

Highway Bridge Inspection Report

**I-95 SB / EMERSON MILLS RD
I-95 SOUTHBOUND
over
B&A RR & EMERSON MILL RD**



Inspection Date: 06/21/2018

Inspected By: Scott Harris

Inspection Type(s): Routine

National Bridge Inventory

Status: 0 - ND

Bridge Name: I-95 SB / EMERSON MILLS RD

Sufficiency Rating: 92.8

Inspections

(90) INSPECTION DATE	& (91) DESIGNATED INSPECTION FREQUENCY	24	06/21/2018
(92) CRITICAL FEATURE INSPECTION	& (93) CFI DATE		
(92A) FRACTURE CRITICAL DETAIL		N	
(92B) UNDERWATER INSPECTION		N	
(92C) OTHER SPECIAL INSPECTION		N	

Identification

(1) STATE CODE	231 - Maine
(8) STRUCTURE NUMBER	1430
(5) INVENTORY ROUTE	
(5A) RECORD TYPE	1: Route carried "on" the structure
(5B) ROUTE SIGNING PREFIX	3 - STATE HIGHWAY
(5C) DESIGNATED LEVEL OF SERVICE	1 - MAINLINE
(5) INVENTORY ROUTE	95
(5) INVENTORY ROUTE	3 - SOUTH
(2) HIGHWAY AGENCY DISTRICT	04 - Eastern
(3) COUNTY CODE	019 Penobscot
(4) PLACE CODE	30795
(6) FEATURES INTERSECTED	B&A RR & EMERSON MILL RD
(7) FACILITY CARRIED	I-95 SOUTHBOUND
(9) LOCATION	MILE 179.8/4.5 MI E TL
(11) MILEPOINT	125.580
(12) BASE HIGHWAY NETWORK	Inventory Route is on the Base Network
(13) LRS INVENTORY ROUTE, SUBROUTE	
(13A) LRS INVENTORY ROUTE	000000095S
(13B) SUBROUTE NUMBER	00
(16) LATITUDE	44.77082
(17) LONGITUDE	-68.86921
(98A) BORDER BRIDGE CODE	
(98B) PERCENT RESPONSIBILITY	0
(99) BORDER BRIDGE STRUCT NO.	n/a

Structure Type and Material

(43) STRUCTURE TYPE, MAIN	
(43A) KIND OF MATERIAL/DESIGN	3 - Steel
(43B) TYPE OF DESIGN/CONSTR	02 - Stringer/Multi-beam or Girder
(44) STRUCTURE TYPE, APPROACH SPANS	
(44A) KIND OF MATERIAL/DESIGN	0 - Other
(44B) TYPE OF DESIGN/CONSTRUCTION	00 - Other
(45) NUMBER OF SPANS IN MAIN UNIT	4
(46) NUMBER OF APPROACH SPANS	0
(107) DECK STRUCTURE TYPE	1 - Concrete Cast-in-Place
(108) WEARING SURFACE/PROTECTIVE SYSTEMS	
(108A) WEARING SURFACE	2 - Integral Concrete (separate non-modified layer of concrete added to
(108B) DECK MEMBRANE	0 - None
(108C) DECK PROTECTION	0 - None

Age of Service

(27) YEAR BUILT	1962
(106) YEAR RECONSTRUCTED	0
(42) TYPE OF SERVICE	
(42A) TYPE OF SERVICE ON BRIDGE	1 - Highway
(42B) TYPE OF SERVICE UNDER BRIDGE	4 - Highway - railroad
(28) LANES	
(28A) LANES ON THE STRUCTURE	02
(28B) LANES UNDER THE STRUCTURE	02
(29) AVERAGE DAILY TRAFFIC	13100
(30) YEAR OF AVERAGE DAILY TRAFFIC	2016
(109) AVERAGE DAILY TRUCK TRAFFIC	5
(19) BYPASS DETOUR LENGTH	1

Geometric Data

(48) LENGTH OF MAXIMUM SPAN (ft.)	61.0
(49) STRUCTURE LENGTH (ft.)	206.0
(50) CURB/SIDEWALK WIDTHS	
(50A) LEFT CURB SIDEWALK (ft.)	0.5
(50B) RIGHT CURB SIDEWALK (ft.)	0.5
(51) BRDG RDWY WIDTH CURB-TO-CURB (ft.)	39.8
(52) DECK WIDTH, OUT-TO-OUT (ft.)	43.1
(32) APPROACH ROADWAY WIDTH (ft.)	41.0
(33) BRIDGE MEDIAN	0 - No median
(34) SKEW (deg.)	19
(35) STRUCTURE FLARED	0 - No flare
(10) INV RTE, MIN VERT CLEARANCE (ft.)	328.05
(47) TOTAL HORIZONTAL CLEARANCE (ft.)	39.0
(53) VERTICAL CLEARANCE OVER BRIDGE ROADWAY (ft.)	327.76
(54) MIN VERTICAL UNDERCLEARANCE	
(54A) REFERENCE FEATURE	H - Highway beneath structure
(54B) MIN VERTICAL UNDERCLEASENCE (ft.)	21.83
(55) MIN LATERAL UNDER CLEARANCE RIGHT	
(55A) REFERENCE FEATURE	H - Highway beneath structure
(55B) MIN LATERAL UNDER CLEARANCE RIGHT (ft.)	7.87
(56) MIN LATERAL UNDER CLEARANCE (ft.)	5.9

Classification

(112) NBIS BRIDGE LENGTH	Yes
(104) HIGHWAY SYSTEM OF THE INVENTORY ROUTE	1 - Structure/Route is on NHS
(26) FUNCTIONAL CLASSIFICATION OF INVENTORY ROUTE	01 - Rural - Principal Arterial - Interstate
(100) STRAHNET HIGHWAY DESIGNATION	Is on an Interstate STRAHNET route
(101) PARALLEL STRUCTURE DESIGNATION	L - Left structure (South or West)
(102) DIRECTION OF TRAFFIC	1-way traffic
(103) TEMP STRUCTURE	
(105) FEDERAL LANDS HIGHWAYS	Not Applicable
(110) DESIGNATED NATIONAL NETWORK	Inventory route on National Truck Network
(20) TOLL	3 - On Free Road
(21) MAINTENANCE RESPONSIBILITY	01 - State Highway Agency
(22) OWNER	01 - State Highway Agency
(37) HISTORICAL SIGNIFICANCE	4 - Not determinable

Condition

(58) DECK	6 - Satisfactory Condition (minor deterioration)
(59) SUPERSTRUCTURE	6 - Satisfactory Condition (minor deterioration)
(60) SUBSTRUCTURE	6 - Satisfactory Condition (minor deterioration)
(61) CHANNEL & CHANNEL PROTECTION	N - Not Applicable
(62) CULVERT	N - Not Applicable

Load Rating and Posting

(31) DESIGN LOAD	6 - HS 20+Mod
(63) METHOD USED TO DETERMINE OPERATING RATING	8 - Load and Resistance Factor
(64) OPERATING RATING	2.09
(65) METHOD USED TO DETERMINE INVENTORY RATING	8 - Load and Resistance Factor
(66) INVENTORY RATING	1.61
(70) BRIDGE POSTING	5 - Equal to or above legal
(41) STRUCTURE OPEN/POSTED/CLOSED	A - Open

Appraisal

(67) STRUCTURAL EVALUATION	6
(68) DECK GEOMETRY	6
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL	5
(71) WATERWAY ADEQUACY	N - Not Applicable
(72) APPROACH ROADWAY ALIGNMENT	7 - Better than present minimum criteria
(36) TRAFFIC SAFETY FEATURE	
36A) BRIDGE RAILINGS:	0 - Does not meet acceptable standards/safety feature is required
36B) TRANSITIONS:	0 - Does not meet acceptable standards/safety feature is required
36C) APPROACH GUARDRAIL	0 - Does not meet acceptable standards/safety feature is required
36D) APPROACH GUARDRAIL ENDS	0 - Does not meet acceptable standards/safety feature is required
(113) SCOUR CRITICAL BRIDGES	N - Not over waterway

Proposed Improvements

(75) TYPE OF WORK

(75A) TYPE OF WORK PROPOSED

(75B) WORK DONE BY

(76) LENGTH OF STRUCTURE IMPROVEMENT (ft.)

(94) BRIDGE IMPROVEMENT COST (\$K)

(95) ROADWAY IMPROVEMENT COST (\$K)

(96) TOTAL PROJECT COST

(97) YEAR OF IMPROVEMENT COST ESTIMATE

(114) FUTURE ADT 18340

(115) YEAR OF FUTURE ADT 2036

Navigation Data	
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(38) NAVIGATION CONTROL	N - Not applicable, no waterway
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(111) PIER OR ABUTMENT PROTECTION	
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(39) NAV VERT CLEARANCE	0
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(116) MIN NAVIGATION VERT CLEARANCE, VERT LIFT BRIDGE	0
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(40) NAV HORIZONTAL CLEARANCE	0
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Inspection Notes

Structure Number: 1430

Town: Hampden

Structure Name: I-95 SB / EMERSON MILLS RD

Structure Notes

Four span steel open girders. Concrete deck, abutments, piers, wingwalls and wearing surface.

Used HIT camera rod for pier photos

Wearing Surface

Concrete wearing surface with heavy wear in wheel paths and complete loss of tining in travel lanes. Not chain dragged do to traffic conditions, but no nested cracking, potholes or delaminated concrete noted.

Deck

NBI Item 58: 6

1 SF area of delaminated concrete over travel lanes chipped out. All joints in fair to poor condition, have allowed leakage causing beam end paint loss and moderate/heavy rust. Concrete under steel joint armor has extensive spalling throughout all joints. Reinforcing steel bars were welded onto joint armor to raise them to grade. Many welds have broken. Westerly joint rebar has broken away and is slapping/pinging when traffic passes over. Numerous aluminum posts have plow damage ranging from minor to heavy. Concrete barrier has moderate cracking and light staining. See photos.

Superstructure

NBI Item 59: 6

Approximately 20% overall paint system distress with sheet failure at south exterior girders and minor paint system distress on interior girders. The last 1'-2' of each girder and joint seal diaphragms, have paint loss and scaling rust from leaking joints above.

Substructure

NBI Item 60: 6

Pier columns have minor to moderate vertical cracking/map cracking w/staining, small areas of delamination. Minor to moderate pier cap cracking w/staining on the center and easterly piers.

The center pier cap has cracking underside and has a 5 SF delamination with two layers of exposed re-steel. Re-steel heavily rusted. Easterly abutment backwall has heavy rust staining from leaking joints and partial rust staining and cracking of breastwall (photo). Westerly abutment has minor/sporadic hairline cracking.

Culvert

NBI Item 62: N

Channel

NBI Item 61: N

Other

Special Inspection

Monitoring

Pontis Notes

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Highway Bridge Inspection Report

Pictures



PHOTO 1

Description Roadway looking east



PHOTO 2

Description west joint

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Highway Bridge Inspection Report

Pictures



PHOTO 3

Description leaking west joint seal



PHOTO 4

Description wearing surface view

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Highway Bridge Inspection Report

Pictures



PHOTO 5

Description pier joint



PHOTO 6

Description leaking pier joint

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Highway Bridge Inspection Report

Pictures



PHOTO 7

Description rail post plow damage



PHOTO 8

Description pier joint

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Highway Bridge Inspection Report

Pictures



PHOTO 9

Description minor rail post damage



PHOTO 10

Description pier joint

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Highway Bridge Inspection Report

Pictures



PHOTO 11

Description failed seal east pier joint



PHOTO 12

Description piece of debris laying on concrete rail

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Highway Bridge Inspection Report

Pictures



PHOTO 13

Description east joint



PHOTO 14

Description north side view

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Highway Bridge Inspection Report

Pictures



PHOTO 15

Description east beam end



PHOTO 16

Description east abutment slope pavement

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Highway Bridge Inspection Report

Pictures



PHOTO 17

Description haunch concrete laying on east slope pavement



PHOTO 18

Description east abutment

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PHOTO 19

Description east pier



PHOTO 20

Description east span view

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PHOTO 21

Description 2nd east span view



PHOTO 22

Description Center pier view

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PHOTO 23

Description 2nd west span view



PHOTO 24

Description west pier

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PHOTO 25

Description west span view



PHOTO 26

Description west abutment

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PHOTO 27

Description debris on bridge seat staining abutment



PHOTO 28

Description west abutment beam end

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Highway Bridge Inspection Report

Pictures



PHOTO 29

Description



PHOTO 30

Description debris on west pier bridge seat

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Highway Bridge Inspection Report

Pictures



PHOTO 31

Description south side view



PHOTO 32

Description west pier

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Highway Bridge Inspection Report

Pictures



PHOTO 33

Description west pier



PHOTO 34

Description west pier

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Pictures



PHOTO 35

Description west pier



PHOTO 36

Description center pier

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Pictures



PHOTO 37

Description center pier



PHOTO 38

Description center pier

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Pictures



PHOTO 39

Description center pier



PHOTO 40

Description center pier

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Pictures



PHOTO 41

Description east pier



PHOTO 42

Description east pier

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Highway Bridge Inspection Report

Pictures



PHOTO 43

Description east pier



PHOTO 44

Description east pier

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Highway Bridge Inspection Report

Pictures



PHOTO 45

Description east pier