

BRIDGE NO.04805

78600 - VOLUNTOWN FORGE HILL ROAD over PACHAUG RIVER

Routine Inspection 8/05/2020

Inspected by: Team 4



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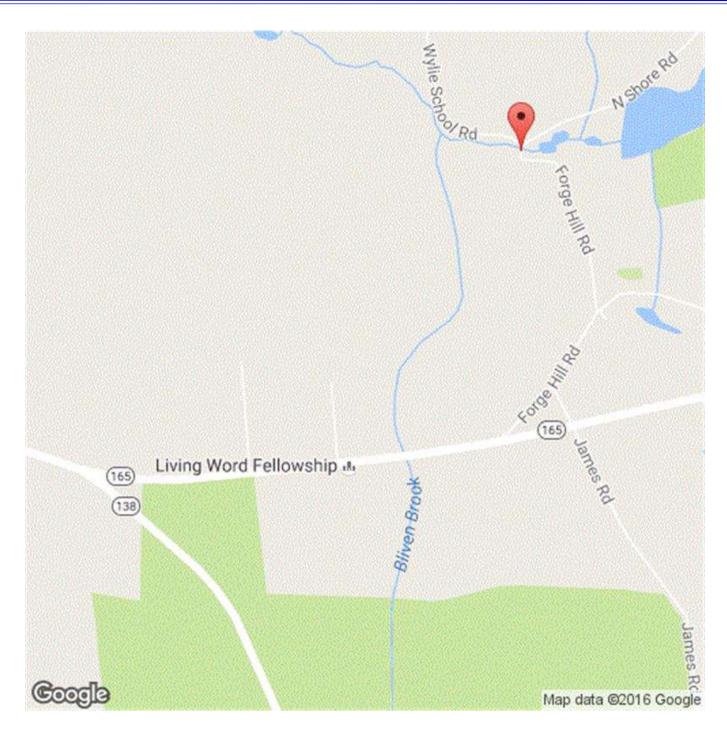
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Form: Location

Inspection type: Routine Inspection Date: 8/05/2020 Inspected by: Team 4

:Bridge No 04805

Town: VOLUNTOWN



Location Map # 1

In-Depth Components

Bridge: 04805

Town: 78600 - VOLUNTOWN



Carried: FORGE HILL ROAD

Crossed: PACHAUG RIVER

In-Depth - 1

Component: Concrete Superstructure

Comments:

Reinforced concrete Slab.

Access

Requirements:

Waders.

Last Inspected:

08/16/2020

Frequency: 24

Inspection Due Date:

08/16/2022

:Bridge No 04805

Town: VOLUNTOWN
Carried: FORGE HILL ROAD
Crossed: PACHAUG RIVER
Inventory Route: Non-NHS

STRUCTURE INVENTORY & APPRAISAL

INSPECTION	STRUCTURE TYPE & MATERIALS
Structurally Deficient N Functionally Obsolete Y	(43) Structure Type, Main
Sufficiency Rating 60.6	A) Material 1 - Concrete
(90) Inspection Date 08/05/2020 (91) Frequency 24	B) Design Type 01 - Slab
Indepth Insp No Proposed next Indepth Year	(44) Structure Type, Approach
Deck Survey Date 1/1/1900 Class 01	A) Material 0 - Other
Access 0 - None Flagman 0	B) Design Type 00 - Other
Frequency Date Type	(45) Number of Spans, Main Unit 001
Fracture	(46) Number of Approach Spans 0000
Underwater	(107) Deck Structure Type 1 - Concrete Cast-in-Place
Special	(108) Wearing Surface/Protection Systems
——— IDENTIFICATION ————	A) Type of Wearing Surface 6 - Bituminous
Bridge Name 04805	
Town Code - Name 78600 - VOLUNTOWN	B) Type of Membrane 0 - None
(5) Inventory Route	C) Type of Deck Protection 0 - None
(A) Record Type 1: Route carried "on" the structure	Substructure
(B) Signing Prefix 5 - CITY STREET	A) Material 2 - CONCRETE
(C) Level of Service 0 - NONE OF THE BELOW	B) Design Type 1 - FULL HEIGHT STEM
(D) Route Number. 00000	Paint
(E) Dir Suffix 0 - NOT APPLICABLE	Туре
(6A) Featured Intersected PACHAUG RIVER	Year
(6B) Critical Facility Indicator	Comment
(7) Facility Carried FORGE HILL ROAD	———— GEOMETRIC DATA ————
(9) Location 0.6 MI NORTH OF ROUTE 165	(48) Length of Maximum Span 20 ft.
(11) Mile Post 0.1 Miles	(49) Structure Length 22 ft.
(16) Latitude 41 Deg. 34 Min. 51.88 Sec.	(50) Curb or Sidewalk Widths
(17) Longitude -71 Deg. 49 Min. 14.53 Sec.	A) Left 0 ft. 6 in. B) Right 0 ft. 6 in.
(98) Border Bridge	(51) Bridge Roadway Width Curb to Curb 20 ft. 2 in.
(A) State Code (B) Percent Responsibility %	(52) Deck Width, Out to Out 23 ft. 6 in.
(C) Border Town Name	(32) Approach Roadway Width 17 ft.
(99) Border Bridge Structure No.	(1)

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(33) Bridge Median	0 - No median	AGE AND SERVICE
Deck Area 5	sq. ft.	Year Built 1920 (106) Year Reconstructed 0000
(34) Skew Angle	00 deg.	(42) Type of Service
-	0 - No flare	A) On 1 - Highway
(10) Inv. Rte. Min. Vert. Clea	arance 99 ft. 99 in.	B) Under 5 - Waterway
(47) Inv. Rte. Total Horiz. Cl	r. 20 ft. 2 in.	(28) Number of Lanes
Log Inv. Rte. Total Horiz	z. Clr. 20 ft. 2 in.	A) On 02 B) Under 00
RLog Inv. Rte. Total Ho	riz. Clr. 0 ft. 0 in.	(29) Average Daily Traffic 463
(53) Min. Vert. Clearence Ov	ver Bridge 99 ft. 99 in.	Is Above Half ADT?
(54) Log-Min. Vert. Undercle	earance N ref. 0 ft. 0 in.	(109) Precent Truck 7
(55) Min. Lat Underclearance	e on Right N ref. 0 ft. 0 in.	(30) Years of ADT 2020
(56) Min. Lat Underclearance	e on Left 0 ft. 0 in.	(19) Bypass, Detour Length 6 Miles
c	CONDITION —————	APPRAISALS
(58) Deck	5	(67) Structural Evaluation 5
(59) Superstructure	5	(68) Deck Geometry 3
(60) Substructure	5	(69) Underclearances, Vert. & Horiz.
(61) Channel & Channel Pro	otections 6	(71) Waterway Adequacy 5
(62) Culverts	N	(72) Approach Roadway Alignment 3
(36) Traffic Safety Features		(113) Scour Critical 5
A) Bridge Railings	S 0	COMMENTS
B) Transitions	0	
C) Approach Gua	ordrail 0	
D) Approach Gua	ordrail Ends 0	
	WATERWAY	CLASSIFICATION
Drainage Basin Waterway	3699	(112) NBIS Bridge Length Yes
(38) Navigation Control	0 - No navigation control on waterway (bridge permit not required)	(104) Highway System 0 - Structure/Route is NOT on NHS
(39) Navigation Vertical Cle	arance 0 ft.	(26) Functional Class 09 - Rural - Local
(40) Navigation Horiz. Clr.	O ft.	(100) Defense Highway 0 - Not a STRAHNET route
(111) Pier/Abutment Naviga	ition	(101) Parallel Structure N - No parallel structure
(116) Vert-Lift Brg Nav Min	0 ft. 0 In.	(102) Direction of Traffic 2 - 2-way traffic

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(103) Temporary Stru	ıcture			PROPOSE	ED IMPROVEMENTS ————
(110) Designated Nat Network	tional 0 - Inven	ntory route not on networ	rk	(75A) Type of Work Proposed	
(20) Toll	3 - On F	ree Road		(75B) Work Done By	
(21) Maintain		vn or Township Highway	Agency	(76) Length of Structure Impro	vement ft.
(22) Owner		vn or Township Highway		(94) Bridge Improvement Cost	\$
			Agency	(95) Roadway Improvement C	ost \$
Report Class	L - LOC			(96) Total Project Cost	\$
(37) Historical Signific		eligible for National Regis	ster	(97) Year of Improvement Esti	
Other Destant Cine 4	— POSTED S			(114) Future ADT	688
Other Posted Sign 1 Other Posted Sign 2		0 - Blank		(115) Year of Future ADT	2040
Other Posted Sign 2			1	DOT Bridge Program List No	
Posted Load Single U	_	Actual Recomende	ea tons	Project No	
Posted Load Semi-Tr			tons	Advertised Date	
Posted Load 4 Axle T	ruck [tons		ATING & POSTING —
Posted Load 3S2 Tru	ıck		tons	(31) Design Load	0 - Unknown
All Vehicles			tons	(63) Operating Rating Type	0 - Field evaluation and documented engineering judgment
Posted Vert. Clearan	ce on Bridge	ft. in.		(64) Operating Rating	47
Posted Vert. Underclo	earance [ftin.		(65) Inventory Rating Type	0 - Field evaluation and documented engineering judgment
Posted Speed Limit of	on Bridge [m.p.h.		(66) Inventory Rating	36
	- OTHER FEA	TURES ———		Evaluation Code	E - Evaluated
Fence Required	No			Year of Evaluation	2019
Fence Present	No			(70) Bridge Posting	5 - Equal to or above legal loads
Fence Type	Blank			(41) Structure Status	A - Open
Fence Height					
Fence Material	Blank				
Fence Top Type	Blank				
Barrel Ladders	No				
Stand Pipes	No				
Catwalks	No				
Moveable Inspection	System	No			
Haunches Present ov	er Roadway				
Utilities	N No Utilities p	present			

:Bridge No 04805

Town: VOLUNTOWN
Carried: FORGE HILL ROAD
Crossed: PACHAUG RIVER
Inventory Route: Non-NHS

INSPECTOR'S SIGNATURES:

1)	Mike Holdings	Date: 08/06/2020	P.E. SIGNATURE:		Date:
2)	11111	Date: 08/06/2020	P.E. #		_
_	Zachary Lalima		Reviewed By:		Date: 08/06/2020
3)		Date:		William Freeman, Jr.	_
4)		 Date:			

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Town: VOLUNTOWN
Carried: FORGE HILL ROAD
Crossed: PACHAUG RIVER
Inventory Route: Non-NHS

FIELD INSPECTION REPORT

ocation:	0.6 MI NORTH (OF ROUTE 165	Year Built:	1920		Snoop	er Requirea:	
lain Material:	1 - Concrete		Year Rebuilt	0000		Snoop	er Used:	
lain Design:	01 - Slab							
nspectors:					<u>Visits:</u>			
ead Inspecto	r:	Michae	l Holdridge		Visit Date:	Temp:	Start Time:	End Time:
nspector:		Task:			08/05/2020	80	08:35 AM	10:15 AM
reeman Jr.,W	/illiam	BSE - T	E3					
Holdridge,Mich	nael	BSE - I	nspector		_			
_aLima,Zacha	ry	BSE - I	nspector					
EO DECK								
58. DECK:	informed concrete	alah /Flamant #	20)					Overall Rating: 5
Re	einforced concrete	siab (Element #	30)					Overall Nating. 5
Lo	g direction south t	o north.						
	Rating							
	Overlay: 4	Bituminous con	crete wearing s	surface:				
		-Transverse, lor	ngitudinal and r	andom cra	acks open ½ i	nch.		
		-Delaminated al	ona both curb	lines full le	nath up to 8	feet wide	e (see sketch)
			.eg .e					,
		-Vegetation gro	wth along curb	lines.				
		-Full width trans	verse cracks a	t deck end	ls open up to	1 in. with	adiacent bit	uminous breaking up and
		patched areas.						
		Canada ala ala anad	_					
		South deck end -Large bitumino		as with he	aved and se	ttled area	as	
		-Large surface s						
		Nowth dools and						
		North deck end: -± 20 SF patch		d up to ½ i	n.)with adiace	ent bitumi	inous breakir	na up.
		·	·		,			J - 1
		See attached sk	ketch.					
Deck -	Str. Condition: 5	-Top of Reinford	ced concrete sl	ab hidden	by above ove	erlav.		
					.,			
		-Deck is integra	I with Superstr	ucture .				
		-Large surface s	spall with expo	sed concre	ete at the sout	th deck e	nd.(top side)	
							, , ,	
		-Large areas of	delaminated b	ituminous	noted in Over	lay.		
		-Longitudinal cr	acking with effl	orescence	open up to	1/8 inch r	noted below.	
		-See item 59 (g	irders) for unde	erside.				
		-± 29% total dec	ck deterioration	١.				
		-See attached s						
		-See allauned S	NGIUII.					

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Curbs: 6	Concrete: -Isolated areas of severe scale areas up to 1 in. deep.	
	-Sand and debris covered.	
	-Vegetation growth along curblines.	
	-Southbound curb reveal is 4½ inches taken midspan.	
	-Northbound curb reveal is 5 inches taken midspan.	
Median: N		
Sidewalks: N		
Parapet: 7	Concrete railbase: -Areas of light scale.	
	-Random hairline cracks.	
Railing: 7	Angle iron rail and posts: -Areas of light rust throughout.	
	-Areas of peeling paint.	
Paint: N		
Fence: N		
Drains: N		
Lighting Standard: N		
Overall Utility Condition Rating Utility Type/Size	N - Not Applicable	
	Itilities present	
Construction Joints: N		
	No formal joints at deck ends.	
Haunches Present over travely		
APPROACH CONDITION:		
	Overall Rating: 5	
Rating		
Approach Slab: N		
Relief Joints: N		
Approach Guide Rail: 5	Metal beam rail on steel posts: -Minor scrapes and dents.	
	Southbound trailing end: -(1) Section bent MBR(1) Bent post.	
Approach Pavement: 5	Bituminous concrete approach wearing surface: Transverse, longitudinal and random cracks open up to 1 inch.	
	Rituminaus patches with adjacent hituminaus breaking up	
	-Bituminous patches with adjacent bituminous breaking up.	

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	-Raveling.
	-Settlement on the north approach up to $\pm \frac{3}{4}$ inch.
Approach Embankment: 8	
Trafic Safety F	<u>Features</u>
Bridge Railings: 0	
Transitions: 0	
Approach Guardrails: 0	
Approach Guardrail Ends: 0	
59. SUPERSTRUCTURE:	
Reinforced concrete	e slab (Element 38) Overall Rating: 5
<u>Rating</u>	
Bearing Devices: N	
Stringers: N	
Girders: 5	Reinforced concrete slab:
	-Longitudinal, diagonal and map cracks cracks open hairline to 1/16 inch with and without efflorescence.
	-Stalactites with active leakage along both deck edges (full length).
	-Inlet side deck edge (vertical face) at abutment #1, hollow area 24 in. long x 6 in. high. Also,horizontal and diagonal hairline cracks with efflorescence (full length).
	-large surface spall (26 in x 16 in. x 2½ in. deep) with exposed rebar that have heavy laminar rust with 50% section loss near the centerline of deck adjacent to abutment #1,
	-Patched area (30 in. X 50 in.) near the centerline of deck adjacent to abutment #2,patch is hollow and has cracks open up to 1/8 in.
	-Outlet side edge of deck underside, hollow area (full length x up to 24 in. wide). Hollow area extends up vertical face (up to 14 in. high).
	-Outside face of slab has horizontal and diagonal cracks full length with efflorescence open up to .030 in.
	Con attached alcatch
Floor Dooms: N	-See attached sketch.
Floor Beams: N Trusses - General: N	
Trusses - General: N	
Trusses - Bracing: N Paint: N	
Rust: N	
Machinery Movable Span: N	
Rivets & Bolts: N	
Welds - Cracks: N	
Timber Decay: N	
Concrete Cracking: 5	See above items.
Collision Damage: 8	

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Member Alignment: 8	
Deflection Under Load: N	
Vibration Under Load: N	
Stand Pipes: N	
Catwalks:	
Movable Inspection System:	
Barrel Ladders: N	
Are	e Barrel Ladders OSHA Compliant? NA
60. SUBSTRUCTURE:	
	abutments and wingwalls (Element # 215) Overall Rating: 5
Rating	
Abutments - Stem: 5	Reinforced concrete:
, is a time to the time	-Horizontal, vertical and diagonal cracks open from hairline to .070 inch with and without efflorescence.
	-Gap between bottom of deck and top of abutments, up to 3/8 in. in random areas (appears to be an as built condition).
	-Light to medium scale at and below the waterline up to 24 inches high.
	-Large hollow areas.
	-See attached sketch.
Abutments - Backwall: N	
Abutments - Footings: N	Not visible.
Abutments - Settlement: 8	
Abutments - Wingwalls: 5	Reinforced concrete:
3 <u>3</u>	-Light to medium scale at and below the waterline up to 24 inches high.
	-Map hairline cracks open up to .050 inch with and without efflorescence on all wingwalls.
	-Overburden (earth build up) on top of all wingwalls.
	Wingwall 1B:
	-Hollow area, 8 square feet.
	-Severe scale area and heavy efflorescence at the top, 4 ft. long x 4 in. deep x full width.
	Wingwall 2A:
	-Free end has an area of severe scale / spall 2 square feet X 2 in. deep.
	-Hollow area at top, 12 square feet.
	Wingwall 2B:
	-Hollow area adjacent to abutment, 20 square feet.
Piers/Bents - Caps: N	, , , , , , , , , , , , , , , , , , , ,
Piers/Bents - Pile Bent: N	
Piers/Bents - Columns: N	
Piers/Bents - Footings: N	
Piers/Bents - Settlement: N	
Erosion - Scour: 8	
	See above items.
• -	

Form: BRI-18, Rev. 1/14
Inspection type: Routine
Inspection Date: 8/05/2020

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Inspected by: Team 4	Inventory Route: Non-NHS
Steel Corrosion: N	
Paint: N	
Timber Decay: N	
Collision Damage: 8	
Debris: N	
	L DROTECTION.
61. CHANNEL AND CHANNE	Overall Rating: 6
Rating	o voicin realing.
Channel - Scour: 8	
Embankment - Erosion: 7	-Minor embankment undercutting upstream and downstream.
Debris: 6	
	-Encroachment at upstream end along wingwall 1B that slightly impacts flow.
Vegetation: 7	-Moderate to heavy vegetation upstream and downstream.
	-Trees and limbs overhang channel.
Channel Change: 6	-Encroachment at upstream end along wingwall 1B that slightly impacts flow.
Fender - System: N	
Spur Dikes and Jetties: N	
Rip Rap: N	
CO OUR VERTO AND RETAIN	INO WALLO
62. CULVERTS AND RETAIN	Overall Rating: N
Dating	Overall Nating.
Rating Barrel: N	
Concrete: N	
Steel: N	
Timber: N	
Headwall: N	
Cutoff Wall: N	
Debris: N	
Retaining Wall System: N	
Footing: N	
LOAD POSTING:	
Rating	
Single Unit (Tons):	
Semi Trailer (Tons):	
4 Axle (Tons):	
3S2 (Tons):	
All Vechicles:	
Advanced Warning: N	
Warning At Bridge:	
Legibility: N	
Visibility: N	
v iolidity. [N	

:Bridge No 04805

VERTICAL (CLEARANCE	E POSTIN	<u>vg</u>	
Min. Vert Under (Clearance:	Ft	Ir	
Posted Clearence Und	der Bridge:	Ft	Ir	
Posted Clearence	On Bridge:	Ft	Ir	
Advanced Warning:	False			
Warning At Bridge:				
Legibility:				
Visibility:				
NOTES / COMMENTS:				
Character of Traffic:	Light volume	e, mixed v	weights.	
	Inventory / lo	og direction	on south t	o north.
Additional Notes:				
Bridge ID in Place				
Additional Comments:				
Town Letter Submitted - bord No Pending Project	derline poor b	oridge due	e to slab c	leterioration

National Bridge Elements Inspection type: Routine Inspection Date: 8/05/2020

Inspected by: Team 4

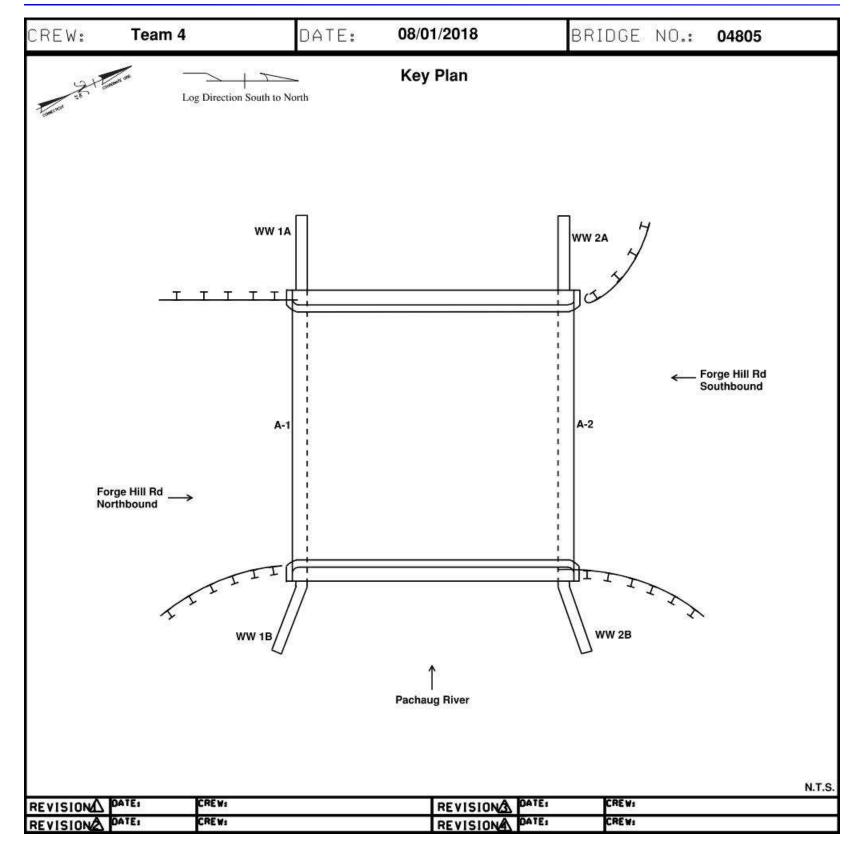
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	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
38 - Reinforced Concrete Slab	Mod.	517	sq. ft.	250	77	190	0
1080 - Delamination/Spall/Patched Area		74		0	74	0	0
1090 - Exposed Rebar	,	3		0	3	0	0
1120 - Efflorescence/Rust Staining		110		0	0	110	0
1130 - Cracking (RC and Other)		80		0	0	80	0
510 - Wearing Surfaces		444	sq. ft.	32	350	62	0
3210 - Delamination/Spall/Patched Area/Pothole (Wearing Surfaces)		352		0	350	2	0
3220 - Crack (Wearing Surface)		60		0	0	60	0
215 - Reinforced Concrete Abutment	Mod.	47	ft.	0	0	47	0
1080 - Delamination/Spall/Patched Area		10		0	0	10	0
1130 - Cracking (RC and Other)		37		0	0	37	0
330 - Metal Bridge Railing	Mod.	44	ft.	0	44	0	0
1000 - Corrosion		44		0	44	0	0
515 - Steel Protective Coating		64	sq. ft.	20	44	0	0

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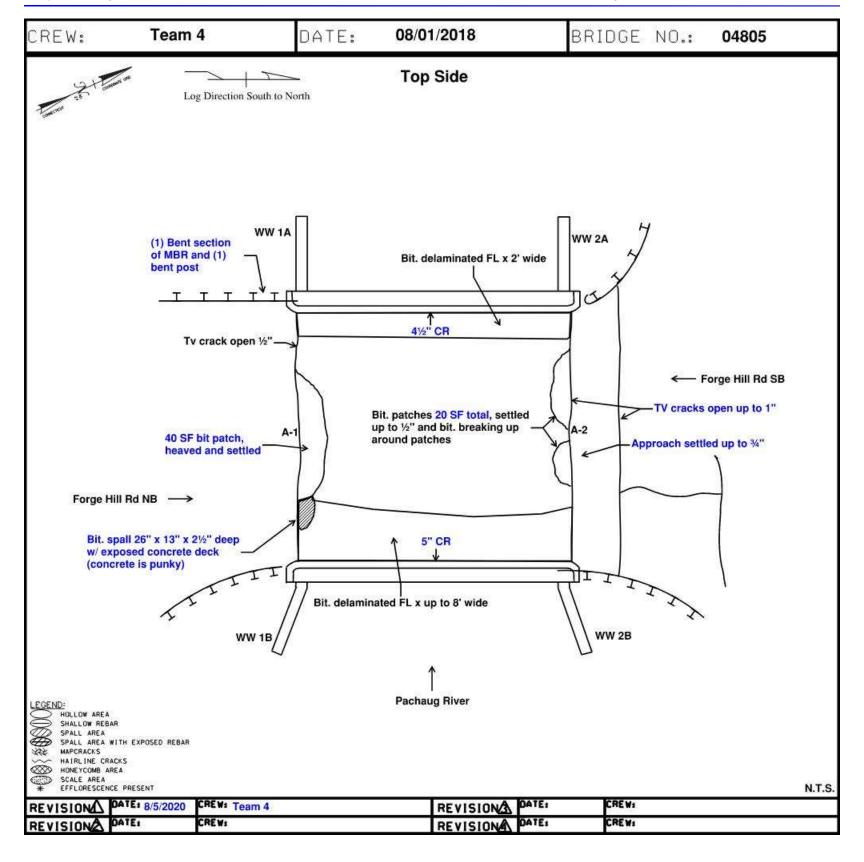
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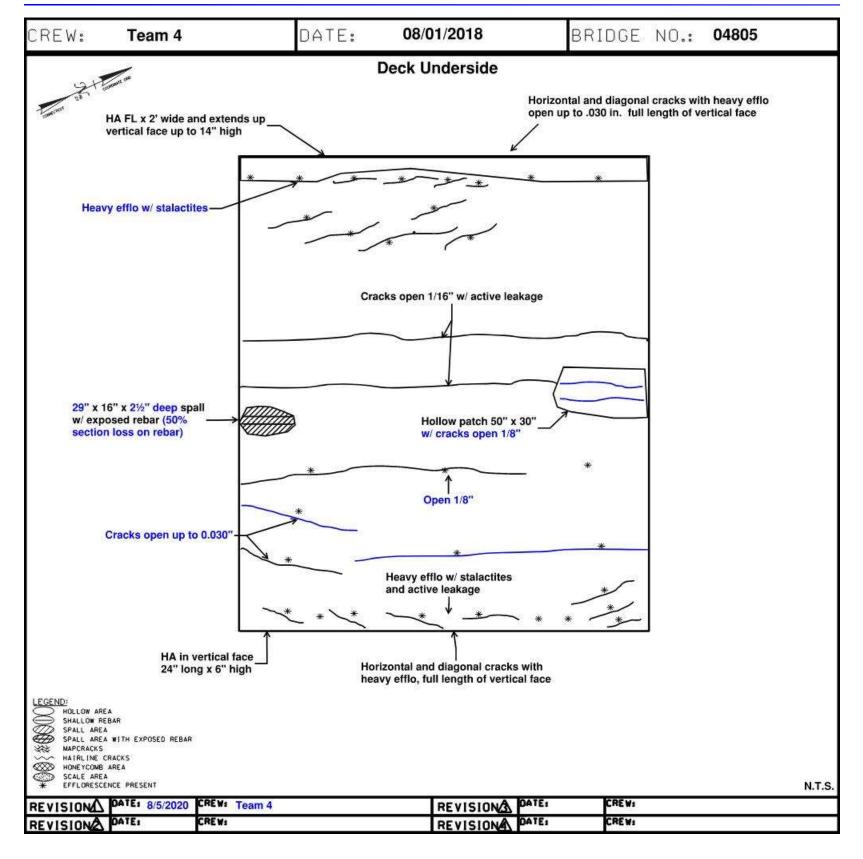
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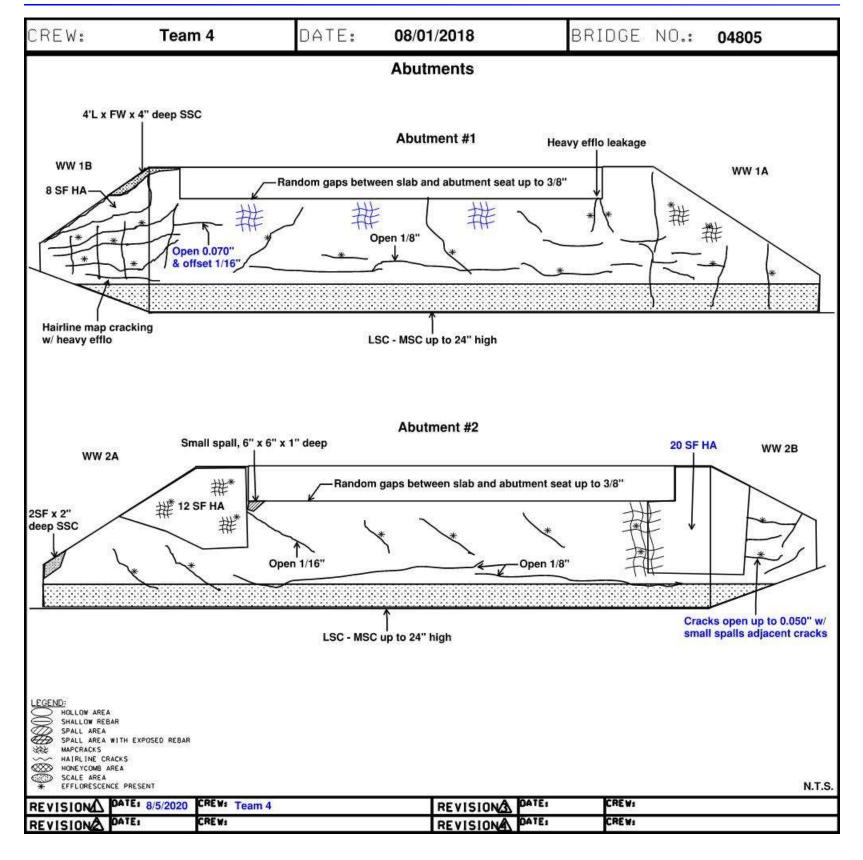
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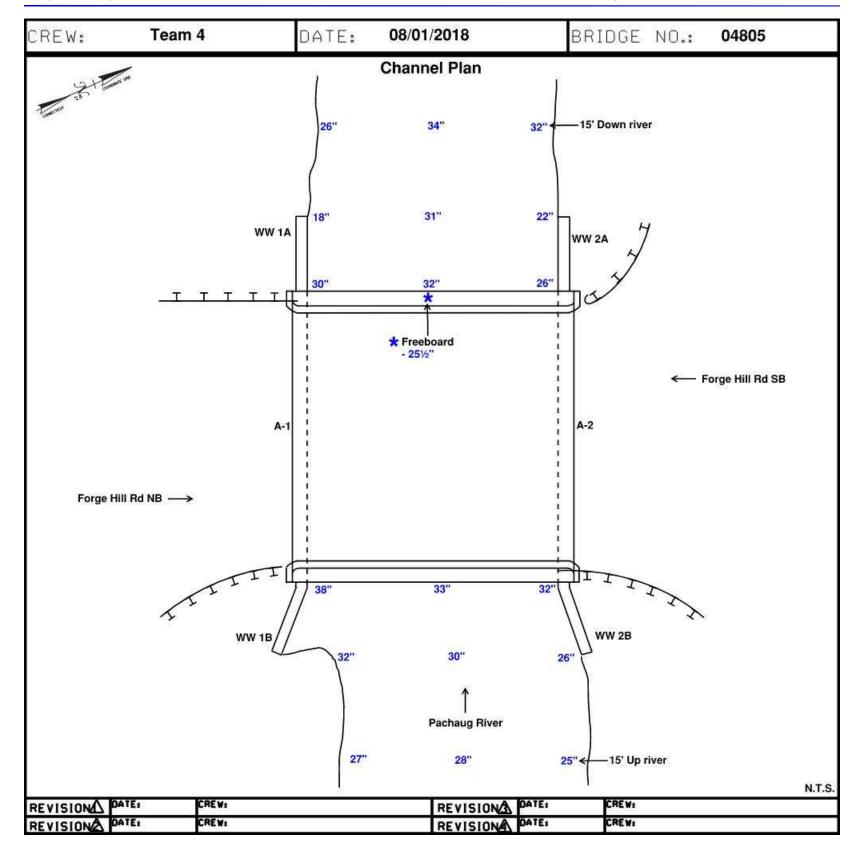
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Photo Number: 1 Photo Taken: 08/05/2020



Photo Number: 2 Photo Taken: 08/05/2020 View southbound.

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Photo Number: 3 Photo Taken: 08/05/2020



Photo Number: 4 Photo Taken: 08/05/2020 Southbound railbase and rail.

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Photo Number: 5 Photo Taken: 08/05/2020

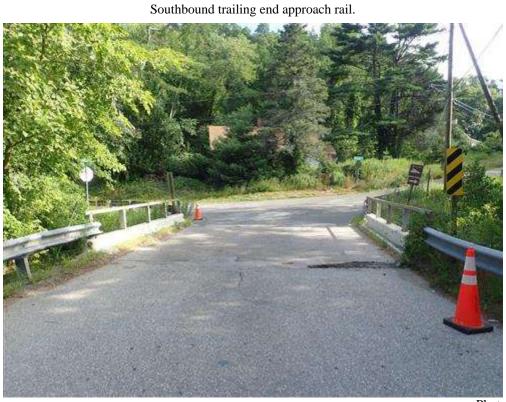


Photo Number: 6 Photo Taken: 08/05/2020 View northbound,.

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Photo Number: 7 Photo Taken: 08/05/2020



Photo Number: 8 Photo Taken: 08/05/2020 Southbound railbase and rail.

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Photo Number: 9 Photo Taken: 08/05/2020



Photo Number: 10 Photo Taken: 08/05/2020 South deck end.

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Photo Number: 11 Photo Taken: 08/05/2020



Photo Number: 12 Photo Taken: 08/05/2020 North deck end.

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Photo Number: 13 Photo Taken: 08/05/2020

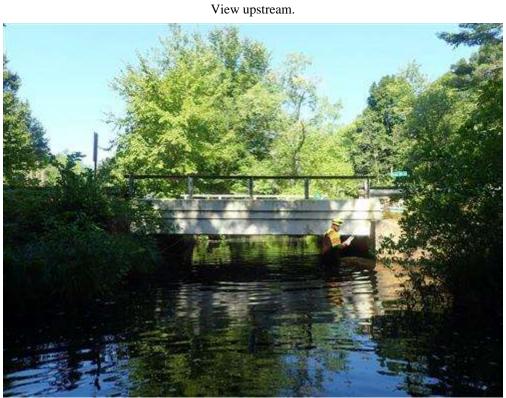


Photo Number: 14 Photo Taken: 08/05/2020 Inlet elevation.

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Carried: FORGE HILL ROAD
Crossed: PACHAUG RIVER
Inventory Route: Non-NHS



Photo Number: 15 Photo Taken: 08/05/2020





Photo Number: 16 Photo Taken: 08/05/2020

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Photo Number: 17 Photo Taken: 08/05/2020

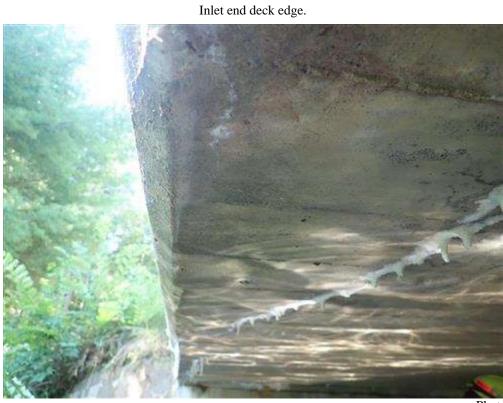


Photo Number: 18 Photo Taken: 08/05/2020

View of cracking on deck underside at the inlet end.

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Photo Number: 19 Photo Taken: 08/05/2020

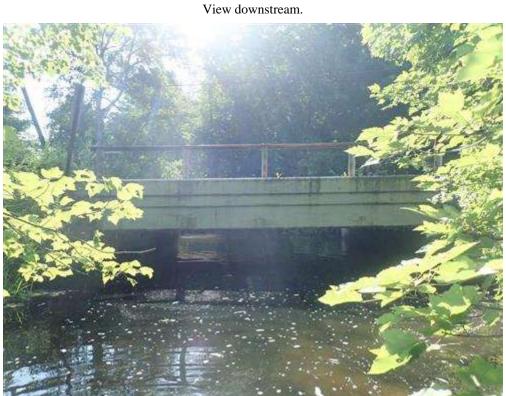


Photo Number: 20 Photo Taken: 08/05/2020 Outlet elevation.

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Photo Number: 21 Photo Taken: 08/05/2020



Photo Number: 22 Photo Taken: 08/05/2020 Wingwall 2A.

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Photo Number: 23 Photo Taken: 08/05/2020



Photo Number: 24 Photo Taken: 08/05/2020 View of cracking on deck underside at the outlet end.

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Crossed: PACHAUG RIVER
Inventory Route: Non-NHS



Photo Number: 25 Photo Taken: 08/05/2020



Typical longitudinal cracks with efflorescence at random locations.

Photo Number: 26 Photo Taken: 08/05/2020 Large surface spall with exposed rebar midspan at A-1.

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Photo Number: 27 Photo Taken: 08/05/2020 Longitudinal crack open up to 1/8 inch with efflorescence near midspan.



Photo Number: 28

Photo Taken: 08/05/2020

Close up view of longitudinal crack open up to 1/8 inch with efflorescence near midspan.

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Photo Number: 29 Photo Taken: 08/05/2020 Large patch midspan near A-2 with hollow areas and longitudinal cracks.



Photo Number: 30 Photo Taken: 08/05/2020 Abutment # 1.

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Photo Number: 31 Photo Taken: 08/05/2020



Photo Number: 32 Photo Taken: 08/05/2020 Abutment # 2.