Inspection Type: Routine and Underwater

BRIDGE NO. 00315

73070 - STAMFORD

US ROUTE 1

over

NOROTON RIVER

Routine and Underwater Inspection

4/03/2018

Inspected by: A. DiCesare

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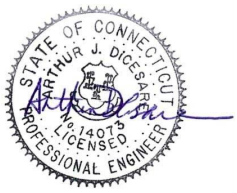
Bridge No. 00315, US Route 1 over Noroton River, Stamford

Inspected By: A.DiCesare Associates Date: 04/03/2018



Professional Certification: I hereby certify that this report, including all of its contents, has been approved by me, and that I am a duly licensed professional engineer under the laws of the State of Connecticut.

Signature:

License No.: 14073 Date: 05/02/2018

Form: Location
Inspection type: Routine,Underwater
Inspection Date: 4/03/2018
Inspected by: A. DiCesare Associates

Bridge No: 00315

Town: STAMFORD
Carried: US ROUTE 1
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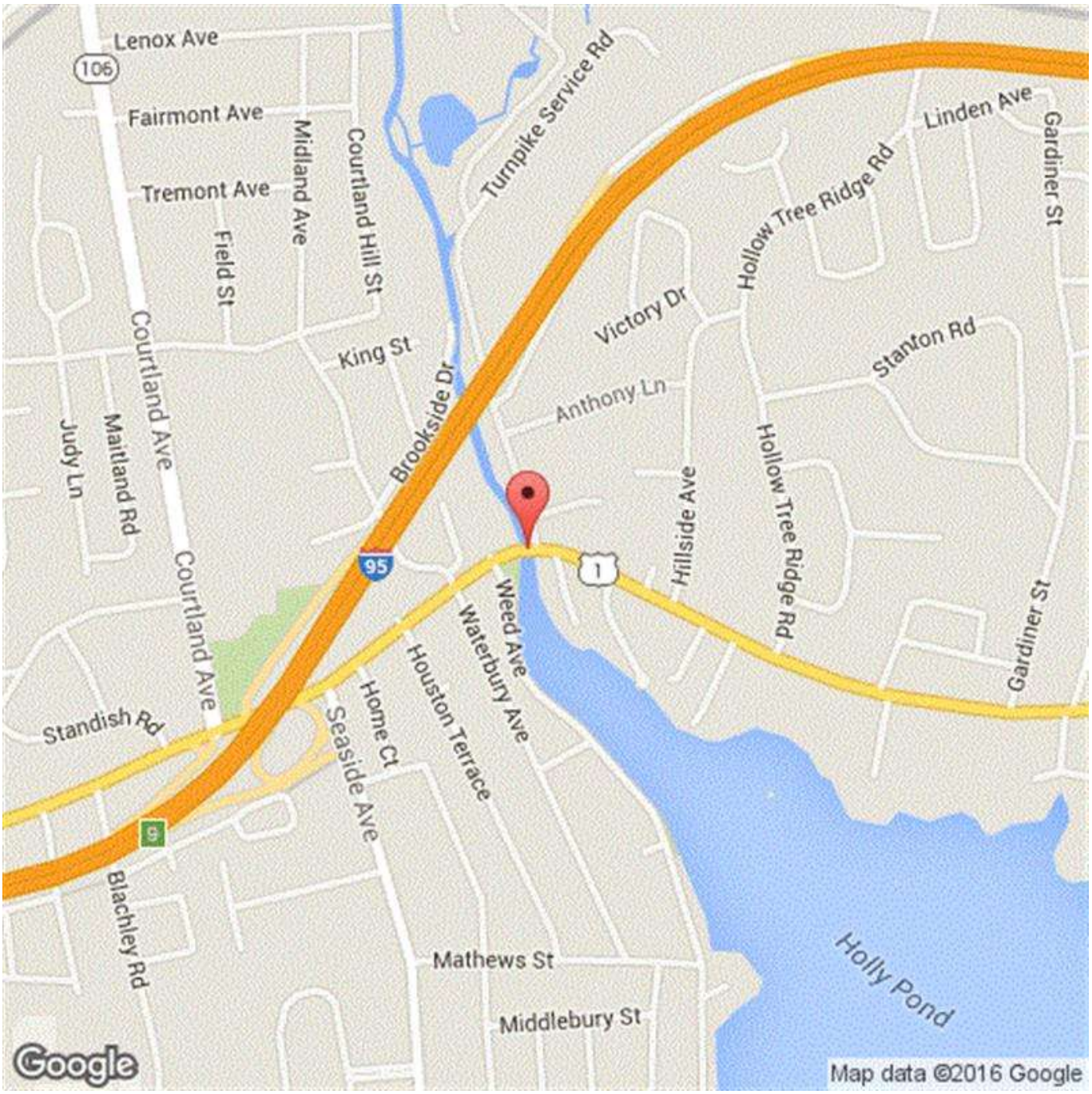
Inventory Route: NHS



Location Map # 1

Form: BRI-19, Rev. 2/15
Inspection type: Routine,Underwater
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STRUCTURE INVENTORY & APPRAISAL

INSPECTION

Structurally Deficient N **Functionally Obsolete** N

Sufficiency Rating 84.9

(90) Inspection Date 04/03/2018 **(91) Frequency** 24

Indepth Insp No **Proposed next Indepth Year**

Deck Survey Date **Class** 01

Access 0 - None **Flagman** 0

	Frequency	Date	Type
Fracture			
Underwater	24	04/03/2018	A Full Inspection
Special			

IDENTIFICATION

Bridge Name 00315

Town Code - Name 73070 - STAMFORD

(5) Inventory Route

(A) Record Type 1: Route carried "on" the structure

(B) Signing Prefix 2 - U.S. NUMBERED HIGHWAY

(C) Level of Service 1 - MAINLINE

(D) Route Number. 00001

(E) Dir Suffix 0 - NOT APPLICABLE

(6A) Featured Intersected NOROTON RIVER

(6B) Critical Facility Indicator

(7) Facility Carried US ROUTE 1

(9) Location STAMFORD DARIEN TOWN LINE

(11) Mile Post 8.97 Miles

(16) Latitude 41 Deg. 3 Min. 39.27 Sec.

(17) Longitude -73 Deg. 30 Min. 26.40 Sec.

(98) Border Bridge

(A) State Code (B) Percent Responsibility %

(C) Border Town Name

(99) Border Bridge Structure No.

STRUCTURE TYPE & MATERIALS

(43) Structure Type, Main

A) Material 5 - Prestressed concrete

B) Design Type 01 - Slab

(44) Structure Type, Approach

A) Material 0 - Other

B) Design Type 00 - Other

(45) Number of Spans, Main Unit 2

(46) Number of Approach Spans 0

(107) Deck Structure Type N - Not Applicable

(108) Wearing Surface/Protection Systems

A) Type of Wearing Surface N - NA

B) Type of Membrane N - NA

C) Type of Deck Protection N - NA

Substructure

A) Material 2 - CONCRETE

B) Design Type 1 - FULL HEIGHT STEM

Paint

Type

Year

Comment

GEOMETRIC DATA

(48) Length of Maximum Span 20 ft.

(49) Structure Length 48 ft.

(50) Curb or Sidewalk Widths

A) Left 0 ft. 0 in. B) Right 2 ft. 3 in.

(51) Bridge Roadway Width Curb to Curb 70 ft. 0 in.

(52) Deck Width, Out to Out 79 ft. 3 in.

(32) Approach Roadway Width 70 ft.

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(33) Bridge Median: 0 - No median

Deck Area: 3807 sq. ft.

(34) Skew Angle: 0 deg.

(35) Structure Flared: 1 - Yes, flared

(10) Inv. Rte. Min. Vert. Clearance: 99 ft. 99 in.

(47) Inv. Rte. Total Horiz. Clr.: 70 ft. 0 in.

Log Inv. Rte. Total Horiz. Clr.: 70 ft. 0 in.

RLog Inv. Rte. Total Horiz. Clr.: 0 ft. 0 in.

(53) Min. Vert. Clearence Over Bridge: 99 ft. 99 in.

(54) Log-Min. Vert. Underclearance: N ref. 0 ft. 0 in.

(55) Min. Lat Underclearance on Right: N ref. 99 ft. 99 in.

(56) Min. Lat Underclearance on Left: 0 ft. 0 in.

AGE AND SERVICE

Year Built: 1913 (106) Year Reconstructed: 1957

(42) Type of Service

A) On: 5 - Highway-pedestrian

B) Under: 5 - Waterway

(28) Number of Lanes

A) On: 04 B) Under: 00

(29) Average Daily Traffic: 10500

Is Above Half ADT?: No

(109) Precent Truck: 6 %

(30) Years of ADT: 2015

(19) Bypass, Detour Length: 1 Miles

CONDITION

(58) Deck: 6

(59) Superstructure: 5

(60) Substructure: 5

(61) Channel & Channel Protections: 6

(62) Culverts: N

(36) Traffic Safety Features

A) Bridge Railings: 0

B) Transitions: 0

C) Approach Guardrail: 0

D) Approach Guardrail Ends: 0

APPRAISALS

(67) Structural Evaluation: 5

(68) Deck Geometry: 9

(69) Underclearances, Vert. & Horiz.: N

(71) Waterway Adequacy: 9

(72) Approach Roadway Alignment: 6

(113) Scour Critical: 3

COMMENTS

Item 50 - Sidewalk width reduced by Dec 2006 installation of barrier to prevent pedestrian access to broken parapet. RDJ 3/7/07

WATERWAY

Drainage Basin Waterway: 7403 - Noroton River

(38) Navigation Control: 0 - No navigation control on waterway (bridge permit not required)

(39) Navigation Vertical Clearance: 0 ft.

(40) Navigation Horiz. Clr.: 0 ft.

(111) Pier/Abutment Navigation:

(116) Vert-Lift Brg Nav Min: 0 ft. 0 In.

CLASSIFICATION

(112) NBIS Bridge Length: Yes

(104) Highway System: 1 - Structure/Route is on NHS

(26) Functional Class: 14 - Urban - Other Principal Arterial

(100) Defense Highway: 0 - Not a STRAHNET route

(101) Parallel Structure: N - No parallel structure

(102) Direction of Traffic: 2 - 2-way traffic

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(103) Temporary Structure	
(110) Designated National Network	0 - Inventory route not on network
(20) Toll	3 - On Free Road
(21) Maintain	01 - State Highway Agency
(22) Owner	01 - State Highway Agency
Report Class	S - STATE
(37) Historical Significance	5 - Not eligible for National Register

POSTED SIGNS

Other Posted Sign 1	3 - Directional & Route information signs
Other Posted Sign 2	

	Actual	Recomended	
Posted Load Single Unit Truck			tons
Posted Load Semi-Trailer Truck			tons
Posted Load 4 Axle Truck			tons
Posted Load 3S2 Truck			tons
All Vehicles			tons

Posted Vert. Clearance on Bridge		ft.	in.
Posted Vert. Underclearance		ft.	in.
Posted Speed Limit on Bridge	35	m.p.h.	

OTHER FEATURES

Fence Required	No
Fence Present	Yes
Fence Type	2 - Chain Link
Fence Height	9.2
Fence Material	1 - Aluminium
Fence Top Type	1 - Vertical
Barrel Ladders	No
Stand Pipes	No
Catwalks	No
Moveable Inspection System	No
Haunches Present over Roadway	NO

PROPOSED IMPROVEMENTS

(75A) Type of Work Proposed	31 - Replacement - Load/Geometry
(75B) Work Done By	1 - Work to be done by contract
(76) Length of Structure Improvement	ft.
(94) Bridge Improvement Cost	$
(95) Roadway Improvement Cost	$
(96) Total Project Cost	$ 11000
(97) Year of Improvement Estimate	2010
(114) Future ADT	15602
(115) Year of Future ADT	2035
DOT Bridge Program List No	21
Project No	0135-0307
Advertised Date	07/25/2018

LOAD RATING & POSTING

(31) Design Load	0 - Unknown
(63) Operating Rating Type	0 - Field evaluation and documented engineering judgment
(64) Operating Rating	75
(65) Inventory Rating Type	0 - Field evaluation and documented engineering judgment
(66) Inventory Rating	36
Evaluation Code	J - Judgement Rating
Year of Evaluation	1997
(70) Bridge Posting	5 - Equal to or above legal loads
(41) Structure Status	A - Open

Utilities	1 | Gas
	2 | Water
	4 | Telephone

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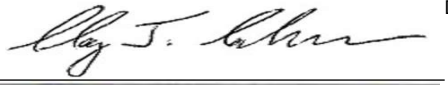
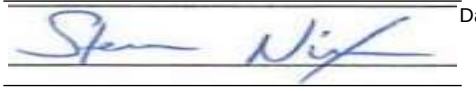
INSPECTOR'S SIGNATURES:

1)  Date: 04/12/2018

2)  Date: 04/12/2018

3)  Date: 04/12/2018

4) Date:

P.E. SIGNATURE:  Date: 04/12/2018

P.E. # 14073

Reviewed By:  Date: 08/03/2018

Form: BRI-18, Rev. 1/14
Inspection type: Routine,Underwater
Inspection Date: 4/03/2018
Inspected by: A. DiCesare Associates

Bridge No: 00315

Town: STAMFORD
Carried: US ROUTE 1
Crossed: NOROTON RIVER
Inventory Route: NHS

FIELD INSPECTION REPORT

Location:	STAMFORD DARIEN TOWN	Year Built:	1913	Snooper Required:	☐
Main Material:	5 - Prestressed concrete	Year Rebuilt	1957	Snooper Used:	☐
Main Design:	01 - Slab				

Inspectors:

Lead Inspector:	Clay Carlson
Inspector:	Task:
Carlson, Clay	BSE - Inspector Rail - Inspector
Harrington, Peter	BSE - Inspector
Nixdorf, Steven	BSE - Inspector

Visits:

Visit Date:	Temp:	Start Time:	End Time:
04/03/2018	41	07:30 AM	01:00 PM

58. DECK:

The original structure consists of concrete encased steel beams with a reinforced concrete deck. The deck has a bituminous overlay.

Overall Rating: 6

Rating

Overlay:	5	The bituminous concrete overlay has random longitudinal and transverse cracks up to 2" wide , raveling up to 1" deep throughout and random bituminous patches. Longitudinal paving seams are open up to 2" wide. There are full width transverse cracks at the deck ends up to 1-1/2" wide with edge potholes up to 2' long x 1' wide x 2" deep. See Roadway Plan Sheet and Photos 8-10.
Deck - Str. Condition:	6	The original structure (east half) consists of concrete encased steel beams with a reinforced concrete deck that supports a bituminous concrete roadway on 2'± of fill. The underside of the reinforced concrete deck has isolated diagonal hairline cracks with efflorescence at the east end, isolated areas of mapcracking and intermittent areas of dampness throughout. In span 2 between girders 6 and 9, the underside has spalls up to 1-1/2" diameter x 2" deep with exposed rebar, dampness, efflorescence and 1-1/2" diameter drill holes. In span 2 between girders 8 and 9 near midspan there is a 6' long x 3' wide damp area with honeycombing.
Curbs:	6	The east concrete curb is integral with the sidewalk. See "Sidewalks" below. The west concrete railbase has random transverse hairline to 1/16" cracks, scrapes and spalls up to 1/2" deep. Average Curb Reveal: West Side = 6" East Side = 6"
Median:	N	
Sidewalks:	4	Access to the damaged east sidewalk is blocked by jersey barrier and chain-link fence. The east sidewalk has light scale, isolated transverse hairline cracks and random bituminous concrete patches.

		At the south end of the east sidewalk, there are up to 1" wide cracks and the approach side of the sidewalk has settled up to 1/2". The east sidewalk in span 1 has a 2-1/2' long x 2' wide section that is settled up to 1" and is loose with a 2" wide crack. The east sidewalk is undermined up to 2" wide x full length x up to 8" deep. See Roadway Plan Sheet and Photos 11-13.
Parapet:	1	The full length of the east parapet has fallen into the channel. A jersey barrier has been attached to the bridge deck along the east fascia. The concrete jersey barrier exhibits random spalls up to 1' long x 6" high X 3" deep and isolated hairline cracks. The fallen parapet is rated 1, and the jersey barrier would be rated 6. See Roadway Plan Sheet and Photos 11-13.
Railing:	6	The west railing consists of 4 channel beams welded to W-flange posts. The posts and beams have light to moderate corrosion. The 2nd post base from abutment 1 has 1 missing/sheared-off nut and 1 loose nut.
Paint:	N	
Fence:	8	There is a chain-link fence attached to the east side of the jersey barrier. There are no notable deficiencies.
Drains:	N	
Lighting Standard:	N	

Overall Utility Condition Rating: 6 - Fair

Utility Type/Size

1 | Gas	There is a 24" diameter utility pipe supported by brackets mounted to the east fascia. The support plates that are bolted to the fascia have areas of moderate to heavy corrosion. 2 of 3 utility supports are broken and the utility pipe is not properly seated.
2 | Water	Per the plans there is a 12" diameter water main buried in the fill (over deck units 5 and 6) that is not visible.
4 | Telephone	Per the plans there are communication ducts buried in the fill (over deck units 5 and 6) that are not visible.

Construction Joints:	N	
Expansion Joint:	N	

Haunches Present over travelway? NO

APPROACH CONDITION:

Bituminous concrete pavement. Overall Rating: 5

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Rating

Approach Slab:	N	
Relief Joints:	N	
Approach Guide Rail:	5	The northwest approach rail is 2-cable guide rail on timber posts. The timber posts are leaning and the cables are loose. Along the east side, there is a continuous jersey barrier across the bridge. The jersey barrier is bolted to the sidewalk. The northeast approach has a jersey barrier placed at a 90º angle to the bridge rail. The southeast approach has a jersey barrier with a single metal beam guide rail attached. The jersey barrier and metal beam guide rail have isolated scrapes, spalls up to 1' long x 6" high x 3" deep and hairline cracks, as well as minor collision damage to one rail at the intersection. The southwest approach has no approach guide rail. See Roadway Plan Sheet and Photo 19.
Approach Pavement:	5	The approach pavements have random transverse and longitudinal cracks up to 1-1/2" wide. Longitudinal paving seams are open up to 2". The southeast approach sidewalk at the east edge has a 3' long x 2' wide section that is missing and the remaining portion is undermined up to 8" deep due to erosion. The area that is undermined is beneath the jersey barrier. See Roadway Plan Sheet and Photos 6 and 7.
Approach Embankment:	6	The southeast approach embankment has a 4' long x 3' wide x 2' deep eroded area that undermines the approach sidewalk/jersey barrier.

Trafic Safety Features

Bridge Railings:	0	Open bridge rail.
Transitions:	0	The 2-cable rail at the northwest approach is not connected to the bridge rail. The metal beam guide rail at the southeast approach does not have blockouts and is not stiffened.
Approach Guardrails:	0	2-cable guide rail on timber posts at the northwest approach. Metal beam guide rail with no blockouts and is not stiffened at the southeast approach. There is no approach rail at the southwest approach. The northeast approach rail (jersey barrier perpendicular to bridge rail) has a blunt end in the clear zone.
Approach Guardrail Ends:	0	The metal beam guide rail and 2-cable guide rail are continuous with adjacent side streets.

59. SUPERSTRUCTURE:

The original structure has concrete encased steel beams (east half). The roadway was widened in 1957 and the newer portion (west half) consists of prestressed concrete deck units. There is a 5' wide masonry arch section at the east fascia and between girder 5 and the prestressed deck units in span 1 and between girders 5 and 6 in span 2.

Overall Rating: 5

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	Rating	
Bearing Devices:	6	Premolded joint filler for the deck units is squeezed out at random locations. Steel girder bearings are not visible.
Stringers:	6	Concrete encased steel beams rated here. Span 1 has 5 concrete encased beams and span 2 has 9 concrete encased beams. Span 1 girders 1 and 4 and span 2 girder 2 at the pier have up to 3' long hairline cracks with efflorescence or rust staining. Span 2 girder 3 at pier, concrete encasement has 2' long x 1' wide hollow area with efflorescence. Span 2 girder 4 encasement at the pier has a 1' long horizontal hairline crack with rust stains. Span 2 girder 5 west side encasement has a hollow corner at the bottom flange 10'± long x 4" wide. Span 2 girder 6 east edge has random areas of scale up to 2" deep. Span 2 girder 7 concrete encasement has (2) spalls up to 10' long x 1' wide with exposed beam with light corrosion. Span 2 girder 8 concrete encasement has a 4' long spall with rust staining. Span 2 girder 9 has spalled concrete encasement up to 85% of the beam length with exposed beam with moderate corrosion and pitting up to 1/16" deep and random horizontal and vertical cracks on the remaining concrete encasement.
Girders:	6	Prestressed concrete deck units rated here. The prestressed concrete deck units in both spans have isolated areas of efflorescence leakage between units and minor chips at the edges. In span 1 there is evidence of water leakage between units 9 and 10 at the pier (±10' long).
Floor Beams:	5	Arch sections rated here. The east arch (arch 1) is concrete. In both spans, the east fascia has spalls and heavy scaling up to full length x full height x up to 4" deep with exposed reinforcement. The arch face over the pier has a 5-1/2' long x 2' high x 2" deep spall with exposed reinforcement with up to 100% section loss. The arch underside has random cracks up to 1/8" with heavy efflorescence. The west arch (arch 2) between girder 5 and the prestressed deck units in span 1 and between girders 5 and 6 in span 2 is masonry block with a concrete skim coat. The arch has spalls and scaling in the concrete skim coat, random hairline cracks with heavy efflorescence, random mortar loss up to 20% with up to 18" deep joint penetration, and active leakage. There are isolated voids in joints between masonry blocks up to 2.1' wide x 1' high x 1-1/2' deep. At the south elevation of the pier, there is a block with a 2' long vertical crack up to 1/4" wide (located 2.2' above the footing) and a 2' long section of the joint is open up to 3/4" wide (full depth). See Underside of Deck, Abutments 1 and 2 and Pier 1 North and South Elevation Sheets and Photos

		15-17, 27 and 28.
Trusses - General:	N	
Trusses - Portals:	N	
Trusses - Bracing:	N	
Paint:	N	
Rust:	7	The exposed steel beams in span 2 have light to moderate corrosion.
Machinery Movable Span:	N	
Rivets & Bolts:	N	
Welds - Cracks:	N	
Timber Decay:	N	
Concrete Cracking:	5	See "Stringers" and "Floor Beams" above.
Collision Damage:	8	
Member Alignment:	8	
Deflection Under Load:	N	(N) Normal (E) Excessive
Vibration Under Load:	N	(N) Normal (E) Excessive
Stand Pipes:	N	
Catwalks:	N	
Movable Inspection System:	N	
Barrel Ladders:	N	

Are Barrel Ladders OSHA Compliant? NA

60. SUBSTRUCTURE:

Abutment 1 is reinforced concrete. Abutment 2 is reinforced concrete and stone masonry. The pier central portion is stone masonry and remaining portions are reinforced concrete. The wingwalls are reinforced concrete.

Overall Rating: 5

Rating

Abutments - Stem:	5	The abutment stems have a band of moderate scale, hairline cracks, mapcracking with efflorescence and delaminations throughout. There are isolated vertical cracks up to 1/8" wide with efflorescence at both abutments. The footing is exposed at both abutments. Abutment 1 exhibits spalls up to 1-1/2' high x 1-1/2' wide x 4" deep. At the interface with the west arch (arch 2), abutment 1 stem has a 1/2" gap in the construction joint. Abutment 1 has an area of severe scale 10' long x 3' high x up to 4" deep starting at arch 2 and extending west. Abutment 2 has spalls up to 3.0' high x 7" wide x 5" deep. At the east end of abutment 2 stem there is a 3 square foot area of punky concrete with heavy efflorescence. A central portion of abutment 2 is stone masonry. The masonry at arch 2 has up to 90% mortar loss and 1' penetration. The masonry throughout the abutment 2 stem has up to 50% mortar loss and 1' penetration.

		Arch 2 at abutment 2 has a void 2.4' long x 7" high x up to 10" deep. Abutment 2 has an area of severe scale 5.6' long x 6" high x up to 8" deep approximately at the centerline of the bridge. See Abutments 1 and 2 Sheets and Photos 27-29, 32 and 34.
Abutments - Backwall:	N	
Abutments - Footings:	6	Abutment 1 footing is exposed extending from the east end 55'± long x 2'-3' wide x up to 1.1' high. Abutment 2 footing is exposed extending from the east end 55'± long x 2'-3' wide x up to 3.2' high. Exposed footings at both abutments exhibit scale up to 1-1/2" deep. At the east end of abutment 2 footing, there is a 12' long x up to 6" high x 8" deep void. Exposed sheet piling at both abutments have heavy surface corrosion.
Abutments - Settlement:	6	Abutment 1 east end has a 5' long horizontal hairline crack with efflorescence and water infiltration and a hairline to 1/16" wide full height vertical crack near the roadway centerline. Abutment 2 has a 6" long diagonal hairline to 1/8" wide crack at the east end with heavy efflorescence and a full height vertical hairline to 1/16" crack wide at the west end.
Abutments - Wingwalls:	5	The reinforced concrete wingwalls have moderate scale, isolated hollow areas and shallow spalls with light efflorescence. Wingwall 1B has scale up to 1" deep with efflorescence and water infiltration at the southeast end. The top of the Wingwall 1B has a 12' long x 2' high x 4"-9" deep spall/scale with exposed vertical reinforcement. Wingwall 1B has a full length by 2' high hollow area with isolated spalls up to 2" deep. Wingwall 1B has full height cracks up to 1/8" wide with efflorescence, intermittent mapcracking and delaminations. The top of the Wingwall 2B has a 12' long x 2' high x 4"-9" deep spall/scale. Wingwall 2B has vertical and horizontal hairline cracks with efflorescence. See Plan, Abutments 1 and 2 Sheets and Photos 2 and 33.
Piers/Bents - Caps:	5	The concrete portions of the pier have random hairline cracks and moderate scale extending from elevation -7.0' to the mudline with intermittent areas of honeycombing to 1/2" deep. A central portion of the pier is stone masonry. The masonry portions have areas of mortar loss up to 70% with up to 1' penetration. The west nose of the pier has a band of scale with intermittent honeycombing up to 2" deep. The south elevation, east end has an area of mapcracking with hollow areas up to 6-1/2' long x 3-1/2' high and a spall 2' high x 1' wide x 3" deep. The south elevation near the roadway centerline has an area of scale 12' long x 2.0' high x up to 7" deep and a missing stone 1-1/2' high x 4" wide x 1.3' deep. The south pier stemwall has a spall 2' high x 1-1/2' wide x 6" deep adjacent to arch 2 at the top of the wall and two areas of severe scale up to 0.8' wide x 3' high x 3" deep in the tidal zone.

		Arch 2 at the south pier stemwall has a 2' long x 1-1/2' high broken stone 2.2' above the footing. The north elevation east end has random spalls up to 2' long x 0.3' high x 2-1/2" deep with heavy efflorescence. Where arch 2 meets the north elevation of the pier there is a concrete wall/repair; the wall has an area 7' long x 3.7' high with mapcracking up to 1/8" wide, spalls to 1" deep and heavy efflorescence. The two upper corners of the wall have spalls up to 2-1/2' wide x 1-1/2' high x 10" deep. The north pier wall has an area of severe scale 3' long x 1-1/2' high x 3" deep starting approximately at the centerline of the bridge in the tidal zone. See Pier 1 North and South Elevation Sheets and Photos 30, 31 and 35-37.
Piers/Bents - Pile Bent:	N	
Piers/Bents - Columns:	N	
Piers/Bents - Footings:	6	The pier footing is exposed 55'± long along both elevations. The exposed footing has up to 3" deep scale. Exposed sheet piling has heavy surface corrosion.
Piers/Bents - Settlement:	7	The substructure units have isolated cracks up to 1/8" wide with efflorescence.
Erosion - Scour:	5	The sounding grid has shown a history of minor fluctuations (less than 2') throughout the channel since the 2001 Inspection. The greatest isolated degradation during the 2018 Inspection was 0.7' at the centerline and west end of abutment 1. The greatest isolated aggradation was 2.7' at the west end of abutment 2. The footings at all substructure units are exposed for 55'± extending from the east end. Footings are exposed up to 1.1' high (2016: 0.9') at abutment 1, up to 3.2' high (2016: 3.0') at abutment 2 and up to 2.3' high (2016: 2.2') at the pier. The exposed footings on all substructure units are not undermined. Sheet piling is exposed at all substructure units. The exposed sheet piling exhibits heavy corrosion. See Plan, Upstream Profile (West Elevation), Downstream Profile (East Elevation), Abutments 1 and 2 and Pier 1 North and South Elevation Sheets
Concrete Crack - Spall:	5	See above items.
Steel Corrosion:	N	
Paint:	N	
Timber Decay:	N	
Collision Damage:	8	
Debris:	6	There is light timber debris along the west nose of the pier in span 2.

61. CHANNEL AND CHANNEL PROTECTION:

Noroton River is a brackish water body with tidal flow.	Overall Rating:	6

	Rating	
Channel - Scour:	6	Channel bottom consists of riprap, cobbles and soft silt with up to 1.0' penetration into the mudline. Flow is tidal, 1/4 knot at the time of the inspection. The sounding grid has shown a history of negligible fluctuations (less than 2') throughout the channel since the 2001 Inspection. The greatest isolated degradation during the 2018 Inspection was 0.7' at the centerline and west end of abutment 1. The greatest isolated aggradation was 2.7' at the west end of abutment 2. The exposed footings on all substructure units are not undermined.
Embankment - Erosion:	8	
Debris:	6	There is light timber debris along the west nose of the pier in span 2. There is scattered drift and debris throughout the channel.
Vegetation:	8	The banks are well vegetated.
Channel Change:	8	There are no significant lateral changes to the channel. Channel bottom elevations have not significantly changed since the 2016 Inspection. See "Channel-Scour" above.
Fender - System:	N	
Spur Dikes and Jetties:	N	
Rip Rap:	6	There is scattered riprap up to 4' in diameter.

62. CULVERTS AND RETAINING WALLS:

Overall Rating: N

	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	

Form: BRI-18, Rev. 1/14
Inspection type: Routine,Underwater
Inspection Date: 4/03/2018
Inspected by: A. DiCesare Associates

Bridge No: 00315

Town: STAMFORD
Carried: US ROUTE 1
Crossed: NOROTON RIVER
Inventory Route: NHS

Warning At Bridge:		
Legibility:	N	
Visibility:	N	

VERTICAL CLEARANCE POSTING

Min. Vert Under Clearance:		Ft		In	Structure spans a waterway.
Posted Clearence Under Bridge:		Ft		In	
Posted Clearence On Bridge:		Ft		In	
Advanced Warning:	False				
Warning At Bridge:					
Legibility:					
Visibility:					

NOTES / COMMENTS:

Character of Traffic: Light to moderate volume, mixed traffic weights.

Additional Notes:

Bridge ID is on fallen piece of east parapet.
The bridge is inventoried from south to north with girder 1 at the east fascia. The log direction was changed to match the inventory direction of US Route 1.
The inspection should be performed at low tide.
The above water and underwater inspections were performed concurrently.

Additional Comments:

Repair the blunt end of the northeast approach rail.

National Bridge Elements
Inspection type: Routine,Underwater
Inspection Date: 4/03/2018
Inspected by: A. DiCesare Associates

Bridge No: 00315

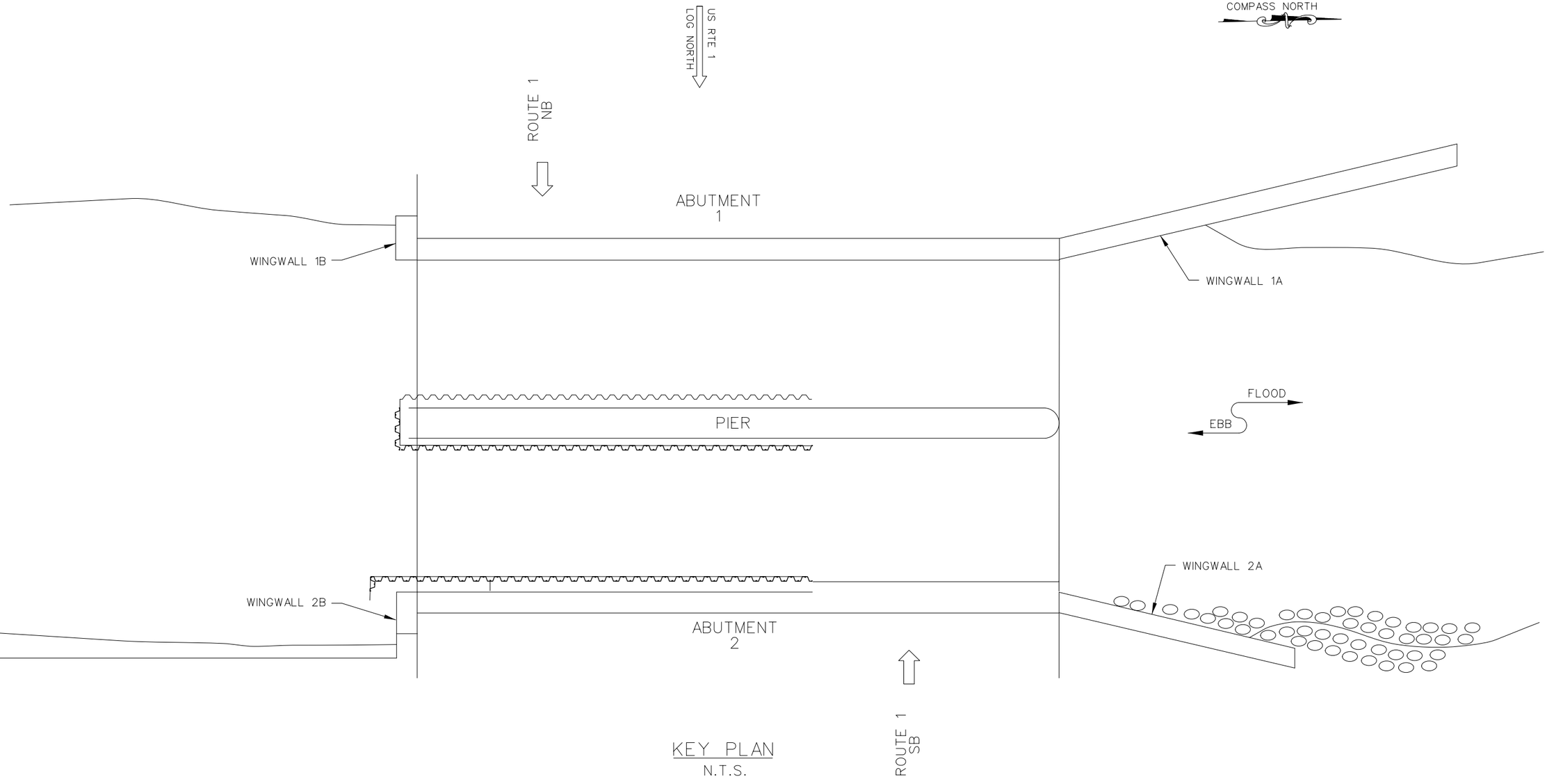
Town: STAMFORD
Carried: US ROUTE 1
Crossed: NOROTON RIVER
Inventory Route: NHS

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
12 - Reinforced Concrete Deck	Mod.	1223	sq. ft.	1184	28	11	0
1080 - Delamination/Spall/Patched Area		12		0	1	11	0
1130 - Cracking (RC and Other)		23		0	23	0	0
1190 - Abrasion/Wear (PSC/RC)		4		0	4	0	0
104 - Prestressed Concrete Closed Web/Box Girder	Mod.	598	ft.	568	30	0	0
1120 - Efflorescence/Rust Staining		30		0	30	0	0
107 - Steel Open Girder/Beam	Mod.	322	ft.	297	25	0	0
1000 - Corrosion		25		0	25	0	0
144 - Reinforced Concrete Arch	Mod.	41	ft.	0	0	41	0
1080 - Delamination/Spall/Patched Area		15		0	0	15	0
1090 - Exposed Rebar		5		0	0	5	0
1120 - Efflorescence/Rust Staining		0		0	0	0	0
1130 - Cracking (RC and Other)		1		0	0	1	0
1190 - Abrasion/Wear (PSC/RC)		20		0	0	20	0
145 - Masonry Arch	Mod.	41	ft.	9	10	22	0
1120 - Efflorescence/Rust Staining		10		0	0	10	0
1610 - Mortar Breakdown (Masonry)		12		0	0	12	0
1620 - Split/Spall (Masonry)		10		0	10	0	0
210 - Reinforced Concrete Pier Wall	Mod.	93	ft.	0	66	27	0
1080 - Delamination/Spall/Patched Area		21		0	7	14	0
1120 - Efflorescence/Rust Staining		14		0	14	0	0
1130 - Cracking (RC and Other)		26		0	26	0	0
1190 - Abrasion/Wear (PSC/RC)		32		0	19	13	0
215 - Reinforced Concrete Abutment	Mod.	197	ft.	51	120	26	0
1080 - Delamination/Spall/Patched Area		41		0	15	26	0
1120 - Efflorescence/Rust Staining		18		0	18	0	0
1130 - Cracking (RC and Other)		45		0	45	0	0
1190 - Abrasion/Wear (PSC/RC)		42		0	42	0	0
330 - Metal Bridge Railing	Mod.	46	ft.	20	25	1	0
1000 - Corrosion		25		0	25	0	0
1020 - Connection		1		0	0	1	0
331 - Reinforced Concrete Bridge Railing	Mod.	46	ft.	30	15	1	0
1080 - Delamination/Spall/Patched Area		11		0	10	1	0
1130 - Cracking (RC and Other)		5		0	5	0	0

UNDERWATER INSPECTION (BRI-59)

Bridge: 00315 Town: 73070 - STAMFORD Carried: US ROUTE 1 Crossed: NOROTON RIVER

Total Number of Piers:	1
Piers in the Water:	1
Boat Used?	No
Boat Size:	N/A
Dive Station Used?	No
Access to Bridge:	Shore
Access/ Equipment Comments U/W:	N/A
Type of water:	Brackish
Marine Growth:	Light algae.
Max Water Depth:	4.1'
Max Water Depth at Pier Or Abutment:	4.1'
Current Strength:	1/4 knot tidal
U/W Visibility:	2.0'
Bottom Composition:	Riprap, cobbles and soft silt with up to 1.0' penetration in to the mudline.



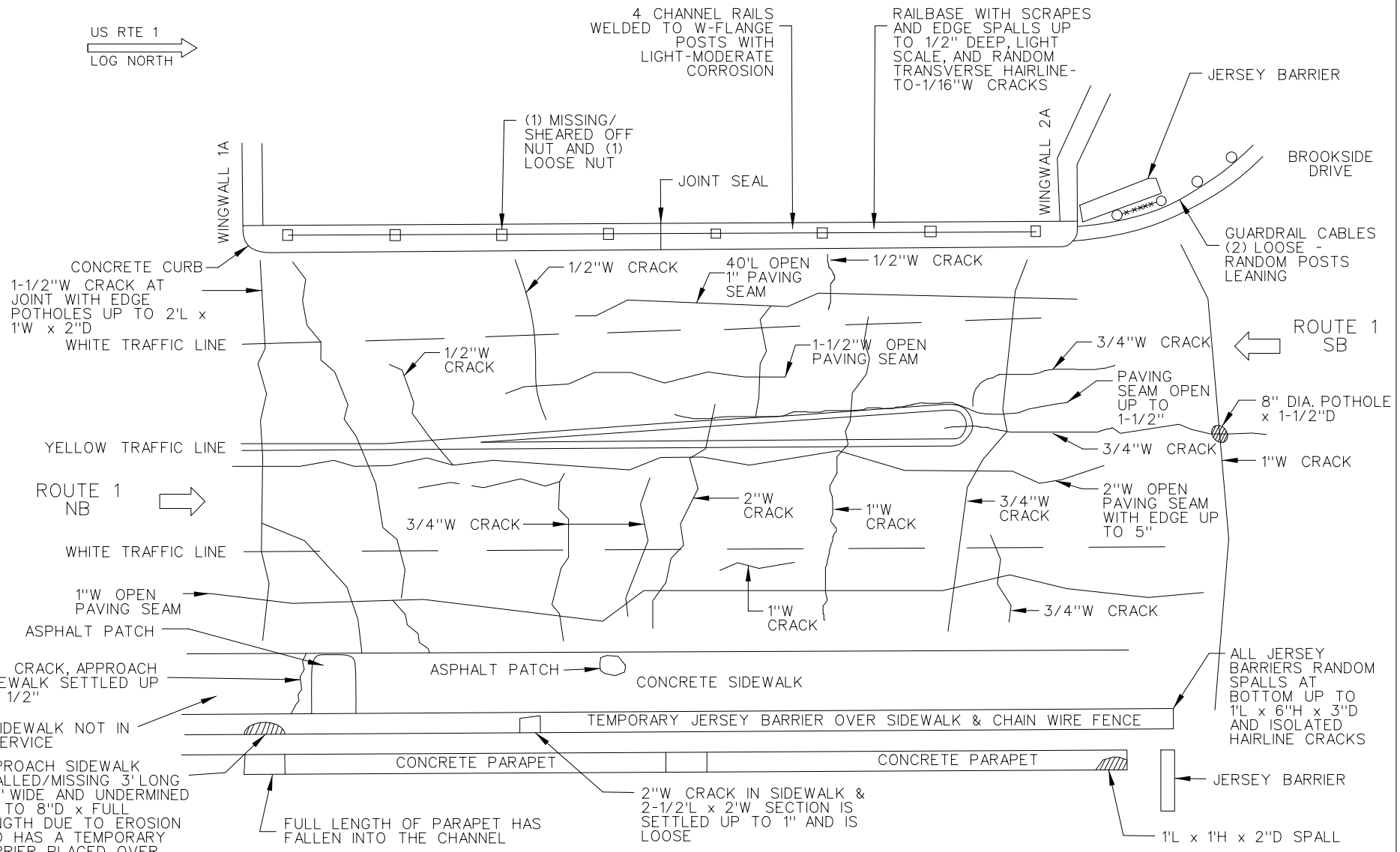
KEY PLAN
N.T.S.

CONNECTICUT DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 00315
US 1 (EAST MAIN STREET) OVER NOROTON RIVER
STAMFORD CONNECTICUT

KEY PLAN

INSPECTED BY: CC REVISED BY: PR	SCALE: AS SHOWN	DATE OF INSPECTION 04/03/18	DRAWING NO. 00315A



ROADWAY PLAN

N.T.S.

NOTES

1. THE PAVEMENT AT THE BRIDGE EXHIBITS LONGTIDUINAL AND TRANSVERSE CRACKS UP TO 1/2" WIDE, RAVELING UP TO 1" DEEP, AND RANDOM BITUMINOUS PATCHES.
2. APPROACH PAVEMENT HAS RANDOM TRANSVERSE AND LONGITUDINAL CRACKS UP TO 1-1/2" WIDE AND LONGITUDINAL PAVING SEAMS OPEN UP TO 2".
3. EAST SIDEWALK EXHIBITS LIGHT SCALE AND ISOLATED TRANSVERSE CRACKS UP TO 2"W AND UNDERMINING FL x UP TO 8"D.
4. SOUTHEAST APPROACH EMBANKMENT ERODED AREA 4'L x 3'W x 2'D.

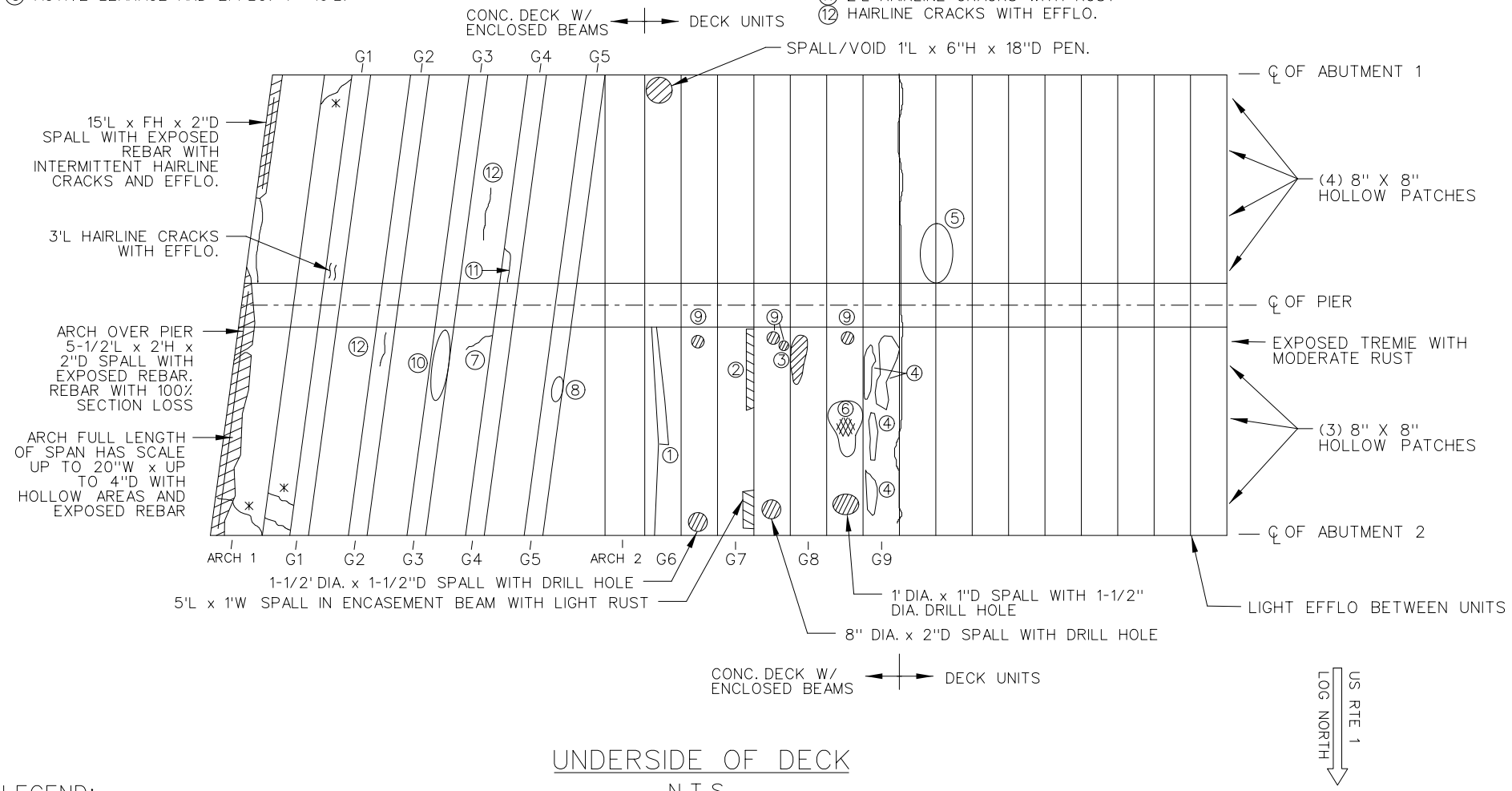
CONNECTICUT DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 00315
US 1 (EAST MAIN STREET) OVER NOROTON RIVER
STAMFORD CONNECTICUT

ROADWAY PLAN

INSPECTED BY: CC REVISED BY: PR	SCALE: AS SHOWN	DATE OF INSPECTION 04/03/18	DRAWING NO. 00315B

① G6 EAST EDGE WITH RANDOM SCALE TO 2" DEEP.
② G7 CONC. ENCASEMENT W/ 10'L x 1'W SPALL EXPOSED BEAM WITH LIGHT RUST.
③ G8 4'L CONC. ENCASEMENT SPALL WITH RUST STAINS.
④ G9 85% OF ENCASEMENT IS SPALLED EXPOSING BOTTOM FLANGE. BOTTOM FLANGE W/ MOD. RUST AND PITTING UP TO 1/16"D.
⑤ ACTIVE LEAKAGE AND EFFLO. +/- 10'L.
⑥ 6' x 3' AREA OF DAMPNESS ON G9 ENCASEMENT W/ 4'L x 1'H HONEYCOMBING
⑦ G4 AT PIER - BASE OF WEB W/ 1'L HORZ. HLC WITH RUST STAINS.
⑧ G5 BOTTOM FLANGE 4" x 3" HOLLOW CORNER WITH HAIRLINE CRACK
⑨ UNDERSIDE WITH SPALL UP TO 1-1/2' DIA. x 2"D WITH DAMPNESS AND EFFLO. AND 1-1/2" DIA. DRILL HOLES.
⑩ 2'L x 1'W HOLLOW AREA WITH EFFLO.
⑪ 2'L HAIRLINE CRACKS WITH RUST
⑫ HAIRLINE CRACKS WITH EFFLO.



UNDERSIDE OF DECK

N.T.S.

LEGEND:

- HOLLOW AREA
- SHALLOW REBAR
- SPALL AREA
- SPALL WITH EXPOSED REBAR
- MAPCRACKS OR HAIRLINE MAPCRACKS
- HAIRLINE MAPCRACKS (HLC) OR CRACKS (CR)
- HONEY COMB AREA
- SCALE AREA (HVY, MED, OR LT)
- ✳ EFFLORESCENCE
- G* CONCRETE ENCASEMENT BEAM No.

NOTES

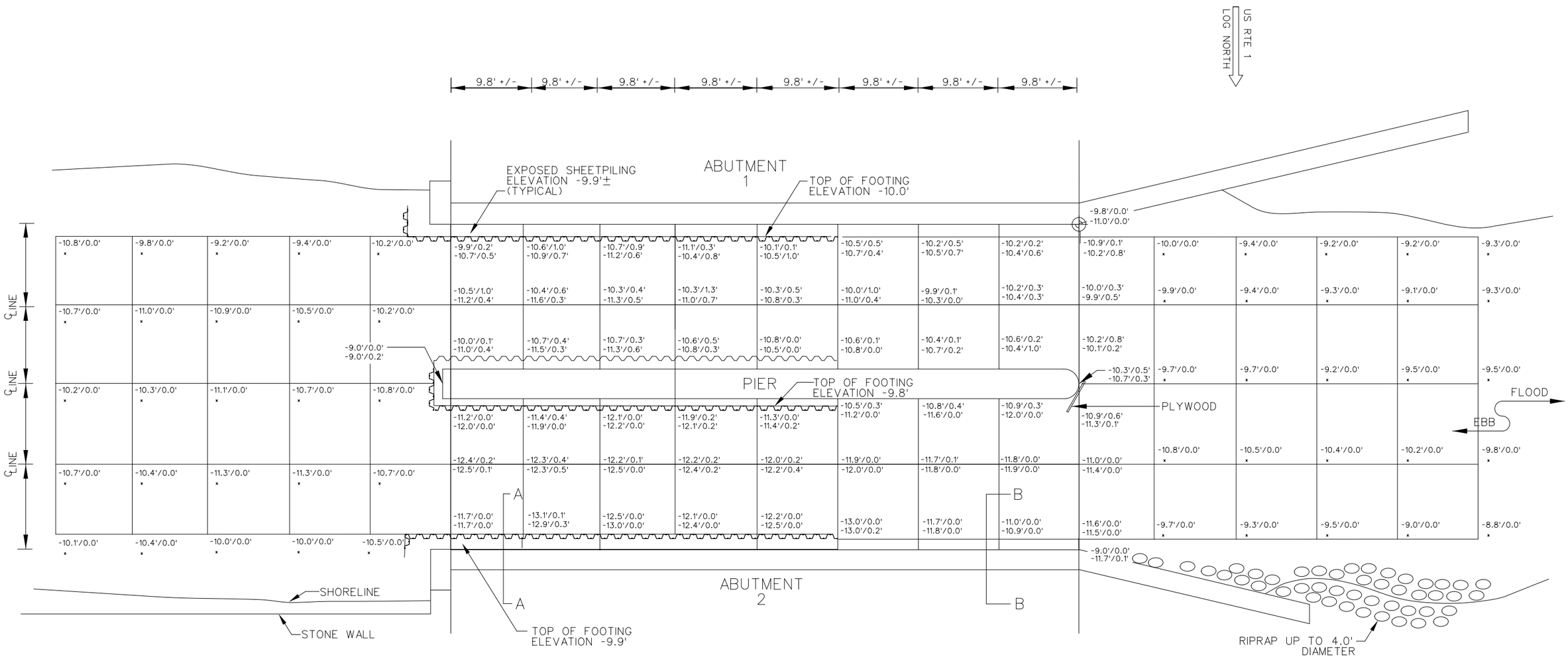
1. ARCHES HAVE RANDOM TRANSVERSE CRACKS TO 1/8" WIDE WITH ACTIVE LEAKAGE (SPAN 2 ONLY), HEAVY EFFLO., SCALE UP TO 3"D AND SPALLS IN SKIM COAT.
2. END DIAPHRAGMS BETWEEN CONC. ENCASED BEAMS HAVE EDGE SPALLS ON THE BASE UP TO 1/2" DEEP.
3. SPALLED CONC. ENCASEMENT FOR G6-G9 WITH RANDOM HAIRLINE CRACK.
4. EFFLO. STAINS ALONG JOINT BETWEEN G1-G5 AND PIER.
5. UNDERSIDE OF DECK HAS ISOLATED AREAS OF MAPCRACING (<2%).
6. ARCHES IN SPAN 2 AT PIER HAVE AREAS OF EFFLO.

CONNECTICUT DEPARTMENT OF TRANSPORTATION

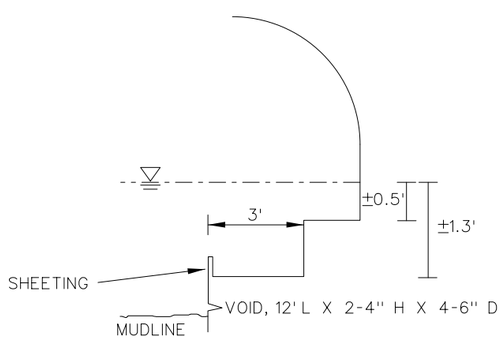
BRIDGE NO. 00315
US 1 (EAST MAIN STREET) OVER NOROTON RIVER
STAMFORD CONNECTICUT

UNDERSIDE OF DECK

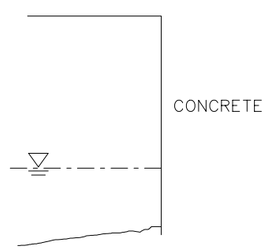
INSPECTED BY: CC REVISED BY: PR	SCALE: AS SHOWN	DATE OF INSPECTION 04/03/18	DRAWING NO. 00315C



PLAN
N.T.S.



SECTION A-A



SECTION B-B

LEGEND FOR SYMBOLS

⊕ DATUM ELEV. 0.0 TAKEN FROM THE BOTTOM OF DECK AT THE SOUTHWEST CORNER.

▽ W.S. ELEV. -9.0'
-9.0'

LEGEND FOR BOTTOM ELEVATIONS

ELEVATION/PENETRATION = -0.0'/0.0'

APR 2018 ⟶ -0.0'/0.0'

MAY 2016 ⟶ -0.0'/0.0'

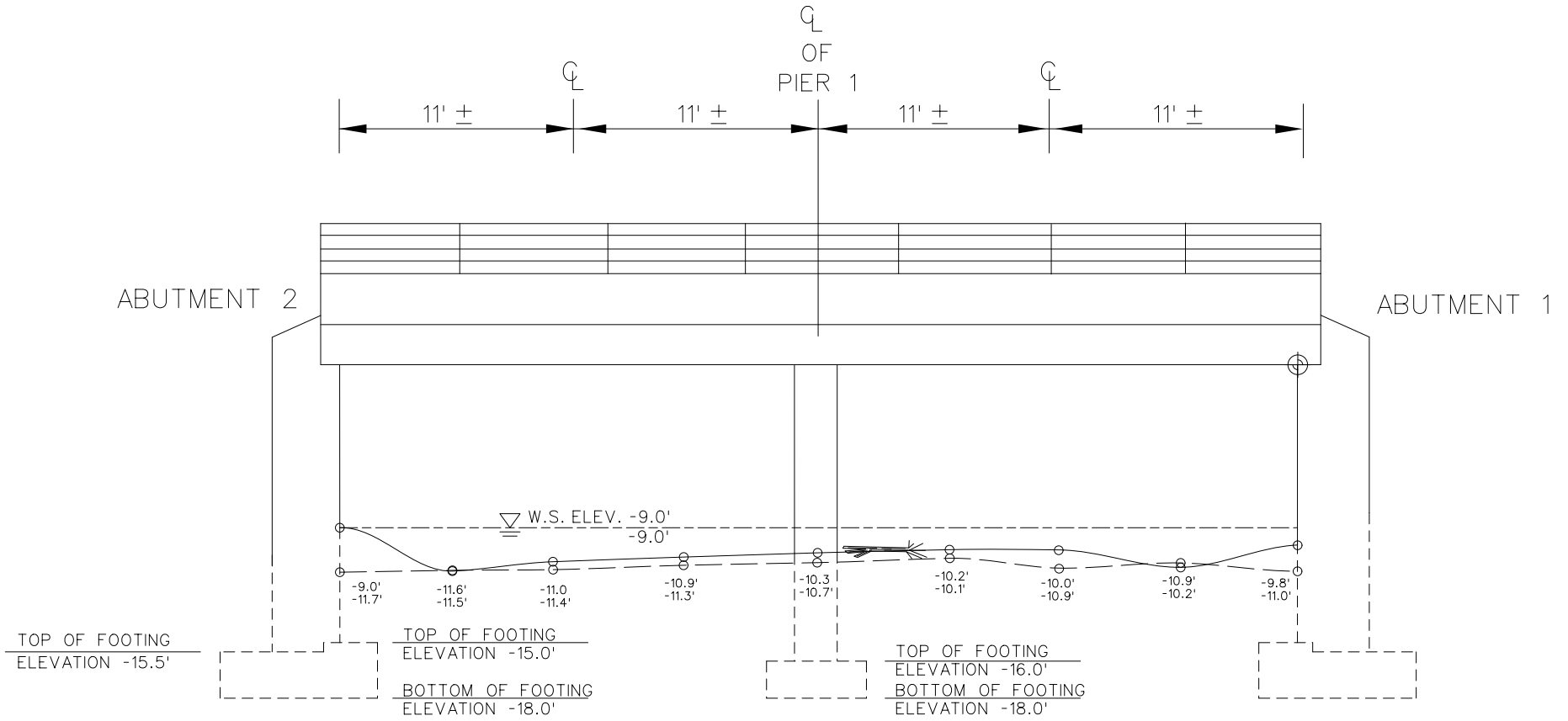
× INDICATES NO INFORMATION

CONNECTICUT DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 00315
US 1 (EAST MAIN STREET) OVER NOROTON RIVER
STAMFORD CONNECTICUT

PLAN

INSPECTED BY: CC REVISED BY: PR	SCALE: AS SHOWN	DATE OF INSPECTION 04/03/18	DRAWING NO. 00315D



UPSTREAM PROFILE (WEST ELEVATION)

N.T.S.

NOTES

1. RANDOM VERTICAL HAIRLINE CRACKS.
2. (12) RANDOM POPOUTS UP TO 2" DIAMETER X 1/2" DEEP.
3. RANDOM AREAS OF DELAMINATED GROUT POCKETS.

LEGEND FOR SYMBOLS

⊕ DATUM ELEV. 0.0 TAKEN FROM THE BOTTOM OF DECK AT THE SOUTHWEST CORNER.

▽ W.S. ELEV. -9.0'
-9.0'

LEGEND FOR BOTTOM ELEVATIONS

ELEVATION = -0.0'

APR 2018 ——→ -0.0'

MAY 2016 ——→ -0.0'

LEGEND FOR MUDLINE ELEVATIONS

——————— APR 2018

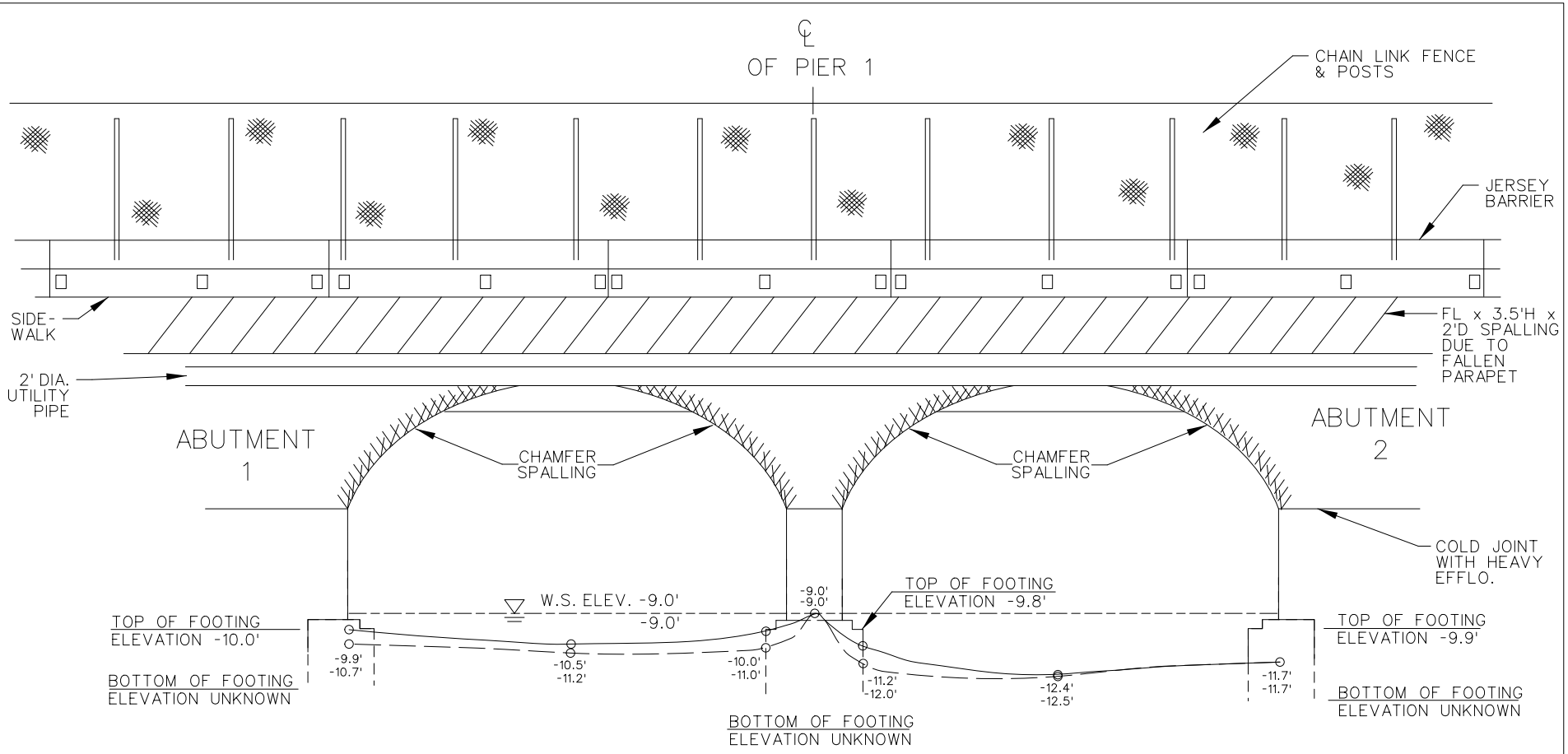
— — — — MAY 2016

CONNECTICUT DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 00315
US 1 (EAST MAIN STREET) OVER NOROTON RIVER
STAMFORD CONNECTICUT

UPSTREAM PROFILE (WEST ELEVATION)

INSPECTED BY: CC REVISED BY: PR	SCALE: AS SHOWN	DATE OF INSPECTION 04/03/18	DRAWING NO. 00315E



DOWNSTREAM PROFILE (EAST ELEVATION)

N.T.S.

NOTES:

1. SCATTERED HAIRLINE MAPCRACKING THROUGHOUT.
2. MODERATE-TO-HEAVY CORROSION OF UTILITY BRACKETS (2 OF 3 UTILITY SUPPORTS ARE BROKEN).
3. SIDEWALK IS UNDERMINED UP TO 8" DEEP DUE TO EROSION.

LEGEND FOR SYMBOLS

⊕ DATUM ELEV. 0.0 TAKEN FROM THE BOTTOM OF DECK AT THE SOUTHWEST CORNER.

▽ W.S. ELEV. -9.0' -9.0'

LEGEND FOR BOTTOM ELEVATIONS

ELEVATION = -0.0'

APR 2018 ——→ -0.0'

MAY 2016 ——→ -0.0'

LEGEND FOR MUDLINE ELEVATIONS

——————— APR 2018

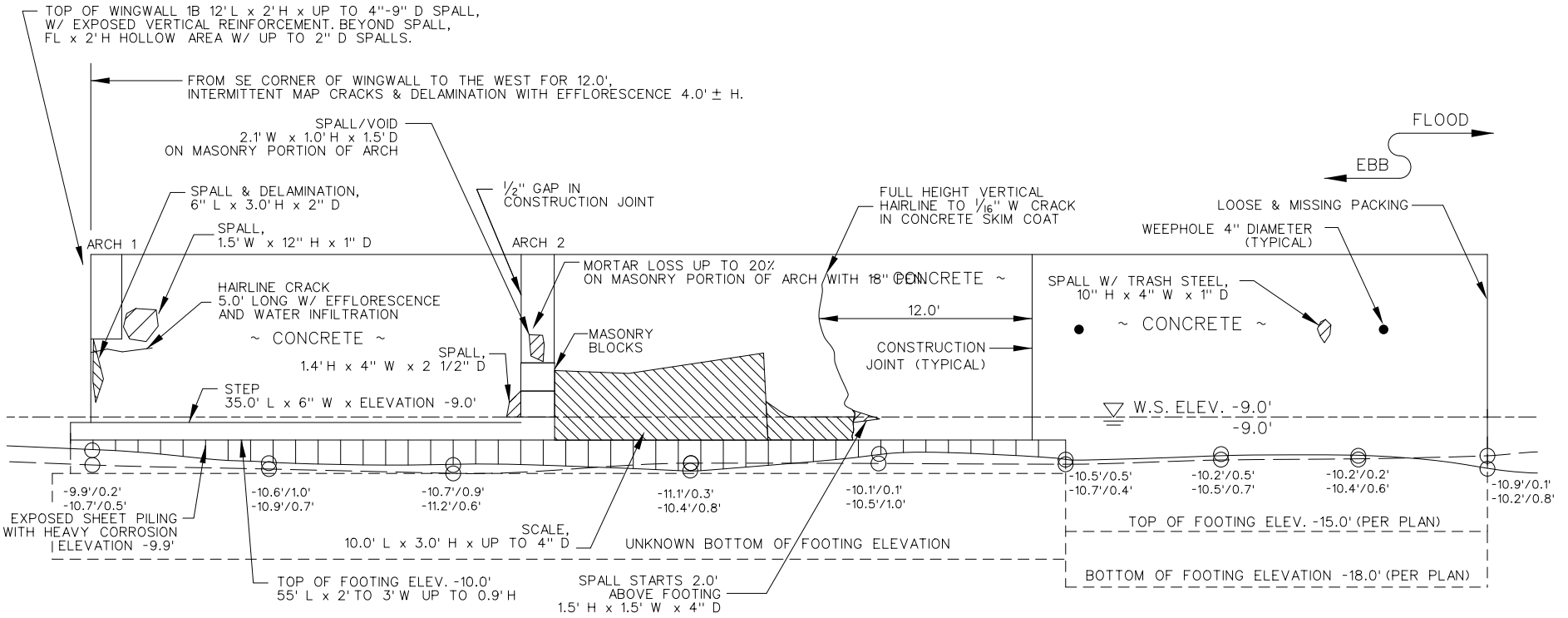
— — — — MAY 2016

CONNECTICUT DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 00315
US 1 (EAST MAIN STREET) OVER NOROTON RIVER
STAMFORD CONNECTICUT

DOWNSTREAM PROFILE (EAST ELEVATION)

INSPECTED BY: CC REVISED BY: PR	SCALE: AS SHOWN	DATE OF INSPECTION 04/03/18	DRAWING NO. 00315F



NOTES

1. BAND OF UP TO 1.5" D SCALE FROM ELEV. -7.0' TO THE MUDLINE.
2. INTERMITTENT HAIRLINE CRACKS, MAP CRACKING, AND DELAMINATIONS THROUGHOUT.
3. WINGWALLS HAVE UP TO 1" D SCALE AND DELAMINATIONS AND SPALLS, WITH LIGHT EFFLORESCENCE.
4. WINGWALL 1B HAS A FULL HEIGHT 1/8" WIDE CRACK WITH EFFLORESCENCE STARTING 5' SOUTH OF ABUTMENT 1. ADJACENT CONCRETE EXHIBITS A 10' H x 1' W x 1" D AREA OF SPALLING AND DELAMINATION.
5. HORIZONTAL CRACK 7' L x HL TO 1/8" W AT WINGWALL 1B 3' ABOVE MUDLINE WITH LIGHT EFFLORESCENCE.

ABUTMENT 1
N.T.S.

LEGEND FOR SYMBOLS

- DATUM ELEV. 0.0 TAKEN FROM THE BOTTOM OF DECK AT THE SOUTHWEST CORNER.
- W.S. ELEV. -9.0' / -9.0'

LEGEND FOR BOTTOM ELEVATIONS

ELEVATION/PENETRATION = -0.0'/0.0'

APR 2018 → -0.0'/0.0'

MAY 2016 → -0.0'/0.0'

LEGEND FOR MUDLINE ELEVATIONS

APR 2018

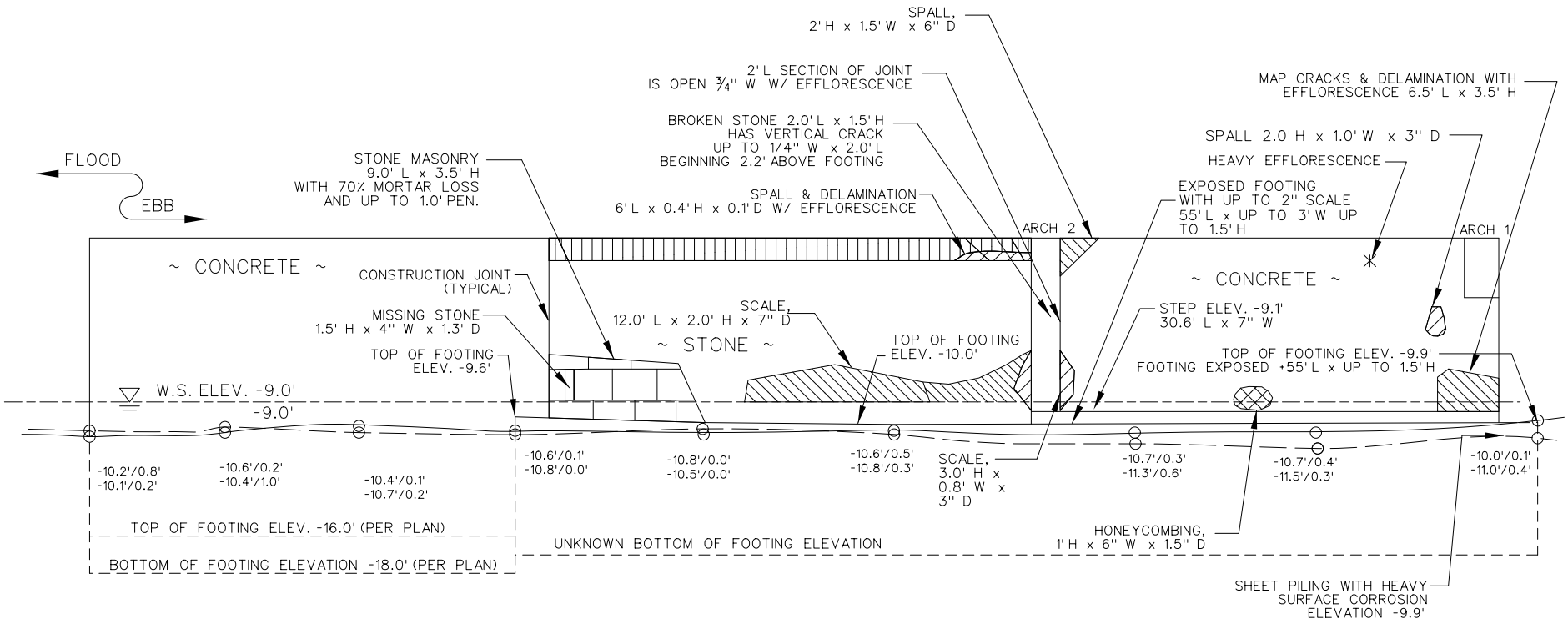
MAY 2016

CONNECTICUT DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 00315
US 1 (EAST MAIN STREET) OVER NOROTON RIVER
STAMFORD CONNECTICUT

ABUTMENT 1

INSPECTED BY: CC REVISED BY: PR	SCALE: AS SHOWN	DATE OF INSPECTION 04/03/18	DRAWING NO. 00315G



PIER 1 (SOUTH ELEVATION)
N.T.S.

NOTES

1. SCATTERED HAIRLINE CRACKS THROUGHOUT.
2. BAND OF UP TO 1" D SCALE FROM ELEV. -7.0' TO MUDLINE WITH INTERMITTENT UP TO 1/4" D HONEYCOMBING.
3. SCATTERED DRIFT AND DEBRIS THROUGHOUT CHANNEL.
4. EXPOSED FOOTING HAS SCALE UP TO 3" DEEP.

LEGEND FOR SYMBOLS

- DATUM ELEV. 0.0 TAKEN FROM THE BOTTOM OF DECK AT THE SOUTHWEST CORNER.
- W.S. ELEV. -9.0' / -9.0'

LEGEND FOR BOTTOM ELEVATIONS

ELEVATION/PENETRATION = -0.0'/0.0'

APR 2018 ——► -0.0'/0.0'

MAY 2016 ——► -0.0'/0.0'

LEGEND FOR MUDLINE ELEVATIONS

——————— APR 2018

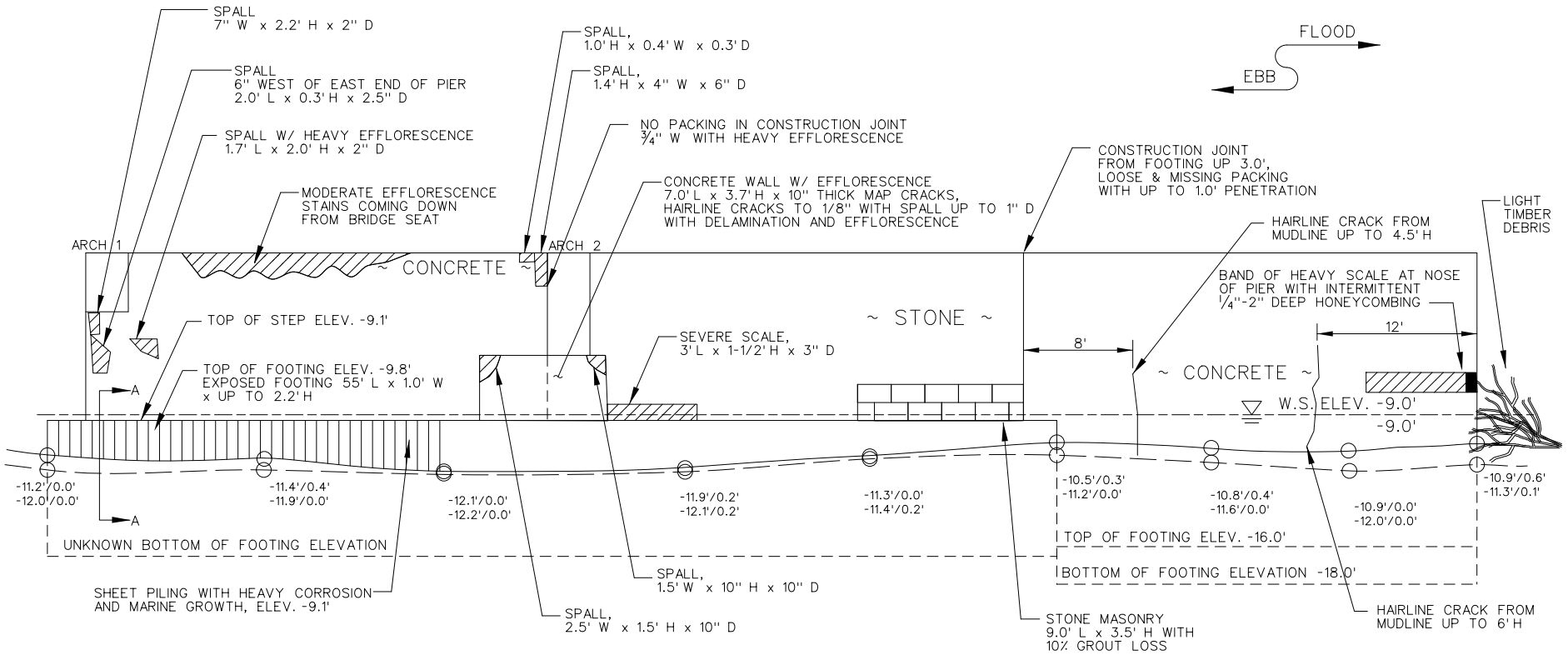
— — — — MAY 2016

CONNECTICUT DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 00315
US 1 (EAST MAIN STREET) OVER NOROTON RIVER
STAMFORD CONNECTICUT

PIER 1 (SOUTH ELEVATION)

INSPECTED BY: CC REVISED BY: PR	SCALE: AS SHOWN	DATE OF INSPECTION 04/03/18	DRAWING NO. 00315H



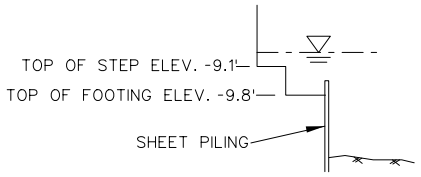
NOTES

1. SCATTERED HAIRLINE CRACKS THROUGHOUT.

2. BAND OF UP TO ½" D SCALE FROM -7.0' TO THE MUDLINE, WITH INTERMITTENT ¼" - ½" D HONEYCOMBING.

PIER 1 (NORTH ELEVATION)

N.T.S.



SECTION A-A

LEGEND FOR SYMBOLS

DATUM ELEV. 0.0 TAKEN FROM THE BOTTOM OF DECK AT THE SOUTHWEST CORNER.

W.S. ELEV. -9.0'
-9.0'

LEGEND FOR BOTTOM ELEVATIONS

ELEVATION/PENETRATION = -0.0'/0.0'

APR 2018 ——→ -0.0'/0.0'

MAY 2016 ——→ -0.0'/0.0'

LEGEND FOR MUDLINE ELEVATIONS

——————— APR 2018

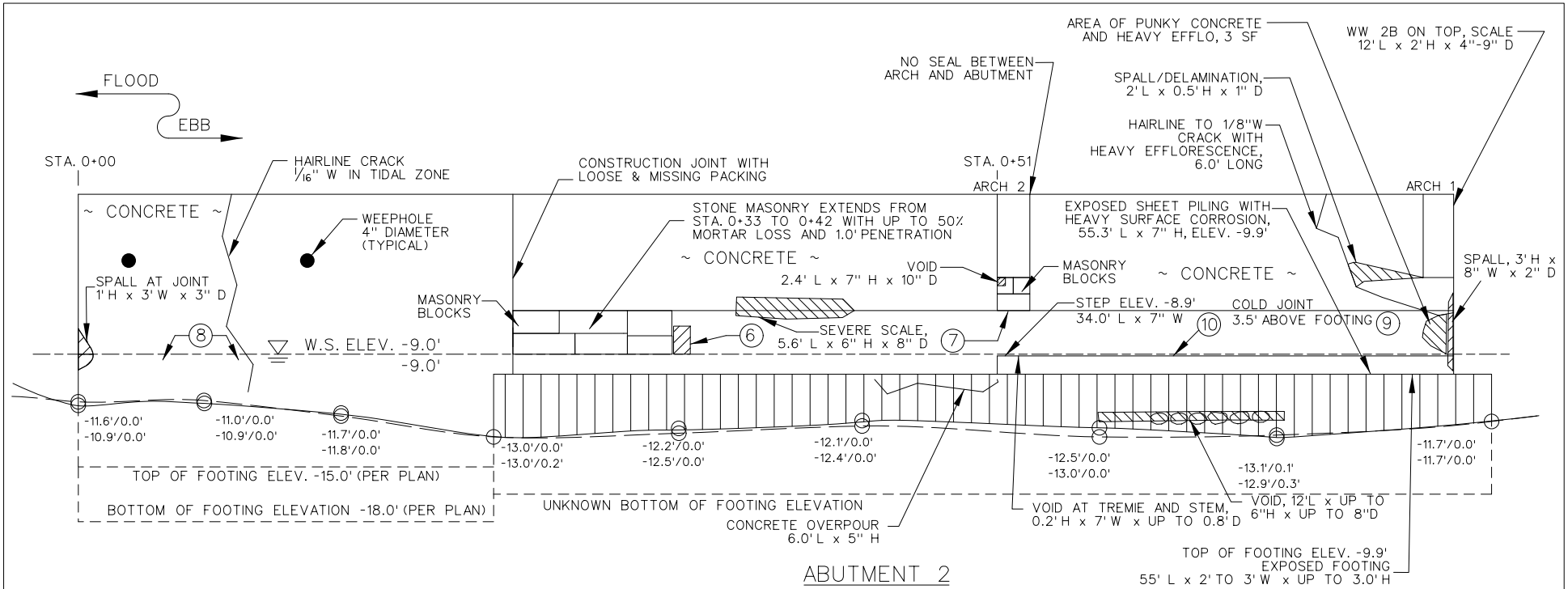
— — — — MAY 2016

CONNECTICUT DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 00315
US 1 (EAST MAIN STREET) OVER NOROTON RIVER
STAMFORD CONNECTICUT

PIER 1 (NORTH ELEVATION)

INSPECTED BY: CC REVISED BY: PR	SCALE: AS SHOWN	DATE OF INSPECTION 04/03/18	DRAWING NO. 00315I



ABUTMENT 2
N.T.S.

NOTES

1. WINGWALL 2B HAS SEVERE SCALE, SPALLS AND CRACKS WITH EFFLORESCENCE.
2. STEM HAS INTERMITTENT HAIRLINE CRACKS, MAP CRACKING, AND DELAMINATIONS.
3. FOOTING ELEVATIONS WERE FIELD MEASURED.
4. CHAMFER SPALLS UP TO 2" D WITH EFFLORESCENCE ON WINGWALL 2B COLD JOINT.
5. VERTICAL AND HORIZONTAL HAIRLINE CRACKS WITH EFFLORESCENCE ON WINGWALL 2B.

⑥ SPALL 3.0' H x 7" W x 5" D.

⑦ AREA WITH 90% MORTAR LOSS BETWEEN STONE AND CONCRETE WITH 1.0' PENETRATION.

⑧ FROM ELEV. -7.0' DOWN TO MUDLINE, UP TO 1/2" D SCALE AND UP TO 1.5" D HONEYCOMBING.

⑨ UP TO 1.5" D SCALE FROM ELEV. -7.0' TO MUDLINE.

⑩ 12' WEST OF E. FASCIA HORZ. VOID IN FACE OF STEP 2.0' W x 3" H x 3" D.

LEGEND FOR BOTTOM ELEVATIONS

ELEVATION/PENETRATION = -0.0'/0.0'

APR 2018 ⟶ -0.0'/0.0'
MAY 2016 ⟶ -0.0'/0.0'

LEGEND FOR MUDLINE ELEVATIONS

APR 2018
MAY 2016

LEGEND FOR SYMBOLS

⊕ DATUM ELEV. 0.0 TAKEN FROM THE BOTTOM OF DECK AT THE SOUTHWEST CORNER.

▽ W.S. ELEV. -9.0' -9.0'

CONNECTICUT DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 00315
US 1 (EAST MAIN STREET) OVER NOROTON RIVER
STAMFORD CONNECTICUT

ABUTMENT 2

INSPECTED BY: CC REVISED BY: PR	SCALE: AS SHOWN	DATE OF INSPECTION 04/03/18	DRAWING NO. 00315J

Form: Asset Photos
Inspection type: Routine,Underwater
Inspection Date: 4/03/2018
Inspected by: A. DiCesare Associates

Bridge No: 00315

Town: STAMFORD
Carried: US ROUTE 1
Crossed: NOROTON RIVER
Inventory Route: NHS

Photo Number: 1 Photo Taken: 04/03/2018

Bridge identification number on fallen piece of east parapet.

Photo Number: 2 Photo Taken: 04/03/2018

West (upstream) elevation.

Form: Asset Photos
Inspection type: Routine,Underwater
Inspection Date: 4/03/2018
Inspected by: A. DiCesare Associates

Bridge No: 00315

Town: STAMFORD
Carried: US ROUTE 1
Crossed: NOROTON RIVER
Inventory Route: NHS

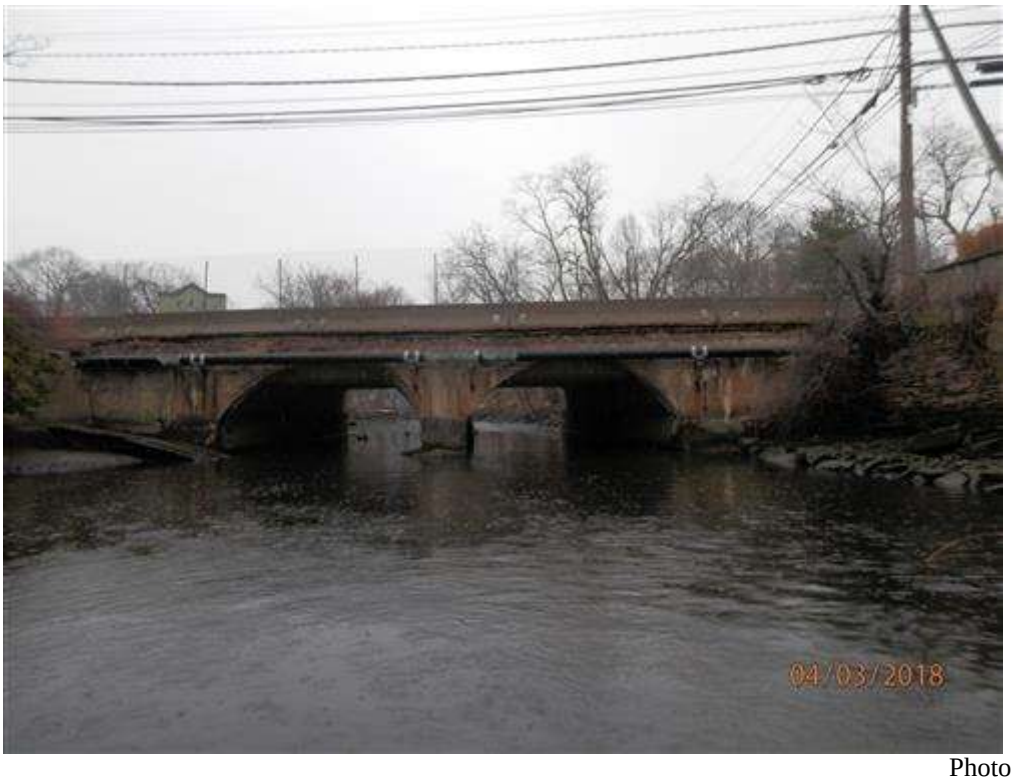


Photo Number: 3 Photo Taken: 04/03/2018

East (downstream) elevation.

Photo Number: 4 Photo Taken: 04/03/2018

Bridge from south approach.

Form: Asset Photos
Inspection type: Routine,Underwater
Inspection Date: 4/03/2018
Inspected by: A. DiCesare Associates

Bridge No: 00315

Town: STAMFORD
Carried: US ROUTE 1
Crossed: NOROTON RIVER
Inventory Route: NHS

Photo Number: 5 Photo Taken: 04/03/2018

South approach from bridge.

Photo Number: 6 Photo Taken: 04/03/2018

Bridge from north approach.

Form: Asset Photos
Inspection type: Routine,Underwater
Inspection Date: 4/03/2018
Inspected by: A. DiCesare Associates

Bridge No: 00315

Town: STAMFORD
Carried: US ROUTE 1
Crossed: NOROTON RIVER
Inventory Route: NHS

Photo Number: 7 Photo Taken: 04/03/2018

North approach from bridge.

Photo Number: 8 Photo Taken: 04/03/2018

Typical top of deck, looking east.

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Inventory Route: NHS

Photo Number: 9 Photo Taken: 04/03/2018

Top of deck at abutment joint, looking west. Note potholes and full width cracks.

Photo Number: 10 Photo Taken: 04/03/2018

Top of deck at abutment 2 joint, looking west. Note full width crack.

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Photo Number: 11 Photo Taken: 04/03/2018

Concrete jersey barrier and chain link fence blocks access to deteriorated east sidewalk and fallen east parapet.

Photo Number: 12 Photo Taken: 04/03/2018

East sidewalk is cracked, settled and loose. Note access to east sidewalk is blocked by jersey barrier and chain link fence.

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Photo Number: 13 Photo Taken: 04/03/2018

East fascia, looking north. Note missing parapet and heavy deterioration with undermining of sidewalk.

Photo Number: 14 Photo Taken: 04/03/2018

East fascia utility pipe bracket broken and utility pipe not seated properly.

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Photo Number: 15 Photo Taken: 04/03/2018

Span 1 east fascia arch exhibits heavy deterioration and spalls with exposed rebar.

Photo Number: 16 Photo Taken: 04/03/2018

Underside of span 1 east fascia. revealing spalls and exposed rebar.

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Photo Number: 17 Photo Taken: 04/03/2018

Span 2, east fascia arch exhibiting heavy scale with hollow areas and exposed rebar.

Photo Number: 18 Photo Taken: 04/03/2018

West bridge railing. Note base plate bolt is sheared.

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Photo Number: 19 Photo Taken: 04/03/2018

2 Cable guide rail at northwest approach. Both cables are loose and timber posts leaning.

Photo Number: 20 Photo Taken: 04/03/2018

Typical underside of span 1, west portion (prestressed concrete deck unit).

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Photo Number: 21 Photo Taken: 04/03/2018

Typical underside of span 2, west portion (prestressed concrete deck unit).

Photo Number: 22 Photo Taken: 04/03/2018

Typical underside of concrete deck and concrete encased steel beams at span 1, east portion.

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Photo Number: 23 Photo Taken: 04/03/2018

Joint between deck units 9 and 10 in Span 1 at pier. Note evidence of leakage and efflorescence.

Photo Number: 24 Photo Taken: 04/03/2018

Underside of deck between girders 8 and 9 in span 2 near abutment 2. Note spall with drill hole.

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Photo Number: 25 Photo Taken: 04/03/2018

Span 2, girder 9 at midpsan with spall in concrete encasement and exposed flange of steel girder.

Photo Number: 26 Photo Taken: 04/03/2018

Span 2, girder 5 near pier exhibiting a hollow corner and hairline cracks with rust.

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Photo Number: 27 Photo Taken: 04/03/2018

Span 2, arch 2 near abutment 2 with scaling, spalls and efflorescence.

Photo Number: 28 Photo Taken: 04/03/2018

Span 1, arch 2 at abutment 1 exhibiting end spall with penetration.

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Photo Number: 29 Photo Taken: 04/03/2018

Abutment 1.

Photo Number: 30 Photo Taken: 04/03/2018

South elevation of pier.

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Photo Number: 31 Photo Taken: 04/03/2018

North elevation of pier.

Photo Number: 32 Photo Taken: 04/03/2018

Abutment 2.

Form: Asset Photos
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Photo Number: 33 Photo Taken: 04/03/2018

Wingwall 1B.

Photo Number: 34 Photo Taken: 04/03/2018

Abutment 1 stem with heavy scale in tidal zone.

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Photo Number: 35 Photo Taken: 04/03/2018

Pier south elevation with heavy scale and spalls in tidal zone.

Photo Number: 36 Photo Taken: 04/03/2018

Pier south elevation with void at interface between concrete and masonry sections.

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Photo Number: 37 Photo Taken: 04/03/2018

Pier north elevation at arch 2 buttress with heavy scale.

Photo Number: 38 Photo Taken: 04/03/2018

Typical exposed step and tremie.

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Photo Number: 39 Photo Taken: 04/03/2018

Span 1 east channel with parapet laying in water.

Photo Number: 40 Photo Taken: 04/03/2018

Channel looking upstream (west).

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Photo Number: 41 Photo Taken: 04/03/2018

Channel looking downstream (east).