

# Bridge Inspection Report

NBI Structure Number: 011702190017800

Haverhill 219/178

Date of Inspection: 07/17/2023

US302

Date Report Sent: 09/18/2023

over

Owner: NHDOT

CONNECTICUT RIVER

Bridge Inspection Group: A-Team

NH/Vt Veterans Memorial Bridge

Bridge Maintenance Crew: 10

Bridge also in: Newbury (Wells River), Vermont

### Recommended Postings:

Weight: **No Posting Required**

Weight Sign OK

Width: **Not Required**

Width Sign OK

Primary Height Sign Recommendation: *None*

Clearances: Over: 16.63

Height Sign OK

Optional Centerline Height Sign Rec: *None*

(Feet) Under: 0.00

Route: 16.63

### Condition:

Red List Status: Not on the Redlist

Deck: 7 Good

Superstructure: 6 Satisfactory

Substructure: 7 Good

Culvert: N N/A (NBI)

Sufficiency Rating: 62 %

Bridge Rail: Meets Standards

Rail Transition: Meets Standards

Bridge Approach Rail: Meets Standards

Approach Rail Ends: Substandard

### Structure Type and Materials:

Number of Main Spans: 1

Number of Approach Spans: 0

#### Main Span Material and Design Type

Steel/Arch-Thru

NH Bridge Type: SA (Steel Arch)

Deck Type: Concrete-Cast-in-Place

Wearing Surface: Bituminous

Membrane: Other

Deck Protection: Epoxy Coated Reinforcing

Curb Reveal: 8 in

Plan Location: 1-6-3-41, 3-7-4-10, 87-1-1

Total Bridge Length: 270.0ft

Right Curb/Sidewalk Width: 0.4ft

Total Bridge Width: 31.0ft

Median: No median

Bridge Skew: 0.00°

Year Built/Rebuilt: 1928/2003

### Bridge Dimensions:

Length Maximum Span: 248.0ft

Left Curb/Sidewalk Width: 0.4ft

Width Curb to Curb: 27.2ft

Approach Roadway Width: 32.0ft

(W/Shoulders)

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## Bridge Service:

Type of Service on Bridge: Highway and Pedestrian

Type of Service Under: Waterway

Lanes on Bridge: 2

Lanes Under: 0

AADT: 7,331

Percent Trucks: 7%

Year of AADT: 2022

Future AADT: 10,849

Year of Future AADT: 2042

Federal or State Definition Bridge: Fed-Definition Bridge

National Highway System: Bridge does not carry NHS

Roadway Functional Class: Rural, Minor Arterial

New Hampshire Bridge Tier: 2

Eligibility for the National Register of Historic Places: Br eligible for NRHP

Traffic Direction: 2-way traffic

## National Bridge Inventory (NBI) Appraisal Ratings:

Deck Geometry: 3 Intolerable - Correct

Underclearances: N Not applicable (NBI)

Approach Alignment: 5 Above Tolerable

Structural Evaluation: 6 Equal 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: LIGHT SCOUR AND BANK EROSION.

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## Element Details

No.	Description	Material Notes and Condition Notes:
12	Reinforced Concrete Deck	WITH 2 in. ASPHALT AND TORCH WELD BARRIER MEMBRANE.  SOFFIT; HAIRLINE CRACKS. VERY MINOR EFFLORESCENCE AT SE EDGE. NO ACTIVE LEAKING. INSIGNIFICANT AND FEW MODERATE CRACKS IN THE CURBS.
L 510	Wearing Surfaces	FEW LIGHT CRACKS, WHEEL RUTS.
L 520	Concrete Reinforcing Steel Protective System	
L 1130	Cracking (RC and Other)	
29	Steel Deck with Concrete Filled Grid	CONCRETE FILLED GALVANIZED GRID SIDEWALK WITH BROOM FINISH.  BOLT SHEARED OF UPPER OUTRIGGER ATTACHMENT AT THE SW PORTAL. MODERATE SCALING ESPECIALLY ALONG UPSTREAM EDGE. TOP OF GALVANIZED GRID EXPOSED IN AREAS. FEW FORM PANS UNDER SIDEWALK RUSTING THROUGH IN FEW AREAS.
L 515	Steel Protective Coating	
113	Steel Stringer	PAINT PEELING, LIGHT TO MODERATE RUST ON BOTTOM FLANGE AND LOWER WEB AT INTERIOR SIDEWALK STRINGERS.
L 515	Steel Protective Coating	
L 1000	Corrosion	PAINT PEELING, LIGHT TO MODERATE RUST ON BOTTOM FLANGE AND LOWER WEB AT INTERIOR SIDEWALK STRINGERS.
141	Steel Arch	MINOR TO LIGHT RUST AT OLD FLOOR BEAM #1 AND #14 HANGER CONNECTIONS. TORCH CUTS AND A FEW MISSING RIVETS AT OLD FLOOR BEAM ATTACHMENTS ON 1 AND 14. LIGHT RUST AT BOLTED PLATED REPAIR AT NE PORTAL DIAGONAL FROM L14 TO U0, UPRIGHT L14 AND ARCH END AT NE. HEAVY RUST AT EAST ARCH PINS, LIGHT RUST AT WEST ARCH PINS. HEAVY RUST JUST ABOVE BOTTOM CONNECTION PLATES AT BOTTOM OF EAST ARCHES.
L 515	Steel Protective Coating	
L 1000	Corrosion	MINOR AND LIGHT RUST, FEW AREAS OF MODERATE AND HEAVY RUST.
152	Steel Floor Beam	FEW NICKS AND SCRAPES. FEW AREAS WITH LIGHT TO MODERATE RUST AND PAINT PEELING ALONG BOTTOM FLANGES AND TOP FLANGES UNDER SIDEWALK.
L 515	Steel Protective Coating	
L 1000	Corrosion	FEW AREAS WITH LIGHT TO MODERATE RUST AT BOTTOM FLANGES AND AT TOP FLANGES UNDER SIDEWALK.
215	Reinforced Concrete Abutment	INSIGNIFICANT AND MODERATE CRACKS WITH LIGHT EFFLORESCENCE IN AREAS. MINOR SPALL AT DOWNSTREAM SE SIDEWALK BEARING. MOST JOINT SEALANT FAILING.
300	Strip Seal Expansion Joint	AT EAST NEW 2018 BY BOBM. PLOW DAMAGE IN EAST BOUND LANE.
L 7000	Damage	PLOW DAMAGE IN EASTBOUND LANE.
301	Pourable Joint Seal	PLUG SEAL AT WEST. FULL LENGTH COHESION CRACK IN PLUG JOINT AT THE WEST. LIGHT RUTTING. BEGINNING TO POTHOLE.
L 2340	Seal Cracking	FULL LENGTH CRACK IN PLUG JOINT AT THE WEST.
304	Open Expansion Joint	GALVANIZED PLATES AT SIDEWALK PLATE

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310	Elastomeric Bearing	MOUNTED TO TOPS OF FLOOR BEAMS #1 AND #14; ENDS OF DECK STRINGERS AND AT ENDS OF SIDEWALK STRINGERS
311	Movable Bearing	SLOTTED PLATES ON SIDEWALK STRINGERS AT END POST OUTRIGGERS
└ 515	Steel Protective Coating	
313	Fixed Bearing	AT ARCH ENDS
└ 515	Steel Protective Coating	CONCRETE ENCASED. HEAVY RUST AT NE, SE, AND NW. LIGHT RUST AT SW.
└ 1000	Corrosion	HEAVY RUST AT NE, SE, AND NW. LIGHT RUST AT SW.
321	Reinforced Concrete Approach Slab	
└ 510	Wearing Surfaces	ASPHALT PATCHED AT EAST.
330	Metal Bridge Railing	PAINTE AND GALVANIZING SCRAPED OFF ALONG EDGES OF BRIDGE RAIL. PAINT CHIPPED AND FLAKED AWAY IN MANY AREAS. MINOR RUST IN FEW AREAS.

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### Element States

No.	Description	Quantity	Units	State 1	State 2	State 3	State 4
12	Reinforced Concrete Deck	8,374	sq.ft	95%	5%	0%	0%
└ 510	Wearing Surfaces	---	---	85%	15%	0%	0%
└ 520	Concrete Reinforcing Steel Protective System	---	---	95%	5%	0%	0%
└ 1130	Cracking (RC and Other)	84	sq.ft	0%	100%	0%	0%
29	Steel Deck with Concrete Filled Grid	1,636	sq.ft	100%	0%	0%	0%
└ 515	Steel Protective Coating	---	---	100%	0%	0%	0%
113	Steel Stringer	1,821	ft	86%	14%	0%	0%
└ 515	Steel Protective Coating	---	---	90%	10%	0%	0%
└ 1000	Corrosion	250	ft	0%	100%	0%	0%
141	Steel Arch	499	ft	67%	20%	13%	0%
└ 515	Steel Protective Coating	---	---	70%	30%	0%	0%
└ 1000	Corrosion	165	ft	0%	61%	39%	0%
152	Steel Floor Beam	584	ft	83%	9%	9%	0%
└ 515	Steel Protective Coating	---	---	90%	10%	0%	0%
└ 1000	Corrosion	50	ft	0%	0%	100%	0%
215	Reinforced Concrete Abutment	308	ft	79%	21%	0%	0%
300	Strip Seal Expansion Joint	33	ft	97%	0%	3%	0%
└ 7000	Damage	1	ft	0%	0%	100%	0%
301	Pourable Joint Seal	31	ft	0%	100%	0%	0%
└ 2340	Seal Cracking	31	ft	0%	100%	0%	0%
304	Open Expansion Joint	16	ft	100%	0%	0%	0%
310	Elastomeric Bearing	24	each	100%	0%	0%	0%
311	Movable Bearing	4	each	100%	0%	0%	0%
└ 515	Steel Protective Coating	---	---	100%	0%	0%	0%
313	Fixed Bearing	4	each	0%	25%	75%	0%
└ 515	Steel Protective Coating	---	---	100%	0%	0%	0%
└ 1000	Corrosion	4	each	0%	25%	75%	0%
321	Reinforced Concrete Approach Slab	543	sq.ft	100%	0%	0%	0%
└ 510	Wearing Surfaces	---	---	100%	0%	0%	0%
330	Metal Bridge Railing	514	ft	0%	100%	0%	0%

### Bridge Notes:

93:3 The New Hampshire/Vermont Veterans Memorial Bridge. Pursuant to RSA 4:43, the renovated arch bridge over the Connecticut River between Woodsville, New Hampshire and Wells River, Vermont shall be named the New Hampshire/Vermont Veterans Memorial Bridge. A suitable marker may be placed on the New Hampshire side of the bridge.

(Approved: May 3, 2002)

(Effective Date: July 2, 2002)

PHONE CABLE ALONG UPSTREAM SIDE SHOULD BE RAISED TO ENSURE SAFTY DURING LIFT INSPECTIONS. LIFT INSPECTIONS FROM DOWNSTREAM SIDE NO LONGER POSSIBLE DUE SEWER LINE BEING MOUNTED LOWER THAN STRUCTURE.

REMOVED FROM THE RED LIST SEPTEMBER 2003.

LIFT INSPECTION 04/08/05, 5/7, 6/9, 11/11, 7/13, 7/15, 7/2017, 7/14/2021, 7/17/2023.

7/12/2019 - NEW STRIP SEAL JOINT AT EAST BY BOBM 2018.

FCM Inspection done by consultants (H&H), performed in July 2019.

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**Inspection Notes:** 07/17/2023

SRB & TDC inspection comments - \*\*\*FRACTURE CRITICAL LIFT INSPECTION\*\*\*

PIPE/PALING PEDESTRIAN RAIL DOWNSTREAM SIDE: BOLT SHEARED OF UPPER ATTACHMENT OUT-RIGGER AT THE SW PORTAL; LIGHT RUST ON EAST END PALING.  
T-2 PAINTED GALVANIZED RAIL: PAINT AND GALVANIZE SCRAPED OFF ALONG EDGES. MANY AREAS OF FLAKED AWAY PAINT, MINOR RUST IN FEW AREAS.

DECK: INSIGNIFICANT CRACKS; VERY MINOR EFFLORESCENCE AT SE CURB LINE. INSIGNIFICANT AND FEW MODERATE CRACKS IN CURBS. FEW LIGHT CRACKS IN PAVEMENT, LIGHTLY RUTTED; PATCHED AT EAST END. PLUG JOINT CRACKED AT WEST. NEW STRIP SEAL AT EAST, PLOW DAMAGE IN EAST BOUND LANE. FEW FORM PANS UNDER SIDEWALK RUSTING THROUGH IN FEW AREAS.

SUPER: OVERHEAD ARCH AND HANGER ANGLES APPEAR OK. MINOR TO LIGHT RUST AT OLD FLOOR BEAMS 1 AND 14 HANGER TO ARCH ATTACHMENTS AND AT SMALL SCRAPED AND NICKED AREAS OF FLOOR BEAMS AND STRINGERS. FEW AREAS WITH LIGHT TO MODERATE RUST AND PAINT PEELING ALONG BOTTOM FLANGES AND TOP FLANGES UNDER SIDEWALK OF FLOOR BEAMS. CABLE RAPPED AROUND FB#2 AND STAGING HANGER ASSEMBLY LEFT IN PLACE ON BOTTOM FLANGE. PAINT PEELING, LIGHT TO MODERATE RUST ON BOTTOM FLANGE AND LOWER WEB AT INTERIOR SIDEWALK STRINGERS. HEAVY RUST ON NE, SE, AND NW FIXED BEARINGS, LIGHT RUST ON SW FIXED BEARING.

SUB. INSIGNIFICANT AND MODERATE CRACKS WITH LIGHT EFFLORESCENCE IN ABUTMENTS. MINOR SPALL ATOP OF EAST ABUTMENT AT SE SIDEWALK BEARING DOWNSTREAM. INSIGNIFICANT AND FEW MODERATE CRACKS IN WINGS. MOST JOINT SEALANT FAILING.

PICTURES: A553-28 THRU 30.

**Previous Inspection Notes:** 07/12/2023

SRB & TDC inspection comments - (PRE-LIFT INSPECTION)

PIPE/PALING PEDESTRIAN RAIL DOWNSTREAM SIDE: BOLT SHEARED OF UPPER ATTACHMENT OUT-RIGGER AT THE SW PORTAL; LIGHT RUST ON EAST END PALING.  
T-2 PAINTED GALVANIZED RAIL: PAINT AND GALVANIZE SCRAPED OFF ALONG EDGES. MANY AREAS OF FLAKED AWAY PAINT, MINOR RUST IN FEW AREAS.

DECK: FINE CRACKS; VERY MINOR EFFLORESCENCE AT SE CURB LINE. FINE AND FEW LIGHT CRACKS IN CURBS. FEW LIGHT CRACKS IN PAVEMENT, LIGHTLY RUTTED; PATCHED AT EAST END. PLUG JOINT CRACKED AT WEST. NEW STRIP SEAL AT EAST, PLOW DAMAGE IN EAST BOUND LANE.

SUPER: OVERHEAD ARCH AND HANGER ANGLES APPEAR OK. MINOR TO LIGHT RUST AT OLD FLOOR BEAMS 1 AND 14 HANGER TO ARCH ATTACHMENTS AND AT SMALL SCRAPED AND NICKED AREAS OF FLOOR BEAMS AND STRINGERS. FEW AREAS WITH LIGHT TO MODERATE RUST AND PAINT PEELING ALONG BOTTOM FLANGES OF FLOOR BEAMS. CABLE RAPPED AROUND FB#2 AND STAGING HANGER ASSEMBLY LEFT IN PLACE ON BOTTOM FLANGE. PAINT PEELING, LIGHT TO MODERATE RUST ON BOTTOM FLANGE AND LOWER WEB AT INTERIOR SIDEWALK STRINGERS.

SUB. FINE AND LIGHT CRACKS WITH LIGHT EFFLORESCENCE IN ABUTMENTS. MINOR SPALL ATOP OF EAST ABUTMENT AT SE SIDEWALK BEARING DOWNSTREAM. FEW FINE CRACKS IN WINGS.

PICTURES: A553-21 THRU 22.

**Approach and Roadway Notes:**

PAVEMENT: LIGHT WHEEL RUTS, LIGHT CRACKS. (6) AT EAST, (7) AT WEST). CURBS AND WALKS IN GOOD CONDITION.  
W-BEAM APPROACH RAIL WITH ELT AND G-2 TERMINALS: BEAM HEIGHT 27 INCHES. LIGHT DAMAGE IN AREAS.

**Unusual or experimental features:**

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Inspection Date	Inspector Initials	Inspection Type(s) Performed				Major Element Ratings				Red list	Posting
		NBI	Elem	FCM	U/W	Deck	Super	Sub	Culvert		
07/17/2023	SRB	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7	6	7	N	<input type="checkbox"/>	No Posting Req'd
07/12/2023	SRB	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7	6	7	N	<input type="checkbox"/>	No Posting Req'd
07/14/2021	TDC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7	6	7	N	<input type="checkbox"/>	No Posting Req'd
07/08/2021	TDC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7	6	7	N	<input type="checkbox"/>	No Posting Req'd
07/15/2019	JTP	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7	6	7	N	<input type="checkbox"/>	No Posting Req'd
07/12/2019	TDC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8	8	7	N	<input type="checkbox"/>	No Posting Req'd
07/31/2017	MAH	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8	8	7	N	<input type="checkbox"/>	No Posting Req'd
07/13/2015	MAH	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8	8	7	N	<input type="checkbox"/>	No Posting Req'd
07/30/2013	TDC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8	8	7	N	<input type="checkbox"/>	No Posting Req'd
11/30/2011	MAH	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8	8	8	N	<input type="checkbox"/>	No Posting Req'd
07/11/2011	TDC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8	8	8	N	<input type="checkbox"/>	No Posting Req'd
06/17/2009	WBL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8	8	8	N	<input type="checkbox"/>	No Posting Req'd
05/16/2007	WBL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8	8	8	N	<input type="checkbox"/>	No Posting Req'd
04/07/2005	WBL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8	8	8	N	<input type="checkbox"/>	No Posting Req'd
09/25/2003	WBL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8	8	8	N	<input type="checkbox"/>	No Posting Req'd
12/31/2001	WBL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3	3	4	N	<input checked="" type="checkbox"/>	No Posting Req'd
05/24/2001	BEP	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3	3	4	N	<input checked="" type="checkbox"/>	E-2
11/17/2000	BEP	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3	3	4	N	<input checked="" type="checkbox"/>	E-2
07/06/2000	WBL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3	3	4	N	<input checked="" type="checkbox"/>	E-2
11/15/1999	WBL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3	3	4	N	<input checked="" type="checkbox"/>	E-2
08/17/1999	WBL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3	3	4	N	<input checked="" type="checkbox"/>	E-2
11/18/1998	BEP	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3	3	4	N	<input checked="" type="checkbox"/>	E-2
05/01/1998		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3	3	4	N	<input checked="" type="checkbox"/>	E-2
09/01/1997		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3	3	4	N	<input checked="" type="checkbox"/>	E-2
11/01/1996		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4	3	4	N	<input checked="" type="checkbox"/>	E-2
11/01/1995		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4	3	4	N	<input type="checkbox"/>	
05/01/1994		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4	3	4	N	<input checked="" type="checkbox"/>	E-2
05/01/1993		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4	3	5	N	<input type="checkbox"/>	

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