

# Highway Bridge Inspection Report

**I95 SB / SOUADABSCOOK WEST  
I 95 SB  
over  
SOUADABSCOOK STREAM**



**Asset Code:** 1433

**Inspection Date:** 04/06/2017

**Inspected By:** Jamie Hannum

**Inspection Type(s):** Routine

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**Inspector:** Jamie Hannum

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**Structure Number:** 1433

**Facility Carried:** I 95 SB

## Highway Bridge Inspection Report

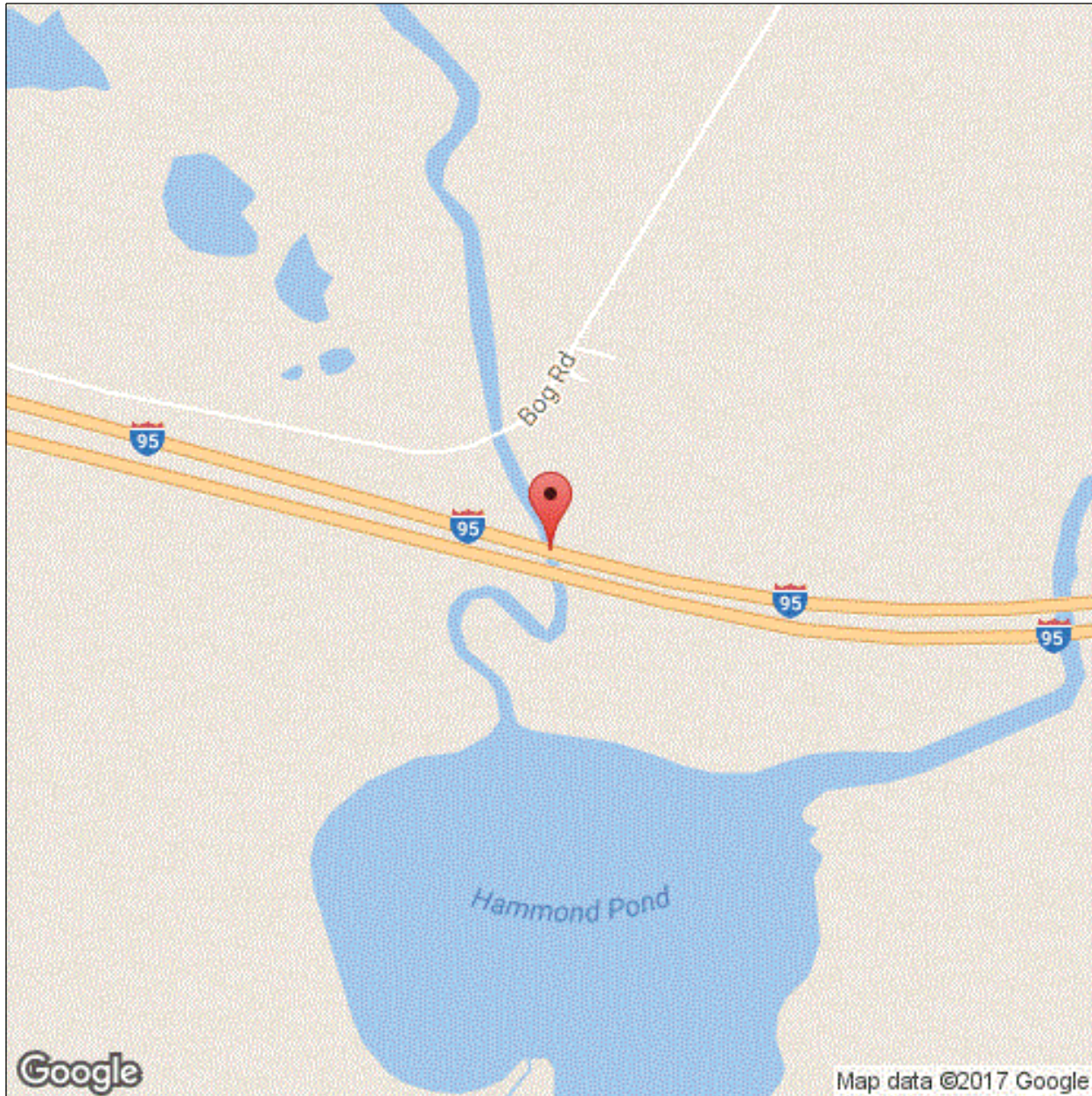
### Executive Summary

Inspector: Jamie Hannum  
Inspection Date: 04/06/2017

Structure Number: 1433  
Facility Carried: I 95 SB

### Highway Bridge Inspection Report

#### Location Map



Latitude: 44.76373  
Longitude: -68.91953

## National Bridge Inventory

Status: 0 - ND

Bridge Name: I95 SB / SOUADABSCOOK WEST

Sufficiency Rating: 78.4

### Inspections

(90) INSPECTION DATE	& (91) DESIGNATED INSPECTION FREQUENCY	24	04/06/2017
(92) CRITICAL FEATURE INSPECTION	& (93) CFI DATE		
(92A) FRACTURE CRITICAL DETAIL		N	
(92B) UNDERWATER INSPECTION		Y	60
(92C) OTHER SPECIAL INSPECTION		N	09/01/2015

### Identification

(1) STATE CODE	231 - Maine
(8) STRUCTURE NUMBER	1433
(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	SOUADABSCOOK STREAM
(7) FACILITY CARRIED	I 95 SB
(9) LOCATION	2 MI E TL/9*5 MIN176.5
(11) MILEPOINT	128.130
(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	44.76373
(17) LONGITUDE	-68.91953
(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	4 - Steel continuous
(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	3
(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	1961
(106) YEAR RECONSTRUCTED	-4
(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	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.)	50
(49) STRUCTURE LENGTH (ft.)	136.0
(50) CURB/SIDEWALK WIDTHS	
(50A) LEFT CURB SIDEWALK (ft.)	0.2
(50B) RIGHT CURB SIDEWALK (ft.)	0.2
(51) BRDG RDWY WIDTH CURB-TO-CURB (ft.)	40
(52) DECK WIDTH, OUT-TO-OUT (ft.)	42.4
(32) APPROACH ROADWAY WIDTH (ft.)	40
(33) BRIDGE MEDIAN	0 - No median
(34) SKEW (deg.)	30
(35) STRUCTURE FLARED	0 - No flare
(10) INV RTE, MIN VERT CLEARANCE (ft.)	328.05
(47) TOTAL HORIZONTAL CLEARANCE (ft.)	40
(53) VERTICAL CLEARANCE OVER BRIDGE ROADWAY (ft.)	327.76
(54) MIN VERTICAL UNDERCLEARANCE	
(54A) REFERENCE FEATURE	N - Feature not a highway or railroad
(54B) MIN VERTICAL UNDERCLEARENCE (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.)	327.76
(56) MIN LATERAL UNDER CLEARANCE (ft.)	99.9

#### 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	5 - Not eligible

#### Condition

(58) DECK	5 - Fair Condition (minor section loss)
(59) SUPERSTRUCTURE	7 - Good Condition (some minor problems)
(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	6 - HS 20+Mod
(63) METHOD USED TO DETERMINE OPERATING RATING	8 - Load and Resistance Factor
(64) OPERATING RATING	1.11
(65) METHOD USED TO DETERMINE INVENTORY RATING	8 - Load and Resistance Factor
(66) INVENTORY RATING	0.86
(70) BRIDGE POSTING	5 - Equal to or above legal
(41) STRUCTURE OPEN/POSTED/CLOSED	A - Open

#### Appraisal

(67) STRUCTURAL EVALUATION	5
(68) DECK GEOMETRY	7
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL	N
(71) WATERWAY ADEQUACY	9 - Bridge Above Flood Water Elevations
(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	8 - Stable for scour conditions

#### Proposed Improvements

(75) TYPE OF WORK	
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(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

0 - No navigation control on waterway (bridge

(111) PIER OR ABUTMENT PROTECTION

(39) NAV VERT CLEARANCE

0

(116) MIN NAVIGATION VERT CLEARANCE, VERT LIFT BRIDGE

0

(40) NAV HORIZONTAL CLEARANCE

0

## Inspection Notes

Structure Number: 1433

Town: Hampden

Structure Name: I95 SB / SOUADABSCOOK WEST

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### Structure Notes

Three span steel painted girders. Concrete deck, piers, abutments, wings and wearing surface.

### Wearing Surface

Worn concrete wearing surface in wheel path areas. Scattered cracking of the wearing surface.

### Deck

**NBI Item 58:** 5

The deck has separated from the superstructure at the North abutment. Deck flexes independently of the superstructure when live loads are applied. This can be seen on the top flange, North abutment, middle beam end area. Areas of delaminated and spalled concrete. Haunches above diaphragms have spalled with fully exposed re-steel and fallen re-steel, see photos. Both joints are missing seals.

### Superstructure

**NBI Item 59:** 7

Painted steel girders are in overall fair condition, but beam ends (bearings have been) have not been treated and there are no joint seals above.

### Substructure

**NBI Item 60:** 5

Substructure is rated a 5, but isolated areas such as the North abutment bearing block cracking and spalling with exposed re-steel lean towards a 4. Both of the piers are in satisfactory condition. Abutments and wings have extensive cracking and staining, see photos. No seals in the deck joints above. See most recent dive report for channel and pier details. Previous undefined concrete wall element of 14' has been included in the abutment element total.

### Culvert

**NBI Item 62:** N



**Channel**

**NBI Item 61: 7**

**Other**

**Special Inspection**

**Monitoring**

**Pontis Notes**

Inspector: Jamie Hannum  
 Inspection Date: 04/06/2017

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Highway Bridge Inspection Report

Element Inspection

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
<b>12 - Reinforced Concrete Deck</b>	3 - Mod.	5766	sq. ft.	0	5266	500	
<b>107 - Steel Open Girder/Beam</b>	2 - Low	816	ft.	756	60		
515 - Steel Protective Coating			sq. ft.				
<b>210 - Reinforced Concrete Pier Wall</b>	2 - Low	85	ft.	85			
<b>215 - Reinforced Concrete Abutment</b>	2 - Low	98	ft.	69	25		4
<b>302 - Compression Joint Seal</b>	3 - Mod.	85	ft.	85			
<b>311 - Movable Bearing</b>	2 - Low	18	each	18			
515 - Steel Protective Coating		18	sq. ft.	12	6		
<b>313 - Fixed Bearing</b>	2 - Low	6	each	6			
515 - Steel Protective Coating		6	sq. ft.	0	6		
<b>801 - Beam End</b>	2 - Low	12	each	12			
<b>843 - Rigid Wearing Surface</b>	3 - Mod.	5440	sq. ft.	3440	2000		
<b>861 - Beam End – Protective Coating</b>	2 - Low	12	each	0	12		
<b>871 - Aluminum Bridge Railing</b>	3 - Mod.	272	ft	202	50	20	

# Underwater Dive Inspection Report

**Structure Number:** 1433

**Bridge Name:** SOUADABSCOOK WEST SB

**Town 1:** 19280 - Hampden

**Town 2:**

**Division:** Bangor

**DiveID:** 5160

Tidal:

**Location:** 2 MI E TL/9\*5 MIN176.5

**Tide Information:**

**Photos:**

**Dive Entry Location:** swim down to NB

none

**Scour:** 6

**Comments/Hazards:**

can be Boat traffic (duck hunters)

**Streambed Description:**

Gravel to head size stones, very silty.

**Channel Description:**

Steep V channel near piers then levels off.

**Substructure Description:**

2 mass concrete piers. Footings are exposed on the channel side. Concrete is in good condition. Vertical cracks in pier starts above water and are visible below water. According to plans, footings are 6'-6" in height and are on piles. 2007: No changes, right footing exposed 0" to 20", left footing exposed 0" to 30". 2011: No major changes to exposure of pier footings. Right footing exposed 0"-23". 2015: Right footing exposed up to 26" Left footing exposed up to 32" No major changes. Ratings remain same. Lft footing exposed 0"-29" Ratings remain same.

**Inspection Team:**

**Role:**

**Dive Conditions:**

Edwards

TL,SD

Time: Entry: 4:20 AM/PM PM

Amero

SD

Time: Exit: 4:35 AM/PM PM

Merrithew

D

Water Temp: 70

Hannum

D

Visibility (ft): 1

Max Depth (ft): 7

Current: slight

Weather: sunny

Underwater Inspection Date: 09/01/2015

Channel Condition: 5

Substr/Culvert Condition: 6

Inspection Cycle: Y60

**Ratings Comments:**

6'-6" footings on piles scour

Inspector: Jamie Hannum  
Inspection Date: 04/06/2017

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### Highway Bridge Inspection Report

### Pictures



PHOTO 1

Description Section loss on up stream posts



PHOTO 2

Description Three rail posts with section loss on up stream end and two posts with cracked bases

**Inspector:** Jamie Hannum  
**Inspection Date:** 04/06/2017

**Structure Number:** 1433  
**Facility Carried:** I 95 SB

### Highway Bridge Inspection Report

#### Pictures



PHOTO 3

Description Roadway looking South



PHOTO 4

Description Up stream end



Inspector: Jamie Hannum  
Inspection Date: 04/06/2017

Structure Number: 1433  
Facility Carried: I 95 SB

### Highway Bridge Inspection Report

### Pictures



PHOTO 5

Description NW beam end



PHOTO 6

Description North abutment



Inspector: Jamie Hannum  
Inspection Date: 04/06/2017

Structure Number: 1433  
Facility Carried: I 95 SB

### Highway Bridge Inspection Report

#### Pictures



PHOTO 7

Description separation between deck and superstructure at the North abutment. Deck flexes independently of steel when traffic load is applied



PHOTO 8

Description Spalled haunches, North end

Inspector: Jamie Hannum  
Inspection Date: 04/06/2017

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Facility Carried: I 95 SB

### Highway Bridge Inspection Report

#### Pictures



PHOTO 9

Description North abutment beam end



PHOTO 10

Description Spalled bearing block with exposed re-steel, North abutment, No seal above in deck joint

Inspector: Jamie Hannum  
Inspection Date: 04/06/2017

Structure Number: 1433  
Facility Carried: I 95 SB

### Highway Bridge Inspection Report

#### Pictures



PHOTO 11

Description Spalled bearing block with exposed re-steel, North abutment



PHOTO 12

Description Torn rail, down stream side, exterior



Inspector: Jamie Hannum  
Inspection Date: 04/06/2017

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### Highway Bridge Inspection Report

#### Pictures



PHOTO 13

Description Down stream end, looking South



PHOTO 14

Description Cracking of concrete wearing surface

Inspector: Jamie Hannum  
Inspection Date: 04/06/2017

Structure Number: 1433  
Facility Carried: I 95 SB

### Highway Bridge Inspection Report

#### Pictures



PHOTO 15

Description Two disconnected rails on the down stream side, 2nd and 4th sections



PHOTO 16

Description South deck joint with no seal

### Maintenance Work Items

**Structure Number:** 1433

**Structure Name:** I95 SB / SOUADABSCOOK  
WEST

**Town:** 19280

**Owner:** Hannum, Jamie

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Type	Work Item	Priority	Notes
Maintenance	Stabilize Substructure	3	Grout Bag
Maintenance	Rehab Substructure		North abutment bearing blocks
Maintenance	Seal Joint		install joint seals
Maintenance	Repair Deck		Deck to superstructure attachment
Maintenance	Repair Bridge Rail		Detached rails and broken posts



# MaineDOT NBIS Bridge Safety Inspection JSA

Structure Number: 1433

Inspector: Hannum, Jamie

Structure Name: I95 SB / SOUADABSCOOK WEST

Team Lead: Jamie Hannum

Town: Hampden

Additional Team Members/Visitors:

- |     |     |
|-----|-----|
| 1.) | 6.) |
| 2.) | 7.) |
| 3.) | 8.) |
| 4.) | 9.) |
| 5.) |     |

Job being performed:

Bridge inspection

Potential Hazard:

- Exposure to traffic

Controls:

- Parked off road with strobe  
 Less than 1 hour on bridge  
 Wear standard reflective clothing and hard hat  
 Spotter    Traffic Control Crew

Potential Hazard:

- Steep slopes and uneven working areas  
(rip rap, mud, loose fill, etc)

Controls:

- Wear appropriate, prudent footwear  
 Rope or fall protection

Potential Hazard:

- Chipped Concrete or Steel (hand tools only)

Controls:

- Wear appropriate, prudent eye/hand protection

Potential Hazard:

- 6' Vertical drops

Controls:

- Stay away from areas

Potential Hazard:

- Water Hazards
- Water depth under 1 foot
  - Water depth 1 to 4 feet
  - Water depth over 4 feet
  - Water flow calm/slow moving
  - Water flow visible/not rapid
  - Water flow rapid with some short falls
  - Tidal Water

Controls:

- Evaluate Water Hazard conditions  
 Use/Wear appropriate PPE  
 Buddy System

Potential Hazard:

- Insects, Poison Ivy, or other environmental hazards

Controls:

- Apply insect repellent and/or sunscreen  
 Protect skin with appropriate, prudent clothing

Potential Hazard:

- Lead paint and Avian excrement

Controls:

- Wear gloves, do not scrape

Potential Hazard:

Heavy Manual Lifting

Controls:

Ask for assistance in donning dive gear, lifting equipment

Potential Hazard:

DCS, Lung Expansion

Controls:

Ascend slowly, user computers, Safety Stops (15' mark for 3 min.)

Potential Hazard:

Entanglement U/W

Controls:

Use knife, Comm gear

Potential Hazard:

Boat Traffic

Controls:

Fly Dive Flag, user spotter, contact bridge on Chan. 13

Potential Hazard:

Cold Water

Controls:

Use adequate dry suit underwear for water temperature

Potential Hazard:

Live Boating

Controls:

Keep track of divers, avoid powering during drop-off/pick-up

Other Potential Hazards:

Other Controls:

Safety Equipment Required:

- Hard hat
- Vest
- Glasses
- Gloves
- PFD
- Rain Gear
- Bug Spray
- Sunscreen
- First Aid
- O2
- AED
- Comm Gear
- Cell Phone
- Boat

- Throw Ring
- Throw Rope
- Positioning Device

Emergency Action Plan:

- Call 911
- First Aid Kit
- Fall Rescue Plan
- Water Rescue Plan
- Dan 1-919-684-9111
- USCG 741-5465

Other Safety Equipment:

Other Emergency Action Plan:

I certify that the MaineDOT NBIS Bridge Safety Inspection JSA has been completed according to all proper procedures required by the Maine Department of Transportation.

Complete      Jamie Hannum

# **Highway Bridge Inspection Report**

**I95 SB / SOUADABSCOOK WEST**

**I 95 SB**

**over**

**SOUADABSCOOK STREAM**