



THE STATE OF NEW HAMPSHIRE  
DEPARTMENT OF TRANSPORTATION  
July 25, 2019



Victoria F. Sheehan

Commissioner

Leslie Palmer  
Webster Town Administrator  
945 Battle Street  
Webster, NH 03303

Post-it® Fax Note	7671	Date	7/25/19	# of pages	6
To	Leslie Palmer	From	C.R. Willeke		
Co./Dept.	Webster T.A.	Co.	NH DOT		
Phone #	603-2272	Phone #	271-6472		
Fax #	603-6055	Fax #	271-8093		

**RE: CRITICAL BRIDGE DEFICIENCY**

Webster Bridge #066/113 - White Plains Road over Meadow Brook

Dear Leslie:

During a recent underwater bridge inspection, the following critical deficiency was noted:

This structure has continued to deteriorate steadily since it was added to the Municipal Red List in 2005. The corrugated steel culverts have widespread areas of heavy corrosion and pitting with many areas rusted through, exposing the gravel fill. This deterioration is concentrated at and below the normal water elevation. In a few areas, the corrosion, pitting, and holes result in section losses exceeding 90%. Minor settlement in the roadway asphalt was noted above the areas of the heaviest section losses. Additionally, there is heavy debris accumulation (beaver dams) in the upstream opening of all three pipes.

The bridge is currently posted "E-2".

**This deterioration has reduced the safe calculated live load capacity, resulting in a required posting of "WEIGHT LIMIT 3 TONS" and "PASSENGER CARS ONLY" for the short-term. However, without action, this bridge will likely require a closure in the near future. The municipality should monitor this structure closely for signs of further deterioration. Due to the extensive nature of the deterioration, slip-lining or complete replacement may be the only viable remedial actions.**

Due to this structural deficiency this bridge is included on the Department's Municipal Red List of deficient bridge structures. It is in need of complete replacement or extensive rehabilitation to continue to carry all legal loads.

We are enclosing a copy of the inspection report and photos for your use. Please keep us informed of any actions taken by the Town so we can keep our records current. If you have any questions or comments, please contact us.

Sincerely,

C. R. Willeke, P.E.  
Municipal Highways Engineer  
Bureau of Planning and Community Assistance  
Telephone: (603) 271-6472 / Fax: (603) 271-8093

CRW

Enclosure

cc: Webster Road Agent

Commissioner, Department of Education

S:\Planning\Community Assistance\1-Municipalities\Webster\Bridge Insp\Critical 066-113 7-25-19.doc

New Hampshire Department of Transportation

**Bridge Inspection Report**

NBI Structure Number: 026800660011300

Existing Bridge Section  
Bureau of Bridge Design

Webster 066/113

Date of Inspection: 07/15/2019

Date Report Sent: 07/24/2019

Owner: Municipality

Bridge Inspection Group: B-Team

Bridge Maintenance Crew: OTHER

WHITE PLAINS ROAD

over

MEADOW BROOK

- ☒ Critical Deficiency Status *ADDITIONAL CORROSION-RELATED DETERIORATION HAS REDUCED THE LIVE LOAD CAPACITY. POSTING REQUIRED.*

**Recommended Postings:**Weight: **Weight Limit 3 Tons and Passenger Cars Only***CURRENTLY POSTED "E-2". This bridge requires "Weight Limit 3 Tons" and "Passenger Cars Only" signs.*☐ Weight Sign OKWidth: **Not Required**☒ Width Sign OKPrimary Height Sign Recommendation: *None*Optional Centerline Height Sign Rec: *None*

Clearances: Over: 99.99  
(Feet) Under: 0.00  
Route: 99.99

☒ Height Sign OK**Condition:**

Red List Status: Municipal Redlist

Deck: N N/A (NBI)

Superstructure: N N/A (NBI)

Substructure: N N/A (NBI)

Culvert: 2 Critical

Sufficiency Rating: 40 %

Bridge Rail: N/A or not required

Rail Transition: N/A or not required

Bridge Approach Rail: Meets Standards

Approach Rail Ends: Substandard

**Structure Type and Materials:**

Number of Main Spans: 3

Number of Approach Spans: 0

**Main Span Material and Design Type**

Steel/Culvert

NH Bridge Type: MP (Metal Pipe)

Deck Type: N/A (NBI)

Wearing Surface: N/A (no deck (NBI))

Membrane: N/A (no deck (NBI))

Deck Protection: N/A (no deck (NBI))

Curb Reveal: Not Measured

Plan Location:

Total Bridge Length: 13.0 ft

Right Curb/Sidewalk Width: 0.0 ft

Total Bridge Width: 0.0 ft

Median: No median

Bridge Skew: 0.00 °

Year Built/Rebuilt: 1930/1989

**Bridge Dimensions:**

Length Maximum Span: 4.0 ft

Left Curb/Sidewalk Width: 0.0 ft

Width Curb to Curb: 0.0 ft

Approach Roadway Width: 18.0 ft  
(W/Shoulders)

New Hampshire Department of Transportation

## Bridge Inspection Report

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Existing Bridge Section  
Bureau of Bridge Design

Webster 066/113

## Element Details (see disclaimer below)

No.	Description	Material Notes and Condition Notes:
215	Reinforced Concrete Abutment	CONCRETE HEADWALL HAS MINOR SPALLS AT BASE AND UNDERMINED IN AREAS.
L 1080	Delamination/Spall/Patched Area	CONCRETE HEADWALL HAS MINOR SPALLS AT BASE.
L 6000	Scour	SCOUR ON DOWNSTREAM END WITH UP TO 6 in. PENETRATION IN SEVERAL AREAS.
217	Masonry Abutment	VOIDS AROUND INLET AND IN HEADWALL. STONE SETTLED AT NORTHWEST WING.
L 1640	Masonry Displacement	VOIDS AROUND INLET BETWEEN PIPES WITH UP TO 16" OF PENETRATION. VOID IN HEADWALL.
L 4000	Settlement	STONE SETTLED AT NORTHWEST WING.
240	Steel Culvert	4' DIAMETER. THREE (3) SPIRAL MP- 2 2/3 in. X 1/2 in. WITH 3.5' OF COVER.  SAGS IN ROOFLINE OF ALL THREE PIPES. UPSTREAM JOINTS SEPARATED UP TO 2.5 in.. HOLED AREAS IN PIPE # 1 & 3 WITH FILL EXPOSED. MINOR TO LIGHT SCALE AND RUST IN PIPE # 2. ASPHALT IS SETTLED OVER HOLED AREAS AT SOUTHWEST. DEBRIS IN PIPES # 2 & 3 AT MIDSPAN. DAMAGED AREAS AT INLET END OF ALL PIPES.
L 1000	Corrosion	MINOR TO LIGHT SCALE AND RUST IN PIPE # 2. PIPE #1- 10' FROM SOUTH END, HOLED IN A 6' SECTION WITH UP TO 90% SECTION LOSS; 17' FROM SOUTH END, HOLED THROUGH IN A 1' AREA, 100% SECTION LOSS. PIPE #3- HOLED THROUGH IN A 8 in. AREA WITH FILL EXPOSED, MIDSPAN. ALL THREE PIPES HOLED AT INLET INVERT AND SIDES FROM RUST AND DAMAGE.
L 1020	Connection	UPSTREAM JOINTS SEPARATED UP TO 2.5 in..
L 1900	Distortion	SAGS IN ROOFLINE OF PIPE # 1.
L 6000	Scour	DEBRIS IN PIPES # 2 & 3, MIDSPAN.
L 7000	Damage	INLET ENDS (NORTH) OF ALL THREE PIPES HAVE DAMAGE CAUSED BY BEAVER DAM REMOVAL.

## Element States (see disclaimer below)

No.	Description	Quantity	Units	State 1	State 2	State 3	State 4
215	Reinforced Concrete Abutment	26	ft	62%	38%	0%	0%
L 1080	Delamination/Spall/Patched Area	5	ft	0%	100%	0%	0%
L 6000	Scour	5	ft	0%	100%	0%	0%
217	Masonry Abutment	26	ft	0%	100%	0%	0%
L 1640	Masonry Displacement	10	ft	0%	100%	0%	0%
L 4000	Settlement	5	ft	0%	100%	0%	0%
240	Steel Culvert	121	ft	0%	0%	0%	100%
L 1000	Corrosion	80	ft	0%	0%	0%	100%
L 1020	Connection	5	ft	0%	0%	0%	100%
L 1900	Distortion	10	ft	0%	0%	0%	100%
L 6000	Scour	10	ft	0%	0%	0%	100%
L 7000	Damage	9	ft	0%	0%	0%	100%

Element Disclaimer: NHDOT is transitioning from CoRe elements to AASHTO elements. The AASHTO element data shown above is the product of the automated element migration routine from the AASHTOWare BrM software. This migrated data has undergone limited field verification. Adequate quality control of this element data is not expected to be achieved until the conclusion of the 2020 inspection season. Please utilize element data with caution.

## Bridge Notes:

ADDED TO THE MUNICIPAL RED LIST ON 8/31/05. ROAD NAME CHANGE FROM "SCHOODAC ROAD" TO "WHITE PLAINS ROAD".  
ONLY 16" OF FREEBOARD CAUSED BY BEAVER DAM DOWNSTREAM, 12/8/2015.  
18" OF FREEBOARD, 11/28/2016, 10/13/2017.

New Hampshire Department of Transportation

## Bridge Inspection Report

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Existing Bridge Section  
Bureau of Bridge Design

Webster 066/113

## 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		
07/15/2019	NBG	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N	N	N	2	<input checked="" type="checkbox"/>	3 Tons PCO
10/30/2018	MHC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N	N	N	3	<input checked="" type="checkbox"/>	E-2
10/13/2017	MHC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N	N	N	3	<input checked="" type="checkbox"/>	E-2
09/05/2017	NBG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N	N	N	3	<input checked="" type="checkbox"/>	E-2
11/28/2016	MHC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N	N	N	3	<input checked="" type="checkbox"/>	E-2
12/08/2015	MHC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N	N	N	3	<input checked="" type="checkbox"/>	E-2
12/10/2014	MHC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N	N	N	3	<input checked="" type="checkbox"/>	E-2
09/30/2013	NJL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N	N	N	3	<input checked="" type="checkbox"/>	E-2
12/18/2012	KLM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N	N	N	4	<input checked="" type="checkbox"/>	E-2
09/20/2011	MHC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N	N	N	4	<input checked="" type="checkbox"/>	E-2
09/24/2010	KLM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N	N	N	4	<input checked="" type="checkbox"/>	E-2
01/16/2009	RLM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N	N	N	4	<input checked="" type="checkbox"/>	E-2
10/11/2007	JEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N	N	N	4	<input checked="" type="checkbox"/>	E-2
10/17/2006	JEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N	N	N	4	<input checked="" type="checkbox"/>	E-2
08/31/2005	JEL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N	N	N	4	<input checked="" type="checkbox"/>	E-2
07/07/2003	FNM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N	N	N	5	<input type="checkbox"/>	E-2
02/02/2001	FNM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N	N	N	6	<input type="checkbox"/>	E-2
01/12/1999	RLM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N	N	N	6	<input type="checkbox"/>	E-2
09/01/1996		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N	N	N	6	<input type="checkbox"/>	E-2
10/01/1994		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N	N	N	7	<input type="checkbox"/>	E-2
08/01/1992		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	N	N	N	N	<input type="checkbox"/>	E-2

## Inspection Frequency (mo.)

NBI	Elem	FCM	U/W
16	16	N/A	16

BRIDGE CAPACITY SUMMARY

TOWN: WEBSTER  
BRIDGE NUMBER: 066/113  
RATED BY: NBG DATE: 7/23/2019  
CHECK BY: JTP DATE: 7/24/19  
OVER: MEADOW BROOK

DESIGN LOAD: UNKNOWN DESIGN METHOD: UNKNOWN  
LOAD FACTOR: UNKNOWN PLAN FILE: UNKNOWN

ROUTE: WHITE PLAINS ROAD

RATED MEMBER	LONGITUD. EFFECTIVE SPAN LENGTH	REQUIRED CAPACITY (HS Tons)			AVAILABLE CAPACITY (HS Tons)					
		CURRENT LEGAL LOADS	CERTIFIED VEHICLES		MULTIPLE LANES LOADED		SINGLE LANES LOADED			
			SINGLE UNIT	MULTIPLE UNIT	INVENTORY	OPERATING	POSTING	INVENTORY	OPERATING	POSTING
Corrugated Metal Pipes (3'-6" cover, 90%+ losses)	5'-0"	HS 16.8	HS 13.5	HS 15.4	HS 2.4	HS 4.1	HS 3.7	HS 2.7	HS 4.5	HS 4.1
RECOMMENDED POSTING:		"WEIGHT LIMIT 3 TONS" & "PASSENGER CARS ONLY"			Rating Method		English Tons		Metric Tons	
					(Op.) 63.	LF	64. (Op.)	7.4	6.7	
					(Inv.) 65.	LF	66. (Inv.)	4.3	3.9	

RECOMMENDED POSTING:  
"WEIGHT LIMIT 3 TONS"  
& "PASSENGER CARS ONLY"



**WEBSTER 066/113**  
**WHITE PLAINS ROAD over MEADOW BROOK**

Owner: Municipality  
Inspection Team: B

Monday, July 15, 2019

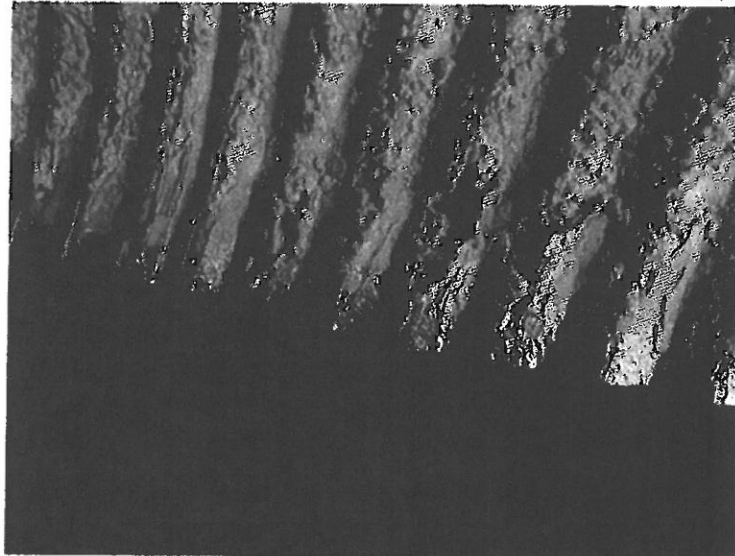
DOWNSTREAM ELEVATION.  
NOTE DEBRIS BLOCKAGE  
OF BARREL (TYPICAL OF  
ALL THREE PIPES).



X018 04

Monday, July 15, 2019

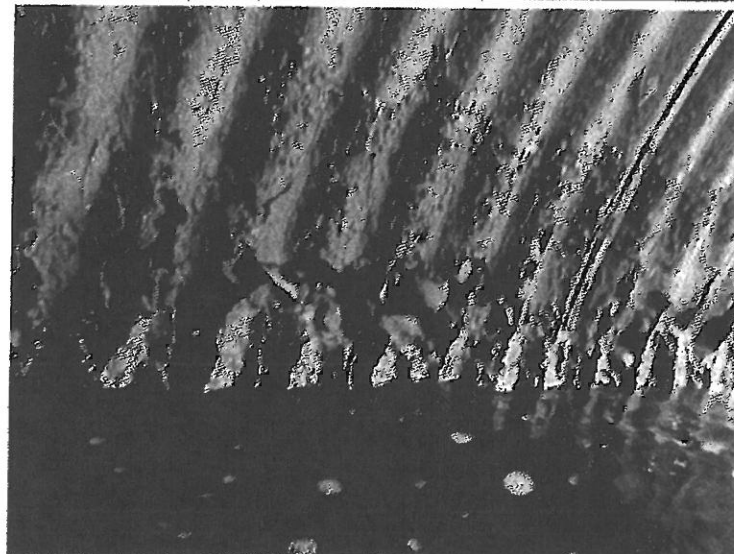
TYPICAL HEAVY RUSY AND  
SECTION LOSSES ON PIPE  
WALL.



X018 05

Monday, July 15, 2019

TYPICAL HEAVY RUSY AND  
SECTION LOSSES ON PIPE  
WALL. NOTE GRAVEL FILL  
EXPOSED.



X018 06