Bridge Inspection Report

056B00193N
Inspector: Natalie House-Lewis
Entered by: NHOUSELEWIS
07/15/2024
Special-Other

IDENTIFICATION

Structure Num (8):	056B00193N
NBI Number	056B00193N
Structure Name:	
Location (9):	0.15 MI N OF E CHESTNUT
Carries (7):	I-65
Type of Service (42A):	1 Highway
Feature Crossed (6):	BROOK ST & MUHAMMAD ALI
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° 15' 1"
Longitude (17):	85° 45' 5"
Owner (22):	State Highway Agency
Maint. Resp. (21):	State Highway Agency
Year Built (27):	1963
Year Recon (106):	1980
Border State (98A):	Not Applicable (P)
Border Number (99):	
% Responsibility (98B):	

Poor **Heath Index:** 81.63

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

Inspection Type	Freq (92)	Last Insp (93)	Next Insp
Routine	24	12/15/2022	12/15/2024
Element	24	12/15/2022	12/15/2024
Fracture Critical (A)		1/1/1901	1/1/1901
Underwater (B)		1/1/1901	1/1/1901
Special Insp (C)		7/15/2024	1/1/1901

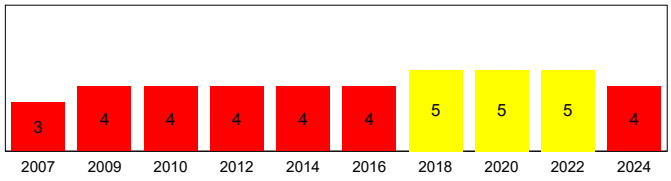
LOAD RATING AND POSTING

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):	7 Above Min Criteria
Deck Area:	35,361.00 ft²
Deck Type (107):	1 Concrete-Cast-in-Place
Wearing Surface (108A):	6 Bituminous
Membrane (108B):	0 None
Deck Protection (108C):	1 Epoxy Coated Reinforci
Approach Roadway width (32):	95.00 ft.
Width Curb to Curb (51):	95.00 ft.
O. to O. Width (52):	100.80 ft.
Curb / Sidewalk Width L (50A):	0.00 ft.
Curb / Sidewalk Width R (50B):	0.00 ft.
Median (33):	3 Closed Med w/Barriers

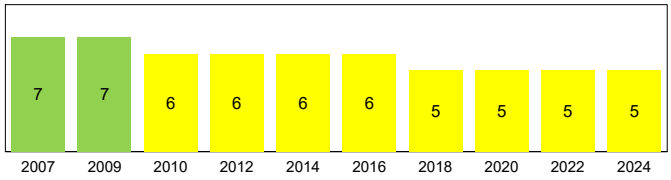


DECK CONDITION

Deck Rating (58):	4 Poor
Bridge Rail (36A):	0 Substandard
Transition (36B):	0 Substandard
Approach Rail (36C):	0 Substandard
Approach Rail Ends (36D):	0 Substandard

SUPERSTRUCTURE GEOMETRY

# of Main Spans (45):	5
# of Approach Spans (46):	0
Main Material (43 A):	3 Steel
Main Design (43 B):	02 Stringer/Girder
Max Span Length (48):	144.40 ft.
Structure Length (49):	350.80 ft.
NBIS Length (37):	Long Enough
Temp Structure (103):	Not Applicable (P)
Skew (34):	60°
Structure Flared (35):	0 No flare
Parallel Structure (101):	No || bridge exists
Approach Alignment (72):	8 Equal Desirable Crit

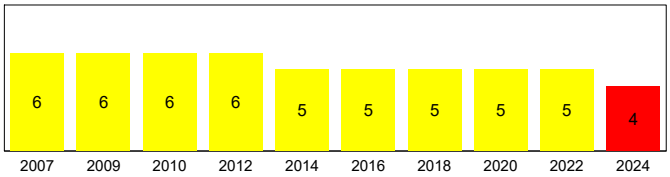


SUPERSTRUCTURE CONDITION

Superstructure Rating (59):	5 Fair
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:	H T Polymer Asph	**Scour Risk :**	N/A
Overylay Thickness:	1.50 in.	**Scour Analysis/Assessment :**	Not Required
Overlay Year:	2006	**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):	135.59 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):	84,001 Cars/Day
Pct Trucks (109):	16.00%
ADT Year (30):	2012

CLEARANCES

Vertical (10):	99.99 ft.
Min Vert Over (53):	99.99 ft.
Vert Ref (54A):	H Hwy beneath struct
Undrclearnce (54B):	15.00 ft.
Horizontal (47):	47.50 ft.
Min Lat Left (56):	4.00 ft.
Min Lat Right (55B):	8.00 ft.
Horiz Ref (55A):	H Hwy beneath struct
Underclearance (69):	3 Intolerable - Correct

1ST ROUTE UNDER: S BROOK ST

ROADWAY LOCATION

Pos Prefix (5A):	1st Route Under
Kind of Hwy (5B):	5 City Street
Route Num (5D):	01006
LRS Route (13A/B):	
Milepost (11):	2.88 mi
Suffix (5E):	0 N/A (NBI)
Lanes Under (28B):	4
Detour Length (19):	1.24 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):	15,302 Cars/Day
Pct Trucks (109):	0.00%
ADT Year (30):	2024

CLEARANCES

Vertical (10):	15.80 ft.
Min Vert Over (53):	99.99 ft.
Vert Ref (54A):	H Hwy beneath struct
Undrclearnce (54B):	15.00 ft.
Horizontal (47):	40.00 ft.
Min Lat Left (56):	4.00 ft.
Min Lat Right (55B):	8.00 ft.
Horiz Ref (55A):	H Hwy beneath struct
Underclearance (69):	3 Intolerable - Correct

2ND ROUTE UNDER: E MUHAMMAD ALI BLVD

ROADWAY LOCATION

Pos Prefix (5A):	2nd Route Under
Kind of Hwy (5B):	5 City Street
Route Num (5D):	01048
LRS Route (13A/B):	
Milepost (11):	0.96 mi
Suffix (5E):	0 N/A (NBI)
Lanes Under (28B):	4
Detour Length (19):	

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):	7,708 Cars/Day
Pct Trucks (109):	0.00%
ADT Year (30):	2024

CLEARANCES

Vertical (10):	18.70 ft.
Min Vert Over (53):	99.99 ft.
Vert Ref (54A):	H Hwy beneath struct
Undrclearnce (54B):	15.00 ft.
Horizontal (47):	40.00 ft.
Min Lat Left (56):	4.00 ft.
Min Lat Right (55B):	8.00 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):	135.58 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):	84,001 Cars/Day
Pct Trucks (109):	16.00%
ADT Year (30):	2012

CLEARANCES

Vertical (10):	99.99 ft.
Min Vert Over (53):	99.99 ft.
Vert Ref (54A):	H Hwy beneath struct
Undrclearnce (54B):	15.00 ft.
Horizontal (47):	47.50 ft.
Min Lat Left (56):	4.00 ft.
Min Lat Right (55B):	8.00 ft.
Horiz Ref (55A):	H Hwy beneath struct
Underclearance (69):	3 Intolerable - Correct

STRUCTURE NOTES

-Bridge component numbering: 2014 consultant inspection used numbering per plans. Inspections before and after that one use the Component Numbering layout sheet in the file and uploaded to Media.
-In 2022 and 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 project (CID 174301) included high friction surface treatment.
-In 2009, east end and column of Pier 5 were repaired with CFRP fabric by a contract though the Kentucky Transportation Center.
-Deck was overlaid with 1.5 inch Rosphalt overlay in 2006 (high temp). NB center lane was milled and re-surfaced in 2012 due to rutting.
-Latex overlay in 1980.
-State forces performed an in-depth inspection on this structure in 1991, and a consultant performed one in 2007. From previous reports: Structural steel under the joints and at bearing areas has minor section loss. There are 4 weld locations in the horizontal stiffeners that have cracks, 1 is in the stiffener and web. There are intersecting and unground welds. Some misdrilled holes. Some bearing plate anchor bolts are working out. Rockers at the abutments are slightly over expanded.
-This structure has longitudinal stiffeners.

INSPECTION NOTES

-A special inspection was performed by Natalie House-Lewis and Johnny Micka on 07/15/2024, which utilized the D5 Structures drone.
-Traffic control was handled by the Jefferson-West Maintenance Crew, who closed the left and center southbound lanes. The purpose of this special inspection is to inspect the top of the deck with less traffic while documenting work done by the Bridge Crew.
-The top of the deck received a 1.5-inch Rosphalt overlay in 2006 followed by a high friction surface treatment in 2017. The top of the deck is not visible for inspection due to the overlay; however, while patching, the Bridge Crew observed that the deck is holding water. The northbound side is worse along the center lane, which had to be milled and resurfaced in 2012 due to rutting, where there are multiple ineffective asphalt patches in Spans 2 and 6. Likewise, the southbound side is worse along the center lane where there are six unsound concrete patches of different ages in Span 1. The total area of concrete deck patching is 224 SF with individual patch sizes ranging from 9 to 99 SF. On 05/22/2024, D5 was notified of a hole along the southbound center lane in Span 1-Bay 3. The 2 SF hole was surrounded by additional unsound concrete with exposed and broken rebar, which resulted in the 99 SF full-depth patch. See CBMN in the Media tab. The overlay has longitudinal and transverse cracking scattered throughout with varying crack widths and spacing. Cracks are more prevalent along both center lanes, plus wider cracks are propagating from the asphalt and concrete patches.
-Elements 12 and 813 have been updated, including the total quantities.
-Item 49 was changed to 350.8 FT.
-Item 58 has been lowered from a 5 to a 4.
-Pourable joints are present at every substructure unit where the existing joints were paved over in 2006. The pourable joint over Abutment 1 is the worst case, most likely due to the severe skew of the joint and the curvature of the roadway. The pourable joint over Abutment 1 on the southbound side has failed, exposing the loose sliding plate underneath. During this special inspection, the Bridge Crew temporarily repaired the portion along the center lane by melting waterproofing membrane to the plate and then placing hot mix asphalt on top. In general, the pourable joints have been paved over and are not functioning as intended.
-Element 301 has been updated, including the total quantity.
-The Bridge Crew repaired the pourable joint over Abutment 1 along the southbound center lane again on 08/23/2024. The Bridge Crew has been on site at least 13 times between 01/01/2023 and 08/23/2024 to patch the deck or repair the joints.

SCOUR NOTES

LOAD RATING NOTES

9/27/2016 Controlling member is girder 24 in the northbound bridge with latex overlay and 1.5" rosphalt overlay. Critical point is 1.5 (midspan) for all trucks. DGA

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**	**07/15/2024**	**35,360.00**	**sq.ft**	**23,405.00**	**3,536.00**	**8,419.00**	**0.00**

The top of the deck received a 1.5-inch Rosphalt overlay in 2006 followed by a high friction surface treatment in 2017. The top of the deck is not visible for inspection due to the overlay; however, while patching, the Bridge Crew observed that the deck is holding water. The northbound side is worse along the center lane where there are multiple ineffective asphalt patches in Spans 2 and 6. Likewise, the southbound side is worse along the center lane where there are six unsound concrete patches of different ages in Span 1. The total area of concrete deck patching is 224 SF with individual patch sizes ranging from 9 to 99 SF. On 05/22/2024, D5 was notified of a hole along the southbound center lane in Span 1-Bay 3. The 2 SF hole was surrounded by additional unsound concrete with exposed and broken rebar, which resulted in the 99 SF full-depth patch.

The bottom of the deck has intermittent transverse cracking with efflorescence, spalls with exposed rebar below the joints, and delaminations scattered throughout. In Span 1 SB, the bottom of the deck has areas of full-depth deterioration with leakage in Bays 3 and 4. There's also a spall with exposed rebar in Span 4 NB-Bay 14.

813	AC Wearing Surf w/ Membrane	3	07/15/2024	33,326.00	sq.ft	17,528.00	5,613.00	9,961.00	224.00

The top of the deck received a 1.5-inch Rosphalt overlay in 2006 followed by a high friction surface treatment in 2017. The northbound side is worse along the center lane, which had to be milled and resurfaced in 2012 due to rutting, where there are multiple ineffective asphalt patches in Spans 2 and 6. Likewise, the southbound side is worse along the center lane where there are six unsound concrete patches of different ages in Span 1. The total area of concrete deck patching is 224 SF with individual patch sizes ranging from 9 to 99 SF. On 05/22/2024, D5 was notified of a hole along the southbound center lane in Span 1-Bay 3. The 2 SF hole was surrounded by additional unsound concrete with exposed and broken rebar, which resulted in the 99 SF full-depth patch. The overlay has longitudinal and transverse cracking scattered throughout with varying crack widths and spacing. Cracks are more prevalent along both center lanes, plus wider cracks are propagating from the asphalt and concrete patches. Adjacent to each pourable joint location, the overlay has areas of heavy cracking as well as ineffective asphalt patches. The overlay is also showing wear along the wheel paths, and there are some 1 to 2 SF spalls scattered throughout.

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**	**07/15/2024**	**5,088.00**	**ft**	**3,760.00**	**1,178.00**	**150.00**	**0.00**

Girders have surface rust scattered throughout, especially on the bottom flanges and at splices. Some beam ends have corrosion with section loss in the bottom flange and web, especially girders near the longitudinal joint and exterior girders (3 to 8 feet at each beam end). In Span 1 over Brook St, the two east exterior girders have scrapes from traffic.

515	Steel Protective Coating	3	07/15/2024	85,425.00	sq.ft	0.00	79,737.00	4,988.00	700.00

Steel protective coating is dulling, with areas of limited to no effectiveness where corrosion is present.

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	07/15/2024	21.00	each	6.00	7.00	8.00	0.00

Columns have moderate to wide vertical cracking, delaminated areas, and spalling with exposed rebar; deterioration is worst at Piers 2 and 5. At Pier 2, Column 5 has closely spaced wide cracking and a large spall with exposed rebar and section loss measuring 10 feet tall by 2 feet wide by 2.5 inches deep. Column 6 CFRP repair at Pier 5 is in good condition.

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	07/15/2024	507.00	ft	262.00	66.00	179.00	0.00

Abutment 1 has wide horizontal cracking with efflorescence, large delaminations, and spalling with exposed rebar along the top for roughly half the length. Abutment 6 has closely spaced diagonal cracking and spalling at each end of the backwall, and a large delamination above the sidewalk at the east end. Otherwise, abutments have moderate to wide vertical cracks and delaminations.

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	07/15/2024	430.00	ft	199.00	53.00	178.00	0.00

Pier caps have moderate to wide cracking with efflorescence and/or rust staining, delaminated areas, and spalling with exposed rebar and section loss. CFRP repair at the east end of Pier 5 is in good condition.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
301	Pourable Joint Seal	3	07/15/2024	883.00	ft	0.00	0.00	0.00	883.00

Pourable joints are present at every substructure unit where the existing joints were paved over in 2006. (The existing joints consist of compression joints, except for the sliding plate at Abutment 1.) The pourable joint over Abutment 1 is the worst case, most likely due to the severe skew of the joint and the curvature of the roadway. The pourable joint over Abutment 1 on the southbound side has failed, exposing the loose sliding plate underneath. The Bridge Crew has temporarily repaired it numerous times by melting waterproofing membrane to the plate and then placing hot mix asphalt on top. In general, the pourable joints have been paved over and are not functioning as intended. Large sections are missing, exposing the compression seals underneath or filled with hard-packed debris. The seals are torn with moderate to total adhesion loss. Inspectors observed heavy water flow through the joints during rain events, which is evident by the deterioration of the substructure units below. Adjacent to each pourable joint location, the overlay has areas of heavy cracking as well as ineffective asphalt patches.

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	07/15/2024	57.00	each	0.00	51.00	6.00	0.00

Moveable bearings have surface rust throughout, and a few appear to have section loss (mostly at exterior girders and girders below longitudinal joint). Bearings are difficult to inspect from the ground.

515	Steel Protective Coating	3	07/15/2024	285.00	sq.ft	0.00	137.00	136.00	12.00

Steel protective coating is dulling throughout, with areas of limited to no effectiveness where corrosion is present.

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**	**07/15/2024**	**57.00**	**each**	**0.00**	**52.00**	**5.00**	**0.00**

Fixed bearings have surface rust throughout, and a few appear to have section loss (mostly at exterior girders and girders below longitudinal joint). Bearings are difficult to inspect from the ground.

515	Steel Protective Coating	3	07/15/2024	228.00	sq.ft	0.00	109.00	109.00	10.00

Steel protective coating is dulling throughout, with areas of limited to no effectiveness where corrosion is present.

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**	**07/15/2024**	**1,380.00**	**ft**	**435.00**	**800.00**	**145.00**	**0.00**

Barrier walls have moderate vertical cracking, scaling, and small to large spalls with one location of exposed reinforcement in the east railing of Span 1. Spalling is most widespread in the east railing. Southbound median barrier has large delaminated areas/unsound patches at the south bridge end and Pier 5 joint.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
802	**Drainage Sys**	**3**	**07/15/2024**	**1.00**	**each**	**0.00**	**1.00**	**0.00**	**0.00**

Drainage system attached to the south face of Pier 3 and the north face of Pier 2 have areas of heavy corrosion but appear functional.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
852	**Drains**	**3**	**07/15/2024**	**1.00**	**each**	**0.00**	**0.00**	**0.00**	**1.00**

Drain grates on deck are filled with debris and 100% clogged.

Looking north along I-65 towards Lincoln Bridge

NB Lanes: Pourable Joint over Abutment 1

NB Lanes: Pourable Joint over Pier 2

NB Lanes: Asphalt Patches in Span 2
(*drone view*)

NB Lanes: Pourable Joint over Pier 3

NB Lanes: Pourable Joint over Pier 4

NB Lanes: Pourable Joint over Pier 5

NB Lanes: Asphalt Patches in Span 6
(*drone view*)

NB Lanes: Pourable Joint over Abutment 6

SB Lanes: Pourable Joint over Abutment 1
(*drone view*)

SB Lanes: Pourable Joint over Abutment 1
(*before repair*)

SB Lanes: Pourable Joint over Abutment 1
(after repair; looking east)

SB Lanes: Pourable Joint over Abutment 1
(*after repair; looking west*)

SB Lanes: Pourable Joint over Abutment 1
(after repair; closer view)

SB Lanes: Concrete Patch #1 = 3'L x 3'W = 9 SF

SB Lanes: Concrete Patch #2 = 4'L x 3'W = 12 SF

SB Lanes: Concrete Patch #3 = 8'L x 4'W = 32 SF

SB Lanes: Wide Crack from Concrete Patch
(*typical; closer view*)

SB Lanes: Concrete Patches #1-3 in Span 1
(*closer to A1 joint*)

SB Lanes: Deck Spall in Span 1

SB Lanes: Concrete Patch #4 = 12'L x 5'W = 60 SF

SB Lanes: Concrete Patch #5 = 3'L x 4'W = 12 SF

SB Lanes: Concrete Patch #6 = 9'L x 11'W = 99 SF

SB Lanes: Concrete Patches #4-6 in Span 1
(closer to P2 joint)

SB Lanes: Concrete Patches in Span 1
(*drone view*)

SB Lanes: Pourable Joint over Pier 2

SB Lanes: Pourable Joint over Pier 5

SB Lanes: Pourable Joint over Abutment 6

Looking south along I-65 towards St. Catherine exit

Looking south from Kennedy Bridge towards "Hospital Curve" showing 2+ mile traffic queue

Bridge Inspection Report

056B00193N
Inspector: Stephanie Stoops
Entered by: SSTOOPS
12/17/2024
Standard (24 months)

IDENTIFICATION

Structure Num (8):	056B00193N
NBI Number	056B00193N
Structure Name:	
Location (9):	0.15 MI N OF E CHESTNUT
Carries (7):	I-65
Type of Service (42A):	1 Highway
Feature Crossed (6):	BROOK ST & MUHAMMAD ALI
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° 15' 1"
Longitude (17):	85° 45' 5"
Owner (22):	State Highway Agency
Maint. Resp. (21):	State Highway Agency
Year Built (27):	1963
Year Recon (106):	1980
Border State (98A):	Not Applicable (P)
Border Number (99):	
% Responsibility (98B):	

Poor **Heath Index:** 80.36

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

Inspection Type	Freq (92)	Last Insp (93)	Next Insp
Routine	24	12/17/2024	12/17/2026
Element	24	12/17/2024	12/17/2026
Fracture Critical (A)		1/1/1901	1/1/1901
Underwater (B)		1/1/1901	1/1/1901
Special Insp (C)		7/15/2024	1/1/1901

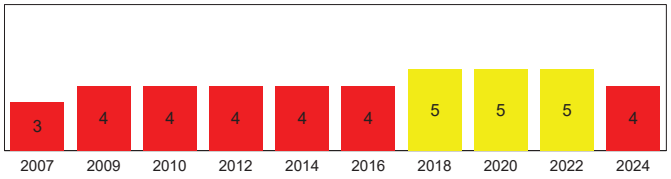
LOAD RATING AND POSTING

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):	7 Above Min Criteria
Deck Area:	35,361.00 ft²
Deck Type (107):	1 Concrete-Cast-in-Place
Wearing Surface (108A):	6 Bituminous
Membrane (108B):	0 None
Deck Protection (108C):	1 Epoxy Coated Reinforci
Approach Roadway width (32):	95.00 ft.
Width Curb to Curb (51):	95.00 ft.
O. to O. Width (52):	100.80 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

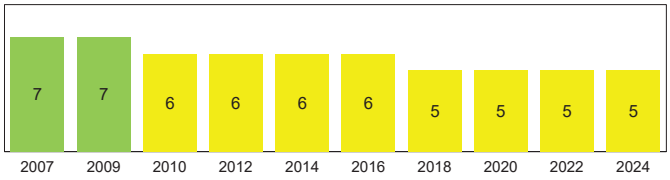
Deck Rating (58):	4 Poor
Bridge Rail (36A):	0 Substandard
Transition (36B):	0 Substandard
Approach Rail (36C):	0 Substandard
Approach Rail Ends (36D):	0 Substandard

Bridge Inspection Report

056B00193N
Inspector: Stephanie Stoops
Entered by: SSTOOPS
12/17/2024
Standard (24 months)

SUPERSTRUCTURE GEOMETRY

# of Main Spans (45):	5
# of Approach Spans (46):	0
Main Material (43 A):	3 Steel
Main Design (43 B):	02 Stringer/Girder
Max Span Length (48):	144.40 ft.
Structure Length (49):	350.80 ft.
NBIS Length (37):	Long Enough
Temp Structure (103):	Not Applicable (P)
Skew (34):	60°
Structure Flared (35):	0 No flare
Parallel Structure (101):	No || bridge exists
Approach Alignment (72):	8 Equal Desirable Crit

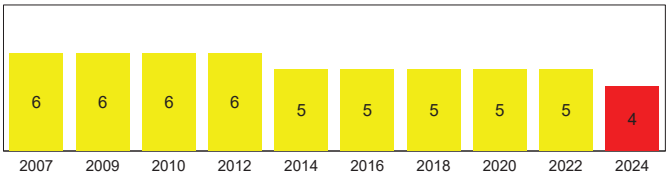


SUPERSTRUCTURE CONDITION

Superstructure Rating (59):	5 Fair
Structure Evaluation (67):	4 Minimum 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):	4 Poor
Channel Rating (61):	N N/A (NBI)

KYTC FIELDS

Overlay:	Yes	**Scour Observed:**	N/A
Overlay Type:	H T Polymer Asph	**Scour Risk :**	N/A
Overylay Thickness:	1.50 in.	**Scour Analysis/Assessment :**	Not Required
Overlay Year:	2006	**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):	135.59 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):	84,001 Cars/Day
Pct Trucks (109):	16.00%
ADT Year (30):	2012

CLEARANCES

Vertical (10):	99.99 ft.
Min Vert Over (53):	99.99 ft.
Vert Ref (54A):	H Hwy beneath struct
Undrclearnce (54B):	15.00 ft.
Horizontal (47):	47.50 ft.
Min Lat Left (56):	4.00 ft.
Min Lat Right (55B):	8.00 ft.
Horiz Ref (55A):	H Hwy beneath struct
Underclearance (69):	3 Intolerable - Correct

1ST ROUTE UNDER: S BROOK ST

ROADWAY LOCATION

Pos Prefix (5A):	1st Route Under
Kind of Hwy (5B):	5 City Street
Route Num (5D):	01006
LRS Route (13A/B):	
Milepost (11):	2.88 mi
Suffix (5E):	0 N/A (NBI)
Lanes Under (28B):	4
Detour Length (19):	1.24 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):	15,302 Cars/Day
Pct Trucks (109):	0.00%
ADT Year (30):	2024

CLEARANCES

Vertical (10):	15.80 ft.
Min Vert Over (53):	99.99 ft.
Vert Ref (54A):	H Hwy beneath struct
Undrclearnce (54B):	15.00 ft.
Horizontal (47):	40.00 ft.
Min Lat Left (56):	4.00 ft.
Min Lat Right (55B):	8.00 ft.
Horiz Ref (55A):	H Hwy beneath struct
Underclearance (69):	3 Intolerable - Correct

2ND ROUTE UNDER: E MUHAMMAD ALI BLVD

ROADWAY LOCATION

Pos Prefix (5A):	2nd Route Under
Kind of Hwy (5B):	5 City Street
Route Num (5D):	01048
LRS Route (13A/B):	
Milepost (11):	0.96 mi
Suffix (5E):	0 N/A (NBI)
Lanes Under (28B):	4
Detour Length (19):	

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):	7,708 Cars/Day
Pct Trucks (109):	0.00%
ADT Year (30):	2024

CLEARANCES

Vertical (10):	18.70 ft.
Min Vert Over (53):	99.99 ft.
Vert Ref (54A):	H Hwy beneath struct
Undrclearnce (54B):	15.00 ft.
Horizontal (47):	40.00 ft.
Min Lat Left (56):	4.00 ft.
Min Lat Right (55B):	8.00 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):	135.58 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):	84,001 Cars/Day
Pct Trucks (109):	16.00%
ADT Year (30):	2012

CLEARANCES

Vertical (10):	99.99 ft.
Min Vert Over (53):	99.99 ft.
Vert Ref (54A):	H Hwy beneath struct
Undrclearnce (54B):	15.00 ft.
Horizontal (47):	47.50 ft.
Min Lat Left (56):	4.00 ft.
Min Lat Right (55B):	8.00 ft.
Horiz Ref (55A):	H Hwy beneath struct
Underclearance (69):	3 Intolerable - Correct

STRUCTURE NOTES

-Bridge component numbering: 2014 consultant inspection used numbering per plans. Inspections before and after that one use the Component Numbering layout sheet in the file and uploaded to Media.
-In 2022 and 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 project (CID 174301) included high friction surface treatment.
-In 2009, east end and column of Pier 5 were repaired with CFRP fabric by a contract though the Kentucky Transportation Center.
-Deck was overlaid with 1.5 inch Rosphalt overlay in 2006 (high temp). NB center lane was milled and re-surfaced in 2012 due to rutting.
-Latex overlay in 1980.
-State forces performed an in-depth inspection on this structure in 1991, and a consultant performed one in 2007. From previous reports: Structural steel under the joints and at bearing areas has minor section loss. There are 4 weld locations in the horizontal stiffeners that have cracks, 1 is in the stiffener and web. There are intersecting and unground welds. Some misdrilled holes. Some bearing plate anchor bolts are working out. Rockers at the abutments are slightly over expanded.
-This structure has longitudinal stiffeners.

INSPECTION NOTES

-Routine inspection performed by Stephanie Stoops with Daniel Coulter on 12/17/2024. Due to narrow shoulders and high traffic volume, a drone operated by Jonathan Micka was utilized to aid inspection of the top of the structure on 12/17/2024 and 12/19/2024.
-Natalie House-Lewis (DBE) notified of possible loss of bearing at Pier 3-Girder 10-Span 2 due to spalling of pedestal on 12/17/2024. Coordination has begun to clear parking lot and access pier cap with a bucket truck.

SCOUR NOTES

LOAD RATING NOTES

9/27/2016 Controlling member is girder 24 in the northbound bridge with latex overlay and 1.5" rosphalt overlay. Critical point is 1.5 (midspan) for all trucks. DGA

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**	**12/17/2024**	**35,360.00**	**sq.ft**	**23,405.00**	**3,536.00**	**8,419.00**	**0.00**

The top of the deck received a 1.5-inch Rosphalt overlay in 2006 followed by a high friction surface treatment in 2017. The top of the deck is not visible for inspection due to the overlay; however, while patching, the Bridge Crew observed that the deck is holding water. The northbound side is worse along the center lane where there are multiple ineffective asphalt patches in Spans 2 and 6. Likewise, the southbound side is worse along the center lane where there are six unsound concrete patches of different ages in Span 1. The total area of concrete deck patching is 224 SF with individual patch sizes ranging from 9 to 99 SF. On 05/22/2024, D5 was notified of a hole along the southbound center lane in Span 1-Bay 3. The 2 SF hole was surrounded by additional unsound concrete with exposed and broken rebar, which resulted in the 99 SF full-depth patch.

In 2022 and 2023 the deck was scanned by AECOM utilizing infrared thermographic survey technology. 2023 scan indicated 1326 SF of delaminated areas. Delaminations are concentrated in Span 1 SB in the center and right lanes, Span 6 SB (scattered) and Span 3 NB center lane, with some additional small, scattered areas.

The bottom of the deck has intermittent transverse cracking with efflorescence, spalls with exposed rebar below the joints, and delaminations scattered throughout. In Span 1 SB, the bottom of the deck has areas of full-depth deterioration with leakage in Bays 3 and 4. There's also a spall with exposed rebar in Span 4 NB-Bay 14.

813	AC Wearing Surf w/ Membrane	3	12/17/2024	33,326.00	sq.ft	17,528.00	5,613.00	9,961.00	224.00

The top of the deck received a 1.5-inch Rosphalt overlay in 2006 followed by a high friction surface treatment in 2017. The northbound side is worse along the center lane, which had to be milled and resurfaced in 2012 due to rutting, where there are multiple ineffective asphalt patches in Spans 2 and 6. Likewise, the southbound side is worse along the center lane where there are six unsound concrete patches of different ages in Span 1. The total area of concrete deck patching is 224 SF with individual patch sizes ranging from 9 to 99 SF. On 05/22/2024, D5 was notified of a hole along the southbound center lane in Span 1-Bay 3; the 2 SF hole was surrounded by additional unsound concrete with exposed and broken rebar, which resulted in the 99 SF full-depth patch. The overlay has longitudinal and transverse cracking scattered throughout with varying crack widths and spacing. Cracks are more prevalent along both center lanes, plus wider cracks are propagating from the asphalt and concrete patches. Adjacent to each pourable joint location, the overlay has areas of heavy cracking as well as ineffective asphalt patches and spall. Overlay has failed in places along the joints, including along Pier 2 NB (10SF), Pier 2 SB (4 SF), Pier 5 NB (10 SF) and Pier 5 SB (2 SF). The overlay is also showing wear along the wheel paths, and there are some 1 to 2 SF spalls scattered throughout.

In 2022 and 2023 the deck and overlay was scanned by AECOM utilizing infrared thermographic survey technology. 2023 scan indicated debonded overlay for a total area of 2194 SF. Debonding is concentrated along all joints, along the lane line between NB center and right lanes in all spans, and along the right NB edge line in Spans 3-6, though there are other smaller scattered areas of debonding.

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**	**12/17/2024**	**5,088.00**	**ft**	**3,760.00**	**1,178.00**	**150.00**	**0.00**

Girders have surface rust scattered throughout, especially on the bottom flanges and at splices. Some beam ends have corrosion with section loss in the bottom flange and web, especially girders near the longitudinal joint and exterior girders (3 to 8 feet at each beam end). In Span 1 over Brook St, the two east exterior girders have scrapes from traffic.

515	Steel Protective Coating	3	12/17/2024	85,425.00	sq.ft	0.00	79,737.00	4,988.00	700.00

Steel protective coating is dulling, with areas of limited to no effectiveness where corrosion is present.

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**	**12/17/2024**	**21.00**	**each**	**6.00**	**7.00**	**8.00**	**0.00**

Columns have moderate to wide vertical cracking, delaminated areas, and spalling with exposed rebar; deterioration is worst at Piers 2 and 5. At Pier 2, Column 5 has closely spaced wide cracking and a large spall with exposed rebar and section loss measuring 10 feet tall by 2 feet wide by 2.5 inches deep. Column 6 CFRP repair at Pier 5 is in good condition.

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**	**12/17/2024**	**447.00**	**ft**	**202.00**	**66.00**	**179.00**	**0.00**

Quantity includes parallel wingwalls at the abutments up to the first joint. Abutment 1 has wide horizontal cracking with efflorescence, large delaminations, and spalling with exposed rebar along the top for roughly half the length. Abutment 6 has closely spaced diagonal cracking and spalling at each end of the backwall, and a large delamination above the sidewalk at the east end. Otherwise, abutments have moderate to wide vertical cracks and delaminations.

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**	**12/17/2024**	**430.00**	**ft**	**75.00**	**60.00**	**295.00**	**0.00**

Pier caps have moderate to wide cracking with efflorescence and/or rust staining, delaminated areas, and spalling with exposed rebar and section loss. CFRP repair at the east end of Pier 5 is in good condition.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
301	**Pourable Joint Seal**	**3**	**12/17/2024**	**883.00**	**ft**	**0.00**	**0.00**	**0.00**	**883.00**

Pourable joints are present at every substructure unit where the pre-existing joints were paved over in 2006. (The pre-existing joints consist of neoprene compression joints, except for the sliding plate at Abutment 1.) The pourable joint over Abutment 1 is the worst case, most likely due to the severe skew of the joint and the curvature of the roadway. The pourable joint over Abutment 1 on the southbound side has failed, exposing the loose sliding plate underneath. The Bridge Crew has temporarily repaired it numerous times by melting waterproofing membrane to the plate and then placing hot mix asphalt on top. In general, the pourable joints have been paved over and are not functioning as intended, though pavement has spalled out in many places exposing the pre-existing joint seals which are all in poor condition where visible. Large sections of pourable seals are missing, exposing the compression seals underneath or filled with hard-packed debris. The compression seals are torn with moderate to total adhesion loss. Past inspectors have observed heavy water flow through the joints during rain events, which is evident by the deterioration of the substructure units below. Adjacent to each pourable joint location, the overlay has areas of heavy cracking as well as ineffective asphalt patches.

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**	**12/17/2024**	**57.00**	**each**	**0.00**	**46.00**	**11.00**	**0.00**

Moveable bearings are located at the abutments, Pier 3-Span 2, Pier 4-Span 3, and Pier 5 south side (Spans 4 and 5).
Moveable bearings have surface rust throughout, and a few appear to have section loss (mostly at exterior girders and girders below longitudinal joint). Bearings with heavier corrosion are at Abutment 1 Girders 6 and 11-15, Pier 4-Girder 14, Pier 5-Girder 14, and Abutment 6-Girders 7 and 8. There is also asphalt and debris pile around Girder 8 bearing at both abutments, restricting movement. Many abutment bearings are slightly expanded. Bearings are difficult to inspect from the ground.

515	Steel Protective Coating	3	12/17/2024	285.00	sq.ft	0.00	103.00	104.00	78.00

Steel protective coating is dulling throughout, with areas of limited to no effectiveness where corrosion is present.

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**	**12/17/2024**	**57.00**	**each**	**0.00**	**48.00**	**9.00**	**0.00**

Fixed bearings are located at Pier 2 (2 per girder), Pier 3-Span 3, Pier 4-Span 4, and Pier 5-Span 6.
Fixed bearings have surface rust throughout, and a few appear to have section loss (mostly at exterior girders and girders below longitudinal joint). Heavy corrosion was noted at Pier 2-Span 1-Girders 1, 2, 7 and 8, Pier 2-Span 2-Girders 7 and 8, Pier 4-Girder 14, and Pier 5-Girder 14. The pedestal at Pier 3-Span 2-Girder 10 has a deep corner spall along the north edge, possibly causing loss of bearing area. Bearings are difficult to inspect from the ground.

515	Steel Protective Coating	3	12/17/2024	228.00	sq.ft	0.00	86.00	87.00	55.00

Steel protective coating is dulling throughout, with areas of limited to no effectiveness where corrosion is present.

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**	**12/17/2024**	**1,380.00**	**ft**	**435.00**	**800.00**	**145.00**	**0.00**

Barrier walls have moderate vertical cracking, scaling, and small to large spalls with one location of exposed reinforcement in the east railing of Span 1. Spalling is most widespread in the east railing. Southbound median barrier has large delaminated areas/unsound patches at the south bridge end and Pier 5 joint.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
802	Drainage Sys	3	12/17/2024	1.00	each	0.00	1.00	0.00	0.00

Drainage system attached to the south face of Pier 3 and the north face of Pier 2 have areas of heavy corrosion but appear functional.

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
852	Drains	3	12/17/2024	1.00	each	0.00	0.00	0.00	1.00

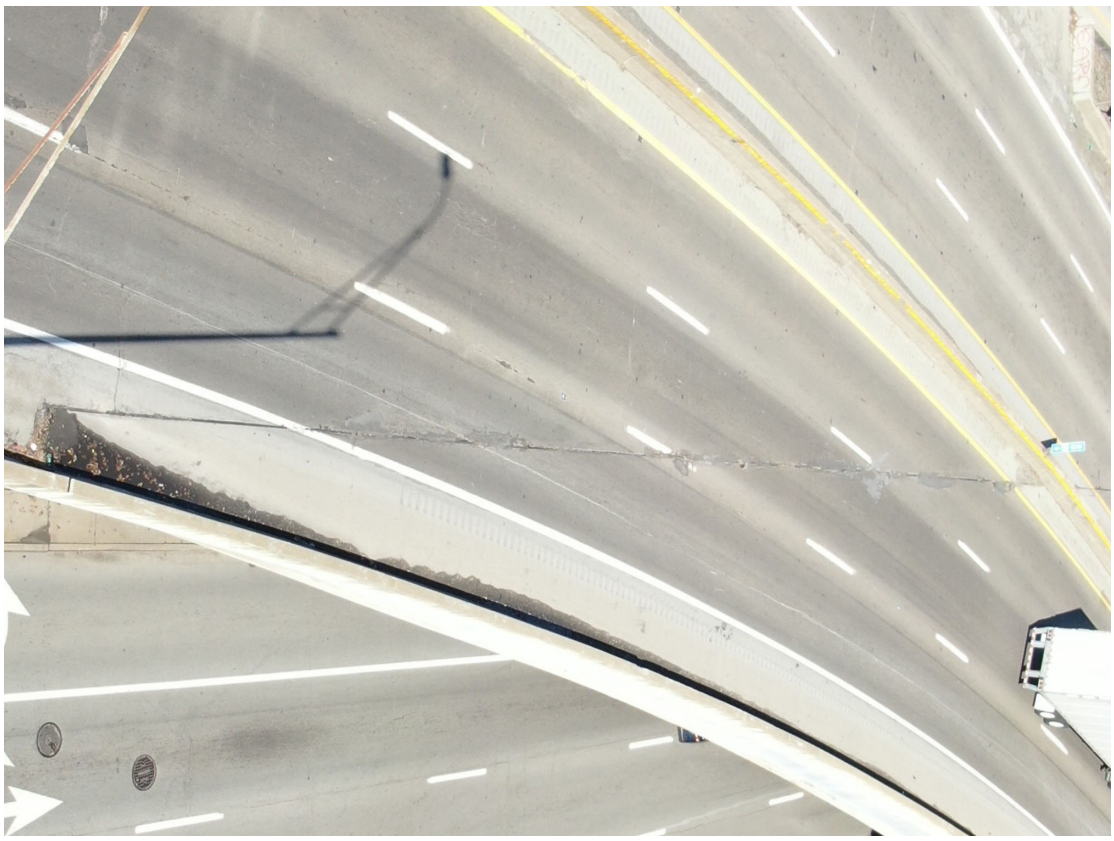
Drain grates on deck are filled with debris and 100% clogged.

056B00193N Standard Inspection
12/17/2024 & 12/19/2024

West Profile

East Profile from the south bridge end

Joint over Abutment 1



Abutment 1 NB joint

Abutment 1 SB joint plus Span 1. SB Span 1 deck and overlay has several full depth concrete patches. SB joint has been patched numerous times with asphalt and is cracking in the center lane.

Joint over Pier 2

Close-up of joint over Pier 2 NB.

Close-up of joint over Pier 2 SB.

Span 2 and joint over Pier 3
Rosphalt overlay in Span 2 has several asphalt patches in the center NB lane. There is also spalling along the lane line between the center and right lanes.

Close-up of Span 2 and the joint over Pier 3.

Pier 4 joint

Close-up of joint over Pier 4 with original deteriorated joint seal visible.

Joint over Pier 5

Close-up of failing joint over Pier 5 NB plus overlay patching in Span 6 NB.

Joint over Pier 5 NB has failed and original torn joint material is exposed.

Joint over Pier 5 SB.

Joint over Pier 5 SB has generally failed. There is asphalt patching in the center and left lanes. Also not patch in median railing.

Joint over Abutment 6.

Joint over Abutment 6 NB
Note patches along the joint extending into Span 6 in the center lane.

Joint over Abutment 6 SB

Abutment 1

Abutment 1 has wide cracks and spalls with exposed rebar, primarily near the top along the beam seat, worst under Bays 1-3 and Bay 8. Example below Bay 2 shown.

There are a few mid height 1-2 foot diameter spalls with exposed rebar near the east end.

Span 1

Soffit has cracks with efflorescence. Span 1-Bays 3 and 4 has some full depth deterioration with dense pattern cracking and efflorescence, plus there is a full depth patch in Bay 3 (shown).

Pier 2 south face

Girder ends typically have corrosion near the substructure units. Example Span 1-Pier 2-Girder 9.

Another example of corrosion and peeling paint in Span 1-Pier 2-Girder 14.

Pier 2 cap has wide cracking and/or large spalls with exposed rebar for much of the length. Largest spall on the bottom face between Columns 1 and 2 shown.

Several columns at Piers 2 and 5 have wide cracks and/or spalls with exposed rebar. Pier 2-Column 5 south face shown with closely spaced wide cracks.

Pier 2-Column 5 has a large spall with exposed rebar, roughly 10 feet tall by 2 feet wide by 2.5 inches deep, on the north side.

Close-up of Pier 2-Column5 spall with exposed rebar having section loss.

Another example of cracking and spalling in the Pier 2 cap between Columns 9 and 10.

Wide horizontal cracking and spalling along the bottom north face in Pier 2 cap between Columns 10 and 11.

Wide cracking in the east end of Pier 2 north face, plus typical Pier 2 bearings.

Pier 2 north face

Span 2

Pier 3 south face

Spalling on the bottom face of Pier. 3 cap at the east end

Pier 3 north face
North face of pier 3 cap has wide horizontal cracking under Bays 9-12, some with efflorescence and rust staining.

Pier 3 north face at Girders 9 and 10.
Pedestal for girder 9-Span 2 has a wide crack, and pedestal for Girder 10-Span 2 has a deep spall, potentially causing loss of bearing area.

Closer view of pedestal for Pier 3-Girder 10-Span 2 spalling, plus wide cracking in the north face of Pier 3 cap.

Span 3

Pier 4 south face

Pier 4 cap has spalls with exposed rebar. Example in the south face under Bay 8 shown.

East end of Pier 4 has spalling with exposed rebar and wide cracking. South face shown.

Girder 14 over Pier 4 has heavier corrosion along the girders and the bearings.

East end of the north face of Pier 4 cap.

Pier 4 north face

Spalling in the north face of Pier 4 cap under Bay 8.

Span 4

Exterior Girder 14 has light corrosion throughout Span 4 along the bottom flange.

Span 5 (located along SB portion of bridge between Piers 2 and 5)

Pier 5 south face

Pier 5 has wide cracking plus spalls with exposed rebar in the cap and several columns. Pier 5 south face at Column 1 shown.

Pier 5 south face at Column 2 with spalling and exposed rebar.

Pier 5-Column 6 and the east end of Pier 5 cap have CFRP repair from 2009. Repairs are in good condition.

Girder 14 at Pier 5 as well as the bearings have heavy corrosion with section loss.

Pier 5 north face

Numerous spalls with exposed rebar in Pier 5 north face between Columns 1 and 4.

Close-up of deep spalling in the Pier 5 cap north face at Column 2 as well as spalling in the column.

Pier 5 typical bearings

Span 6

Example of transverse cracking in the deck soffit in Span 6.

Abutment 6

Abutment 6 has a few full height vertical cracks.

Abutment 6 back wall has dense pattern cracking and deep spalling at the west end.

Abutment 6 Girders 7 and 8. Bearings have surface corrosion and are all slightly expanded, inconsistent with temperature. Girder 8 bearing is also partially buried in asphalt, restricting movement.

Abutment 6 has large, deep spalls with exposed rebar along the top of the beam seat. Example below Bays 9-11.

East end of Abutment 6 with cracking, spalling, and exposed rebar.

Spall with exposed rebar in Abutment 6 at Girder 14, plus corrosion along the bottom flange of Girder 14.

East end of Abutment 6 back wall has closely spaced diagonal cracking with rust staining plus a large spall with exposed rebar.