Bridge Inspection Report

056B00184N
Inspector: Luke Adkins
Entered by: LADKINSCON
12/04/2024
Standard (24 months)

IDENTIFICATION

Structure Num (8):	056B00184N
NBI Number	056B00184N
Structure Name:	
Location (9):	0.4 MI S OF E BRECKINRDGE
Carries (7):	I-65
Type of Service (42A):	1 Highway
Feature Crossed (6):	ST CATHERINE ST
Type of Service (42B):	1 Highway
Placecode (4):	Not Applicable
County (3):	Jefferson (056)
State (1):	21 Kentucky
Admin Area:	Inventory
District:	District 5
Latitude (16):	38° 14' 12"
Longitude (17):	85° 45' 8"
Owner (22):	State Highway Agency
Maint. Resp. (21):	State Highway Agency
Year Built (27):	1960
Year Recon (106):	1982
Border State (98A):	Not Applicable (P)
Border Number (99):	
% Responsibility (98B):	

Fair **Heath Index:** 76.61

SubStd: No **SubStd Reason:** Not Sub-Standa

Inspection Type	Freq (92)	Last Insp (93)	Next Insp
Routine	24	12/4/2024	12/4/2026
Element	24	12/4/2024	12/4/2026
Fracture Critical (A)		1/1/1901	1/1/1901
Underwater (B)		1/1/1901	1/1/1901
Special Insp (C)		1/1/1901	1/1/1901

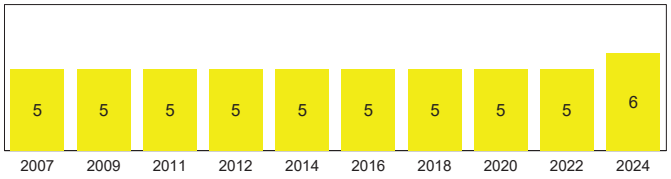
LOAD RATING AND POSTING

Posting Status(41):	A Open, no restriction
Posting (70):	5 At/Above Legal Loads
Signs Posted Cardinal:	No
Signs Posted Non-Cardinal:	No
Recmd Date:	**Posted Date:**

Required Postings (Tons.)		Field Postings (Tons.)	
Gross:		**Gross:**	
Truck Type 1:		**Truck Type 1:**	
Truck Type 2:		**Truck Type 2:**	
Truck Type 3:		**Truck Type 3:**	
Truck Type 4:		**Truck Type 4:**	
SUV 5:		**SUV 5:**	
SUV 6:		**SUV 6:**	
SUV 7:		**SUV 7:**	
EV Single Axle:		**EV Single Axle:**	
EV Tadem Axle:		**EV Tadem Axle:**	
EV Gross:		**EV Gross:**	

DECK GEOMETRY

Deck Geometry (68):	2 Intolerable - Replace
Deck Area:	17,638.00 ft²
Deck Type (107):	1 Concrete-Cast-in-Place
Wearing Surface (108A):	6 Bituminous
Membrane (108B):	0 None
Deck Protection (108C):	None
Approach Roadway width (32):	97.90 ft.
Width Curb to Curb (51):	48.70 ft.
O. to O. Width (52):	105.30 ft.
Curb / Sidewalk Width L (50A):	0.00 ft.
Curb / Sidewalk Width R (50B):	0.00 ft.
Median (33):	3 Closed Med w/Barriers



DECK CONDITION

Deck Rating (58):	6 Satisfactory
Bridge Rail (36A):	0 Substandard
Transition (36B):	0 Substandard
Approach Rail (36C):	0 Substandard
Approach Rail Ends (36D):	0 Substandard

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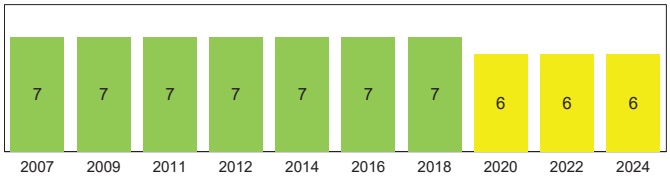
SUPERSTRUCTURE GEOMETRY

# of Main Spans (45):	3
# of Approach Spans (46):	0
Main Material (43 A):	4 Steel Continuous
Main Design (43 B):	02 Stringer/Girder
Max Span Length (48):	74.30 ft.
Structure Length (49):	167.50 ft.
NBIS Length (37):	Long Enough
Temp Structure (103):	Not Applicable (P)
Skew (34):	31°
Structure Flared (35):	0 No flare
Parallel Structure (101):	No || bridge exists
Approach Alignment (72):	8 Equal Desirable Crit

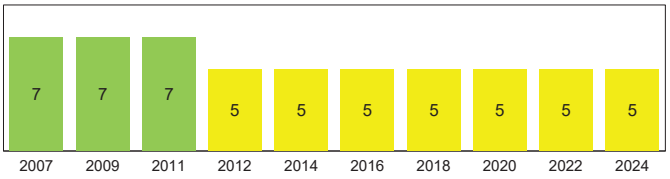


SUPERSTRUCTURE CONDITION

Superstructure Rating (59):	6 Satisfactory
Structure Evaluation (67):	5 Above Min Tolerable

SUBSTRUCTURE GEOMETRY

Navigation Control (38):	NA-no waterway
Nav Vert Clearance (39):	0.00 ft.
Nav Horiz Clearance (40):	0.00 ft.
Pier Protection (111):	Not Applicable (P)
Lift Bridge Vertical Clearance (116):	
Scour Rating (113):	N Not Over Waterway
Waterway Adequacy (71):	N Not applicable



SUBSTRUCTURE CONDITION

Substructure Rating (60):	5 Fair
Channel Rating (61):	N N/A (NBI)

KYTC FIELDS

Overlay:	Yes	**Scour Observed:**	N/A
Overlay Type:	L T Polymer Asph	**Scour Risk :**	N/A
Overylay Thickness:	2.25 in.	**Scour Analysis/Assessment :**	Not Required
Overlay Year:	2012	**Scour POA :**	Not Required
Cross Section:	Not Required	**Scour POA Date :**	
Cross Section Date:		**Next Cross Section Due Date :**	

1ST NON-CARD ROUTE ON: I-65 NC

ROADWAY LOCATION

Pos Prefix (5A):	1st Non-Card Route
Kind of Hwy (5B):	1 Interstate Hwy
Route Num (5D):	00065
LRS Route (13A/B):	IO0065_000/00
Milepost (11):	134.62 mi
Suffix (5E):	0 N/A (NBI)
Lanes Under (28B):	6
Detour Length (19):	8.00 mi

ROADWAY CLASSIFICATION

Funct Class (26):	11 Urban Interstate
Level Service (5C):	1 Mainline
NHS (104):	1 On the NHS
Defense Hwy (100):	1 On Interstate STRAHNET
Toll Facility (20):	3 On free road
ADT (29):	122,958 Cars/Day
Pct Trucks (109):	16.00%
ADT Year (30):	2024

CLEARANCES

Vertical (10):	99.99 ft.
Min Vert Over (53):	99.99 ft.
Vert Ref (54A):	H Hwy beneath struct
Undrclearnce (54B):	15.25 ft.
Horizontal (47):	49.20 ft.
Min Lat Left (56):	8.96 ft.
Min Lat Right (55B):	8.96 ft.
Horiz Ref (55A):	H Hwy beneath struct
Underclearance (69):	3 Intolerable - Correct

ROUTE UNDER STRUCTURE: E ST CATHERINE ST

ROADWAY LOCATION

Pos Prefix (5A):	One Route Under
Kind of Hwy (5B):	5 City Street
Route Num (5D):	01022
LRS Route (13A/B):	
Milepost (11):	1.17 mi
Suffix (5E):	0 N/A (NBI)
Lanes Under (28B):	4
Detour Length (19):	0.00 mi

ROADWAY CLASSIFICATION

Funct Class (26):	16 Urban Minor Arterial
Level Service (5C):	0 None of the below
NHS (104):	0 Not on NHS
Defense Hwy (100):	0 Not a STRAHNET hwy
Toll Facility (20):	3 On free road
ADT (29):	5,743 Cars/Day
Pct Trucks (109):	0.00%
ADT Year (30):	2024

CLEARANCES

Vertical (10):	15.50 ft.
Min Vert Over (53):	99.99 ft.
Vert Ref (54A):	H Hwy beneath struct
Undrclearnce (54B):	15.25 ft.
Horizontal (47):	40.00 ft.
Min Lat Left (56):	8.96 ft.
Min Lat Right (55B):	8.96 ft.
Horiz Ref (55A):	H Hwy beneath struct
Underclearance (69):	3 Intolerable - Correct

ROUTE ON STRUCTURE: I-65

ROADWAY LOCATION

Pos Prefix (5A):	Route On Structure
Kind of Hwy (5B):	1 Interstate Hwy
Route Num (5D):	00065
LRS Route (13A/B):	IO0065_000/00
Milepost (11):	134.62 mi
Suffix (5E):	0 N/A (NBI)
Lanes On (28A):	6
Detour Length (19):	8.00 mi

ROADWAY CLASSIFICATION

Funct Class (26):	11 Urban Interstate
Level Service (5C):	1 Mainline
NHS (104):	1 On the NHS
Defense Hwy (100):	1 On Interstate STRAHNET
Toll Facility (20):	3 On free road
ADT (29):	122,958 Cars/Day
Pct Trucks (109):	16.00%
ADT Year (30):	2024

CLEARANCES

Vertical (10):	99.99 ft.
Min Vert Over (53):	99.99 ft.
Vert Ref (54A):	H Hwy beneath struct
Undrclearnce (54B):	15.25 ft.
Horizontal (47):	97.90 ft.
Min Lat Left (56):	8.96 ft.
Min Lat Right (55B):	8.96 ft.
Horiz Ref (55A):	H Hwy beneath struct
Underclearance (69):	3 Intolerable - Correct

STRUCTURE NOTES

-In 2023, AECOM used infrared thermography to identify and locate areas of concrete delamination and overlay debonding in the deck, plus they obtained core samples for testing to determine chloride ion levels in the concrete. See Media tab for results.
-2017 repair contract (Contract ID 174301) included reconstruction of the asphalt plug joints.
-2012 repair contract (Contract ID 121305 Proposal and Plans) included the following: 1. The deck was overlaid with 2.25" of an asphalt waterproofing mix (low temp., a product by "Road Science" - not Rosphalt), 2. Asphalt plug joints were installed over all existing joints, 3. Rollers were cleaned and some reset (bearings 2, 5, 6, 9 and 11 at A1, and bearings 2, 8, 9, 10 and 13 at A4), and abutment seats were cleared off. ESH and NKHL 12/13/2012
-State forces performed an in-depth inspection in 2001, and a consultant performed one in 2007. From the 2001 inspection: All girder field splices have tack welds on the flange edges. Bay 13 was exposed to fire hot enough to burn the paint off both sides of G14 at the south abutment prior to 2001 painting. G3 is not in bearing at either abutment. G11 is not in bearing at A1. Some rollers have rust forming. Rollers are improperly set. The bearing plates are not parallel to the centerline of the rollers and some plates are not centered beneath the rollers. Roller at the first interior beam from the west side at the south abutment is against the chock bar plus the same condition exists at G2 and G9 at A4. Rockers are slightly over expanded at P3.

INSPECTION NOTES

Standard 24-month element level inspection performed by Luke Adkins (QTL) and Blake Combs. Prime AE 12/4/2024 LA
-Substructure units are labeled from south to north (cardinal direction) and the beams are labeled from left to right while looking north.
-Added Element 853. Deleted Element 859.
-Raised Item 58 from 5 to 6, as there are only isolated moderate defects.

SCOUR NOTES

LOAD RATING NOTES

4/7/21 Controlling member is a interior beam with PCC overlay plus 2.25 inch asphalt overlay. CVZ
11/30/2021. load ratings updated. JCG

COMPLIANCE NOTES

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
12	**Re Concrete Deck**	**3**	**12/04/2024**	**17,634.00**	**sq.ft**	**13,109.00**	**4,500.00**	**25.00**	**0.00**

Top of deck cannot be visually inspected due to asphalt overlay. Soffit has transverse cracks, some with efflorescence. There is spalling with exposed rebar along the longitudinal joint at each abutment. There is spalling with exposed rebar in each overhang at Abutment 1.

813	AC Wearing Surf w/ Membrane	3	12/04/2024	16,664.00	sq.ft	16,664.00	0.00	0.00	0.00

No deficiencies noted.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
107	**Steel Opn Girder/Beam**	**3**	**12/04/2024**	**2,345.00**	**ft**	**740.00**	**1,605.00**	**0.00**	**0.00**

Beam ends have some areas of heavy surface corrosion below the joints. There are random isolated areas of freckled rust. Bottom face of bottom flanges in non-haunch sections typically have painted over minor pitting. Parts of superstructure near Abutment 1 are covered in soot from fires. Span 2 Beams 9-14 have shallow scrapes/gouges with surface corrosion. Beam 13 bottom flange has a 1.5'L area of minor distortion at Abutment 4.

515	Steel Protective Coating	3	12/04/2024	18,760.00	sq.ft	0.00	18,533.00	187.00	40.00

The steel protective coating is dulling throughout, especially in Span 1 where there is evidence of fire. Coating has isolated areas of limited effectiveness along the exterior beams and some failed areas where surface corrosion is heavy below the joints.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
205	**Re Conc Column**	**3**	**12/04/2024**	**16.00**	**each**	**10.00**	**6.00**	**0.00**	**0.00**

Pier 2-Column 3 has a 2 SF sound concrete patch. There is moderate vertical cracking on Pier 2-Columns 1, 2, and 3, and Pier 3-Columns 2 and 3. Pier 3-Column 8 has shallow spalls.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
215	Re Conc Abutment	3	12/04/2024	244.00	ft	177.00	37.00	30.00	0.00

Abutments have moderate to wide cracks (up to 1/8 inch wide), local scaling, spalls greater than 6 inches wide with exposed rebar, patches near the centerline with unsound material and/or exposed rebar, and diagonal cracking with staining at the ends.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
234	Re Conc Pier Cap	3	12/04/2024	236.00	ft	198.00	30.00	8.00	0.00

Pier caps exhibit cracks, patches and spalls. Previously reported large spalls with exposed rebar have been patched. Tops of both pier caps have a few deep spalls.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
306	Other Joint	3	12/04/2024	246.00	ft	0.00	37.00	89.00	120.00

The asphalt plug joints were reconstructed in 2017. Joint material is gapping and/or breaking up throughout. Some areas have spalled out exposing the original joint - worst along the Abutment 4 joint in SB lanes.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
311	Moveable Bearing	3	12/04/2024	42.00	each	9.00	14.00	19.00	0.00

Roller bearings have been greased, but the rollers and masonry plates typically have flaking corrosion, and some areas have section loss. Several roller bearings are misaligned, and movement is inconsistent with temperature conditions. Sole plates are worn/gouged, not in contact with the rollers, and move vertically under live load at Abutment 1-Beams 3, 4, 6, and 10 and at Abutment 4-Beams 3, 4, 5, 6, 11. Abutment 4-Beam 5 bearing seems to be the worst and moves vertically at least 1/8 inch. A few rocker bearings at Pier 3 have surface rust.

515	Steel Protective Coating	3	12/04/2024	210.00	sq.ft	103.00	45.00	43.00	19.00

Steel protective coating is fully to substantially effective, with limited to no effectiveness on some masonry plates.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
313	Fixed Bearing	3	12/04/2024	14.00	each	9.00	5.00	0.00	0.00

Fixed bearings at Pier 2-Beams 1, 2, 5, 6, and 7 have surface rust on the sole plates.

515	Steel Protective Coating	3	12/04/2024	70.00	sq.ft	0.00	60.00	5.00	5.00

Steel protective coating is dulling throughout, with limited to no effectiveness on a few sole plates.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
331	**Re Conc Bridge Railing**	**3**	**12/04/2024**	**670.00**	**ft**	**371.00**	**293.00**	**6.00**	**0.00**

Concrete railings have moderate vertical cracking. The SB median barrier exhibits areas of shallow spalling/scaling throughout and there is a large area of shallow scrapes/spalls near Pier 2. The west SB rail has an area of wide delamination cracking and spalling in Span 1.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
850	**2nd Elem**	**1**	**12/04/2024**	**1.00**	**each**	**0.00**	**0.00**	**1.00**	**0.00**

Shear keys at abutments are cracked, patched, and/or spalled.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
853	**Utilities**	**3**	**12/04/2024**	**1.00**	**each**	**0.00**	**0.00**	**1.00**	**0.00**

There are streetlights attached to the superstructure is Span 2 that appear to not be functioning. SB west rail has a light fixture with missing cover plate and disconnected wiring near Pier 3. NB east rail has a light fixture with missing cover plate near Pier 3.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
860	**Erosion Ctrl/Prt**	**1**	**12/04/2024**	**1.00**	**each**	**0.00**	**1.00**	**0.00**	**0.00**

Rip rap has been placed at the NE corner to correct erosion and undermining of the concrete slope protection and is functioning as intended. Minor undermining still exists along the top of the remainder of Abutment 4 slope protection.

Looking south along I-65 NB

Joint over Abutment 4, NB lanes

Deck looking south along I-65 NB

NB east rail has a light fixture with missing cover plate near Pier 3

Joint over Abutment 1, NB lanes

Deck looking north along I-65 NB

Looking north along I-65 NB

Looking north along I-65 SB

Deck looking north along I-65 SB

Joint over Abutment 1, SB lanes

The west SB rail has an area of wide delamination cracking and spalling in Span 1.

The SB median barrier has a large area of shallow scrapes/spalls near Pier 2

SB west rail has a light fixture with missing cover plate and disconnected wiring near Pier 3

Joint over Abutment 4, SB lanes

Looking south along I-65 SB

Deck looking south along I-65 SB

Looking west

West profile

Span 2 looking south

Pier 2 north face

Pier 3 south face

Looking east

East profile

Span 2 Beams 9-14 have shallow scrapes/gouges with surface corrosion (Beams 12-14 pictured)

Soffit has transverse cracks, some with efflorescence

North face of Pier 3

Stamps at NW corner of railing

Beam 5 sole plate not in contact with the roller and moves vertically under live load at Abutment 1 (note light visible between sole plate and roller)

Rollers and masonry plates typically have flaking corrosion, and some areas have section loss (Beam 5 at Abutment 4 pictured)

Bottom face of bottom flanges in non-haunch sections typically have paint over minor pitting

There is spalling with exposed rebar along the longitudinal joint at each abutment (at Abutment 4 pictured)

Span 3 looking north

Abutment 4. Note rip rap in place at the NE corner and undermining along the top of Abutment 4 slope protection.

Beam 13 bottom flange has a 1.5'L area of minor distortion at Abutment 4

Abutment 1

There is spalling with exposed rebar in each overhang at Abutment 1 (east overhang pictured). Note heavy surface corrosion along top flange of Beam 14.

South face of Pier 2

Span 1 looking north