



STANDARD DREDGE AND FILL WETLANDS PERMIT APPLICATION

Water Division / Land Resources Management
[Check the Status of your Application](#)



RSA/Rule: RSA 482-A/Env-Wt 100-900

APPLICANT'S NAME:

TOWN NAME:

Administrative Use Only	Administrative Use Only	Administrative Use Only	File No.:
			Check No.:
			Amount:
			Initials:

A person may request a waiver of the requirements in Rules Env-Wt 100-900 to accommodate situations where strict adherence to the requirements would not be in the best interest of the public or the environment but is still in compliance with RSA 482-A. A person may also request a waiver of the standards for existing dwellings over water pursuant to RSA 482-A:26, III(b). For more information, please consult the [Waiver Request Form](#).

SECTION 1 - REQUIRED PLANNING FOR ALL PROJECTS (Env-Wt 306.05; RSA 482-A:3, I(d)(2))

Please use the [Wetland Permit Planning Tool \(WPPT\)](#), the Natural Heritage Bureau (NHB) [DataCheck Tool](#), the [Aquatic Restoration Mapper](#), or other sources to assist in identifying key features such as: [Priority Resource Areas \(PRAs\)](#), [protected species or habitats](#), coastal areas, designated rivers, or designated prime wetlands.

Has the required planning been completed?	☐ Yes ☐ No
Does the property contain a PRA? If yes, provide the following information: • Does the project qualify for an Impact Classification Adjustment (e.g. NH Fish and Game Department (NHFG) and NHB agreement for a classification downgrade) or a Project-Type Exception (e.g. Maintenance or Statutory Permit-by-Notification (SPN) project)? See Env-Wt 407.02 and Env-Wt 407.04. • Protected species or habitat? ○ If yes, species or habitat name(s): ○ NHB Project ID #: • Bog? • Floodplain wetland contiguous to a tier 3 or higher watercourse? • Designated prime wetland or duly-established 100-foot buffer? • Sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone?	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No
Is the property within a Designated River corridor? If yes, provide the following information: • Name of Local River Management Advisory Committee (LAC): • A copy of the application was sent to the LAC on Month: Day: Year:	☐ Yes ☐ No

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For dredging projects, is the subject property contaminated? • If yes, list contaminant:	☐ Yes ☐ No
Is there potential to impact impaired waters, class A waters, or outstanding resource waters?	☐ Yes ☐ No
For stream crossing projects, provide watershed size (see WPPT or Stream Stats):	
SECTION 2 - PROJECT DESCRIPTION (Env-Wt 311.04(i)) Provide a description of the project and the purpose of the project, the need for the proposed impacts to jurisdictional areas, an outline-of the scope of work to be performed, and whether impacts are temporary or permanent.	
SECTION 3 - PROJECT LOCATION Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.	
ADDRESS:	
TOWN/CITY:	
TAX MAP/BLOCK/LOT/UNIT:	
US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME: ☐ N/A	
(Optional) LATITUDE/LONGITUDE in decimal degrees (to five decimal places):	

SECTION 4 - APPLICANT (DESIRED PERMIT HOLDER) INFORMATION (Env-Wt 311.04(a))

If the applicant is a trust or a company, then complete with the trust or company information.

NAME:

MAILING ADDRESS:

TOWN/CITY:

STATE:

ZIP CODE:

EMAIL ADDRESS:

FAX:

PHONE:

ELECTRONIC COMMUNICATION: By initialing here, I hereby authorize NHDES to communicate all matters relative to this application electronically.

SECTION 5 - AUTHORIZED AGENT INFORMATION (Env-Wt 311.04(c))☐ N/A

LAST NAME, FIRST NAME, M.I.:

COMPANY NAME:

MAILING ADDRESS:

TOWN/CITY:

STATE:

ZIP CODE:

EMAIL ADDRESS:

FAX:

PHONE:

ELECTRONIC COMMUNICATION: By initialing here, I hereby authorize NHDES to communicate all matters relative to this application electronically.

SECTION 6 - PROPERTY OWNER INFORMATION (IF DIFFERENT THAN APPLICANT) (Env-Wt 311.04(b))

If the owner is a trust or a company, then complete with the trust or company information.

☐ Same as applicant

NAME:

MAILING ADDRESS:

TOWN/CITY:

STATE:

ZIP CODE:

EMAIL ADDRESS:

FAX:

PHONE:

ELECTRONIC COMMUNICATION: By initialing here, I hereby authorize NHDES to communicate all matters relative to this application electronically.

SECTION 7 - RESOURCE-SPECIFIC CRITERIA ESTABLISHED IN Env-Wt 400, Env-Wt 500, Env-Wt 600, Env-Wt 700, OR Env-Wt 900 HAVE BEEN MET (Env-Wt 313.01(a)(3))

Describe how the resource-specific criteria have been met for each chapter listed above (please attach information about stream crossings, coastal resources, prime wetlands, or non-tidal wetlands and surface waters):

SECTION 8 - AVOIDANCE AND MINIMIZATION

Impacts within wetland jurisdiction must be avoided to the maximum extent practicable (Env-Wt 313.03(a)).* Any project with unavoidable jurisdictional impacts must then be minimized as described in the [Wetlands Best Management Practice Techniques For Avoidance and Minimization](#) and the [Wetlands Permitting: Avoidance, Minimization and Mitigation fact sheet](#). For minor or major projects, a functional assessment of all wetlands on the project site is required (Env-Wt 311.03(b)(10)).*

Please refer to the application checklist to ensure you have attached all documents related to avoidance and minimization, as well as functional assessment (where applicable). Use the [Avoidance and Minimization Checklist](#), the [Avoidance and Minimization Narrative](#), or your own avoidance and minimization narrative.

**See Env-Wt 311.03(b)(6) and Env-Wt 311.03(b)(10) for shoreline structure exemptions.*

SECTION 9 - MITIGATION REQUIREMENT (Env-Wt 311.02)

If unavoidable jurisdictional impacts require mitigation, a mitigation [pre-application meeting](#) must occur at least 30 days but not more than 90 days prior to submitting this Standard Dredge and Fill Permit Application.

Mitigation Pre-Application Meeting Date: Month: Day: Year:

(☐ N/A - Mitigation is not required)

SECTION 10 - THE PROJECT MEETS COMPENSATORY MITIGATION REQUIREMENTS (Env-Wt 313.01(a)(1)c)

Confirm that you have submitted a compensatory mitigation proposal that meets the requirements of Env-Wt 800 for all permanent unavoidable impacts that will remain after avoidance and minimization techniques have been exercised to the maximum extent practicable: ☐ I confirm submittal.

(☐ N/A – Compensatory mitigation is not required)

SECTION 11 - IMPACT AREA (Env-Wt 311.04(g))

For each jurisdictional area that will be/has been impacted, provide square feet (SF) and, if applicable, linear feet (LF) of impact, and note whether the impact is after-the-fact (ATF; i.e., work was started or completed without a permit).

For intermittent and ephemeral streams, the linear footage of impact is measured along the thread of the channel. *Please note, installation of a stream crossing in an ephemeral stream may be undertaken without a permit per Rule Env-Wt 309.02(d), however other dredge or fill impacts should be included below.*

For perennial streams/ivers, the linear footage of impact is calculated by summing the lengths of disturbances to the channel and banks.

Permanent (PERM.) impacts are impacts that will remain after the project is complete (e.g., changes in grade or surface materials).

Temporary (TEMP.) impacts are impacts not intended to remain (and will be restored to pre-construction conditions) after the project is completed.

JURISDICTIONAL AREA		PERM. SF	PERM. LF	PERM. ATF	TEMP. SF	TEMP. LF	TEMP. ATF
Wetlands	Forested Wetland			☐			☐
	Scrub-shrub Wetland			☐			☐
	Emergent Wetland			☐			☐
	Wet Meadow			☐			☐
	Vernal Pool			☐			☐
	Designated Prime Wetland			☐			☐
	Duly-established 100-foot Prime Wetland Buffer			☐			☐
Surface	Intermittent / Ephemeral Stream			☐			☐
	Perennial Stream or River			☐			☐
	Lake / Pond			☐			☐
	Docking - Lake / Pond			☐			☐
	Docking - River			☐			☐
Banks	Bank - Intermittent Stream			☐			☐
	Bank - Perennial Stream / River			☐			☐
	Bank / Shoreline - Lake / Pond			☐			☐
Tidal	Tidal Waters			☐			☐
	Tidal Marsh			☐			☐
	Sand Dune			☐			☐
	Undeveloped Tidal Buffer Zone (TBZ)			☐			☐
	Previously-developed TBZ			☐			☐
	Docking - Tidal Water			☐			☐
TOTAL							

SECTION 12 - APPLICATION FEE (RSA 482-A:3, I)

- ☐ **MINIMUM IMPACT FEE:** Flat fee of \$400.
- ☐ **NON-ENFORCEMENT RELATED, PUBLICLY-FUNDED AND SUPERVISED RESTORATION PROJECTS, REGARDLESS OF IMPACT CLASSIFICATION:** Flat fee of \$400 (refer to RSA 482-A:3, 1(c) for restrictions).
- ☐ **MINOR OR MAJOR IMPACT FEE:** Calculate using the table below:

Permanent and temporary (non-docking):	SF	× \$0.40 =	\$
Seasonal docking structure:	SF	× \$2.00 =	\$
Permanent docking structure:	SF	× \$4.00 =	\$
Projects proposing shoreline structures (including docks) add \$400 =			\$
Total =			\$
The application fee for minor or major impact is the above calculated total or \$400, whichever is greater =			\$

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SECTION 13 - PROJECT CLASSIFICATION (Env-Wt 306.05)

Indicate the project classification.

☒ Minimum Impact Project☐ Minor Project☐ Major Project**SECTION 14 - REQUIRED CERTIFICATIONS (Env-Wt 311.11)**

Initial each box below to certify:

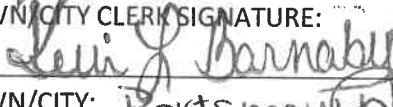
DCM Initials:	To the best of the signer's knowledge and belief, all required notifications have been provided.
DCM Initials:	The information submitted on or with the application is true, complete, and not misleading to the best of the signer's knowledge and belief.
DCM Initials:	The signer understands that: - The submission of false, incomplete, or misleading information constitutes grounds for NHDES to: - Deny the application. - Revoke any approval that is granted based on the information. - If the signer is a certified wetland scientist, licensed surveyor, or professional engineer licensed to practice in New Hampshire, refer the matter to the joint board of licensure and certification established by RSA 310-A:1.
ESF Initials:	If the applicant is not the owner of the property, each property owner signature shall constitute certification by the signer that he or she is aware of the application being filed and does not object to the filing.

SECTION 15 - REQUIRED SIGNATURES (Env-Wt 311.04(d); Env-Wt 311.11)

SIGNATURE (OWNER): 	PRINT NAME LEGIBLY: Erich Fiedler	DATE: 10/21/25
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER):	PRINT NAME LEGIBLY:	DATE:
SIGNATURE (AGENT, IF APPLICABLE): 	PRINT NAME LEGIBLY: Duncan Mellor, PE	DATE: 8-25-25

SECTION 16 - TOWN / CITY CLERK SIGNATURE (Env-Wt 311.04(f))

As required by RSA 482-A:3, I(a)(1), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.

TOWN/CITY CLERK SIGNATURE: 	PRINT NAME LEGIBLY: Kelli L. Barnaby
TOWN/CITY: Portsmouth	DATE: 10/23/25

DIRECTIONS FOR TOWN/CITY CLERK:

Per RSA 482-A:3, I(a)(1)

1. IMMEDIATELY sign the original application form and four copies in the signature space provided above.
2. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
3. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board.
4. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

DIRECTIONS FOR APPLICANT:

Submit the original permit application form bearing the signature of the Town/City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery at the address at the bottom of this page. Make check or money order payable to "Treasurer – State of NH".

Keep this checklist for your reference; do not submit with your application.

APPLICATION CHECKLIST

Unless specified, all items below are required. Failure to provide the required items will delay a decision on your project and may result in denial of your application. Please reference statute RSA 482-A, Fill and Dredge in Wetlands, and the [Wetland Rules Env-Wt 100-900](#).

- ☐ The completed, dated, signed, and certified application (Env-Wt 311.03(b)(1)).
- ☐ Correct fee as determined in RSA 482-A:3, I(b) or (c), subject to any cap established by RSA 482-A:3, X (Env-Wt 311.03(b)(2)). Make check or money order payable to "Treasurer – State of NH".
- ☐ The Required Planning actions required by Env-Wt 311.01(a)-(c) and Env-Wt 311.03(b)(3).
- ☐ [US Army Corps of Engineers \(ACE\) "Appendix B, New Hampshire General Permits \(GPs\), Required Information and Corps Secondary Impacts Checklist"](#) and its required attachments (Env-Wt 307.02). This includes the [US Fish and Wildlife Service IPAC review](#) and [Section 106 Historic/Archaeological Resource review](#).
- ☐ Project plans described in Env-Wt 311.05 (Env-Wt 311.03(b)(4)).
- ☐ Maps, or electronic shape files and meta data, and other attachments specified in Env-Wt 311.06 (Env-Wt 311.03(b)(5)).
- ☐ Explanation of the methods, timing, and manner as to how the project will meet standard permit conditions required in Env-Wt 307 (Env-Wt 311.03(b)(7)).
- ☐ If applicable, the information regarding proposed compensatory mitigation specified in Env-Wt 311.08 and Chapter Env-Wt 800 - [Permittee Responsible Mitigation Project Worksheet](#), unless not required under Env-Wt 313.04 (Env-Wt 311.03(b)(8); Env-Wt 311.08; Env-Wt 313.04).
- ☐ Any additional information specific to the **type of resource** as specified in Env-Wt 311.09 (Env-Wt 311.03(b)(9); Env-Wt 311.04(j)).
- ☐ Project specific information required by Env-Wt 500, Env-Wt 600, and Env-Wt 900 (Env-Wt 311.03(b)(11)).
- ☐ A list containing the name, mailing address and tax map/lot number of each abutter to the subject property (Env-Wt 311.03(b)(12)).
- ☐ Copies of certified postal receipts or other proof of receipt of the notices that are required by RSA 482-A:3, I(d) (Env-Wt 311.03(b)(13)).
- ☐ Project design considerations required by Env-Wt 313 (Env-Wt 311.04(j)).
- ☐ Town tax map showing the subject property, the location of the project on the property, and the location of properties of abutters with each lot labeled with the name and mailing address of the abutter (Env-Wt 311.06(a)).
- ☐ Dated and labeled color photographs that:
 - (1) Clearly depict:
 - a. All jurisdictional areas, including but not limited to portions of wetland, shoreline, or surface water where impacts have or are proposed to occur.
 - b. All existing shoreline structures.
 - (2) Are mounted or printed no more than 2 per sheet on 8.5 x 11 inch sheets (Env-Wt 311.06(b)).
- ☐ A copy of the appropriate US Geological Survey map or updated data based on LiDAR at a scale of one inch equals 2,000 feet showing the location of the subject property and proposed project (Env-Wt 311.06(c)).
- ☐ A narrative that describes the work sequence, including pre-construction through post-construction, and the relative timing and progression of all work (Env-Wt 311.06(d)).

- ☐ For all projects in the protected tidal zone, a copy of the recorded deed with book and page numbers for the property (Env-Wt 311.06(e)).
- ☐ If the applicant is not the owner in fee of the subject property, documentation of the applicant's legal interest in the subject property, provided that for utility projects in a utility corridor, such documentation may comprise a list that:
 - (1) Identifies the county registry of deeds and book and page numbers of all of the easements or other recorded instruments that provide the necessary legal interest; and
 - (2) Has been certified as complete and accurate by a knowledgeable representative of the applicant (Env-Wt 311.06(f)).
- ☐ The NHB memo containing the NHB identification number and results and recommendations from NHB as well as documentation of any consultation requests made to NHFG, communications and information related to the consultation, with the consultation results and recommendations from NHFG. (Env-Wt 311.06(g)). See [Wetlands Permitting: Protected Species and Habitat Fact Sheet](#).
- ☐ A statement of whether the applicant has received comments from the local conservation commission and, if so, how the applicant has addressed the comments (Env-Wt 311.06(h)).
- ☐ For projects in LAC jurisdiction, a statement of whether the applicant has received comments from the LAC and, if so, how the applicant has addressed the comments (Env-Wt 311.06(i)).
- ☐ If the applicant is also seeking to be covered by the state general permits, a statement of whether comments have been received from any federal agency and, if so, how the applicant has addressed the comments (Env-Wt 311.06(j)).
- ☐ [Avoidance and Minimization Written Narrative](#) or the [Avoidance and Minimization Checklist](#), or your own avoidance and minimization narrative (Env-Wt 311.07).
- ☐ For after-the-fact applications: information required by Env-Wt 311.12.
- ☐ [Coastal Resource Worksheet](#) for coastal projects as required under Env-Wt 600.
- ☐ Prime Wetlands information required under Env-Wt 700. See [WPPT](#) for prime wetland mapping.
- ☐ For non-tidal shoreline structure projects, the length of shoreline frontage per Env-Wt 311.09(b)(1)

Required Attachments for Minor and Major Projects

- ☐ [Attachment A: Minor and Major Projects](#) (Env-Wt 313.03).
- ☐ [Functional Assessment Worksheet](#) or others means of documenting the results of actions required by Env-Wt 311.10 as part of an application preparation for a standard permit (Env-Wt 311.03(b)(3); Env-Wt 311.03(b)(10)). See [Functional Assessments for Wetlands and Other Aquatic Resources Fact Sheet](#). For shoreline structures, see shoreline structures exemption in Env-Wt 311.03(b)(10)).

Optional Materials

- ☐ [Stream Crossing Worksheet](#) which summarizes the requirements for stream crossings under Env-Wt 900.
- ☐ Request for [concurrent processing of related shoreland / wetlands permit applications](#) (Env-Wt 313.05).

4 Tree Island Shoreline Repairs – Portsmouth, NH

Project Narrative

Shoreline repairs are proposed at 4 Tree Island in Portsmouth on the banks of Portsmouth Harbor. This is a waterfront park created in 1975, that included a causeway to access the island.

There are three repair locations. Stone revetment repairs are proposed on a short length (50 LF) of revetment that is recessed and has undersized stones compared to the adjacent revetments. Proposed repairs are an overlay of correctly sized armor stone. All work will be performed in the dry, above water level. No soil excavation is proposed. 674 SF below HOTL, 293 SF above HOTL.

The second repair is relining the 7 foot diameter steel culvert under the causeway that has severe corrosion and is collapsing, with buried utilities above. The repair will remove armor stones that have fallen into the culvert, cut away deformed portions of the steel, and insert a new 5 foot diameter HDPE plastic culvert pipe into the existing culvert without excavation. The void space between the pipes will be bricked at the ends, with the void space grouted. This culvert has minimal tidal flow (not measurable) and only connects two coves both fronting the harbor with no design flow. 290 SF below HOTL.

The third repair area is along a causeway to the northern sculpture on the eastern side exposed to larger waves. These revetment stones are generally too small for the wave exposure and the upper stones have slumped down the bank. The damaged portions of this revetment will be reset using correctly sized armor stones for the surface layer. All work will be performed in the dry, above water level. No soil excavation is proposed. 618 SF below HOTL, 593 SF above HOTL.

Total 2,468 SF of temporary impacts within previously developed footprints with all work in the dry. Soil disturbance is not anticipated; however if soil is exposed it will be stabilized with crushed stone. The Portsmouth Conservation Commission has not held a hearing or issued comments.

Repair Stone Specifications:

Angular armor stone, minimum 2 tons.

Anticipated volume of new stone: 194 CY.

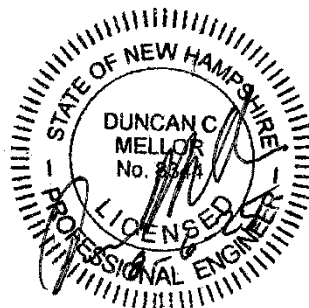
Bedding Layer: existing revetment stones, thickness unknown.

Repair thickness varies depending on existing, prepared and finish stone elevations, approximately 2.6 feet average.

See permit drawings for locations and cross sections.

Engineering assessment by:

Duncan Mellor, PE
Principal Coastal Engineer
Civilworks New England





AVOIDANCE AND MINIMIZATION CHECKLIST

Water Division/Land Resources Management

Wetlands Bureau

Check the Status of your Application



RSA/Rule: RSA 482-A/ Env-Wt 311.07(c)

This checklist can be used in lieu of the written narrative required by Env-Wt 311.07(a) to demonstrate compliance with requirements for Avoidance and Minimization (A/M), pursuant to RSA 482-A:1 and Env-Wt 311.07(c).

For the construction or modification of non-tidal shoreline structures over areas of surface waters without wetland vegetation, complete only Sections 1, 2, and 4 (or the applicable sections in Attachment A: Minor and Major Projects (NHDES-W-06-013)).

The following definitions and abbreviations apply to this worksheet:

- “A/M BMPs” stands for Wetlands Best Management Practice Techniques for Avoidance and Minimization dated 2019, published by the New England Interstate Water Pollution Control Commission (Env-Wt 102.18).
- “Practicable” means available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes (Env-Wt 103.62).

SECTION 1 - CONTACT/LOCATION INFORMATION

APPLICANT LAST NAME, FIRST NAME, M.I.: City of Portsmouth

PROJECT STREET ADDRESS: Peirce Island Road

PROJECT TOWN: Portsmouth

TAX MAP/LOT NUMBER: 208/2

SECTION 2 - PRIMARY PURPOSE OF THE PROJECT

Env-Wt 311.07(b)(1)

Indicate whether the primary purpose of the project is to construct a water-access structure or requires access through wetlands to reach a buildable lot or the buildable portion thereof.

☐ Yes ☒ No

If you answered “no” to this question, describe the purpose of the “non-access” project type you have proposed:

Revetment repairs and culvert relining in tidal waters (at high tide) and tidal buffer zone adjacent to tidal waters. All work in the dry and within existing footprints.

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SECTION 3 - A/M PROJECT DESIGN TECHNIQUES

Check the appropriate boxes below in order to demonstrate that these items have been considered in the planning of the project. Use N/A (not applicable) for each technique that is not applicable to your project.

Env-Wt 311.07(b)(2)	For any project that proposes new permanent impacts of more than one acre or that proposes new permanent impacts to a Priority Resource Area (PRA), or both, whether any other properties reasonably available to the applicant, whether already owned or controlled by the applicant or not, could be used to achieve the project's purpose without altering the functions and values of any jurisdictional area, in particular wetlands, streams, and PRAs.	☐ Check ☒ N/A
Env-Wt 311.07(b)(3)	Whether alternative designs or techniques, such as different layouts, construction sequencing, or alternative technologies could be used to avoid impacts to jurisdictional areas or their functions and values.	☒ Check ☐ N/A
Env-Wt 311.07(b)(4) Env-Wt 311.10(c)(1) Env-Wt 311.10(c)(2)	The results of the functional assessment required by Env-Wt 311.03(b)(10) were used to select the location and design for the proposed project that has the least impact to wetland functions.	☒ Check ☐ N/A
Env-Wt 311.07(b)(4) Env-Wt 311.10(c)(3)	Where impacts to wetland functions are unavoidable, the proposed impacts are limited to the wetlands with the least valuable functions on the site while avoiding and minimizing impacts to the wetlands with the highest and most valuable functions.	☐ Check ☒ N/A
Env-Wt 313.01(c)(1) Env-Wt 313.01(c)(2) Env-Wt 313.03(b)(1)	No practicable alternative would reduce adverse impact on the area and environments under the department's jurisdiction and the project will not cause random or unnecessary destruction of wetlands.	☒ Check ☐ N/A
Env-Wt 313.01(c)(3)	The project would not cause or contribute to the significant degradation of waters of the state or the loss of any PRAs.	☒ Check ☐ N/A
Env-Wt 313.03(b)(3) Env-Wt 904.07(c)(8)	The project maintains hydrologic connectivity between adjacent wetlands or stream systems.	☐ Check ☒ N/A
Env-Wt 311.10 A/M BMPs	Buildings and/or access are positioned away from high function wetlands or surface waters to avoid impact.	☒ Check ☐ N/A
Env-Wt 311.10 A/M BMPs	The project clusters structures to avoid wetland impacts.	☐ Check ☒ N/A
Env-Wt 311.10 A/M BMPs	The placement of roads and utility corridors avoids wetlands and their associated streams.	☐ Check ☒ N/A
A/M BMPs	The width of access roads or driveways is reduced to avoid and minimize impacts. Pullouts are incorporated in the design as needed.	☐ Check ☒ N/A
A/M BMPs	The project proposes bridges or spans instead of roads/driveways/trails with culverts.	☐ Check ☒ N/A

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A/M BMPs	The project is designed to minimize the number and size of crossings, and crossings cross wetlands and/or streams at the narrowest point.	☐ Check ☒ N/A
Env-Wt 500 Env-Wt 600 Env-Wt 900	Wetland and stream crossings include features that accommodate aquatic organism and wildlife passage.	☐ Check ☒ N/A
Env-Wt 900	Stream crossings are sized to address hydraulic capacity and geomorphic compatibility.	☐ Check ☒ N/A
A/M BMPs	Disturbed areas are used for crossings wherever practicable, including existing roadways, paths, or trails upgraded with new culverts or bridges.	☐ Check ☒ N/A
SECTION 4 - NON-TIDAL SHORELINE STRUCTURES		
Env-Wt 313.03(c)(1)	The non-tidal shoreline structure has been designed to use the minimum construction surface area over surfaces waters necessary to meet the stated purpose of the structure.	☐ Check ☐ N/A
Env-Wt 313.03(c)(2)	The type of construction proposed for the non-tidal shoreline structure is the least intrusive upon the public trust that will ensure safe navigation and docking on the frontage.	☐ Check ☐ N/A
Env-Wt 313.03(c)(3)	The non-tidal shoreline structure has been designed to avoid and minimize impacts on the ability of abutting owners to use and enjoy their properties.	☐ Check ☐ N/A
Env-Wt 313.03(c)(4)	The non-tidal shoreline structure has been designed to avoid and minimize impacts to the public's right to navigation, passage, and use of the resource for commerce and recreation.	☐ Check ☐ N/A
Env-Wt 313.03(c)(5)	The non-tidal shoreline structure has been designed, located, and configured to avoid impacts to water quality, aquatic vegetation, and wildlife and finfish habitat.	☐ Check ☐ N/A
Env-Wt 313.03(c)(6)	The non-tidal shoreline structure has been designed to avoid and minimize the removal of vegetation, the number of access points through wetlands or over the bank, and activities that may have an adverse effect on shoreline stability.	☐ Check ☐ N/A



TIDAL SHORELINE STABILIZATION PROJECT-SPECIFIC WORKSHEET FOR STANDARD APPLICATION



Water Division/Land Resources Management Wetlands Bureau

[Check the Status of your Application](#)

RSA/Rule: RSA 482-A/ Env-Wt 609

This worksheet summarizes the criteria and requirements for a Standard Permit for "Tidal Shoreline Stabilization" projects in tidal areas as outlined in Chapter Env-Wt 600. In addition to the project-specific criteria and requirements on this worksheet, all Standard Applications must meet the criteria and requirements listed in the Standard Dredge and Fill Wetlands Permit Application Form (NHDES-W-06-012) and the Coastal Resource Worksheet (NHDES-W-06-079).

SECTION 1 - APPLICATION REQUIREMENTS (Env-Wt 609.02)

Applications for tidal shoreline stabilization projects shall demonstrate that:

- ☒ The technique or combinations of techniques is based on best available scientific and engineering practices.
- ☒ The proposed technique or combination of techniques addresses:
 - Results of the avoidance and minimization narrative required in Env-Wt 311.07, the avoidance, minimization and mitigation demonstration required in Env-Wt 313.03 and Env-Wt 313.04, the coastal functional assessment (CFA) required in Env-Wt 603.04, and the project design narrative required in Env-Wt 603.06,
 - Any causes of erosion that can be identified,
 - The degree or extent of erosion,
 - Relative exposure based on shoreline geometry, shore orientation, intensity of boat traffic, influence of adjacent structures, storm surge, and extreme precipitation events,
 - Potential sea-level rise and vulnerability assessment under Env-Wt 603.05,
 - Potential marsh migration as a result of sea-level rise and
 - The design requirements of Env-Wt 514.04.

An application for a tidal shoreline stabilization shall include the following information:

- ☒ Tidal shoreline stabilization shall be accomplished using living shoreline techniques, per Env-Wt 609.04(b), unless the applicant demonstrates that a living shoreline is not practicable.

Applicants proposing to install new rip-rap shall include the following information with the application:

- ☒ Evidence of erosion that cannot be stabilized solely with a soft stabilization design.
- ☒ A description of anticipated turbulence, flows, restricted space, fetch or similar factors that render vegetative and diversion methods physically impractical.
- ☒ An assessment of the potential for the proposed rip-rap to erode the shoreline of neighboring properties, based on an examination of the shoreline and modeling based on tides, average wave height and force, and the energy absorption of deflection or the proposed rip-rap.
- ☒ Specification of minimum and maximum stone sizes, existing contours and final proposed contours, the volume of rip-rap to be used, the minimum and maximum rip-rap thickness, and the type and thickness of bedding for the stone.
- ☒ Cross-section and plan views of the proposed installation.
- ☒ The relationship of the project to fixed points of reference, abutting properties, and features of the natural shoreline.

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SECTION 2 - APPROVAL CRITERIA (Env-Wt 607.07; Env-Wt 607.08; Env-Wt 609.01; Env-Wt 609.09)

Applications for tidal shoreland stabilization projects shall:

- ☒ Maintain or enhance the natural process functions of the shoreline as the critical transition zone between the intertidal zone and upland tidal buffer zone/sand dune regimes.
- ☒ Provide wildlife habitat while providing protection against coastal hazards.
- ☒ Be compatible with the existing natural land cover and its functions.
- ☒ Address the known causes of erosion.
- ☒ Avoid adverse impacts to near shore ecosystem processes, habitats, and adjacent shoreline.

The department shall not approve any tidal shoreline stabilization plan that proposes to install new rip-rap unless the applicant demonstrates that:

- ☒ Anticipated turbulence, flows, restricted space, fetch or similar factors render soft stabilization methods physically impractical, and
- ☒ Natural areas or naturalized soft shoreline stabilization on neighboring properties will not be damaged by the placement of the proposed rip-rap, or
- ☒ Rip-rap is a component used as a sill to stabilize the toe, but is not the primary or dominant component of a living shoreline stabilization design.

The department shall not approve any tidal shoreline stabilization plan that proposes to install a wall unless:

- ☐ The wall is required to protect public infrastructure in situations where softer stabilization technique is shown to be impracticable.

SECTION 3 - DESIGN & CONSTRUCTION REQUIREMENTS (Env-Wt 609.05; Env-Wt 609.06)

Living shoreline design plans shall:

- ☐ Be prepared and stamped by a professional engineer and reviewed relative to delineations of wetlands and stamped by a certified wetland scientist in accordance with the "Guidance for Considering the Use of Living Shorelines" (National Oceanic and Atmospheric Administration, 2015).
- ☐ Be prepared to show that the project will:
 - Use native vegetation, sand fill, and limited stone or wood as specified in Env-Wt 609.06 to provide shoreline stabilization and protection,
 - Mimic the natural landscape and leave natural vegetation intact to the greatest extent practicable,
 - If practicable, be based on the location of the highest observable tide line, water turbulence and soil conditions, add vegetation to existing sand beaches or dune or construct vegetated sand dunes,
 - Design the sill to the lowest elevation possible that still ensure stabilization of the toe of the living shoreline,
 - Maintain the shoreline's ability to absorb and mitigate storm impacts and adapt to the landward progression of the sea,
 - Minimize or prevent wave reflection toward abutting properties,
 - If space and soil conditions allow, cut back unstable banks to a flatter slope, seed and replant with native, non-invasive trees and shrubs, and
 - Provide habitat for wildlife and aquatic species.
- ☐ Large wood debris and natural rock that is comparable to the natural-occurring rock found in the vicinity of the project may be incorporated into a soft tidal shoreline stabilization design as matrix material for a bio-engineering bank stabilization technique.

Living shoreline techniques shall be required if the project is to replace an existing stabilization structure that:

- ☐ Has not functioned as required by Env-Wt 609.0, or
- ☐ Is not an existing legal structure.

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SECTION 4 - MAINTENANCE & REPAIR (Env-Wt 609.03; Env-Wt 609.08)

Applications for repair or rehabilitation of existing tidal shoreland stabilization structures shall include an analysis by the engineer or qualified coastal professional to rate the conditions of the existing structure and the purpose for the repair based on the following:

- ☒ The degree of damage or extent of deterioration, as applicable, such as missing components, cracking, or weeping with erosion.
- ☒ Whether opportunities exist to use soft bank stabilization components or a combination of soft and hard components.
- ☒ The ability of the structure to withstand coastal flood risk in accordance with the vulnerability assessment required by Env-Wt 603.05.

SECTION 5 - PROJECT CLASSIFICATION (Env-Wt 609.10; Env-Wt 609.11)

Refer to Env-Wt 609.10 and Env-Wt 609.11 for project classification.



PROTECTED TIDAL ZONE PROJECT-SPECIFIC WORKSHEET FOR STANDARD APPLICATION



Water Division/Land Resources Management

Wetlands Bureau

[Check the Status of your Application](#)

RSA/Rule: RSA 482-A/ Env-Wt 610

This worksheet summarizes the criteria and requirements for a Standard Permit for impact in the “Protected Tidal Zone”, one of the six specific project types in tidal area described in Chapter Env-Wt 600. In addition to the project-specific criteria and requirements on this worksheet, all Standard Applications must meet the criteria and requirements listed in the Standard Application form (NHDES-W-06-012) and the Coastal Resource Worksheet.

SECTION 1 - APPLICATION REQUIREMENTS FOR PROTECTED TIDAL ZONE AND REQUIRED ATTACHMENTS (Env-Wt 610.04)

The following plans and other information shall be submitted with applications for work within the protected tidal zone:

- ☒ Existing and proposed contours at 2-foot intervals measured from the Highest Observable Tide Line (HOTL);
- ☒ If any portion of the subject parcel is located in a regulatory floodplain, the location of the 100-year flood boundary zone, and water elevation as shown on the applicable Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map;
- ☒ All of applicable local and state setbacks;
- ☒ The dimensions and locations of all:
 - ☒ Existing and proposed structures;
 - ☒ Existing and proposed impervious areas;
 - ☒ Existing and proposed disturbed areas;
 - ☒ Areas to remain in an unaltered state;
 - ☒ Existing cleared areas, such as gardens, lawns, and paths; and
 - ☒ Proposed temporary impacts associated with the completion of the project;
- ☒ Proposed methods of erosions and siltation controls, identified graphically and labeled on a plan, or otherwise annotated as needed for clarity;
- ☐ A plan of any planting(s) proposed in the waterfront buffer, showing the proposed locations(s) and Latin names or common names of proposed species;
- ☐ If applicable, the location of an existing or proposed 6-foot wide foot path to the waterbody or a temporary access path;
- ☐ For any project proposing that the impervious area be at least 15% but not more than 20% within the protected tidal zone, a statement signed by the applicant certifying that the impervious area is not more than 20%
- ☐ For any project proposing that impervious area be greater than 20% within the protected tidal zone, plans for a stormwater management system that will infiltrate increased stormwater from development provided that if impervious area is or is proposed to be greater than 30%, the stormwater management systems shall be designed by a professional engineer;
- ☐ For any project involving pervious surfaces, a plan with specifications of how those surfaces will be maintained; and
- ☐ All other relevant features necessary to clearly define both existing conditions and the proposed project.

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SECTION 2 - APPROVAL CRITERIA (Env-Wt 313.01)

- ☒ An application for structure construction within the protected tidal zone shall comply with Env-Wt 313.01.

SECTION 3 - DESIGN & CONSTRUCTION REQUIREMENTS (Env-Wt 610.03)

The construction of structures within the protected tidal zone shall comply with:

- ☐ The standards described in FEMA P-55, Coastal Construction Manual: Principles and Practices of Planning, Siting, Designing, Constructing and Maintaining Residential Buildings in Coastal Areas, 4th edition (2011); and
- ☒ Local resiliency planning ordinances.

SECTION 4 - PROTECTED TIDAL ZONE RESTRICTIONS (Env-Wt 610.05- 610.13)

- ☒ The restrictions identified in RSA 483-B:9, II shall apply to the protected tidal zone;
- ☒ The provisions of RSA 483-B:9, V(a) related to the maintenance of a waterfront buffer shall apply to the protected tidal zone within 50 feet of the HOTL;
- ☐ Accessory structures in the waterfront buffer shall comply with the applicable provisions of Env-Wq 1400;
- ☒ The provisions of RSA 483-B:9, V(b) related to the maintenance of a woodland buffer shall apply to the protected tidal zone within 150 feet of the HOTL;
- ☒ The provisions of RSA 483-B:9, V(c) related to individual sewage disposal systems shall apply to the protected tidal zone;
- ☒ The provisions of RSA 483-B:9, V(d) related to erosion and siltation shall apply to the protected tidal zone;
- ☒ The provisions of RSA 483-B:9, V(e) related to minimum lots and residential development shall apply to the protected tidal zone;
- ☒ The provisions of RSA 483-B:9, V(f) related to minimum lots and non-residential development shall apply to the protected tidal zone; and
- ☒ The provisions of RSA 483-B:9 V(g) related to impervious surfaces shall apply to the protected tidal zone.

SECTION 5 - PROJECT CLASSIFICATION (Env-Wt 610.17)***(a) A major project shall be:***

- (1) Any dredging, filling, or construction activity, or any combination thereof, that is proposed to:
 - a. Occur within 100 feet of the HOTL; and
 - b. Alter any tidal shoreline bank, tidal flat, wetlands, surface water, or undeveloped uplands; or
- (2) A project that would be major based on an aggregation of projects under Env-Wt 400.

(b) A minor project shall be any dredging, filling, or construction activity, or any combination thereof, that:

- (1) Involves work within 75 feet of a saltmarsh in the developed upland tidal buffer;
- (2) Is not a major project; and
- (3) Will disturb 3,000 square feet (SF) or more but less than 10,000 SF in the developed upland tidal buffer.

(c) A minimum impact project shall be any dredging, filling, or construction activity, or any combination thereof, that:

- (1) Is in a previously developed upland area;
- (2) Is within 100 feet of the HOTL; and
- (3) Will disturb less than 3,000 SF.



COASTAL RESOURCE WORKSHEET
Water Division/Land Resources Management
Wetlands Bureau
Check the Status of your Application



RSA/Rule: RSA 482-A/ Env-Wt 600

APPLICANT LAST NAME, FIRST NAME, M.I.: City of Portsmouth

This worksheet may be used to present the information required for projects in coastal areas, in addition to the information required for Lower-Scrutiny Approvals, Expedited Permits, and Standard Permits under Env-Wt 603.01.

Please refer to Env-Wt 605.03 for impacts requiring compensatory mitigation.

SECTION 1 - REQUIRED INFORMATION (Env-Wt 603.02; Env-Wt 603.06; Env-Wt 603.09)

The following information is required for projects in coastal areas.

Describe the purpose of the proposed project, including the overall goal of the project, the core project purpose consisting of a concise description of the facilities and work that could impact jurisdictional areas, and the intended project outcome. Specifically identify all natural resource assets in the area proposed to be impacted and include maps created through a data screening in accordance with Env-Wt 603.03 (refer to Section 2) and Env-Wt 603.04 (refer to Section 3) as attachments.

The proposed project is repair of a stone revetment, and relining of a tidal culvert. The length of the repairs are shown on the drawings. The work will occur in the dry (work is above mid tide) and is developed tidal buffer zone with no impacts to tidal wetlands or PRA. This project does not impact natural resource assets. The repair materials are correctly sized and resistant to erosion. The proposed project maintains the existing location and has no impact on navigation. The narrative showing the project meets standard and approval conditions are listed above as Env-Wt 307 and 313.01 responses. The anticipated construction sequence is import the needed armor stones, install armor stones, perform resetting repairs, reline the culvert with non-corrosive HDPE pipe.

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For standard permit projects, provide:

- ☒ A Coastal Functional Assessment (CFA) report in accordance with Env-Wt 603.04 (refer to Section 3).
- ☒ A vulnerability assessment in accordance with Env-Wt 603.05 (refer to Section 4).

Explain all recommended methods and other considerations to protect the natural resource assets during and as a result of project construction in accordance with Env-Wt 311.07, Env-Wt 313, and Env-Wt 603.04.

The repair stone materials are correctly sized and resistant to erosion. The proposed project maintains the existing location and has no impact on navigation. The narrative showing the project meets standard and approval conditions are listed above as Env-Wt 307, 313 and 603.04 responses.

Provide a narrative showing how the project meets the standard conditions in Env-Wt 307 and the approval criteria in Env-Wt 313.01.

See attached Env-Wt responses

Provide a project design narrative that includes the following:

- ☒ A discussion of how the proposed project:
 - Uses best management practices and standard conditions in Env-Wt 307;
 - Meets all avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;
 - Meets approval criteria in Env-Wt 313.01;
 - Meets evaluation criteria in Env-Wt 313.01(c);
 - Meets CFA requirements in Env-Wt 603.04; and
 - Considers sea-level rise and potential flooding evaluated pursuant to Env-Wt 603.05;
- ☒ A construction sequence, erosion/siltation control methods to be used, and a dewatering plan; and
- ☒ A discussion of how the completed project will be maintained and managed.

The owner will monitor the repairs, particularly following storms, to look for any signs of damage that might need repairs.

- ☒ Provide design plans that meet the requirements of Env-Wt 603.07 (refer to Section 5);
- ☒ Provide water depth supporting information required by Env-Wt 603.08 (refer to Section 6); and
- ☐ For any major project that proposes to construct a structure in tidal waters/wetlands or to extend an existing structure seaward, provide a statement from the Pease Development Authority Division of Ports and Harbors (DP&H) chief harbormaster, or designee, for the subject location relative to the proposed structure's impact on navigation. If the proposed structure might impede existing public passage along the subject shoreline on foot or by non-motorized watercraft, the applicant shall explain how the impediments have been minimized to the greatest extent practicable.

NA

SECTION 2 - DATA SCREENING (Env-Wt 603.03, in addition to Env-Wt 306.05)

Please use the Wetland Permit Planning Tool, or any other database or source, to indicate the presence of:

- ☒ Existing salt marsh and salt marsh migration pathways;
- ☒ Eelgrass beds;
- ☒ Documented shellfish sites;
- ☒ Projected sea-level rise; and
- ☒ 100-year floodplain.

Conduct data screening as described to identify documented essential fish habitat, and tides and currents that may be impacted by the proposed project, by using the following links:

- ☒ [National Oceanic and Atmospheric Administration \(NOAA\) Tides & Currents](#); and
- ☒ [NOAA Essential Fish Habitat Mapper](#).
- ☒ Verify or correct the information collected from the data screenings by conducting an on-site assessment of the subject property in accordance with Env-Wt 406 and Env-Wt 603.04.

SECTION 3 - COASTAL FUNCTIONAL ASSESSMENT/ AVOIDANCE AND MINIMIZATION (Env-Wt 603.04; Env-Wt 605.01; Env-Wt 605.02; Env-Wt 605.03)

Projects in coastal areas shall:

- ☒ Not impair the navigation, recreation, or commerce of the general public; and
- ☒ Minimize alterations in prevailing currents.

An applicant for a permit for work in or adjacent to tidal waters/wetlands or the tidal buffer zone shall demonstrate that the following have been avoided or minimized as required by Env-Wt 313.04:

- ☒ Adverse impacts to beach or tidal flat sediment replenishment;
- ☒ Adverse impacts to the movement of sediments along a shore;
- ☒ Adverse impacts on a tidal wetland's ability to dissipate wave energy and storm surge; and
- ☒ Adverse impacts of project runoff on salinity levels in tidal environments.

For standard permit applications submitted for minor or major projects:

- ☒ Attach a CFA based on the data screening information and on-site evaluation required by Env-Wt 603.03. The CFA for tidal wetlands or tidal waters shall be:
 - Performed by a qualified coastal professional; and
 - Completed using one of the following methods:
 - a. The US Army Corps of Engineers (USACE) Highway Methodology Workbook, dated 1993, together with the USACE New England District *Highway Methodology Workbook Supplement*, dated 1999; or
 - b. An alternative scientifically-supported method with cited reference and the reasons for the alternative method substantiated.

For any project that would impact tidal wetlands, tidal waters, or associated sand dunes, the applicant shall:

- ☒ Use the results of the CFA to select the location of the proposed project having the least impact to tidal wetlands, tidal waters, or associated sand dunes;
- ☒ Design the proposed project to have the least impact to tidal wetlands, tidal waters, or associated sand dunes;
- ☒ Where impact to wetland and other coastal resource functions is unavoidable, limit the project impacts to the least valuable functions, avoiding and minimizing impact to the highest and most valuable functions; and
- ☒ Include on-site minimization measures and construction management practices to protect coastal resource areas.

Projects in coastal areas shall use results of this CFA to:

- ☒ Minimize adverse impacts to finfish, shellfish, crustacean, and wildlife;
- ☒ Minimize disturbances to groundwater and surface water flow;
- ☒ Avoid impacts that could adversely affect fish habitat, wildlife habitat, or both; and
- ☒ Avoid impacts that might cause erosion to shoreline properties.

SECTION 4 - VULNERABILITY ASSESSMENT (Env-Wt 603.05)

Refer to the New Hampshire Coastal Flood Risk Summary Part 1: Science and New Hampshire Coastal Flood Risk Summary Part II: Guidance for Using Scientific Projections or other best available science to:

Determine the time period over which the project is designed to serve.

50 years anticipated until next repairs, see attached vulnerability assessment

Identify the project's relative risk tolerance to flooding and potential damage or loss likely to result from flooding to buildings, infrastructure, salt marshes, sand dunes and other valuable coastal resource areas.

highly tolerant, see attached vulnerability assessment

Reference the projected sea-level rise (SLR) scenario that most closely matches the end of the project design life and the project's tolerance to risk or loss.

highly tolerant, see attached vulnerability assessment

Identify areas of the proposed project site subject to flooding from SLR.

See drawings. The 0.3 feet of anticipated sea level rise in 50 years is minimal risk due to minor sea level rise over the design life and is too small to show relative to topographic contours, see attached vulnerability assessment

Identify areas currently located within the 100-year floodplain and subject to coastal flood risk.

see attached FEMA map showing the work areas mostly within the 1% FEMA flood zone. The revetment and culvert has minimal risk, and is a flood tolerant structure.

Describe how the project design will consider and address the selected SLR scenario within the project design life, including in the design plans.

See attached vulnerability assessment. The stone revetment and culvert are highly tolerant of sea level rise and the 0.3 feet of anticipated sea level rise is minimal, not affecting the design.

Where there are conflicts between the project's purpose and the vulnerability assessment results, schedule a pre-application meeting with the department to evaluate design alternatives, engineering approaches, and use of the best available science.

☐ Pre-application meeting date held:

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SECTION 5 - DESIGN PLANS (Env-Wt 603.07, in addition to Env-Wt 311)

Submit design plans for the project in both plan and elevation views that clearly depict and identify all required elements.

The plan view shall depict the following:

- ☒ The engineering scale used, which shall be no larger than one inch equals 50 feet;
- ☒ The location of tidal datum lines depicted as lines with the associated elevation noted, based on North American Vertical Datum of 1988 (NAVD 88), derived from https://tidesandcurrents.noaa.gov/datum_options.html, as described in Section 6.
- ☐ An imaginary extension of property boundary lines into the waterbody and a 20-foot setback from those property line extensions;
- ☒ The location of all special aquatic sites at or within 100 feet of the subject property;
- ☒ Existing bank contours;
- ☒ The name and license number, if applicable, of each individual responsible for the plan, including:
 - a. The agent for tidal docking structures who determined elevations represented on plans; and
 - b. The qualified coastal professional who completed the CFA report and located the identified resources on the plan;
- ☒ The location and dimensions of all existing and proposed structures and landscape features on the property;
- ☒ Tidal datum(s) with associated elevations noted, based on NAVD 88; and
- ☒ Location of all special aquatic sites within 100-feet of the property.

The elevation view shall depict the following:

- ☒ The nature and slope of the shoreline;
- ☒ The location and dimensions of all proposed structures, including permanent piers, pilings, float stop structures, ramps, floats, and dolphins; and
- ☒ Water depths depicted as a line with associated elevation at highest observable tide, mean high tide, and mean low tide, and the date and tide height when the depths were measured. Refer to Section 6 for more instructions regarding water depth supporting information.

See specific design and plan requirements for certain types of coastal projects:

- Overwater structures (Env-Wt 606).
- Tidal shoreline stabilization (Env-Wt 609).
- Dredging activities (Env-Wt 607).
- Protected tidal zone (Env-Wt 610).
- Tidal beach maintenance (Env-Wt 608).
- Sand Dunes (Env-Wt 611).

SECTION 6 - WATER DEPTH SUPPORTING INFORMATION REQUIRED (Env-Wt 603.08)

Using current predicted NOAA tidal datum for the location, and tying field measurements to NAVD 88, field observations of at least three tide events, including at least one minus tide event, shall be located to document the range of the tide in the proposed location showing the following levels:

- ☒ Mean lower low water;
- ☒ Mean low water;
- ☒ Mean high water;
- ☒ Mean tide level;
- ☒ Mean higher high water;
- ☒ Highest observable tide line; and
- ☒ Predicted sea-level rise as identified in the vulnerability assessment in Env-Wt 603.05.

The following data shall be presented in the application project narrative to support how water depths were determined:

- ☒ The date, time of day, and weather conditions when water depths were recorded; and
- ☒ The name and license number of the licensed land surveyor who conducted the field measurements.

For tidal stream crossing projects, provide:

- ☐ Water depth information to show how the tier 4 stream crossing is designed to meet Env-Wt 904.07(c) and (d).

For repair, rehabilitation or replacement of tier 4 stream crossings:

- ☐ Demonstrate how the requirements of Env-Wt 904.09 are met.

SECTION 7 - GENERAL CRITERIA FOR TIDAL BEACHES, TIDAL SHORELINE, AND SAND DUNES (Env-Wt 604.01)

Any person proposing a project in or on a tidal beach, tidal shoreline, or sand dune, or any combination thereof, shall evaluate the proposed project based on:

- ☒ The standard conditions in Env-Wt 307;
- ☒ The avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;
- ☒ The approval criteria in Env-Wt 313.01;
- ☒ The evaluation criteria in Env-Wt 313.05;
- ☒ The project specific criteria in Env-Wt 600;
- ☒ The CFA required by Env-Wt 603.04; and
- ☒ The vulnerability assessment required by Env-Wt 603.05.

New permanent impacts to sand dunes that provide coastal storm surge protection for protected species or habitat shall not be allowed except:

- ☐ To protect public safety; and
- ☐ Only if constructed by a state agency, coastal resiliency project, or for a federal homeland security project.

Projects in or on a tidal beach, tidal shoreline, or sand dune shall support integrated shoreline management that:

- ☒ Optimizes the natural function of the shoreline, including protection or restoration of habitat, water quality, and self-sustaining stability to flooding and storm surge; and
- ☒ Protects upland infrastructure from coastal hazards with a preference for living shorelines over hardened shoreline practices.

SECTION 8 - GENERAL CRITERIA FOR TIDAL BUFFER ZONES (Env-Wt 604.02)

The 100-foot statutory limit on the extent of the tidal buffer zone shall be measured horizontally. Any person proposing a project in or on an undeveloped tidal buffer zone shall evaluate the proposed project based on:

- ☒ The standard conditions in Env-Wt 307;
- ☒ The avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;
- ☒ The approval criteria in Env-Wt 313.01;
- ☒ The evaluation criteria in Env-Wt 313.05;
- ☒ The project specific criteria in Env-Wt 600;
- ☒ The CFA required by Env-Wt 603.04; and
- ☒ The vulnerability assessment required by Env-Wt 603.05.

Projects in or on a tidal buffer zone shall preserve the self-sustaining ability of the buffer area to:

- ☒ Provide habitat values;
- ☒ Protect tidal environments from potential sources of pollution;
- ☒ Provide stability of the coastal shoreline; and
- ☒ Maintain existing buffers intact where the lot has disturbed area defined under RSA 483-B:4, IV.

SECTION 9 - GENERAL CRITERIA FOR TIDAL WATERS/WETLANDS (Env-Wt 604.03)

Except as allowed under Env-Wt 606, permanent new impacts to tidal wetlands shall be allowed only to protect public safety or homeland security. Evaluation of impacts to tidal wetlands and tidal waters shall be based on:

- ☒ The standard conditions in Env-Wt 307;
- ☒ The avoidance and minimization requirements in Env-Wt 311.07 and Env-Wt 313.03;
- ☒ The approval criteria in Env-Wt 313.01;
- ☒ The evaluation criteria in Env-Wt 313.05;
- ☒ The project specific criteria in Env-Wt 600;
- ☒ The CFA required by Env-Wt 603.04; and
- ☒ The vulnerability assessment required by Env-Wt 603.05.

Projects in tidal surface waters or tidal wetlands shall:

- ☒ Optimize the natural function of the tidal wetland, including protection or restoration of habitat, water quality, and self-sustaining stability to storm surge;
- ☐ Be designed with a preference for living shorelines over hardened stabilization practices; and
- ☒ Be limited to public infrastructure or restoration projects that are in the interest of the general public, including a road, a bridge, energy infrastructure, or a project that addresses predicted sea-level rise and coastal flood risk.

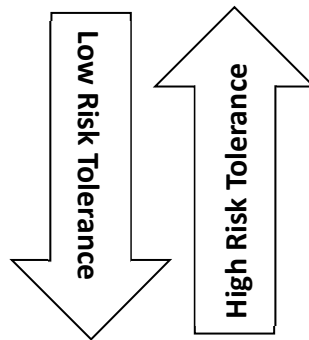
SECTION 10 – GUIDANCE

Your application must follow the New Hampshire Coastal Risk and Hazards Commission's Guiding Principles or other best available science. Below are some of these guidance principles:

- Incorporate science-based coastal flood risk projections into planning;
- Apply risk tolerance* to assessment, planning, design, and construction;
- Protect natural resources and public access;
- Create a bold vision, start immediately, and respond incrementally and opportunistically as projected coastal flood risks increase over time; and
- Consider the full suite of actions including effectiveness and consequences of actions.

*Risk tolerance is a project's willingness to accept a higher or lower probability of flooding impacts. The diagram below gives examples of project with lower and higher risk tolerance:

Critical infrastructures, historic sites, essential ecosystems, and high value assets typically have lower risk tolerance, and thus should be planned, designed, and constructed using higher coastal flood risk projections.



Sheds, pathways, and small docks typically have higher risk tolerance and thus may be planned, designed, and constructed using less protective coastal flood risk projections.

4 Tree Island Shoreline Repairs: Responses to specific rules:

Env-Wt 300 rules

Env-Wt 306.05(a)(1)

This site is a developed waterfront and has no wetlands to delineate near the project. The project site does not meet NHDES or Army Corps criteria for a wetland or Special Aquatic Site. References: US Army Corps of Engineers Wetland Delineation Manual, Jan 1987. US Army Corps of Engineers National Wetland Plant List, 2020.

Env-Wt 306.05(a)(2)(a)

Planning has been completed. The NHB DataCheck tool was utilized to find any documented occurrences of protected species or habitat, the DataCheck came back with results for vicinity common tern, peregrine falcon, marsh elder, Atlantic and Shortnose Sturgeon, however NHB and NHF&G determined the project will have no impacts. The site is unsuitable for salt marsh or dune habitat due to high wave energy and lack of sediment. The NHB review and CFA confirm that no protected species or critical habitats are present in the work areas, and the January 2024 storm impacts further support the absence of sensitive ecological features.

Env-Wt 306.05(a)(2)(b)

There is no bog on or in the vicinity of the project property.

Env-Wt 306.05(a)(2)(c)

The Portsmouth Harbor waterbody is listed by the WPPT mapper as a flood plain wetland adjacent to a tier 3 or higher watercourse. The tidal waters here are not wetlands or tidal wetlands or flood plain.

Env-Wt 306.05(a)(2)(d)

There is no prime wetland on or in the vicinity of the project property. The revetment is located on a developed shoreline with existing hard infrastructure.

Env-Wt 306.05(a)(2)(e)

The proposed repairs will be in the existing location in a developed area with no sand dune, tidal wetland or undeveloped tidal buffer zone. The site does not contain tidal wetlands. There are no undeveloped tidal buffer zones or tidal wetlands being altered, and the project does not propose any new encroachment.

Env-Wt 307.02

Acknowledged. We understand that the proposed work can be covered by the US ACE NH General Permit.

Env-Wt 307.03

The proposed project is not anticipated to violate water quality standards as the work will be timed around the tides to be done in the dry. The revetment design minimizes erosion and wave reflection. The use of clean, angular stone and reuse of existing material ensures no turbidity or sediment discharge into surface waters. The project will have no impact on groundwater or sanitary activity. Spill response kits will be on site appropriate for the mechanical equipment being used, the equipment operators trained for its use. Equipment will be refueled in accordance with Env-Wt 307.15.

Env-Wt 307.04

The proposed project will be performed in the dry and is not located within mapped bird migratory area or fish or shellfish spawning or nursery area and does not involve dredging resource area.

Env-Wt 307.05

The equipment and materials to be used for the proposed work are not expected to carry invasive species.

Env-Wt 307.06

The NHB (DCT25-2309) data check results mapped vicinity common tern, peregrine falcon, marsh elder, Atlantic and Shortnose Sturgeon, but with no anticipated impacts.

Env-Wt 307.07

The project is consistent with RSA 483-B, as all work is in the dry and within existing structures. No new impervious surfaces or vegetation removal is proposed. BMP's and Erosion controls will be utilized to protect water quality, such as performing the work in the dry around low tides, use of erosion controls if soil is disturbed.

Env-Wt 307.08

There are no designated prime wetlands located within the proposed project areas.

Env-Wt 307.09 & 307.11

No new shoreline structures are proposed to be built over public trust surface waters. The proposed project does consist of the repair of the existing revetment and culvert repairs in the existing footprint. BMP's and Erosion controls will be utilized to protect water quality, such as performing the work in the dry around low tides, use of erosion controls if soils are disturbed.

Env-Wt 307.12

The revetment repair and culvert work is anticipated to be performed with equipment operating on developed land and roadway. Disturbed areas will be stabilized and repaired in kind. The repaired revetment will meet modern slope and stone size criteria, improving long-term resilience.

Env-Wt 307.13

No direct abutters other than the City.

Env-Wt 307.14

Not applicable.

Env-Wt 307.15

The revetment repair is anticipated to be performed with equipment operating on developed land and roadway. Refueling will occur away from jurisdictional areas, with spill kits on site.

Env-Wt 307.16

Acknowledged.

Env-Wt 307.17

Acknowledged.

Env-Wt 307.18

Acknowledged.

Env-Wt 310.01 Response

Project location is at 4 Tree Island, Portsmouth, tax map 208, lot 2, adjacent to Portsmouth Harbor. The proposed repairs are necessary to fix storm damage and reduce future wave damage. The project has minimal impacts adjacent to tidal waters. The work area is not in a PRA at low tide or flood plain wetland adjacent to a tier 3 or higher watercourse as WPPT mapped. The project meets the conditions and limits of the minimum impact project rules. The proposed repair is the least impacting alternative, repairing within the same location. See attached photos. The drawings provided to define the work and are to scale with surveyed locations, dimensions and elevations to NAVD88 datum.

There are no wetlands at this site and the landform is lawn and picnic areas.

The NHB file number is DCT25-2309 and a non-confidential copy is attached.

Env-Wt 311 Response

The temporary and permanent impact areas are fully shown on the Repair Plan and the line for the 100' setback for the tidal buffer zone. Equipment access in the tidal buffer zone will be along existing roadways and pathways. The application includes all required elements: site plans, narrative, stone specifications.

Env-Wt 313.01 Response

The project avoids new impacts by working entirely within the existing revetment footprint. It minimizes disturbance by using existing accessways and reusing smaller stone for chinking and bedding. There is no practicable alternative that would be less impacting.

Env-Wt 313.03 Response

This revetment repair project is in the tidal buffer zone with no adverse impacts. See attached Avoidance & Minimization Checklist. Soft shoreline alternatives such as dunes or salt marshes are not practicable due to high wave energy and lack of sediment. The revetment is the only viable method for shoreline stabilization at this location and working within the existing footprint avoids new impacts.

Env-Wt 313.04 Response

The project qualifies as a repair of an existing structure with no expansion, and all work is in the dry, with less than 3,000 SF of impacts. It is therefore classified as a minimum impact project under the standard permit process.

Env-Wt 400 rules**Env-Wt 407.02(c) Response**

This repair project is classified as a Minimum based on area and the nature of the in-kind repairs, not a Major solely on documented occurrence of protected species or habitat.

Env-Wt 407.03 Response

The repair area is within an existing developed footprint. The access plus work areas are clearly defined and remain under the thresholds that would trigger a higher impact classification.

Env-Wt 500 rules (not applicable to coastal areas per Env-Wt 509.02(b))

Env-Wt 600 rules

Env-Wt 603.02 (a) Response

The proposed in-kind repairs are within the existing locations/dimensions and are located in a developed area with no sand dune, tidal wetland or undeveloped tidal buffer zone. The site is adjacent to tidal waters, but it is upper intertidal zone with no known protected species or habitat, or wetlands. The data screening mapping does show this location as Highest Ranked Habitat, however the actual land is driveway, pathways and mowed lawns. The proposed project is not anticipated to violate water quality standards as the work will be done in the dry.

Env-Wt 603.02 (b) Response

No natural resource assets in the project area. WPPT mapping is attached. The NHB DataCheck tool was utilized to find any documented occurrences of protected species or habitat, the DataCheck came back with results for vicinity common tern, peregrine falcon, marsh elder, Atlantic and Shortnose Sturgeon, however NHB and NHF&G determined the project will have no impacts. See attached CFA.

Env-Wt 603.02 (d) Response

The proposed revetment and culvert repairs are within the existing locations/dimensions and are located in a developed area with no sand dune, tidal wetland or undeveloped tidal buffer zone. The site is adjacent to tidal waters, but has no natural resource assets in the project area. The data screening mapping does show this location as Highest Ranked Habitat, however the actual land is driveway, pathways and mowed lawns. The proposed project is not anticipated to violate water quality standards as the work will be done in the dry. The NHB DataCheck tool was utilized to find any documented occurrences of protected species or habitat, the DataCheck came back with results for vicinity common tern, peregrine falcon, marsh elder, Atlantic and Shortnose Sturgeon, however NHB and NHF&G determined the project will have no impacts.

Env-Wt 603.02 (e & f) Response

The proposed revetment and culvert repairs are within the existing locations/dimensions and are located in a developed area with no sand dune, tidal wetland or undeveloped tidal buffer zone. The site is adjacent to tidal waters, but there are no natural resource assets in the project area. The data screening mapping does show this location as Highest Ranked Habitat, however the actual land is driveway, pathways and mowed lawns. The proposed project is not anticipated to violate water quality standards as the work will be done in the dry. Drawings with elevations are attached. The NHB DataCheck tool was utilized to find any documented occurrences of protected species or habitat, the DataCheck came back with results for vicinity common tern, peregrine falcon, marsh elder, Atlantic and Shortnose Sturgeon, however NHB and NHF&G determined the project will have no impacts.

Env-Wt 603.03 Response

The Data Screening is attached. A site specific sea level rise assessment memo is attached and the FEMA 1% flood map, resource maps and elevation are attached. The proposed project is not anticipated to cause impacts as the work will be done in the dry.

Env-Wt 603.03(a)(4) Response

Data Screening Corrections: The NHB DataCheck tool was utilized to find any documented occurrences of protected species or habitat, the DataCheck came back with results for vicinity common tern, peregrine falcon, marsh elder, Atlantic and Shortnose Sturgeon, however NHB and NHF&G determined the project will have no anticipated impacts. The NHB mapping for marine and estuarine wildlife is not correct under NH RSA 212-A:13 says that the provisions of RSA 212-A or any rule promulgated under this chapter, shall not be applicable to marine or estuarine species of wildlife.

The WPPT mapper lists the waters at the site as "Flood Plain Wetlands Adjacent to Tier 3 Streams". These tidal waters are not a Flood Plain and are not Wetlands. The WPPT mapper also maps the mowed lawn areas on the developed site as "Highest Ranked Habitat in NH", which was not observed at this urban site.

The WPPT mapper on NWI tab maps classifications appear correct.

Env-Wt 603.04 Response

CFA attached.

Env-Wt 603.05 Response

A vulnerability assessment is attached. The revetment and culvert are tolerant of sea level rise and there are no conflicts with the project purpose.

Env-Wt 603.06 Response

The proposed revetment and culvert repairs are within the existing locations/dimensions and are located in a developed urban area with no sand dune, tidal wetland or undeveloped tidal buffer zone. The site does contain tidal waters, but no known resources, and is not apparent Highest Ranked Habitat (actual is pavement, buildings, lawns). The proposed project is not anticipated to violate water quality standards and will utilize working in the dry and erosion controls. As listed in the construction sequence note, soil disturbance is not anticipated, but if it occurs, erosion controls will be used downslope of the work area. This erosion control method has been used on many coastal projects and it works well.

The NHB DataCheck tool was utilized to find any documented occurrences of protected species or habitat, the DataCheck came back with results for vicinity common tern, peregrine falcon, marsh elder, Atlantic and Shortnose Sturgeon, however NHB and NHF&G determined the project will have no impacts.

Env-Wt 603.07 Response

The lot existing conditions plan with HOTL survey are Kevin McEneaney, LLS (NH 661) of Civilworks New England, see drawing notes. Design plans conforming to Env-Wt 603.07 are included in the application, prepared by Duncan Mellor, PE (NH 8344).

Env-Wt 603.08 Response

Water depths and tidal relationships shown of drawings, with water depths established by surveying methods to NAVD88 datum. The lot existing conditions plan with HOTL by Kevin McEneaney, LLS (NH 661) of Civilworks New England. Design plans conforming to Env-Wt 603.07 are included in the application, prepared by Duncan Mellor, PE (NH 8344).

Env-Wt 603.09 Response

This project is repair of an existing legal revetment, and culvert in the same location with no extension seaward with no impacts to navigation by boat or shoreline.

Env-Wt 604.01 Response

The proposed in-kind repairs are within the existing locations/dimensions and are located in a developed area with no sand dune, tidal wetland or undeveloped tidal buffer zone. The site does contain tidal waters, but no known resources, and is not actually Highest Ranked Habitat (driveways and mowed lawns). The proposed project is not anticipated to violate water quality standards and work will be performed in the dry.

Env-Wt 604.02 Response

See attached vulnerability assessments and Env-Wt responses. The proposed project makes no changes to the developed tidal buffer zone.

Env-Wt 604.03 Response

The proposed project has no impacts to tidal wetlands. See attached vulnerability assessments and Env-Wt responses.

Env-Wt 605.01 Response

See attached Avoidance & Minimization Checklist, Coastal Worksheet, Project Narrative, CFA and vulnerability assessments, which show how impacts to wetlands have been avoided and the temporary impacts to jurisdictional areas are limited to temporary access for repair and replacement of existing legal structures in existing footprints. The project design and methods have been selected to avoid all wetlands and minimize potential natural resource impacts.

This project is repair and replacement of existing legal structures in the same location with no extension seaward with no impacts to commerce, navigation by boat or shoreline. The project does not alter prevailing currents.

Env-Wt 605.02 Response

See attached Avoidance & Minimization Checklist, Coastal Worksheet, Project Narrative and vulnerability assessments, which show how impacts to wetlands have been avoided and the temporary access for repair and replacement of existing legal structures. The project design and methods have been selected to avoid all wetlands and minimize potential natural resource impacts. This is a developed urban site with a revetment along the shoreline and the proposed project has no impacts to sediment transport or replenishment.

The repair and replacement of the structures does not change wave energy dissipation or alter storm surge. This site is tidal waters, not riverine waters, and the proposed work has no change to storm surge storage or elevations. There is unlimited storm surge volume in the Atlantic Ocean and dredge or fill in this vicinity has no impact on flood elevation – it is driven by atmospheric pressure and wind direction/duration and is not a function of river flow. The project has no impact to runoff or salinity.

Env-Wt 605.03 Response

This maintenance project avoids and has no impacts to tidal wetlands.

Env-Wt 609.01 Response

In-kind reconstruction of the proposed length of existing revetment, and culvert will not alter wildlife habitat, coastal hazard protection, land cover and functions, erosion or nearshore ecosystems. The proposed work is within the existing footprint using matching materials and configuration with no adverse impacts to the buffer area habitat value, protection function, no pollution and enhanced shoreline stability using modern design methods to reduce future need for buffer zone work. The proposed work has no adverse impacts to beach and tidal flat replenishment, or sediment movement along the shore (see attached photos), no tidal wetlands here and no changes to salinity.

Env-Wt 609.02 Response

The proposed project does consist of the repair of the existing structures in the same footprint. The proposed repair is the least impacting alternative, reconstructing the existing structures in the same location. Potential sea level rise is discussed in the attached vulnerability assessment and is minimal over the 50-year anticipated service life of this work. There is no salt marsh here to migrate, the wave climate exceeds salt marsh survival criteria and the LRPPT mapped salt marsh migration does not match site topography and is not correct (shows lawn area above the seawall as salt marsh in 2050). The revetment and culvert are tolerant of storm surge and sea level rise. The NHDES preferred "soft" shoreline is not suitable for these wave exposures.

Env-Wt 609.03 (a) Response

A licensed engineer assessed the existing revetment and found it to be structurally functional where properly sized stone was used. Larger stones are needed in the damaged areas with an engineered configuration as shown on the attached drawings. See vulnerability analysis. Soft approaches if used at this site will fail in storms and would need frequent repairs, resulting in greater cumulative impacts. There is no engineering basis for a soft approach at this site and wave conditions.

Env-Wt 609.03 (b) Response

Yes, the existing revetment and culvert are functional.

Env-Wt 609.03 (c) Response

No. Wave heights here greatly exceed 1 foot making this site unsuitable for salt marsh creation or dune creation. This stone seawall is historical, which contributes to the desire for in-kind reconstruction. The site is also a fairly high wave energy zone with an H_{10} 4.3 foot breaking wind wave height and similar boat and tug wakes. The NHDES preferred "soft" shoreline is not suitable for these wave exposures.

Env-Wt 609.03 (d) Response

This is addressed in the attached vulnerability assessment. Best available science, as cited in the memo, has a high confidence rate of sea level rise over the next 50 years of 1.9 mm/yr so 0.3 feet in 50 years, using the NOAA referenced data indicated by FEMA 55. This is an insignificant sea level rise for this revetment. The vulnerability assessment also demonstrates that the DES cited UNH sea level rise projections are based on an out of date model that was not calibrated and is already in error too high by more than 6 inches (not Best Available Science).

The site is mapped as being within the FEMA flood zone (an insurance rate product not intended for engineering uses), as a AE zone with 1% flood elevation of 8 feet NAVD88. The revetment armor stone is correctly sized for the design wave conditions and can be submerged.

Env-Wt 609.04 Response

Wave heights here greatly exceed 1 foot making this site unsuitable for salt marsh creation. The site is also a fairly high wave energy zone with a 4.3 foot breaking wind wave height and similar boat and tug wakes. The NHDES preferred “soft” shoreline is not suitable for these wave exposures. There is no engineering basis for a soft approach at this site and wave conditions.

Soft alternatives will fail in this wave climate and placement of fill for planting would impact benthic habitat. The use of root wad living shorelines as constructed by UNH in the area have failed, releasing trees/root balls to float around the bay as a hazard to navigation (and were replaced with stone). The Year 1 monitoring report for the Wagon Hill Farm living shoreline project (with stone toe wall) with a similar wave exposure, reported a net 31 cubic yards of fill loss and significant loss of salt marsh along the offshore edge stone wall.

Env-Wt 609.06 Response

Use of rocks similar to the natural rocks is proposed for these repairs.

Env-Wt 609.07 Response

Existing stone revetment in a moderately high wave energy location with a 4.3 foot breaking wind wave height and similar boat and tug wakes. The NHDES preferred “soft” shoreline is not suitable for these wave exposures.

Env-Wt 609.09 Response

The requested permit to perform replacement to an existing legal shoreline revetment and culvert. The proposed project does consist of the repairs in the same footprint to minimize impacts. The drawings provided do define the work and are to scale with surveyed locations, dimensions and elevations to NAVD88 datum.

Env-Wt 609.10 Response

The project is Minimum Impact for repair of an existing legal revetment and culvert in the existing location that is fully exposed at low tide, and there are no impacts to protected species or habitat. There is no engineering basis for a soft approach at this site and wave conditions. CFA and VA are attached and certified.

The stone revetment and culvert are not vulnerable to sea level rise and can be submerged during storm events. A CFA is attached.

Env-Wt 610.03 Response

The revetment analysis performed does use the equations from the COASTAL ENGINEERING MANUAL EM 1110-2-1100, FHWA HEC-25 (2020), and State Building Code cited ASCE 7-16 for design wave conditions consistent with FEMA flood mapping. FEMA P-55 is not applicable.

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181 WATSON ROAD
P.O. BOX 1166
DOVER, NH 03821-1166
PHONE: 603.749.0443

MEMORANDUM

Date: June 12, 2025

To: Regulatory Reviewers

From: Duncan Mellor, PE
Principal Coastal Engineer

Re: **4 Tree Island Revetment Repairs Wetlands Permit Application:
Vulnerability Assessment**
Portsmouth, NH

The NHDES Wetlands rules require project design be tolerant to the FEMA 1% flood plus anticipated sea level rise over the life of the project. These NHDES rules cite the 2020 Coastal Risks & Hazards report¹ by UNH/NHDES, or *Best Available Science*.

The revetment has a typical expected service life of 50 years with maintenance. The Best Available Science consistent with observed sea level rise data, is for 0.3 feet of sea level rise over the next 50 years. The mapped FEMA 1% flood is AE8 at elevation 8' NAVD88. The design does allow for a future flood elevation with sea level rise to elevation 8.3 feet (see the drawings).

The site-specific design wave height was based on design wind speed from the NH Building Code, ASCE 7-16 and Army Corps Coastal Engineering Manual guidelines for environmental loads, and this established an H₁₀ design wave of 4.3 feet breaking for input into US Army Corps of Engineers design formula for stone sizing (see drawings and narrative for sizes). These wave conditions require, at a minimum, a 2H:1V sloping face revetment, with a minimum of 2-ton stones for reduced damage occurrence. Reference US Army Corps of Engineers, Coastal Engineering Manual EM 1110-2-1100.0. The stone materials will not float and are tolerant of submergence and sea level rise.

Existing Sea Level Rise Trend:

The Portsmouth Harbor NOAA tide station (Seavey Island) has extensive data gaps (many years) where no data were collected. The NOAA tide station in Portland, Maine, however, does have observed tide levels with over 100 years of sea level data and is the reference tide gauge for most NH tide prediction locations. The Portland tide station has recorded sea level since 1912 with an average linear rise of 0.65 ft/100 yrs at 95% confidence. Looking at the Portland tide data over the last 15 years (less than one tidal epoch) the rate of sea level rise has been negative, falling, however this is not indicative of the longer rise trend.

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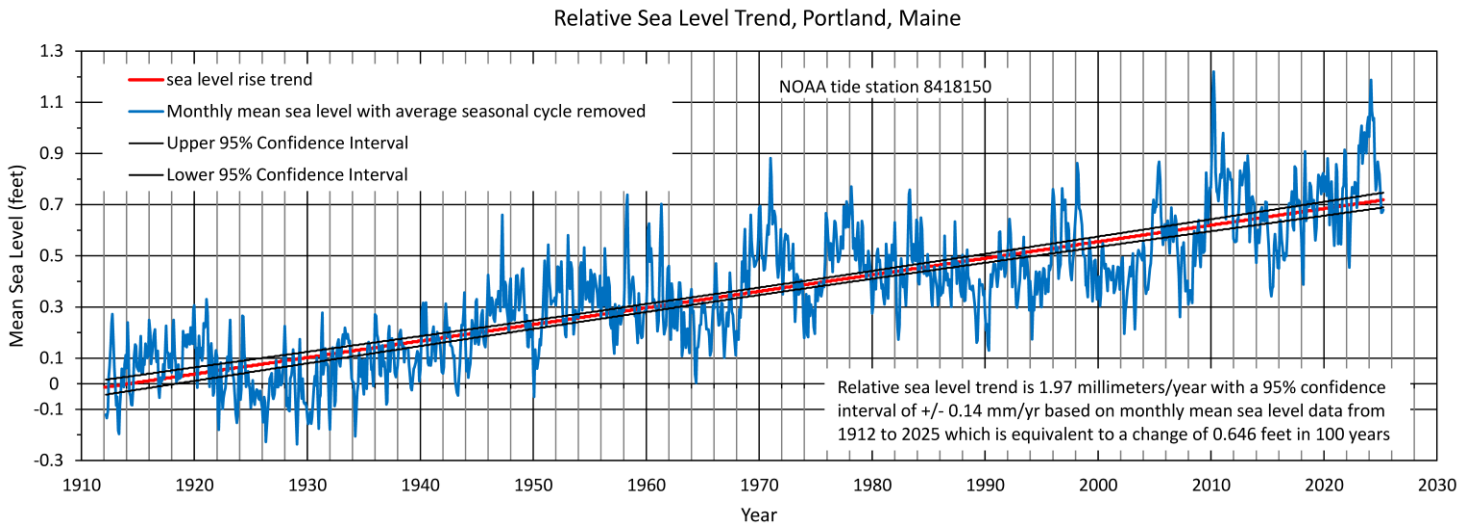


Figure 1 Sea Level Rise Trend NOAA Tide Station, Portland, Maine

Civilworks has been evaluating the rate of sea level rise at many long record global tide gauges, including New England tide data. We find that the rate of sea level rise, over a 19-year tidal epoch rolling window varies over time, with similar trends at regional tide stations and those cyclical trends have strong correlations to the 60-year cycle in sea surface temperature anomalies (Atlantic Multidecadal Oscillation (AMO)), variation in the Length Of Day (LOD, variation in the spin rate of Earth) and to the eccentricity of Jupiter's orbit, which has been tied to increases in space dust entering our atmosphere, cloud cover and climate², see Figure 2.

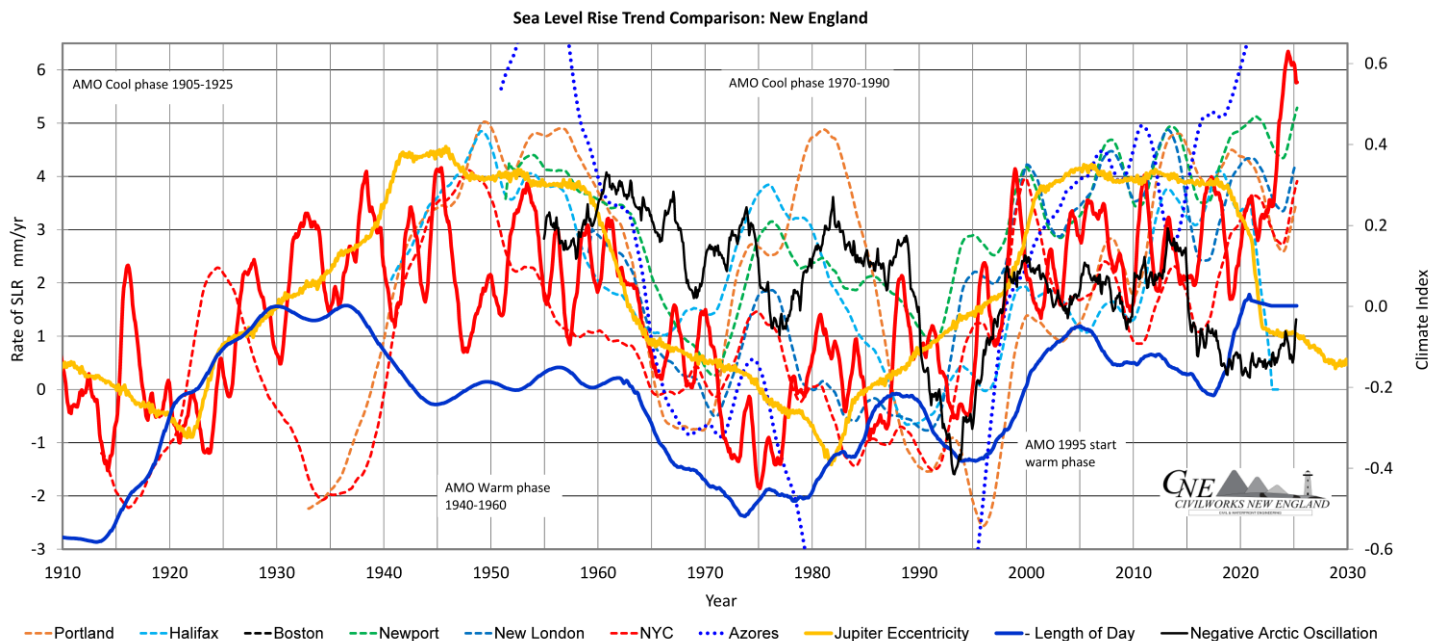


Figure 2 Rates of Sea Level Rise at NE NOAA Tide Stations and reference climate indices (monthly means, rate using a 19-year rolling window, plotted at the front year)

The long record tide stations had high rates of sea level rise in the 1940's (AMO warm phase), followed by low negative rates of sea level rise around 1980 (AMO cold phase) and currently back to a higher rate of sea level rise (AMO warm phase). With the AMO expected to return to a cold phase in less than 10 years, decreasing rates of sea level rise are expected with the next low rates around 2040.

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Vertical Land Movement:

The rate of sea level rise to an observer on the shoreline (relative sea level rise) is typically not equal to the global rate of sea level rise. The land often has vertical movement, which can include soil subsidence and bedrock (earth crust) movement, and this does increase or decrease the apparent sea level trend at the local shoreline. Canada, Alaska and Scandinavia have strong post-glacial rebound with the crust rising since the last ice age, resulting in an apparent dropping in sea level. This crustal rebound occurs at a lower rate in Maine and New Hampshire, but in Massachusetts the crustal movement becomes slightly subsidence. Connecticut and southward typically have about 2 mm/yr of crustal sinking, increasing relative sea level rise.

Soil subsidence can also be a significant factor and is a strong contributor to higher apparent rates of sea level rise in the mid-Atlantic shoreline. Soil subsidence can also be quite localized. For example, much of the shoreline in Boston is filled land on deep soft clay. NOAA estimates the Boston tide gauge is sinking 0.84 mm/yr, causing a higher apparent rate of sea level rise.

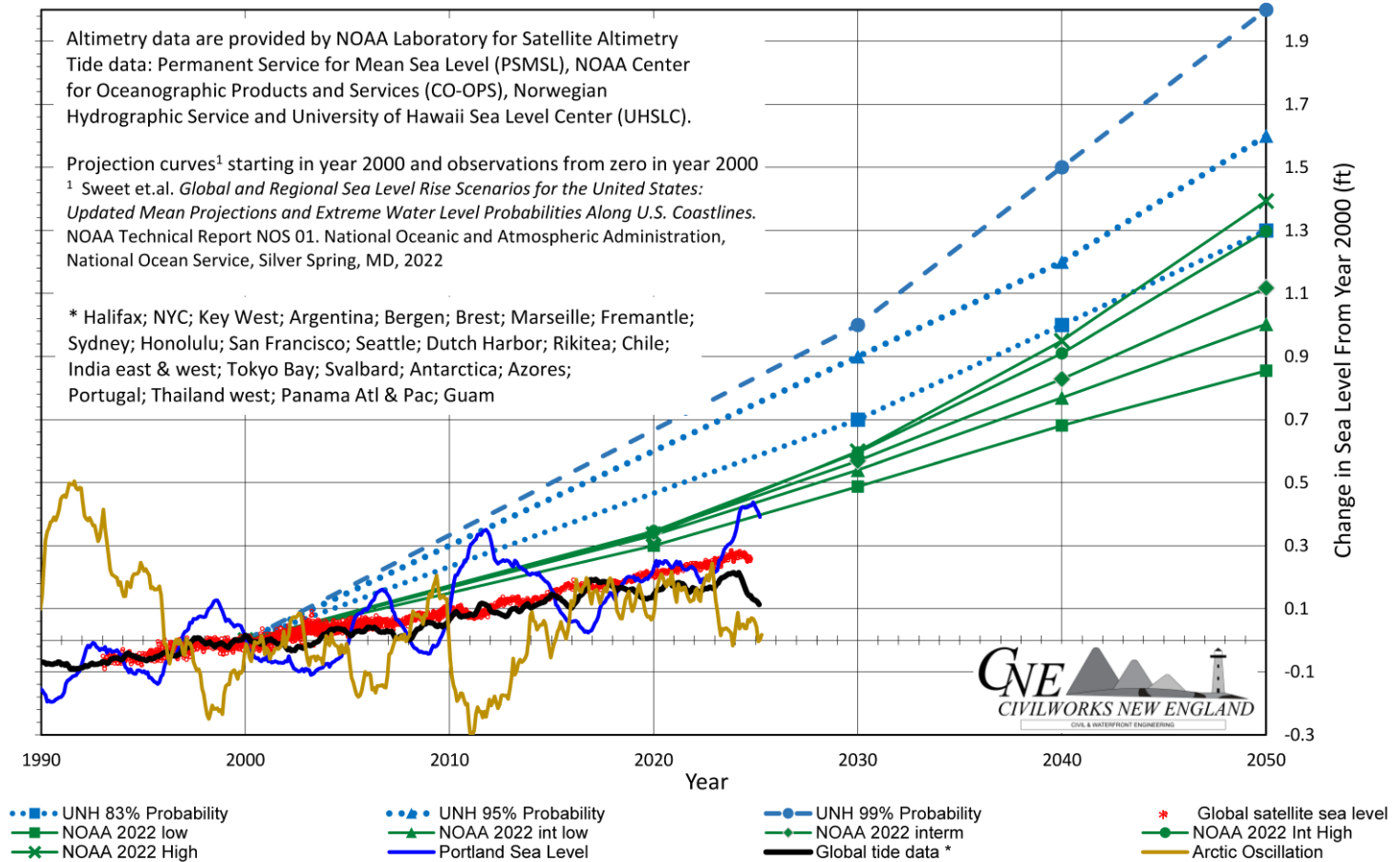
For the NH Seacoast area, New Castle and Portsmouth CORS GPS show land rise of about 0.4 mm/yr, and these land rise rates will decrease the observed local relative rate of sea level rise. New Castle has shallow bedrock and the land rise of 0.4 mm/yr will decrease local relative sea level rise. The Cape Elizabeth CORS GPS station near Portland shows 1.16mm/yr vertical land rise.

Future Sea Level Rise Projections:

There are recent governmental reports presenting projections for accelerating sea level rise caused by global warming. The latest federal government guide is 2022 NOAA Tech Report NOS 01, Sweet et.al. with values for relative sea level every 10 years starting in the year 2000, with consideration of land/earth crust vertical movement at selected tide gauge cities, and changes in local sea level including by gravitational changes associated with anticipated ice cap melting. This NOAA report does provide five different projection curves for local sea level rise at Portland, Maine, and the 50% quartile, most probable curves, are plotted in Figure 3. Comparing the actual observed rates of sea level rise from tide data in Portland for years 2000 to 2025, the actual rate of sea level rise is significantly less than the projected rate of rise from the NOAA model (about 2 inches higher than observations and the trend is diverging higher above actual observations). From a review of the NOAA values used to plot the Portland sea level rise curves, it was noted that NOAA included 0.4 mm/yr of land subsidence, while actual CORS GPS data show land in the Portland area to have 1.16 mm/yr of land rise. Thus, the NOAA model and associated global warming sea level rise projections are overestimated and are not supported by observed sea level or vertical land movement data for Maine and New Hampshire.

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Sea Level Observations versus Sea Level Rise Projections



**Figure 3 Comparison of Sea Level Rise Projections to Sea Level Observations
New Hampshire Sea Level Rise Projections:**

The University of New Hampshire (UNH) issued a two-part report *New Hampshire Coastal Flood Risk Summary*¹ in 2019 and 2020, which has been adopted by the state of New Hampshire and is the recommended policy in regulatory permitting by the NH Department of Environmental Services. The UNH projections use sea level rise projections starting from a sea level in the year 2000, developed by Kopp et. al. (2014)⁴, however the 2022 NOAA curves more closely fit lower observed sea level rise from 2000 to 2020 and then begin sea level rise acceleration in 2020.

The UNH report does list probabilities for multiple sea level rise curves, using different probabilities for different projects tolerance for risk. It is important to understand that these probabilities are Bayesian probabilities, based on future expectations, not traditional probabilities calculated from observational data, such as FEMA flood levels.

The Part II UNH guidance report uses the 83% probability curve for the low end of design for projects with a high tolerance for sea level rise, such as sidewalks. The 95% probability curve is recommended by UNH for design of projects with a medium tolerance for sea level rise, including residential and commercial buildings. UNH does recommend higher 99% and 99.5% probability curves, for design of projects with low and very low tolerance for sea level rise. For 2025, the UNH 83% projection curve is about 3.5 inches higher than observations (97% error), for UNH 95% projection curve is about 5.7 inches higher than observations (159% error) and projections are diverging higher compared to

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observations. The UNH guidance projection curves are based on older sea level rise projections and the UNH model was not calibrated in consideration of actual sea level rise observations and trend over the last 25 years. Since the UNH sea level rise projections are already significantly higher than observations with a steeper rise trend, they are not Best Available Science and are not recommended for project design.

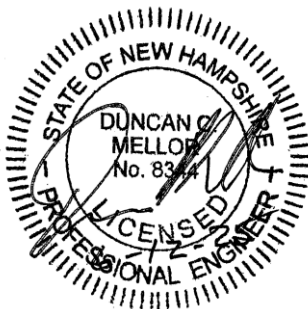
Project Recommendations:

Over the last 15 years the rate of sea level rise has been negative. However, this is not a full tidal epoch (19 years) and the Portland long term trend of 1.97 mm/yr (0.65 ft/100 yrs) is a more reasonable expectation with a tighter confidence interval. Local land rise measured by CORS GPS sites is approximately +0.4 mm/yr in Portsmouth & New Castle and land rise at the project site is likely to reduce relative sea level rise in comparison to other regional tide gauges known to have land subsidence, such as Boston. We recommend that land rise be neglected for this project and that 0.65 feet per 100-year service life (0.3 feet in 50 years) be utilized for sea level rise allowance.

REFERENCES:

1. *New Hampshire Coastal Flood Risk Summary – Part I: Science; Part II: Guidance for Using Scientific Projections*, NH Coastal Flood Risk Science and Technical Advisory Panel (2020), Univ. of New Hampshire, 2019/2020.
2. Scafetta, N., Milani, F., & Bianchini, A. (2020). *A 60-year cycle in the Meteorite fall frequency suggests a possible interplanetary dust forcing of the Earth's climate driven by planetary oscillations*. Geophysical Research Letters, 47, e2020GL089954. <https://doi.org/10.1029/2020GL089954>.
3. Sweet et.al. (2022). *Global and Regional Sea Level Rise Scenarios for the United States: Updated Mean Projections and Extreme Water Level Probabilities Along U.S. Coastlines*. NOAA Technical Report NOS 01. National Oceanic and Atmospheric Administration, National Ocean Service, Silver Spring, MD
4. *Probabilistic 21st and 22nd Century Sea-Level Projections at a Global Network of Tide Gauge Sites*. Earth's Future, Kopp, R.E., Horton, R.M., Little, C.M., Mitrovica, J.X., Oppenheimer, M., Rasmussen, D.J., Strauss, B.H., & Tebaldi, C. (2014).
5. Mellor, D., *An Update on New Hampshire Sea Level Rise* The New Hampshire Civil Engineer, June/July, 2022, Vol 43, No. 6, ASCE.

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COASTAL FUNCTIONAL ASSESSMENT (CFA)

4 Tree Island Revetment & Culvert Repairs Wetlands Permit Application: Coastal Functional Assessment Portsmouth, NH

PROPOSED PROJECT

The applicant, City of Portsmouth, is proposing to repair a revetment and culvert within the existing footprints on this waterfront park. The lot is bounded by Portsmouth Harbor on all sides. The lot is a developed lot, built in 1975 with an existing causeway and stone revetments abutting Portsmouth Harbor. Shoreline wave damage has occurred, and a small area of lawn erosion needs repair abutting the revetment repairs.

The proposed repair project is temporary impacts in tidal zone and tidal buffer zone but is not in a flood plain wetland adjacent to a tier 3 or higher watercourse as WPPT mapped. The proposed repair is the least impacting alternative, repairing the existing structures in the same footprints.

DATA SCREENING

A NH Natural Heritage Bureau (DCT25-2309) request for review has been filed and the results showed recorded occurrences of the common tern, peregrine falcon, marsh elder, Atlantic and Shortnose Sturgeon in the vicinity of the proposed project area. The work is proposed in the dry working low tide to minimize potential impacts. Consultation with the NH Fish & Game under Fis 1004 has been conducted and although there are NHB records present for common tern, peregrine falcon, marsh elder, Shortnose and Atlantic sturgeon in the vicinity, NHB and NHF&G do not expect that it will be impacted by the proposed project. No further consultation with NHB or NHFG is required.

WPPT Mapper:

The WPPT mapper lists the waters at the site as "Flood Plain Wetlands Adjacent to Tier 3 Streams". These tidal waters are not a Flood Plain and are not Wetlands. The WPPT mapper does map this developed project location as "Highest Ranked Habitat in NH", see attached mapping.

NWI Mapper:

The WPPT mapper on NWI tab maps E2ABN classification for the revetment area of this shoreline. The intertidal area adjacent to the culvert are mapped as E2US3M, however the culvert is within the existing rock causeway. The waters are listed as Impaired Waters.

Essential Fish Habitat Mapper:

EFH Mapper results are attached. These fish are unlikely to be at the project area as there is extensive intertidal beach here and the work will be performed in the dry.

ENDANGERED SPECIES ACT (ESA)

The proposed activity may affect, but is not likely to adversely affect, any species listed as threatened or endangered, or Critical Habitat listed by NMFS under the ESA of 1973, as amended. Our supporting analysis is provided below.

The purpose of the project is repair of an existing revetment, seawall and timber ramp in the same location with the work will being performed in the dry.

The Action Area for this work is quite similar to the actual work area as the work will be done in the dry.

Federally Proposed and Listed Species:

Fish:

Shortnose sturgeon (*Acipenser brevirostrum*)

Atlantic sturgeon (*Acipenser oxyrinchus*)

Plant:

Marsh elder (*Iva frutescens*)

Effect Determination for Listed Species:

Based on this analysis, it has been determined that all effects, when added to baseline conditions, are insignificant or discountable, and not likely to appreciably affect Shortnose sturgeon, Atlantic sturgeon and the marsh elder.

Effect Determination for Critical Habitat:

Based on this analysis, it has been determined that all effects, when added to baseline conditions, are insignificant or discountable, and not likely to appreciably affect critical habitat.

Effect Determination for Listed Species:

Based on this analysis, it has been determined that all effects, when added to baseline conditions, are insignificant or discountable, and not likely to appreciably affect these species.

There are no critical habitats within the project area under USF&W jurisdiction.

FIELD ASSESSMENTS

A site observation was performed at the site by coastal engineer Duncan Mellor, PE, on July 25, 2023 and July 16, 2025 to observe the revetment and culvert. The culvert was also checked on multiple times to observe tidal flow, which was always minimal and not measurable. The revetment rocks in the intertidal zone have rockweed/knotted wrack (*Fucus*, *Ascophyllum*; *Ascophyllum nodosum*), (not plants). These were also observed attached to the lower revetment stones, along with typical benthic life including barnacles

(*Balanus balanoides*). No eelgrass (a plant) was observed on aerial photos reviewed, or visits at low tide.

The project site is man-made and does not meet NHDES or Army Corps criteria for a wetland or Special Aquatic Site.

JURISDICTIONAL AREA FUNCTIONS AND VALUES

The functions and values of the jurisdictional area within the proposed project area were assessed using the *US ACE New England District Highway Methodology Workbook Supplement, Wetland functions and Values: A descriptive Approach*. This approach uses 9 functions and 5 values and are described below. The waterbody is not a wetland, it is a surface water.

Functions

Ecological Integrity: RSA 482-A:2, XI

Groundwater Recharge/Discharge: *This function considers the potential for a wetland to serve as a groundwater recharge and/or discharge area. Recharge should relate to the potential for the wetland to contribute water to an aquifer. Discharge should relate to the potential for the wetland to serve as an area where groundwater can be discharged to the surface.*

Floodflow Alteration: *This function considers the effectiveness of the wetland in reducing flood damage by attenuation of floodwaters for prolonged periods following precipitation events.*

Fish and Shellfish Habitat: *This function considers the effectiveness of seasonal or permanent waterbodies associated with the wetland in question for fish and shellfish habitat.*

Sediment/Toxicant/Pathogen Retention: *This function reduces or prevents degradation of water quality. It relates to the effectiveness of the wetland as a trap for sediments, toxicants, or pathogens.*

Nutrient Removal/Retention/Transformation: *This function relates to the effectiveness of the wetland to prevent adverse effects of excess nutrients entering aquifers or surface waters such as ponds, lakes, streams, rivers, or estuaries.*

Production/Export (Nutrient): *This function relates to the effectiveness of the wetland to produce food or usable products for humans or other living organisms.*

Sediment/Shoreline Stabilization: *This function relates to the effectiveness of a wetland to stabilize streambanks and shorelines against erosion.*

Wildlife Habitat: *This function considers the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with wetlands*

and the wetland edge. Both resident and/or migrating species must be considered. Species lists of observed and potential animals should be included in the wetland assessment report.

Values

Recreation: *This value considers the effectiveness of the wetland and associated watercourses to provide recreational opportunities such as canoeing, boating, fishing, hunting, and other active or passive recreational activities. Consumptive activities consume or diminish the plants, animals, or other resources that are intrinsic to the wetland, whereas non-consumptive activities do not.*

Educational/Scientific Value: *This value considers the effectiveness of the wetland as a site for an "outdoor classroom" or as a location for scientific study or research.*

Uniqueness/Heritage: *This value relates to the effectiveness of the wetland or its associated waterbodies to produce certain special values. Special values may include such things as archaeological sites, unusual aesthetic quality, historical events, or unique plants, animals, or geologic features.*

Visual Quality/Aesthetics: *This value relates to the visual and aesthetic qualities of the wetland.*

Threatened/Endangered Species Habitat: *This value relates to the effectiveness of the wetland or associated waterbodies to support threatened or endangered species.*

FUNCTIONS AND VALUES ASSESSMENT

Ecological Integrity: *The site has moderate ecological integrity including recreation, being a historically urban waterfront with heavy human uses, however the upper tidal zone site does not support fish habitat, is not a wetland, does not enhance flood storage (tidal site) or other presumed wetland functions. This is not a primary function of the portion of the waterbody within the proposed project area.*

Groundwater Recharge/Discharge: *The proposed project is located adjacent to a tidal waterbody. As the ocean is the low point for all surrounding topography, it is unlikely that a significant amount of groundwater recharge is occurring. Groundwater discharge is possible in general but was not observed at the project area. This is not a primary function of the portion of the waterbody within the proposed project area.*

Floodflow Alteration: *No floodplain or wetlands in project footprint. This is an ocean site with no floodplain that has no storage or flood water level issues. This is not a primary function of the portion of the waterbody within the proposed project area.*

Fish and Shellfish Habitat: *This waterbody provides ocean water habitat for a variety of fish, but the project area is dry for much of the tide cycle. No shellfish were observed at the project area and the required data screening (NHB, WWTP, etc.) associated with this project, did not identify any shellfish beds appearing within the vicinity of the proposed project. Fish habitat is a primary function of the waterbody, however the waterbody at the project site does not support fish or shellfish due to being at the upper portion of the tide range.*

Sediment/Toxicant/Pathogen Retention: *Sediment retention is a primary function of the portion of the waterbody within the proposed project area, toxicant/pathogen retention is not a primary function.*

Nutrient Removal/Retention/Transformation: *The proposed project area has no sign of wetland vegetation and no sign of mineral or organic soil present to support wetland vegetation growth. This is not a primary function of the portion of the waterbody within the proposed project area.*

Production/Export (Nutrient): *The proposed project area has no sign of wetland vegetation and no sign of mineral or organic soil present to support wetland vegetation growth. This is not a primary function of the portion of the waterbody within the proposed project area.*

Sediment/Shoreline Stabilization: *The proposed project is located facing a wind wave fetch, close proximity boat and shipping wakes and this location is a higher inland energy area experiencing wave action as a function of wind direction and passing vessels. The shoreline is a developed area with minimal sediment trapping ability. This is not a primary function of the portion of the waterbody shoreline within the proposed project area.*

Wildlife Habitat: *The site is developed urban park area, the waterbody has the potential habitat for fish. This is not a primary function of the portion of the site or waterbody within the proposed project area.*

Recreation: *The site is a developed urban park area, the waterbody provides recreational opportunities including sight seeing and fishing at this site. This is a primary function and value of the waterbody.*

Educational/Scientific Value: *The site is a developed urban site. This is not a primary function and value of the site or waterbody.*

Uniqueness/Heritage: *The project site is not a historical site (built in 1975) and is not near historical structures per NHDHR review. This is not a primary function and value of the site.*

Visual Quality/Aesthetics: *The site is a developed area with visual quality. This is a primary function and value of the site.*

Threatened/Endangered Species Habitat: *A preliminary data screening was conducted using the NHB data check tool, noting possible eelgrass and sturgeon in adjacent deeper waters. Upon further review, it was determined that the proposed project would not impact any threatened or endangered species and their habitats. This is not a primary function and value of the site or waterbody.*

Conclusion

Based on the assessment of functions and values it was determined that this urban site and adjacent waterbody in the vicinity of the proposed project is suitable for: Recreation, and Visual Quality/Aesthetics.

PROJECT DESIGN ADDRESSING COASTAL FUNCTIONS

The proposed project is maintenance, and repair of existing deteriorated elements of a stone revetment, culvert, with no impacts to wetlands, and thus represents minimal changes to the coastal functions at this site. As the work will be performed in the dry, it will not impact fish passage, wildlife, shellfish, flows, sediment transport wave dissipation, storm surge, salinity. The project is tolerant of storm surge and sea level rise. The site is also a fairly high wave energy zone with wind waves and boat wakes. The NHDES preferred "soft" shoreline is not suitable for these wave exposures.

Duncan Mellor, PE, Principal Coastal Engineer





DataCheck Results Letter
For NHDES Ecological Review

To: Steve Haight, Civilworks New England
Po Box 1166
Dover, NH 03821
permitting@civilworksne.com

From: Ecological Review Section
NH Department of Environmental Services
Main Contact: Maddie Severance - EcologicalReviews@des.nh.gov

cc: NHFG Review, David Simmons

Date: 08/15/2025 (valid until 08/15/2026)

Re: DataCheck Review by NHDES Ecological Review Section and NH Fish & Game

Permits: NHDES - Standard Dredge & Fill - Minimum; or Expedited, USACE - General Permit

DCT ID: DCT25-2309

Town: Portsmouth
Location: Four Tree Island, Portsmouth, NH 03801

Project Description: Two stone revetment repair locations are proposed on a short length (50 LF) of revetment that is recessed and has undersized stones compared to the adjacent revetments. The third repair location is relining the 7 ft diameter steel culvert under the causeway that has severe corrosion and is collapsing, with buried utilities above.

Next Steps for Applicant:

NHDES's Ecological Review Section has searched the Natural Heritage Bureau's (NHB) database of rare species and exemplary natural communities. Please carefully read the comments below and the consultation requirements on the following page.

Plant and Natural

Community Comments: Please send proposed plans and representative photos of the proposed impact areas during the growing season.

Wildlife Comments: Please refer to NHFG consultation requirements below.



DataCheck Results Letter For NHDES Ecological Review

Plant and Natural Community Consultation

If this DataCheck letter includes records of rare plants and/or natural communities/systems, please contact the Ecological Review Section and provide any requested supplementary materials by emailing EcologicalReviews@des.nh.gov.

If this DataCheck letter DOES NOT include any records of rare plants and/or natural communities/systems, no further consultation with the Ecological Review Section regarding rare plants and/or natural communities/systems is required.

Wildlife Consultation

If this DataCheck letter DOES NOT include ANY wildlife species records, then, based on the information submitted, no further consultation with the NH Fish and Game Department (NHFG) pursuant to Fis 1004 is required.

If this DataCheck letter includes a record for a threatened (T) or endangered (E) wildlife species, consultation with the New Hampshire Fish and Game Department under Fis 1004 may be required. To review the Fis 1000 rules (effective February 3, 2022), please go to <https://www.wildlife.nh.gov/wildlife-and-habitat/nongame-and-endangered-species/environmental-review>. All requests for consultation and submittals should be sent via email to NHFGreview@wildlife.nh.gov or can be sent by mail, and must include the DataCheck results letter number and "Fis 1004 consultation request" in the subject line.

If the DataCheck response letter does not include a threatened or endangered wildlife species but includes other wildlife species (e.g., Species of Special Concern), consultation under Fis 1004 is not required; however, some species are protected under other state laws or rules, so coordination with NH Fish & Game is highly recommended or may be required for certain permits. While some permitting processes are exempt from required consultation under Fis 1004 (e.g., *statutory permit by notification*, *permit by rule*, *permit by notification*, *routine roadway registration*, *docking structure registration*, or *conditional authorization by rule*), coordination with NH Fish & Game may still be required under the rules governing those specific permitting processes, and it is recommended you contact the applicable permitting agency. For projects not requiring consultation under Fis 1004, but where additional coordination with NH Fish and Game is requested, please email NHFGreview@wildlife.nh.gov, and include the DataCheck results letter number and "review request" in the email subject line.

Contact NH Fish & Game at (603) 271-0467 with questions.

Federal ESA Compliance

This letter does not constitute compliance with the federal Endangered Species Act (ESA). There may be occurrences of federally listed species in New Hampshire that are not included on the NH DataCheck Letter. For compliance with the federal Endangered Species Act (ESA), please visit the US Fish and Wildlife Service's (USFWS) Information for Planning and Consultation website (<https://ipac.ecosphere.fws.gov/>; IPaC) for an official list of federally listed species that may be present in your project area. If a federal agency is involved in your project through funding, permit, or other authorization, coordinate your IPaC results with your point of contact at the agency for further ESA review. If there is no federal agency nexus to your project, and you determine through IPaC, habitat evaluations, etc. that a project may cause take of a federally listed species, we recommend coordinating with the USFWS' New England Field Office (newengland@fws.gov; 603-223-2541).



DataCheck Results Letter

For NHDES Ecological Review

NHB Database Records:

The following record(s) have been documented in the vicinity of the proposed project. Please refer to this list when coordinating.

Plant species	State ¹	Federal	Notes
marsh elder (<i>Iva frutescens</i>)	T	--	Threats are primarily alterations to the hydrology of the wetland, such as ditching or tidal restrictions that might affect the sheet flow of tidal waters across the intertidal flat, activities that eliminate plants, and increased input of nutrients and pollutants in storm runoff.

Vertebrate species	State ¹	Federal	Notes
Atlantic Sturgeon (<i>Acipenser oxyrinchus oxyrinchus</i>)*	T	T	Contact the NH Fish & Game Dept and the US Fish & Wildlife Service (see above).
Common Tern (<i>Sterna hirundo</i>)*	T	--	Contact the NH Fish & Game Dept (see above).
Peregrine Falcon (<i>Falco peregrinus anatum</i>)*	T	--	Contact the NH Fish & Game Dept (see above).
Shortnose Sturgeon (<i>Acipenser brevirostrum</i>)*	E	E	Contact the NH Fish & Game Dept and the US Fish & Wildlife Service (see above).

¹Codes: "E" = Endangered, "T" = Threatened, "SC" = Special Concern, "--" = an exemplary natural community, or a rare species tracked by NH Natural Heritage that has not yet been added to the official state list.

An asterisk (*) indicates that the most recent report for that occurrence was 20 or more years ago.

For all animal reviews, refer to 'Wildlife Consultation' section above. For all federally-listed species, refer to the 'Federal ESA Compliance' section above.

Disclaimer: NHB's database can only tell you of known occurrences that have been reported to NHFG/NHB. Known occurrences are based on information gathered by qualified biologists or members of the public, reported to our offices, and verified by NHB/NHFG.

However, many areas have never been surveyed, or have only been surveyed for certain species.

Surveys are recommended to determine what species/natural communities are present onsite.



DataCheck Results Letter

For NHDES Ecological Review

Please note: Effective June 10th, 2025, DataCheck letters will no longer include specific locations of rare species and exemplary natural communities. Changes to the map have been made to reflect this update.

Important: The list of rare species and exemplary natural communities that may be impacted by the project is included. Please refer to that list when coordinating.

DCT25-2309



Duncan Mellor

From: Whitmore, Jessica <Jessica.L.Whitmore@wildlife.nh.gov>
Sent: Thursday, August 21, 2025 8:50 AM
To: Duncan Mellor
Cc: crsproviero@cityofportsmouth.com; FGC: NHFG review
Subject: Four Tree Island_Portsmouth_DCT25-2309_NHDES Standard D&F Min or Exp File#DNF-NHFG Conservation Measures
Attachments: PeregrineFalcon_Jan2023.pdf

Hello Mr. Mellor,

On August 21, 2025, New Hampshire Fish and Game (NHFG) Nongame & Endangered Wildlife Program completed review of materials submitted for consultation for **DCT25-2309** submitted on 8/20/2025 (site plans dated August 6, 2025), prepared by Civilworks New England. The project proposes repairs to two stone revetments on a short length (50 LF) of revetment that is recessed and has undersized stones compared to the adjacent revetments. The third repair location is relining the 7 ft diameter steel culvert under the causeway that has severe corrosion and is collapsing, with buried utilities above. The project is located at Four Tree Island in Portsmouth, NH (Tax Map 208, Lot 2). Please update NHFG with NHDES Permit File# once applications/notifications are submitted.

Permit applications associated with this project:

***NHDES STANDARD DREDGE AND FILL, MINIMUM OR EXPEDITED FILE#DNF
USACE-GENERAL PERMIT***

Note: if you apply for other permits not listed above, you must notify NHFG and request a response to see if recommendations provided below can be applied to other permit applications.

Based on the NHB DataCheck results letter and the information provided in the submission as well as in communications and materials provided during our consultation review, we request the following recommended permit conditions. THESE RECOMMENDED PERMIT CONDITIONS ARE APPLICABLE ONLY TO STATE PERMITS LISTED ABOVE.

- **For consideration in the AoT permit review process, please incorporate recommendations along with associated materials as detailed, into the final sheet plans as written below (update highlighted text as applicable) and provide to NHDES for final review and copy NHFG.**
- **For all other permits, please include recommended permit conditions in final plan sheets plans as written below (update highlighted text as applicable) and provide to NHDES for final review and copy NHFG. Permit reviewers will adopt/include NHFG permit conditions in the permit if approved.**

DCT25-2309 New Hampshire Fish and Game Conservation Measures:

1. Common Tern (State Threatened), Atlantic Sturgeon (State and Federally Threatened), Shortnose Sturgeon (State and Federally Endangered), and Peregrine Falcon (State Threatened) occur within the vicinity of the project area. All operators and personnel working on or entering the site shall be made aware of the potential presence of these species and shall be provided flyers that help to identify these species, along with NHFG contact information. Protected species information (e.g. identification, observation and reporting of observations, when to contact NHFG immediately and NHFG contact information) shall be communicated during morning meetings prior to work commencement throughout the construction phase of the project. **Upon review, NHFG has determined that there are likely minimal impacts to the species with the activities associated with this project as described by the applicant. See Plan Sheet xxxxxx**

2. All work shall occur in the dry and above the water level, as proposed.
3. Proper erosion control shall be installed to prevent sedimentation from reaching into the waterbody. See Plan Sheet xxxxxx.
4. Native species should be used for reseeding or landscaping disturbed areas, if applicable. See Plan Sheet xxxxxx.
5. All manufactured erosion and sediment control products, with the exception of turf reinforcement mats, utilized for, but not limited to, slope protection, runoff diversion, slope interruption, perimeter control, inlet protection, check dams, and sediment traps shall not contain plastic, or multifilament or monofilament polypropylene netting or mesh with an opening size of greater than 1/8 inches. See Plan sheet(s) XXXXX.
6. All observations of threatened or endangered species on the project site shall be reported immediately to the NHFG nongame and endangered wildlife environmental review program by phone at 603-271-2461 and by email at NHFGreview@wildlife.nh.gov, with the email subject line containing the DataCheck tool results letter assigned number, the project name, and the term Wildlife Species Observation. Photographs of the observed species and nearby elements of habitat or areas of land disturbance shall be provided to NHFG in digital format at the above email address for verification, as feasible.
7. These Conservation Measures do not constitute compliance with the federal Endangered Species Act (ESA). There may be occurrences of federally listed species in New Hampshire that are not included on the DataCheck Letter. Please visit the US Fish and Wildlife Service's (USFWS) Information for Planning and Consultation website (IPaC; <https://ipac.ecosphere.fws.gov/>) for an official list of federally listed species that may be present in your project area. If a federal agency is involved in your project through funding, permit, or other authorization, coordinate your IPaC results with your point of contact at the agency for further ESA review. If there is no federal agency nexus to your project, and you determine through IPaC, habitat evaluations, etc. that a project may cause take of a federally listed species, we recommend coordinating with the USFWS' New England Field Office (newengland@fws.gov; 603-223-2541).

8. In the event a threatened or endangered species is observed on the project site during the term of the permit, the species shall not be disturbed, handled, or harmed in any way prior to consultation with NHFG and implementation of corrective actions recommended by NHFG.

9. NHFG, including its employees and authorized agents, shall have access to the property during the term of the permit.

NHFG has completed our review of materials submitted for consultation under FIS 1004. No further coordination with NHFG is requested at this time. Please note that additional or a new consultation may be required in accordance with [Fis 1004.08\(b\)4](#) if there are changes in project design that is referenced above which might result in potential impacts to

threatened and endangered species, whether suggested to avoid harm to the species, or which could serve to increase the potential of adverse impacts to species.

These recommendations have been transmitted to the applicable permitting agency. Questions or concerns on NHFG recommendations provided in this communication **must** follow FIS 1004.12 that requires a written request for further consultation provided within 10 days of receipt of this communication. Note that NHFG recommendations may be withdrawn pursuant to FIS 1004.13.

Respectfully,

Jess Whitmore



Jessica Whitmore

Environmental Review Biologist

Wildlife Division
New Hampshire Fish and Game Department
11 Hazen Drive, Concord NH 03301
p. 603-271-3017 | c.
e. Jessica.L.Whitmore@wildlife.nh.gov
wildlife.nh.gov

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From: Duncan Mellor <dmellor@civilworksne.com>
Sent: Wednesday, August 20, 2025 1:46 PM
To: FGC: NHFG review <NHFGreview@wildlife.nh.gov>
Cc: crsproviero@cityofportsmouth.com <crsproviero@cityofportsmouth.com>
Subject: Fis 1004 consultation request DCT25-2309

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Hello Hayley,

Please find attached:
FIS signature page
Agent authorization

Duncan Mellor

From: Whitmore, Jessica <Jessica.L.Whitmore@wildlife.nh.gov>
Sent: Thursday, August 21, 2025 2:04 PM
To: Duncan Mellor
Cc: crsproviero@cityofportsmouth.com; FGC: NHFG review
Subject: Re: Four Tree Island_Portsmouth_DCT25-2309_NHDES Standard D&F Min or Exp File#DNF-NHFG Conservation Measures

Good afternoon Mr. Mellor,

Unfortunately we do not have flyers to provide for each listed species yet (only Peregrine Falcon was included for this review as flyers for Atlantic and Shortnose sturgeons and Common Tern we do not have created yet).

Wildlife information on these species can be found in the wildlife action plan profiles (<https://www.wildlife.nh.gov/wildlife-and-habitat/nh-wildlife-action-plan/swap-2015>) or for sturgeon specifically on NOAA's website (<https://www.fisheries.noaa.gov/species/atlantic-sturgeon>, <https://www.fisheries.noaa.gov/species/shortnose-sturgeon/overview>).

Please let me know if you have any further questions or concerns, thank you,

Jess

From: Duncan Mellor <dmellor@civilworksne.com>
Sent: Thursday, August 21, 2025 1:46 PM
To: Whitmore, Jessica <Jessica.L.Whitmore@wildlife.nh.gov>
Cc: crsproviero@cityofportsmouth.com <crsproviero@cityofportsmouth.com>; FGC: NHFG review <NHFGreview@wildlife.nh.gov>
Subject: RE: Four Tree Island_Portsmouth_DCT25-2309_NHDES Standard D&F Min or Exp File#DNF-NHFG Conservation Measures

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Hello Jessica,

I did not find flyers for the sturgeon, as referenced in the conditions...

Regards,
Duncan

Duncan Mellor, PE
Principal Coastal Engineer

Duncan Mellor

From: DES: Ecological Reviews <EcologicalReviews@des.nh.gov>
Sent: Friday, August 22, 2025 11:07 AM
To: Duncan Mellor
Subject: RE: Four Tree Island_Portsmouth_DCT25-2309_NHDES Standard D&F Min or Exp File#DNF-NHFG Conservation Measures

Hi Duncan,

Thank you for providing photos and plans for the proposed project area.

Marsh elder (*Iva frutescens*) is known to occur nearby the proposed project area and occurs along the HOTL. It is clear from the photos and plans that this area contains an existing stone revetment making it unsuitable for this species to occur here.

Because of this, I have no further concerns regarding impacts to rare plants or exemplary natural communities under DCT25-2309.

Best,

Madeline (Maddie) Severance (*she/her/hers*)
Environmental Reviewer
Ecological Review Section
Land Resources Management Program
Water Division, NH Department of Environmental Services
P.O. Box 95
Concord, NH 03302-0095
(603)-271-6261 (note the new number)
EcologicalReviews@des.nh.gov
[DataCheck Tool](#)

Please note as of July 29, 2025, the email ecologicalreviews@des.nh.gov is the primary contact for DataCheck Tool questions and rare plant and exemplary natural community coordination. Please do not email nhbreview@dnr.nh.gov going forward, NHDES Ecological Review staff will not be monitoring this inbox and if you email this inbox your review may be delayed.

Please note as of July 1, 2025, processing DataCheck Tool requests and conducting ecological reviews for threatened and endangered species is the responsibility of the NH Department of Environmental Services. Existing rare species consultation processes and contacts will remain the same. The DataCheck Fee has also increased to \$50 for all users. Payment is only required if given a notice of "potential impacts" when submitting a project, or if you choose to send maps by email or mail rather than using the mapping tool. These changes are part of the state budget for FY2026-27 passed by the Legislature. Our goal is to keep you informed and supported through this change and we welcome any questions or feedback.

From: Duncan Mellor <dmellor@civilworksne.com>
Sent: Thursday, August 21, 2025 1:17 PM
To: DES: Ecological Reviews <EcologicalReviews@des.nh.gov>

Duncan Mellor

From: Duncan Mellor
Sent: Wednesday, August 20, 2025 12:01 PM
To: EcologicalReviews@des.nh.gov
Cc: Christine R. Sproviero
Subject: DCT25-2309 additional information
Attachments: 4tree 8-12-25 WF1-8.pdf; 4 Tree Island Photos.pdf

Hello,

Attached please find the requested drawings and photos for the 4 Tree Island project.

Regards,
Duncan

Duncan Mellor, PE
Principal Coastal Engineer
Direct: (603) 749-0443 x 105
Cell: (603) 205-2026
dmellor@civilworksne.com

Civilworks New England
PO Box 1166, Dover, New Hampshire 03821
181 Watson Road, Dover, NH

20 Homestead Place, Suite B
Alton, NH 03809

Office: (603) 749-0443
www.civilworksne.com

Duncan Mellor

From: Christine R. Sproviero <crSproviero@cityofportsmouth.com>
Sent: Monday, June 3, 2024 8:15 AM
To: Duncan Mellor
Subject: 4 Tree Island Authorization

Good morning Duncan,

Please consider this email as an authorization for Civilworks New England/Haight Engineering, LLC to act as an agent for the City of Portsmouth in regard to the 4 Tree Island DES application.

Thank you,

Christine R. Sproviero
Project Manager
City of Portsmouth
Public Works Department
680 Peverly Hill Road
Portsmouth, NH 03801
Office: (603) 766-1755
Mobile: (603) 380-4805
Email: crSproviero@cityofportsmouth.com

No Revenue Stamps
Required.

KNOW ALL MEN BY THESE PRESENTS

Del. Port. City
Clerk

THAT Charles M. Dale of Portsmouth in the County of Rockingham and State of New Hampshire and Edwin H. Buck of Wilmington in the County of Middlesex and Commonwealth of Massachusetts, trustees under the will of Josie F. Prescott, late of said Portsmouth, by virtue and in pursuance of the authority conferred upon us by said will, for and in consideration of the sum of One Dollar (\$1.00) and other valuable consideration to us in hand before the delivery hereof, well and truly paid by the City of Portsmouth, a municipal corporation lying and being in the County of Rockingham in the State of New Hampshire, the receipt whereof we do hereby acknowledge, have granted, bargained and sold and by these presents do give, grant, bargain, sell alien enfeof, convey and confirm unto the said City of Portsmouth, its successors and assigns forever, the several parcels of land below described situate easterly or northeasterly of Marcy Street in said Portsmouth and bounded and described as follows, viz:

A certain piece or parcel of land, together with the buildings thereon, situated on the Easterly side of Marcy Street in said Portsmouth and bounded and described as follows, viz: On the North by land of one Marconi; on the East by Piscataqua River; on the South by a right of way of the City of Portsmouth and on the West by said Marcy Street. Said right of way is more fully described in deed of Charles H. Stewart to said City of Portsmouth, dated November 18, 1932, and recorded in Rockingham Registry of Deeds, Book 885, Page 168.

Also a second parcel of land in said Portsmouth bounded on the West by said Marcy Street; on the North by said right of way; on the East by said Piscataqua River; and on the South by land of the heirs of William H. Phinney and the third and fifth parcels of land hereinafter described.

The two parcels above described are those conveyed to Josie F. Prescott by deed of Charles H. Stewart dated March 2, 1940 and recorded in Rockingham Registry of Deeds, Book 966, Page 115.

Also a third parcel of land, situate on the Northerly side of Mechanic Street in said Portsmouth and bounded Southerly by said Street, One Hundred Forty-three and Five Tenths (143.5) feet; Easterly by the Piscataqua River; Westerly by the fifth parcel of land hereinafter described, and extending Northerly from said Mechanic Street to include the premises described in the deed of Charles S. Drowne, dated June 12, 1912, and recorded in Rockingham County Registry of Deeds, Book 666, Page 475.

Also a fourth parcel of land, being a certain island in the Piscataqua River known as "Four-Tree Island," and being the same premises described in the deed of Mary M. Whitney et al, dated August 21, 1908, and recorded in said Registry, Book 646, Page 221.

Said third parcel and said island are the second and third parcels conveyed to Josie F. Prescott by deed of Charles M. Dale dated June 21, 1940 and recorded in Rockingham Registry of Deeds, Book 970, Page 363.

Also a fifth parcel of land situated in said Portsmouth and bounded Westerly by said Marcy Street; Northerly by land of the heirs of William H. Phinney; Easterly in part by said Piscataqua River and in part by the third parcel herein above described; and Southerly by said Mechanic Street.

Being the first parcel of land described in deed of Charles M. Dale to Josie F. Prescott dated June 27, 1941, recorded in Rockingham Registry of Deeds, Book 987, Page 84.

Also a sixth parcel of land situated on the Easterly side of Mechanic Street, and bounded Easterly by the Piscataqua River two hundred and twelve feet (212), more or less; Northerly by said River and by land formerly of Joseph W. Peirce and others; Westerly by said Mechanic Street two hundred and twelve feet (212), more or less; and Southerly by land formerly of the Proprietors of the Portsmouth Aqueduct and more recently of the City of Portsmouth.

Being the same premises conveyed to Josie F. Prescott by deed of Charles M. Dale dated June 2, 1940, recorded in Rockingham Registry of Deeds, Book 958, Page 496.

The second, third, fifth and sixth parcels together now form a single parcel of land.

This conveyance is upon the express condition and essential part consideration that the premises shall be used only for park and public recreational purposes and that no intoxicating liquors shall ever be sold thereon.

TO HAVE AND TO HOLD the said granted premises, with all the privileges and appurtenances to the same belonging, to the said Grantee, its successors and assigns forever. And we the said Charles M. Dale and Edwin H. Buck, trustees as aforesaid, covenant with the said City of Portsmouth, its successors and assigns, that we are duly authorized to make sale of said premises, that in all our proceedings in the administration of said trust we have complied with all requirements of law relating thereto, and that we will, in our said capacity, warrant and defend the same to the said City of Portsmouth, its successors and assigns against the lawful claims of persons claiming by, from or under us in the capacity aforesaid.

IN WITNESS WHEREOF, in our said capacity we have hereunto set our hands and seals this fifth day of January, A. D. 1954.

Signed, sealed and delivered in the presence of us:

Ray E. Brubaker
Edwin H. Buck

Charles M. Dale
Edwin H. Buck

STATE OF NEW HAMPSHIRE

COUNTY OF ROCKINGHAM

On this the fifth day of January, 1954, before me, the undersigned officer, personally appeared Charles M. Dale known to me to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

In witness whereof I hereunto set my hand and official seal.

Ray E. Brubaker
Justice of the Peace

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF SUFFOLK

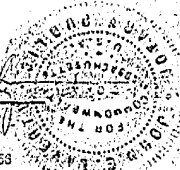
On this the fifth day of January, 1954, before me, the undersigned officer, personally appeared Edwin H. Buck known to me to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

In witness whereof I hereunto set my hand and official seal.

John E. Lunt
Notary Public

→ Rec. & recorded Feb. 20, 10 A.M., 1954 Notary Public

My Commission Expires March 2, 1958



Four Tree Island Tax Map



Property Information

Property ID 0208-0002-0000
 Location FOUR TREE IS
 Owner CITY OF PORTSMOUTH



**MAP FOR REFERENCE ONLY
 NOT A LEGAL DOCUMENT**

City of Portsmouth, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 09/26/2024

Print map scale is approximate.
 Critical layout or measurement
 activities should not be done using
 this resource.

**Abutters List – 2025
City of Portsmouth
Portsmouth, NH 03801**

**Property Location
Four Tree Island
Portsmouth, NH 03801
Tax Map 208, Lot 2**

Map/Lot

Owner Name & Address

208/1A

City of Portsmouth
PO Box 628
Portsmouth, NH 03802

Four Tree Island - PRAs, Tidal Waters



5/29/2025, 3:55:53 PM

1:13,190

- ArcGIS World Geocoding Service
- City/Town
- Parcels
- Prime Wetlands
- Prime Wetlands with 100ft Buffer
- Flood Plain Wetlands Adjacent to Tier 3 Streams

- Tidal Wetlands**
- High Marsh Mix
- High Marsh, J. gerardii
- High Marsh, S.patens / D.spicata
- Low Marsh
- Mudflat
- Open Water
- P panne
- Phragmites australis

- Pool
- Short form S. alterniflora
- Terrestrial border
- World Imagery**
- Low Resolution 15m Imagery
- High Resolution 60cm Imagery
- High Resolution 30cm Imagery
- Citations**
- 2.4m Resolution Metadata



0 437.5 875 1,750 ft
0 135 270 540 m

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, NHDRA, Axiomatic, Inc., Maxar

Four Tree Island - Coastal Layers



5/29/2025, 4:03:36 PM

-  ArcGIS World Geocoding Service
-  City/Town
-  Parcels
-  Eelgrass 2017
-  MHHW Baseline

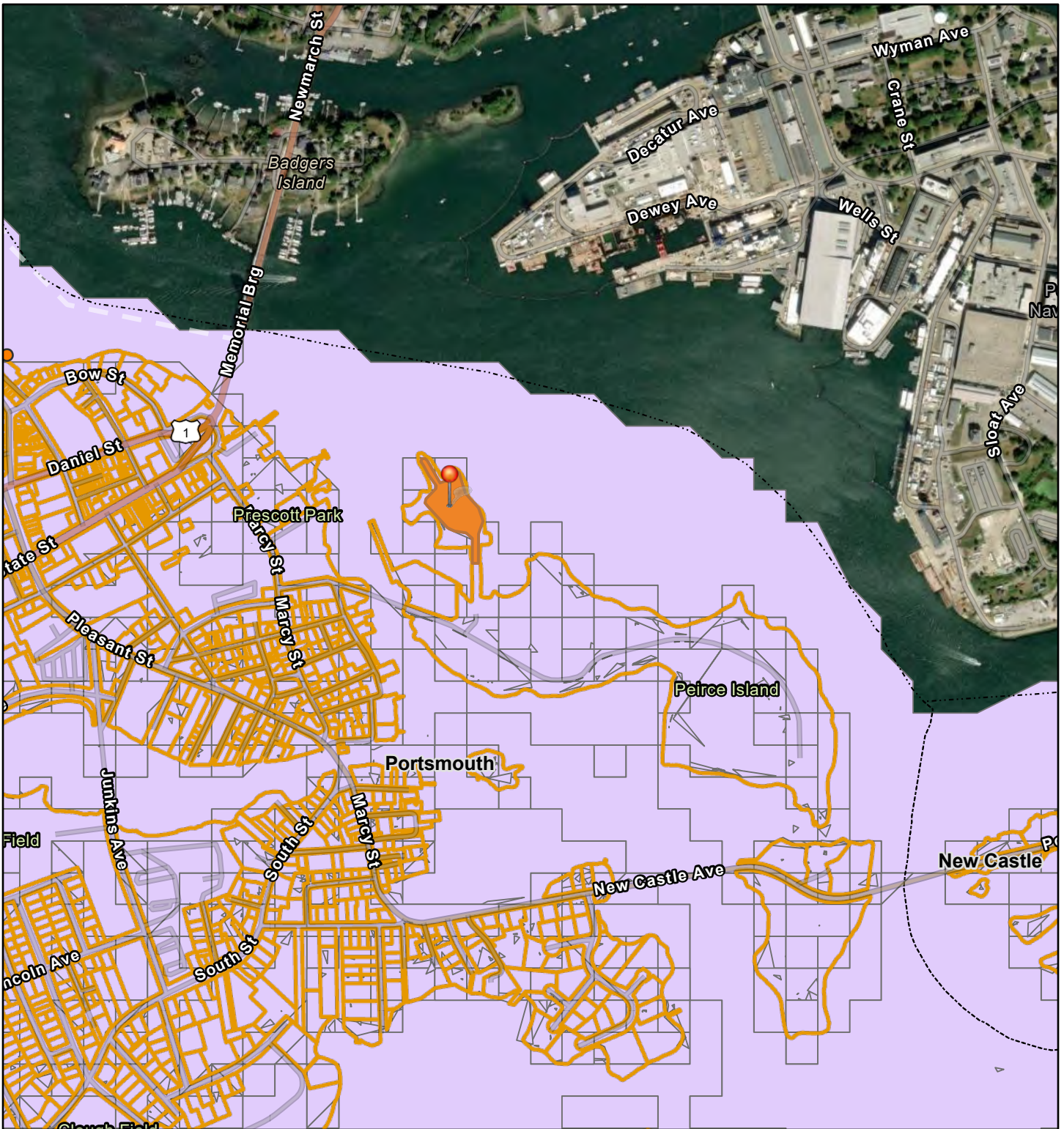
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Low Resolution 15m Imagery
High Resolution 60cm Imagery
High Resolution 30cm Imagery
Citations
2.4m Resolution Metadata



1:13,190
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0 135 270 540 m

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, NHDRA, Axiomatic, Inc., Maxar

Four Tree Island - Salt Marsh Migration



5/29/2025, 4:13:06 PM

1:13,190

-  ArcGIS World Geocoding Service
-  City/Town
-  Parcels
-  SLAMM 2022 - Initial Conditions
-  World Imagery

Low Resolution 15m Imagery
High Resolution 60cm Imagery
High Resolution 30cm Imagery

Citations

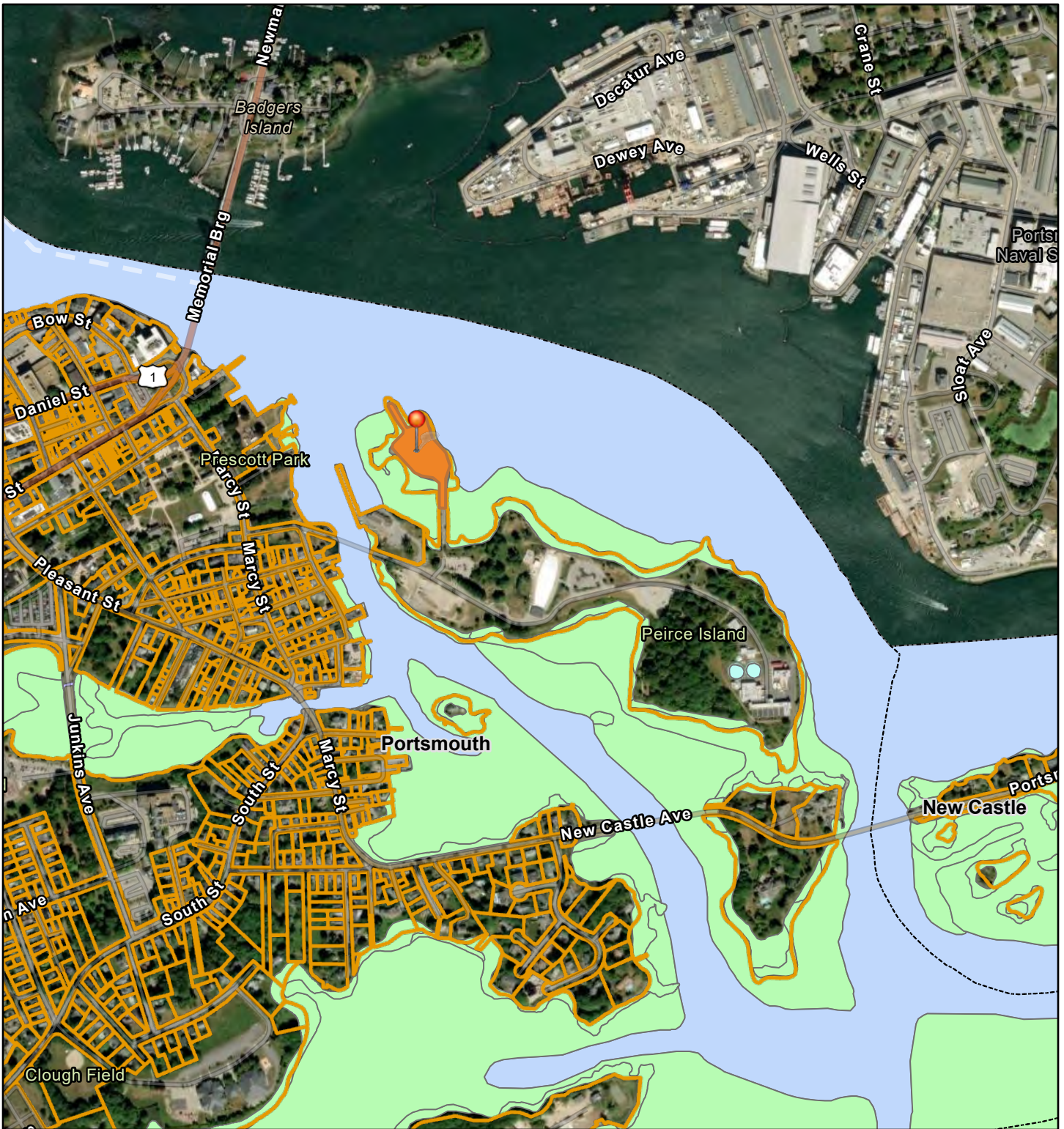
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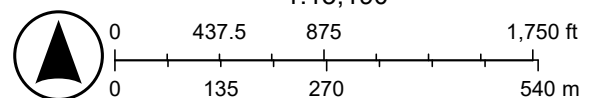
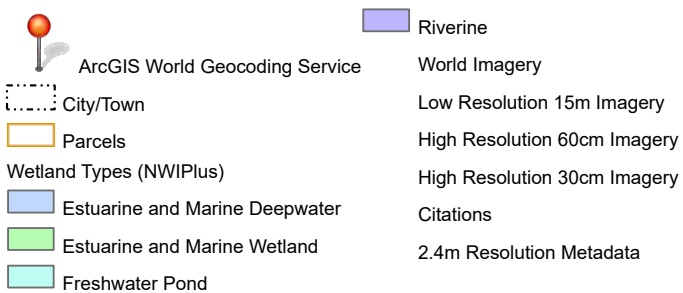
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0 135 270 540 m

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, NHDRA, Axiomatic, Inc., Maxar

Four Tree Island - National Wetland Inventory

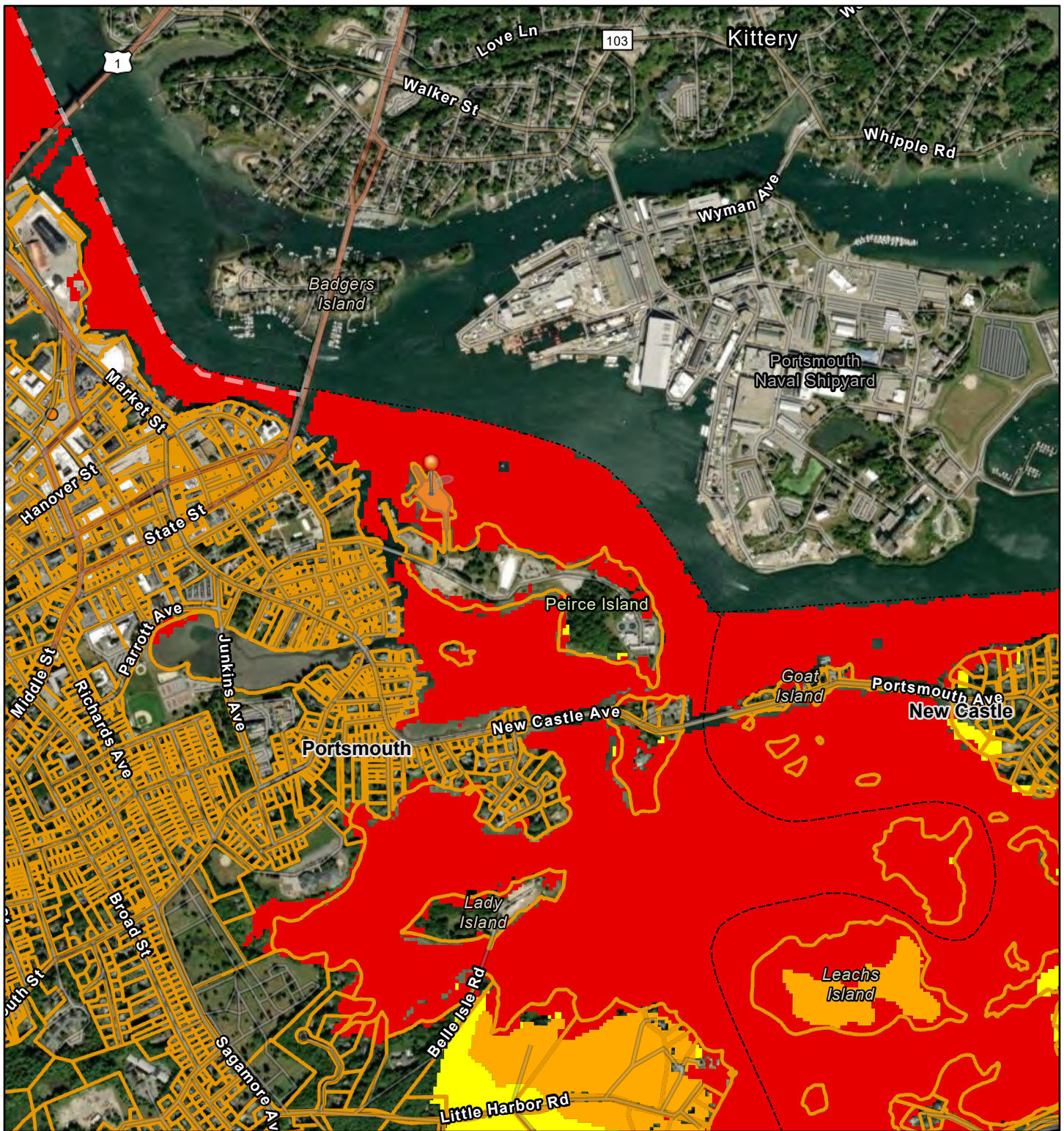


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Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, NHDRA, Axiomatic, Inc., Maxar

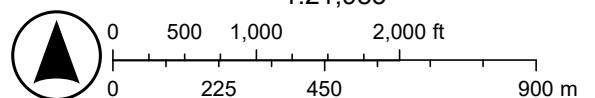
Four Tree Island - Highest Ranked Wildlife Habitats



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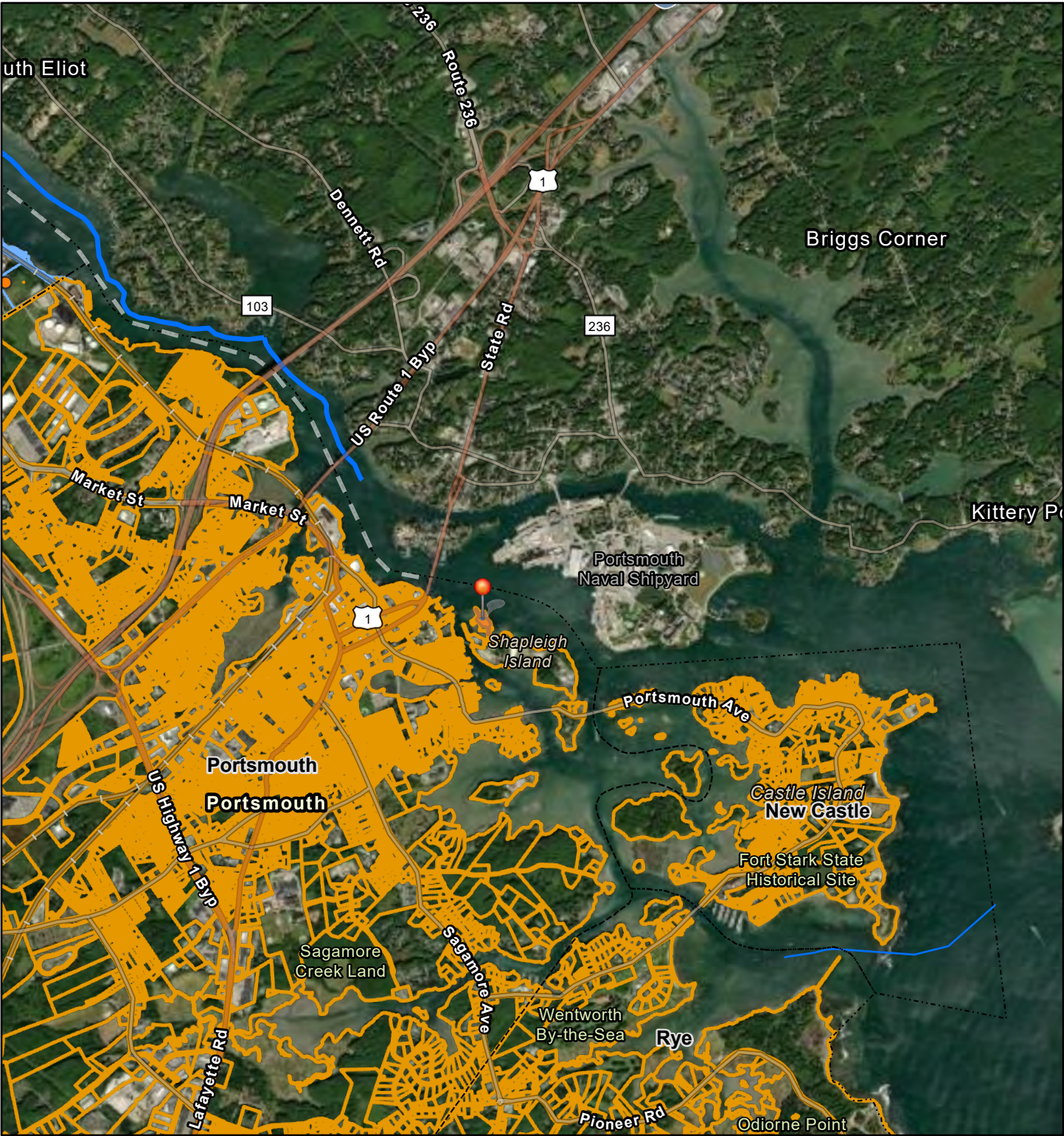
-  ArcGIS World Geocoding Service
-  City/Town
-  Parcels
-  Highest Ranked Wildlife Habitat
-  1
-  2

-  3
- World Imagery
- Low Resolution 15m Imagery
- High Resolution 60cm Imagery
- High Resolution 30cm Imagery
- Citations
- 4.8m Resolution Metadata



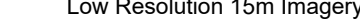
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, NHDRA, Axiomatic, Inc., Maxar

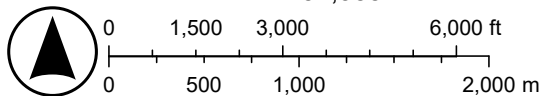
Four Tree Island - Fisheries



5/29/2025, 4:43:48 PM

-  ArcGIS World Geocoding Service
-  City/Town
-  Parcels
-  Additional Lines
-  Streams and Rivers
-  4

-  7
-  World Imagery
-  Low Resolution 15m Imagery
-  High Resolution 60cm Imagery
-  High Resolution 30cm Imagery
-  Citations



Earthstar Geographics, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, NHDRA, Axiomatic, Inc.

tidal wetlands



5/28/2025, 1:57:11 PM

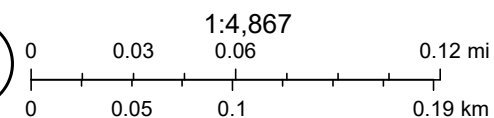
Active Permits



SHORELAND
Tidal Wetlands
High Marsh Mix
High Marsh, J. gerardii

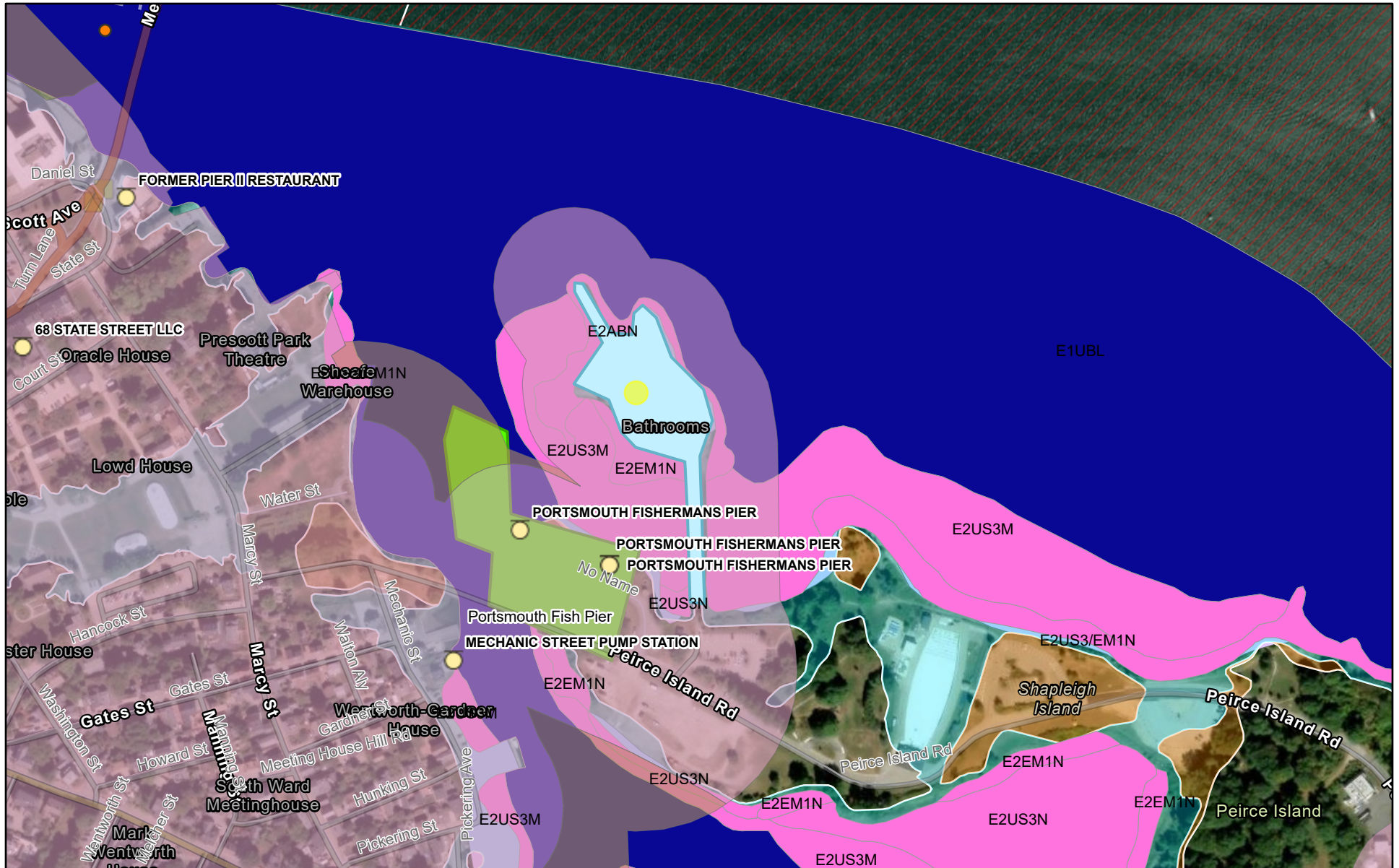
High Marsh, S. patens / D. spicata
Low Marsh
Mudflat
Open Water
Short form S. alterniflora
Terrestrial border

World Imagery
Low Resolution 15m Imagery
High Resolution 60cm Imagery
High Resolution 30cm Imagery
Citations
1.2m Resolution Metadata

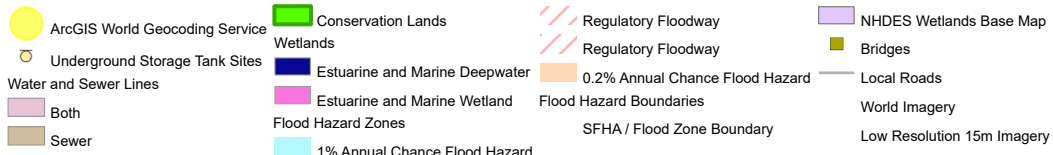


Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, Maxar

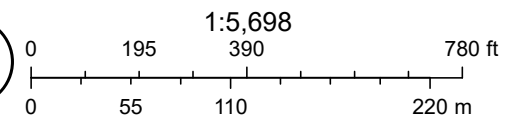
Four Tree Island - Portsmouth, NH



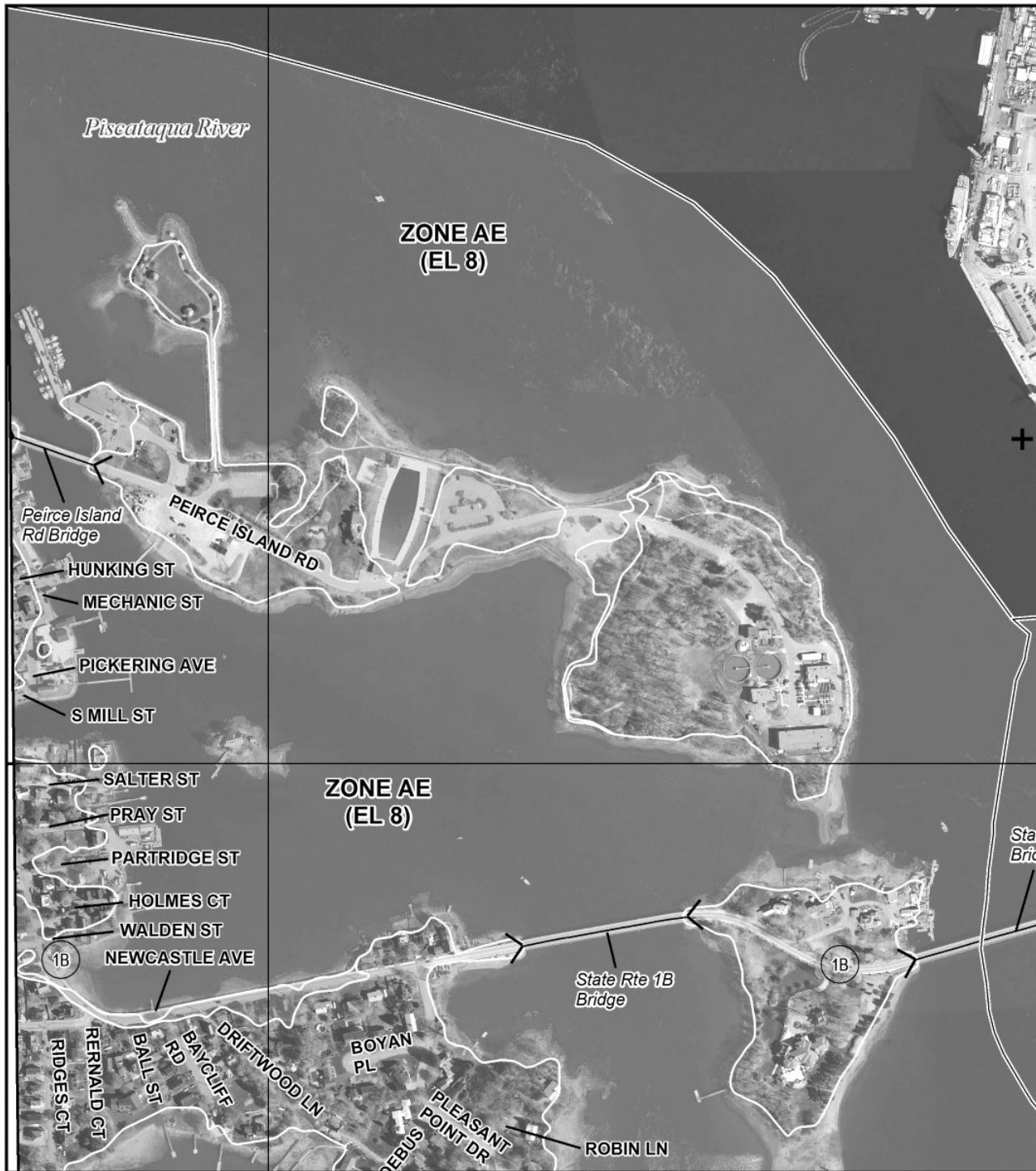
5/29/2025, 10:17:34 AM



High Resolution 60cm Imagery
High Resolution 30cm Imagery
Citations
1.2m Resolution Metadata



Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, Maxar



Map Projection:
NAD 1983 StatePlane New Hampshire FIPS 2800 Feet
Western Hemisphere; Vertical Datum: NAVD 88

1 inch = 500 feet

0 500 1,000

Rockingham County, New Hampshire
(All Jurisdictions)

PANEL 278 OF 681

Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
NEW CASTLE, TOWN OF	330135	0278	F
PORTSMOUTH, CITY OF	330139	0278	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
33015C0278F

MAP REVISED
January 29, 2021

National Flood Insurance Program

This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at <https://msc.fema.gov>.



**US Army Corps
of Engineers®**

New England District

**Appendix B
New Hampshire General Permits
Required Information and USACE Section 404 Checklist**

Required Information

In order for USACE to properly evaluate your application, applicants must submit the following information for all projects along with the NHDES Wetlands Bureau application or permit notification forms. Some projects may require more information. Check with USACE at (978) 318-8832 for project-specific requirements. For your convenience, this Appendix B is also attached to the NHDES Wetlands Bureau application and Permit by Notification forms.

- NHDES Wetlands Permit Application.
- Request for Project Review Form by the NH DHR: <https://www.nh.gov/nhdhr/review/rpr.htm>.
- Photographs of wetland/waterway to be impacted.
- Purpose of the project.
- Legible, reproducible plans no larger than 11"x17" with bar scale. Provide locus map and plan views of the entire property.
- Typical cross-section views of all wetland and waterway fill areas and wetland replication areas.
- In navigable waters, show MLW and MHW elevations. Show the HTL elevations when fill is involved. In other waters, show the OHW elevation.
- On each plan, show the following for the project:
 - Vertical datum and the NAVD 1988 equivalent with the vertical units as U.S. feet. In coastal waters this may be mean higher high water (MHHW), MHW, MLW, mean lower low water (MLLW) or other tidal datum with the vertical units as U.S. feet. MLLW and MHHW are preferred. Provide the correction factor detailing how the vertical datum (e.g., MLLW) was derived using the latest National Tidal Datum Epoch for that area, typically 1983 - 2001.
 - Horizontal state plane coordinates in U.S. survey feet based on the Traverse Mercator Grid system for the State of New Hampshire (Zone 2800) NAD 83.
 - Project limits with existing and proposed conditions.
 - Limits of any FNP in the vicinity of the project area and horizontal State Plane Coordinates in U.S. survey feet for the limits of the proposed work closest to the FNP.
 - Volume, type, and source of fill material to be discharged into waters and wetlands, including the area(s) (in square feet or acres) of fill in wetlands, below the OHW in inland waters and below the HTL in coastal waters.
 - Delineation of all waterways and wetlands on the project site.
- Use Federal delineation methods and include USACE wetland delineation data sheets (GC 2).
- For activities involving discharges of dredged or fill material into waters of the U.S., include a statement describing how impacts to waters of the U.S. are to be avoided and minimized, and either a statement describing how impacts to waters of the U.S. are to be compensated for (or a conceptual or detailed mitigation plan) or a statement explaining why compensatory mitigation should not be required for the proposed impacts. Please contact USACE for guidance.



**US Army Corps
of Engineers®**
New England District

Appendix B
New Hampshire General Permits
Required Information and USACE Section 404 Checklist

USACE Section 404 Checklist

1. Attach any explanations to this checklist. Lack of information could delay a USACE permit determination.
2. All references to “work” include all work associated with the project construction and operation. Work includes filling, clearing, flooding, draining, excavation, dozing, stumping, etc.
3. See GC 3 for information on single and complete projects.
4. Contact USACE at (978) 318-8832 with any questions.
5. The information requested below is generally required in the NHDES Wetland Application. See page 61 for NHDES references and Admin Rules as they relate to the information below.

1. Impaired Waters	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See the following to determine if there is an impaired water in the vicinity of your work area. * https://nhdes-surface-water-quality-assessment-site-nhdes.hub.arcgis.com/ https://www.des.nh.gov/water/rivers-and-lakes/water-quality-assessment https://www4.des.state.nh.us/onestopdatamapper/onestopmapper.aspx	X	
2. Wetlands	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?		X
2.2 Are there proposed impacts to tidal SAS, prime wetlands, or priority resource areas? Applicants may obtain information from the NH Department of Resources and Economic Development Natural Heritage Bureau (NHB) DataCheck Tool for information about resources located on the property at https://www4.des.state.nh.us/NHB-DataCheck/ .	X	
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	NA	
2.4 Would the project remove part or all of a riparian buffer? (Riparian buffers are lands adjacent to streams where vegetation is strongly influenced by the presence of water. They are often thin lines of vegetation containing native grasses, flowers, shrubs and/or trees that line the stream banks. They are also called vegetated buffer zones.)		X
2.5 The overall project site is more than 40 acres?		X
2.6 What is the area of the previously filled wetlands?	0 SF	
2.7 What is the area of the proposed fill in wetlands?	0 SF	
2.8 What % of the overall project sire will be previously and proposed filled wetlands?	0 SF	
3. Wildlife	Yes	No
3.1 Has the NHB & USFWS determined that there are known occurrences of rare species, exemplary natural communities, Federal and State threatened and endangered species and habitat, in the vicinity of the proposed project? (All projects require an NHB ID number & a USFWS IPAC determination.) NHB DataCheck Tool: https://www4.des.state.nh.us/NHB-DataCheck/ . USFWS IPAC website: https://ipac.ecosphere.fws.gov/	X	

3.2 Would work occur in any area identified as either "Highest Ranked Habitat in N.H." or "Highest Ranked Habitat in Ecological Region"? (These areas are colored magenta and green, respectively, on NH Fish and Game's map, "2010 Highest Ranked Wildlife Habitat by Ecological Condition.") Map information can be found at: • PDF: https://wildlife.state.nh.us/wildlife/wap-high-rank.html. • Data Mapper: www.granit.unh.edu. • GIS: www.granit.unh.edu/data/downloadfreedata/category/databycategory.html.	X	
3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?		X
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		X
3.5 Are stream crossings designed in accordance with the GC 31?		X
4. Flooding/Floodplain Values	Yes	No
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?		X
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?	NA	
5. Historic/Archaeological Resources		
For a minimum, minor or major impact project - a copy of the RPR Form (www.nh.gov/nhdhr/review) with your DES file number shall be sent to the NH Division of Historical Resources as required on Page 37 GC 14(d) of the GP document**	X	
6. Minimal Impact Determination (for projects that exceed 1 acre of permanent impact)	Yes	No
Projects with greater than 1 acre of permanent impact must include the following: • Functional assessment for aquatic resources in the project area. • On and off-site alternative analysis. • Provide additional information and description for how the below criteria are met.		
6.1 Will there be complete loss of aquatic resources on site?		X
6.2 Have the impacts to the aquatic resources been avoided and minimized to the greatest extent practicable?	X	
6.3 Will all aquatic resource function be lost?		X
6.4 Does the aquatic resource (s) have regional significance (watershed or ecoregion)?		X
6.5 Is there an on-site alternative with less impact?		X
6.6 Is there an off-site alternative with less impact?		X
6.7 Will there be a loss to a resource dependent species?		X
6.8 Are indirect impacts greater than 1 acre within and adjacent to the project area?		X
6.9 Does the proposed mitigation replace aquatic resource function for direct, indirect, and cumulative impacts?	NA	

*Although this checklist utilizes state information, its submittal to USACE is a federal requirement.

** If your project is not within Federal jurisdiction, coordination with NH DHR is not required under Federal law.



Critical Habitat Report - Four Tree Island

Area of Interest (AOI) Information

Area : 0.17 km²

May 28 2025 11:02:43 Eastern Daylight Time



Scale: 1:4,514
0 0.03 0.06 0.11 mi
0 0.04 0.09 0.17 km
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, NOAA National Marine Fisheries

Culvert needs relining underneath entry road to island and riprap repair needed in two spots on island.

Summary

Name	Count	Area(km²)	Length(m)
All Critical Habitat Polyline	0	N/A	0
All Critical Habitat Polygon	0	0	N/A



United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104



In Reply Refer To:
Project Code: 2025-0100799
Project Name: Four Tree Island

05/22/2025 20:51:26 UTC

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Updated 4/12/2023 - Please review this letter each time you request an Official Species List, we will continue to update it with additional information and links to websites may change.

About Official Species Lists

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Federal and non-Federal project proponents have responsibilities under the Act to consider effects on listed species.

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested by returning to an existing project's page in IPaC.

Endangered Species Act Project Review

Please visit the “**New England Field Office Endangered Species Project Review and Consultation**” website for step-by-step instructions on how to consider effects on listed

species and prepare and submit a project review package if necessary:

<https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review>

NOTE Please do not use the **Consultation Package Builder** tool in IPaC except in specific situations following coordination with our office. Please follow the project review guidance on our website instead and reference your **Project Code** in all correspondence.

Northern Long-eared Bat - (Updated 4/12/2023) The Service published a final rule to reclassify the northern long-eared bat (NLEB) as endangered on November 30, 2022. The final rule went into effect on March 31, 2023. You may utilize the **Northern Long-eared Bat Rangewide Determination Key** available in IPaC. More information about this Determination Key and the Interim Consultation Framework are available on the northern long-eared bat species page:

<https://www.fws.gov/species/northern-long-eared-bat-myotis-septentrionalis>

For projects that previously utilized the 4(d) Determination Key, the change in the species' status may trigger the need to re-initiate consultation for any actions that are not completed and for which the Federal action agency retains discretion once the new listing determination becomes effective. If your project was not completed by March 31, 2023, and may result in incidental take of NLEB, please reach out to our office at newengland@fws.gov to see if reinitiation is necessary.

Additional Info About Section 7 of the Act

Under section 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to determine whether projects may affect threatened and endangered species and/or designated critical habitat. If a Federal agency, or its non-Federal representative, determines that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Federal agency also may need to consider proposed species and proposed critical habitat in the consultation. 50 CFR 402.14(c)(1) specifies the information required for consultation under the Act regardless of the format of the evaluation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/service/section-7-consultations>

In addition to consultation requirements under Section 7(a)(2) of the ESA, please note that under sections 7(a)(1) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species. Please contact NEFO if you would like more information.

Candidate species that appear on the enclosed species list have no current protections under the ESA. The species' occurrence on an official species list does not convey a requirement to

consider impacts to this species as you would a proposed, threatened, or endangered species. The ESA does not provide for interagency consultations on candidate species under section 7, however, the Service recommends that all project proponents incorporate measures into projects to benefit candidate species and their habitats wherever possible.

Migratory Birds

In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see:

<https://www.fws.gov/program/migratory-bird-permit>

<https://www.fws.gov/library/collections/bald-and-golden-eagle-management>

Please feel free to contact us at **newengland@fws.gov** with your **Project Code** in the subject line if you need more information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat.

Attachment(s): Official Species List

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

PROJECT SUMMARY

Project Code: 2025-0100799

Project Name: Four Tree Island

Project Type: Culvert Repair/Replacement/Maintenance

Project Description: Riprap Repair in two spots and Culvert Relining underneath entry road to island. Located in Portsmouth, NH

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@43.076596949999995,-70.74789679743125,14z>



Counties: Rockingham County, New Hampshire

ENDANGERED SPECIES ACT SPECIES

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Roseate Tern <i>Sterna dougallii dougallii</i> Population: Northeast U.S. nesting population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2083	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Duncan Mellor
Address: 181 Watson Road, P.O. Box 1166
City: Dover
State: NH
Zip: 03821
Email: permitting@civilworksne.com
Phone: 6037490443

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Army Corps of Engineers



Drawn Action Area & Overlapping S7 Consultation Areas

Area of Interest (AOI) Information

Area : 2,193.47 acres

May 28 2025 11:08:24 Eastern Daylight Time



Culvert needs relining underneath entry road and riprap repair is needed in two spots on Four Tree Island, Portsmouth, NH.

Summary

Name	Count	Area(acres)	Length(mi)
Atlantic Sturgeon	4	1,624.64	N/A
Shortnose Sturgeon	2	812.33	N/A
Atlantic Salmon	0	0	N/A
Sea Turtles	4	2,301.11	N/A
Atlantic Large Whales	0	0	N/A
In or Near Critical Habitat	1	790.43	N/A

Atlantic Sturgeon

#	Feature ID	Species	Lifestage	Behavior	Zone	From	Until	From (2)	Until (2)	Area(acres)
1	ANS_PIS_ADU_MAF	Atlantic sturgeon	Adult	Migrating & Foraging	Piscataqua River	01/01	12/31	N/A	N/A	169.87
2	ANS_PIS_SUB_MAF	Atlantic sturgeon	Subadult	Migrating & Foraging	Piscataqua River	01/01	12/31	N/A	N/A	169.87
3	ANS_C50_ADU_MAF	Atlantic sturgeon	Adult	Migrating & Foraging	N/A	01/01	12/31	N/A	N/A	642.45
4	ANS_C50_SUB_MAF	Atlantic sturgeon	Subadult	Migrating & Foraging	N/A	01/01	12/31	N/A	N/A	642.45

Shortnose Sturgeon

#	Feature ID	Species	Life Stage	Behavior	Zone	From	Until	From (2)	Until (2)	Area(acres)
1	SNS_PIS_ADU_MAF	Shortnose sturgeon	Adult	Migrating & Foraging	Piscataqua River	04/01	11/30	N/A	N/A	169.87
2	SNS_C50_ADU_MAF	Shortnose sturgeon	Adult	Migrating & Foraging	N/A	04/01	11/30	N/A	N/A	642.46

Sea Turtles

#	Feature ID	Species	Life Stage	Behavior	Zone	From	Until	From (2)	Until (2)	Area(acres)
1	GRN_STN_AJV_MAF	Green sea turtle	Adults and juveniles	Migrating & Foraging	Maine to Massachusetts (N of Cape Cod)	6/1	11/30	No Data	No Data	575.28
2	KMP_STN_AJV_MAF	Kemp's ridley sea turtle	Adults and juveniles	Migrating & Foraging	Maine to Massachusetts (N of Cape Cod)	6/1	11/30	No Data	No Data	575.28
3	LTR_STN_AJV_MAF	Leatherback sea turtle	Adults and juveniles	Migrating & Foraging	Maine to Massachusetts (N of Cape Cod)	6/1	11/30	No Data	No Data	575.28
4	LOG_STN_AJV_MAF	Loggerhead sea turtle	Adults and juveniles	Migrating & Foraging	Maine to Massachusetts (N of Cape Cod)	6/1	11/30	No Data	No Data	575.28

In or Near Critical Habitat

#	Species	In or Near Critical Habitat	Area(acres)
1	Atlantic Sturgeon	Gulf of Maine Unit 4: Piscataqua River	790.43



There are two riprap repair locations on Four Tree Island and a 7' diameter steel culvert that needs relining beneath the access road to the island. Stone revetment repairs are proposed on a short length (50 LF) of revetment that is recessed and has undersized stones compared to the adjacent revetments. Proposed riprap repairs are an overlay of correctly sized armor stone, and in-kind repair of a small patch of eroded lawn. The culvert repair will remove armor stones that have fallen into the it, cut away deformed portions of the steel, and insert a new 5-foot diameter HDPE plastic culvert pipe into the existing culvert without excavation. The void space between the pipes will be bricked at the ends, with the void space grouted.

Submission Information

Date Created

6/5/2025 7:12:54 PM

Date Submitted

6/5/2025 8:11:36 PM

Date Processed

6/9/2025 6:13:13 PM

Project Information

Project Type

Review & Compliance

Project Name

Four Tree Island Repairs

Project Description

There are two riprap repair locations on Four Tree Island and a 7' diameter steel culvert that needs relining beneath the access road to the island. Stone revetment repairs are proposed on a short length (50 LF) of revetment that is recessed and has undersized stones compared to the adjacent revetments. Proposed riprap repairs are an overlay of correctly sized armor stone, and in-kind repair of a small patch of eroded lawn. The culvert repair will remove armor stones that have fallen into the it, cut away deformed portions of the steel, and insert a new 5-foot diameter HDPE plastic culvert pipe into the existing culvert without excavation. The void space between the pipes will be bricked at the ends, with the void space grouted.

Review and Compliance

Type

Federal Section 106 Review

Present Land Use

Public

Past Land Use and Disturbances

Public

Project Includes Construction

Yes

Project Includes Demolition

No

Project Includes Disposition

No

Project Includes Refinancing

No

Project Includes Rehabilitation

No

Ground Disturbance

No

One or More Above Ground Resources 45 Years or Older

No

Project Address

Four, 4 Tree Island, Portsmouth, NH 03801

Location Description

Small island off of Peirce Island and Prescott Park in Portsmouth, NH

APE Description

The mapped APE boundary shows the entirety of 4 Tree Island and up until the culvert underneath the entry road. There are two riprap repair locations on the island, including the narrow straight path to the "My Mother the Wind" Sculpture, and a smaller chunk on the island. Please see the Vicinity Map attached on this submission to see the direct locations for each repair.

APE Justification

Proposed riprap repairs are an overlay of correctly sized armor stone, and in-kind repair of a small patch of eroded lawn. All work will be done in the dry, above water level; therefore, no excavation is proposed. Regarding the culvert repair, the void space between the pipes will be bricked at the ends, with the void space grouted. This culvert has minimal tidal flow which is not measurable. No excavation will be taking place as a new 5-foot diameter HDPE plastic culvert pipe will be inserted into the existing culvert.

APE Acreage

1.87

Agencies



Army Corps of Engineers (ACOE) - Primary: Yes, Program-Permit: NA/NA

Project Contacts

Steve Haight - permitting@civilworksne.com

Towns

Portsmouth (Rockingham County)

Existing Resources within APE

None Available

Documents

- 1) 4 Tree Island Vicinity Map - Map showing site and specific locations of where repairs are needed.
- 2) 4 Tree Island State Mapper - Combined PDF of maps from DES Permit Planning Tool and FEMA.
- 3) 4 Tree Island Project Narrative - Project Narrative
- 4) 4 Tree Island Photos Updated - Three photos showing each location
- 5) combined dwgs 8-24-24 - see attached for each drawing
- 6) 4 tree Vic map - Second Vicinity map from 2024

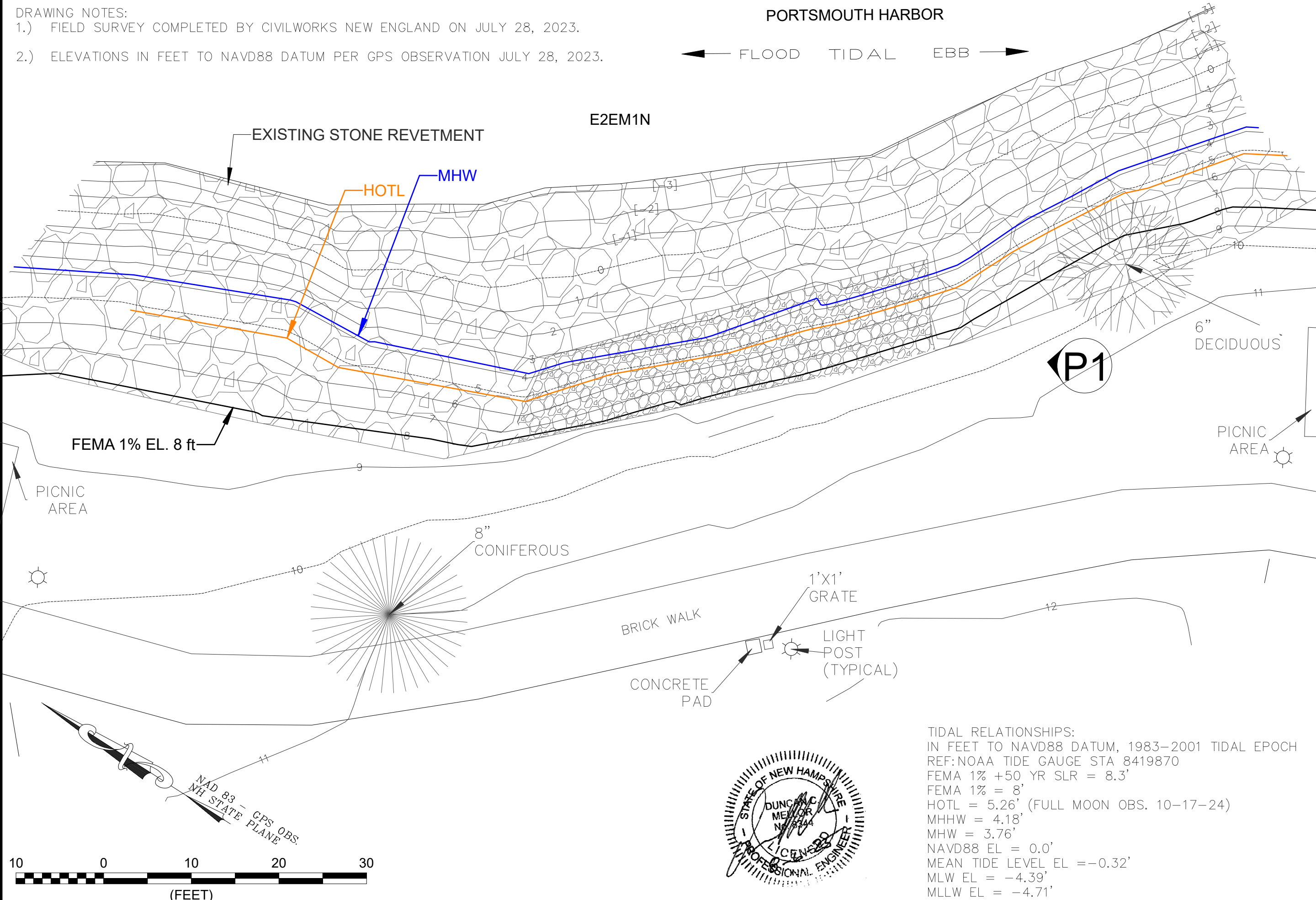
Photos (0)

No Photos Available

DRAWING NOTES:
1.) FIELD SURVEY COMPLETED BY CIVILWORKS NEW ENGLAND ON JULY 28, 2023.
2.) ELEVATIONS IN FEET TO NAVD88 DATUM PER GPS OBSERVATION JULY 28, 2023.

PORTSMOUTH HARBOR

← FLOOD TIDAL EBB →



DATE: 8-6-25
SCALE: SHOWN
DRAWN BY: JJH
DESIGN BY: DCM

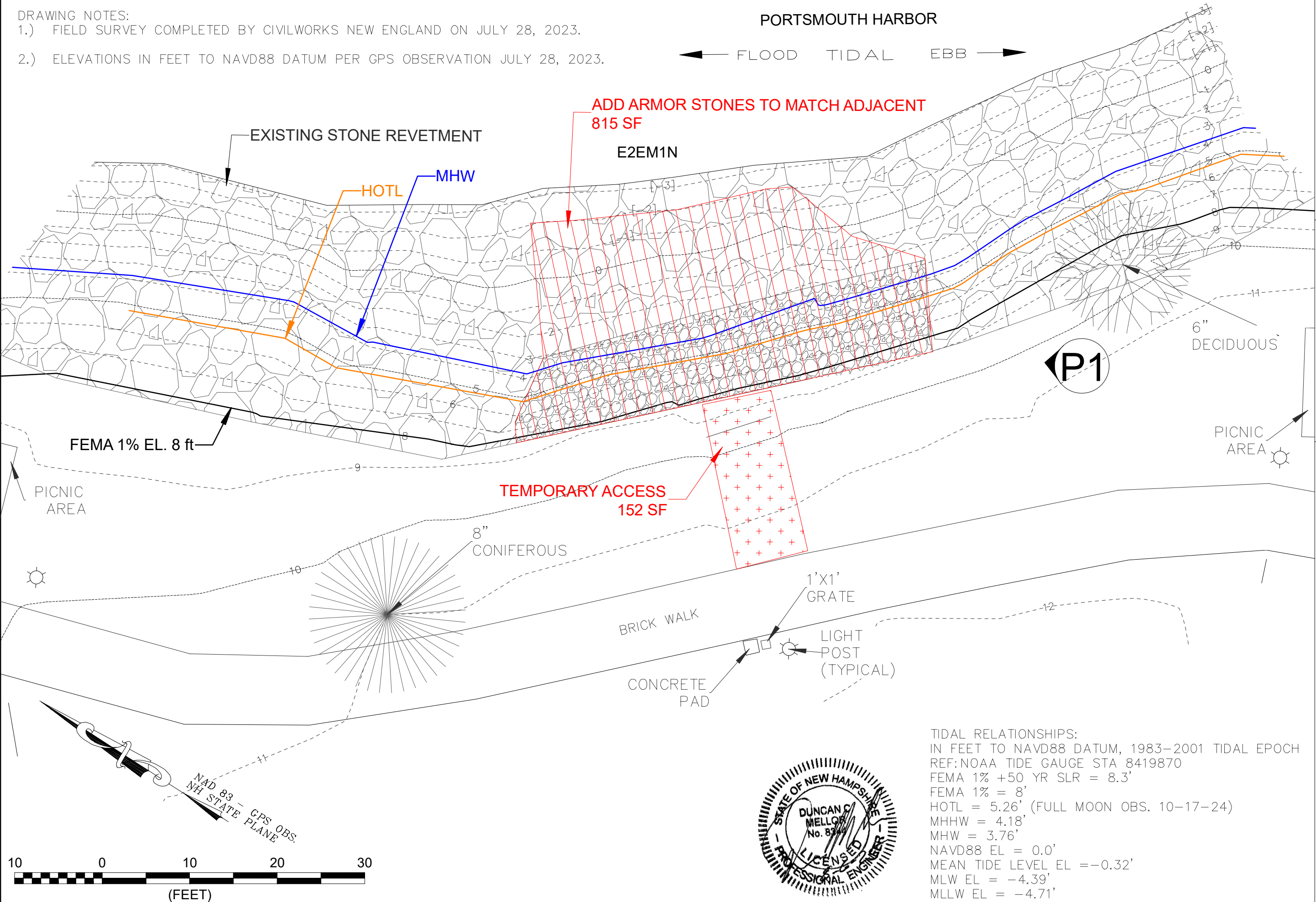
CITY OF PORTSMOUTH
TAX MAP 208, LOT 2

4 TREE ISLAND REPAIRS
PORTSMOUTH, NH
ROCKINGHAM COUNTY
PISCATAQUA RIVER

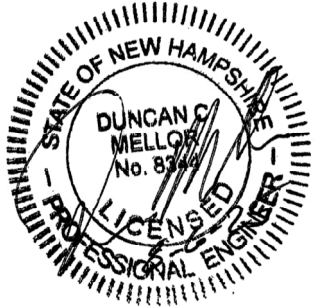
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2.) ELEVATIONS IN FEET TO NAVD88 DATUM PER GPS OBSERVATION JULY 28, 2023.

PORTSMOUTH HARBOR

FLOOD TIDAL EBB



TIDAL RELATIONSHIPS:
IN FEET TO NAVD88 DATUM, 1983-2001 TIDAL EPOCH
REF: NOAA TIDE GAUGE STA 8419870
FEMA 1% +50 YR SLR = 8.3'
FEMA 1% = 8'
HOTL = 5.26' (FULL MOON OBS. 10-17-24)
MHHW = 4.18'
MHW = 3.76'
NAVD88 EL = 0.0'
MEAN TIDE LEVEL EL = -0.32'
MLW EL = -4.39'
MLLW EL = -4.71'



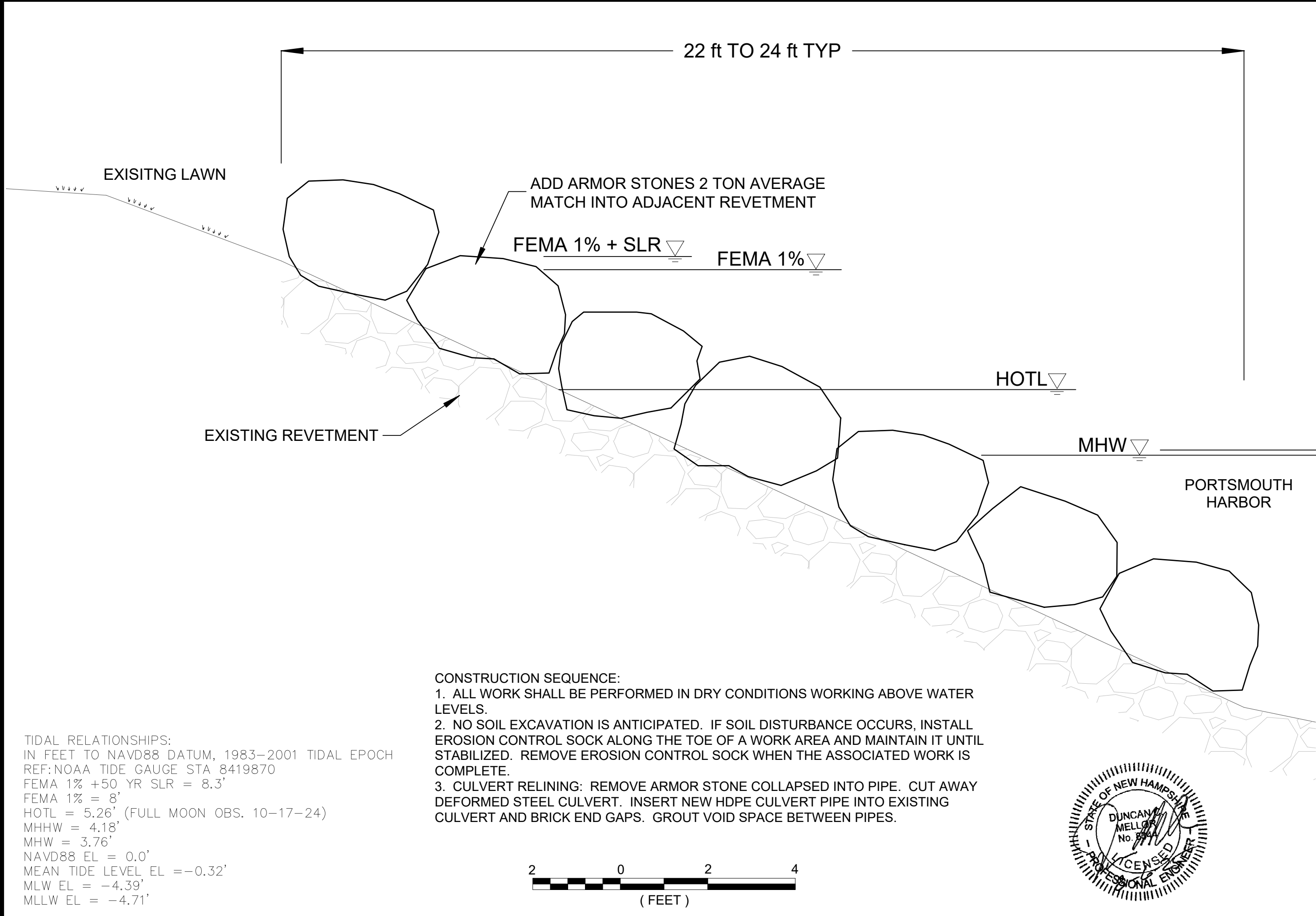
DATE: 8-6-25
SCALE: SHOWN
DRAWN BY: JJH
DESIGN BY: DCM

CITY OF PORTSMOUTH
TAX MAP 208, LOT 2

4 TREE ISLAND REPAIRS
PORTSMOUTH, NH
ROCKINGHAM COUNTY
PISCATAQUA RIVER

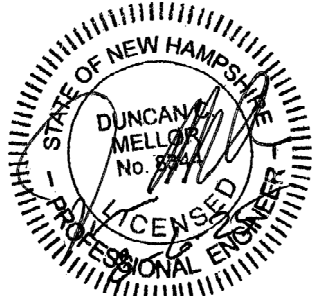
WF - 2

REPAIR PLAN: REVETMENT



TIDAL RELATIONSHIPS:
IN FEET TO NAVD88 DATUM, 1983-2001 TIDAL EPOCH
REF: NOAA TIDE GAUGE STA 8419870
FEMA 1% +50 YR SLR = 8.3'
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- CONSTRUCTION SEQUENCE:
1. ALL WORK SHALL BE PERFORMED IN DRY CONDITIONS WORKING ABOVE WATER LEVELS.
 2. NO SOIL EXCAVATION IS ANTICIPATED. IF SOIL DISTURBANCE OCCURS, INSTALL EROSION CONTROL SOCK ALONG THE TOE OF A WORK AREA AND MAINTAIN IT UNTIL STABILIZED. REMOVE EROSION CONTROL SOCK WHEN THE ASSOCIATED WORK IS COMPLETE.
 3. CULVERT RELINING: REMOVE ARMOR STONE COLLAPSED INTO PIPE. CUT AWAY DEFORMED STEEL CULVERT. INSERT NEW HDPE CULVERT PIPE INTO EXISTING CULVERT AND BRICK END GAPS. GROUT VOID SPACE BETWEEN PIPES.



 181 Watson Road, PO Box 1166 Dover, New Hampshire 03821 603.749.0443			
REPAIR CROSS SECTION: REVETMENT	DATE: 8-6-25		
	SCALE: SHOWN		
	DRAWN BY: DCM		
	DESIGN BY: DCM		
CITY OF PORTSMOUTH TAX MAP 208, LOT 2		4 TREE ISLAND REPAIRS PORTSMOUTH, NH ROCKINGHAM COUNTY PISCATAQUA RIVER	
		WF - 3	

DRAWING NOTES:
1.) FIELD SURVEY COMPLETED BY CIVILWORKS NEW ENGLAND ON JULY 28, 2023.
2.) ELEVATIONS IN FEET TO NAVD88 DATUM PER GPS OBSERVATION ON JULY 28, 2023.

DATE: 8-6-25

SCALE: SHOWN

DRAWN BY: JJH

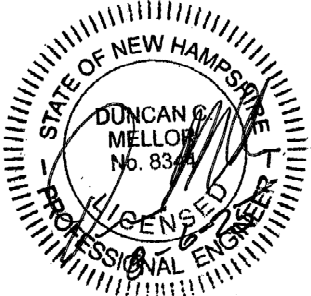
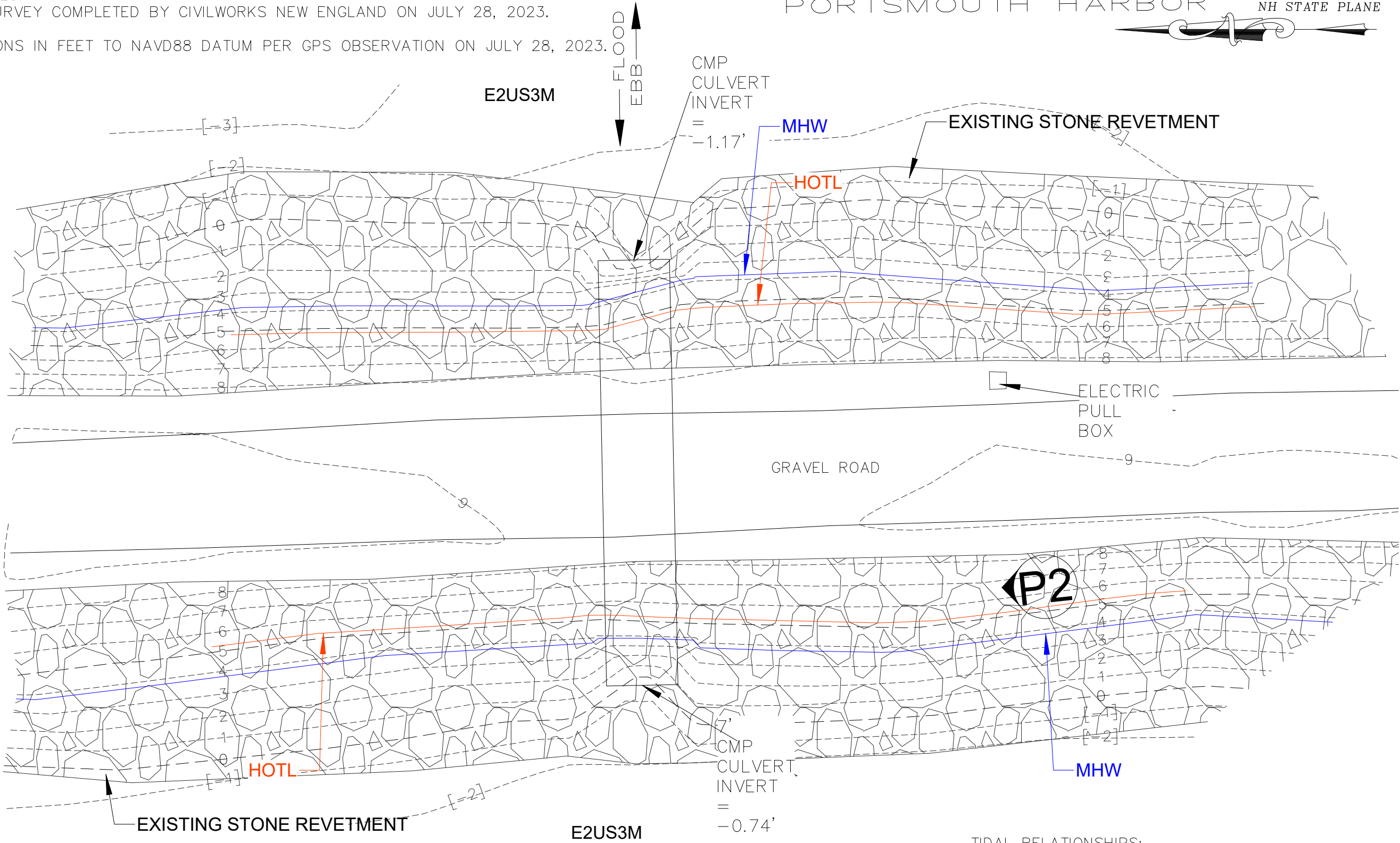
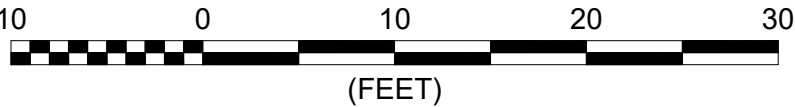
DESIGN BY: DCM

EXISTING CONDITIONS PLAN: CULVERT

CITY OF PORTSMOUTH
TAX MAP 208, LOT 2

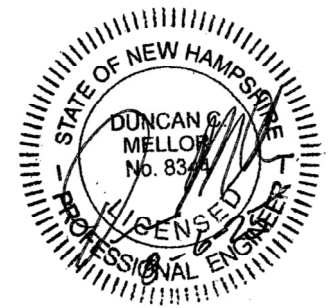
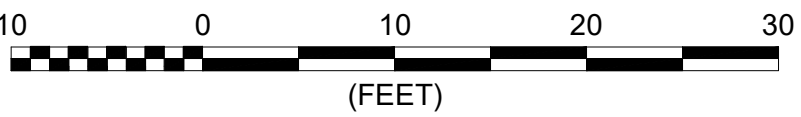
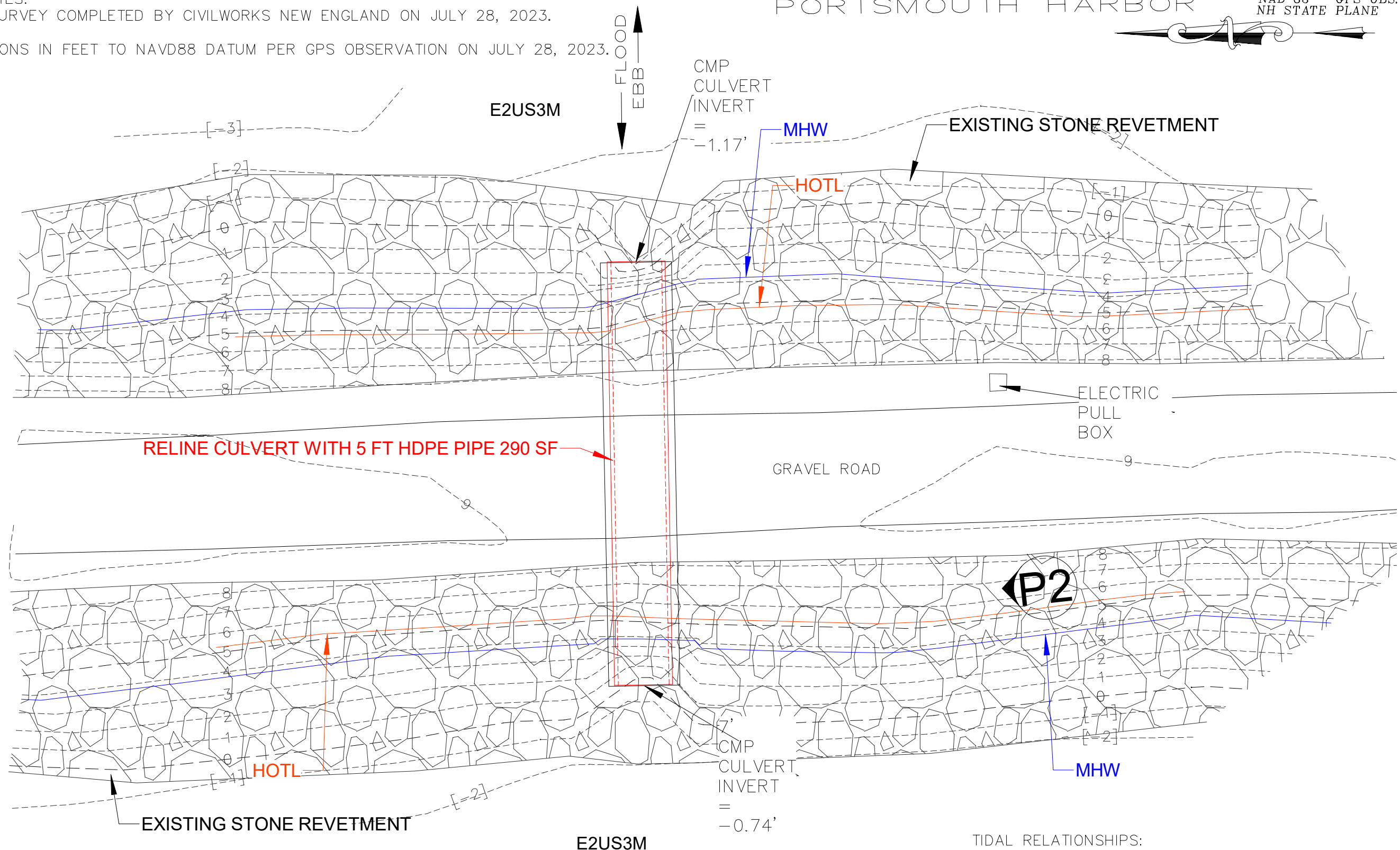
4 TREE ISLAND REPAIRS
PORTSMOUTH, NH
ROCKINGHAM COUNTY
PISCATAQUA RIVER

WF - 4



TIDAL RELATIONSHIPS:
IN FEET TO NAVD88 DATUM, 1983-2001 TIDAL EPOCH
REF:NOAA TIDE GAUGE STA 8419870
FEMA 1% +50 YR SLR = 8.3'
FEMA 1% = 8'
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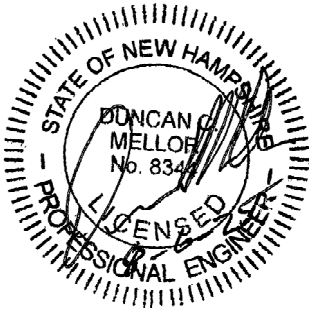
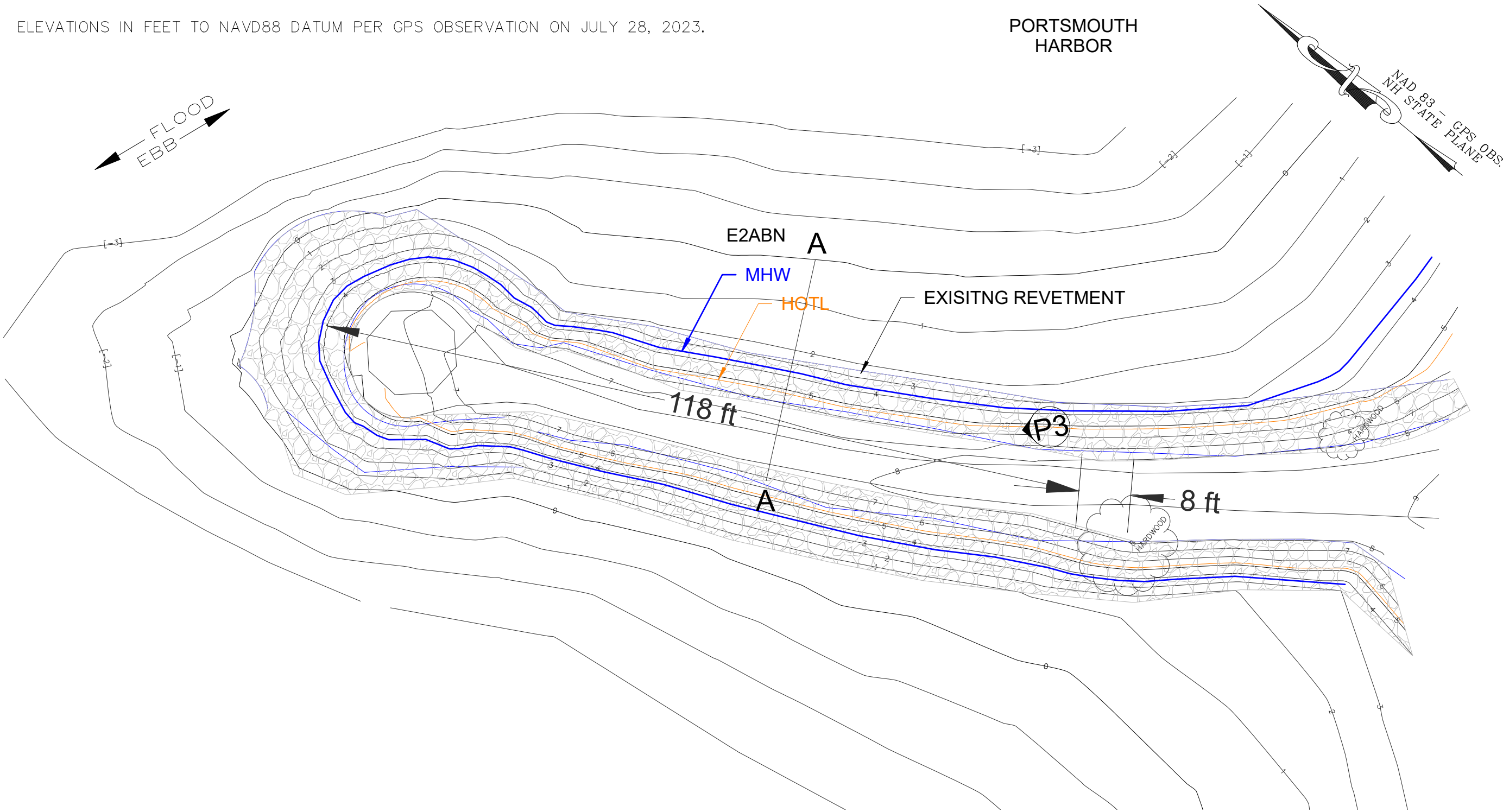
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MLLW EL = -4.71'

REPAIR PLAN: CULVERT	DATE: 8-6-25		CITY OF PORTSMOUTH	
	SCALE: SHOWN	DRAWN BY: JJH	TAX MAP 208, LOT 2	
		DESIGN BY: DCM	4 TREE ISLAND REPAIRS	
			PORTSMOUTH, NH	
			ROCKINGHAM COUNTY	
			PISCATAQUA RIVER	
			WF - 5	

- DRAWING NOTES:
- 1.) FIELD SURVEY COMPLETED BY CIVILWORKS NEW ENGLAND ON MAY 20, 2025.
 - 2.) ELEVATIONS IN FEET TO NAVD88 DATUM PER GPS OBSERVATION ON JULY 28, 2023.

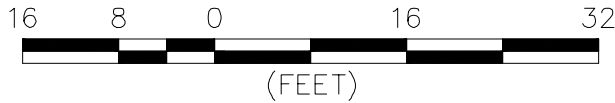
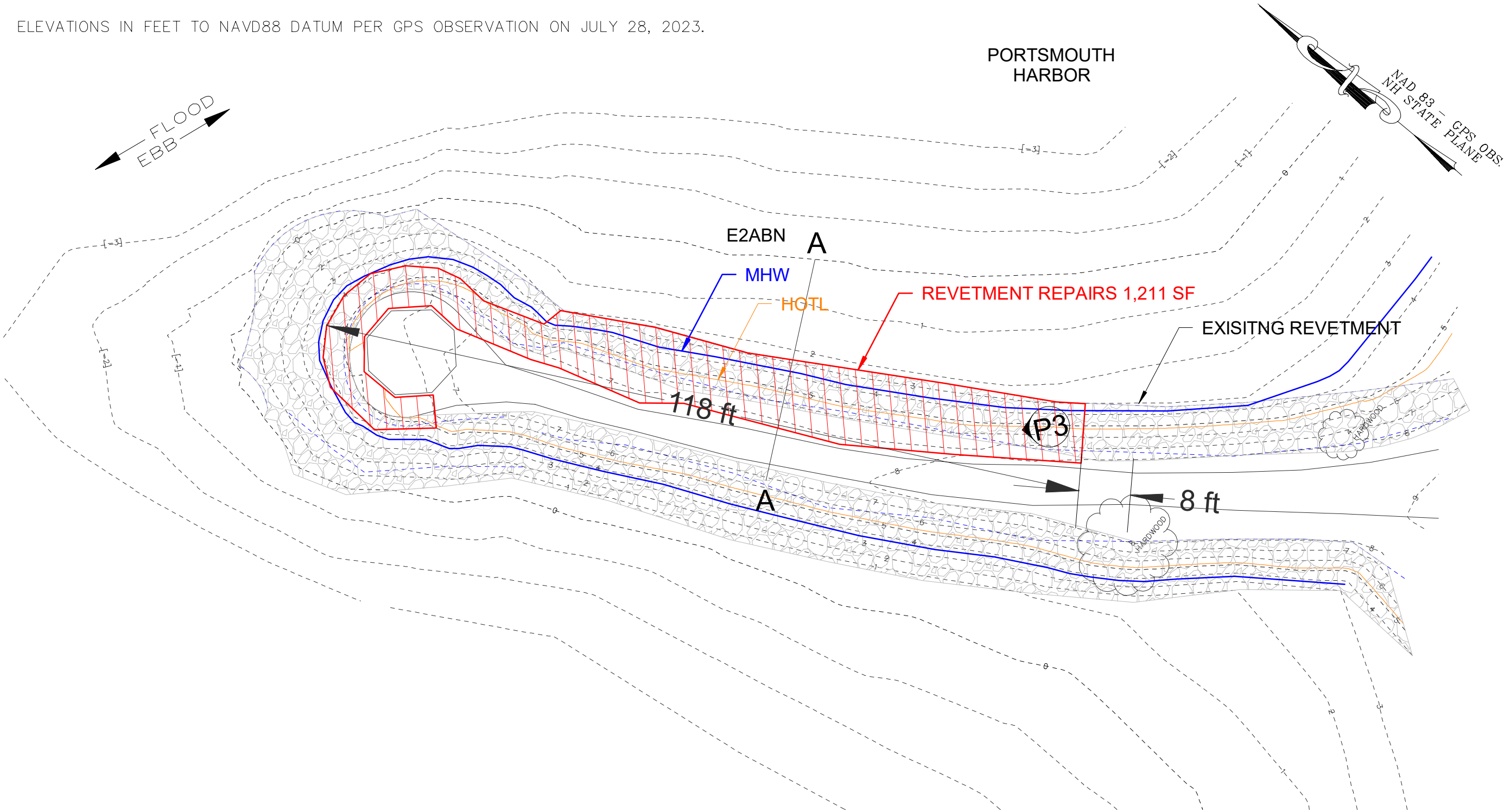


TIDAL RELATIONSHIPS:
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REF: NOAA TIDE GAUGE STA 8419870
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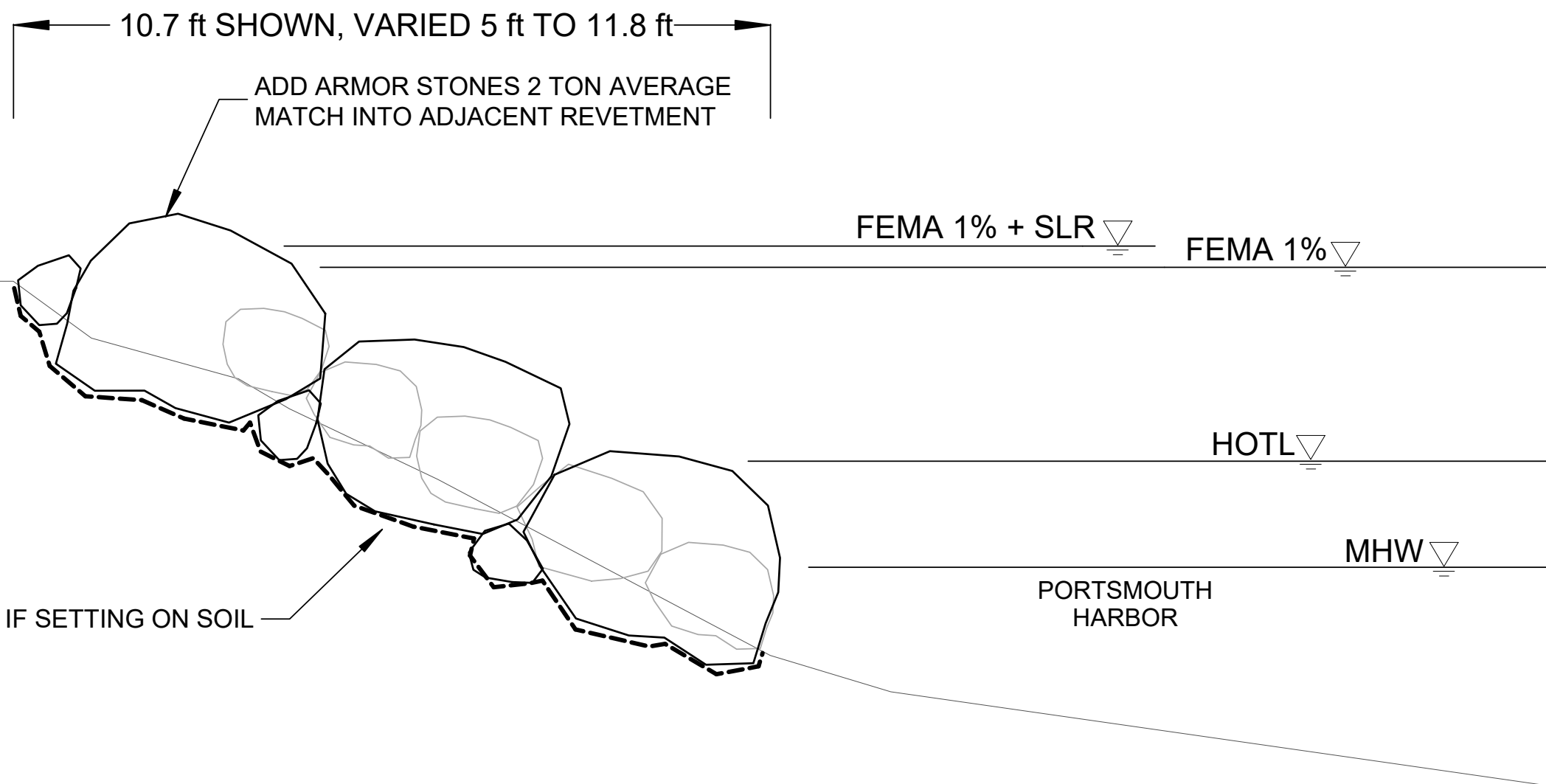
WF - 6	4 TREE ISLAND REPAIRS PORTSMOUTH, NH ROCKINGHAM COUNTY PISCATAQUA RIVER	CITY OF PORTSMOUTH TAX MAP 208, LOT 2	EXISTING CONDITIONS PLAN: SCULPTURE AREA	
			DATE: 8-6-25	
			SCALE: SHOWN	
			DRAWN BY: RM	
			DESIGN BY: DCM	

DRAWING NOTES:
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REPAIR PLAN: SCULPTURE AREA	DATE: 8-6-25	
	SCALE: SHOWN	
	DRAWN BY: RM	
	DESIGN BY: DCM	
CITY OF PORTSMOUTH TAX MAP 208, LOT 2		
4 TREE ISLAND REPAIRS PORTSMOUTH, NH ROCKINGHAM COUNTY PISCATAQUA RIVER		
WF - 7		



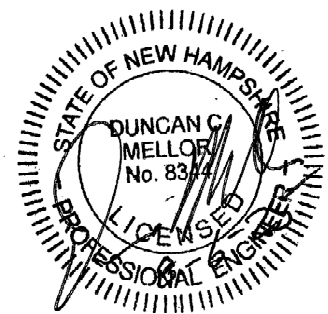
SECTION A-A REPAIR CROSS SECTION (TYP)

PROGRESS PRINT

TIDAL RELATIONSHIPS:
 IN FEET TO NAVD88 DATUM, 1983-2001 TIDAL EPOCH
 REF: NOAA TIDE GAUGE STA 8419870
 FEMA 1% +50 YR SLR = 8.3'
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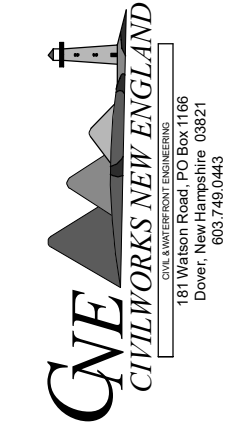
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DCT25-2309 New Hampshire Fish and Game Conservation Measures:

1. Common Tern (State Threatened), Atlantic Sturgeon (State and Federally Threatened), Shortnose Sturgeon (State and Federally Endangered), and Peregrine Falcon (State Threatened) occur within the vicinity of the project area. All operators and personnel working on or entering the site shall be made aware of the potential presence of these species and shall be provided flyers that help to identify these species, along with NHFG contact information. Protected species information (e.g. identification, observation and reporting of observations, when to contact NHFG immediately and NHFG contact information) shall be communicated during morning meetings prior to work commencement throughout the construction phase of the project. Upon review, NHFG has determined that there are likely minimal impacts to the species with the activities associated with this project as described by the applicant. See Plan Sheet WF-9
2. All work shall occur in the dry and above the water level, as proposed.
3. Proper erosion control shall be installed to prevent sedimentation from reaching into the waterbody. See Plan Sheet WF-3 notes.
4. Native species should be used for reseeding or landscaping disturbed areas, if applicable. See Plan Sheet WF-2.
5. All manufactured erosion and sediment control products, with the exception of turf reinforcement mats, utilized for, but not limited to, slope protection, runoff diversion, slope interruption, perimeter control, inlet protection, check dams, and sediment traps shall not contain plastic, or multifilament or monofilament polypropylene netting or mesh with an opening size of greater than 1/8 inches.
6. All observations of threatened or endangered species on the project site shall be reported immediately to the NHFG nongame and endangered wildlife environmental review program by phone at 603-271-2461 and by email at NHFGreview@wildlife.nh.gov, with the email subject line containing the DataCheck tool results letter assigned number, the project name, and the term Wildlife Species Observation. Photographs of the observed species and nearby elements of habitat or areas of land disturbance shall be provided to NHFG in digital format at the above email address for verification, as feasible.
7. These Conservation Measures do not constitute compliance with the federal Endangered Species Act (ESA). There may be occurrences of federally listed species in New Hampshire that are not included on the DataCheck Letter. Please visit the US Fish and Wildlife Service’s (USFWS) Information for Planning and Consultation website (IPaC; <https://ipac.ecosphere.fws.gov/>) for an official list of federally listed species that may be present in your project area. If a federal agency is involved in your project through funding, permit, or other authorization, coordinate your IPaC results with your point of contact at the agency for further ESA review. If there is no federal agency nexus to your project, and you determine through IPaC, habitat evaluations, etc. that a project may cause take of a federally listed species, we recommend coordinating with the USFWS’ New England Field Office (newengland@fws.gov; 603-223-2541).
8. In the event a threatened or endangered species is observed on the project site during the term of the permit, the species shall not be disturbed, handled, or harmed in any way prior to consultation with NHFG and implementation of corrective actions recommended by NHFG.
9. NHFG, including its employees and authorized agents, shall have access to the property during the term of the permit.



NH F&G PERMIT CONDITIONS				
	DATE: 7-17-25			
	SCALE: SHOWN			
	DRAWN BY: DCM			
		DESIGN BY: DCM		
		CITY OF PORTSMOUTH TAX MAP 208, LOT 2		
		4 TREE ISLAND REPAIRS PORTSMOUTH, NH ROCKINGHAM COUNTY PISCATAQUA RIVER		
		WF - 9		