	HS	3-3	EV3	SHV	64. Operating Rating (tons):	44.60	57.30	91.10	-1.00	0.00	66. Inventory Rating (tons):	26.70	34.40	54.70	-1.00													
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200c. Temperature: 38 200d. Weather: Clear 201. Struc.Stl. ASTM Desig.: -1 / -1 202. Waterprf. Membrane: -1 Date Installed: 01/01/1901 203. Type Exp. Device: Armored Joint Pourable 204. Type of Railing: SFP-1 205. Material Quantity: 2,061.00 208a. Type of Abutment: Skeleton b. Type of Found.: Steel Piling 209. Type of Pier/Found.: 4 / No Steel Piling 210. Foundation Elev.: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>-1.00</td> <td>-1.00</td> <td>-1.00</td> </tr> <tr> <td>-1.00</td> <td>-1.00</td> <td>-1.00</td> </tr> </table> 211. Wear. Surf. Prot. Sys: None Date Installed: 01/01/1901 213. Utilities Attached: Communication		-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	APPRaisal 36a. Brdg Rail: 1 Meets Standards 36b. Transition: 1 Meets Standards 36c. Appr. Rail: 1 Meets Standards 36d. Appr. Rail Ends: 1 Meets Standard 67. Str Evaluation: 5 Above Min Toler																										
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OKLAHOMA ITEMS 214a. Posted Weight Limit: NR b. Posted Speed Limit: 60 c. Narrow/1way Brdg Sign: No d. Vertical Clr. Sign: Yes Adv. Warning Sign: No e. Navigation Lights?: NA Working/Not Working: NA 215. Overpass: INTERSTATE 221. Substr. Cond. (U/W): 222. Fill Over RCB: 223. Appr. Slab/Rwy Cond.: 2 225. Paint Type/Ovrct: Red Lead 3 Coat System N/A 226. Date Painted: 1974 227. Paint Color: Silver 233. Deck Forming: Conventional Forming 238. School Bus Rte.: Current & Desired route 240. Appr. Rwy Type.: Concrete 243. Grdr Spacing/No.: / 9		PROPOSED IMPROVEMENTS 94. Bridge Cost: \$1,914,095 95. Roadway Cost: \$3,158,257 96. Total Cost: \$5,359,466 97. Yr. of Cost Est.: 2015 75. Type of Work: 31 Repl-Load Capacity 76. Lngth of Improvement: 288.0 ft 114. Future ADT: 112,560 115. Yr. of Future ADT: 2036																																
214a. Span Lengths: 245. Girder Depth: 246a. Type of Overlay: High Density b. Overlay Thickness: 1.50 c. Overlay Date: 10/11/2006 d. Ovlv Depth Changed >1": N 247. Protective Systems:		NAVIGATION DATA 38. Nav. Control: NA-no waterway 39. Vert. Clearance: 0.0 ft 40. Horiz. Clearance: 0.0 ft 111. Pier Protect.: Not Applicable (P) 116. Lift Bridge Vert. Clr.: 0.0 ft 248. # Field Splices w/ Corrosion: 249. Scour Crit. POA Exists?: - 250. Headwall: 254. Thru Truss Type: 257a. OkiePROS Truck Routing: Yes 258. Plans w/Found.in ODOT File: 259. Scour Eval. in ODOT File: 263. Interchange at Intersection: No 264. Interstate Milepoint: 120.96																																

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Inspection Date: 11/27/18	Gary Hines	
Invoice No.: GLH1118	Inspected With: Gary Richardson	

BRIDGE NOTES:

Four span continuous steel beam structure with spans at 47'-74'-74'-47'.

INSPECTION NOTES: 11/27/18

G Hines inspection comments - 11/27/2018
 The loose diaphragms in span #1 between the 7th & 8th beams have been repaired with new bolts since 2014 * Good side drains * FX - Slopewall settlement on the North from 2" to 5" & on the South from 1" to 3" with exposed piles each location * The total horizontal clearance for the railroad is 68' - the minimum R.H. clearance for the railroad is 18.4' * There is a drainage ditch under span #2 * FX - Erosion needs fill at SE slopewall area *

ELEMENT CONDITION STATE DATA

Elem. / Env	Description	Unit	Total Qty	% 1	Qty. 1	% 2	Qty. 2	% 3	Qty. 3	% 4	Qty. 4
12 / 4	Re Concrete Deck	sq.ft	17,392.00	0%	0.00	80%	13,889.00	20%	3,478.00	0%	25.00
PX - The deck was patched where there was spalling around the fixed joints (2006 photo). Heavy spalling - patches & potholes are present along the expansion joint at the North end of span #4 & along (6) construction joints (#1-2-4-5-6 & 9). Cavities from missing/removed pavement markers need to be filled. The North SECTION of span #4 has shifted sideways about 3 inches - (no shear studs are present in the end panels). Also see SF #859.											
510 / 4	Wearing Surfaces	sq.ft	17,392.00	0%	0.00	80%	13,889.00	20%	3,478.00	0%	25.00
PX - The deck was patched where there was spalling around the fixed joints (2006 photo). Heavy spalling - patches & potholes are present along the expansion joint at the North end of span #4 & along (6) construction joints (#1-2-4-5-6 & 9). Cavities from missing/removed pavement markers need to be filled. The North SECTION of span #4 has shifted sideways about 3 inches - (no shear studs are present in the end panels).											
107 / 4	Steel Opn Girder/Beam	ft	1,314.00	0%	0.00	100%	1,310.00	0%	4.00	0%	0.00
PX - There is some minor exfoliation on the bottom of the 8th beam near the North abutment. Lots of moderate to heavy rust on most beams in spans #5 thru #9. Needs painted in the near future.											
515 / 4	Steel Protective Coating	sq.ft	20,802.00	100%	0.00	0%	0.00	0%	0.00	0%	20,802.00
PX - There is some minor exfoliation on the bottom of the 8th beam near the North abutment. Lots of moderate to heavy surface rust on most beams in spans #5 thru #9. Needs painted in the near future.											
202 / 4	Steel Column	each	6.00	0%	0.00	0%	0.00	100%	6.00	0%	0.00
PX - There are (6) pilings visible 2 to 4 inches under the North abutment. All have some light to moderate exfoliation - will need treated soon.											
205 / 4	Re Conc Column	each	12.00	92%	11.00	8%	1.00	0%	0.00	0%	0.00
Superficial defects noted on some areas - minor imperfection noted on #4 in bent #1.											
215 / 4	Re Conc Abutment	ft	158.00	0%	0.00	62%	98.00	38%	60.00	0%	0.00
PX - Heavy horizontal cracking & spalling on the SE area near the seat edge. Light to heavy horizontal cracking on the South abutment on other scattered areas. Some light to heavy horizontal cracking on the North below #3 to #9 & the East end. Cracks with delaminations also present on the North on the 2nd- 4th- 5th & 7th pedestals. Needs attention soon.											
923 / 4	Conc Substr Prot Coa	(SF)	7,102.00	100%	0.00	0%	0.00	0%	7,102.00	0%	0.00
The coating on the abutments is peeling - cracked & stained in most areas. Minor defects on small areas of the caps. The columns are in good condition.											
234 / 4	Re Conc Pier Cap	ft	237.00	96%	227.00	3%	8.00	1%	2.00	0%	0.00
FX - One tiny spall on the South face of bent #2 below the 5th beam. Moderate delamination on the South face of the 1st cap below #4 beam. Some minor cracking on the bottom side of the 2nd cap. Water staining is present near the centerline of each cap with areas of rebar chairs visible on bottom surfaces.											
301 / 4	Pourable Joint Seal	ft	79.00	100%	0.00	0%	0.00	0%	0.00	0%	79.00
PX - The North joint was converted to pourable sometime in the past - it was previously covered so it was coded at a compression joint. Now visible it reveals failure in 70% of the area.											
302 / 4	Compressn Joint Seal	ft	79.00	0%	0.00	0%	0.00	0%	0.00	100%	79.00
PX - The gland in the South joints is severely ripped and torn with seepage & spalling below. The armor has sections damaged & gone with patches over each abutment. Needs converted to pourable style.											
311 / 4	Moveable Bearing	each	36.00	11%	2.00	56%	20.00	8%	5.00	25%	9.00
PX - Most roller bearings have heavy surface rust overall. Some have minor exfoliation present (5- 6- 7- 8 & 9 on S. abutment) - none serious at this time. Each roller on the North has the LH retaining ear being sheared off due to skew forces (2006 photo). Only 55% of the bearing is under each beam at this time (2012 photo).											
313 / 4	Fixed Bearing	each	9.00	44%	4.00	56%	5.00	0%	0.00	0%	0.00
Some light to moderate surface rust noted on outer bearings.											
321 / 4	Re Conc Approach Slab	sq.ft	2.00	0%	2.00	0%	0.00	100%	0.00	0%	0.00
Both have been repaired in the traffic lanes since 2016 - the SE shoulder is still 3 inches low.											
331 / 4	Re Conc Bridge Railing	ft	492.00	49%	243.00	50%	245.00	1%	4.00	0%	0.00
PX - Some minor spalls noted on the West - one moderate spall at the NE area. Light vertical cracks noted in a few areas with lots of minor scale on the lower East rail due to salt spray. Snag points are present at the SE & NE due to deck shifting.											
859 / 4	Soffit	(EA)	1.00	0%	0.00	100%	1.00	0%	0.00	0%	0.00

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Some spalls & deterioration are present near the joints below the curbs. Some rusting noted on the exposed rebar.											
865 / 4	St.Open Gird End(5Ft)	(LF)	90.00	0%	0.00	94%	80.00	6%	10.00	0%	0.00
PX - Some minor exfoliation in span #4 on the 6th- 7th & 8th beams at the North abutment - also some on the 9th beam below the North fixed joint. Some loss noted on South abutment ends #2 thru #7 as well. Various degrees of surface rust otherwise. Also see SF #973.											
870 / 4	Concrete Wingwall	(EA)	4.00	100%	4.00	0%	0.00	0%	0.00	0%	0.00
872 / 4	St.Gird Und Const.Jt	(LF)	810.00	0%	0.00	98%	795.00	2%	15.00	0%	0.00
PX - Heavy surface rust is present mainly below the 4th- 5th & 6th fixed joints with some initial exfoliation noted. Loss not serious at this time.											
909 / 4	Pourable Fix Jt.Seal	(LF)	639.00	0%	0.00	0%	0.00	0%	0.00	100%	639.00
PX - Moderate to heavy spalling along the 1st- 2nd- 4th- 5th- 6th & 9th joints with spalls & patches (2006 photo). The sealant is deteriorated at all joints. There are a total of 9 joints.											
958 / 4	Concrete Cracking SF	(EA)	1.00	0%	0.00	0%	0.00	100%	1.00	0%	0.00
PX - Deck has light to moderate transverse cracking that have not been sealed.											
963 / 4	Steel Section Loss SF	(EA)	1.00	0%	0.00	100%	1.00	0%	0.00	0%	0.00
Loss not serious on any element at this time.											
966 / 4	Exposed Abut.Piling SF	(EA)	1.00	0%	0.00	100%	1.00	0%	0.00	0%	0.00
PX - There are 6 pilings visible 2 to 4 inches under the North abutment due to the slopewall settling.											
968 / 4	Erosion SF	(EA)	1.00	100%	1.00	0%	0.00	0%	0.00	0%	0.00
PX - A 3ft. deep cavity is present along the East side of the South slopewall.											
969 / 4	OutOfPlane Dist./Load	(EA)	1.00	0%	0.00	0%	0.00	100%	1.00	0%	0.00
FX - The beams in the end spans are shifted laterally due to longitudinal forces acting in the deck on the wedge shaped sections of the end deck spans.											
973 / 4	Horizontal Force SF	(EA)	1.00	0%	0.00	100%	1.00	0%	0.00	0%	0.00
PX - Compression forces have pushed seven of the 9 beams into the South backwall. The skew angle combined with the longitudinal forces has caused the end panels of the deck to shift CCW 2 to 3 inches (no shear studs present in the end panels per the plans). The beams have rotated as well (5 to 6 inches) - they are only resting on the abutment bearings about 55%.											