

# Highway Bridge Inspection Report

BR# 6349

## SWANS ISLAND FERRY SLIP

SA #5

Over

Mackerel Cove

Town:

Swans Island



Inspection Date: 07/09/2019

Inspected By: Edwards, Carl

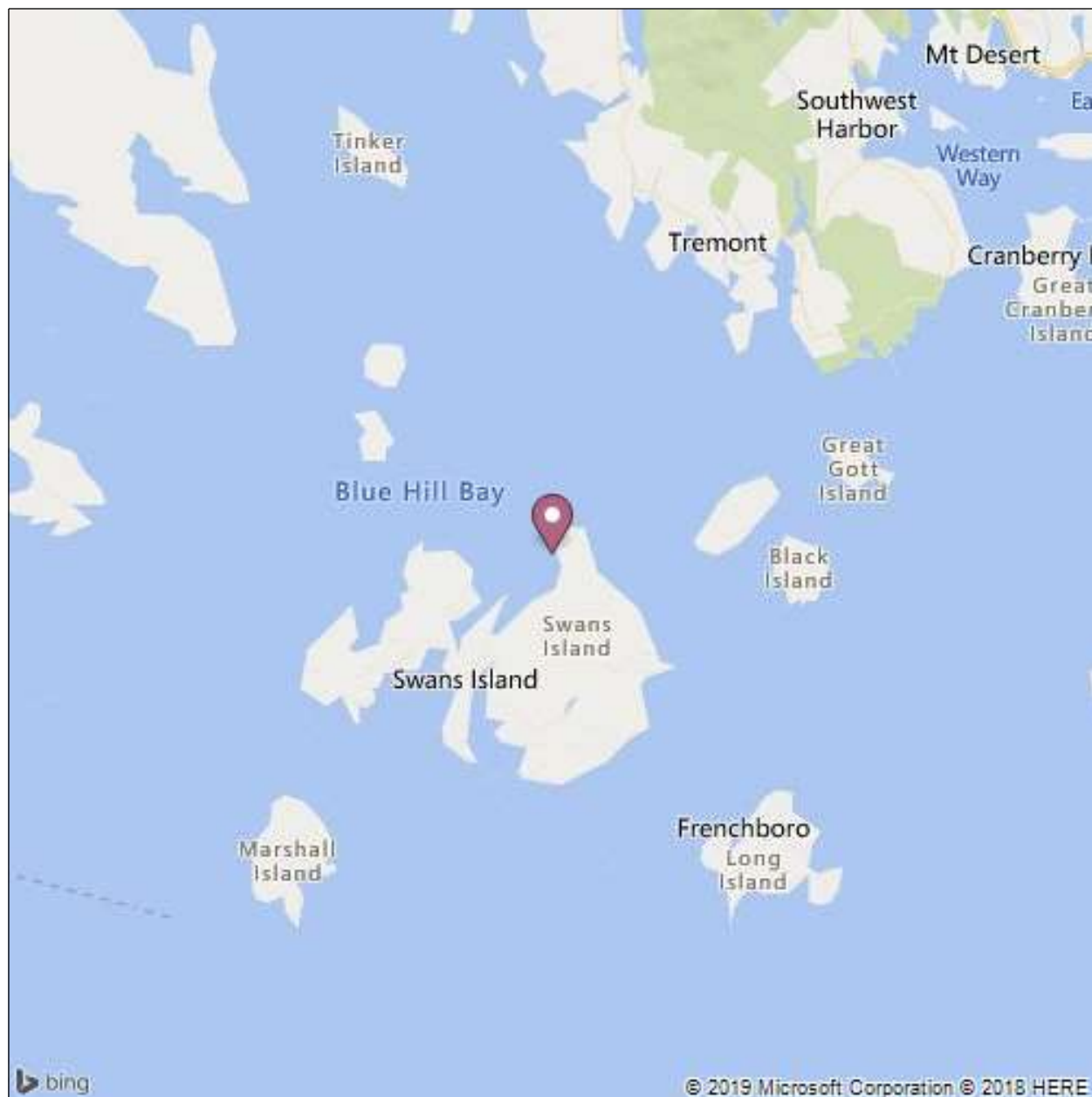
Inspection Type(s): Routine and Fracture Critical

Inspector: Carl Edwards  
Inspection Date: 07/09/2019

Structure Number: 6349  
Facility Carried: SA #5

### Highway Bridge Inspection Report

### Location Map



Latitude: 44.18125  
Longitude: -68.42365

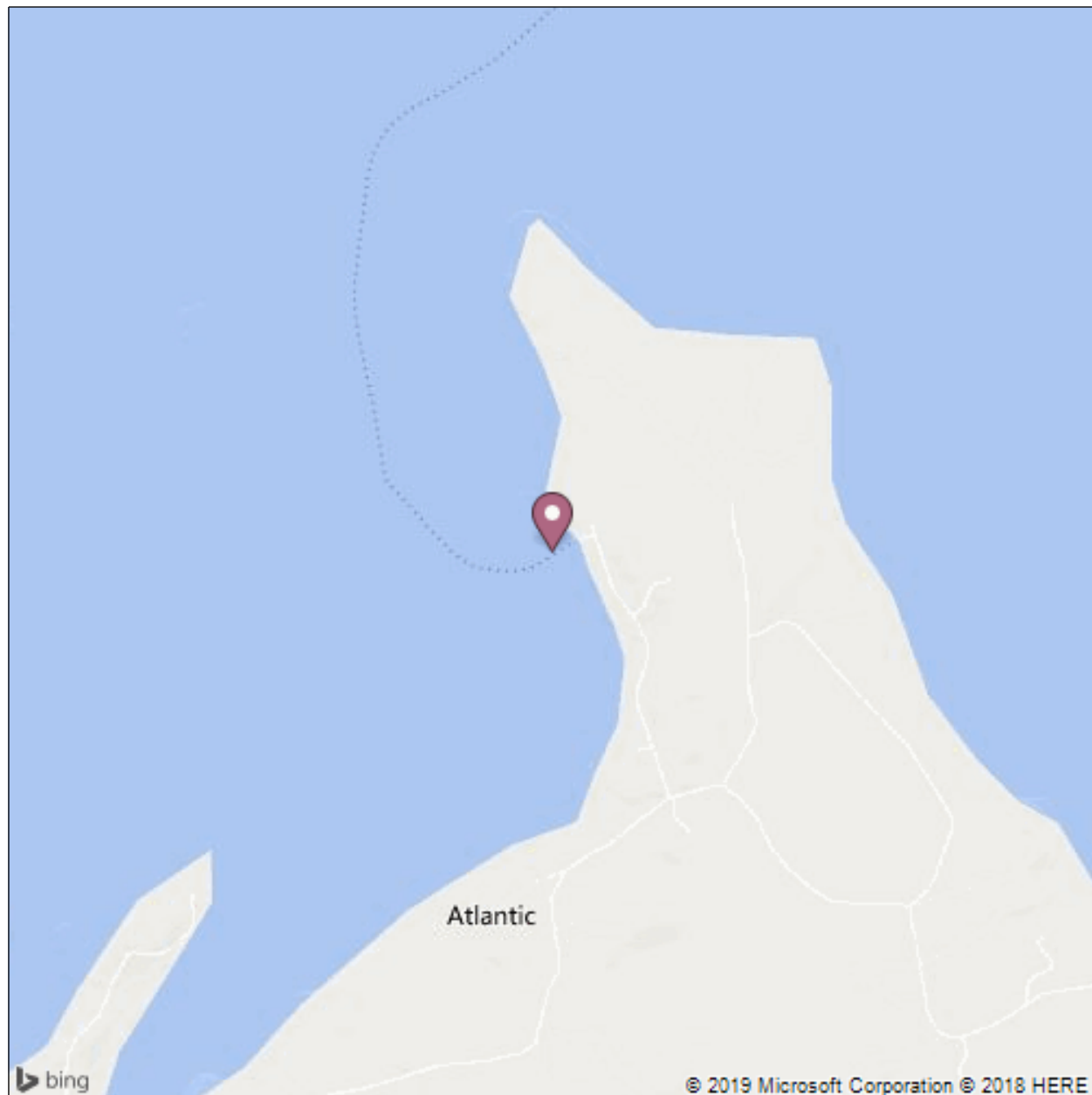


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## National Bridge Inventory

Status: 2 - FO

Bridge Name: SWANS ISLAND FERRY SLIP

Sufficiency Rating: 64.5

### Inspections

(90) INSPECTION DATE	& (91) DESIGNATED INSPECTION FREQUENCY	24	07/09/2019
(92) CRITICAL FEATURE INSPECTION	& (93) CFI DATE		
(92A) FRACTURE CRITICAL DETAIL		Y 24	09/15/2017
(92B) UNDERWATER INSPECTION		Y 60	08/20/2014
(92C) OTHER SPECIAL INSPECTION		Y 96	09/18/2015

### Identification

(1) STATE CODE	231 - Maine
(8) STRUCTURE NUMBER	6349
(5) INVENTORY ROUTE	
(5A) RECORD TYPE	1: Route carried "on" the structure
(5B) ROUTE SIGNING PREFIX	4 - COUNTY HIGHWAY
(5C) DESIGNATED LEVEL OF SERVICE	0 - None
(5) INVENTORY ROUTE	0
(5) INVENTORY ROUTE	0 - NOT APPLICABLE
(2) HIGHWAY AGENCY DISTRICT	04 - Eastern
(3) COUNTY CODE	009 Hancock
(4) PLACE CODE	75455
(6) FEATURES INTERSECTED	Mackerel Cove
(7) FACILITY CARRIED	SA #5
(9) LOCATION	Swans Island Ferry Slip
(11) MILEPOINT	3.960
(12) BASE HIGHWAY NETWORK	Inventory Route is not on the Base Network
(13) LRS INVENTORY ROUTE, SUBROUTE	
(13A) LRS INVENTORY ROUTE	00000F0005
(13B) SUBROUTE NUMBER	00
(16) LATITUDE	44.18125
(17) LONGITUDE	-68.42365
(98A) BORDER BRIDGE CODE	
(98B) PERCENT RESPONSIBILITY	0
(99) BORDER BRIDGE STRUCT NO.	

### Structure Type and Material

(43) STRUCTURE TYPE, MAIN	
(43A) KIND OF MATERIAL/DESIGN	3 - Steel
(43B) TYPE OF DESIGN/CONSTR	15 - Movable - Lift
(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	1
(46) NUMBER OF APPROACH SPANS	0
(107) DECK STRUCTURE TYPE	3 - Open Grating
(108) WEARING SURFACE/PROTECTIVE SYSTEMS	
(108A) WEARING SURFACE	0 - None
(108B) DECK MEMBRANE	0 - None
(108C) DECK PROTECTION	0 - None

### Age of Service

(27) YEAR BUILT	1997
(106) YEAR RECONSTRUCTED	2014
(42) TYPE OF SERVICE	
(42A) TYPE OF SERVICE ON BRIDGE	1 - Highway
(42B) TYPE OF SERVICE UNDER BRIDGE	5 - Waterway
(28) LANES	
(28A) LANES ON THE STRUCTURE	02
(28B) LANES UNDER THE STRUCTURE	00
(29) AVERAGE DAILY TRAFFIC	0
(30) YEAR OF AVERAGE DAILY TRAFFIC	0
(109) AVERAGE DAILY TRUCK TRAFFIC	5
(19) BYPASS DETOUR LENGTH	100

### Geometric Data

(48) LENGTH OF MAXIMUM SPAN (ft.)	55
(49) STRUCTURE LENGTH (ft.)	84.0
(50) CURB/SIDEWALK WIDTHS	
(50A) LEFT CURB SIDEWALK (ft.)	0
(50B) RIGHT CURB SIDEWALK (ft.)	0
(51) BRDG RDWY WIDTH CURB-TO-CURB (ft.)	11.0
(52) DECK WIDTH, OUT-TO-OUT (ft.)	12.5
(32) APPROACH ROADWAY WIDTH (ft.)	12.5
(33) BRIDGE MEDIAN	0 - No median
(34) SKEW (deg.)	0
(35) STRUCTURE FLARED	0 - No flare
(10) INV RTE, MIN VERT CLEARANCE (ft.)	14.50
(47) TOTAL HORIZONTAL CLEARANCE (ft.)	11.9
(53) VERTICAL CLEARANCE OVER BRIDGE ROADWAY (ft.)	14.50
(54) MIN VERTICAL UNDERCLEARANCE	
(54A) REFERENCE FEATURE	N - Feature not a highway or railroad
(54B) MIN VERTICAL UNDERCLEASENCE (ft.)	0
(55) MIN LATERAL UNDER CLEARANCE RIGHT	
(55A) REFERENCE FEATURE	N - Feature not a highway or railroad
(55B) MIN LATERAL UNDER CLEARANCE RIGHT (ft.)	0
(56) MIN LATERAL UNDER CLEARANCE (ft.)	0

#### Classification

(112) NBIS BRIDGE LENGTH	Yes
(104) HIGHWAY SYSTEM OF THE INVENTORY ROUTE	0 - Structure/Route is NOT on NHS
(26) FUNCTIONAL CLASSIFICATION OF INVENTORY ROUTE	08 - Rural - Minor Collector
(100) STRAHNET HIGHWAY DESIGNATION	Not a STRAHNET route
(101) PARALLEL STRUCTURE DESIGNATION	N - No parallel structure
(102) DIRECTION OF TRAFFIC	One lane bridge for 2-way traffic
(103) TEMP STRUCTURE	
(105) FEDERAL LANDS HIGHWAYS	Not Applicable
(110) DESIGNATED NATIONAL NETWORK	Inventory route not on network
(20) TOLL	3 - On Free Road
(21) MAINTENANCE RESPONSIBILITY	01 - State Highway Agency
(22) OWNER	01 - State Highway Agency
(37) HISTORICAL SIGNIFICANCE	5 - Not eligible

#### Condition

(58) DECK	7 - Good Condition (some minor problems)
(59) SUPERSTRUCTURE	6 - Satisfactory Condition (minor deterioration)
(60) SUBSTRUCTURE	5 - Fair Condition (minor section loss)
(61) CHANNEL & CHANNEL PROTECTION	7 - Bank protection needs minor repairs
(62) CULVERT	N - Not Applicable

#### Load Rating and Posting

(31) DESIGN LOAD	5 - HS 20
(63) METHOD USED TO DETERMINE OPERATING RATING	8 - Load and Resistance Factor
(64) OPERATING RATING	1.54
(65) METHOD USED TO DETERMINE INVENTORY RATING	8 - Load and Resistance Factor
(66) INVENTORY RATING	1.19
(70) BRIDGE POSTING	5 - Equal to or above legal
(41) STRUCTURE OPEN/POSTED/CLOSED	A - Open

#### Appraisal

(67) STRUCTURAL EVALUATION	5
(68) DECK GEOMETRY	3
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL	N
(71) WATERWAY ADEQUACY	8 - Bridge Above Approaches
(72) APPROACH ROADWAY ALIGNMENT	8 - Equal to present desirable 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	5 - Scour within limits of footing or piles

#### 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 0

(115) YEAR OF FUTURE ADT 20

Navigation Data	
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(38) NAVIGATION CONTROL	0 - No navigation control on waterway (bridge
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(111) PIER OR ABUTMENT PROTECTION	2 - In place and functioning
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(39) NAV VERT CLEARANCE	0
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(116) MIN NAVIGATION VERT CLEARANCE, VERT LIFT BRIDGE	1.5
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(40) NAV HORIZONTAL CLEARANCE	0
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## Inspection Notes

Structure Number: 6349

Town: Swans Island

Structure Name: SWANS ISLAND FERRY SLIP

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### Structure Notes

55' Single Span Bascule through girder Transfer Bridge  
2010 - Pen area rehab , new dolphins, piles, gangways, fender system  
2014 - Transfer bridge, ramp, bearings were needle gunned & painted by Maint.

### Wearing Surface

tread on open grate deck portion in good condition.

### Deck

NBI Item 58: 7

The grid deck and concrete filled sidewalk is in good condition. Birdge railing is in good condition

### Superstructure

NBI Item 59: 6

Steel Girders are in generally satisfactory condition with minor section loss to underside of bottom flanges.  
The floor beams are in mostly good condition except where stringer connections are by abutment. Heavily rusted and bubbled paint over connections.  
Bearings are in satisfactory condition but cracking of bridge seat below and bubbled paint coating.

### Substructure

NBI Item 60: 5

Concrete abutment is in fair condition with large longitudinal crack between bearing pedestals.  
Dolphins and fenders are in satisfactory condition.  
Some anodes missing or disconnected. see u/w report for details.  
Pile wraps coming undone.

### Culvert

NBI Item 62: N

### Channel

NBI Item 61: 7

Please see most recent dive report for underwater details.

**Other**

**Special Inspection**

Please see VHB Inspection Report for mechanical systems details

**Monitoring**

**Pontis Notes**



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### Element Inspection

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
<b>28 - Steel Deck with Open Grid</b>	4 - Sev.	630	sq. ft.	630	0	0	0
<b>29 - Steel Deck with Concrete Filled Grid</b>	4 - Sev.	140	sq. ft.	140	0	0	0
<b>107 - Steel Open Girder/Beam</b>	4 - Sev.	140	ft.	140	0	0	0
515 - Steel Protective Coating		140	sq. ft.	140	0	0	0
<b>152 - Steel Floor Beam</b>	4 - Sev.	135	ft.	100	35	0	0
515 - Steel Protective Coating		135	sq. ft.	115	20	0	0
<b>215 - Reinforced Concrete Abutment</b>	4 - Sev.	14	ft.	0	14	0	0
<b>313 - Fixed Bearing</b>	4 - Sev.	2	each	2	0	0	0
515 - Steel Protective Coating		2	sq. ft.	0	2	0	0
<b>330 - Metal Bridge Railing</b>	4 - Sev.	140	ft.	140	0	0	0
515 - Steel Protective Coating		140	sq. ft.	140	0	0	0
<b>801 - Beam End</b>	4 - Sev.	2	each	2	0	0	0
515 - Steel Protective Coating		2	sq. ft.	2	0	0	0
<b>803 - Moveable Bridge Components - Medium</b>	4 - Sev.	1	each	1	0	0	0
<b>820 - Reinforced Concrete Wall</b>	4 - Sev.	10	ft.	10	0	0	0
<b>826 - Fender</b>	4 - Sev.	10	ft.	10	0	0	0
<b>827 - Dolphin</b>	4 - Sev.	6	each	5	1	0	0

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## Highway Bridge Inspection Report

### Pictures



PHOTO 1

Description pen area



PHOTO 2

Description apron/ramp



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#### Pictures

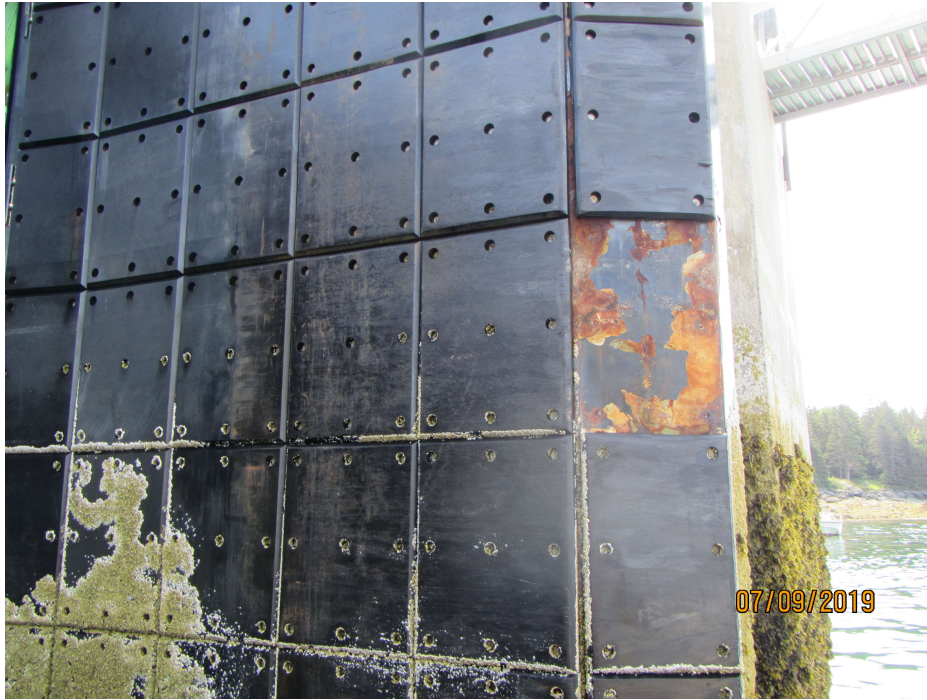


PHOTO 3

Description close-up of fender



PHOTO 4

Description abutment



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### Highway Bridge Inspection Report

## Pictures



PHOTO 5

Description underside of apron



PHOTO 6

Description general view



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### Highway Bridge Inspection Report

## Pictures



PHOTO 7

Description towers



PHOTO 8

Description close-up of apron, note bent up lower right corner of plate



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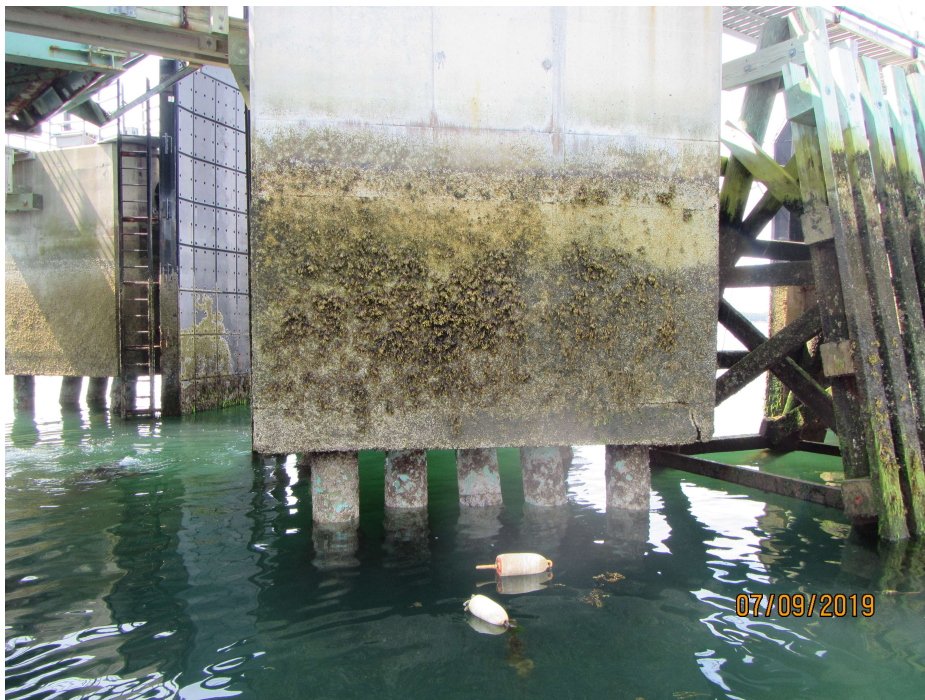


PHOTO 9

Description back side of Nly tower dolphin



PHOTO 10

Description back side of Nly tower dolphin - note wrapped piles



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PHOTO 11

Description floor beams looking toward apron



PHOTO 12

Description floor beams



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### Highway Bridge Inspection Report

## Pictures



PHOTO 13

Description Apron/ramp hinge



PHOTO 14

Description Nly tower pier



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### Highway Bridge Inspection Report

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PHOTO 15

Description Sly tower pier



PHOTO 16

Description bottom of Sly dolphin pier concrete



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### Highway Bridge Inspection Report

## Pictures



PHOTO 17

Description bottom of counter weight/ hoist beams



PHOTO 18

Description cable clevis (typ)

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### Highway Bridge Inspection Report

## Pictures



PHOTO 19

Description



PHOTO 20

Description Nly sheave & link bar



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## Highway Bridge Inspection Report

### Pictures



PHOTO 21

Description close up of Nly sheave



PHOTO 22

Description Nly link bar & pin

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### Highway Bridge Inspection Report

## Pictures



PHOTO 23

Description Nly cable clevis



PHOTO 24

Description Nly apron bearing



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### Highway Bridge Inspection Report

## Pictures



PHOTO 25

Description Nly dolphin piles



PHOTO 26

Description apron under carriage



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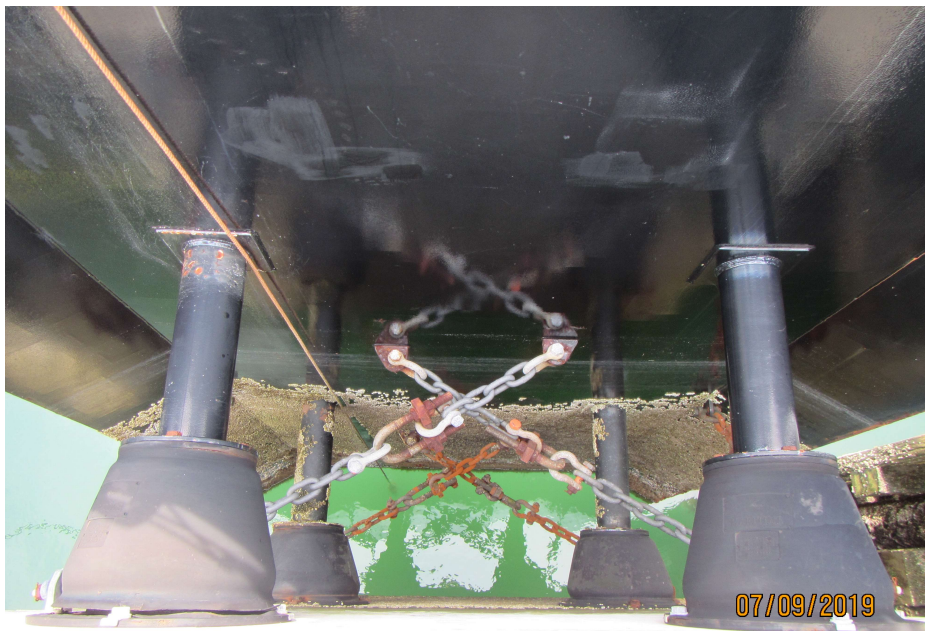


PHOTO 27

Description fender connections (typ)



PHOTO 28

Description looking at pen from Nly dolphin

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### Highway Bridge Inspection Report

## Pictures



PHOTO 29

Description Sly dolphin and wave attenuator

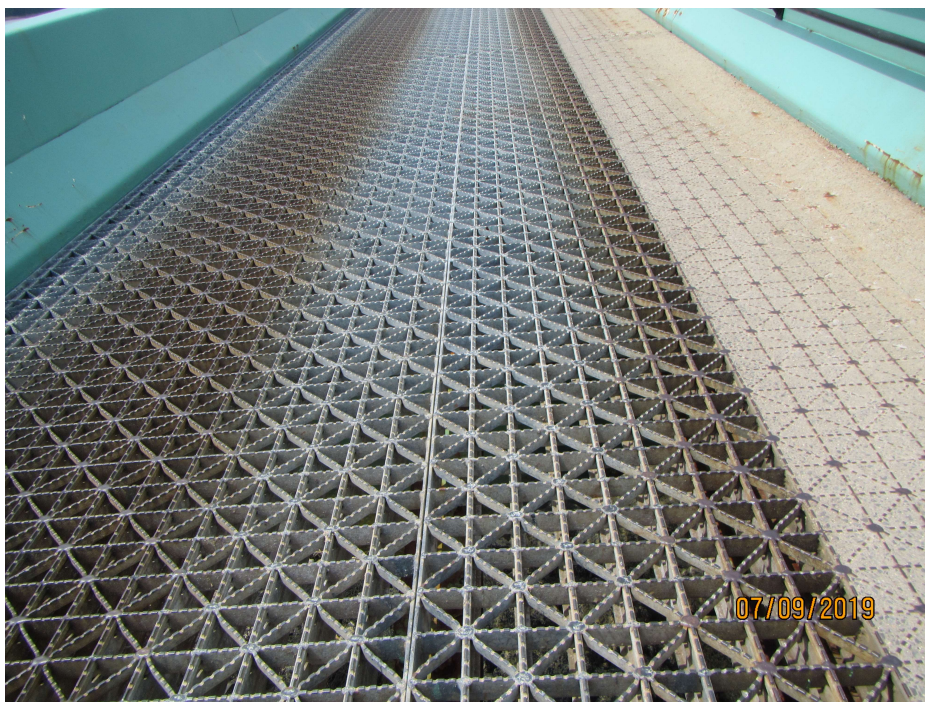


PHOTO 30

Description open grate deck surface



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### Highway Bridge Inspection Report

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PHOTO 31

Description Nly abutment bearing



PHOTO 32

Description abutment seat



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### Highway Bridge Inspection Report

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PHOTO 33

Description heavily rusted stay-in-place form



PHOTO 34

Description floor beam connections/ carrying beam



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### Highway Bridge Inspection Report

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PHOTO 35

Description heavily rusted floor beam/stringer connections



PHOTO 36

Description Sly abutment bearing



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### Highway Bridge Inspection Report

## Pictures



PHOTO 37

Description tower piers at low tide



PHOTO 38

Description heavy rust layers at beam end near bearing (typ)

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### Highway Bridge Inspection Report

## Pictures



PHOTO 39

Description ramp