

Bridge Inspection Report

NBI Structure Number: 006502010002400

Dover 201/024

Date of Inspection: 07/26/2023
Date Report Sent: 06/01/2023
Owner: Tpk Bureau, NHDOT
Bridge Inspection Group: C-Team
Bridge Maintenance Crew: 11
Bridge also in: Newington, New Hampshire

US 4,NH 16,TPK SB
over
LITTLE BAY,RD
New Little Bay Bridge

Interstate Bridge Number: 002

Recommended Postings:

Weight: **No Posting Required**

Weight Sign OK

Width: **Not Required**

Width Sign OK

Primary Height Sign Recommendation: *None*
Optional Centerline Height Sign Rec: *None*

Clearances: Over: 99.99
(Feet) Under: 21.25
Route: 99.99

Height Sign OK

MINIMUM VERTICAL UNDERCLEARANCE IS 21'-03" (HILTON DR).

Condition:

Red List Status: Not on the Redlist

Deck: 8 Very Good

Superstructure: 8 Very Good

Substructure: 7 Good

Culvert: N N/A (NBI)

Sufficiency Rating: 83 %

Bridge Rail: Meets Standards

Rail Transition: Meets Standards

Bridge Approach Rail: Meets Standards

Approach Rail Ends: Meets Standards

Structure Type and Materials:

Number of Main Spans: 9

Number of Approach Spans: 0

Main Span Material and Design Type

Steel Continuous/Stringer/Girder

NH Bridge Type: IB-C (I Beams w/ Concrete Deck)

Deck Type: Concrete Precast Panel

Wearing Surface: Bituminous

Membrane: Preformed Fabric

Deck Protection: Epoxy Coated Reinforcing

Curb Reveal: 7 in

Plan Location: 112-1-1

Total Bridge Length: 1,648.5 ft

Right Curb/Sidewalk Width: 0.5 ft

Total Bridge Width: 75.0 ft

Median: Closed Med w/Barriers

Bridge Skew: 0.00°

Year Built/Rebuilt: 2018

Bridge Dimensions:

Length Maximum Span: 275.0 ft

Left Curb/Sidewalk Width: 0.0 ft

Width Curb to Curb: 69.5 ft

Approach Roadway Width: 70.0 ft
(W/Shoulders)

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Bridge Service:

Type of Service on Bridge: Highway

Type of Service Under: Highway and Waterway

Lanes on Bridge: 4

Lanes Under: 2

AADT: 33,175

Percent Trucks: 8%

Year of AADT: 2022

Future AADT: 49,099

Year of Future AADT: 2042

Federal or State Definition Bridge: Fed-Definition Bridge

National Highway System: NHS Roadway on Bridge

Roadway Functional Class: Urban, Principal Arterial - Other Freeways or Expressways

New Hampshire Bridge Tier: 1

Eligibility for the National Register of Historic Places: Not eligible for NRHP

Traffic Direction: 1-way traffic

National Bridge Inventory (NBI) Appraisal Ratings:

Deck Geometry: 7 Above Min Criteria

Underclearances: 4 Tolerable

Approach Alignment: 8 Equal Desirable Crit

Structural Evaluation: 7 Above Min Criteria

Channel/Channel Protection: 7 Minor Damage

Waterway Adequacy: 9 Above Desirable

Bridge Scour Critical Status: 8 Stable Above Footing

Riprap Condition: Good Condition

Debris Present: No Debris Present

Channel Notes: TIDAL: COBBLES, BOULDERS, AND BEDROCK BOTTOM.

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Element Details

| No. | Description | Material Notes and Condition Notes: |
|--------|-------------------------------------|--|
| 12 | Reinforced Concrete Deck | 9" THICK DECK W/ 3.5" PARTIAL DEPTH PRESTRESSED PANELS, 5.5" C.I.P. OVER POUR, EPOXY BARS, WELDED BY TORCH MEMBRANE, 2.75" PAVE. |
| L 510 | Wearing Surfaces | ASPHALT IS IN GOOD CONDITION. CURBS ARE IN GOOD CONDITION, FINE CRACKS, SOME SEALED. SOFFIT IS IN GOOD CONDITION. 2.75" PAVEMENT W/ WELDED BY TORCH BARRIER MEMBRANE. |
| L 1130 | Cracking (RC and Other) | |
| 107 | Steel Open Girder/Beam | 7 BEAMS. TOP FLANGE - 7/8". BOTTOM FLANGE - 1 1/8". FLANGE WIDTH - 1'-09". DEPTH - 6'-08". WEB THICKNESS - 3/4". LIKE NEW CONDITION. PAINTED AT ENDS. |
| L 517 | Weathering Steel Protective Coating | |
| 205 | Reinforced Concrete Column | DRILLED SHAFT COLUMNS, 3 PER PIER. 6'-6" DIAM.COLS W/ EPOXY BARS, 8'-6" SHAFTS W/ SS BARS SOCKETED INTO BEDROCK. LIGHT PITTING ON THE STEEL CAISSON AT THE WATER LINE AND BELOW. |
| 215 | Reinforced Concrete Abutment | GOOD CONDITION. FEW FINE VERTICAL CRACKS. |
| L 1130 | Cracking (RC and Other) | |
| 234 | Reinforced Concrete Pier Cap | C.I.P. CAPS WITH PHASE JOINT (8ft Dx7ft Wx83ft L). ALSO SUPPORTS BEAM#1 FROM NB BRIDGE. EPOXY BARS. GOOD CONDITION. FEW FINE CRACKS. |
| L 1130 | Cracking (RC and Other) | |
| 303 | Assembly Joint With Seal | MODULAR JOINT WITH 4x NEOPRENE STRIP SEALS AT DECK ENDS. GOOD CONDITION. PARTIALLY DEBRIS FILLED. |
| L 2350 | Debris Impaction | |
| 313 | Fixed Bearing | FIXED POT BEARINGS AT PIERS 4 AND 5. GOOD CONDITION. |
| L 515 | Steel Protective Coating | |
| 314 | Pot Bearing | EXPANSION POT BEARINGS AT ABUTMENTS AND PIERS 1, 2, 3, 6, 7, & 8. GOOD CONDITION. |
| L 515 | Steel Protective Coating | |
| 330 | Metal Bridge Railing | GALVANIZED T-2 AT WEST SIDE (EXTERIOR FASCIA). T-2 AT WEST. GOOD CONDITION. |
| L 515 | Steel Protective Coating | |
| 331 | Reinforced Concrete Bridge Railing | CONCRETE BARRIER AT MEDIAN AND EAST SIDE. GOOD CONDITION AT MEDIAN AND EAST SIDE. FINE CRACKS. |
| L 1080 | Delamination/Spall/Patched Area | |

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Element States

| No. | Description | Quantity | Units | State 1 | State 2 | State 3 | State 4 |
|--------|-------------------------------------|----------|-------|---------|---------|---------|---------|
| 12 | Reinforced Concrete Deck | 123,150 | sq.ft | 100% | 0% | 0% | 0% |
| └ 510 | Wearing Surfaces | --- | --- | 100% | 0% | 0% | 0% |
| └ 1130 | Cracking (RC and Other) | 500 | sq.ft | 100% | 0% | 0% | 0% |
| 107 | Steel Open Girder/Beam | 11,490 | ft | 100% | 0% | 0% | 0% |
| └ 517 | Weathering Steel Protective Coating | --- | --- | 100% | 0% | 0% | 0% |
| 205 | Reinforced Concrete Column | 24 | each | 100% | 0% | 0% | 0% |
| 215 | Reinforced Concrete Abutment | 176 | ft | 98% | 2% | 0% | 0% |
| └ 1130 | Cracking (RC and Other) | 4 | ft | 0% | 100% | 0% | 0% |
| 234 | Reinforced Concrete Pier Cap | 664 | ft | 100% | 0% | 0% | 0% |
| └ 1130 | Cracking (RC and Other) | 2 | ft | 100% | 0% | 0% | 0% |
| 303 | Assembly Joint With Seal | 150 | ft | 100% | 0% | 0% | 0% |
| └ 2350 | Debris Impaction | 50 | ft | 100% | 0% | 0% | 0% |
| 313 | Fixed Bearing | 14 | each | 100% | 0% | 0% | 0% |
| └ 515 | Steel Protective Coating | --- | --- | 100% | 0% | 0% | 0% |
| 314 | Pot Bearing | 56 | each | 100% | 0% | 0% | 0% |
| └ 515 | Steel Protective Coating | --- | --- | 100% | 0% | 0% | 0% |
| 330 | Metal Bridge Railing | 1,650 | ft | 100% | 0% | 0% | 0% |
| └ 515 | Steel Protective Coating | --- | --- | 100% | 0% | 0% | 0% |
| 331 | Reinforced Concrete Bridge Railing | 3,300 | ft | 100% | 0% | 0% | 0% |
| └ 1080 | Delamination/Spall/Patched Area | 300 | ft | 100% | 0% | 0% | 0% |

Bridge Notes:

SERVI-LIFT INSPECTION 6/22/2021.
NEW SOUTH BOUND BRIDGE 3/29/2018.
Constructed via contract through NHDOT Project 11238L.
Capt. John F. Rowe Br???

Inspection Notes: 07/26/2023

KLM 7/26/23 Dive inspection comments-
Light pitting on caissons up to 1/16"

MAS - inspection comments - 4/12/23
DECK: ASPHALT- GOOD CONDITION. CURBS - GOOD CONDITION; FINE CRACKS, SOME SEALED. JOINTS - GOOD CONDITION, PARTIALLY DEBRIS FILLED. RAIL - GOOD CONDITION. SOFFIT - GOOD CONDITION.
SUPERSTRUCTURE: WEATHERING STEEL COATING - YELLOW ORANGE IN COLOR, TIGHTLY ADHERED. GIRDER- GOOD CONDITION, PAINTED AT ENDS. BEARINGS - GOOD CONDITION.
SUBSTRUCTURE: ABUTMENTS - GOOD CONDITION, FEW FINE VERTICAL CRACKS. PIERS - GOOD CONDITION, FEW FINE CRACKS IN CAPS.

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Previous Inspection Notes: 04/12/2023

MAS - inspection comments -

DECK: ASPHALT- GOOD CONDITION. CURBS - GOOD CONDITION; FINE CRACKS, SOME SEALED. JOINTS - GOOD CONDITION, PARTIALLY DEBRIS FILLED. RAIL - GOOD CONDITION. SOFFIT - GOOD CONDITION.

SUPERSTRUCTURE: WEATHERING STEEL COATING - YELLOW ORANGE IN COLOR, TIGHTLY ADHERED. GIRDER- GOOD CONDITION, PAINTED AT ENDS. BEARINGS - GOOD CONDITION.

SUBSTRUCTURE: ABUTMENTS - GOOD CONDITION, FEW FINE VERTICAL CRACKS. PIERS - GOOD CONDITION, FEW FINE CRACKS IN CAPS.

NBG - office comments -

See Terracon inspection report from the recent U/W inspection performed 7/25/18 thru 7/31/18.

Bents 1 – 8 showed similar characteristics.

1. There was heavy marine growth.
2. The bottom substrate around the bents consisted of mainly sand with cobble and occasional boulders.
3. Hammer soundings were performed along entire length and circumference of each bent drilled shaft. No areas of distressed was noted.
4. Each bent or drilled shaft is encased in steel casing, the steel casing extends approximately 3 feet above the water line at high tide.

The marine growth was removed from a small area of the steel casing exposing the steel, minor corrosion with minimal pitting was noted.

Inspection is limited to one foot above the water line to the mud line.

Approach and Roadway Notes:

ASPHALT- (8) GOOD CONDITION.

CONCRETE BARRIER - GOOD CONDITION, FINE CRACKS.

W- BEAM RAIL - GOOD CONDITION.

Unusual or experimental features:

PIERS SUPPORT BEAM #1 OF NORTH BOUND BRIDGE (201/025).

STAINLESS REINFORCING (75ksi YIELD) IN DRILLED SHAFTS.

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Inspection History

| Inspection Date | Inspector Initials | Inspection Type(s) Performed | | | | Major Element Ratings | | | | Red list | Posting |
|-----------------|--------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----------------------|-------|-----|---------|--------------------------|------------------|
| | | NBI | Elem | FCM | U/W | Deck | Super | Sub | Culvert | | |
| 07/26/2023 | KLM | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 8 | 8 | 7 | N | <input type="checkbox"/> | No Posting Req'd |
| 04/12/2023 | MAS | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 8 | 8 | 8 | N | <input type="checkbox"/> | No Posting Req'd |
| 06/22/2021 | MAS | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 8 | 8 | 8 | N | <input type="checkbox"/> | No Posting Req'd |
| 04/29/2021 | KJT | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 9 | 9 | 9 | N | <input type="checkbox"/> | No Posting Req'd |
| 04/24/2019 | MAS | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 9 | 9 | 9 | N | <input type="checkbox"/> | No Posting Req'd |
| 07/31/2018 | NBG | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 9 | 9 | 9 | N | <input type="checkbox"/> | No Posting Req'd |
| 03/29/2018 | MAS | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 9 | 9 | 9 | N | <input type="checkbox"/> | No Posting Req'd |
| 04/26/2017 | MAS | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6 | 7 | 7 | N | <input type="checkbox"/> | No Posting Req'd |
| 04/22/2015 | KJT | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6 | 7 | 7 | N | <input type="checkbox"/> | No Posting Req'd |
| 04/15/2013 | KJT | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6 | 7 | 7 | N | <input type="checkbox"/> | No Posting Req'd |
| 12/19/2011 | MAS | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6 | 7 | 7 | N | <input type="checkbox"/> | No Posting Req'd |
| 11/01/2011 | JEL | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 6 | 7 | 7 | N | <input type="checkbox"/> | No Posting Req'd |
| 10/19/2010 | DPC | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6 | 7 | 7 | N | <input type="checkbox"/> | No Posting Req'd |
| 09/10/2008 | DMB | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 7 | 7 | 7 | N | <input type="checkbox"/> | No Posting Req'd |
| 07/02/2007 | DPC | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 7 | 7 | 7 | N | <input type="checkbox"/> | No Posting Req'd |
| 11/16/2004 | RLM | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 7 | 7 | 7 | N | <input type="checkbox"/> | No Posting Req'd |
| 06/05/2000 | DPC | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 7 | 7 | 7 | N | <input type="checkbox"/> | No Posting Req'd |
| 12/02/1999 | RLM | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 7 | 7 | 7 | N | <input type="checkbox"/> | No Posting Req'd |
| 05/01/1997 | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 7 | 7 | 7 | N | <input type="checkbox"/> | No Posting Req'd |
| 06/01/1995 | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 7 | 7 | 7 | N | <input type="checkbox"/> | No Posting Req'd |
| 04/01/1994 | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 7 | 8 | 7 | N | <input type="checkbox"/> | No Posting Req'd |
| 09/01/1991 | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 7 | 8 | 8 | N | <input type="checkbox"/> | No Posting Req'd |

| Inspection Frequency (mo.) | | | |
|----------------------------|------|-----|-----|
| NBI | Elem | FCM | U/W |
| 24 | 24 | N/A | 60 |