Bridges and Structures Bureau

Bridge Maintenance and Inspection Unit

Bridge Condition Report

Bridge ID:	INDEPENDENCE	FHWA B.ID.01) Number:	015831
Inspection Type:	Routine (SNBI)	District:	6
Location:	T89N-R9W-S35-N0.0-E14.5	Carrying:	1ST ST EAST
Approved By:	Davis,Alex	Inspection Group:	Buchanan County

TABLE OF CONTENTS

FHWA No. 015831 Bridge ID: INDEPENDENCE Location: T89N-R9W-S35-N0.0-E14.5

Bridge Data Tab New

Bridge Name:

B.CL.01: Owner L03 - City or municipal highway agency

Main Structure Type (A):

Main Structure Type (B):

No. Spans Main Unit 1

City: INDEPENDENCE CITY B.L.02: County Code 010 - Buchanan B.W.01: Year Built 2019

B.IE.01: Inspection Type Routine (SNBI) B.IE.02: Inspection Date 12/22/2025 Est. Life Remain: 50 Yrs.

Inspector Name: Alex Davis Inspection Agency: Buchanan County

B.PS.01: Load Posting Status

Farm to Market:

B.AP.03 Scour Vulnerability A - Scour appraisal completed. Bridge determined to be stable for scour.

B.L.05: Latitude 42.46878 B.L.06: Longitude -91.881875

LOAD POSTING TABLE

Type	B.EP.04: Posting Value	Actual Tons	Remarks
Straight Truck or Gross Weight Limit			
Truck - Semi-trailer			
Truck - Full-trailer			
Emergency Vehicle			
Implement of Husbandry			

SIGNING

Type	Legibility	Visibility	Remarks
Advanced Posting			NONE
Posted Loads			NONE
Narrow			NONE
One Lane			NONE
Object Markers	Sign Missing	Sign Missing	INSTALL OBJECT MARKERS

APPROACH

	Condition Rating	Remarks
1. Approach Slab	8	
2. Relief Joints	8	
3. Approach - Guardrail	N	
4. Embankment	8	

B.AP.01: Approach Roadway Alignment G

IOWA STRUCTURE INVENTORY AND APPRAISAL SHEET

Identification

Public Name:

New Bridge (ID) Name:

B.ID.03: Previous FWHA Number

Comments :

Bridge Condition Index (BCI): 83.2

8

Network Route Type Stratification

B.AP.05: Seismic Vulnerability N

Location

B.L.02: County Code 010 - Buchanan

B.L.01: State Code 19 - Iowa

B.L.08: Border Bridge State or Country Code:

B.L.07: Border Bridge Number N

B.L.04: Highway Agency District 6

B.L.03: Place Code INDEPENDENCE CITY

B.L.09: Border Bridge Inspection Responsibility:

B.L.05: Latitude 42.46878

B.L.10: Border Bridge Designated Lead State

B.L.06: Longitude -91.881875

B.L.11: Bridge Location T89N-R9W-S35-N0.0-E14.5

B.L.12: Metropolitan Planning Organization

Classification

B.CL.01: Owner L03

B.CL.02: Maintenance Responsibility L03

B.W.01: Year Built 2019

B.CL.04: Historic Significance N

B.CL.03: Federal or Tribal Land Access: N

B.CL.06: Emergency Evacuation Designation: N

B.CL.05: Toll 1

Bridge Condition

B.C.01: Deck Condition Rating 8

B.C.02: Superstructure Condition Rating 8

B.C.04: Culvert Condition Rating N

B.C.05: Bridge Railing Condition Rating 8

B.C.07: Bridge Bearings Condition Rating 8

B.C.08: Bridge Joints Condition Rating 8

B.C.10: Channel Protection Condition Rating 8

B.C.11: Scour Condition Rating 8

B.C.13: Lowest Condition Rating Code 8

B.C.14: NSTM Inspection Condition N

B.AP.01: Approach Roadway Alignment G - Good

B.C.12: Bridge Condition Classification G

B.AP.03: Scour Vulnerability A - Scour appraisal completed. Bridge determined to be stable for scour.

B.C.15: Underwater Inspection Condition

B.AP.02: Overtopping Likelihood 1 - Remote - once every 100 years or less frequently

B.C.03: Substructure Condition Rating 8

B.AP.04: Scour Plan of Action 0 - A scour POA is not required.

B.C.09: Channel Condition Rating 8

B.C.06: Bridge Railing Transitions Condition Rating 8

Geometry

B.G.01: NBIS Bridge Length 133.5

B.G.05: Bridge Width Out-to-Out 53.1

B.G.02: Total Bridge Length 133.5

B.G.06: Bridge Width Curb-to-Curb 32.2

B.G.07: Left Curb or Sidewalk Width

FHWA No. 015831 Bridge ID: INDEPENDENCE Location: T89N-R9W-S35-N0.0-E14.5

B.G.03: Maximum Span Length	129.9		8.9
B.G.04: Minimum Span Length	129.9	B.G.08: Right Curb or Sidewalk Width	8.9
B.G.09: Approach Roadway Width	36.1	B.G.13: Maximum Bridge Height	
B.G.10: Bridge Median	0 - No median	B.G.14: Sidehill Bridge	N
B.G.11: Skew	30	B.G.15: Irregular Deck Area	
B.G.12: Curved Bridge	N - Not curved	B.G.16: Calculated Deck Area	7088.9
B.RH.01: Bridge Railings	TL-3	B.RH.02: Transitions	TL-3
B.IR.01: NSTM Inspection Required	N	B.IR.03: Underwater Inspection Required	N
B.IR.02: Fatigue Details	N	B.IR.04: Complex Feature	N

Load Evaluation and Posting

	B.EP.01: Legal Load Configuration	Tons	B.EP.02: Legal Load Rate Factor	B.EP.03: Posting Type	B.EP.04: Posting Value
Straight Trucks			0		T
	Type 4		4.2		T
	SU4 truck		0		T
	SU5 truck		0		T
	SU6 truck		0		T
	SU7 truck		2.93		T
Truck - Semi Trailer			0		T
	Type 3S3A		3.35		T
	Type 3S3B		3.47		T
	Type 4S3		3.18		T
Truck - Full Trailer	Type 3-3		3.27		T
	Type 5-2		0		T
Emergency Vehicles	Type EV2		0		T
	Type EV3		0		
Implement of Husbandry	Type NRL		0		T
	Type IoH				

Loads and Load Rating

B.LR.01: Design Load	HL93 - HL-93	B.LR.04: Load Rating Method	LRFR - Load and Resistance Factor Rating
B.LR.02: Design Method		B.LR.05: Inventory Load Rating Factor .	1.26

B.LR.03: Load Rating Date 02/05/2020

B.LR.06: Operating Load Rating Factor 2.11

B.LR.07: Controlling Legal Load Rating Factor

B.LR.08: Routine Permit Loads

Inspection Events

Routine

B.IE.03: Inspection Completion Date 12/22/2025

B.IE.05: Inspection Interval 24

In-depth

B.IE.03: Inspection Completion Date

B.IE.05: Inspection Interval 24

Underwater

B.IE.03: Inspection Completion Date

B.IE.05: Inspection Interval 48

NSTM

B.IE.03: Inspection Completion Date

B.IE.05: Inspection Interval 24

IOWA STRUCTURE INVENTORY AND APPRAISAL SHEET

Bridge ID: 1ST ST EAST 8 Structure No. 15831 Condition Rating: Good

Bridge Name: Bridge Condition Index (BCI): 83.2

IDENTIFICATION

City INDEPENDENCE 3 County Code 010

2 State District No. 7 G 0 7 Facility Carried 1ST ST EAST

9 Location T89N-R9W-S35-N0.0-E14.5 6 Features Intersected MELONE CREEK

98 Border Bridge Code 99 Border Bridge No.

5 Inventory Route (A,B,C,D,E) 1 | 5 | 1 | 00000 | 2 % Responsible

INSPECTIONS

90 Inspection Date 12/29/2023 Next Routine Inspection Type Routine

91 Insp Frequency 24 months Next Inspection Date

92 CRITICAL FEATURE INSPECTION

	Y/N	FREQ	93 CFI Date
A Fracture Critical Detail	N		
B Underwater Inspection	N		
C Other Special Inspection	N		

Inspection Agency 2

Inspection Group/Consultant

Buchanan County

AGE AND SERVICE

27 Year Built 2019 106 Year Reconstructed 42 Type of Service 1

19 Bypass Detour Length 9 Mi. 29 Est Ave Daily Traffic 6200 Speed Limit 30

100 STRAHNET Highway 0 28 Lanes On 2 Under 0 37 Historical Significance 5

109 Average Daily Truck Traffic 0 42B Type Under Bridge 5

30 Year of Average Daily Traffic 2024 104 Highway System of the Inv. Rte. 0

STRUCTURE TYPE AND MATERIAL

44 Approach Span Type Near Far 45 No of Spans Main Unit 1 107 Deck Type 1

43 Main Structure Type A 5 43 Main Structure Type B 02 46 No of Appr Spans Near 0 Far 0

108 Wearing Surface/ Protective System

A) Type of Wearing Surface 1 B) Type of Membrane 0 C) Deck Protection 1

FHWA No. 015831 Bridge ID: INDEPENDENCE Location: T89N-R9W-S35-N0.0-E14.5

CONDITION

58 Deck 8 59 Super 8 60 Sub 8 61 Channel 8 62 Culv N

LOAD RATING AND POSTING

31 Design Load A 64 Operating Rating 2.11 66 Inventory Rating 1.26

70 Bridge Posting 5 63 Method Used Operating Rating 8

41 Open, Posted Or Closed A 65 Method Used Inventory Rating 8

GEOMETRIC DATA

112 NBIS Y Deck Area 7075.5 ' 49 Structure Length 133.5 ' 48 Longest Span 130 '

34 Skew 30 35 Structure Flared 0 33 Bridge Median 0 52 Deck Width O-O 53 '

10 Inv Rt Min Vert Clear 10ft Lane 99 ' 99 " 51 Br Rdwy Width C-C 32 '

54 Min Vert UnderClear N 0 ' 0 " 50 Curb or Sidewalk RT 9 ' LT 9 '

55 Min Lat UnderClear RT N 00 ' 00 " 56 Min Lat UnderClear LT 00 ' 00 "

32 Appr Rdwy Width (W/Shoulders) 36 ' 53 Min Vert Clear Over Br Rdwy 99 ' 99 "

47 Inv Rt Total Horiz Clear RT 32 ' 0 " LT 32 ' 0 "

APPRAISAL

67 Struc. Eval 8 69 Underclear, Vert and Horiz N

68 Deck Geo 4 71 Waterway Adq 9

72 App Rdwy Align 8 113 Scour Crit Bridges 8

36 Traffic Safety Features

36A Bridge Railings 1 36B Transitions 1 36C Appr Guardrail N 36D Appr Guardrail Ends N

NAVIGATION DATA

38 Navigation Control N 40 Navigation Horiz Clear 00 ' 00 " Mile Post

16 Latitude 42.46878001 17 Longitude -91.88187532 111 Pier or Abut. Prot. 1

39 Nav Vert Clearance 00 ' 00 " 26 Functional Classification of Inventory Route 16

CLASSIFICATION

101 Parallel Str Dsgn N 103 Temp Str Dsgn 20 Toll 3

22Owner 04 21 Maintain Rsp 04 Original Design No.

FRA No. (If RR Bridge) 102 Direction of Traffic 2

Deck

Deck Items		Condition Rating	Remarks
1. Wearing Surface		8	
2. Curbs		N	
3. Median		N	
4a. Sidewalks Left (B.G.07)	8.9 FT	8	
4b. Sidewalks Right (B.G.08)	8.9 FT	8	
5. Railings (B.C.05)		8	CONC BARRIER RAIL AT ROADWAY, PAINTED METAL A SIDEWALK
6. Transition Rating (B.C.06)		8	
7. Rail Protection System		8	AT SIDEWALK RAILS
8. Drains		8	
9. Utility Connections		N	
10. Joint leakage		8	
11. Expan. Joints and Devices (B.C.08)		8	
12. Deck - Structural Condition		7	HAIRLINE DIAGONAL CRACKING AT ENDS OF DECK.

B.RH.01 Railing Test Level TL-3

B.RH.02 Transition Test Level TL-3

B.G.15 IRR. Deck Area

B.IR.04 Complex Feature N

General Comments

(Remark required for NBI rating of 5 or less)

B.C.01 Deck Condition Rating 8

DIAGONAL HAIRLINE CRACKS AT ENDS OF SLAB.

Superstructure

Superstructure Items	Condition Rating	Remarks
1. Bearing Devices (B.C.07)	8	
2. Stringers	N	
Lateral Support ( )	N	
3. Girders/Beams ( )	8	(7) BTD130 AT 7'-8" SPACING
Lateral Support ( )	7	C15x33.9 AT THIRD POINTS. HAIRLINE CRACKS WITH EFFLORESCENCE AROUND BEAMS AT ABUTMENT DIAPHRAGMS.
4. Floor Beams	N	
Lateral Support ( )	N	
5. Trusses - General	N	
Portals	N	
Bracing	N	
6. Paint	N	
7. Rivets or Bolts	8	NO LOOSE OR MISSING BOLTS OBSERVED
8. Welds - Cracks	N	
9. Corrosion	8	
10. Timber Decay	N	
11. Concrete Cracking	7	MINOR HAIRLINE CRACKING AROUND BEAMS IN ABUTMENT DIAPHRAGMS WITH EFFLORESCENCE.
12. Collision Damage	8	
13. Deflection Under Load	8	
14. Alignment of Members	8	
15. Vibration Under Load	8	
General Comments		

B.G.12 Curved Bridge N - Not curved

B.C.14: NSTM Inspection Condition N

(Remark required for NBI rating of 5 or less)

B.C.02 Superstructure Condition Rating 8

Inspection Requirements

B.IR.01: NSTM Inspection Required N - NSTM inspection not required

B.IR.02: Fatigue Details N - No E/E details

B.IR.04: Complex Feature N - Bridge does not have complex feature

FHWA No. 015831 Bridge ID: INDEPENDENCE Location: T89N-R9W-S35-N0.0-E14.5

Substructure

Substructure Type		Condition Rating	Remarks
1. Abutments -	Caps	7	HAIRLINE CRACKING WITH EFFLORESCENCE NEAR BEAM ENDS. ONE CRACK WITH EFFLORESCENCE EXTENDING INTO ABUTMENT IN WEST ABUTMENT.
	Wings	8	
	Backwall	N	
	Footing	N	
	Piles		NOT EXPOSED
	Scour/Erosion	8	
	Settlement	9	
2. Piers or Bents -	Caps	N	
	Columns	N	
	Footing	N	
	Piles	N	
	Scour/Erosion	N	
	Settlement	N	
3. Concrete Cracking		7	HAIRLINE CRACKING WITH EFFLORESCENCE NEAR BEAM ENDS
4. Steel Corrosion		8	
5. Timber Decay		N	
6. Debris on Seats		N	
7. Protection System		N	
8. Collision Damage		8	
9. Underwater Inspection Condition (B.C.15)			
General Comments			

(Remark required for NBI rating of 5 or less)

B.C.03 Substructure Condition Rating 8

HAIRLINE CRACKING AROUND BEAMS IN ABUTMENT DIAPHRAGMS WITH ONE CRACK EXTENDING INTO WEST CAP.

Underwater Inspection Type NA

B.IR.03: Underwater Inspection Required N - Underwater inspection not required

B.AP.02 Overtopping Likelihood 1

B.G.13 Max Bridge Height

Channel Protection

Channel and Channel Protection	Condition Rating	Remarks
1. Channel Scour (B.C.11)	8	
2. Channel Protection (B.C.10)	8	
A. Fender System	N	
B. Spur Dikes and Jetties	N	
C. Vegetation	7	MINOR TREES GROWING AROUND BRIDGE.
D. Riprap	8	PLACED AT ABUTMENT EMBANKMENTS
3. Channel Condition Rating (B.C.09)	8	
A. Embankment Erosion	8	
B. Drift	8	
C. Channel Change	9	
D. Adequacy of Opening	9	
Reasons why no underwater inspection is required		

(Remark required for NBI rating of 5 or less)

Drainage Area: 9.38 square miles

Scour Critical Bridges (B.AP.03) A B.IR.03: Underwater Inspection Required N - Underwater inspection not required

Scour Critical Bridge Determination: if not originally designed for scour, follow the analysis process below

Scour Analysis (Upload Analysis PDF): ☑ Level A ☐ Level B ☐ Level C

Scour Plan of Action (POA) Implemented (B.AP.04): 0 (Upload POA)

Bridge with Unknown Foundation

Unknown Foundation Analysis (Upload Analysis PDF): ☐ Level A ☐ Level B

Unknown Foundation Risk Level:

Other Waterway Characteristics

B.AP.02 Overtopping Likelihood 1

B.G.13 Max Bridge Height

Inspection Findings and Evaluation - Scour

FHWA No. 015831 Bridge ID: INDEPENDENCE Location: T89N-R9W-S35-N0.0-E14.5

Load Rating Bridge Report

Report By: COURTNEY WAND Date: 02/05/2020

Width C-C 32 ' Str Length 133.5 Bridge Structure Type: Year Built: 2019

B.SP.02: Number of Spans: 1 Total Spans: 1 B.G.04 Min. Span Length 129.9

B.LR.02 Design Method B.G.03 Max. Span Length 129.9

STRUCTURAL INVENTORY AND APPRAISAL:

Design Load (B.LR.01): HL93 - HL-93 Lanes 2 Rating Method (B.LR.04): LRFR

Inventory Rating (B.LR.05): 1.26 Tons/RF **Operating Rating (B.LR.06):** 2.11 Tons/RF

Inventory Rating is controlled by: FLEXURE Operating Rating is controlled by: FLEXURE

critical location MIDSPAN OF INTERIOR BEAMS critical location MIDSPAN OF INTERIOR BEAMS

Comment:

1/2" INTEGRAL WEARING SURFACE DEDUCTED FROM COMPOSITE SECTION CAPACITY.

☑ Calculations attached

Deck (B.C.01): 8 Superstructure (B.C.02): 8 Substructure (B.C.03): 8 Culvert (B.C.04): N

Design Standard (If applicable): Restriction Description: (If applicable)

Load Evaluation and Posting

Iowa Load Rating Vehicles

	B.EP.01: Legal Load Configuration	Tons - Multi lane	B.EP.02: Legal Load Rating Factor	B.EP.03: Posting Type	B.EP.04: Posting Value
Straight Trucks	Type 4	114.4	4.2		T
	SU4 truck		0		T
	SU5 truck		0		T
	SU6 truck		0		T
	SU7 truck	113.5	2.93		T
Truck - Semi Trailer	Type 3S3A	133.9	3.35		T
	Type 3S3B	156.3	3.47		T
	Type 4S3	152.7	3.18		T
Truck - Full Trailer	Type 3-3	130.9	3.27		T
	Type 5-2		0		T
Emergency Vehicles	Type EV2		0		T
	Type EV3		0		
Implement of Husbandry	Type NRL		0		
	Type IoH				

FHWA No. 015831 Bridge ID: INDEPENDENCE Location: T89N-R9W-S35-N0.0-E14.5

B.LR.08 Routine Permit Loads B.LR.07 Controlling Rating Factor

Permit Vehicle Adequacy:	90K NR	100K Crane Axle Group	136K A NR	136K B NR	156KNR

All Systems Permit Fluid Milk Truck Small Annual Crane

Comments

RATING ASSUMES SUPERSTRUCTURE CONTROLS CAPACITY. RATING MUST BE RE-EVALUATED UPON SIGNS OF DISTRESS OF ANY STRUCTURAL BRIDGE COMPONENT.
LOWEST SHV TONNAGE REPORTED IN LOAD RATING TABLE. SHV RATING TONNAGES FOR TWO LANES ARE: SU4=113.5 TON, SU5=115.6 TON, SU6=116.0 TON, SU7=117.4 TON.

Name COURTNEY WAND Date 02/05/2020

License No.: 23610 License renewal date December 31, 2021

FHWA # 015831 Report By: COURTNEY WAND Date: 02/05/2020

BRIDGE ID: INDEPENDENCE

STRUCTURAL RATING

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and I am duly licensed Professional Engineer under the laws of the State of Iowa.

_____ 02/05/2020
Signature Date

Printed or Typed Name COURTNEY WAND

License No.: 23610 My license renewal date is December 31, 2021

Comments

RATING ASSUMES SUPERSTRUCTURE CONTROLS CAPACITY. RATING MUST BE RE-EVALUATED UPON SIGNS OF DISTRESS OF ANY STRUCTURAL BRIDGE COMPONENT.
LOWEST SHV TONNAGE REPORTED IN LOAD RATING TABLE. SHV RATING TONNAGES FOR TWO LANES ARE: SU4=113.5 TON, SU5=115.6 TON, SU6=116.0 TON, SU7=117.4 TON.

LOAD RATING EVALUATION FORM

Name:	Alex Davis	Bridge ID	1ST ST EAST
Main Span Materials & Design (Item 43):		FHWA No:	15831
County / City:	Buchanan County / Independence	Date:	03/08/2026
Location:	T89N-R9W-S35-N0.0-E14.5	ADT:	6200

The purpose of this evaluation form is to determine if the condition and configuration of the structure is still consistent with the load rating calculations that were completed during a previous bridge inspection. If the answer to all of these evaluation items is "No" then recalculation is not required. IF the answer to any of these evaluation items is "Yes", a Professional Engineer, licensed in the State of Iowa, must evaluate if re-calculation of the load ratings for this structure is required. Answer "No" or "Yes" to the following.

Was the bridge re-rated as part of this inspection?

If "no", check the following criteria. If "yes", no additional information is needed. No

If any of the following criteria are “Yes”, the bridge shall be load rated:

1. The bridge is new. No
2. The bridge has undergone a major rehabilitation that affects the controlling structural element. This may include the deck, superstructure, or substructure elements. No
3. Item 58, Deck; Item 59, Superstructure; Item 60, Substructure; or Item 62, Culvert; code decreased to 3 or less. No
4. Moderate to significant changes to the superstructure dead load occurred. This may include the addition of an overlay or changes of 2 or more inches of overburden such as earth or rock since the previous rating. No
5. Lateral support of the beams changed. No
6. Five feet or more of scour/erosion occurred at the foundations due to flooding events or progressive down cutting. No

   If “yes”, the bridge shall be evaluated for structural capacity of the foundations.

If any of the following criteria are “Yes”, the bridge shall be considered for re-load rating:

1. Item 58, Deck; Item 59, Superstructure; Item 60, Substructure; or Item 62, Culvert; coding decreased to 4. No
2. New information found during the most recent field inspection affects load capacity. No
3. Additional investigation, testing, or analysis was done and found issues that may affect load capacity. No
4. Item 63 and 65, Rating Method, is coded 5. No

Does the bridge need to be re-rated?

If yes, re-rate the bridge and update the Bridge Load Rating Report No

Load Rating Evaluation Comments:

FHWA No. 015831 Bridge ID: INDEPENDENCE Location: T89N-R9W-S35-N0.0-E14.5

File Date: 12/22/2025 File Description Road view looking West

File Date: 12/22/2025 File Description Side view looking North

File Date: 12/22/2025 File Description Underside of bridge looking East

File Date: 12/22/2025 File Description Cracking at ends of deck (typical of both sides)

FHWA No. 015831 Bridge ID: INDEPENDENCE Location: T89N-R9W-S35-N0.0-E14.5

File Date: 12/22/2025 File Description Cracking with efflorescence around beam ends in abutments