

Oklahoma Dept. of Transportation - Bridge Inspection Report

NBI No.: 18769	Structure No.: 5507 0071EX	Local ID:	Suff. Rating: 80.80	FO															
Bridge Description: 47ft.,2-74ft.,47ft. CONT. I-BM. SPANS SK. 70 DEG.30ft.		INSPECTION																	
IDENTIFICATION		INSPECTION																	
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 Svc: 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: 0.715 mi 13. LRS Inv. / Sub Rte: 5500007HX / 00 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		CONDITION																	
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		58. Deck: 5 Fair 59. Sup.: 5 Fair 60. Sub: 5 Fair 62. Culvert: N/A (NBI) 61. Chan./Chan. Prot.: N/A (NBI) Flowline Notes																	
AGE AND SERVICE		LOAD RATING AND POSTING																	
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: 2020 42a/b. Type of Svc on/und: Highway / Hwy-R.R.		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 64. Operating Rating (tons): <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td>H</td> <td>HS</td> <td>3-3</td> <td>EV3</td> <td>SHV</td> </tr> <tr> <td>44.60</td> <td>57.30</td> <td>91.10</td> <td>0.00</td> <td>0.00</td> </tr> <tr> <td>26.70</td> <td>34.40</td> <td>54.70</td> <td>-1.00</td> <td></td> </tr> </table> 66. Inventory Rating (tons):			H	HS	3-3	EV3	SHV	44.60	57.30	91.10	0.00	0.00	26.70	34.40	54.70	-1.00	
H	HS	3-3	EV3	SHV															
44.60	57.30	91.10	0.00	0.00															
26.70	34.40	54.70	-1.00																
GEOMETRIC DATA		APPRAISAL																	
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		50a. Curb/Sdwk Width L: 0.00 ft 50b. Curb/Sdwk Width R: 0.00 ft 51. Width Curb to Curb: 70.70 ft 52. Width Out to Out: 73.70 ft Deck Area: 18,126.43 sq. ft 53. Min. Vert. Cl. Ovr Brg: 99.99 ft 54a. Min. Vert. Undclr. Ref.: H Hwy beneath stru 54b. Min. Vert. Undclr.: 26.17 ft 55a. Min. Lat. Undclr. Ref.: H Hwy beneath str 55. Min. Lat. Underclr. R: 2.00 ft 56. Min. Lat. Underclr. L: 0.00 ft																	
OKLAHOMA ITEMS		PROPOSED IMPROVEMENTS																	
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="display: inline-table; border-collapse: collapse;"> <tr> <td>-1.00</td> <td>-1.00</td> </tr> <tr> <td>-1.00</td> <td>-1.00</td> </tr> </table> 211. Wear. Surf. Prot. Sys: None Date Installed: 01/01/1901 211c. Silane Reapplied 211d. Date: 213. Utilities Attached: Communication		-1.00	-1.00	-1.00	-1.00	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: 2040													
-1.00	-1.00																		
-1.00	-1.00																		
OKLAHOMA ITEMS		NAVIGATION DATA																	
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 218. Functionally Obsolete: FO 220. Bridge Redecked: - 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		38. Nav. Control: NA-no waterway 39. Vert. Clearance: 0.0 ft 40. Horiz. Clearance: 0.0 ft 68. Deck Geom.: 7 Above Min Criteria 69. Vert./Horiz. Undclr: 2 Intolerable - Repl 71. Waterway Adeq: N Not applicable 72. Appr. Alignment: 8 Equal Desirable Crit 67. Str Evaluation: 5 Above Min Tolerz 113. Scour Critical: N Not Over Waterway																	
		PROPOSED IMPROVEMENTS																	
		244. Span Lengths: <table border="1" style="display: inline-table; border-collapse: collapse;"><tr><td>47</td><td>74</td><td>74</td></tr></table> 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:			47	74	74												
47	74	74																	
		NAVIGATION DATA																	
		248. # Field Splices w/ Corrosion: 249. Scour Crit. POA Exists?: - 250. Headwall: 258. Plans w/Found.in ODOT File: Yes 259. Scour Eval. in ODOT File: 263. Interchange at Intersection: No 264. Interstate Milepoint: 120.96																	

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Inspection Date: 11/21/22	Gary Hines	
Invoice No.: GLH1122	Inspected With: Gary Richardson	

BRIDGE NOTES:

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

INSPECTION NOTES: 11/21/22

G Hines inspection comments - 11/21/2022
 The loose diaphragms in span #1 between the 7th & 8th beams were repaired since 2014 * Good side drains * FX - Slopewall settlement on the North from 2in to 5in & on the South from 1in to 3in with exposed piles each location * The total horizontal clearance for the railroad is 68ft - the minimum R.H. clearance for the railroad is 18.4ft * There is a drainage ditch under span #2 * FX - Erosion needs fill at SE slopewall area & NE wing (2022 photo @ SE)*

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 previously 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 (2022 photo) & along (7) construction joints (#1-2-4-5-6-8 & 9) (2020 photos @ #2,4; & 9; 2022 photo @ #4). 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	79%	13,800.00	20%	3,492.00	1%	100.00
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	0%	0.00	0%	0.00	0%	0.00	100%	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 beams #5 thru #9. Needs painted in the near future.											
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 at bays 6; 7 & 8. Some light to heavy horizontal cracking on the North below #3 to #9 & at the East end. Cracks with delaminations also present on the North on the 2nd- 4th- 5th & 7th pedestals. Both abutments have scale & popouts present as well. Needs attention soon.											
923 / 4	Conc Substr Prot Coa	(SF)	7,102.00	0%	0.00	0%	0.00	0%	0.00	100%	7,102.00
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.											
225 / 4	Steel Pile	(EA)	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.											
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	0%	0.00	0%	0.00	0%	0.00	100%	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 sealant failure in 70% of the area with spalls & patches along the armor (2022 photo).											
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 joint is severely ripped and torn with seepage & spalling below. The missing armor has sections have been replaced since 2018. Armor rattles loudly below at bay #6. Needs converted to pourable style.											
311 / 4	Moveable Bearing	each	36.00	6%	2.00	56%	20.00	14%	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); similar conditions exist on the South abutment as well. Bearings #5 & 6 on the North are only under the beam 50% (2020 photo). All others are only 55% under each beam at this time (2012 photo). All north bearing are also rotated ~20 degrees. Needs attention soon.											
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	100%	2.00	0%	0.00	0%	0.00	0%	0.00
Both have been repaired in the traffic lanes since 2016 - the SE shoulder is still 3 inches low with humping at the deck edge.											
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 rotation/shifting.											

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859 / 4	Soffit (EA)	1.00	0%	0.00	100%	1.00	0%	0.00	0%	0.00	
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 below each joint - the worst areas are 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	33%	213.00	22%	142.00	44%	284.00	
PX - Moderate to heavy spalling along the 1st- 2nd- 4th- 6th- 8th & 9th joints with spalls & patches (2020 photos @ #2; 4 & 9; 2022 photo @ #4). The sealant is deteriorated at all joints. There are a total of 9 joints overall.											
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	0%	0.00	100%	1.00	0%	0.00	0%	0.00	
PX - A 3ft. deep cavity is present along the East side of the South slopewall (2022 photo). The large cavity at the upper NE wing area has been filled.											
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	0%	0.00	100%	1.00	0%	0.00	
PX - Compression forces have pushed seven of the 9 beams into the South backwall & all beams on the North are into the backwall (2020 photo). 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 50-55%.											

BRIDGE UNDER ROUTE REPORT

NBI No.:
18769

Structure No.:
5507 0071EX

Local ID:

Bridge Description:

ROUTE ON THE STRUCTURE

47ft.,2-74ft.,47ft. CONT. I-BM. SPANS SK. 70 DEG.30ft.

- 1. State: Oklahoma
- 2. Division: Division 4
- 3. County: OKLAHOMA
- 4. City: OKLA. CITY
Admin Area: Unknown
- 7. Facility Carried : I-44 NB
- 9. Location: 0.7 MI N I-40
- 16. Latitude: 35° 28' 13.50"
- 22. Owner: State

INVENTORY ROUTE

5a. On/Under:	1	Route On Structure
5b. Kind of Hwy:	1	Interstate Hwy
5c. Lvl of Srvc:	1	Mainline
5d. Route No.:	00044	
5e. Dir. Sufx:	0	N/A (NBI)

17. Longitude: 097° 34' 44.48"

- 12. Base Hwy Net.: On Base Network
- 20. Toll Facility: On free road
- 26. Function Class: 11 Urban Interstate
- 100. Def. Hwy: On Interstate STRAHNE
- 102. Traffic Dir.: 1-way traffic
- 104. Hwy System: On the NHS
- 105. Fed Land Hwy: N/A (NBI)
- 110. Defense Hwy: On Interstate STRAHNE

ROUTE UNDER THE STRUCTURE:

Roadway Name: BLACK GOLD DRIVE UNDER

INVENTORY ROUTE:

5a. Inventory Route:	2	One Route Under
5b. Kind of Highway:	5	City Street
5c. Level of Service:	1	Mainline
5d. Route No.:	00000	
5e. Dir. Suffix:	0	N/A (NBI)

- 10. Min. Vert. Clr.: 26.17
- 12. Base Hwy Network: Not on Base Network
- 13. LRS Rte./SubRte: -1 / -1
- 19. Detour Len.: 0.00
- 20. Toll Facility: On free road
- 26. Function Class: 16 Urban Minor Arterial
- 28b. Lanes Und.: 4
- 29. ADT: 200
- 32. Appr. Rwy Width: 48.00

- 47. Total Horiz. Clr.: 58.00
- 51. Roadway Width: 48.00
- 100. Defense Hwy: Not a STRAHNET hwy
- 102. Traffic Direction: 2-way traffic
- 104. Hwy System: Not on NHS
- 105. Fed. Land Hwy.: N/A (NBI)
- 109. Truck ADT%: 5
- 110. Natl. Trk Netwk: Not part of natl netwo
- 114. Future ADT: 320

Agency Field: 1.(Und.Rte.) U 2. (Vert. X-Ref.): -1 3. (Compass Dir.): E 4. (VC Posted N/E): 2602 5. (VC Posted S/W): 2602

Notes: