



# 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?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Does the property contain a PRA? If yes, provide the following information: <ul style="list-style-type: none"> <li>• 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.</li> <li>• Protected species or habitat?                         <ul style="list-style-type: none"> <li>○ If yes, species or habitat name(s):</li> <li>○ NHB Project ID #: B20-3560</li> </ul> </li> <li>• Bog?</li> <li>• Floodplain wetland contiguous to a tier 3 or higher watercourse?</li> <li>• Designated prime wetland or duly-established 100-foot buffer?</li> <li>• Sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone?</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Yes <input type="checkbox"/> No
Is the property within a Designated River corridor? If yes, provide the following information: <ul style="list-style-type: none"> <li>• Name of Local River Management Advisory Committee (LAC):</li> <li>• A copy of the application was sent to the LAC on Month:      Day:      Year:</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No

For dredging projects, is the subject property contaminated? • If yes, list contaminant:	<input type="checkbox"/> Yes <input type="checkbox"/> No
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Is there potential to impact impaired waters, class A waters, or outstanding resource waters?	<input type="checkbox"/> Yes <input type="checkbox"/> No
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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):

<b>SECTION 4 - APPLICANT (DESIRED PERMIT HOLDER) INFORMATION (Env-Wt 311.04(a))</b>		
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.		
<b>SECTION 5 - AUTHORIZED AGENT INFORMATION (Env-Wt 311.04(c))</b>		
<input type="checkbox"/> 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.		
<b>SECTION 6 - PROPERTY OWNER INFORMATION (IF DIFFERENT THAN APPLICANT) (Env-Wt 311.04(b))</b>		
If the owner is a trust or a company, then complete with the trust or company information.		
<input type="checkbox"/> 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.		

[irm@des.nh.gov](mailto:irm@des.nh.gov) or (603) 271-2147

29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

[des.nh.gov](http://des.nh.gov)

**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			<input type="checkbox"/>			<input type="checkbox"/>
	Scrub-shrub Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Emergent Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Wet Meadow			<input type="checkbox"/>			<input type="checkbox"/>
	Vernal Pool			<input type="checkbox"/>			<input type="checkbox"/>
	Designated Prime Wetland			<input type="checkbox"/>			<input type="checkbox"/>
	Duly-established 100-foot Prime Wetland Buffer			<input type="checkbox"/>			<input type="checkbox"/>
Surface	Intermittent / Ephemeral Stream			<input type="checkbox"/>			<input type="checkbox"/>
	Perennial Stream or River			<input type="checkbox"/>			<input type="checkbox"/>
	Lake / Pond			<input type="checkbox"/>			<input type="checkbox"/>
	Docking - Lake / Pond			<input type="checkbox"/>			<input type="checkbox"/>
	Docking - River			<input type="checkbox"/>			<input type="checkbox"/>
Banks	Bank - Intermittent Stream			<input type="checkbox"/>			<input type="checkbox"/>
	Bank - Perennial Stream / River			<input type="checkbox"/>			<input type="checkbox"/>
	Bank / Shoreline - Lake / Pond			<input type="checkbox"/>			<input type="checkbox"/>
Tidal	Tidal Waters			<input type="checkbox"/>			<input type="checkbox"/>
	Tidal Marsh			<input type="checkbox"/>			<input type="checkbox"/>
	Sand Dune			<input type="checkbox"/>			<input type="checkbox"/>
	Undeveloped Tidal Buffer Zone (TBZ)			<input type="checkbox"/>			<input type="checkbox"/>
	Previously-developed TBZ			<input type="checkbox"/>			<input type="checkbox"/>
	Docking - Tidal Water			<input type="checkbox"/>			<input type="checkbox"/>
<b>TOTAL</b>							

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

<input type="checkbox"/> <b>MINIMUM IMPACT FEE:</b> Flat fee of \$400.		
<input type="checkbox"/> <b>NON-ENFORCEMENT RELATED, PUBLICLY-FUNDED AND SUPERVISED RESTORATION PROJECTS, REGARDLESS OF IMPACT CLASSIFICATION:</b> Flat fee of \$400 (refer to RSA 482-A:3, 1(c) for restrictions).		
<input type="checkbox"/> <b>MINOR OR MAJOR IMPACT FEE:</b> 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 =		\$
<p><i>The application fee for minor or major impact is the above calculated total or \$400, whichever is greater = \$</i></p>		

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<b>SECTION 13 - PROJECT CLASSIFICATION (Env-Wt 306.05)</b>		
Indicate the project classification.		
<input type="checkbox"/> Minimum Impact Project	<input type="checkbox"/> Minor Project	<input checked="" type="checkbox"/> Major Project
<b>SECTION 14 - REQUIRED CERTIFICATIONS (Env-Wt 311.11)</b>		
Initial each box below to certify:		
<i>TR</i> Initials:	To the best of the signer's knowledge and belief, all required notifications have been provided.	
<i>TR</i> 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.	
<i>TR</i> Initials:	The signer understands that: <ul style="list-style-type: none"> <li>• The submission of false, incomplete, or misleading information constitutes grounds for NHDES to:                         <ol style="list-style-type: none"> <li>1. Deny the application.</li> <li>2. Revoke any approval that is granted based on the information.</li> <li>3. 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.</li> </ol> </li> </ul>	
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.	
<b>SECTION 15 - REQUIRED SIGNATURES (Env-Wt 311.04(d); Env-Wt 311.11)</b>		
SIGNATURE (OWNER): <i>Tom Reis</i>	PRINT NAME LEGIBLY: <b>Tom Reis</b>	DATE: <i>12/13/24</i>
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER): <i>Jason Goulemas</i>	PRINT NAME LEGIBLY: <b>JASON GOULEMAS</b>	DATE: <i>12/13/24</i>
SIGNATURE (AGENT, IF APPLICABLE): <i>Jay Johonnett</i>	PRINT NAME LEGIBLY: <b>Jay Johonnett</b>	DATE: <i>12/13/24</i>
<b>SECTION 16 - TOWN / CITY CLERK SIGNATURE (Env-Wt 311.04(f))</b>		
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:	
TOWN/CITY:	DATE:	

**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).



## APPENDIX A

### NHB DataCheck Results Letter

NH Natural Heritage Bureau

Please note: maps and NHB record pages are **confidential** and shall be redacted from public documents.

To: Nyssa Seekamp, Seekamp Environmental Consulting, Inc.  
15 Park Street  
Dover, NH 03820  
nmseekamp@gmail.com

From: NHB Review  
NH Natural Heritage Bureau  
Main Contact: Maddie Severance - [nhbreview@dncr.nh.gov](mailto:nhbreview@dncr.nh.gov)

cc: NHFG Review, David Simmons

Date: 09/03/2024 (valid until 09/03/2025)

Re: DataCheck Review by NH Natural Heritage Bureau and NH Fish & Game

Permits: NHDES - Shoreland Standard Permit, NHDES - Standard Dredge & Fill - Major

**NHB ID: NHB24-2245**

Town: Portsmouth  
Location: 187 Wentworth House Road

**Project Description:** Sea Level, Inc. is undertaking the completion of a remediation project that was begun previously but remains incomplete. During the first remediation attempt a series of soil piles were left in the upland area and within the previously developed 100 foot Tidal Buffer Zone (TBZ). Additionally, a sump was created that disturbed a small portion of salt marsh. The piles of soil have been smoothed over and covered with a gravel base for stabilization until further remediation activities can occur. The purpose of this project is to complete the remediation and restore the disturbed salt marsh area.

### **Next Steps for Applicant:**

NHB's database has been searched for records of rare species and exemplary natural communities. Please carefully read the comments and consultation requirements below.

**NHB Comments:** No comments at this time.

**NHFG Comments:** Please refer to NHFG consultation requirements below.

### **NHB Consultation**

If this NHB DataCheck letter includes records of rare plants and/or natural communities/systems, please contact NHB and provide any requested supplementary materials by emailing [nhbreview@dncr.nh.gov](mailto:nhbreview@dncr.nh.gov).

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



## NHB DataCheck Results Letter

NH Natural Heritage Bureau

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### **NH Fish and Game Department Consultation**

If this NHB 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 pursuant to Fis 1004 is required.

If this NHB 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](mailto:NHFGreview@wildlife.nh.gov) or can be sent by mail, and **must include the NHB DataCheck results letter number and “Fis 1004 consultation request” in the subject line.**

If the NHB 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](mailto:NHFGreview@wildlife.nh.gov), and include the NHB DataCheck results letter number and “review request” in the email subject line.

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



## NHB DataCheck Results Letter

NH Natural Heritage Bureau

Please note: maps and NHB record pages are **confidential** and shall be redacted from public documents.

### NHB Database Records:

The following record(s) have been documented in the vicinity of the proposed project. Please see the map and detailed information about the record(s) on the following pages.

Vertebrate species	State <sup>1</sup>	Federal	Notes
Atlantic Sturgeon ( <i>Acipenser oxyrinchus oxyrinchus</i> )	T	T	Contact the NH Fish & Game Dept (see above) and the US Fish & Wildlife Service (see below).
Shortnose Sturgeon ( <i>Acipenser brevirostrum</i> )	E	E	Contact the NH Fish & Game Dept (see above) and the US Fish & Wildlife Service (see below).

<sup>1</sup>Codes: "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 'IMPORTANT: NHFG Consultation' section above. Contact for federally-listed animals: David Simmons, USFWS, at (603) 223-2541. Contact for federally-listed species: David Simmons, USFWS, at (603) 223-2541.*

**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. NHB recommends surveys to determine what species/natural communities are present onsite.

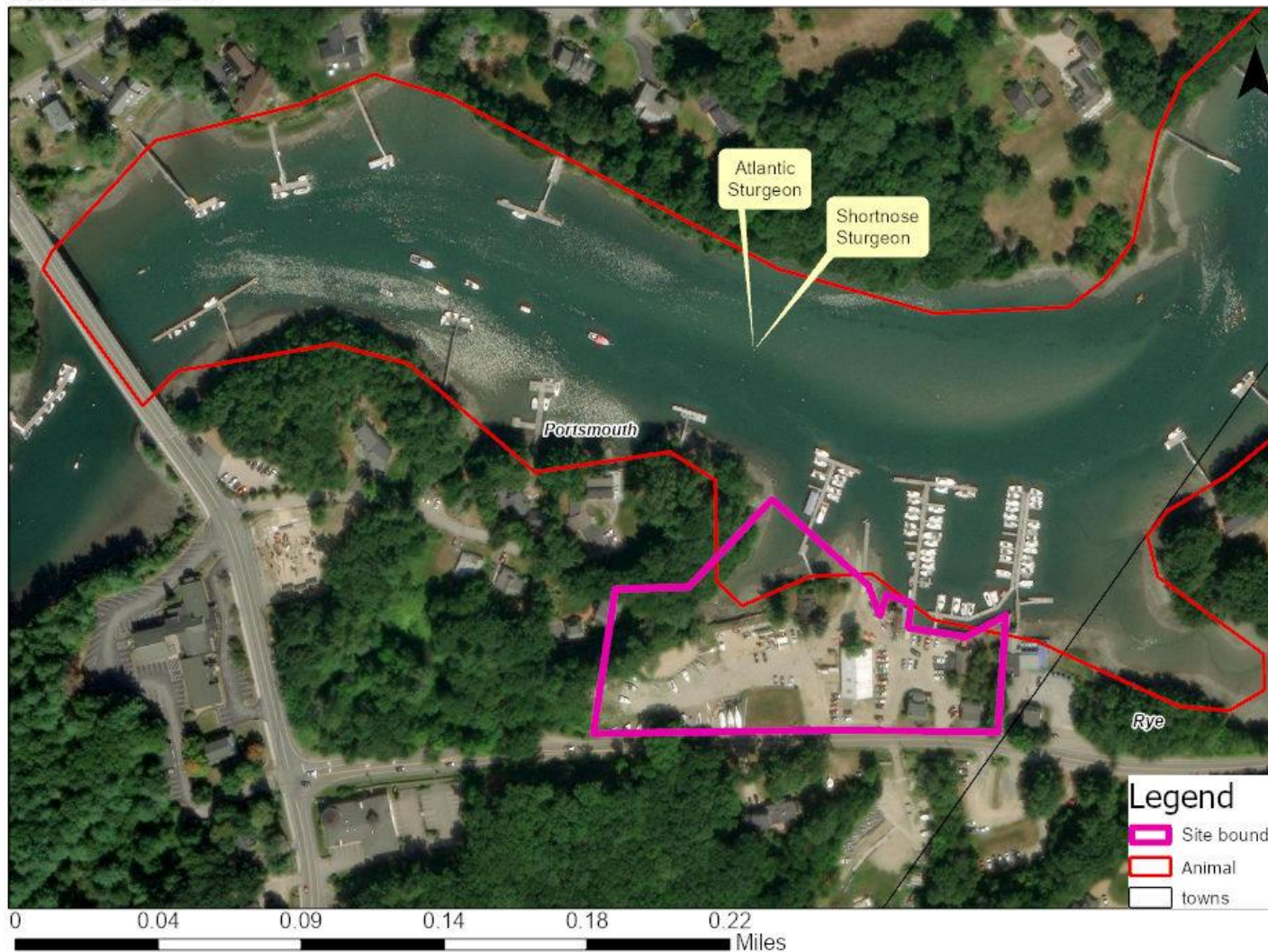


## NHB DataCheck Results Letter

NH Natural Heritage Bureau

Please note: maps and NHB record pages are **confidential** and shall be redacted from public documents.

### NHB24-2245



## NHB DataCheck Results Letter

NH Natural Heritage Bureau

Please note: maps and NHB record pages are **confidential** and shall be redacted from public documents.

NHB24-2245

EPCODE:

AFCAA01042\*003\*NH

## New Hampshire Natural Heritage Bureau - Animal Record

### Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*)

#### Legal Status

Federal: Listed Threatened

State: Listed Threatened

#### Conservation Status

Global: Rare or uncommon

State: Critically imperiled due to rarity or vulnerability

#### Description at this Location

Conservation Rank: Not ranked

Comments on Rank: --

Detailed Description: 2016: 1 individual, sex unknown, detected in the lower Piscataqua River. 2015: 1 individual, sex unknown, detected in Portsmouth Harbor. 2012: 1 individual, sex unknown, detected in Little Bay.

General Area: 2016: Tidal waters in Portsmouth Harbor, Little Bay, and the Piscataqua River.

General Comments: --

Management: --

Comments:

#### Location

Survey Site Name: Piscataqua River

Managed By:

County:

Town(s): Out-Of-State

Size: 7749.3 acres

Elevation:

Precision: Within 1.5 miles of the area indicated on the map (location information is vague or uncertain).

Directions: 2016: Tidal waters of Portsmouth Harbor, Little Bay, and the Piscataqua River.

#### Dates documented

First reported: 2012-06-02

Last reported: 2016-05-27

The U.S. Fish & Wildlife Service has jurisdiction over Federally listed species. Please contact them at 70 Commercial Street, Suite 300, Concord NH 03301 or at (603) 223-2541.

## NHB DataCheck Results Letter

NH Natural Heritage Bureau

Please note: maps and NHB record pages are **confidential** and shall be redacted from public documents.

NHB24-2245

EPCODE:

AFCAA01010\*001\*NH

## New Hampshire Natural Heritage Bureau - Animal Record

### Shortnose Sturgeon (*Acipenser brevirostrum*)

#### Legal Status

---

Federal: Listed Endangered

State: Listed Endangered

#### Conservation Status

---

Global: Rare or uncommon

State: Critically imperiled due to rarity or vulnerability

#### Description at this Location

---

Conservation Rank: Not ranked

Comments on Rank: --

Detailed Description: 2016: 2 individuals, 1 female and 1 sex unknown, detected in Portsmouth Harbor and the lower Piscataqua River. 2015: 3 females and 2 other individuals, sex unknown detected in Portsmouth Harbor. 2014: 1 female detected moving from Portsmouth Harbor up the Piscataqua River to the mouth of the Cocheco River. 2012: 1 female detected in Little Bay. 2011: 1 female detected in Little Bay. 2010: 1 female detected in Little Bay.

General Area: 2016: Tidal waters in Portsmouth Harbor, Little Bay, and the Piscataqua River.

General Comments: --

Management: --

Comments:

#### Location

---

Survey Site Name: Piscataqua River

Managed By:

County:

Town(s): Out-Of-State

Size: 7749.3 acres

Elevation:

Precision: Within 1.5 miles of the area indicated on the map (location information is vague or uncertain).

Directions: 2016: Tidal waters of Portsmouth Harbor, Little Bay, and the Piscataqua River.

#### Dates documented

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First reported: 2010-11-03

Last reported: 2016-10-20

The U.S. Fish & Wildlife Service has jurisdiction over Federally listed species. Please contact them at 70 Commercial Street, Suite 300, Concord NH 03301 or at (603) 223-2541.

**NHB DataCheck Results Letter**

NH Natural Heritage Bureau

Please note: maps and NHB record pages are **confidential** and shall be redacted from public documents.

NHB24-2245

EOCODE:

AFCAA01010\*001\*NH



## **WPA Appendix B, Priority Resource Mapping**

Per SECTION 1 of the WPA Application, the required planning review for all projects subject to Env-Wt 306.05; RSA 482-A:3, I(d)(2)), has been conducted, with a review of the following tools: 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.

The site is a PRA, due to its situation within tidelands, shorelands, and wetlands buffer zones. Specific information on protected species or habitats is provided in WPA Appendices C and J.

## APPENDIX C -Wildlife Habitat Memorandum

The sites in Portsmouth, NH has the potential to support many wildlife species, including some endangered, threatened or species of greatest concern according to the NH Wildlife Action Plan (WAP). Based on field observations, aerial imagery, and georeferenced habitat data, Seekamp Environmental Consulting, Inc. (SEC) observed four distinctive wildlife habitats on the site, including Hemlock-Hardwood-Pine Forest, Estuarine, Salt Marsh, and Developed. The open water and part of the forested portion of the site contains “Tier 1 Highest Ranked Habitat in NH” for wildlife, as mapped by New Hampshire Fish and Game (NHFG) in the WAP. The site is mapped as having “low permeability” for wildlife connectivity. The landscape’s overall ability to allow wildlife to move and disperse was confirmed in the field by SEC.

### Hemlock-Hardwood-Pine Forest

Hemlock-Hardwood-Pine Forest is an upland habitat that makes up approximately 2,500 SF of the site. These habitats are transitional and can occur over different elevations, topography and soil types. They are comprised mainly of hemlock, white pine, beech, and oak trees. Most species that utilize this habitat require large unfragmented blocks of forest.

According to the NH WAP, hemlock-hardwood-pine forested habitat may support the following species: American woodcock, bald eagle, big brown bat, black-billed cuckoo, blue-spotted salamander complex, Canada warbler, chimney swift, common nighthawk, Eastern box turtle, Eastern hog-nosed snake, Eastern red bat, Eastern small-footed bat, Eastern whip-poor-will, golden eagle, hoary bat, Jefferson salamander complex, little brown bat, moose, Northern black racer, Northern goshawk, Northern long-eared bat, purple finch, rapids clubtail, ringed boghaunter, ruffed grouse, scarlet tanager, silver-haired bat, skillet clubtail, timber rattlesnake, tricolored bat, veery, and wood thrush.

The forested habitat on site is minimal and highly fragmented by surrounding developments. The

NHB Memo (NHB24-2245) results do not indicate that any of these species have been reported to occur on site. It is SEC’s opinion that the hemlock-hardwood-pine forest habitat on site is not likely to support the minimum requirements of these species, therefore, there is a low potential for these species to occur on site.

### Estuarine

An estuary is an open water habitat that makes up approximately 0.7 acres of the site. These habitats are formed when freshwater meets saltwater, in NH these habitats are found in the Great Bay and coastal watersheds. This type of habitat includes intertidal mudflats, oyster reefs, and eelgrass beds. Intertidal mudflats are most present on site.

According to the NH WAP, estuarine habitat may support the following species: American black duck, American oyster, American shad, Atlantic sturgeon, blueback herring, rainbow smelt, red

knot, ruddy turnstone, sanderling, sea lamprey, semipalmated sandpiper, shortnose sturgeon, whimbrel, and willet.

The estuarine habitat on site is minimal and fragmented by the marina and boat docks. **The NHB Memo (NHB24-2245) results do not indicate that any of these species have been reported to occur on site.** It is SEC's opinion that the estuarine habitat on site is not likely to support the minimum requirements of these species, therefore, there is a low potential for these species to occur on site.

### Salt Marsh

Salt marsh is a transitional habitat that makes up approximately 870 SF of the site. These habitats are grass-dominated tidal wetlands which mark the transition between the ocean and upland and are often found bordering estuarine habitats. They provide excellent habitat for bird species and are among the most productive ecosystems. In addition, salt marsh plants are salt-tolerant, and their roots provide stabilization of coastal banks which helps protect from erosion during storm surges and acts as a buffer to surrounding upland habitats.

According to the NH WAP, salt marsh habitat may support the following species: common tern, marsh wren, Nelson's sparrow, Northern harrier, purple martin, red knot, roseate tern, saltmarsh sparrow, saltmarsh tiger beetle, sanderling, seaside sparrow, semipalmated sandpiper, whimbrel, and willet.

The salt marsh habitat on site is minimal and highly fragmented by surrounding developments. **The NHB Memo (NHB24-2245) results do not indicate that any of these species have been reported to occur on site.** It is SEC's opinion that the salt marsh habitat on site is not likely to support the minimum requirements of these species, therefore, there is a low potential for these species to occur on site.

### Developed

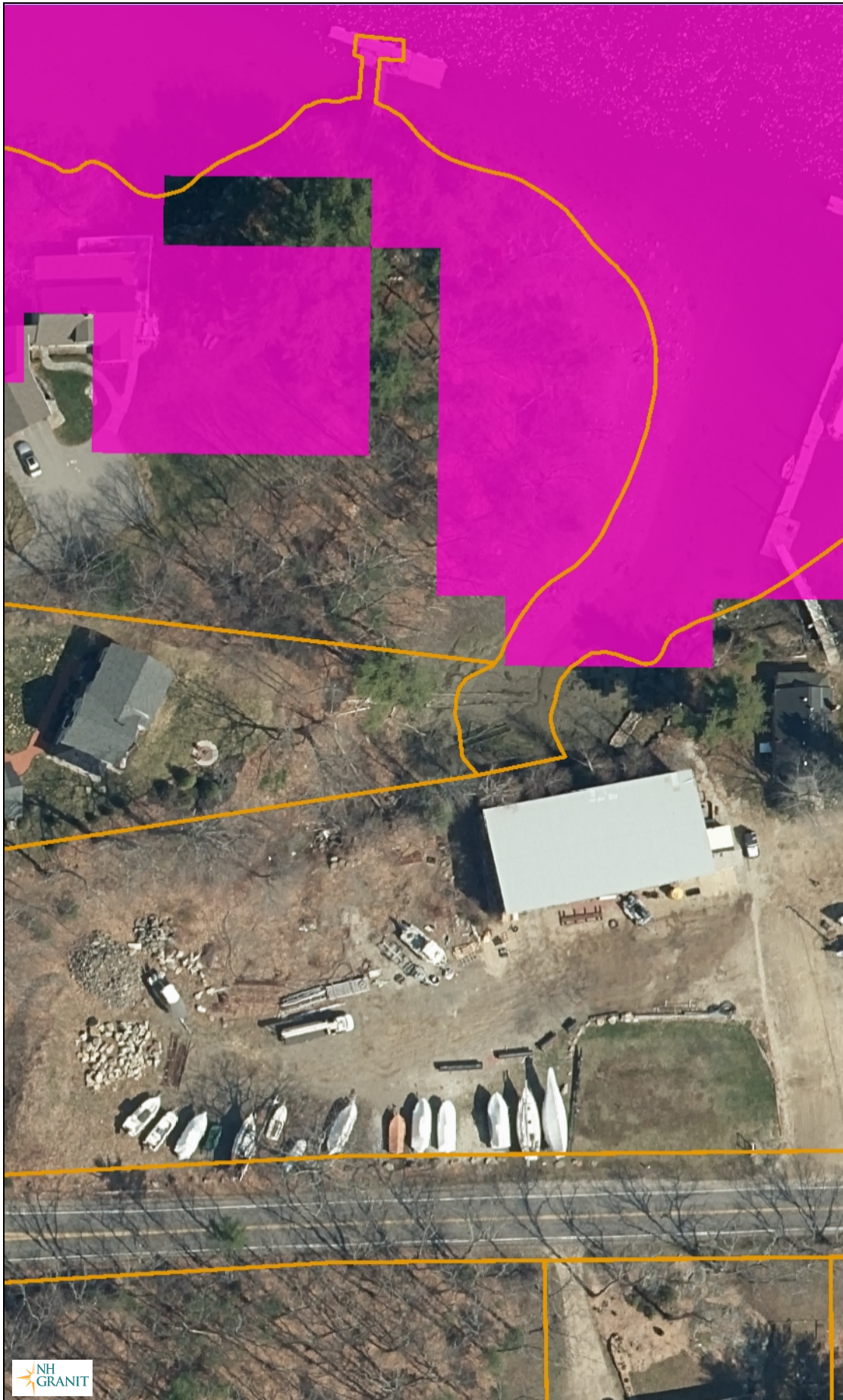
Developed habitat is an upland habitat that makes up approximately 2.7 acres of the site. These habitats include areas that contain residential or commercial development in NH which includes maintained gardens, lawns and buildings and other structures. Some wildlife have learned to use these areas for nesting, food sources and corridors connecting to other habitats.

According to the NH WAP, developed habitat may support the following species: American bumble bee, American kestrel, chimney swift, cliff swallow, common nighthawk, monarch, peregrine falcon, purple martin, rusty-patched bumble bee, yellow bumble bee, and yellowbanded bumble bee.

The developed habitat on site contains minimal vegetation and is highly fragmented from other more productive habitats. There are few food sources present and minimal areas for nesting. **The NHB Memo (NHB24-2255) results do not indicate that any of these species have been reported to occur on site.** It is SEC's opinion that the developed habitat on site is not likely to support the

minimum requirements of these species, therefore, there is a low potential for these species to occur on site.

# Map by NH GRANIT



## Legend

-  Parcels
  -  State
  -  County
  -  City/Town
- WAP 2020: Highest Ranked Wildlife Habitat
-  1 Highest Ranked Habitat in NH
  -  2 Highest Ranked Habitat in Region
  -  3 Supporting Landscape
- NH 2021/22 6-inch RGB (PROVISIONAL)

Map Scale

1: 812

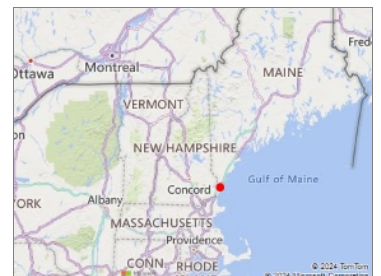
© NH GRANIT, [www.granit.unh.edu](http://www.granit.unh.edu)

Map Generated: 8/30/2024



## Notes

Highest Ranked Wildlife Habitat



**MEMORANDUM**

**DATE:** April 24, 2023  
**FILE No.:** 2021-075  
**TO:** Kristen Duclos, Wetlands Specialist, NHDES Wetlands Permitting  
**FROM:** Jay Johonnett, Rick Kowalski, Aries Engineering (Aries)  
**CC:** Patrick Seekamp, Seekamp Consulting; Steve Graham, Pete McGlew, Aries; Tom Reis, Sea Level LLC  
**SUBJECT:** Project Background for Permitting  
**PROJECT:** Sea Level, LLC Marina, 187 Wentworth Road, Portsmouth, NH

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This memorandum was prepared in follow up to our Pre-Wetlands Application meeting with you on April 6, 2023, when it was mutually agreed that a history and context for the various permit applications that will be required for this project would be helpful to assist NHDES in its review of wetland, shoreline, and conditional use permit applications that will be submitted for this project. Aries Engineering has been retained by Sea Level, LLC (current property owner) to perform soil remediation planning activities to address polychlorinated biphenyls (PCBs) on the property located at 187 Wentworth Road in Portsmouth, New Hampshire (the Site) in accordance with the Toxic Substances Control Act (TSCA, 40 CFR Part 761.61(a)) using a Self-Implementing Cleanup Plan (SIP) and the New Hampshire Department of Environmental Services (NHDES) regulations Chapter Env-Or 600 Contaminated Site Management. The Site, formerly known as Witch Cove Marina, is now called Portsmouth Marina.

**SITE LOCATION AND LEGAL DESCRIPTION**

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The Site is located along the south bank of Sagamore Creek and Witch Cove, on the north side of Wentworth Road in Portsmouth, New Hampshire (see Figure 1, Site Location Map in attached permit application drawing set). Portsmouth municipal records indicate that the Site consists of one 3.07-acre parcel identified as Lot 12 on Portsmouth Assessor's Map 201.

**SITE AND VICINITY GENERAL DESCRIPTION**

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The Site is developed with one commercial/retail/warehouse building, three commercial apartment residences, one dry boat storage structure, two garages, and two sheds. The dry boat storage structure was destroyed by fire in November 2021, although the foundation remains, and the owner intends to rebuild the storage structure on the same footprint. The Site has been used for boat storage and as a maintenance facility since initial development in the 1950s. Developed properties in the Site area obtain water from the municipal water supply and domestic wastewater is discharged to private septic systems.

The Site topography generally slopes gently downward toward the north across the Site. The slope steepens sharply upon approaching the shoreline to Witch Cove, where at the shore edge, boulder riprapping serves as a retention and slope stability surface. The topography at the Site generally ranges from elevation 8 to 16 feet as referenced to the North American Vertical Datum

1988 (NAVD88). According to the FEMA Flood Hazard map, the northeast area of the Site along Sagamore Creek, a tidal inlet, is located within the 100-year flood zone (Zone AE) associated with the creek established at elevation 7.90 feet NAVD88. A larger area is within the 500-year flood zone (Zone X) extending to the south from the creek. Review of the project location on the U.S. Fish & Wildlife Service website indicates that wetlands of national significance are present along the banks of Sagamore Creek. The delineation of the wetlands was confirmed by a recent survey completed by Seekamp Environmental Consulting, Inc (Seekamp) of Kingston, NH on August 7, 2020 (Figure 2).

## **CURRENT AND PAST USES OF THE PROPERTY**

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The City of Portsmouth Tax Assessor's database records indicate that the residences and commercial building present on Lot 12 were constructed in 1950. According to the prior owner J.P. Nadeau, the Site was operated as Witch Cove Marina from 2000 to 2016 and was Mike's Marina prior to 2000. Mr. Nadeau indicated that the Site has been used as a boat yard since its initial development sometime in the 1950s. Mr. Nadeau sold the property to Sea Level LLC on August 15, 2016. Review of historic topographic maps and aerial photographs show development of the Site between 1920 and 1956 and it being undeveloped prior to 1920. Two docks are visible in a 1960 aerial photograph indicating the likely use of the Site as a marina. Aerial photographs presented below show how the site continued to be used as a boat storage yard since at least 1992, down to the edge of the shoreline.

## **PRIOR SITE INVESTIGATIONS - REMEDIAL ACTIVITIES**

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PCBs were present in the Site soils and adjacent sediments in the cove, from historic maintenance of boats, specifically, the removal of bottom paint that contained PCBs. The results of the prior investigations completed on the Site indicate that PCBs at concentrations up to 100 milligrams per kilogram (mg/kg) had been detected in Site soils. These soils containing elevated concentrations of PCBs were subsequently removed in an attempt to achieve a post remedial condition of <1 mg/kg PCBs remaining in Site soils (as approved by EPA on September 9, 2016). The following is a summary of the activities previously completed on the Site.

### **Initial Subsurface Investigation and 2014 Remediation**

A Phase II Environmental Site Assessment (ESA) conducted by Stonehill in 2014 included the collection of eight shallow soil samples from soil borings designated as B-1 through B-8. PCBs were detected in one soil sample (28 mg/kg in B-2) at a concentration above the NHDES Soil Remediation Standard of 1.0 mg/kg. This sample was collected from the area where boats had been historically stored in the off-season. Based upon the review of the assumed isolated area of PCBs around B-2, in Spring 2014 an area 10 feet by 15 feet to a depth of approximately two feet was excavated centered around B-2 by Duffield Engineering & Consulting (Duffield) and disposed off-Site at ESMI Landfill in Loudon, NH. A report was prepared and submitted to NHDES to meet the notification requirements. In June 2014 NHDES advised that PCB-impacted sites fall under EPA jurisdiction and that EPA Region 1 should be contacted.

Duffield subsequently developed a sampling plan to meet the TSCA 40 CFR 761 requirements. A grid layout centered at boring B-2, oriented with north-south and east-west axis and a 1.5-meter

grid spacing was used in a hexagonal configuration per federal regulation and guidance. Subsequent sampling rounds were conducted on 8/31/2014, 9/19/2014, 10/20/2014, 11/6/2014, 12/21/2014, 4/17/2015, 5/15/2015 and 5/4/2015. 154 samples were collected and analyzed. The surface sample results and grid layout are shown on Figure 3A (blue dots).

The PCB impact area was estimated at 2,300 square feet and with a one-foot depth for soil removal proposed by Duffield, equated to approximately 85 cubic yards of soil. Duffield submitted a Self-Implementing Plan (SIP) on August 18, 2015 to EPA to address the PCBs which was approved by EPA on March 15, 2016, but this SIP was never implemented. Upon sale of the property from Mr. Nadeau to Sea Level LLC on August 15, 2016, Geolnsight was subsequently retained to complete additional investigation and remediation by the new Site owner, Sea Level LLC.

### **Geolnsight investigation and 2016/2017 Remediation**

Geolnsight submitted correspondence to EPA dated July 12, 2016 to present a PCB Cleanup and Disposal Plan Addendum. This Plan, which specified the removal of soils containing PCBs at a concentration  $>1$  mg/kg, was approved by EPA on September 9, 2016.

Prior to implementing the PCB Cleanup and Disposal Plan Addendum, Geolnsight collected additional surface soil samples in July 2016, for PCB analyses in four areas that the highest PCB concentrations were detected. The results of these analyses are depicted on Figure 3A (green dots). The concentrations of PCBs detected in these samples were 20 mg/kg or less.

Geolnsight completed remedial excavation activities in two phases: the first phase consisting of removing and disposing of soils with PCB concentrations  $\geq 50$  mg/kg and the second phase consisting of removing and disposal of soils with PCB concentrations  $>1$   $<50$  mg/kg. Between November 15 and 17, 2016, the excavation of three areas (“A”, “B” and “C” excavations) with PCBs at concentrations  $\geq 50$  mg/kg was completed to a depth of 2 feet below grade in the locations shown on Figure 3B. Following the completion of these excavations, Geolnsight collected verification samples. The locations and results of these samples are shown on Figure 3B. A total of 14.11 tons of  $\geq 50$  mg/kg PCB soils were disposed at Wayne Disposal Inc. of Belleville, Michigan on December 20, 2016.

The excavation of soils with concentrations  $>1$  mg/kg and  $<50$  mg/kg occurred between December 15, 2016 and January 3, 2017 to a depth of 1 foot below grade in the area outlined on Figures 2 and Figures 3A-3C (outlined in purple). Following the completion of this excavation, Geolnsight collected verification samples. A total of 141 soil samples were collected. All results were less than 30.5 mg/kg. Geolnsight could not collect all of the planned soil samples for analysis of PCBs in the northernmost area of the excavation during initial excavation activities due to wet conditions. A total of 242.28 tons of  $<50$  mg/kg PCB soils were disposed at the Waste Management of New Hampshire Turnkey Landfill in Rochester, New Hampshire in February 2017.

A small pile of soil with PCB concentrations  $<50$  mg/kg was inadvertently left on the Site by Geolnsight (approximately 2-4 cubic yards). This soil was placed back into the excavation area after it was determined that the volume of soil that would be required to be removed to achieve the  $<1$  mg/kg TSCA high occupancy cleanup goal was not economically feasible. All the material



was deposited in a pile in one of the two-foot-deep excavation areas. This material was sampled during the August 2020 supplemental soil sampling. It was anticipated that this soil might need to be removed again, so it was placed on and covered with plastic sheeting.

The continued use of the property for boat storage was determined from a review of TSCA regulations and discussion with EPA, to be allowable if a 6-inch-thick concrete pad would be constructed to serve as a TSCA-compliant cap to cover  $>25 \leq 50$  mg/kg PCB soils. The use of a TSCA compliant cap, in lieu of a fence, to isolate the remaining PCB soils will attain the TSCA low occupancy cleanup goal for soils with  $<50$  mg/kg of PCBs.

### **Supplemental Soil Sampling Results, 2020-2021**

In order to document the concentrations of PCBs remaining on Site following the excavation activity implemented by GeoInsight in 2016 and 2017 and the placement of a small pile of soils back into the excavation that had been previously removed in an attempt to achieve a cleanup level of  $<1$  mg/kg, a grid of borings was completed in the area where samples were not previously collected and where the previously excavated soils were emplaced.

#### **August 2020 Sampling Round**

On August 24, 2020, a new consultant, CEA, collected a total of 16 soil samples (Sample #1 to #16) from the perimeter of the excavation area and five soil samples from the area where a small soil pile was placed back into the excavated area (Sample #17 to #21). This soil pile had been created after the  $\geq 50$  mg/kg PCB soils had been removed from the Site, as discussed in the section above. The location of samples #1 to #16 are shown on Figure 4B in blue text and samples #17 to #21 are shown on Figure 4B in purple text. These results indicate that there were four perimeter locations which exhibited PCB concentrations greater than 1 mg/kg, with a maximum concentration of 15 mg/kg detected in a sample collected from the northeast perimeter of the excavation area (sample N9-W2). The results for the soil pile samples indicated that the concentrations of PCBs were all less than 1 mg/kg.

In addition to the PCB samples, CEA collected two, 4-point composite, post-excavation confirmatory soil samples for laboratory analysis for Volatile Organic Compounds (VOCs), and arsenic and lead, in accordance with the requirements stipulated by the NHDES in their March 31, 2016 letter to the former owner (Mr. Nadeau), in response to plans submitted by Duffield. The results of these analyses indicated that there were no detections of VOCs in the samples. Low concentrations of arsenic and lead were detected in the samples.

#### **September 2020 Sampling Round**

Based on the August 2020 PCB results, a second round of soil sampling was completed on September 16, 2020, to further delineate the extent of the PCBs around the perimeter of the excavation area where concentrations of PCBs were greater than 1 mg/kg. A deeper sample was also collected from the location of N9-W2 where 15 mg/kg was detected, and samples were collected in seven other locations (samples #25 - #31) beyond the locations previously sampled. Soil samples were collected at two depths (0-0.25 ft and 1-1.25 ft) in four of these locations (sample #s 25, 26, 27 and 28), for a total of 12 samples. The results of these second analyses

indicate that seven of the samples exhibited PCB concentrations of 1.2 to 5.1 mg/kg. The other five samples had no PCB detections.

Based on the results of the lead in soils analyses, CEA activated these samples for analysis via the Synthetic Precipitation Leaching Procedure (SPLP), as required by NHDES for samples with total lead concentrations greater than 100 mg/kg. The results of these analyses indicated that both samples exhibited leaching concentrations less than the regulatory limit of 5 milligrams per liter (mg/L) for lead. However, the results indicate that the concentrations exceed the NHDES Ambient Groundwater Quality Standard (AGQS) for lead (15 micrograms per liter, ug/l), which indicate the potential for the contaminated soils at the site to leach lead to groundwater at concentrations that could exceed the AGQS. Aries notes that the proposed concrete cap over these soils will minimize the potential for lead to leach from these soils to the groundwater.

### **March 2021 Sampling Round**

Due to the detection of greater than 1 mg/kg of PCBs in seven locations in the September 2020 round, CEA collected 35 soil samples on March 3, 2021 and 19 samples on March 25, 2021. A number of these samples were from an area beyond the Sea Level property line, and many were collected from within tidally flushed Sagamore Creek wetlands. The samples collected on March 3, 2021 were identified as S-32 through S-40 -S and -D, S-41-S, S-42-S, S-43-S, S-44-S, S-44-D and S-45-S to S-55-S. The samples collected on March 25, 2021, were identified as 35-2-S, 35-2-D, 35-2 (1.5-1.75'), 41-D, 55-D, and 56- to 68-S. Most of these samples were collected from beyond the northern extent of the PCB excavation area, with the exception of samples 43 and 44 S and D which were collected from beyond the eastern extent of the excavation area. The locations of all of these samples are shown on Figure 4B. Note that the “S” prefix for samples S-32 to S-55 were dropped when depicted on Figure 4B.

The results for the March 3, 2021, samples indicate that there were 11 samples that had concentrations ranging from 1.06 to 6.9 mg/kg. The remaining samples had concentrations less than 1 mg/kg, or were not detected. The results for the March 25, 2021, samples indicate that there were three samples that had concentrations ranging from 2.3 to 4.5 mg/kg. The remaining samples had concentrations less than 1 mg/kg, or were not detected.

### **April 2021 Sampling Round**

The March 2021 results indicated that the extent of PCB impacts greater than 1 mg/kg had still not been fully delineated horizontally. Note that at this time, and until May 4, 2022, the property line was believed to be further north than was subsequently verified by Aries in consultation with Sea Level’s surveyor. On April 20, 2021, CEA collected 12 surface soil samples along the northern edge of the property, identified as samples 69 to 80 (Figure 4B). Three of the 10 samples analyzed contained 1.2 to 1.9 mg/kg PCBs; eight samples had concentrations less than 1 mg/kg, or were not detected., but one of the samples ultimately determined to exist beyond the northern property boundary (#76), exhibited a concentration of 230 mg/kg PCBs. This sample was considered a “hot spot” area, since it contained more than double the maximum PCB concentration detected in all the other samples. and had some rotten wood and colorful paint chips present. The colors were noted to be typical for use on boats. Since this was the first sample (out of 286 samples) that contained Aroclor 1242, in contrast to Aroclors in the other

samples which were Aroclors 1254 and 1260 predominantly, and did not include Aroclor 1242, this hot spot area was considered a separate source of PCBs, and therefore not part of the Sea Level property or responsibility. Historically, both properties have been used for the storage and maintenance of boats.

### May 2021 Sampling Round

The May 12, 2021, sample round focused on the immediate area of sample #76. CEA collected 13 soil samples at three depths (0-0.25', 1-1.25' and 2-2.5') in three locations (81, 82 and 83). Samples were also collected at two depths (0-0.25' and 1-1.25') in two locations (84 and 85). The locations of the samples are shown on Figure 4B.

The results for the May samples indicated that the sample #76 hot spot appears to be a small isolated area, and shallow in depth, constituting perhaps less than 0.5 cubic yard, and reflecting the presence of discrete paint remnants. The highest concentration detected was 9.2 mg/kg in a surface sample (#81) within six inches to the west of sample #76. This sample also contained Aroclor 1242, but no other samples in this round did. Sample #84, located approximately 5 feet east-southeast from #76 had concentrations of 1.0 and 1.29 mg/kg in its samples from 0-0.25' and 1-1.25', respectively. The remaining 10 samples had PCB concentrations less than 1 mg/kg, or were not detected. Ultimately, it was decided to remove the # 76 hot spot, based on input from EPA and concurrence by Sea Level, as part of the remediation project.

### Summary of Supplemental Sampling Results

Based on the results of the above-described PCB analyses, Aries concludes that the extent of the PCB impacts on Site have been fully delineated. Of the 91 soil samples analyzed within areas outside the previously designated boundary of PCB occurrence, 77 contained <1 mg/kg PCBs. The maximum concentration detected on Site (sample #76 is off-site) of these 91 samples was 15 mg/kg. Two other samples had concentrations between 5 and 10 mg/kg. Eleven samples had concentrations between 1 and 5 mg/kg.

### REVISED CLEANUP PLAN

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The soils remaining on the Site have been delineated sufficiently and demonstrate that the remaining on-site soils have concentrations less than 50 mg/kg PCBs. As previously stated above, it was determined that the cost to achieve the planned <1 mg/kg cleanup goal would be approximately double the originally estimated amount. Therefore, it is proposed in the SIP Addendum to conduct the following remediation efforts:

- 1) **Hot Spot:** remove these soils at location #76 for disposal as >50 mg/kg PCBs at a TSCA-approved facility off-site; this is located outside of Zone AE (depicted on Figure 4B) to achieve either <1 mg/kg if possible, or <25 mg/kg at a depth of 1 foot below clean fill;
- 2) **Soils with PCBs  $\geq$ 25 <50 mg/kg Outside Zone AE:** these will be covered/isolated with a 6-inch-thick concrete pad, which will serve as a TSCA compliant cap, in lieu of a fence, to attain the TSCA Low Occupancy cleanup goal for soils with <50 mg/kg of PCBs. This cap will also minimize the potential for lead, previously found at low levels, to leach from these soils to the groundwater.

The concrete pad will extend at least 10 feet beyond the area where the PCBs have been delineated to  $>25 \leq 50$  mg/kg. The total area of the pad will be approximately 5,000 square feet. The pad will be constructed by leveling and compacting the subgrade using a plate compactor or vibratory roller. A witness fabric consisting of a geotextile fabric will be emplaced over the compacted subgrade soils. A layer of 6-inches of compacted crushed gravel will be emplaced over the witness fabric. The crushed gravel shall meet the material specifications for New Hampshire Department of Transportation (NHDOT) 304.3 Crushed Gravel. The pad will be surrounded by a 2-foot wide, 1-foot deep layer of  $\frac{3}{4}$ " washed crushed stone, and other erosion control measures both temporary and permanent will be established in accordance with City of Portsmouth/NHDES requirements, to allow stormwater runoff from the pad to infiltrate into the ground and to protect the soils left in place from erosion. The area proposed for the concrete pad was previously used for boat storage on a crushed gravel ground surface. The crushed gravel was considered an impervious surface. As such, no net increase of impervious area is proposed and a stormwater management plan is not required in accordance with NH RSA 483-B:9. A plan view of the pad relative to the PCB impacted area, and the proposed stone riprap area which extends to the top of the slope overlooking the cove, is shown on Figure 4B;

**3) Surficial Soils within Zone AE, PCBs  $> 1 < 25$  mg/kg:** Remove shallow soils (0-6 inches) located within Zone AE (100-year flood zone) which cannot receive a cover protecting these impacted soils from future erosion due to wind, rain or flooding that may occur in this area and disturb the elevated PCBs (i.e.,  $>1$  mg/kg  $<25$  mg/kg); seven locations with PCB concentrations  $>1$  mg/kg within or immediately adjacent to Zone AE, constituting three small areas outlined in red on Figure 5, have a total area of approximately 195 ft<sup>2</sup>. Therefore, the estimated volume of soil to be removed is approximately 4 cubic yards (CY). The excavation will be backfilled with wetland soils and re-vegetated with wetland species as required by City of Portsmouth/NHDES regulations;

**4) Other Soils within Zone AE,  $> 1 < 25$  mg/kg PCBs:** These soils are to be left in place and covered with 6 inches of clean imported material at a minimum to match the surrounding existing grades, see Figure 5.

Note that in order to accommodate a clean soil cover in the areas being remediated within Zone AE, those areas will be excavated to a depth of 0.5 feet prior to emplacement of a 6-inch clean wetland-type soil cover in order to avoid increasing the grade in this area which would decrease the flood storage and require approval by the Federal Emergency Management Agency (FEMA) under a Letter of Map Revision (LOMR). The top and bottom of slopes and the wetland soil removal areas will be restored in accordance with City of Portsmouth/NHDES requirements, under a permitting process to be completed prior to excavation, and as depicted in Figures 5, 6 and 7. The excavated soils from the area within Zone AE, which will be  $< 25$  mg/kg PCBs, will be disposed off-Site at an approved facility such as the Turnkey Landfill in Rochester, NH.

Bottom samples will be obtained in accordance with 40 CFR Part 761, Subpart O, to document PCB concentrations to be left in place below the clean soil cover.

A deed restriction will also be placed on the portion of the property with residual PCBs in soil in accordance with both 40 CFR 761.61 (a) (8) and NHDES regulations Chapter Env-Or 600 Contaminated Site Management.

The concrete pad will be placed in an area outside Zone AE and extend at least 10 feet beyond the area where the PCBs have been delineated to  $>25 \leq 50$  mg/kg. The total area of the pad will be approximately 5,000 square feet. Since the excavation area was not backfilled following soil removal, no material will need to be removed from the proposed concrete pad area to prepare for the installation of the pad. The pad will be constructed by leveling and compacting the subgrade using a plate compactor or vibratory roller. A witness fabric consisting of a geotextile fabric will be emplaced over the compacted subgrade soils. A layer of 6-inches of compacted crushed gravel will be emplaced over the witness fabric. The crushed gravel shall meet the material specifications for New Hampshire Department of Transportation (NHDOT) 304.3 Crushed Gravel. Fill materials should be placed in 12-inch maximum loose lifts and should be compacted to a minimum of 95 percent of the material's maximum dry density, as determined by ASTM D 1557 (modified proctor test) and confirmed with field density testing (ASTM D 6938 or equivalent method). Lift thickness should be a maximum of 6-inch loose lifts when compacted with hand-guided equipment. Concrete forms shall be installed, and the concrete poured in one pour. The concrete shall be constructed in accordance with current NHDOT Standard Specifications for Roads and Bridges. The pad will be surrounded by a 2-foot wide, 1-foot deep layer of  $\frac{3}{4}$ " washed crushed stone, and other erosion control measures both temporary and permanent will be established in accordance with City of Portsmouth/NHDES requirements, to allow stormwater runoff from the pad to infiltrate into the ground and to protect the soils left in place from erosion. A plan view of the pad relative to the PCB impacted area is shown on Figure 4B.

## Permits

Aries will obtain the necessary local and state permits including those required for working within the tidal buffer zone from the NHDES Wetlands Bureau and City of Portsmouth Conservation Commission. Aries will prepare documentation and obtain permits or document compliance with the following federal, state, and City regulatory requirements:

- **NHDES Major Impact Wetland and Shoreline Permit Applications (WPAs):** In accordance with the December 15, 2019, NHDES wetland rules, this project is assumed to be classified as "major" due to its disturbance of existing wetlands, and therefore this permit must be obtained. Sea Level LLC intends to submit the wetland and shoreland applications to the NHDES, and ConCom as one approximately concurrent submittal. Four hard copies of the application (full size drawings and text) will be provided to ConCom for their internal use and public review. A final tree inventory (Figure 7) has been prepared, which reflects the final square footage discussed above and final cap and grading requirements.
- **City of Portsmouth Conditional Use Permit:** The Shoreland Permit Application will request a Conditional Use Permit Application (CUPA) from ConCom for work occurring within tidal wetland overlay district, which this project triggers. The proposed grading and clearing activities within 100-feet of the highest observable tide line of Sagamore Creek (7.9 feet) are subject to review by the City of Portsmouth through the CUPA Permit process. A request to alter an area in excess of 10,000 square-feet of tidal buffer zone would require possible compensatory mitigation, but this project does not reach that threshold. A Functional Evaluation Form (FEF) consisting of approximately two pages of narrative and a writeup of planned saltmarsh restoration plan will be prepared.

Based on the on-line NHDES Wetland Permitting Tool, Sagamore Creek contains two priority resource areas, including tidal wetland and floodplain wetland adjacent to a Tier 3 stream, which influence the classification and permitting requirements for the project.

- **U.S. Army Corps of Engineers (ACOE) Appendix B Checklist:** This checklist will be submitted to the ACOE to identify planned sediment remediation location and techniques, and will be submitted in parallel to the DES Application.
- **NH Historic Resource Information Verification:** Sea Level, LLC verified in 2022 that a Phase IA or Phase 1B archeological assessment work is not required, via correspondence with the responsible NHDES agency, but an update to that letter will be made in parallel to the DES submittal.
- **NH Natural Heritage Bureau (NH NHB) Verification:** Sea Level, LLC verified in 2022 via correspondence with this agency, that Protected species survey and/or mitigation plans will not be needed, but an updated letter to this agency is required, and will be made in parallel to the DES submittal.
- **Abutter Notification:** Sea Level, LLC will notify all abutters of this project via certified mail in accordance with Env-Wt 501.01(c).
- **New Hampshire State Programmatic General Permit (SPGP):** Sea Level, LLC will determine if this Permit and/or State or federal compensatory mitigation is required, by quantifying and classifying the level of natural resource impact (wetland, wetland buffer, shoreland, vernal pool, exemplary natural community, and endangered species habitat) to determine if the proposed project qualifies for this review and its requirements. At this point, this does not appear needed.
- **Vulnerability Assessment Env-Wt 603.05:** This new NHDES requirement involves evaluation of climate-related potential impacts to the site shoreline, and will be prepared by Sea Level LLC. Known as a Climate Resiliency Assessment, this must be done as part of the NHDES WPA.

EPA's approval of the Revised Cleanup Plan, also known as a Self-Implementing Plan, is included as **Attachment 1**.

PHOTOGRAPHS



**Photo 1:** Google Maps Street View – 187 Wentworth Road (prior to November 2021 fire destroyed 3-sided structure, work area to left of structure).



**Photo 2:** April 1992 Google Earth Image– Approximate 2016-2017 PCB excavation extents outlined in purple.



**Photo 2:** April 2013 Google Earth Image – Approximate 2016-2017 PCB excavation extents outlined in purple.



**Photo 3:** October 2014 Google Earth Image – Approximate excavation extents outlined in purple.





**Photo 4:** May 2015 Google Earth Image – Approximate 2016-2017 PCB excavation extents outlined in purple. Evidence of 2014 excavation is seen at bottom right of excavation extents.



**Photo 5:** May 2018 Google Earth Image – Approximate 2016-2017 PCB excavation extents outlined in purple.



**Photo 6:** June 2020 - Witch Cove on left, PCB excavation area (overgrown) in foreground. Former marina building in background. View to east.



**Photo 7:** June 2020 - Witch Cove on left, PCB excavation area (overgrown) in foreground. Former marina building in background. View to east.



**Photo 8:** June 2020 - Witch Cove over slope in background. View to northeast.



**Photo 9:** June 2020 - Witch Cove over slope in background. View to northeast.



**Photo 10:** June 2020 - Parking / storage area, PCB soil excavation area, and residence across Witch Cove. View to northwest.



**Photo 11:** June 2022 Google Earth Image – Approximate 2016-2017 PCB excavation extents outlined in purple. Area covered with geotextile marker and sand.



**Photo 12:** October 2022 - PCB excavation area covered with sand and marker barrier.

View to east. Witch Cove visible in background.



**Photo 13:** October 2022 - PCB excavation area covered with sand and marker barrier.

View to west.

## ATTACHMENT 1

**From:** [Woodward, Katherine \(she/her/hers\)](#)  
**To:** [Richard Kowalski](#)  
**Cc:** [tom@substructure.com](#); [Stephen Graham](#)  
**Subject:** RE: Revised SIP for Portsmouth Marina, New Hampshire  
**Date:** Thursday, February 2, 2023 11:06:45 AM

---

Rick,

Yes. It only applies only to the soil that is not capped.

Kate

---

**From:** Richard Kowalski <[rkowalski@aries-eng.com](mailto:rkowalski@aries-eng.com)>  
**Sent:** Thursday, February 2, 2023 11:03 AM  
**To:** Woodward, Katherine (she/her/hers) <[Woodward.Katherine@epa.gov](mailto:Woodward.Katherine@epa.gov)>  
**Cc:** [tom@substructure.com](#); Stephen Graham <[sgraham@aries-eng.com](mailto:sgraham@aries-eng.com)>  
**Subject:** RE: Revised SIP for Portsmouth Marina, New Hampshire

Ms. Woodward: Thank you for your comments. Please provide clarification on one issue. Does the additional/modified condition #1 only apply to those areas that will not be covered by the concrete cap? This would be consistent with the third bullet item below. Thanks,



**Rick Kowalski**  
Director of Hydrogeology  
Cell [\(508\) 951-3673](tel:5089513673)

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---

**From:** Woodward, Katherine (she/her/hers) <[Woodward.Katherine@epa.gov](mailto:Woodward.Katherine@epa.gov)>  
**Sent:** Tuesday, January 31, 2023 5:28 PM  
**To:** Richard Kowalski <[rkowalski@aries-eng.com](mailto:rkowalski@aries-eng.com)>  
**Cc:** [tom@substructure.com](#); Stephen Graham <[sgraham@aries-eng.com](mailto:sgraham@aries-eng.com)>  
**Subject:** RE: Revised SIP for Portsmouth Marina, New Hampshire

Mr. Kowalski,

EPA is in receipt of August 10, 2022 *Revised PCB Cleanup Status Report and Request to Modify Approved PCB Cleanup and Disposal under 40 CFR 761.61(a)* (the "Modification") which was submitted under the procedures of 40 CFR § 761.61(a)(3)(ii) as specified in Condition 16 of the September 9, 2016 PCB Cleanup and Disposal Approval under 40 CFR § 761.61(a) (the "Approval").

The modification includes the following:

- The area shown in Figure 7B, bounded by the green line has been determined to be a *low occupancy area* rather than a *high occupancy area*.
- Additional *PCB remediation waste* with  $\geq 50$  ppm PCBs in the vicinity of sample location #76 will be removed to a depth of 1 ft below grade surface (ft bgs) to achieve a PCB concentration of at least  $< 25$  ppm. However, the goal will be to remediate to  $< 1$  ppm. The PCB remediation waste shall be disposed in accordance with 40 CFR § 761.61(a)(5)(i)(B)(2)(iii).
- Any *PCB remediation waste* with  $\geq 25$  ppm but  $< 50$  ppm remaining outside of the Zone AE will be covered with a concrete cap compliant with 40 CFR § 761.61(a)(7).
- Any *PCB remediation waste* with  $> 1$  ppm within the Zone AE boundary will be removed and disposed in accordance with 40 CFR § 761.61(a)(5)(i)(B)(2)(ii).
- Verification samples shall be collected in accordance with 40 CFR Part 761 Subpart O to document the concentrations remaining beneath the clean soil cover (shown in Figure 7A)
- A concrete pad as shown in Figures 7B and 8 will be placed over the remainder of the remediated area and provide a compliant cap over the area.
- A deed restriction will be placed on the property in accordance with 40 CFR § 761.61(a)(8)

EPA may approve this modification under the provisions of 40 CFR § 761.61(a)(3)(ii). Please be aware that the following additional/modified Conditions will be applied to the modification:

1. The cleanup level for bulk *PCB remediation waste* (i.e., soil) remaining at the Site shall be less than or equal to (" $\leq$ ") 25 parts per million (" $\text{ppm}$ ") to meet the *low occupancy area* cleanup requirements at 40 CFR § 761.61(a)(4)(i)(B)(3) (**Modified Condition**).
2. Within sixty (60) days of completing final property-wide remediation, Sea Level LLC shall submit to EPA a recorded deed restriction for the property in its entirety. The deed restriction shall include: a description of the extent and levels of contamination at the property following abatement; a description of the actions taken at the property; a description of the use restrictions for the property; and the long-term monitoring and maintenance requirements on the property per the requirements of 40 CFR § 761.61(a)(8) (**New Condition**).
3. Within 30 days of completion of the work authorized under this Approval, Sea Level LLC shall submit for EPA's review and concurrence, a detailed monitoring and maintenance plan (MMP) for the cap(s). Sea Level LLC shall incorporate any changes to the MMP required by EPA (**New Condition**).

- a. The MMP shall include: a description of the activities that will be conducted, including inspection criteria, frequency, and routine maintenance activities; sampling protocols, sampling frequency, and analytical criteria, as applicable; and reporting requirements.
- b. The MMP shall include a communications component which details how the maintenance and monitoring results will be communicated to the Site users, including building users, other on-site workers, and interested stakeholders, if requested.
- c. The MMP also shall include a worker training component for maintenance workers or for any person that will be conducting work that could impact the cap(s).
- d. Sea Level shall submit the results of these long-term monitoring and maintenance activities to EPA. Based on its review of the results, EPA may determine that modification to the MMP is necessary in order to monitor and/or evaluate the long-term effectiveness of the cap(s).
- e. Activities required under the MMP shall be conducted until such time that EPA determines, in writing, that such activities are no longer necessary.

Please include the modified work in the required final project report (Condition 20). Please be aware that EPA is only requiring documents electronically; therefore, hard copies of the documents are no longer necessary.

Please feel free to contact me if there are any questions.

*Kate Woodward*

Katherine A. Woodward, PE, PhD  
US Environmental Protection Agency, Region 1  
5 Post Office Square, Suite 100  
Mail Code: 07-2  
Boston, Massachusetts 02109-3912  
617.918.1353/Pronouns: She/her/hers

---

**From:** Richard Kowalski <[rkowalski@aries-eng.com](mailto:rkowalski@aries-eng.com)>  
**Sent:** Tuesday, January 31, 2023 12:38 PM  
**To:** Woodward, Katherine (she/her/hers) <[Woodward.Katherine@epa.gov](mailto:Woodward.Katherine@epa.gov)>  
**Cc:** [tom@substructure.com](mailto:tom@substructure.com); Stephen Graham <[sgraham@aries-eng.com](mailto:sgraham@aries-eng.com)>  
**Subject:** RE: Revised SIP for Portsmouth Marina, New Hampshire

Kate: Do you have any comments on this? Thanks,



Rick Kowalski



Director of Hydrogeology  
Cell [\(508\) 951-3673](tel:5089513673)

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---

**From:** Woodward, Katherine <[Woodward.Katherine@epa.gov](mailto:Woodward.Katherine@epa.gov)>  
**Sent:** Thursday, January 12, 2023 4:14 PM  
**To:** Richard Kowalski <[rkowalski@aries-eng.com](mailto:rkowalski@aries-eng.com)>  
**Cc:** [tom@substructure.com](mailto:tom@substructure.com); Stephen Graham <[sgraham@aries-eng.com](mailto:sgraham@aries-eng.com)>  
**Subject:** RE: Revised SIP for Portsmouth Marina, New Hampshire

It has been crazy here and I haven't yet gotten to it. I will read it on Tuesday and provide you with some comments.

---

**From:** Richard Kowalski <[rkowalski@aries-eng.com](mailto:rkowalski@aries-eng.com)>  
**Sent:** Thursday, January 12, 2023 3:30 PM  
**To:** Woodward, Katherine <[Woodward.Katherine@epa.gov](mailto:Woodward.Katherine@epa.gov)>  
**Cc:** [tom@substructure.com](mailto:tom@substructure.com); Stephen Graham <[sgraham@aries-eng.com](mailto:sgraham@aries-eng.com)>  
**Subject:** RE: Revised SIP for Portsmouth Marina, New Hampshire

Kate: Can you provide an update on your progress on this project? Thanks,



Rick Kowalski  
Director of Hydrogeology  
Cell [\(508\) 951-3673](tel:5089513673)

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---

**From:** Woodward, Katherine <[Woodward.Katherine@epa.gov](mailto:Woodward.Katherine@epa.gov)>  
**Sent:** Monday, December 5, 2022 9:35 AM  
**To:** Richard Kowalski <[rkowalski@aries-eng.com](mailto:rkowalski@aries-eng.com)>  
**Cc:** [tom@substructure.com](mailto:tom@substructure.com); Stephen Graham <[sgraham@aries-eng.com](mailto:sgraham@aries-eng.com)>  
**Subject:** RE: Revised SIP for Portsmouth Marina, New Hampshire

Rick,

This is the first time I am seeing this document. I checked my email and I have nothing. I will have to read through it, which I will do this week.

Kate

---

**From:** Richard Kowalski <[rkowalski@aries-eng.com](mailto:rkowalski@aries-eng.com)>  
**Sent:** Monday, December 5, 2022 8:35 AM  
**To:** Woodward, Katherine <[Woodward.Katherine@epa.gov](mailto:Woodward.Katherine@epa.gov)>  
**Cc:** [tom@substructure.com](mailto:tom@substructure.com); Stephen Graham <[sgraham@aries-eng.com](mailto:sgraham@aries-eng.com)>  
**Subject:** RE: Revised SIP for Portsmouth Marina, New Hampshire

Katherine: Please let us know when we may expect to receive any comments back from you regarding the attached revised SIP submitted on August 10, 2022. Thanks,



Rick Kowalski  
Director of Hydrogeology  
Cell [\(508\) 951-3673](tel:5089513673)

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---

**From:** Richard Kowalski  
**Sent:** Wednesday, August 10, 2022 3:02 PM  
**To:** Woodward, Katherine <[Woodward.Katherine@epa.gov](mailto:Woodward.Katherine@epa.gov)>  
**Cc:** 'tom@substructure.com' <[tom@substructure.com](mailto:tom@substructure.com)>; Stephen Graham ([sgraham@aries-eng.com](mailto:sgraham@aries-eng.com)) <[sgraham@aries-eng.com](mailto:sgraham@aries-eng.com)>  
**Subject:** Revised SIP for Portsmouth Marina, New Hampshire

Katherine: Please find attached the revised SIP for the Portsmouth Marina. Please let us know if you have any comments or questions. Thanks,



Richard G. Kowalski, CPG LSP, CHMM  
Director of Hydrogeology  
Aries Engineering, LLC  
104 Pleasant Street  
Concord, New Hampshire 03301  
Phone [\(603\) 228-0008](tel:6032280008)  
Fax [\(603\) 226-0374](tel:6032260374)  
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[rkowalski@aries-eng.com](mailto:rkowalski@aries-eng.com)  
[www.aries-eng.com](http://www.aries-eng.com)

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**WPA APPENDIX E: ENGINEERING PROJECT PLANS/DRAWINGS/SHEETS**

(Per Sections 2,7, 16 and NH ENV WT 311.05, 311.03(b)(4))

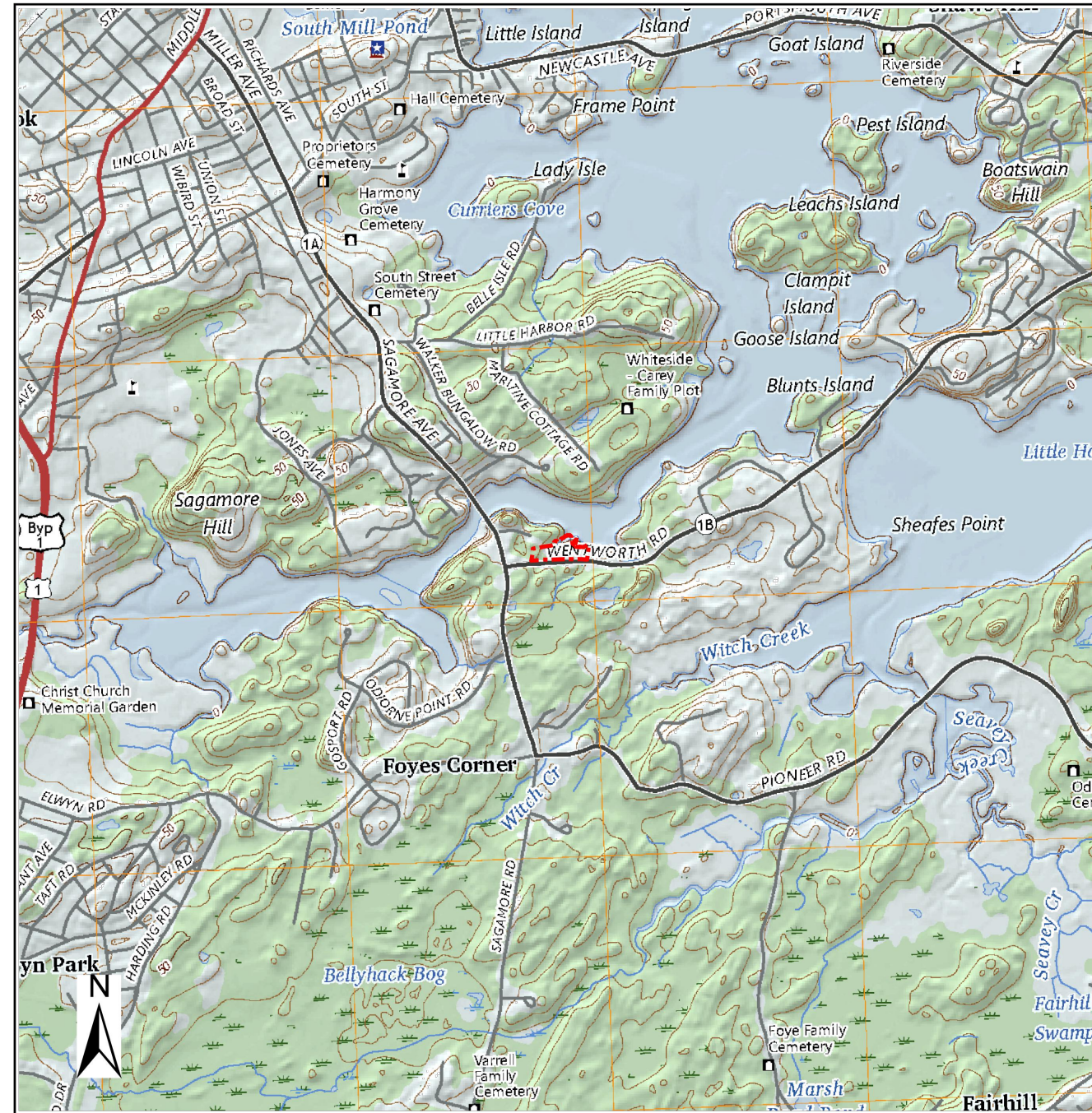
# MARINA RESTORATION PROJECT ENGINEERING PLANS

APPLICANT: TOM REIS, SEA LEVEL, INC.  
PREPARED BY: ARIES ENGINEERING, LLC / HALEY WARD, INC.

## SHEET INDEX

- SHEET 1: SITE LOCUS AND SHEET INDEX
- SHEET 2: SITE PLAN AND EXISTING CONDITIONS SITE PLAN
- SHEET 3A: PCB SAMPLE LOCATION PLAN
- SHEET 3B: >50 PPM PCB POST-EXCAVATION SAMPLE LOCATION PLAN
- SHEET 3C: <50 PPM PCB POST-EXCAVATION SAMPLE LOCATION PLAN
- SHEET 3D: SELF-IMPLEMENTING CLEANUP PLAN (SIP)
- SHEET 4: CONCRETE PAD CROSS SECTION
- SHEET 5: FINAL GRADING PLAN/SHORELINE STABILIZATION PLAN (WITH TIDAL SHORELINE STABILITY)
- SHEET 6: PLANTING PLAN WITH PLANTING SCHEDULE
- SHEET 7: TREE TYPES AND LOCATIONS

# SITE LOCUS MAP 2024

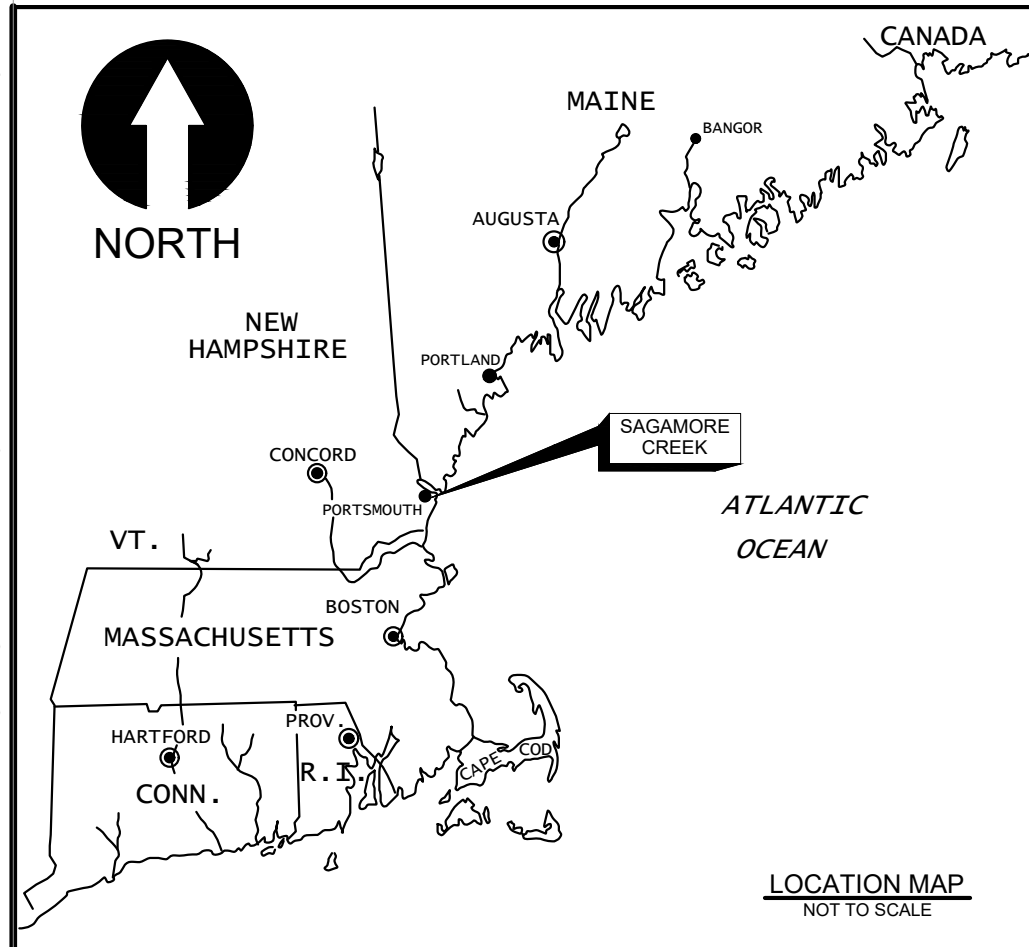


Topographic Map Sources: USGS TopoBuilder.  
Generated 08/21/2024, Downloaded 08/27/2024



## Legend

Site Boundary

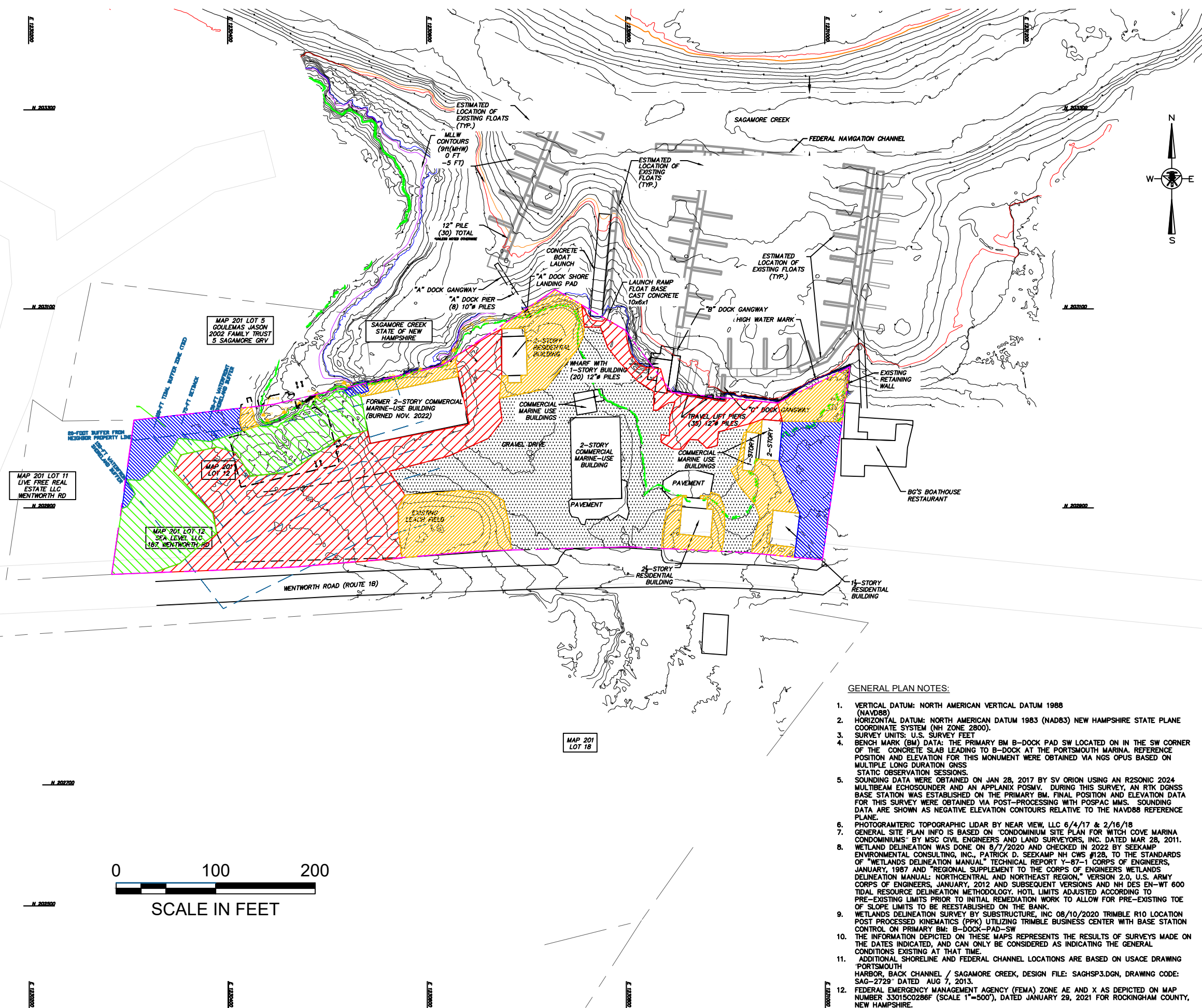


Drafted By: J. Drebaum	Reviewed By: R. Kowalski
Date: 10/14/2024	Approved By: S. Graham

TITLE SHEET, INDEX OF DRAWINGS and  
SITE LOCUS MAP  
MARINA RESTORATION PROJECT  
SEA LEVEL, LLC.  
MAP 201, LOT 12  
PORTSMOUTH, NEW HAMPSHIRE

FIGURE 1

Aries Project # 2021-075A  
File # 2021-075A(1)06.22.mxd



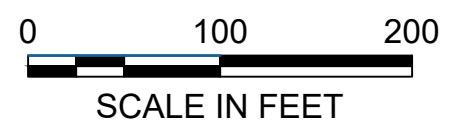
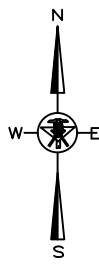
### LEGEND

**EXISTING**

- PROPERTY BOUNDARY
- ADJACENT PROPERTY BOUNDARIES
- EXISTING ELEVATION CONTOUR (FT)
- BUILDING FOUNDATION
- MEAN LOW WATER (MLW) (-4.30ft NAVD88)
- MEAN HIGH WATER (MHW) (3.81ft NAVD88)
- MEAN LOW LOW WATER (MLLW) (-4.62ft NAVD88)
- MEAN HIGH HIGH WATER (MHHW) (4.22ft NAVD88)
- HIGHEST OBSERVED TIDE LINE (HOTL 7.9') ZONE AE 100 YEAR FLOOD ZONE
- WETLAND DELINEATION
- FORMER EXCAVATION AREA
- SHORELINE BUFFERS (LABELED IN SHEET)
- PRIOR GRAVEL DRIVE (44,785 SF)
- INTACT GRAVEL BOAT STORAGE AREA (19,588 SF)
- DEGRADED GRAVEL BOAT STORAGE AREA (12,950 SF)

**PROPOSED**

- PROPOSED WORK LIMITS



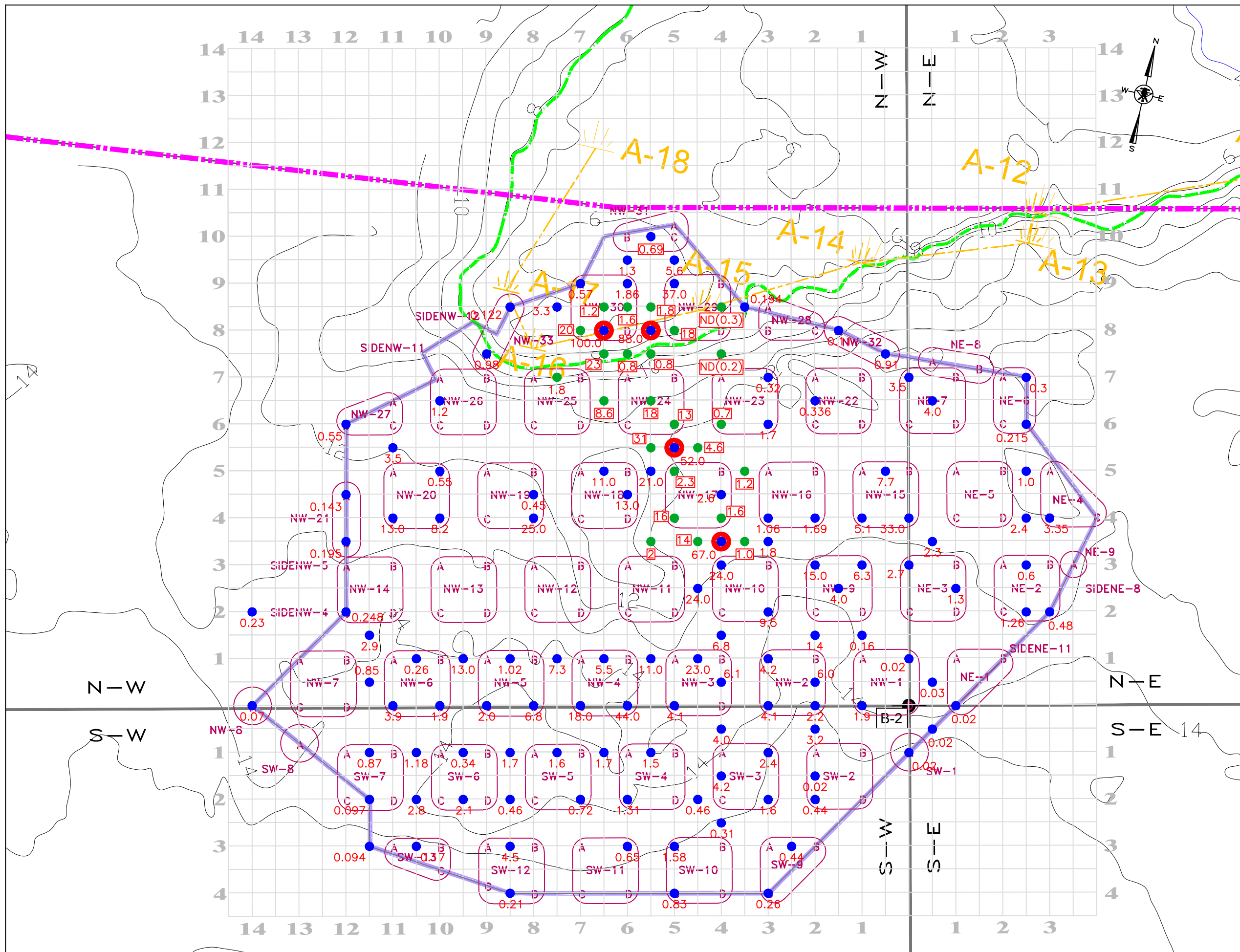
**GENERAL PLAN NOTES:**

1. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88)
2. HORIZONTAL DATUM: NORTH AMERICAN DATUM 1983 (NAD83) NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM (NH ZONE 2800).
3. SURVEY UNITS: U.S. SURVEY FEET
4. BENCH MARK (BM) DATA: THE PRIMARY BM B-DOCK PAD SW LOCATED ON IN THE SW CORNER OF THE CONCRETE SLAB LEADING TO B-DOCK AT THE PORTSMOUTH MARINA. REFERENCE POSITION AND ELEVATION FOR THIS MONUMENT WERE OBTAINED VIA NGS OPUS BASED ON MULTIPLE LONG DURATION GNSS STATIC OBSERVATION SESSIONS.
5. SOUNDING DATA WERE OBTAINED ON JAN 28, 2017 BY SV ORION USING AN R2SONIC 2024 MULTIBEAM ECHOSOUNDER AND AN APPLANIX POSMV. DURING THIS SURVEY, AN RTK DGSS BASE STATION WAS ESTABLISHED ON THE PRIMARY BM. FINAL POSITION AND ELEVATION DATA FOR THIS SURVEY WERE OBTAINED VIA POST-PROCESSING WITH POSPAC MMS. SOUNDING DATA ARE SHOWN AS NEGATIVE ELEVATION CONTOURS RELATIVE TO THE NAVD88 REFERENCE PLANE.
6. PHOTOGAMTERIC TOPOGRAPHIC LIDAR BY NEAR VIEW, LLC 6/4/17 & 2/16/18
7. GENERAL SITE PLAN INFO IS BASED ON "CONDOMINIUM SITE PLAN FOR WITCH COVE MARINA CONDOMINIUMS" BY MSC CIVIL ENGINEERS AND LAND SURVEYORS, INC. DATED MAR 28, 2011.
8. WETLAND DELINEATION WAS DONE ON 8/7/2020 AND CHECKED IN 2022 BY SEEKAMP ENVIRONMENTAL CONSULTING, INC., PATRICK D. SEEKAMP NH CWS #128, TO THE STANDARDS OF "WETLANDS DELINEATION MANUAL" TECHNICAL REPORT Y-87-1 CORPS OF ENGINEERS, JANUARY, 1987 AND "REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL: NORTH-CENTRAL AND NORTHEAST REGION," VERSION 2.0, U.S. ARMY CORPS OF ENGINEERS, JANUARY, 2012 AND SUBSEQUENT VERSIONS AND NH DES EN-WT 600 TIDAL RESOURCE DELINEATION METHODOLOGY. HOTL LIMITS ADJUSTED ACCORDING TO PRE-EXISTING LIMITS PRIOR TO INITIAL REMEDIATION WORK TO ALLOW FOR PRE-EXISTING TOE OF SLOPE LIMITS TO BE REESTABLISHED ON THE BANK.
9. WETLANDS DELINEATION SURVEY BY SUBSTRUCTURE, INC 08/10/2020 TRIMBLE R10 LOCATION POST PROCESSED KINEMATICS (PPK) UTILIZING TRIMBLE BUSINESS CENTER WITH BASE STATION CONTROL ON PRIMARY BM: B-DOCK-PAD-SW
10. THE INFORMATION DEPICTED ON THESE MAPS REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED, AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
11. ADDITIONAL SHORELINE AND FEDERAL CHANNEL LOCATIONS ARE BASED ON USACE DRAWING "PORTSMOUTH HARBOR, BACK CHANNEL / SAGAMORE CREEK, DESIGN FILE: SAGHSP3.DGN, DRAWING CODE: SAG-2729" DATED AUG 7, 2013.
12. FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) ZONE AE AND X AS DEPICTED ON MAP NUMBER 3301SC0286F (SCALE 1"=500'), DATED JANUARY 29, 2021 FOR ROCKINGHAM COUNTY, NEW HAMPSHIRE.



Drafted By: J. Drebaum	Reviewed By: R. Kowalski
Date: 10/14/2024	Approved By: S. Graham

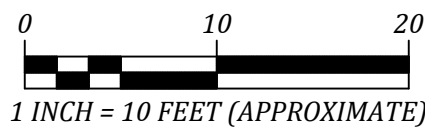
SITE PLAN AND EXISTING CONDITIONS  
SITE PLAN  
MARINA RESTORATION PROJECT  
SEA LEVEL, LLC.  
MAP 201, LOT 12  
PORTSMOUTH, NEW HAMPSHIRE  
FIGURE 2



### LEGEND

**EXISTING**

- PROPERTY BOUNDARY
- ADJACENT PROPERTY BOUNDARY
- EXISTING ELEVATION CONTOUR (FT)
- MEAN HIGH HIGH WATER (3.81 FT NAVD88)
- HIGHEST OBSERVABLE TIDE (FEMA ZONE AE)
- WETLAND DELINEATION
- EXCAVATION LIMITS TO 1 FOOT BGS  
PCBS > 1ppm AND < 50ppm
- SOIL BORING LOCATION AND DESIGNATION
- SOIL SAMPLE LOCATION (DUNFIELD ENG)
- SOIL SAMPLE LOCATION (GEOINSIGHT - 7/25/2016)
- PCB CONCENTRATION (ppm)
- PCB CONCENTRATION >50ppm
- SAMPLE NOMENCLATURE QUADRANT
- TREE

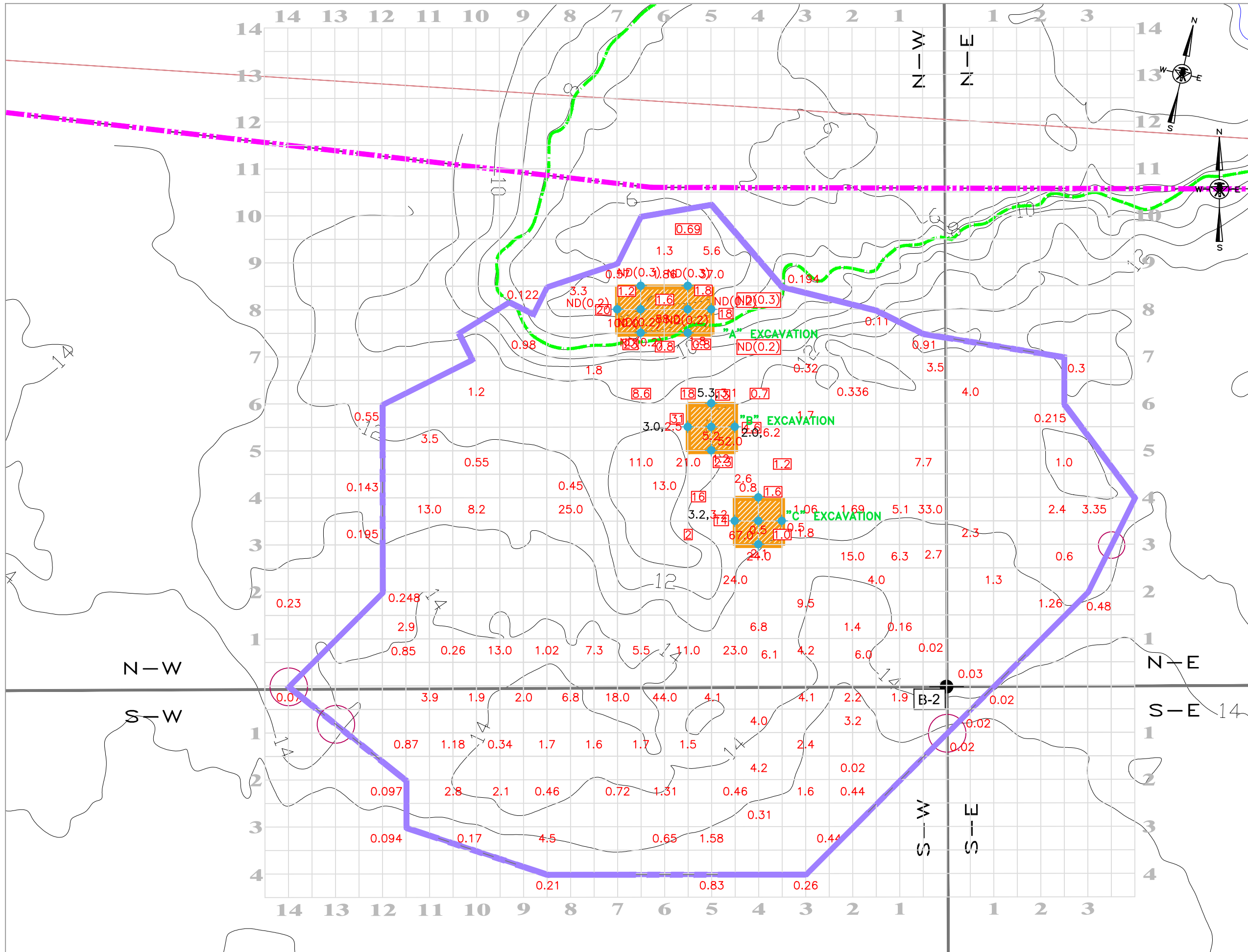


Drafted By: J. Drebaum	Reviewed By: R. Kowalski
Date: 10/14/2024	Approved By: S. Graham

PCB SAMPLE LOCATION PLAN

MARINA RESTORATION PROJECT  
SEA LEVEL, LLC.  
MAP 201, LOT 12  
PORTSMOUTH, NEW HAMPSHIRE

FIGURE 3A

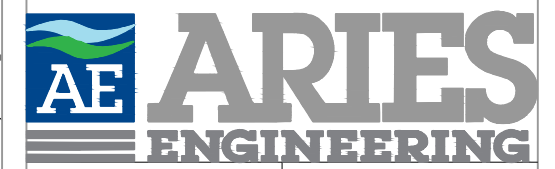
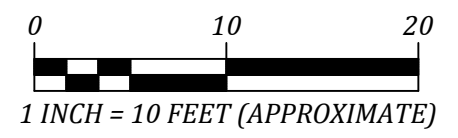


### LEGEND

**EXISTING**

- PROPERTY BOUNDARY
- ADJACENT PROPERTY BOUNDARY
- EXISTING ELEVATION CONTOUR (FT)
- MEAN HIGH HIGH WATER (3.81 FT NAVD88)
- HIGHEST OBSERVABLE TIDE (FEMA ZONE AE)
- WETLAND DELINEATION
- EXCAVATION LIMITS TO 1 FOOT BGS
- PCBS > 1ppm AND > 5clppm
- EXCAVATION AREA

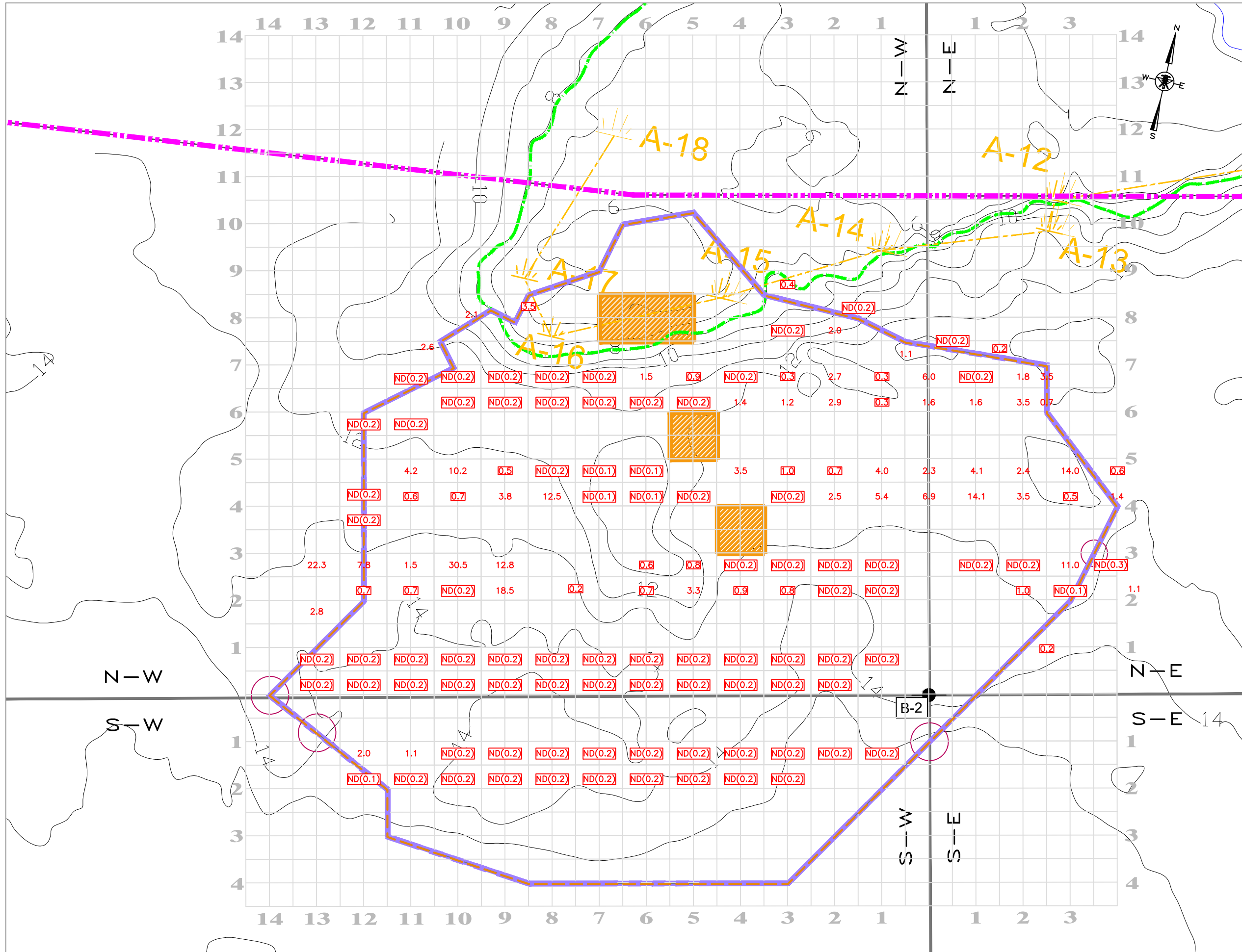
- B-1 SOIL BORING LOCATION AND DESIGNATION
- SAMPLE LOCATION
- 0.9 PCB CONCENTRATION (PPM) BOTTOM SAMPLE
- 0.9 PCB CONCENTRATION (PPM) SIDEWALL SAMPLE
- ND(0.2) NOT DETECTED ABOVE LIMIT NOTED
- 3.2, 3.2 PRIMARY AND DUPLICATE SAMPLE RESULTS
- S-W SAMPLE NOMENCLATURE QUADRANT
- TREE



Drafted By: J. Drebaum	Reviewed By: R. Kowalski
Date: 10/14/2024	Approved By: S. Graham

>50 PPM PCB POST-EXCAVATION SAMPLE LOCATION PLAN  
MARINA RESTORATION PROJECT  
SEA LEVEL, LLC.  
MAP 201, LOT 12  
PORTSMOUTH, NEW HAMPSHIRE  
FIGURE 3B





### LEGEND

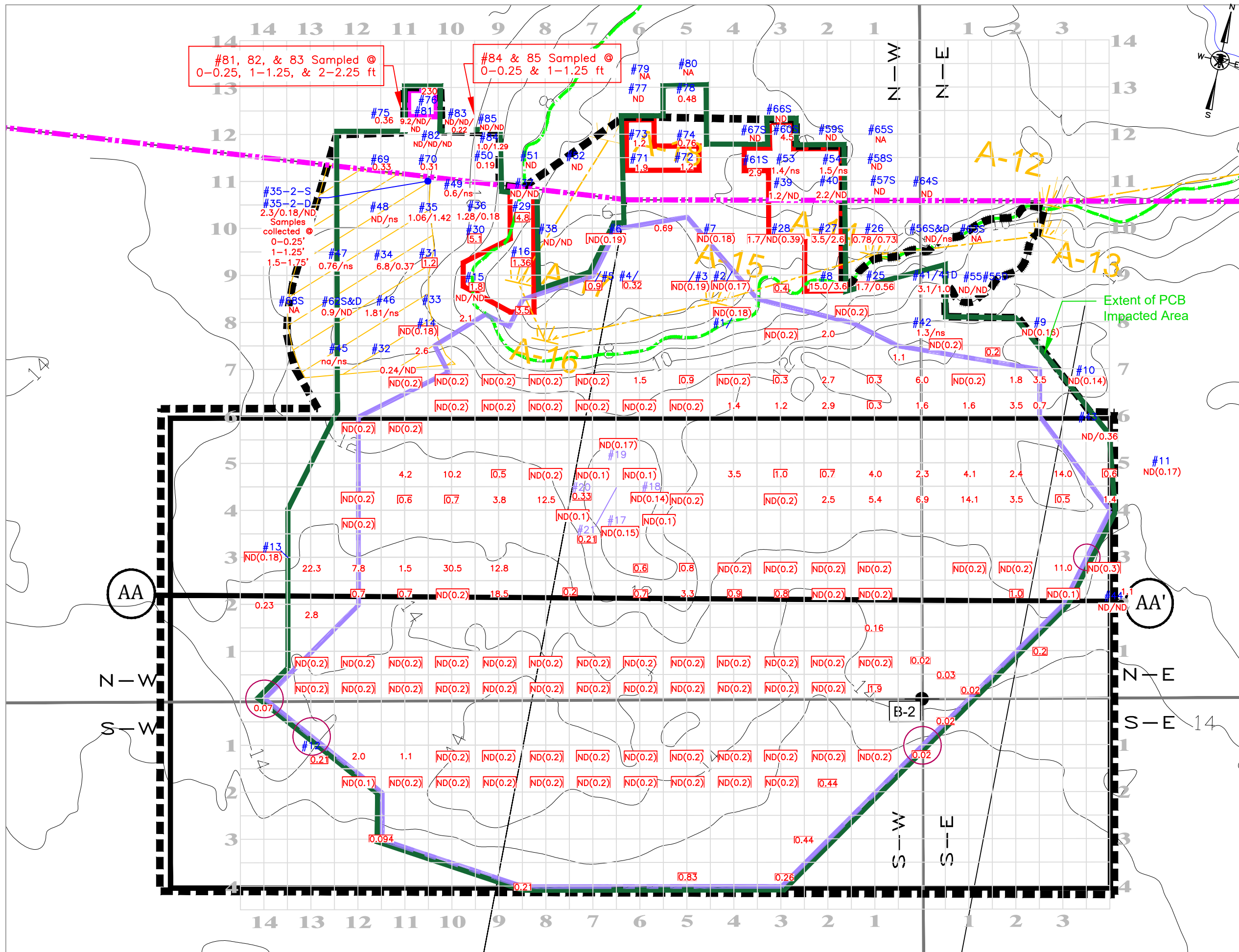
**EXISTING**

- - - PROPERTY BOUNDARY
- ADJACENT PROPERTY BOUNDARY
- EXISTING ELEVATION CONTOUR (FT)
- MEAN HIGH HIGH WATER (3.81 FT NAVD88)
- HIGHEST OBSERVABLE TIDE (FEMA ZONE AE)
- - - WETLAND DELINEATION
- EXCAVATION LIMITS TO 1 FOOT BGS  
PCBS > 1ppm AND < 50ppm
- - - EXCAVATION LIMITS TO 2 FEET BGS  
PCBS ≥ 50ppm
- SOIL BORING LOCATION AND DESIGNATION
- SAMPLE NOMENCLATURE QUADRANT
- 0.9 PCB CONCENTRATION (ppm)
- ND(0.2) NOT DETECTED ABOVE LIMIT NOTED
- + TREE

1 INCH = 10 FEET (APPROXIMATE)

Drafted By: J. Drebaum	Reviewed By: R. Kowalski
Date: 10/14/2024	Approved By: S. Graham

<50 PPM PCB POST-EXCAVATION SAMPLE  
 LOCATION PLAN  
 MARINA RESTORATION PROJECT  
 SEA LEVEL, LLC.  
 MAP 201, LOT 12  
 PORTSMOUTH, NEW HAMPSHIRE  
**FIGURE 3C**



#81, 82, & 83 Sampled @  
0-0.25, 1-1.25, & 2-2.25 ft

#84 & 85 Sampled @  
0-0.25 & 1-1.25 ft

### LEGEND

**EXISTING**

- PROPERTY BOUNDARY
- ADJACENT PROPERTY BOUNDARY
- EXISTING ELEVATION CONTOUR (FT)
- MEAN HIGH HIGH WATER (3.81 FT NAVD88)
- HIGHEST OBSERVABLE TIDE (FEMA ZONE AE)
- WETLAND DELINEATION
- EXCAVATION LIMITS TO 1 FOOT BGS  
PCBS > 1ppm AND < 50ppm
- EXCAVATION LIMITS TO 2 FEET BGS PCBS ≥ 50ppm

**PROPOSED**

- PROPOSED WORK LIMITS

**SOIL BORING LOCATION AND DESIGNATION**

**SA-B-1**  
SAMPLE NOMENCLATURE QUADRANT

**0.9**  
PCB CONCENTRATION (ppm)

**ND(0.2)**  
NOT DETECTED ABOVE LIMIT NOTED

**#1**  
SUPPLEMENTAL SOIL SAMPLE LOCATIONS

**15.0/3.6**  
PCB CONCENTRATION (ppm) AT 0-0.25' AND 1-1.25'

**#18**  
SUPPLEMENTAL SOIL SAMPLE LOCATIONS FROM SOIL PILE PLACED BACK INTO EXCAVATION NO SAMPLES #22, 23, & 24 COLLECTED

**na/ns**  
NOT ANALYZED/NOT SAMPLED

**+**  
TREE

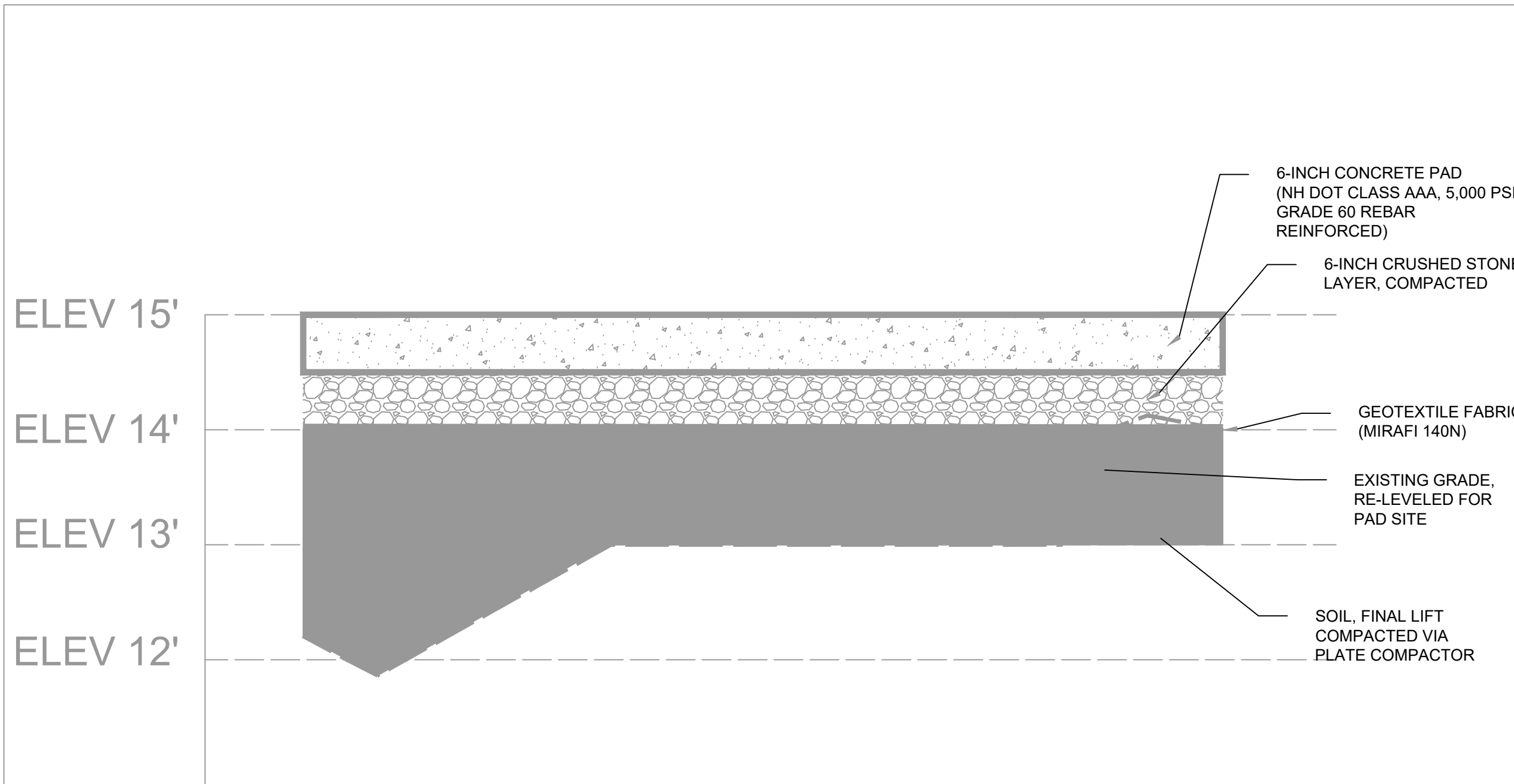
**0 10 20**

1 INCH = 10 FEET (APPROXIMATE)



Drafted By: J. Drebaum	Reviewed By: R. Kowalski
Date: 10/14/2024	Approved By: S. Graham

PROPOSED CONCRETE PAD  
w/ SAMPLE LOCATIONS  
MARINA RESTORATION PROJECT  
SEA LEVEL, LLC.  
MAP 201, LOT 12  
PORTSMOUTH, NEW HAMPSHIRE  
FIGURE 3D



6-INCH CONCRETE PAD  
(NH DOT CLASS AAA, 5,000 PSI,  
GRADE 60 REBAR  
REINFORCED)

6-INCH CRUSHED STONE  
LAYER, COMPACTED

GEOTEXTILE FABRIC  
(MIRAFI 140N)

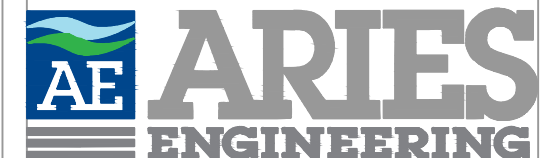
EXISTING GRADE,  
RE-LEVELLED FOR  
PAD SITE

SOIL, FINAL LIFT  
COMPACTED VIA  
PLATE COMPACTOR

ELEV 15'  
ELEV 14'  
ELEV 13'  
ELEV 12'

*PROPOSED CONCRETE PAD CROSS SECTION (AA --- AA')*  
*(SEE SHEET 5 FOR LOCATION)*

LEGEND

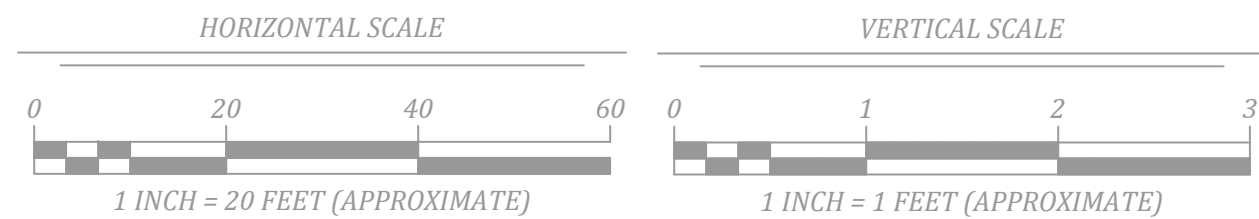


Drafted By: J. Drebaum	Reviewed By: R. Kowalski
Date: 10/14/2024	Approved By: S. Graham

Proposed Concrete Pad Cross Section

MARINA RESTORATION PROJECT  
SEA LEVEL, LLC.  
MAP 201, LOT 12  
PORTSMOUTH, NEW HAMPSHIRE

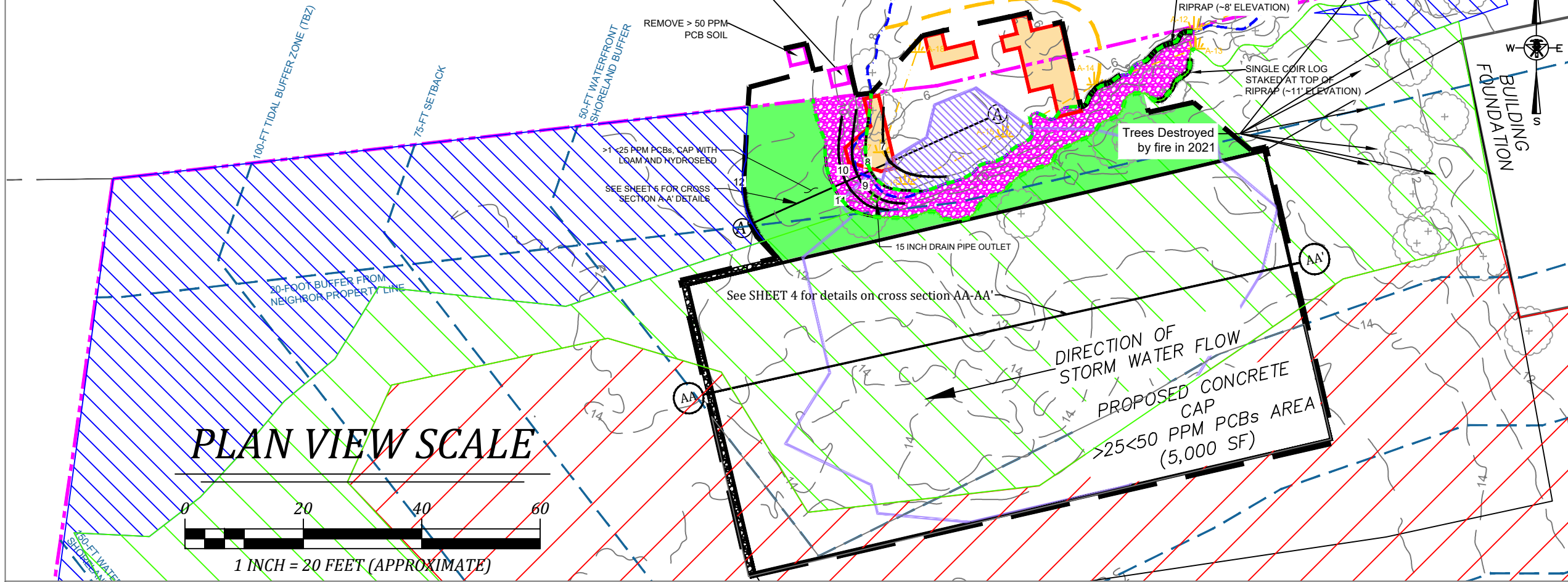
FIGURE 4



0 30

C:\Users\JoeDrebaum\Aries Engineering\Data - Documents\Project Files\2021\2021-075 Portsmouth Marina (Sea Level)\Tidal Shoreline Stabilization Design -- CAD\CAD\2021-075(SS2)06-22.dwg

Area of Impact	
Description	Area (sq ft)
Below Highest Observable Tide Line (HOTL)	411.32
HOTL to 50-foot Shoreland Buffer	5,173.05
From HOTL to 11' Elevation	471.50
From HOTL to 75-foot setback	6,308.16
Between 50-foot Shoreland Buffer to 75-foot Setback	1,135.11
Between 75-foot setback and 100-foot Tidal Buffer Zone (TBZ)	-
Within 50-foot Shoreland Buffer	5,348.25
Between 50-foot and 150-foot Woodland Shoreland Buffer	1,135.11



### LEGEND

**EXISTING**

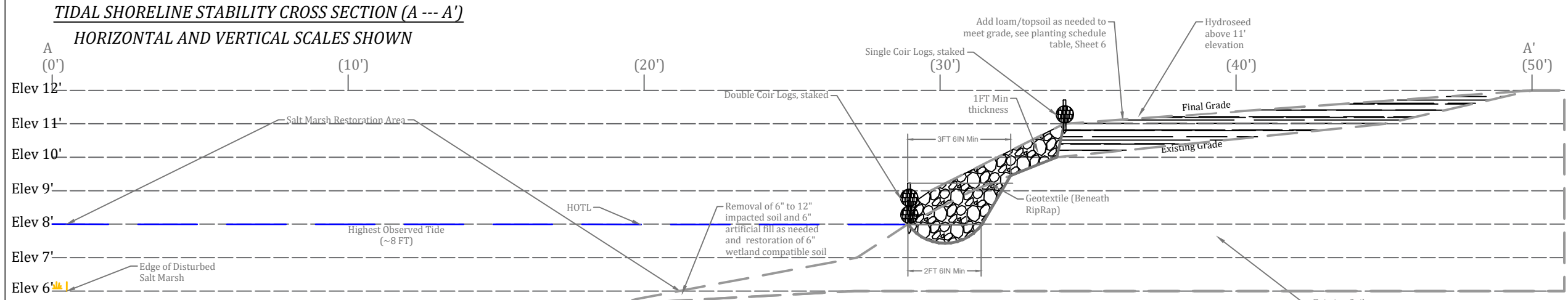
- PROPERTY BOUNDARY
- ADJACENT PROPERTY BOUNDARY
- EXISTING ELEVATION CONTOUR (FT)
- BUILDING FOUNDATION
- MEAN HIGH HIGH WATER (4.22 FT NAVD88)
- MEAN HIGH WATER (3.81 FT NAVD88)
- HIGHEST OBSERVABLE TIDE (FEMA ZONE AE)
- WETLAND DELINEATION
- FORMER EXCAVATION AREA
- SHORELINE BUFFERS (LABELED IN SHEET)
- INTACT GRAVEL BOAT STORAGE AREA
- DEGRADED GRAVEL BOAT STORAGE AREA
- NATURAL WOODLAND AREA
- EXISTING RIPRAP
- TREE

**PROPOSED**

- PROPOSED WORK LIMITS
- WETLAND REMEDIATION AREA >1<25 PPM PCBs, CONSOLIDATE UNDER CONCRETE CAP
- WETLAND RESTORATION AREA (175 SF)
- REMEDATION AREA, SOIL REMOVAL >50 PPM PCBs
- SALT MARSH TO BE RESTORED IN 2016-2017 EXCAVATION (235 SF)
- FINAL ELEVATION CONTOUR (FT)
- CROSS SECTION
- UPLAND AREA REGRADE, ADD LOAM AND HYDROSEED RESTORATION (770 SF), PCBs >1<25 PPM
- MIXED STONE/RIPRAP TO BE RESTORED (470 SF)
- PROPOSED TURBIDITY SILT CURTAIN
- CONCRETE PAD DRAINAGE
- COIR LOGS STAKED

**GENERAL NOTES CONTINUED:**

- THE INFORMATION DEPICTED ON THESE MAPS REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED, AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
- ADDITIONAL SHORELINE AND FEDERAL CHANNEL LOCATIONS ARE BASED ON USACE DRAWING "PORTSMOUTH HARBOR, BACK CHANNEL / SAGAMORE CREEK, DESIGN FILE: SAGHSP3.DGN, DRAWING CODE: SAG-2729" DATED AUG 7, 2013.
- FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) ZONE AE AND X AS DEPICTED ON MAP NUMBER 33015C0286F (SCALE 1"=500'), DATED JANUARY 29, 2021 FOR ROCKINGHAM COUNTY, NEW HAMPSHIRE.



- PROPOSED CONSTRUCTION SEQUENCE:**
- INSTALL TREE PROTECTION AND EROSION CONTROL MEASURES (COIR LOGS) AT START OF HOTL WITHIN THE LIMIT OF WORK/DISTURBANCE (LOD).
  - CLEAR AND GRUB VEGETATION, EXCEPT TREES, IN THE LIMITS OF WORK, AS NEEDED; WOODY MATERIAL MAY BE CHIPPED / REUSED ON-SITE.
  - ONCE COMPLIANCE WITH TSCA REQUIREMENTS FOR REMOVAL OF CONTAMINANTS IS COMPLETE, BY REMOVING SIX (6) INCHES OF IMPACTED SEDIMENT, RESTORATION OF REMEDIATED SALT MARSH AREA OCCURS BY BACKFILLING WITH CLEAN MIXED SAND IN STAKED BURLAP BAGS TO A FINAL ELEVATION OF 6 FT TO MIMIC ADJACENT SALT MARSH ELEVATION AND THEN PLANTED ON 1-SQ. FT INTERVAL GRID WITH SALT MARSH BULRUSH (SCIRPUS ROBUSTUS); PLUG EXISTING 15-IN STORMWATER DISCHARGE PIPE WITH 5-FT CONCRETE, UPON REGULATORY APPROVAL.
  - PLACE NATURAL FIBER BLANKET FROM ABOVE HOTL TO EXISTING ELEVATION 11-FT. ADD GEOTEXTILE AFTER FIBER.
  - FROM THE HOTL, EMPLACE 4 TO 5-INCH DIAMETER ROUNDED STONE, AND RE-INSTALLED BOULDERS UP TO 4 FT DIAMETER, TO 11 FT ELEVATION TO PROVIDE EROSION CONTROL.
  - FILL ABOVE 11-FT MSL RIPRAP LINE AS NEEDED TO ACHIEVE 11 FT MSL, WITH CLEAN FILL, THEN ADD 6-IN TOPSOIL CAP.
  - INSTALL NEW CONCRETE PAD (5,000 SF) RUNOFF RELATIVELY FLAT SLOPE OF <2% DIRECTED TO EAST TOWARDS 12 INCH WIDE, 12 INCH THICK 2 INCH STONE BORDER AREA SERVING AS LEVEL SPREADER/ATTENUATION MECHANISM.
  - INSTALL VEGETATION ACCORDING TO SHEET 6 (PLANTING PLAN).
  - ONCE AREA IS FULLY STABILIZED, REMOVE EROSION CONTROLS AND TREE PROTECTION.
  - DECONTAMINATE ALL EQUIPMENT AND HAND TOOLING AND VERIFY COMPLIANCE WITH TSCA 40 CFR 761.79(B)(3)(i), UNRESTRICTED USE USING WIPE SAMPLES AND SHOWING PCB LEVELS ARE LESS THAN 10 UG/100 CM2.
  - MINIMAL EROSION POTENTIAL EXISTS ABOVE ELEVATION 11 FT DUE TO RELATIVELY FLAT SLOPE (<4%)
- GENERAL NOTES:**
- VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88)
  - HORIZONTAL DATUM: NORTH AMERICAN DATUM 1983 (NAD83) NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM (NH ZONE 2800)
  - SURVEY UNITS: U.S. SURVEY FEET
  - BENCH MARK (BM) DATA: THE PRIMARY BM B-DOCK PAD SW LOCATED ON IN THE SW CORNER OF THE CONCRETE SLAB LEADING TO B-DOCK AT THE PORTSMOUTH MARINA. REFERENCE POSITION AND ELEVATION FOR THIS MONUMENT WERE OBTAINED VIA NGS OPUS BASED ON MULTIPLE LONG DURATION GNSS STATIC OBSERVATION SESSIONS. SOUNDING DATA WERE OBTAINED ON JAN 28, 2017 BY SV ORION USING AN R2SONIC 2024 MULTIBEAM ECHOSOUNDER AND AN APPLANIX POSMV. DURING THIS SURVEY, AN RTK DGNS BASE STATION WAS ESTABLISHED ON THE PRIMARY BM. FINAL POSITION AND ELEVATION DATA FOR THIS SURVEY WERE OBTAINED VIA POST-PROCESSING WITH POSPAC MMS. SOUNDING DATA ARE SHOWN AS NEGATIVE ELEVATION CONTOURS RELATIVE TO THE NAVD88 REFERENCE PLANE.
  - PHOTOGRAMMETRIC TOPOGRAPHIC LIDAR BY NEAR VIEW, LLC 6/4/17 & 2/16/18
  - GENERAL SITE PLAN INFO IS BASED ON "CONDOMINIUM SITE PLAN FOR WITCH COVE MARINA CONDOMINIUMS" BY MSC CIVIL ENGINEERS AND LAND SURVEYORS, INC. DATED MAR 28, 2011.
  - WETLAND DELINEATION WAS DONE ON 8/7/2020 AND CHECKED IN 2022 BY SEEKAMP ENVIRONMENTAL CONSULTING, INC., PATRICK D. SEEKAMP NH CWS #128, TO THE STANDARDS OF "WETLANDS DELINEATION MANUAL" TECHNICAL REPORT Y-87-1 CORPS OF ENGINEERS, JANUARY, 1987 AND "REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION," VERSION 2.0, U.S. ARMY CORPS OF ENGINEERS, JANUARY, 2012 AND SUBSEQUENT VERSIONS AND NH DES EN-WT 600 TIDAL RESOURCE DELINEATION METHODOLOGY. HOTL LIMITS ADJUSTED ACCORDING TO PRE-EXISTING LIMITS PRIOR TO INITIAL REMEDIATION WORK TO ALLOW FOR PRE-EXISTING TOE OF SLOPE LIMITS TO BE REESTABLISHED ON THE BANK.
  - WETLANDS DELINEATION SURVEY BY SUBSTRUCTURE, INC 08/10/2020 TRIMBLE R10 LOCATION POST PROCESSED KINEMATICS (PPK) UTILIZING TRIMBLE BUSINESS CENTER WITH BASE STATION CONTROL ON PRIMARY BM. B-DOCK-PAD-SW

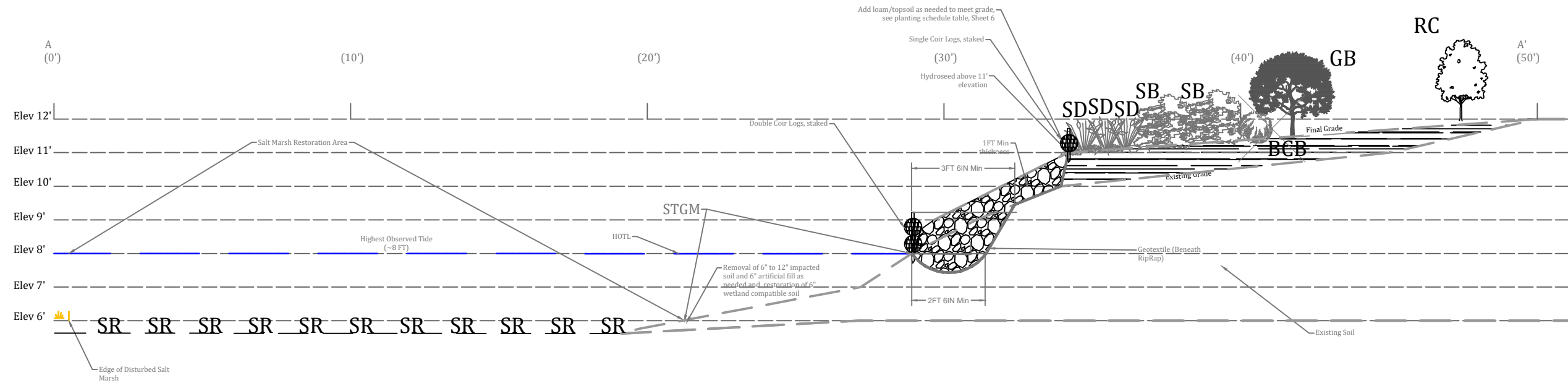
**Drafted By:** J. Drebaum  
**Reviewed By:** R. Kowalski

**Date:** 10/14/2024  
**Approved By:** S. Graham

FINAL GRADING PLAN/ShORELINE STABILIZATION PLAN (WITH TIDAL SHORELINE STABILITY)  
MARINA RESTORATION PROJECT  
SEA LEVEL, LLC.  
MAP 201, LOT 12  
PORTSMOUTH, NEW HAMPSHIRE

FIGURE 2

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HORIZONTAL/VERTICAL Scales as shown

Planting Schedule					
Key	Plant Type	Species	Size (feet)	Caliper Size	Quantity
GB	Tree	Gray Birch ( <i>Betula populifolia</i> )	3-4	-	1
RC	Tree	Red Cedar ( <i>Juniperus virginiana</i> )	3-4	-	1
SD	Shrub	Silky dogwood ( <i>Cornus amomum</i> )	2-3	-	3
SB	Shrub	Shadbush ( <i>Amelanchier canadensis</i> )	2-3	-	2
BCB	Shrub	Black Chokeberry ( <i>Aronia melanocarpa</i> )	2-3	-	1
SR	Plugs	Salt Marsh Bullrush ( <i>Scirpus Robustus</i> )	-	-	350
STGM	Seed	Salt Tolerant Grass Mix*	-	-	5 lb

NOTES:

- \*STGM species list includes: Canada Wild Rye (*Elymus canadensis*), Red Fescue (*Festuca rubra*), Atlantic Coastal Panic Grass (*Panicum amarum*), Big Bluestem (*Andropogon gerardii*), Indian Grass (*Sorghastrum nutans*), Switch Grass (*Panicum virgatum*), and Path Rush (*Juncus tenuis*)
- Mean High Water (MHW) and Mean Low Water (MLW) lines are outside of the Limit of Disturbance and beyond the area shown in the above cross section.

NOT TO SCALE

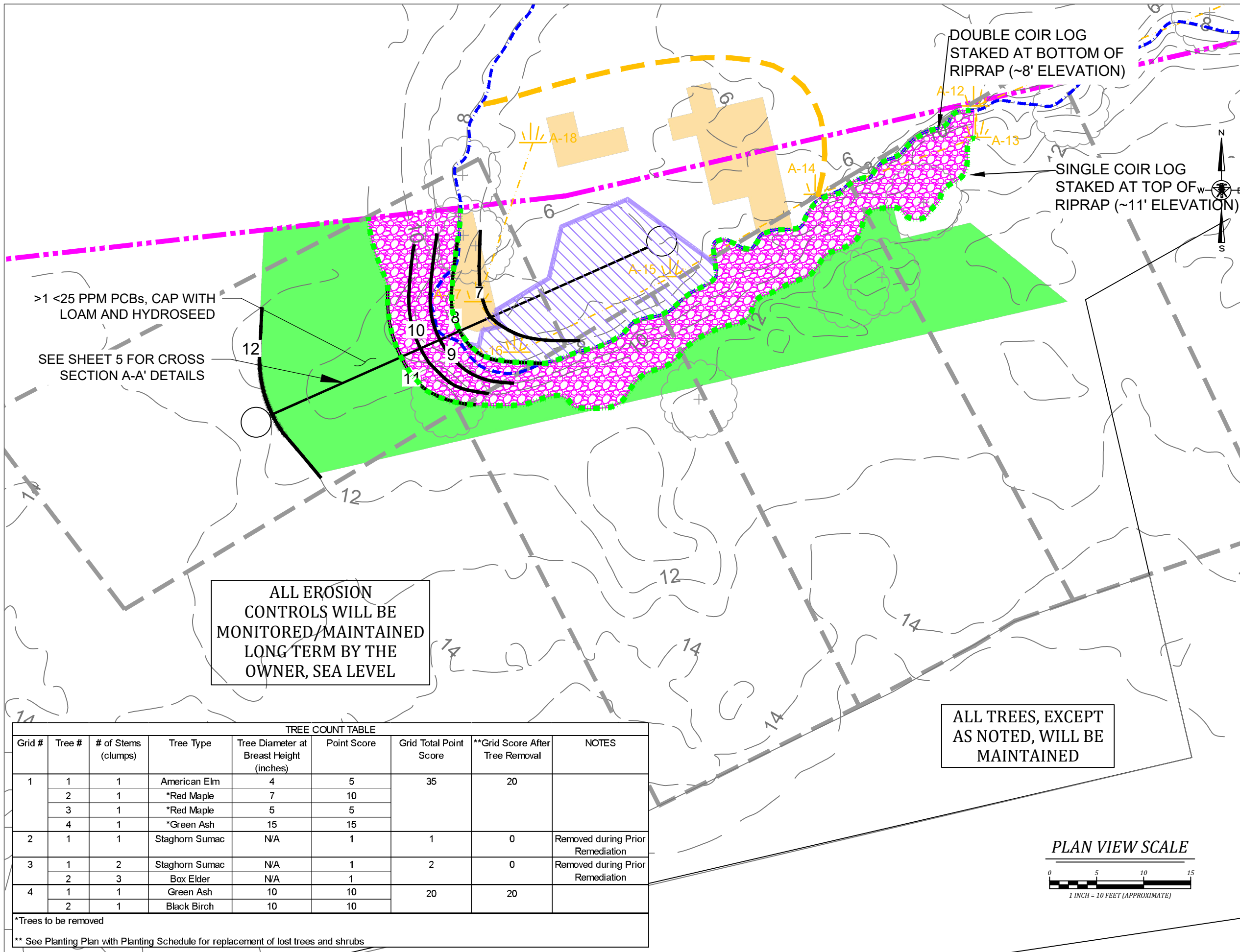


Drafted By: J. Drebaum	Reviewed By: R. Kowalski
Date: 10/14/2024	Approved By: S. Graham

PLANTING PLAN with  
PLANTING SCHEDULE  
MARINA RESTORATION PROJECT  
SEA LEVEL, LLC.  
MAP 201, LOT 12  
PORTSMOUTH, NEW HAMPSHIRE

FIGURE 6

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### LEGEND

**EXISTING**

- PROPERTY BOUNDARY
- ADJACENT PROPERTY BOUNDARY
- EXISTING ELEVATION CONTOUR (FT)
- BUILDING FOUNDATION
- MEAN HIGH HIGH WATER (3.81 FT NAVD88)
- HIGHEST OBSERVABLE TIDE (FEMA ZONE AE)
- WETLAND DELINEATION
- FORMER EXCAVATION AREA
- SHORELINE BUFFERS (LABELED IN SHEET)
- INTACT GRAVEL BOAT STORAGE AREA
- DEGRADED GRAVEL BOAT STORAGE AREA
- TREE/SHRUB WITH TREE NUMBER

**PROPOSED**

- WETLAND REMEDIATION AREA >1<25 PPM PCBs, CONSOLIDATE UNDER CONCRETE CAP (175 SF)
- SALT MARSH TO BE RESTORED IN 2016-2017 EXCAVATION (235 SF)
- FINAL ELEVATION CONTOUR (FT)
- UPLAND AREA REGRADE, ADD LOAM AND HYDROSEED RESTORATION (770 SF), PCBs >1<25 PPM
- MIXED STONE/RIPRAP TO BE RESTORED (470 SF)
- PROPOSED TURBIDITY SILT CURTAIN
- COIR LOGS STAKED

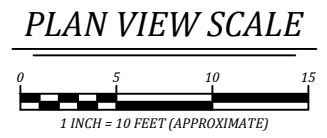
ALL EROSION CONTROLS WILL BE MONITORED/MAINTAINED LONG TERM BY THE OWNER, SEA LEVEL

ALL TREES, EXCEPT AS NOTED, WILL BE MAINTAINED

TREE COUNT TABLE

Grid #	Tree #	# of Stems (clumps)	Tree Type	Tree Diameter at Breast Height (inches)	Point Score	Grid Total Point Score	**Grid Score After Tree Removal	NOTES
1	1	1	American Elm	4	5	35	20	
	2	1	*Red Maple	7	10			
	3	1	*Red Maple	5	5			
	4	1	*Green Ash	15	15			
2	1	1	Staghorn Sumac	N/A	1	1	0	Removed during Prior Remediation
3	1	2	Staghorn Sumac	N/A	1	2	0	Removed during Prior Remediation
	2	3	Box Elder	N/A	1			
4	1	1	Green Ash	10	10	20	20	
	2	1	Black Birch	10	10			

\*Trees to be removed  
 \*\* See Planting Plan with Planting Schedule for replacement of lost trees and shrubs

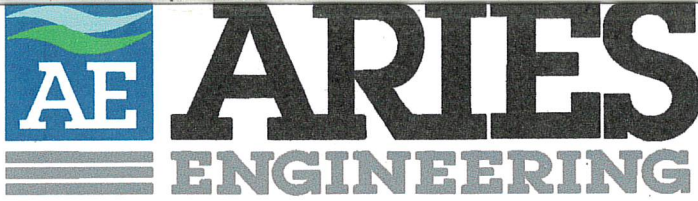


Drafted By: J. Drebaum  
 Reviewed By: R. Kowalski  
 Date: 10/14/2024  
 Approved By: S. Graham

TREE TYPES AND LOCATIONS

MARINA RESTORATION PROJECT  
 SEA LEVEL, LLC.  
 MAP 201, LOT 12  
 PORTSMOUTH, NEW HAMPSHIRE

FIGURE 7

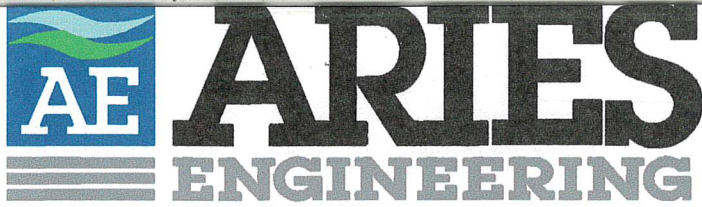


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TITLE SHEET, INDEX OF  
 DRAWINGS and SITE LOCUS MAP  
 MARINA RESTORATION PROJECT  
 SEA LEVEL, LLC.  
 MAP 201, LOT 12  
 PORTSMOUTH, NEW HAMPSHIRE

DRAFTED BY:	J. Drebaum	No.	Date	Revision Description
APPROVED BY:	S. Graham	1	8/27/24	Updates
		2	11/07/24	Add Aerial Map

ISSUED FOR PERMITTING		
	<p>Jay P. Johonnett, P.E.</p>	Project #: 2021-075A File: 2021-075A(SS)02-22
		APRIL 24, 2023
		<b>SHEET 1</b>



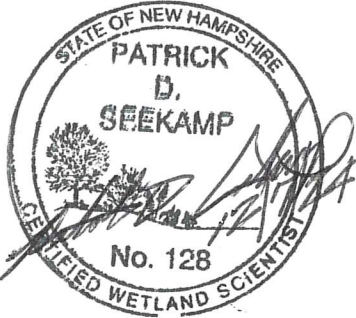
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SITE PLAN AND EXISTING  
 CONDITIONS SITE PLAN

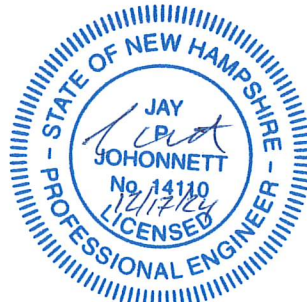
SEA LEVEL, LLC.  
 MAP 201, LOT 12  
 PORTSMOUTH, NEW HAMPSHIRE

DRAFTED BY:	J. Drebaum	No.	Date	Revision Description
APPROVED BY:	S. Graham	1.	1/23/24	Updates to general notes
		2.	8/27/24	Updates

ISSUED FOR PERMITTING



Patrick D. Seekamp, ~~PWS~~, CWS



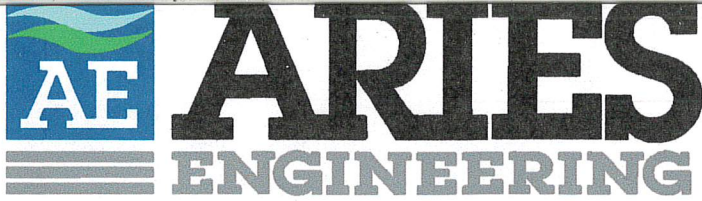
Jay P. Johonnett, P.E.

Project #: 2021-075A  
 File: 2021-075A(SS)02-22

APRIL 24, 2023

SHEET 2





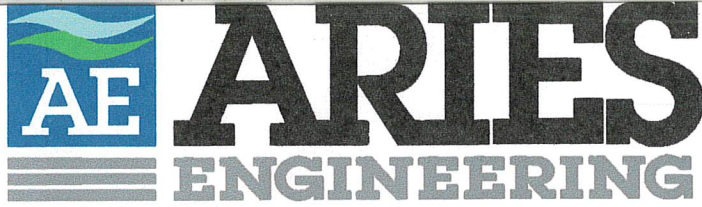
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PCB SAMPLE LOCATION PLAN

SEA LEVEL, LLC.  
 MAP 201, LOT 12  
 PORTSMOUTH, NEW HAMPSHIRE

DRAFTED BY:	J. Drebaum	No.	Date	Revision Description
APPROVED BY:	S. Graham	1.	8/27/24	Updates

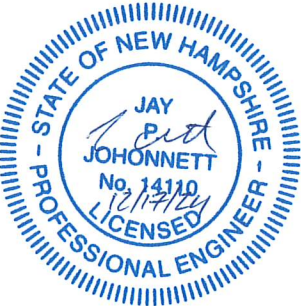
ISSUED FOR PERMITTING		
	<p>Jay P. Johonnett, P.E.</p>	Project #: 2021-075A File: 2021-075A(SS)06-22
		APRIL 24, 2023
		<b>SHEET 3A</b>

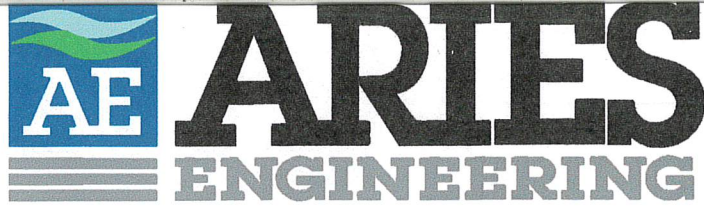


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>50 PPM PCB POST-EXCAVATION  
 SAMPLE LOCATION PLAN

SEA LEVEL, LLC.  
 MAP 201, LOT 12  
 PORTSMOUTH, NEW HAMPSHIRE

DRAFTED BY:	J. Drebaum	No.	Date	Revision Description
APPROVED BY:	S. Graham	1.	8/27/24	Updates
ISSUED FOR PERMITTING				
 Jay P. Johonnett, P.E.				Project #: 2021-075A File: 2021-075A(SS)06-22
				APRIL 24, 2023
				<b>SHEET 3B</b>



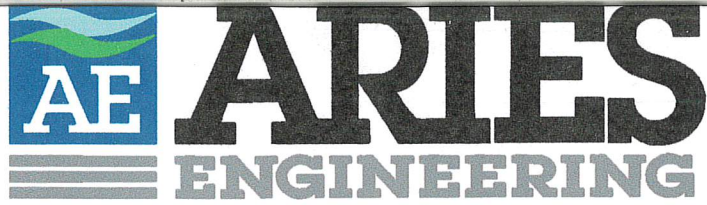
104 PLEASANT STREET (603) 228-008  
 CONCORD, NH,03301 www.aries-eng.com

<50 PPM PCB POST-EXCAVATION  
 SAMPLE LOCATION PLAN

SEA LEVEL, LLC.  
 MAP 201, LOT 12  
 PORTSMOUTH, NEW HAMPSHIRE

DRAFTED BY:	J. Drebaum	No.	Date	Revision Description
APPROVED BY:	S. Graham	1.	8/27/24	Updates

ISSUED FOR PERMITTING		
	<p>Jay P. Johonnett, P.E.</p>	Project #: 2021-075A File: 2021-075A(SS)06-22
		APRIL 24, 2023
		<b>SHEET 3C</b>



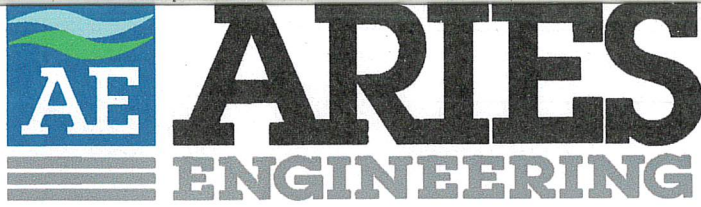
104 PLEASANT STREET (603) 228-008  
 CONCORD, NH 03301 www.aries-eng.com

PROPOSED CONCRETE PAD  
 w/ SAMPLE LOCATIONS

SEA LEVEL, LLC.  
 MAP 201, LOT 12  
 PORTSMOUTH, NEW HAMPSHIRE

DRAFTED BY:	J. Drebaum	No.	Date	Revision Description
APPROVED BY:	S. Graham	1.	8/27/24	Updates

ISSUED FOR PERMITTING		
	<p>Jay P. Johonnett, P.E.</p>	Project #: 2021-075A File: 2021-075A(SS)06-22
		APRIL 24, 2023
		<b>SHEET 3D</b>



104 PLEASANT STREET  
 CONCORD, NH 03301

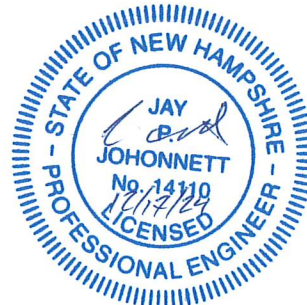
(603) 228-008  
 www.aries-eng.com

CONCRETE PAD  
 CROSS SECTION

SEA LEVEL, LLC.  
 MAP 201, LOT 12  
 PORTSMOUTH, NEW HAMPSHIRE

DRAFTED BY:	J. Drebaum	No.	Date	Revision Description
APPROVED BY:	S. Graham	1	4/17/2024	Figure number update
		2	8/24/2024	Updates

ISSUED FOR PERMITTING

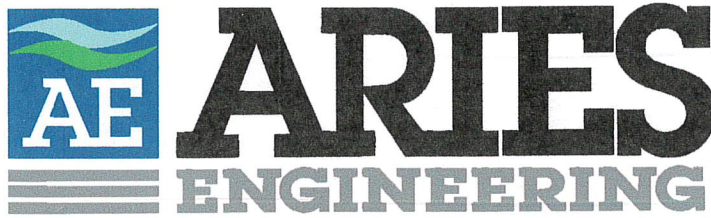


Jay P. Johonnett, P.E.

Project #: 2021-075A  
 File: 2021-075A(SS)02-22

APRIL 24, 2023

SHEET 4



104 PLEASANT STREET  
 CONCORD, NH 03301

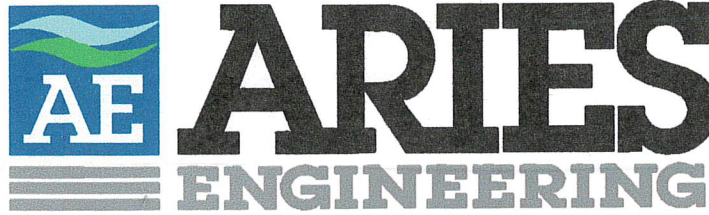
(603) 228-008  
 www.aries-eng.com

**FINAL GRADING PLAN/SHORELINE  
 STABILIZATION PLAN  
 (WITH TIDAL SHORELINE STABILITY)  
 SEA LEVEL, LLC.  
 MAP 201, LOT 12  
 PORTSMOUTH, NEW HAMPSHIRE**

DRAFTED BY:	No.	Date	Revision Description
J. Drebaum	01	04/23/23	Revision
REVIEWED BY:	02	09/04/24	Revision
S. Graham			

	<p>Jay P. Johonnett, P.E.</p>	Project #: 2021-075A File:2021-075A(SS2)06-22
		APRIL 24, 2023
		<b>SHEET 5</b>



104 PLEASANT STREET  
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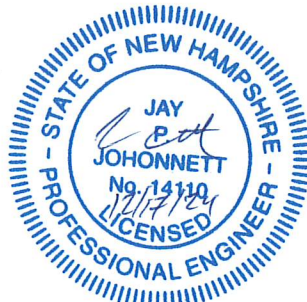
## PLANTING PLAN with PLANTING SCHEDULE

SEA LEVEL, LLC.  
 MAP 201, LOT 12  
 PORTSMOUTH, NEW HAMPSHIRE

DRAFTED BY:	No.	Date	Revision Description
J. Drebaum	01	01/23/24	Revision to Notes
REVIEWED BY:	02	04/17/24	Revision to notes, area measurements, cross section, planting schedule
S. Graham	03	08/27/24	Updates



Patrick D. Seekamp, PWS, CWS



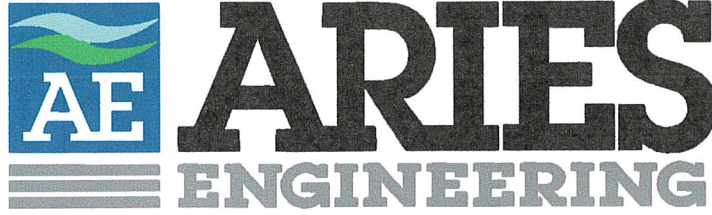
Jay P. Jonhnett, P.E.

Project #: 2021-075A  
 File: 2021-075A(SS2)06-22

APRIL 24, 2023

SHEET 6

( IN FEET )  
1 inch = 10 ft.



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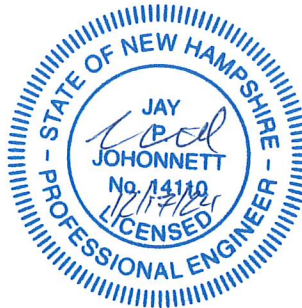
## TREE TYPES AND LOCATIONS

SEA LEVEL, LLC.  
MAP 201, LOT 12  
PORTSMOUTH, NEW HAMPSHIRE

DRAFTED BY:	No.	Date	Revision Description
J. Drebaum	01	01/23/24	Revision to Trees, Table, Silt Curtain, Notes RIPRAP
REVIEWED BY:	02	04/17/24	Revision to notes, riprap, title block
S. Graham	03	08/27/24	Updates



Patrick D. Seekamp, PWS, CWS



Jay P. Johonnett, P.E.

Project #: 2021-075A  
File: 2021-075A(SS2)06-22

APRIL 24, 2023

# SHEET 7





# 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.: Sea Level, LLC and Goulemas Family Trust		
PROJECT STREET ADDRESS: 185 - 187 Wentworth House Road	PROJECT TOWN: Portsmouth	
TAX MAP/LOT NUMBER: 201/12		
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.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>If you answered “no” to this question, describe the purpose of the “non-access” project type you have proposed:</p> <p>Final remediation of PCBs initially addressed under U.S. EPA approval issued on 9-9-2016 per 40 CFR 761.61(a) in a working waterfront (see 4-24-2023 memo to NHDES, Attachment D, for history and regulatory requirements). This new cleanup effort limits impacts within Zone AE/other jurisdictional zones as follows: 1) Zone AE at 5 to 6 FT MSL: removal of 175 SF to 1 ft deep of PCB impacted sediment in existing salt marsh area within isolated and blind section of Witch Cove contiguous to tidal Sagamore Creek plus removal of a 6 inch layer of fill over an area of 235 SF inadvertently placed during prior remediation, totaling 11 CY of wetland sediment excavation, both to be restored with saltmarsh plantings. 2) Outside Zone AE, 470 SF of near vertical tidal cove shoreline above HOTL/below 11 ft MSL to be stabilized by armoring using boulders saved during prior remediation, plus 4-5 inch stone riprap; removal of 0.5 CY of soil to 1' deep with &gt;50ppm PCBs in upland wooded area to be transported off site to licensed disposal facility; removal of 0.5 CY soil to 1' deep with &gt;25&lt;50 ppm PCBs to be placed under concrete cap, both excavations to be filled with clean soil and vegetated; within previously developed uplands, new 5,000 SF concrete pad encapsulating &gt;25&lt;50 ppm PCBs soils with additional lead presence; and restoration of degraded gravel areas as needed to be reestablished to resume site operations. Erosion controls will be emplaced, impacts to be temporary over 1 month period.</p>		

[irm@des.nh.gov](mailto:irm@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

[www.des.nh.gov](http://www.des.nh.gov)

<b>SECTION 3 - A/M PROJECT DESIGN TECHNIQUES</b>		
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.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> 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.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> 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.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> 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.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> 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.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> 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.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> 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.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> 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.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 311.10 A/M BMPs	The project clusters structures to avoid wetland impacts.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 311.10 A/M BMPs	The placement of roads and utility corridors avoids wetlands and their associated streams.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> 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.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
A/M BMPs	The project proposes bridges or spans instead of roads/driveways/trails with culverts.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A

[irm@des.nh.gov](mailto:irm@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

[www.des.nh.gov](http://www.des.nh.gov)

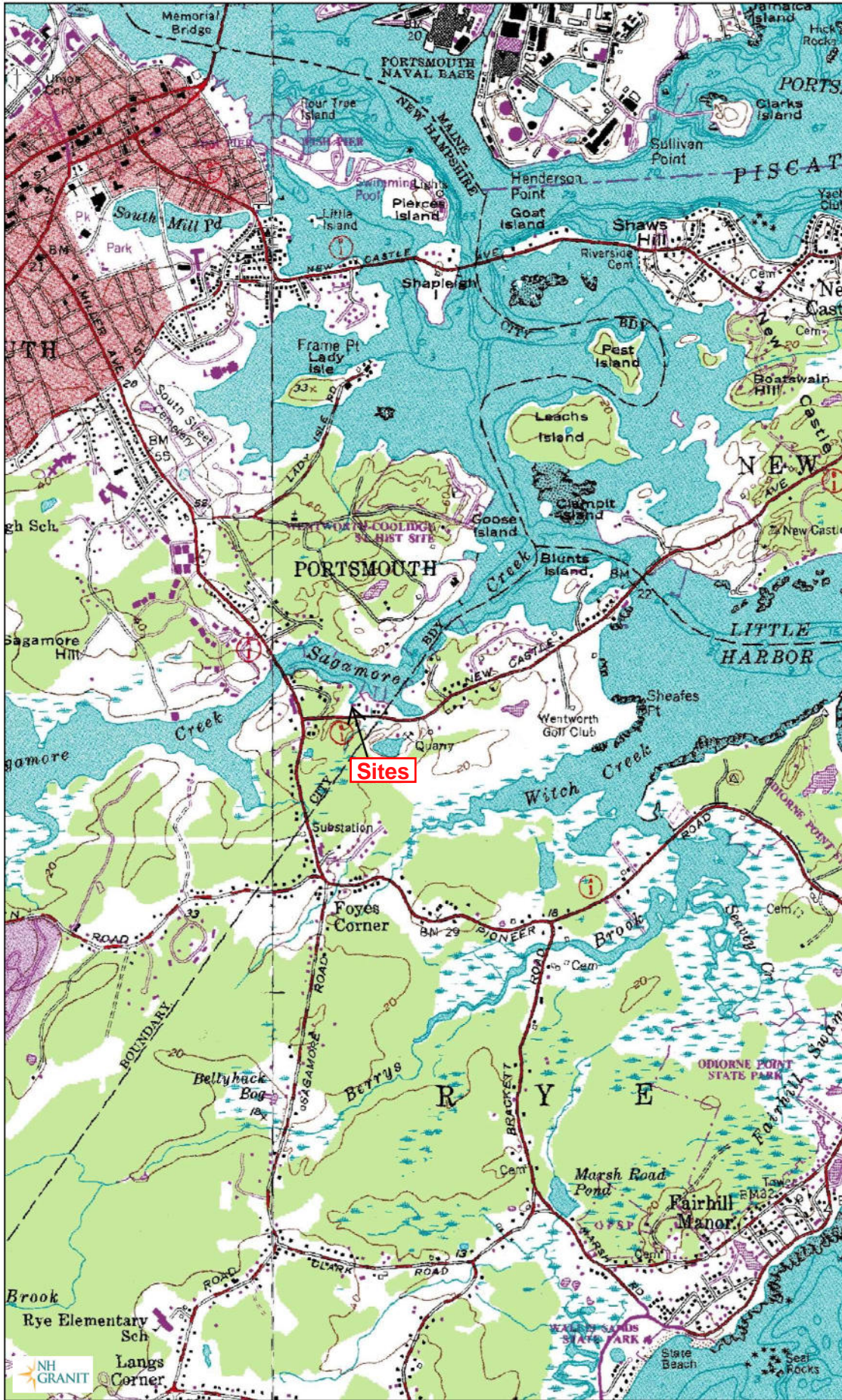
A/M BMPs	The project is designed to minimize the number and size of crossings, and crossings cross wetlands and/or streams at the narrowest point.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 500 Env-Wt 600 Env-Wt 900	Wetland and stream crossings include features that accommodate aquatic organism and wildlife passage.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
Env-Wt 900	Stream crossings are sized to address hydraulic capacity and geomorphic compatibility.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> 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.	<input type="checkbox"/> Check <input checked="" type="checkbox"/> N/A
<b>SECTION 4 - NON-TIDAL SHORELINE STRUCTURES</b>		
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.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> 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.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> 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.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> 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.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> 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.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> 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.	<input checked="" type="checkbox"/> Check <input type="checkbox"/> N/A

**APPENDIX G, COPY OF WPA APPLICATION FEE**

(Per Section 12)

# APPENDIX H

## Sea Level, LLC and Goulemas Family Trust



Map Scale

1: 25,000

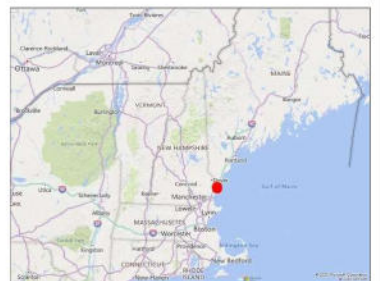
© NH GRANIT, www.granit.unh.edu

Map Generated: 8/4/2023



### Notes

USGS 7.5 Minute Topo Map





## APPENDIX I

### 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. See Attachment
- Request for **Project Review Form by the NH DHR**: <https://www.nh.gov/nhdhr/review/rpr.htm>. Attached
- Photographs of wetland/waterway to be impacted. See Attachment, Photos
- Purpose of the project. See Attachment, Purpose of Project, NHDES WPA, Section 2
- Legible, reproducible plans no larger than 11"x17" with bar scale. Provide locus map and plan views of the entire property. See Sheets 1-7, Attached
- Typical cross-section views of all wetland and waterway fill areas and wetland replication areas. Sheets 5-7
- In navigable waters, show MLW and MHW elevations. Show the HTL elevations when fill is involved. In other waters, show the OHW elevation. See Sheet 2
- On each plan, show the following for the project: See Sheet 2
  - 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). Attached Sheet 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. N/A



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**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.

<b>1. Impaired Waters</b>	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. * <a href="https://nhdes-surface-water-quality-assessment-site-nhdes.hub.arcgis.com/">https://nhdes-surface-water-quality-assessment-site-nhdes.hub.arcgis.com/</a> <a href="https://www.des.nh.gov/water/rivers-and-lakes/water-quality-assessment">https://www.des.nh.gov/water/rivers-and-lakes/water-quality-assessment</a> <a href="https://www4.des.state.nh.us/onestopdatamapper/onestopmapper.aspx">https://www4.des.state.nh.us/onestopdatamapper/onestopmapper.aspx</a>		x
<b>2. Wetlands</b>	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 <a href="https://www4.des.state.nh.us/NHB-DataCheck/">https://www4.des.state.nh.us/NHB-DataCheck/</a> .	x	
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	N/A	
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? 6 in depth fill by prior remediation		235 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? of 6,785 SF		3.5%
<b>3. Wildlife</b>	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: <a href="https://www4.des.state.nh.us/NHB-DataCheck/">https://www4.des.state.nh.us/NHB-DataCheck/</a> . USFWS IPAC website: <a href="https://ipac.ecosphere.fws.gov/">https://ipac.ecosphere.fws.gov/</a> See attached	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: <ul style="list-style-type: none"> <li>• PDF: <a href="https://wildlife.state.nh.us/wildlife/wap-high-rank.html">https://wildlife.state.nh.us/wildlife/wap-high-rank.html</a>.</li> <li>• Data Mapper: <a href="http://www.granit.unh.edu">www.granit.unh.edu</a>.</li> <li>• GIS: <a href="http://www.granit.unh.edu/data/downloadfreedata/category/databycategory.html">www.granit.unh.edu/data/downloadfreedata/category/databycategory.html</a>.</li> </ul>		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
<b>4. Flooding/Floodplain Values</b>	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?	N/A	
<b>5. Historic/Archaeological Resources</b>		
For a minimum, minor or major impact project - a copy of the RPR Form ( <a href="http://www.nh.gov/nhdhr/review">www.nh.gov/nhdhr/review</a> ) 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** See Attached	x	
<b>6. Minimal Impact Determination (for projects that exceed 1 acre of permanent impact)</b>	Yes	No
Projects with greater than 1 acre of permanent impact must include the following: <ul style="list-style-type: none"> <li>• Functional assessment for aquatic resources in the project area.</li> <li>• On and off-site alternative analysis.</li> <li>• Provide additional information and description for how the below criteria are met.</li> </ul>	N/A	
6.1 Will there be complete loss of aquatic resources on site?		
6.2 Have the impacts to the aquatic resources been avoided and minimized to the greatest extent practicable?		
6.3 Will all aquatic resource function be lost?		
6.4 Does the aquatic resource (s) have regional significance (watershed or ecoregion)?		
6.5 Is there an on-site alternative with less impact?		
6.6 Is there an off-site alternative with less impact?		
6.7 Will there be a loss to a resource dependent species?		
6.8 Are indirect impacts greater than 1 acre within and adjacent to the project area?		
6.9 Does the proposed mitigation replace aquatic resource function for direct, indirect, and cumulative impacts?		

\*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.





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

**NHDES Rule Citations**

<b>Appendix B Requirements</b>	<b>NHDES Citation</b>	<b>NHDES Resource, Form &amp; BMP</b>
<b>1. Impaired Waters</b>		
1.1	See Env-Wt 307.03 Protection of Water Quality Required & Env-Wt 306.05 a) 7	<a href="https://nhdes-surface-water-quality-assessment-site-nhdes.hub.arcgis.com/">https://nhdes-surface-water-quality-assessment-site-nhdes.hub.arcgis.com/</a> <a href="https://www.des.nh.gov/water/rivers-and-lakes/water-quality-assessment">https://www.des.nh.gov/water/rivers-and-lakes/water-quality-assessment</a> <a href="https://www4.des.state.nh.us/onestopdatamapper/onestopmapper.aspx">https://www4.des.state.nh.us/onestopdatamapper/onestopmapper.aspx</a>
<b>2. Wetlands</b>		
2.1	N/A	N/A
2.2	Env 307.06; Env- Wt 311.01(a)(b) (c)	NH Online Forms System - Coastal Resource Worksheet. Version 2.0 <a href="#">Wetlands Permitting: Protected Species and Habitat (nh.gov)</a> <a href="#">Wetlands Permitting: Priority Resource Area (nh.gov)</a> <a href="https://www4.des.state.nh.us/NHB-DataCheck/">https://www4.des.state.nh.us/NHB-DataCheck/.</a>
2.3	Env-Wt 313.03(b)(3); Env-Wt 313.03(b)(4)(7); Env-Wt 307.06	See Chapter 7, Stream & Wetland Crossings: <a href="#">Wetlands Best Management Practice Techniques for Avoidance and Minimiz</a> <a href="#">Wetlands-BMP-Manual-2019.pdf (neiwpc.org)</a> (& Env-Wt 900 for Stream Crossings)
2.4	Env-Wt 604.02 (Tidal buffer zone); Env-Wt 704 (prime buffers)	
2.5	N/A	N/A
2.6	N/A	N/A
2.7	Env-Wt 311.04(g)	Standard application Section 11- NH Online Forms System - Standard Dredge and Fill Wetlands Permit Application . Version 3.5
2.8	N/A	N/A
<b>3. Wildlife</b>		
3.1	Env-Wt 103.69 "Protected species or habitat"; Env-Wt 307.06, 311.01	NHB DataCheck Tool: <a href="https://www4.des.state.nh.us/NHB-DataCheck/">https://www4.des.state.nh.us/NHB-DataCheck/.</a> <a href="#">Wetlands Permitting: Protected Species and Habitat (nh.gov)</a> <a href="#">Wetlands Permitting: Priority Resource Area (nh.gov)</a>
3.2	Env-Wt 311.02; 313.03(b)(2), (4), (7)(16); Env-Wt 313.03(b)(6) & See Env-Wt 808.19(g), Env-Wt 808.20	<a href="#">Wetlands Permitting: Protected Species and Habitat (nh.gov)</a> <a href="#">Wetlands Permitting: Priority Resource Area (nh.gov)</a>
3.3	N/A	N/A
3.4	NA	N/A
3.5	(Env-Wt 900) Microsoft Word - <a href="#">Env-Wt 900 as of 10-2020.docx (nh.gov)</a>	New Hampshire Stream Crossing Guidelines (nh.gov) (2009 UNH) _ NH Online Forms System - Wetland Permit Application Stream Crossing Worksheet. Version 1.8 <a href="#">Stream Crossing Design (nh.gov)</a> : <a href="https://www.nh.gov/dot/org/projectdevelopment/environment/units/program-management/documents/RR_V.9_FINAL_3-14-19.pdf">https://www.nh.gov/dot/org/projectdevelopment/environment/units/program-management/documents/RR_V.9_FINAL_3-14-19.pdf</a> Best Management Practices for Routine Roadway Maintenance Activities in New Hampshire. 2019. New Hampshire Department of Transportation.
<b>4. Flooding/Floodplain Values</b>		
4.1	Env-Wt 311.05; Env-Wt 103.66 517.03(b); 517.06(a)(6);	<a href="#">Wetlands Permitting: Priority Resource Area (nh.gov)</a> NH Online Forms System - Coastal Resource Worksheet. Version 2.0 New Hampshire Coastal Flood Risk Summary   NH Department of

	527.02(e); 527.04(d); Env-Wt 600 Env-Wt 900	<a href="#">Environmental Services</a> (cited in Env-Wt 603.05) <a href="#">NH Online Forms System - Wetland Permit Application Stream Crossing Worksheet. Version 1.8</a> <a href="#">hydraulic-vulnerability-handout.pdf (nh.gov)</a>
4.2	Env-Wt 527.02 & 527.04 & 313.04 & Env-Wt 800; Wt 605.03 & 605.04	Yes, for permanent impacts to a PRA, impacts from public highway projects, & those projects where flood storage functions are lost when the mitigation threshold is reached. <a href="#">Wetlands Mitigation   NH Department of Environmental Services</a>
<b>5. Historical/Archeological Resources</b>		
5.0	Env-Wt 311.02(f)(6)	
<b>6. Minimal Impact Determination</b>		
6.0	F/V assessment: (Env-Wt 311.10); Env-Wt 603.04 (Coastal Functional Assessment) Alternatives: (Env-Wt 311.07(b)(2))	<a href="#">NH Online Forms System - Wetlands Functional Assessment Worksheet. Version 1.3</a> <a href="#">NH Online Forms System - Coastal Resource Worksheet. Version 2.0</a>
6.1		<a href="#">Wetlands Permitting: Avoidance, Minimization, and Mitigation (nh.gov)</a>
6.2	Env-Wt 102.12 ("Avoidance"), Env-Wt 102.13 ("Avoidance, minimization, mitigation"), Env-Wt 102.14 ("Avoid and minimize"), Env-Wt 311.01, Env-Wt 313.03 ("Avoidance & Minimization") Env-Wt 311.07	See <a href="#">Wetlands Best Management Practice Techniques for Avoidance and Minimization - Wetlands-BMP-Manual-2019.pdf (neiwppcc.org)</a> referenced in Env-Wt 313.03(a); A/M written narrative ( <a href="#">NH Online Forms System - Avoidance and Minimization Written Narrative. Version 2.0</a> ); Avoidance and Minimization Checklist: <a href="#">NH Online Forms System - Avoidance and Minimization Checklist. Version 3.1</a>
6.3	Env-Wt 311.10, 603.04	See Functional Assessment worksheets above
6.4	Env-Wt 311.02, Env-Wt 312.04. Env-Wt 306.05, 307.06, 311.01	See Protected Species or Habitat (including exemplary natural communities)
6.5	Env-Wt 311.01, Env-Wt 311.07, Env-Wt 311.10 & 313.01 c1)	See Avoidance & Minimization cites above & BMPs
6.6	(Env-Wt 313.01c) (1) & Env-Wt 311.07(b)(2))	
6.7	Env-Wt 311.10, Env-Wt 103.69, Env-307.06, see Avoidance & minimization cites	<a href="#">NH Online Forms System - Wetlands Functional Assessment Worksheet. Version 1.3</a> ; <a href="#">Wetlands Permitting: Priority Resource Area (nh.gov)</a> <a href="#">NH Online Forms System - Coastal Resource Worksheet. Version 2.0</a>
6.8	Env-Wt 102.05 (Water quality BMPs)	Practices to minimize or prevent direct or indirect discharge of sediment or other pollutants into surface waters and wetlands, listed in Env-Wt 307
6.9	Env-Wt 800	

Please mail the completed form and required material to:

New Hampshire Division of Historical Resources  
State Historic Preservation Office  
Attention: Review & Compliance  
172 Pembroke Road, Concord, NH 03301

RECEIVED OCT 28 2024

DHR Use Only
R&C # 7943mi
Log In Date 10 28 / 24
Response Date 11 / 4 / 24
Sent Date 11 / 5 / 24

RECEIVED

## Request for Project Review by the New Hampshire Division of Historical Resources

NOV 11 2024

- This is a new submittal
- This is additional information relating to DHR Review & Compliance (R&C) #: 7943

ARIES ENGINEERING

GENERAL PROJECT INFORMATION	
Project Title	Portsmouth Marina Restoration Project
Project Location	187 Wentworth Road and 5 Sagamore Grove
City/Town	Portsmouth
Tax Map	201
Lot #	5, 12
NH State Plane - Feet Geographic Coordinates:	Easting 1230592      Northing 202980
<i>(See RPR Instructions and R&amp;C FAQs for guidance.)</i>	
Lead Federal Agency and Contact <i>(if applicable)</i>	USEPA, TSCA Cleanup: Katherine Woodward
<i>(Agency providing funds, licenses, or permits)</i>	
Permit Type and Permit or Job Reference #	Self Implementing Plan Approved 1/31/2023
State Agency and Contact <i>(if applicable)</i>	NHDES Wetlands Bureau: Kristen Duclos, Wetlands Specialist
Permit Type and Permit or Job Reference #	WPA; NHDES Site No. 198604143
APPLICANT INFORMATION	
Applicant Name	Tom Reis, President, Sea Level, LLC
Mailing Address	PO Box 4094
City	Portsmouth
State	NH
Zip	03802
Phone Number	603-436-1039
Email	info@substructure.com
CONTACT PERSON TO RECEIVE RESPONSE	
Name/Company	Johonnett, Jay P., PE/ Aries Engineering, LLC
Mailing Address	104 Pleasant Street
City	Concord
State	NH
Zip	03301
Phone Number	(603) 228-0008
Email	jjohonnett@aries-eng.com

*This form is updated periodically. Please download the current form at <https://www.nhdhr.dncr.nh.gov/project-review/project-review-compliance/requests-project-review>. Please refer to the Request for Project Review Instructions for direction on completing this form. Submit **one copy of this project review form for each** project for which review is requested. Please include a self-addressed stamped envelope. Project submissions will not be accepted via facsimile or e-mail. This form is required. Review request form must be complete for review to begin. Incomplete forms will be sent back to the applicant without comment. Please be aware that this form may only initiate consultation. For some projects, additional information will be needed to complete the Section 106 review. All items and supporting documentation submitted with a review request, including photographs and publications, will be retained by the DHR as part of its review records. Items to be kept confidential should be clearly identified. For questions regarding the DHR review process and the DHR's role in it, please visit our website at: <https://www.nhdhr.dncr.nh.gov/project-review/project-review-compliance/requests-project-review> or contact the R&C Specialist at [Elizabeth.A.Schneible@dncr.nh.gov](mailto:Elizabeth.A.Schneible@dncr.nh.gov) or 603-271-2813.*

**PROJECTS CANNOT BE PROCESSED WITHOUT THIS INFORMATION**

Project Boundaries and Description

- Attach the Project Mapping **using EMMIT or relevant portion of a 7.5' USGS Map.** (See RPR Instructions and R&C FAQs for guidance.)
- Attach a detailed narrative description of the proposed project.
- Attach a site plan. The site plan should include the project boundaries and areas of proposed excavation.
- Attach photos of the project area (overview of project location and area adjacent to project location, and specific areas of proposed impacts and disturbances.) (Informative photo captions are requested.)
- A DHR records search must be conducted to identify properties within or adjacent to the project area. Provide records search results via EMMIT or in **Table 1.** (Blank table forms are available on the DHR website.) Please note, using EMMIT Guest View for an RPR records search does not provide the necessary information needed for DHR review.  
EMMIT or in-house records search conducted on 10/04/2024 .

Architecture

Are there any buildings, structures (bridges, walls, culverts, etc.) objects, districts or landscapes within the project area?  Yes  No  
If no, skip to Archaeology section. If yes, submit all of the following information:

Approximate age(s):

- Photographs of **each** resource or streetscape located within the project area, with captions, along with a mapped photo key. (Digital photographs are accepted. All photographs must be clear, crisp and focused.)
- If the project involves rehabilitation, demolition, additions, or alterations to existing buildings or structures, provide additional photographs showing detailed project work locations. (i.e. Detail photo of windows if window replacement is proposed.)

Archaeology

Does the proposed undertaking involve ground-disturbing activity?  Yes  No  
If yes, submit all of the following information:

- Description of current and previous land use and disturbances.
- Available information concerning known or suspected archaeological resources within the project area (such as cellar holes, wells, foundations, dams, etc.)

**Please note that for many projects an architectural and/or archaeological survey or other additional information may be needed to complete the Section 106 process.**

**DHR Comment/Finding Recommendation** *This Space for Division of Historical Resources Use Only*

**Insufficient information to initiate review.**  Additional information is needed in order to complete review.

No Potential to cause Effects  No Historic Properties Affected  No Adverse Effect  Adverse Effect

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*If plans change or resources are discovered in the course of this project, you must contact the Division of Historical Resources as required by federal law and regulation.*

Authorized Signature: Michael Miller, D57420 Date: 11/14/24

## **APPENDIX I**

### **US ARMY CORPS OF ENGINEERS, NH GENERAL PERMIT CHECKLIST, LIST OF ATTACHMENTS**

Attachment AA—NHDES Wetlands Permit Application (WPA), With NHDHR Review & Other Appendices

Attachment BB—Engineering Plans-Drawings-Sheets, 11” by 17”

Attachment CC—USFWS ICAP Review

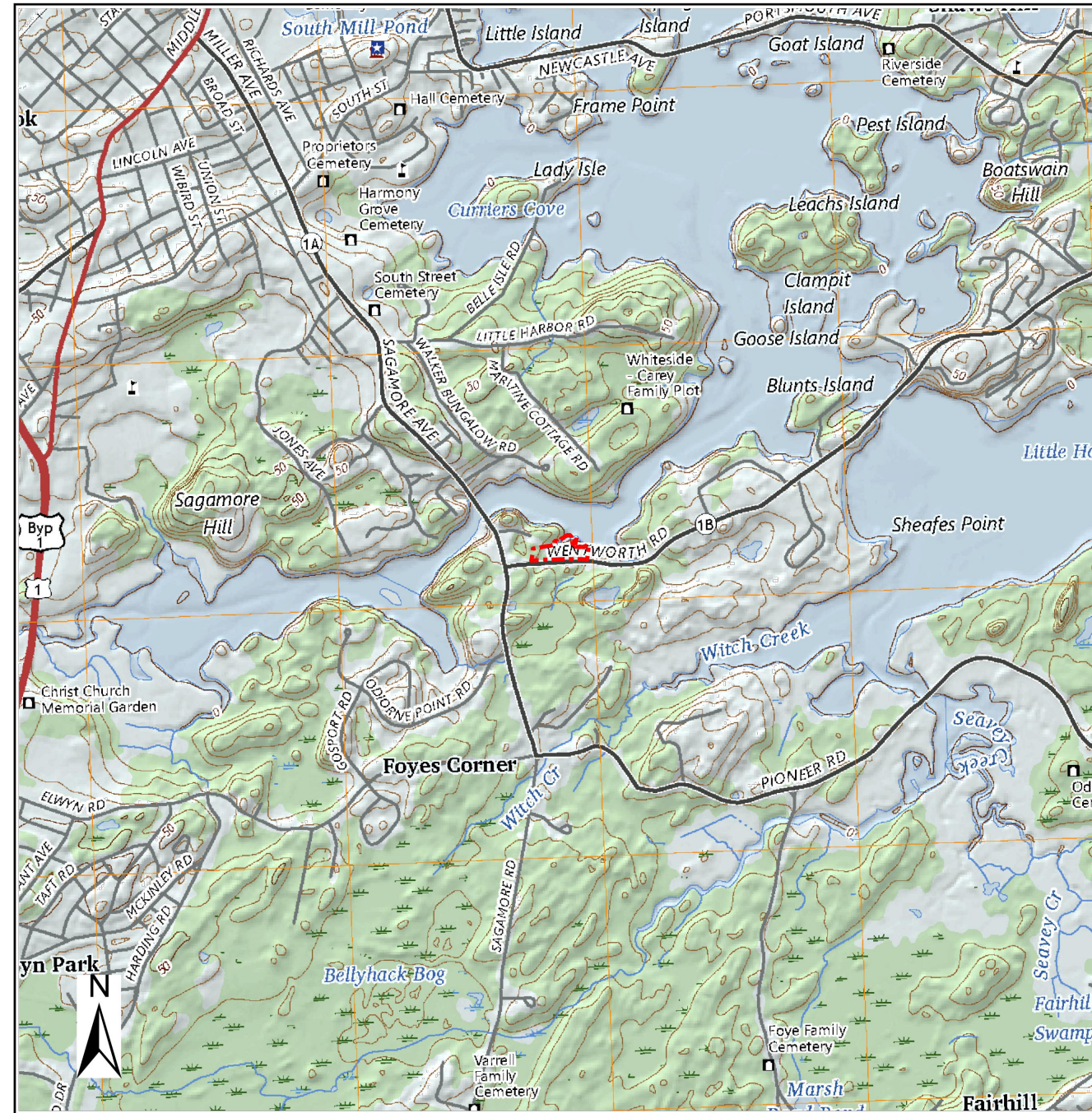
# MARINA RESTORATION PROJECT ENGINEERING PLANS

APPLICANT: TOM REIS, SEA LEVEL, INC.  
PREPARED BY: ARIES ENGINEERING, LLC / HALEY WARD, INC.

## SHEET INDEX

- SHEET 1: SITE LOCUS AND SHEET INDEX
- SHEET 2: SITE PLAN AND EXISTING CONDITIONS SITE PLAN
- SHEET 3A: PCB SAMPLE LOCATION PLAN
- SHEET 3B: >50 PPM PCB POST-EXCAVATION SAMPLE LOCATION PLAN
- SHEET 3C: <50 PPM PCB POST-EXCAVATION SAMPLE LOCATION PLAN
- SHEET 3D: SELF-IMPLEMENTING CLEANUP PLAN (SIP)
- SHEET 4: CONCRETE PAD CROSS SECTION
- SHEET 5: FINAL GRADING PLAN/SHORELINE STABILIZATION PLAN  
(WITH TIDAL SHORELINE STABILITY)
- SHEET 6: PLANTING PLAN WITH PLANTING SCHEDULE
- SHEET 7: TREE TYPES AND LOCATIONS

# SITE LOCUS MAP 2024

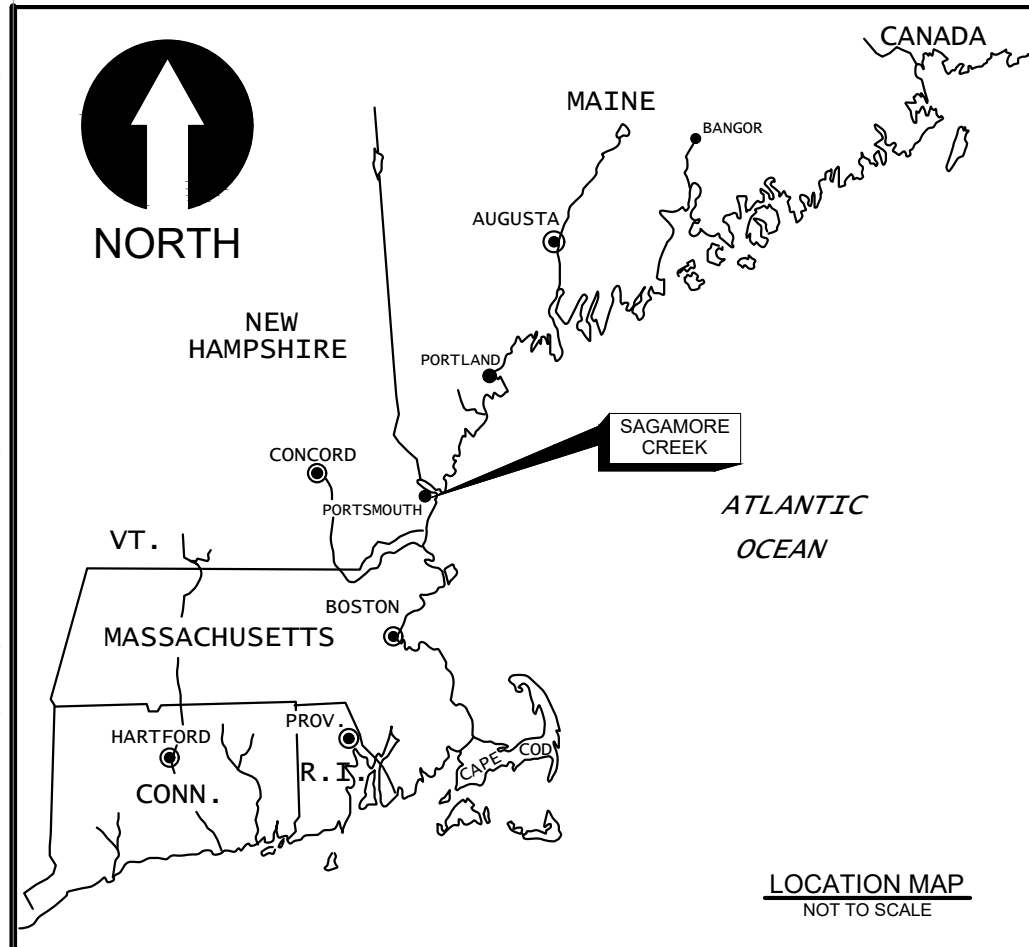


Topographic Map Sources: USGS TopoBuilder.  
Generated 08/21/2024, Downloaded 08/27/2024



## Legend

  Site Boundary

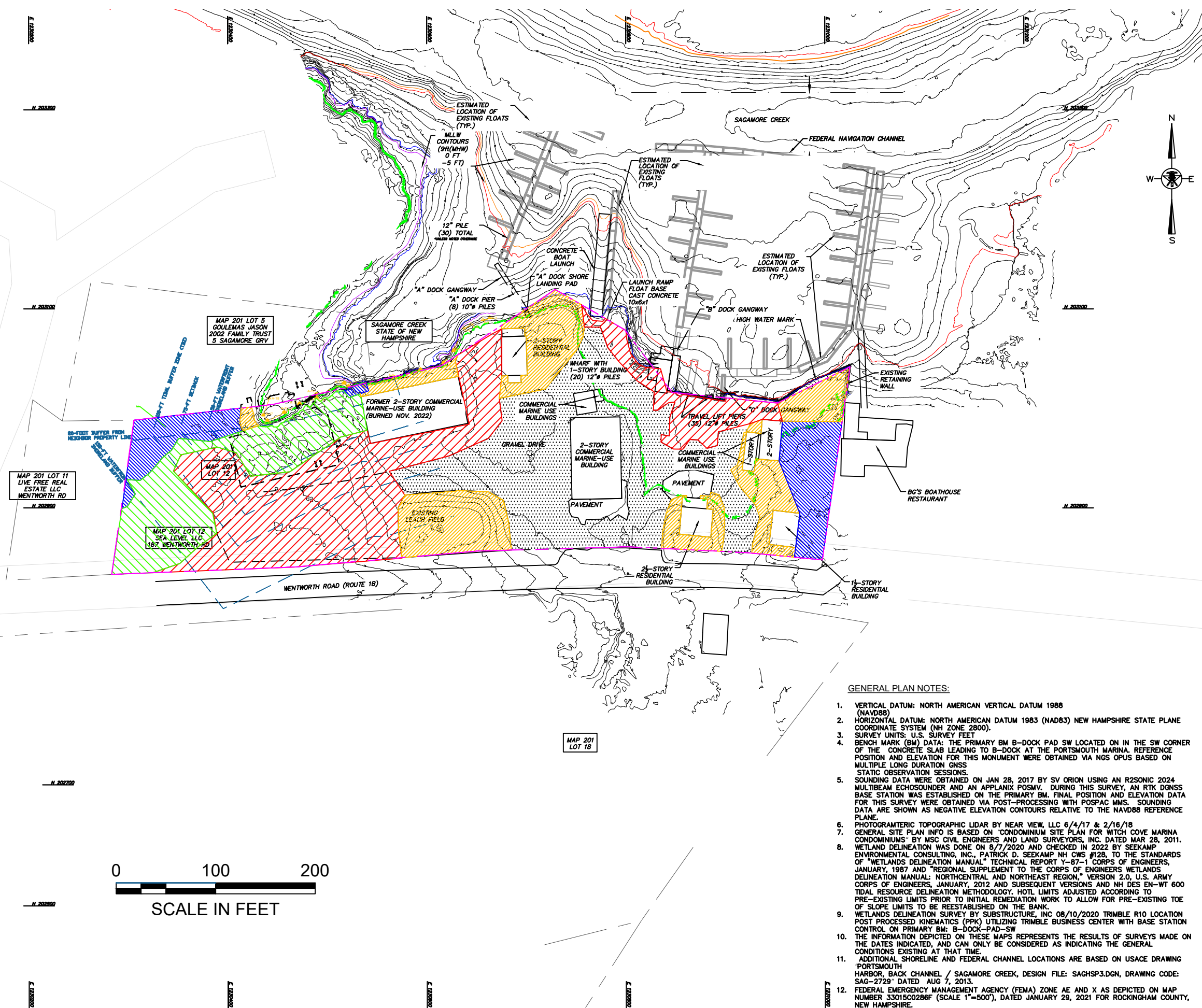


Drafted By: J. Drebaum	Reviewed By: R. Kowalski
Date: 10/14/2024	Approved By: S. Graham

TITLE SHEET, INDEX OF DRAWINGS and  
SITE LOCUS MAP  
MARINA RESTORATION PROJECT  
SEA LEVEL, LLC.  
MAP 201, LOT 12  
PORTSMOUTH, NEW HAMPSHIRE

FIGURE 1

Aries Project # 2021-075A  
File # 2021-075A(1)06.22.mxd



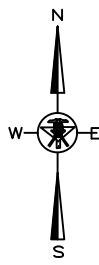
### LEGEND

**EXISTING**

- PROPERTY BOUNDARY
- ADJACENT PROPERTY BOUNDARIES
- EXISTING ELEVATION CONTOUR (FT)
- BUILDING FOUNDATION
- MEAN LOW WATER (MLW) (-4.30ft NAVD88)
- MEAN HIGH WATER (MHW) (3.81ft NAVD88)
- MEAN LOW LOW WATER (MLLW) (-4.62ft NAVD88)
- MEAN HIGH HIGH WATER (MHHW) (4.22ft NAVD88)
- HIGHEST OBSERVED TIDE LINE (HOTL 7.9') ZONE AE 100 YEAR FLOOD ZONE
- WETLAND DELINEATION
- FORMER EXCAVATION AREA
- SHORELINE BUFFERS (LABELED IN SHEET)
- PRIOR GRAVEL DRIVE (44,785 SF)
- INTACT GRAVEL BOAT STORAGE AREA (19,588 SF)
- DEGRADED GRAVEL BOAT STORAGE AREA (12,950 SF)

**PROPOSED**

- PROPOSED WORK LIMITS



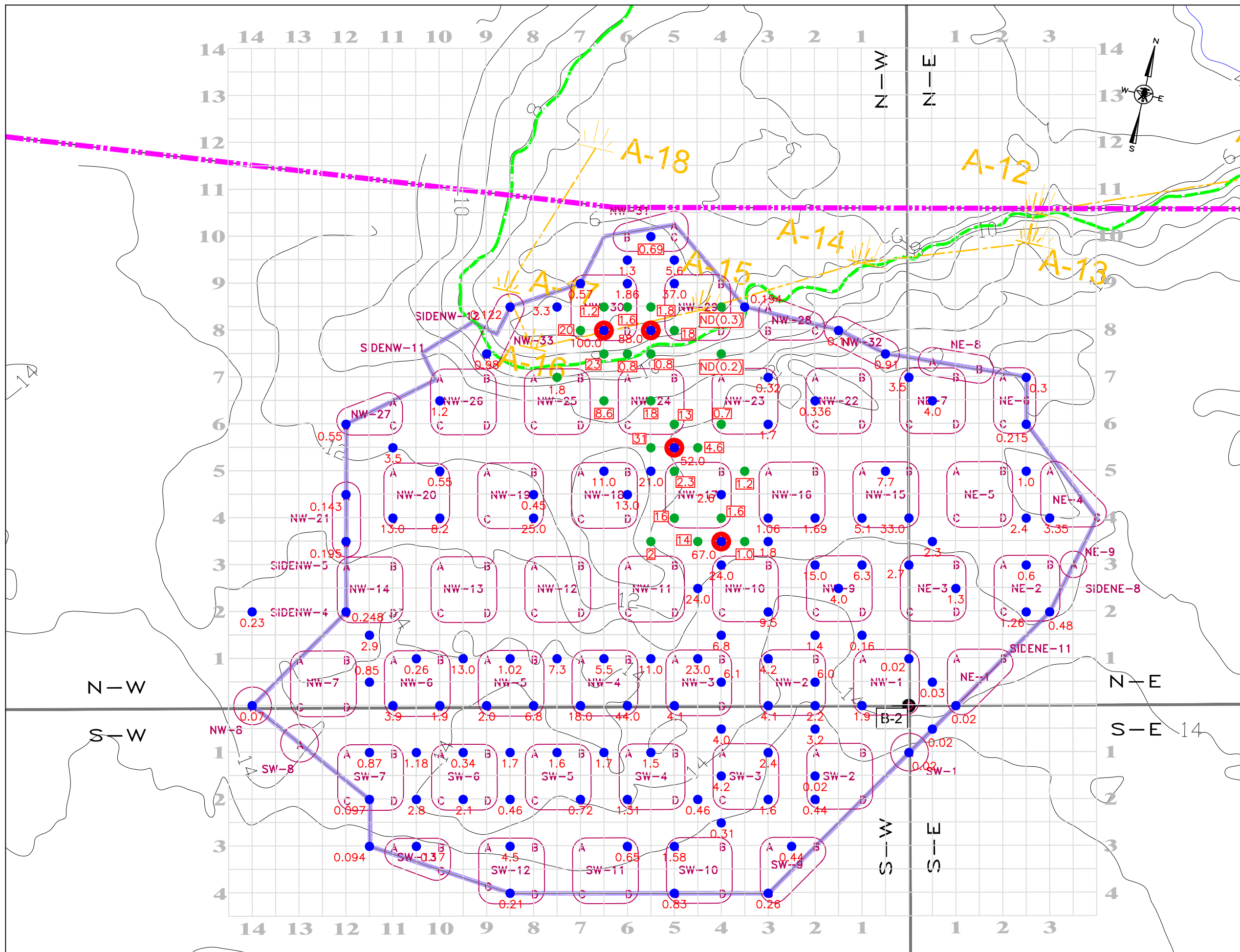
**GENERAL PLAN NOTES:**

- VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88)
- HORIZONTAL DATUM: NORTH AMERICAN DATUM 1983 (NAD83) NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM (NH ZONE 2800).
- SURVEY UNITS: U.S. SURVEY FEET
- BENCH MARK (BM) DATA: THE PRIMARY BM B-DOCK PAD SW LOCATED ON IN THE SW CORNER OF THE CONCRETE SLAB LEADING TO B-DOCK AT THE PORTSMOUTH MARINA. REFERENCE POSITION AND ELEVATION FOR THIS MONUMENT WERE OBTAINED VIA NGS OPUS BASED ON MULTIPLE LONG DURATION GNSS STATIC OBSERVATION SESSIONS.
- SOUNDING DATA WERE OBTAINED ON JAN 28, 2017 BY SV ORION USING AN R2SONIC 2024 MULTIBEAM ECHOSOUNDER AND AN APPLANIX POSMV. DURING THIS SURVEY, AN RTK DGSS BASE STATION WAS ESTABLISHED ON THE PRIMARY BM. FINAL POSITION AND ELEVATION DATA FOR THIS SURVEY WERE OBTAINED VIA POST-PROCESSING WITH POSPAC MMS. SOUNDING DATA ARE SHOWN AS NEGATIVE ELEVATION CONTOURS RELATIVE TO THE NAVD88 REFERENCE PLANE.
- PHOTOGAMTERIC TOPOGRAPHIC LIDAR BY NEAR VIEW, LLC 6/4/17 & 2/16/18
- GENERAL SITE PLAN INFO IS BASED ON "CONDOMINIUM SITE PLAN FOR WITCH COVE MARINA CONDOMINIUMS" BY MSC CIVIL ENGINEERS AND LAND SURVEYORS, INC. DATED MAR 28, 2011.
- WETLAND DELINEATION WAS DONE ON 8/7/2020 AND CHECKED IN 2022 BY SEEKAMP ENVIRONMENTAL CONSULTING, INC., PATRICK D. SEEKAMP NH CWS #128, TO THE STANDARDS OF "WETLANDS DELINEATION MANUAL" TECHNICAL REPORT Y-87-1 CORPS OF ENGINEERS, JANUARY, 1987 AND "REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL: NORTH-CENTRAL AND NORTHEAST REGION," VERSION 2.0, U.S. ARMY CORPS OF ENGINEERS, JANUARY, 2012 AND SUBSEQUENT VERSIONS AND NH DES EN-WT 600 TIDAL RESOURCE DELINEATION METHODOLOGY. HOTL LIMITS ADJUSTED ACCORDING TO PRE-EXISTING LIMITS PRIOR TO INITIAL REMEDIATION WORK TO ALLOW FOR PRE-EXISTING TOE OF SLOPE LIMITS TO BE REESTABLISHED ON THE BANK.
- WETLANDS DELINEATION SURVEY BY SUBSTRUCTURE, INC 08/10/2020 TRIMBLE R10 LOCATION POST PROCESSED KINEMATICS (PPK) UTILIZING TRIMBLE BUSINESS CENTER WITH BASE STATION CONTROL ON PRIMARY BM: B-DOCK-PAD-SW
- THE INFORMATION DEPICTED ON THESE MAPS REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED, AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
- ADDITIONAL SHORELINE AND FEDERAL CHANNEL LOCATIONS ARE BASED ON USACE DRAWING "PORTSMOUTH HARBOR, BACK CHANNEL / SAGAMORE CREEK, DESIGN FILE: SAGHSP3.DGN, DRAWING CODE: SAG-2729" DATED AUG 7, 2013.
- FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) ZONE AE AND X AS DEPICTED ON MAP NUMBER 3301SC0286F (SCALE 1"=500'), DATED JANUARY 29, 2021 FOR ROCKINGHAM COUNTY, NEW HAMPSHIRE.



Drafted By: J. Drebaum	Reviewed By: R. Kowalski
Date: 10/14/2024	Approved By: S. Graham

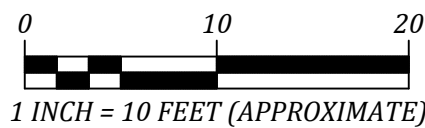
SITE PLAN AND EXISTING CONDITIONS  
SITE PLAN  
MARINA RESTORATION PROJECT  
SEA LEVEL, LLC.  
MAP 201, LOT 12  
PORTSMOUTH, NEW HAMPSHIRE  
FIGURE 2



### LEGEND

**EXISTING**

- PROPERTY BOUNDARY
- ADJACENT PROPERTY BOUNDARY
- EXISTING ELEVATION CONTOUR (FT)
- MEAN HIGH HIGH WATER (3.81 FT NAVD88)
- HIGHEST OBSERVABLE TIDE (FEMA ZONE AE)
- WETLAND DELINEATION
- EXCAVATION LIMITS TO 1 FOOT BGS  
PCBS > 1ppm AND < 50ppm
- SOIL BORING LOCATION AND DESIGNATION
- SOIL SAMPLE LOCATION (DUNFIELD ENG)
- SOIL SAMPLE LOCATION (GEOINSIGHT - 7/25/2016)
- PCB CONCENTRATION (ppm)
- PCB CONCENTRATION >50ppm
- SAMPLE NOMENCLATURE QUADRANT
- TREE



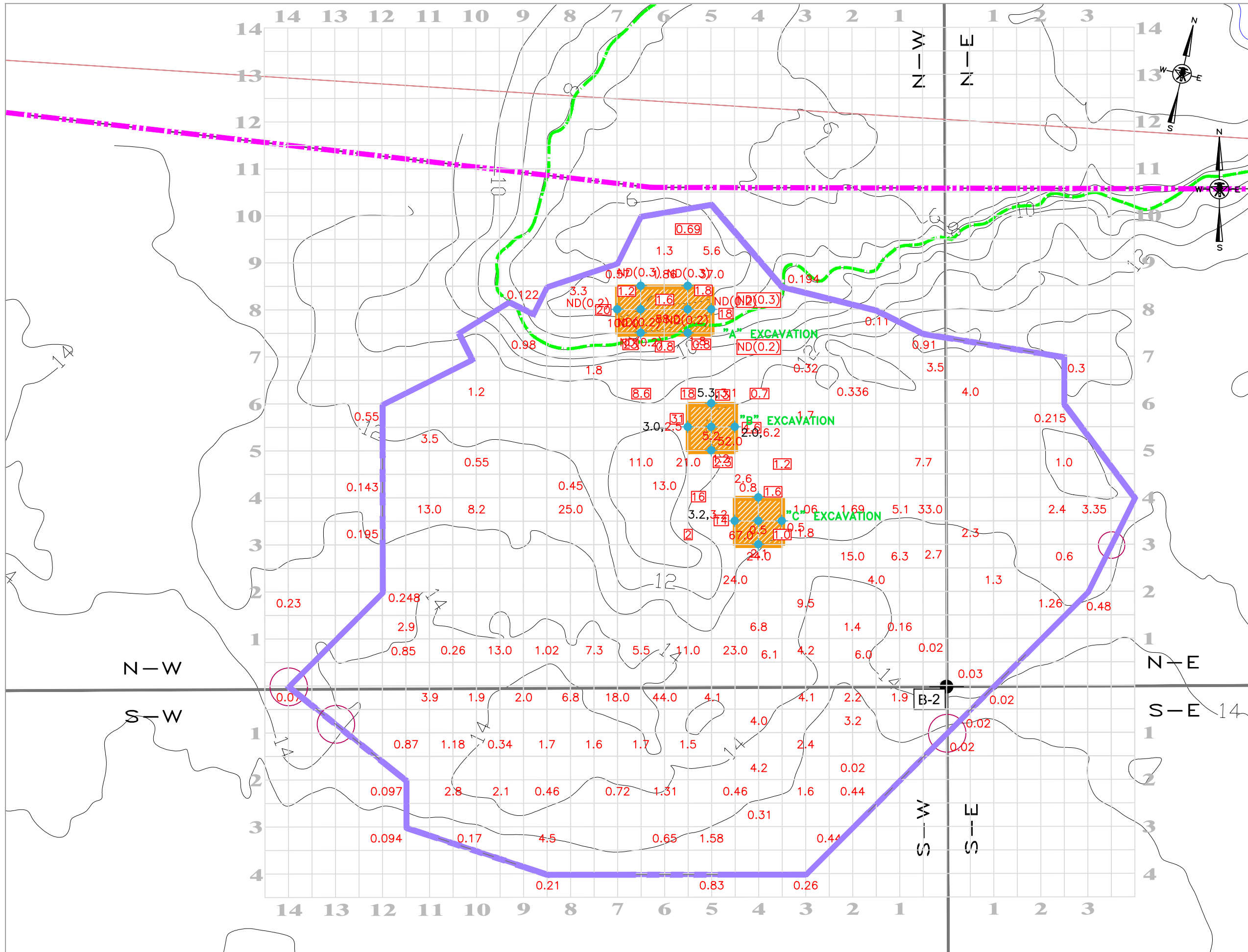
Drafted By: J. Drebaum	Reviewed By: R. Kowalski
Date: 10/14/2024	Approved By: S. Graham

PCB SAMPLE LOCATION PLAN

MARINA RESTORATION PROJECT  
SEA LEVEL, LLC.  
MAP 201, LOT 12  
PORTSMOUTH, NEW HAMPSHIRE

FIGURE 3A



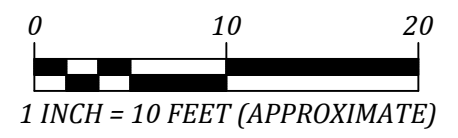


### LEGEND

**EXISTING**

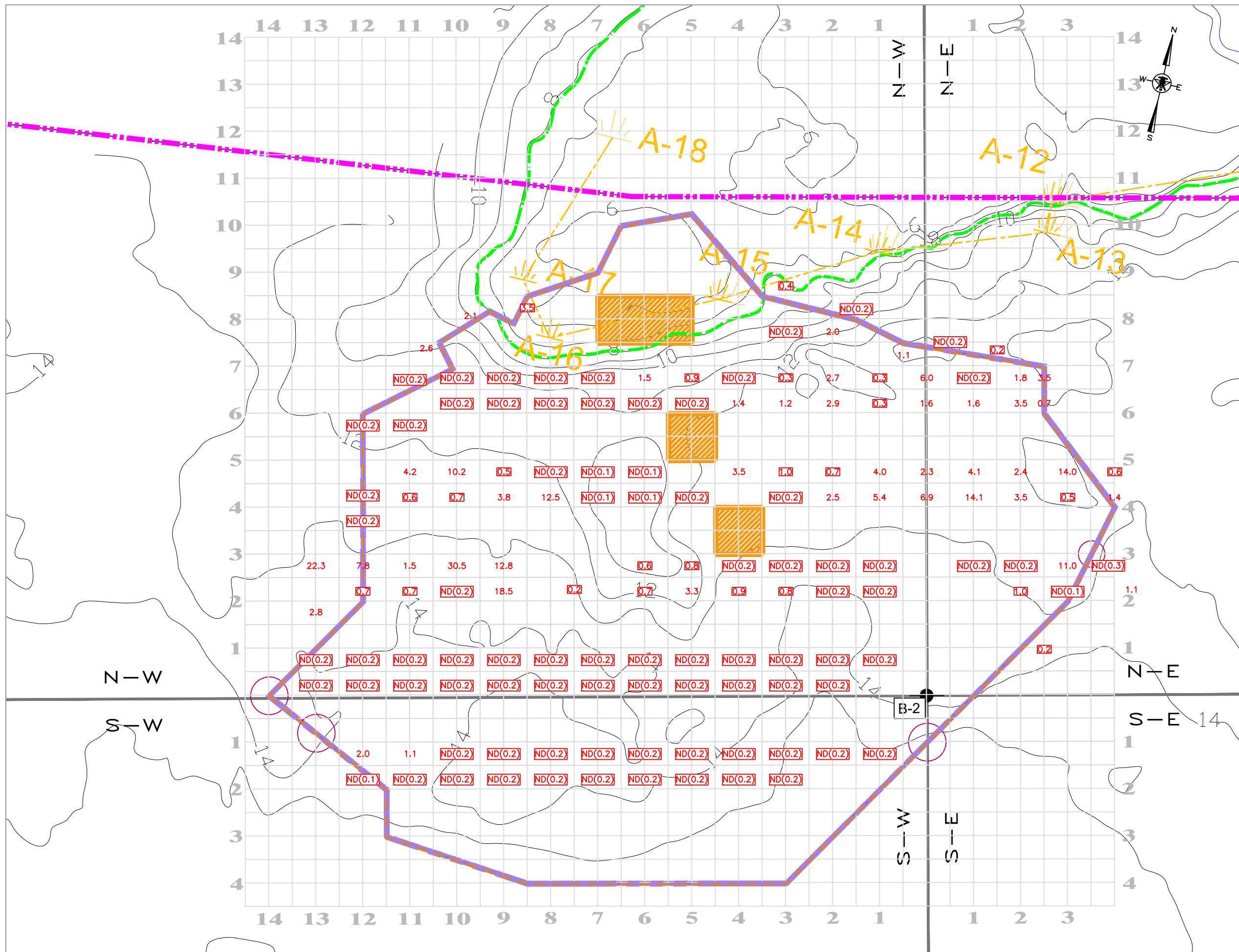
- PROPERTY BOUNDARY
- ADJACENT PROPERTY BOUNDARY
- EXISTING ELEVATION CONTOUR (FT)
- MEAN HIGH HIGH WATER (3.81 FT NAVD88)
- HIGHEST OBSERVABLE TIDE (FEMA ZONE AE)
- WETLAND DELINEATION
- EXCAVATION LIMITS TO 1 FOOT BGS
- PCBS > 1ppm AND > 5clppm
- EXCAVATION AREA

- B-1 SOIL BORING LOCATION AND DESIGNATION
- SAMPLE LOCATION
- 0.9 PCB CONCENTRATION (PPM) BOTTOM SAMPLE
- 0.9 PCB CONCENTRATION (PPM) SIDEWALL SAMPLE
- ND(0.2) NOT DETECTED ABOVE LIMIT NOTED
- 3.2, 3.2 PRIMARY AND DUPLICATE SAMPLE RESULTS
- S-W SAMPLE NOMENCLATURE QUADRANT
- TREE



Drafted By: J. Drebaum	Reviewed By: R. Kowalski
Date: 10/14/2024	Approved By: S. Graham

>50 PPM PCB POST-EXCAVATION SAMPLE LOCATION PLAN  
MARINA RESTORATION PROJECT  
SEA LEVEL, LLC.  
MAP 201, LOT 12  
PORTSMOUTH, NEW HAMPSHIRE  
FIGURE 3B



### LEGEND

**EXISTING**

- - - PROPERTY BOUNDARY
- - - ADJACENT PROPERTY BOUNDARY
- EXISTING ELEVATION CONTOUR (FT)
- MEAN HIGH HIGH WATER (3.81 FT NAVD88)
- HIGHEST OBSERVABLE TIDE (FEMA ZONE AE)
- - - WETLAND DELINEATION
- EXCAVATION LIMITS TO 1 FOOT BGS  
PCBS > 1ppm AND < 50ppm
- - - EXCAVATION LIMITS TO 2 FEET BGS  
PCBS ≥ 50ppm

**SOIL BORING LOCATION AND DESIGNATION**  
● B-1  
● B-2

**SAMPLE NOMENCLATURE QUADRANT**  
0.9  
ND(0.2)

**PCB CONCENTRATION (ppm)**  
0.9  
ND(0.2)

**NOT DETECTED ABOVE LIMIT NOTED**  
ND(0.2)

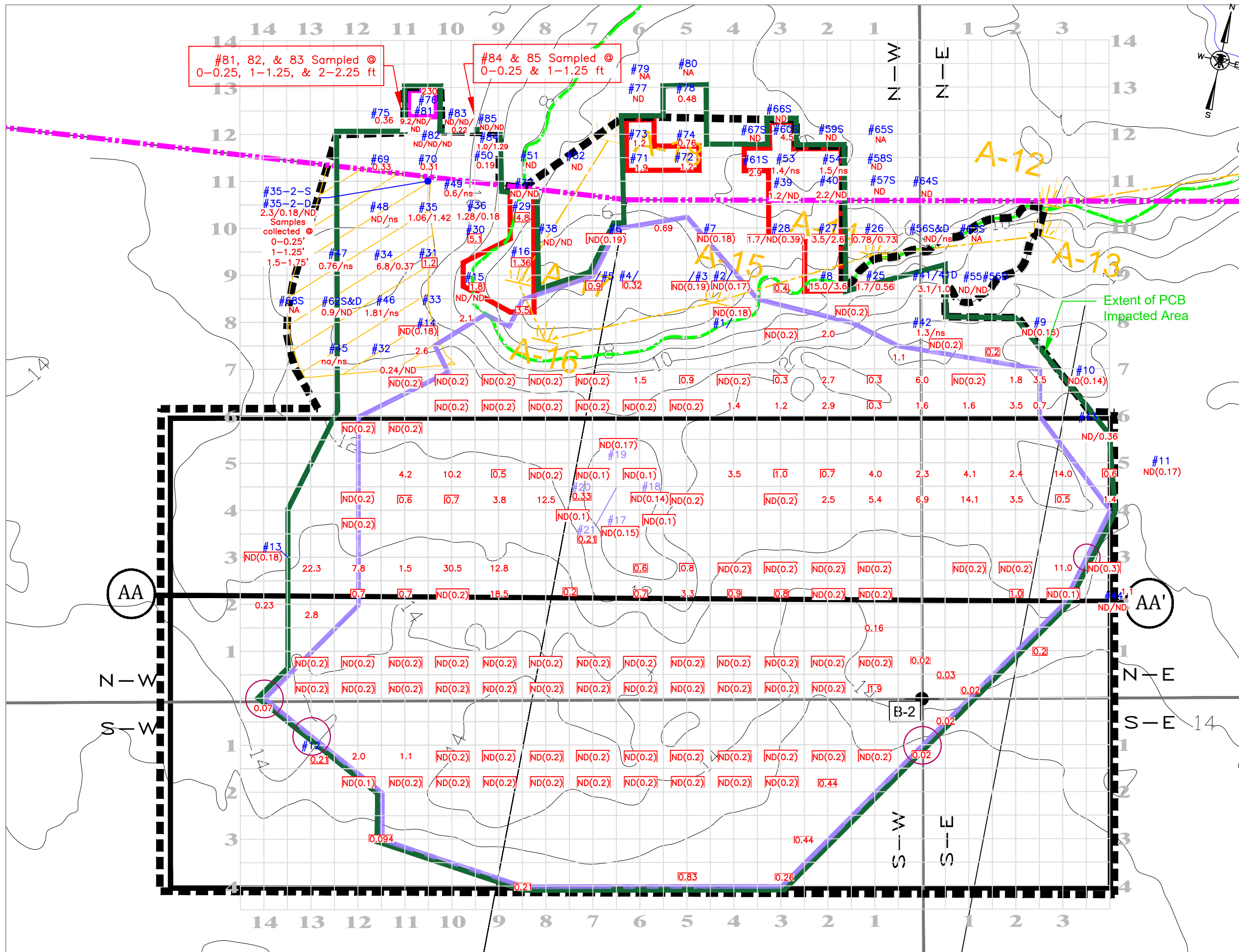
**TREE**  
+

0 10 20  
1 INCH = 10 FEET (APPROXIMATE)

**ARIES ENGINEERING**

Drafted By: J. Drebaum	Reviewed By: R. Kowalski
Date: 10/14/2024	Approved By: S. Graham

<50 PPM PCB POST-EXCAVATION SAMPLE LOCATION PLAN  
 MARINA RESTORATION PROJECT  
 SEA LEVEL, LLC.  
 MAP 201, LOT 12  
 PORTSMOUTH, NEW HAMPSHIRE  
**FIGURE 3C**



#81, 82, & 83 Sampled @  
0-0.25, 1-1.25, & 2-2.25 ft

#84 & 85 Sampled @  
0-0.25 & 1-1.25 ft

### LEGEND

**EXISTING**

- PROPERTY BOUNDARY
- ADJACENT PROPERTY BOUNDARY
- EXISTING ELEVATION CONTOUR (FT)
- MEAN HIGH HIGH WATER (3.81 FT NAVD88)
- HIGHEST OBSERVABLE TIDE (FEMA ZONE AE)
- WETLAND DELINEATION
- EXCAVATION LIMITS TO 1 FOOT BGS  
PCBS > 1ppm AND < 50ppm
- EXCAVATION LIMITS TO 2 FEET BGS PCBS ≥ 50ppm

**PROPOSED**

- PROPOSED WORK LIMITS

**SOIL BORING LOCATION AND DESIGNATION**

**SA-B-1**  
SAMPLE NOMENCLATURE QUADRANT

**0.9**  
PCB CONCENTRATION (ppm)

**ND(0.2)**  
NOT DETECTED ABOVE LIMIT NOTED

**#1**  
SUPPLEMENTAL SOIL SAMPLE LOCATIONS

**15.0/3.6**  
PCB CONCENTRATION (ppm) AT 0-0.25' AND 1-1.25'

**#18**  
SUPPLEMENTAL SOIL SAMPLE LOCATIONS FROM SOIL PILE PLACED BACK INTO EXCAVATION NO SAMPLES #22, 23, & 24 COLLECTED

**na/ns**  
NOT ANALYZED/NOT SAMPLED

**+**  
TREE

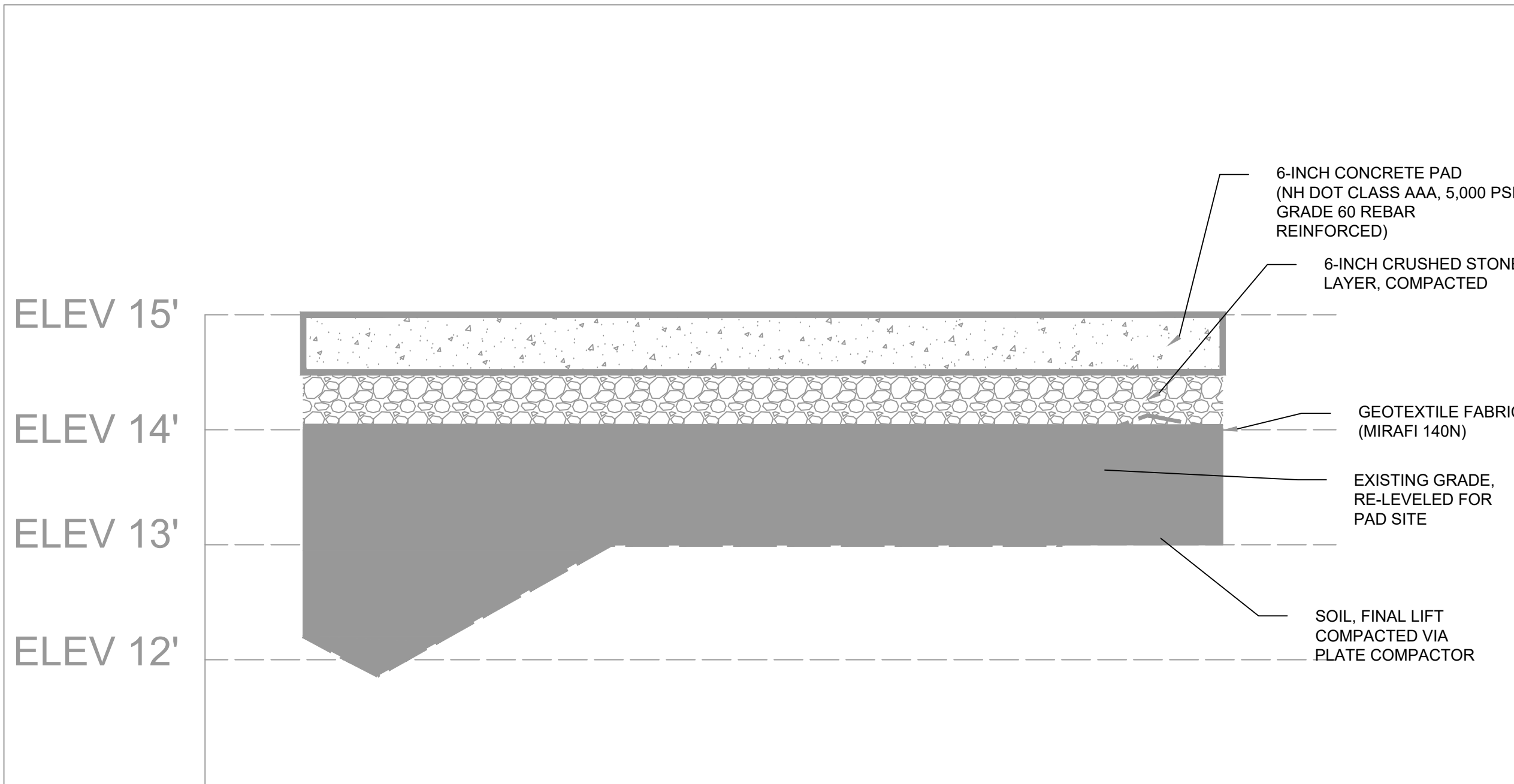
**0 10 20**

1 INCH = 10 FEET (APPROXIMATE)



Drafted By: J. Drebaum	Reviewed By: R. Kowalski
Date: 10/14/2024	Approved By: S. Graham

PROPOSED CONCRETE PAD  
w/ SAMPLE LOCATIONS  
MARINA RESTORATION PROJECT  
SEA LEVEL, LLC.  
MAP 201, LOT 12  
PORTSMOUTH, NEW HAMPSHIRE  
FIGURE 3D



**LEGEND**

*PROPOSED CONCRETE PAD CROSS SECTION (AA --- AA')*  
*(SEE SHEET 5 FOR LOCATION)*

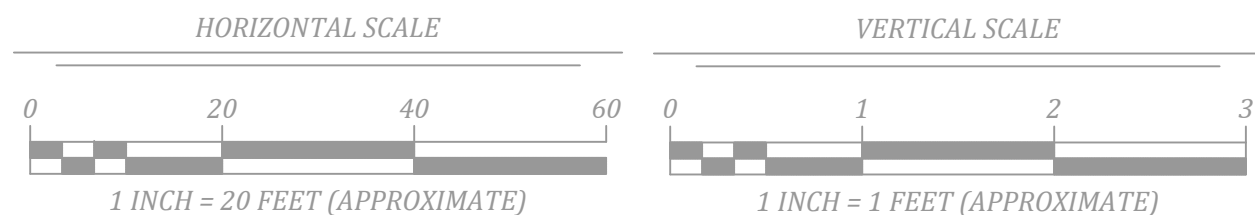


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Date: 10/14/2024	Approved By: S. Graham

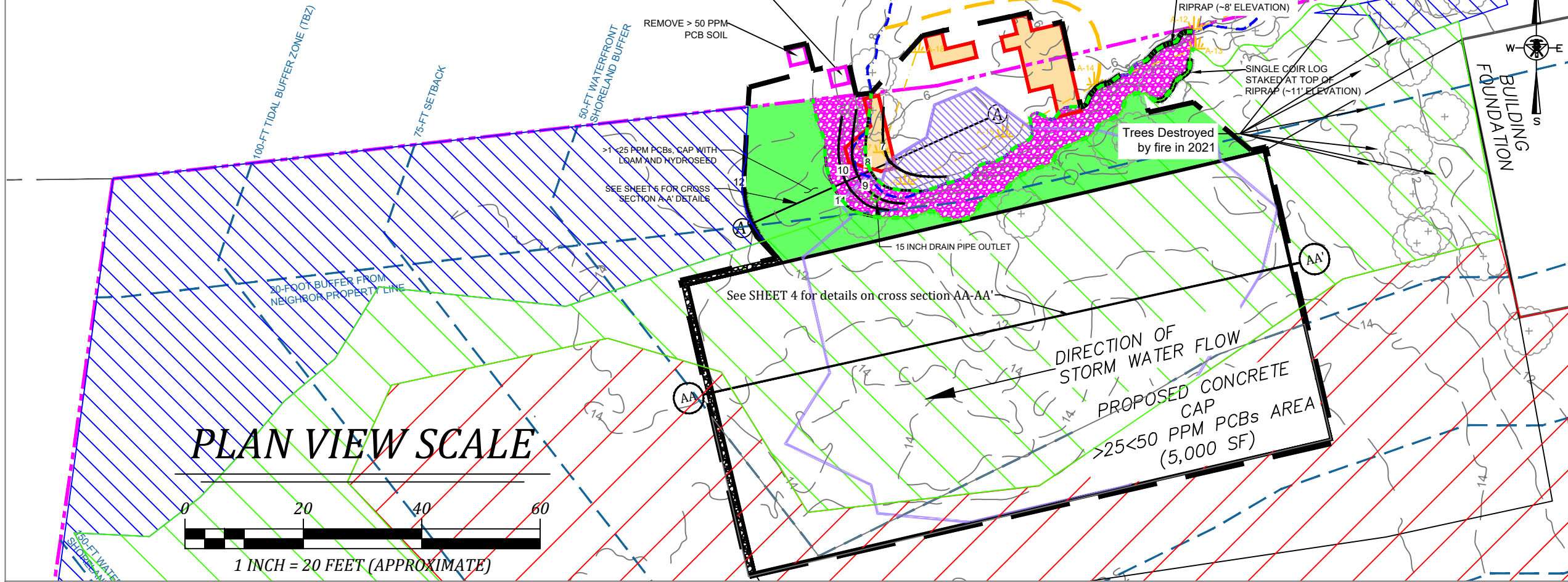
Proposed Concrete Pad Cross Section

MARINA RESTORATION PROJECT  
 SEA LEVEL, LLC.  
 MAP 201, LOT 12  
 PORTSMOUTH, NEW HAMPSHIRE

**FIGURE 4**



Area of Impact	
Description	Area (sq ft)
Below Highest Observable Tide Line (HOTL)	411.32
HOTL to 50-foot Shoreland Buffer	5,173.05
From HOTL to 11' Elevation	471.50
From HOTL to 75-foot setback	6,308.16
Between 50-foot Shoreland Buffer to 75-foot Setback	1,135.11
Between 75-foot setback and 100-foot Tidal Buffer Zone (TBZ)	-
Within 50-foot Shoreland Buffer	5,348.25
Between 50-foot and 150-foot Woodland Shoreland Buffer	1,135.11



### LEGEND

**EXISTING**

- PROPERTY BOUNDARY
- ADJACENT PROPERTY BOUNDARY
- EXISTING ELEVATION CONTOUR (FT)
- BUILDING FOUNDATION
- MEAN HIGH HIGH WATER (4.22 FT NAVD88)
- MEAN HIGH WATER (3.81 FT NAVD88)
- HIGHEST OBSERVABLE TIDE (FEMA ZONE AE)
- WETLAND DELINEATION
- FORMER EXCAVATION AREA
- SHORELINE BUFFERS (LABELED IN SHEET)
- INTACT GRAVEL BOAT STORAGE AREA
- DEGRADED GRAVEL BOAT STORAGE AREA
- NATURAL WOODLAND AREA
- EXISTING RIPRAP
- TREE

**PROPOSED**

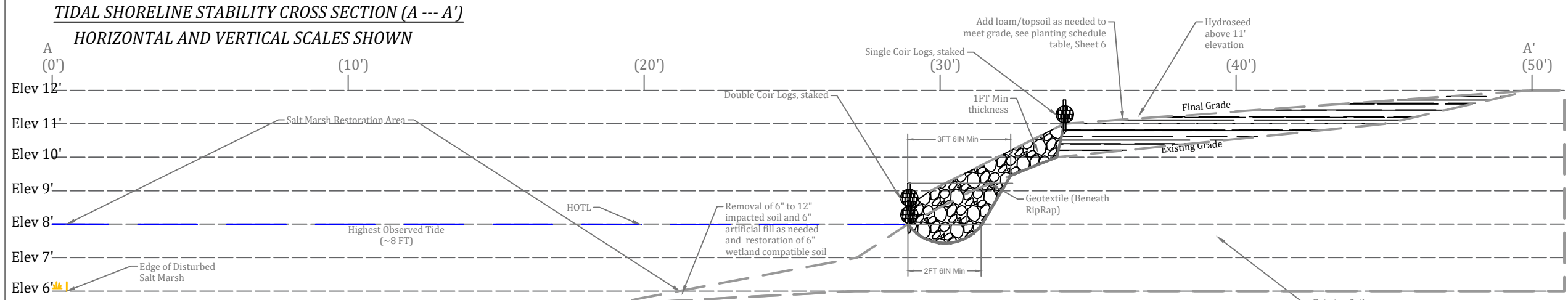
- PROPOSED WORK LIMITS
- WETLAND REMEDIATION AREA >1<25 PPM PCBs, CONSOLIDATE UNDER CONCRETE CAP
- WETLAND RESTORATION AREA (175 SF)
- REMEDATION AREA, SOIL REMOVAL >50 PPM PCBs
- SALT MARSH TO BE RESTORED IN 2016-2017 EXCAVATION (235 SF)
- FINAL ELEVATION CONTOUR (FT)
- CROSS SECTION
- UPLAND AREA REGRADE, ADD LOAM AND HYDROSEED RESTORATION (770 SF), PCBs >1<25 PPM
- MIXED STONE/RIPRAP TO BE RESTORED (470 SF)
- PROPOSED TURBIDITY SILT CURTAIN
- CONCRETE PAD DRAINAGE
- COIR LOGS STAKED

**GENERAL NOTES CONTINUED:**

9. THE INFORMATION DEPICTED ON THESE MAPS REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATES INDICATED, AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

10. ADDITIONAL SHORELINE AND FEDERAL CHANNEL LOCATIONS ARE BASED ON USACE DRAWING "PORTSMOUTH HARBOR, BACK CHANNEL / SAGAMORE CREEK, DESIGN FILE: SAGHSP3.DGN, DRAWING CODE: SAG-2729" DATED AUG 7, 2013.

11. FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) ZONE AE AND X AS DEPICTED ON MAP NUMBER 33015C0286F (SCALE 1"=500'), DATED JANUARY 29, 2021 FOR ROCKINGHAM COUNTY, NEW HAMPSHIRE.



- PROPOSED CONSTRUCTION SEQUENCE:**
- INSTALL TREE PROTECTION AND EROSION CONTROL MEASURES (COIR LOGS) AT START OF HOTL WITHIN THE LIMIT OF WORK/DISTURBANCE (LOD).
  - CLEAR AND GRUB VEGETATION, EXCEPT TREES, IN THE LIMITS OF WORK, AS NEEDED; WOODY MATERIAL MAY BE CHIPPED / REUSED ON-SITE.
  - ONCE COMPLIANCE WITH TSCA REQUIREMENTS FOR REMOVAL OF CONTAMINANTS IS COMPLETE, BY REMOVING SIX (6) INCHES OF IMPACTED SEDIMENT, RESTORATION OF REMEDIATED SALT MARSH AREA OCCURS BY BACKFILLING WITH CLEAN MIXED SAND IN STAKED BURLAP BAGS TO A FINAL ELEVATION OF 6 FT TO MIMIC ADJACENT SALT MARSH ELEVATION AND THEN PLANTED ON 1-SQ. FT INTERVAL GRID WITH SALT MARSH BULRUSH (SCIRPUS ROBUSTUS); PLUG EXISTING 15-IN STORMWATER DISCHARGE PIPE WITH 5-FT CONCRETE, UPON REGULATORY APPROVAL.
  - PLACE NATURAL FIBER BLANKET FROM ABOVE HOTL TO EXISTING ELEVATION 11-FT. ADD GEOTEXTILE AFTER FIBER.
  - FROM THE HOTL, EMPLACE 4 TO 5-INCH DIAMETER ROUNDED STONE, AND RE-INSTALLED BOULDERS UP TO 4 FT DIAMETER, TO 11 FT ELEVATION TO PROVIDE EROSION CONTROL.
  - FILL ABOVE 11-FT MSL RIPRAP LINE AS NEEDED TO ACHIEVE 11 FT MSL, WITH CLEAN FILL, THEN ADD 6-IN TOPSOIL CAP.
  - INSTALL NEW CONCRETE PAD (5,000 SF) RUNOFF RELATIVELY FLAT SLOPE OF <2% DIRECTED TO EAST TOWARDS 12 INCH WIDE, 12 INCH THICK 2 INCH STONE BORDER AREA SERVING AS LEVEL SPREADER/ATTENUATION MECHANISM.
  - INSTALL VEGETATION ACCORDING TO SHEET 6 (PLANTING PLAN).
  - ONCE AREA IS FULLY STABILIZED, REMOVE EROSION CONTROLS AND TREE PROTECTION.
  - DECONTAMINATE ALL EQUIPMENT AND HAND TOOLING AND VERIFY COMPLIANCE WITH TSCA 40 CFR 761.79(B)(3)(i), UNRESTRICTED USE USING WIPE SAMPLES AND SHOWING PCB LEVELS ARE LESS THAN 10 UG/100 CM2.
  - MINIMAL EROSION POTENTIAL EXISTS ABOVE ELEVATION 11 FT DUE TO RELATIVELY FLAT SLOPE (<4%)
- GENERAL NOTES:**
- VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88)
  - HORIZONTAL DATUM: NORTH AMERICAN DATUM 1983 (NAD83) NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM (NH ZONE 2800).
  - SURVEY UNITS: U.S. SURVEY FEET
  - BENCH MARK (BM) DATA: THE PRIMARY BM B-DOCK PAD SW LOCATED ON IN THE SW CORNER OF THE CONCRETE SLAB LEADING TO B-DOCK AT THE PORTSMOUTH MARINA. REFERENCE POSITION AND ELEVATION FOR THIS MONUMENT WERE OBTAINED VIA NGS OPUS BASED ON MULTIPLE LONG DURATION GNSS STATIC OBSERVATION SESSIONS. SOUNDING DATA WERE OBTAINED ON JAN 28, 2017 BY SV ORION USING AN R2SONIC 2024 MULTIBEAM ECHOSOUNDER AND AN APPLANIX POSMV. DURING THIS SURVEY, AN RTK DGNSS BASE STATION WAS ESTABLISHED ON THE PRIMARY BM. FINAL POSITION AND ELEVATION DATA FOR THIS SURVEY WERE OBTAINED VIA POST-PROCESSING WITH POSPAC MMS. SOUNDING DATA ARE SHOWN AS NEGATIVE ELEVATION CONTOURS RELATIVE TO THE NAVD88 REFERENCE PLANE.
  - PHOTOGRAMMETRIC TOPOGRAPHIC LIDAR BY NEAR VIEW, LLC 6/4/17 & 2/16/18
  - GENERAL SITE PLAN INFO IS BASED ON "CONDOMINIUM SITE PLAN FOR WITCH COVE MARINA CONDOMINIUMS" BY MSC CIVIL ENGINEERS AND LAND SURVEYORS, INC. DATED MAR 28, 2011.
  - WETLAND DELINEATION WAS DONE ON 8/7/2020 AND CHECKED IN 2022 BY SEEKAMP ENVIRONMENTAL CONSULTING, INC., PATRICK D. SEEKAMP NH CWS #128, TO THE STANDARDS OF "WETLANDS DELINEATION MANUAL" TECHNICAL REPORT Y-87-1 CORPS OF ENGINEERS, JANUARY, 1987 AND "REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION," VERSION 2.0, U.S. ARMY CORPS OF ENGINEERS, JANUARY, 2012 AND SUBSEQUENT VERSIONS AND NH DES EN-WT 600 TIDAL RESOURCE DELINEATION METHODOLOGY. HOTL LIMITS ADJUSTED ACCORDING TO PRE-EXISTING LIMITS PRIOR TO INITIAL REMEDIATION WORK TO ALLOW FOR PRE-EXISTING TOE OF SLOPE LIMITS TO BE REESTABLISHED ON THE BANK.
  - WETLANDS DELINEATION SURVEY BY SUBSTRUCTURE, INC 08/10/2020 TRIMBLE R10 LOCATION POST PROCESSED KINEMATICS (PPK) UTILIZING TRIMBLE BUSINESS CENTER WITH BASE STATION CONTROL ON PRIMARY BM. B-DOCK-PAD-SW

**AE ARIES ENGINEERING**

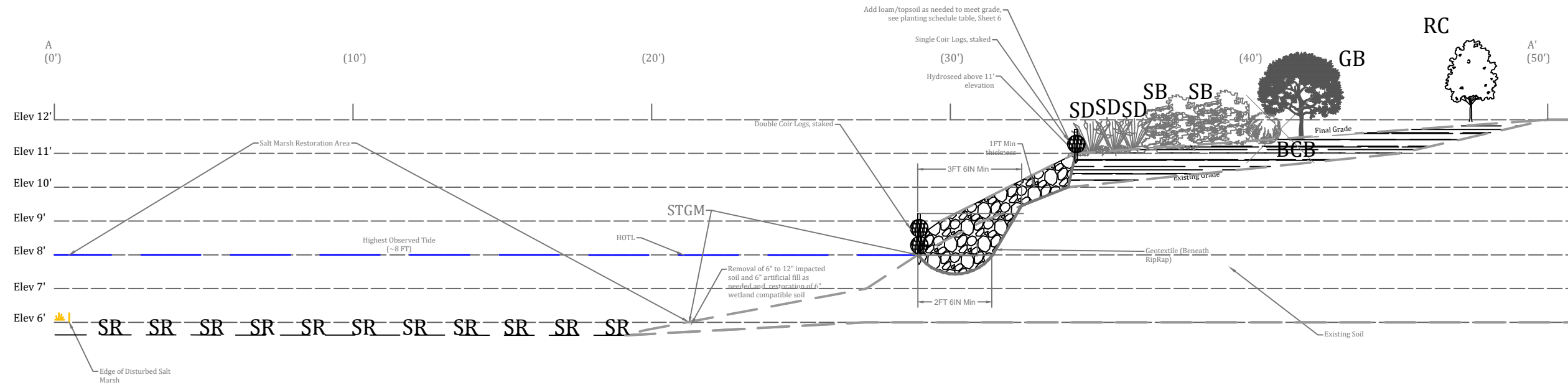
Drafted By: J. Drebaum	Reviewed By: R. Kowalski
Date: 10/14/2024	Approved By: S. Graham

FINAL GRADING PLAN/ShORELINE STABILIZATION PLAN (WITH TIDAL SHORELINE STABILITY)

MARINA RESTORATION PROJECT  
SEA LEVEL, LLC.  
MAP 201, LOT 12  
PORTSMOUTH, NEW HAMPSHIRE

FIGURE 2

C:\Users\joeDrebaum\Aries Engineering\Data - Documents\Project Files\2021-075 Portsmouth Marina (Sea Level)\Tidal Shoreline Stabilization Design -- CAD\CAD\2021-075(SS2)06-22.dwg



HORIZONTAL/VERTICAL Scales as shown

Planting Schedule					
Key	Plant Type	Species	Size (feet)	Caliper Size	Quantity
GB	Tree	Gray Birch ( <i>Betula populifolia</i> )	3-4	-	1
RC	Tree	Red Cedar ( <i>Juniperus virginiana</i> )	3-4	-	1
SD	Shrub	Silky dogwood ( <i>Cornus amomum</i> )	2-3	-	3
SB	Shrub	Shadbush ( <i>Amelanchier canadensis</i> )	2-3	-	2
BCB	Shrub	Black Chokeberry ( <i>Aronia melanocarpa</i> )	2-3	-	1
SR	Plugs	Salt Marsh Bullrush ( <i>Scirpus Robustus</i> )	-	-	350
STGM	Seed	Salt Tolerant Grass Mix*	-	-	5 lb

NOTES:

- \*STGM species list includes: Canada Wild Rye (*Elymus canadensis*), Red Fescue (*Festuca rubra*), Atlantic Coastal Panic Grass (*Panicum amarum*), Big Bluestem (*Andropogon gerardii*), Indian Grass (*Sorghastrum nutans*), Switch Grass (*Panicum virgatum*), and Path Rush (*Juncus tenuis*)
- Mean High Water (MHW) and Mean Low Water (MLW) lines are outside of the Limit of Disturbance and beyond the area shown in the above cross section.

NOT TO SCALE

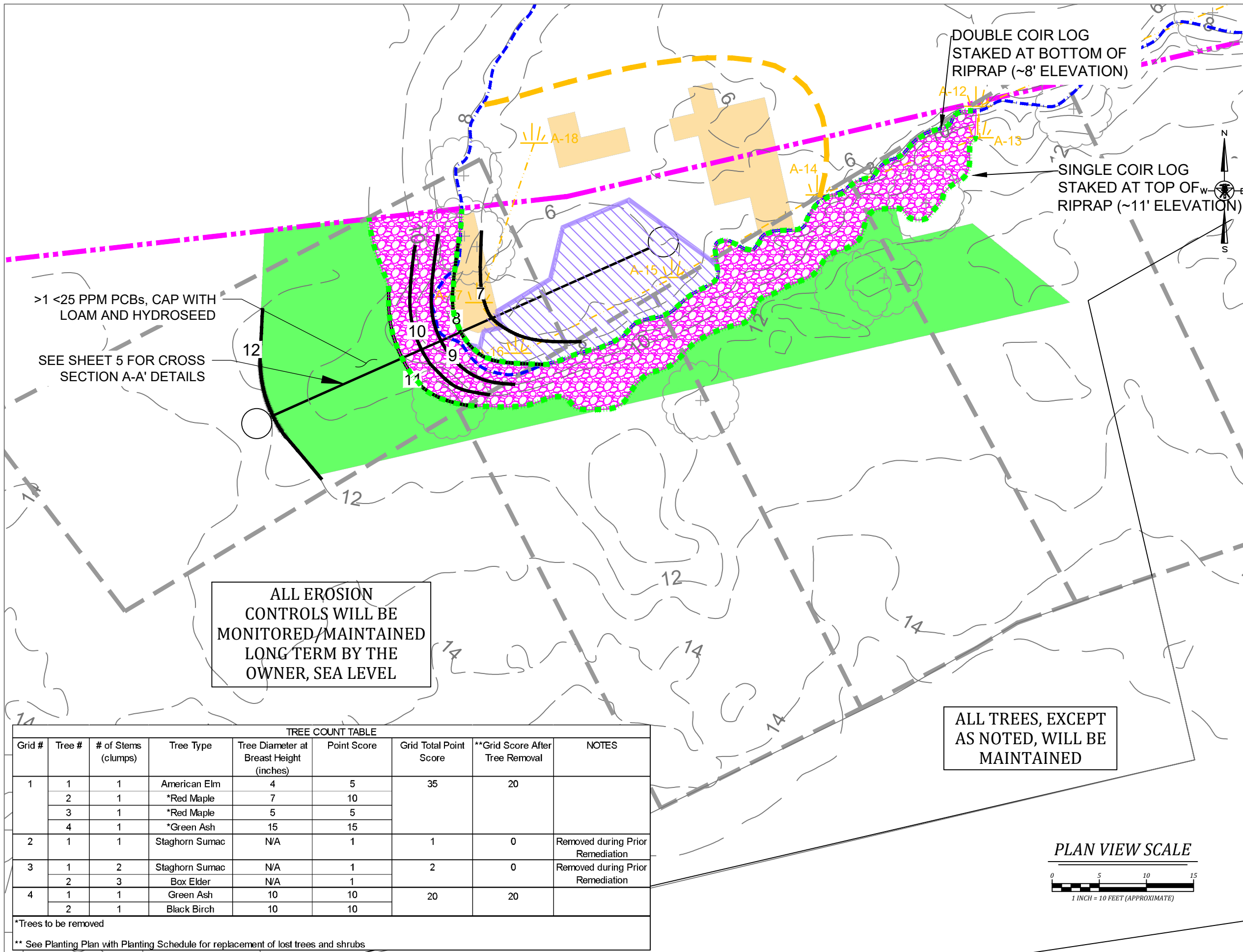


Drafted By: J. Drebaum	Reviewed By: R. Kowalski
Date: 10/14/2024	Approved By: S. Graham

PLANTING PLAN with  
PLANTING SCHEDULE  
MARINA RESTORATION PROJECT  
SEA LEVEL, LLC.  
MAP 201, LOT 12  
PORTSMOUTH, NEW HAMPSHIRE

FIGURE 6

C:\Users\JoeDrebaum\Aries Engineering\Data - Documents\Project Files\2021\2021-075 Portsmouth Marina (Sea Level)\Tidal Shoreline Stabilization Design -- CAD\CAD\2021-075(SS2)06-22.dwg



### LEGEND

**EXISTING**

- PROPERTY BOUNDARY
- ADJACENT PROPERTY BOUNDARY
- EXISTING ELEVATION CONTOUR (FT)
- BUILDING FOUNDATION
- MEAN HIGH HIGH WATER (3.81 FT NAVD88)
- HIGHEST OBSERVABLE TIDE (FEMA ZONE AE)
- WETLAND DELINEATION
- FORMER EXCAVATION AREA
- SHORELINE BUFFERS (LABELED IN SHEET)
- INTACT GRAVEL BOAT STORAGE AREA
- DEGRADED GRAVEL BOAT STORAGE AREA

**PROPOSED**

- TREE/SHRUB WITH TREE NUMBER
- WETLAND REMEDIATION AREA >1<25 PPM PCBs, CONSOLIDATE UNDER CONCRETE CAP (175 SF)
- SALT MARSH TO BE RESTORED IN 2016-2017 EXCAVATION (235 SF)
- FINAL ELEVATION CONTOUR (FT)
- UPLAND AREA REGRADE, ADD LOAM AND HYDROSEED RESTORATION (770 SF), PCBs >1<25 PPM
- MIXED STONE/RIPRAP TO BE RESTORED (470 SF)
- PROPOSED TURBIDITY SILT CURTAIN
- COIR LOGS STAKED

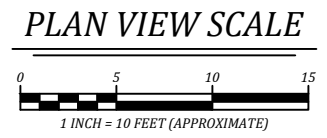
ALL EROSION CONTROLS WILL BE MONITORED/MAINTAINED LONG TERM BY THE OWNER, SEA LEVEL

ALL TREES, EXCEPT AS NOTED, WILL BE MAINTAINED

TREE COUNT TABLE

Grid #	Tree #	# of Stems (clumps)	Tree Type	Tree Diameter at Breast Height (inches)	Point Score	Grid Total Point Score	**Grid Score After Tree Removal	NOTES
1	1	1	American Elm	4	5	35	20	
	2	1	*Red Maple	7	10			
	3	1	*Red Maple	5	5			
	4	1	*Green Ash	15	15			
2	1	1	Staghorn Sumac	N/A	1	1	0	Removed during Prior Remediation
3	1	2	Staghorn Sumac	N/A	1	2	0	Removed during Prior Remediation
	2	3	Box Elder	N/A	1			
4	1	1	Green Ash	10	10	20	20	
	2	1	Black Birch	10	10			

\*Trees to be removed  
 \*\* See Planting Plan with Planting Schedule for replacement of lost trees and shrubs



Drafted By: J. Drebaum	Reviewed By: R. Kowalski
Date: 10/14/2024	Approved By: S. Graham

TREE TYPES AND LOCATIONS

MARINA RESTORATION PROJECT  
 SEA LEVEL, LLC.  
 MAP 201, LOT 12  
 PORTSMOUTH, NEW HAMPSHIRE

FIGURE 7

**APPENDIX I**  
**Attachment CC**



## 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: 2024-0118282  
Project Name: Portsmouth Marina Remediation Project

07/18/2024 18:41:23 UTC

Federal Nexus: yes  
Federal Action Agency (if applicable):

Subject: Federal agency coordination under the Endangered Species Act, Section 7 for  
'Portsmouth Marina Remediation Project'

Dear Nyssa Seekamp:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on July 18, 2024, for "Portsmouth Marina Remediation Project" (here forward, Project). This project has been assigned Project Code 2024-0118282 and all future correspondence should clearly reference this number.

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into the IPaC must accurately represent the full scope and details of the Project. Failure to accurately represent or implement the Project as detailed in IPaC or the Northeast Determination Key (DKey), invalidates this letter. **Answers to certain questions in the DKey commit the project proponent to implementation of conservation measures that must be followed for the ESA determination to remain valid.**

To make a no effect determination, the full scope of the proposed project implementation (action) should not have any effects (either positive or negative effect(s)), to a federally listed species or designated critical habitat. Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. (See § 402.17). Under Section 7 of the ESA, if a federal action agency makes a no effect determination, no further consultation with, or concurrence from, the Service is



required (ESA §7). If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required (except when the Service concurs, in writing, that a proposed action "is not likely to adversely affect" listed species or designated critical habitat [50 CFR §402.02, 50 CFR§402.13]).

The IPaC results indicated the following species is (are) potentially present in your project area and, based on your responses to the Service's Northeast DKey, you determined the proposed Project will have the following effect determinations:

Species	Listing Status	Determination
Roseate Tern ( <i>Sterna dougallii dougallii</i> )	Endangered	No effect
Rufa Red Knot ( <i>Calidris canutus rufa</i> )	Threatened	No effect

**Conclusion** If there are no updates on listed species, no further consultation/coordination for this project is required for the species identified above. However, the Service recommends that project proponents re-evaluate the Project in IPaC if: 1) the scope, timing, duration, or location of the Project changes (includes any project changes or amendments); 2) new information reveals the Project may impact (positively or negatively) federally listed species or designated critical habitat; or 3) a new species is listed, or critical habitat designated. If any of the above conditions occurs, additional consultation with the Service should take place before project implements any changes which are final or commits additional resources.

In addition to the species listed above, the following species and/or critical habitats may also occur in your project area and are not covered by this conclusion:

- Monarch Butterfly *Danaus plexippus* Candidate
- Northern Long-eared Bat *Myotis septentrionalis* Endangered
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered

To complete consultation for species that have reached a "May Affect" determination and/or species may occur in your project area and are not covered by this conclusion, 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 these listed species and/or critical habitats, avoid and minimize potential adverse effects, and prepare and submit a project review package if necessary: <https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review>

Please Note: If the Action may impact bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act (BGEPA) (54 Stat. 250, as amended, 16 U.S.C. 668a-d) by the prospective permittee may be required. Please contact the Migratory Birds Permit Office, (413) 253-8643, or [PermitsR5MB@fws.gov](mailto:PermitsR5MB@fws.gov), with any questions regarding potential impacts to Eagles.

If you have any questions regarding this letter or need further assistance, please contact the New England Ecological Services Field Office and reference the Project Code associated with this Project.

## Action Description

You provided to IPaC the following name and description for the subject Action.

### 1. Name

Portsmouth Marina Remediation Project

### 2. Description

The following description was provided for the project 'Portsmouth Marina Remediation Project':

Sea Level, Inc. is undertaking the completion of a remediation project that was begun previously but remains incomplete. During the first remediation attempt a series of soil piles were left in the upland area and within the previously developed 100 foot Tidal Buffer Zone (TBZ). Additionally, a sump was created that disturbed a small portion of salt marsh. The piles of soil have been smoothed over and covered with a gravel base for stabilization until further remediation activities can occur. The purpose of this project is to complete the remediation and restore the disturbed salt marsh area.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@43.05342615,-70.74499582496054,14z>



## QUALIFICATION INTERVIEW

1. As a representative of this project, do you agree that all items submitted represent the complete scope of the project details and you will answer questions truthfully?

*Yes*

2. Does the proposed project include, or is it reasonably certain to cause, intentional take of listed species?

**Note:** This question could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered, or proposed species.

*No*

3. Is the action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

*Yes*

4. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) the lead agency for this project?

*No*

5. Are you including in this analysis all impacts to federally listed species that may result from the entirety of the project (not just the activities under federal jurisdiction)?

**Note:** If there are project activities that will impact listed species that are considered to be outside of the jurisdiction of the federal action agency submitting this key, contact your local Ecological Services Field Office to determine whether it is appropriate to use this key. If your Ecological Services Field Office agrees that impacts to listed species that are outside the federal action agency's jurisdiction will be addressed through a separate process, you can answer yes to this question and continue through the key.

*Yes*

6. Are you the lead federal action agency or designated non-federal representative requesting concurrence on behalf of the lead Federal Action Agency?

*No*

7. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)?

*Yes*

8. Will the proposed project involve the use of herbicide where listed species are present?

*No*

9. Are there any caves or anthropogenic features suitable for hibernating or roosting bats within the area expected to be impacted by the project?

*No*

10. Does any component of the project associated with this action include activities or structures that may pose a collision risk to **birds** (e.g., plane-based surveys, land-based or offshore wind turbines, communication towers, high voltage transmission lines, any type of towers with or without guy wires)?

**Note:** For federal actions, answer 'yes' if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

*No*

11. Does any component of the project associated with this action include activities or structures that may pose a collision risk to **bats** (e.g., plane-based surveys, land-based or offshore wind turbines)?

**Note:** For federal actions, answer 'yes' if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

*No*

12. Will the proposed project result in permanent changes to water quantity in a stream or temporary changes that would be sufficient to result in impacts to listed species?

For example, will the proposed project include any activities that would alter stream flow, such as water withdrawal, hydropower energy production, impoundments, intake structures, diversion structures, and/or turbines? Projects that include temporary and limited water reductions that will not displace listed species or appreciably change water availability for listed species (e.g. listed species will experience no changes to feeding, breeding or sheltering) can answer "No". Note: This question refers only to the amount of water present in a stream, other water quality factors, including sedimentation and turbidity, will be addressed in following questions.

*No*

13. Will the proposed project affect wetlands where listed species are present?

This includes, for example, project activities within wetlands, project activities within 300 feet of wetlands that may have impacts on wetlands, water withdrawals and/or discharge of contaminants (even with a NPDES).

*Yes*

14. Will the proposed project activities (including upland project activities) occur within 0.125 miles of the water's edge of a stream or tributary of a stream where listed species may be present?

*Yes*

15. Will the proposed project directly affect a streambed (below ordinary high water mark (OHWM)) of the stream or tributary where listed species may be present?

*Yes*

16. Will the proposed project bore underneath (directional bore or horizontal directional drill) a stream where listed species may be present?

*No*

17. Will the proposed project involve a new point source discharge into a stream or change an existing point source discharge (e.g., outfalls; leachate ponds) where listed species may be present?

*No*

18. Will the proposed project involve the removal of excess sediment or debris, dredging or in-stream gravel mining where listed species may be present?

*Yes*

19. Will the proposed project involve the creation of a new water-borne contaminant source where listed species may be present?

**Note** New water-borne contaminant sources occur through improper storage, usage, or creation of chemicals. For example: leachate ponds and pits containing chemicals that are not NSF/ANSI 60 compliant have contaminated waterways. Sedimentation will be addressed in a separate question.

*No*

20. Will the proposed project involve perennial stream loss, in a stream or tributary of a stream where listed species may be present, that would require an individual permit under 404 of the Clean Water Act?

*No*

21. Will the proposed project involve blasting where listed species may be present?

*No*

22. Will the proposed project include activities that could negatively affect fish movement temporarily or permanently (including fish stocking, harvesting, or creation of barriers to fish passage).

*No*

23. Will the proposed project involve earth moving that could cause erosion and sedimentation, and/or contamination along a stream or tributary of a stream where listed species may be present?

**Note:** Answer "Yes" to this question if erosion and sediment control measures will be used to protect the stream.

*Yes*

24. Will earth moving activities result in sediment being introduced to streams or tributaries of streams where listed species may be present through activities such as, but not limited to, valley fills, large-scale vegetation removal, and/or change in site topography?

*No*

25. Will the proposed project involve vegetation removal within 200 feet of a perennial stream bank where aquatic listed species may be present?

*Yes*

26. Will erosion and sedimentation control Best Management Practices (BMPs) associated with applicable state and/or Federal permits, be applied to the project? If BMPs have been provided by and/or coordinated with and approved by the appropriate Ecological Services Field Office, answer "Yes" to this question.

*Yes*

27. Is the project being funded, lead, or managed in whole or in part by U.S Fish and Wildlife Restoration and Recovery Program (e.g., Partners, Coastal, Fisheries, Wildlife and Sport Fish Restoration, Refuges)?

*No*

28. Will the proposed project result in changes to beach dynamics that may modify formation of habitat over time?

**Note:** Examples of projects that result in changes to beach dynamics include 1) construction of offshore breakwaters and groins; 2) mining of sand from an updrift ebb tidal delta; 3) removing or adding beach sands; and 4) projects that stabilize dunes (including placement of sand fences or planting vegetation).

*No*

29. [Hidden Semantic] Is the project area located within the red knot AOI?

**Automatically answered**

*Yes*

30. If you have determined that the red knot is unlikely to occur within your project's action area or that your project is unlikely to have any potential effects on the red knot, you may wish to make a "no effect" determination for the red knot. Additional guidance on how to make this decision can be found in the project review section of your local Ecological Services Field Office's website. CBFO: <https://www.fws.gov/office/chesapeake-bay-ecological-services/project-review> ; MEFO: <https://www.fws.gov/office/maine-ecological-services> ; NJFO: <https://www.fws.gov/office/new-jersey-ecological-services/new-jersey-field-office-project-review-guide> ; NEFO: <https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review#Step5> ; WVFO: <https://www.fws.gov/office/west-virginia-ecological-services/project-planning>. If you are unsure, answer "No" and continue through the key.

Would you like to make a no effect determination for the red knot?

*Yes*

31. [Hidden Semantic] Is the project area located within the roseate tern AOI?

**Automatically answered**

*Yes*

32. If you have determined that the roseate tern is unlikely to occur within your project's action area or that your project is unlikely to have any potential effects on the roseate tern, you may wish to make a "no effect" determination for the roseate tern. Additional guidance on how to make this decision can be found in the project review section of your local Ecological Services Field Office's website. CBFO: <https://www.fws.gov/office/chesapeake-bay-ecological-services/project-review> ; MEFO: <https://www.fws.gov/office/maine-ecological-services> ; NJFO: <https://www.fws.gov/office/new-jersey-ecological-services/new-jersey-field-office-project-review-guide> ; NEFO: <https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review#Step5> ; WVFO: <https://www.fws.gov/office/west-virginia-ecological-services/project-planning>. If you are unsure, answer "No" and continue through the key.

Would you like to make a no effect determination for the roseate tern?

*Yes*

33. [Semantic] Does the project intersect the Virginia big-eared bat critical habitat?

**Automatically answered**

*No*

34. [Semantic] Does the project intersect the Indiana bat critical habitat?

**Automatically answered**

*No*

35. [Semantic] Does the project intersect the candy darter critical habitat?

**Automatically answered**

*No*

36. [Semantic] Does the project intersect the diamond darter critical habitat?

**Automatically answered**

*No*

37. [Semantic] Does the project intersect the Big Sandy crayfish critical habitat?

**Automatically answered**

*No*

38. [Hidden Semantic] Does the project intersect the Guyandotte River crayfish critical habitat?

**Automatically answered**

*No*

39. Do you have any other documents that you want to include with this submission?

*No*



## PROJECT QUESTIONNAIRE

1. Briefly describe the habitat within the construction/disturbance limits of the project site.

*Tidal salt marsh wetland in coastal estuarine habitat. Salt marsh comprised primarily of intertidal mudflat with sparse vegetation.*

2. Approximately how many acres of trees would the proposed project remove?

*0*

3. Approximately how many total acres of disturbance are within the disturbance/construction limits of the proposed project?

*0.16*

## **IPAC USER CONTACT INFORMATION**

Agency: Private Entity  
Name: Nyssa Seekamp  
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City: Kingston  
State: NH  
Zip: 03848  
Email: nseekamp14@gmail.com  
Phone: 6038193140



# 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:

07/18/2024 18:23:38 UTC

Project Code: 2024-0118282

Project Name: Portsmouth Marina Remediation Project

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](mailto: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: 2024-0118282

Project Name: Portsmouth Marina Remediation Project

Project Type: Non-NPL Site Remediation

Project Description: Sea Level, Inc. is undertaking the completion of a remediation project that was begun previously but remains incomplete. During the first remediation attempt a series of soil piles were left in the upland area and within the previously developed 100 foot Tidal Buffer Zone (TBZ). Additionally, a sump was created that disturbed a small portion of salt marsh. The piles of soil have been smoothed over and covered with a gravel base for stabilization until further remediation activities can occur. The purpose of this project is to complete the remediation and restore the disturbed salt marsh area.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@43.05342615,-70.74499582496054,14z>



Counties: Rockingham County, New Hampshire

## ENDANGERED SPECIES ACT SPECIES

There is a total of 5 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 Fisheries<sup>1</sup>, 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: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/10515">https://ecos.fws.gov/ecp/species/10515</a>	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: <a href="https://ecos.fws.gov/ecp/species/2083">https://ecos.fws.gov/ecp/species/2083</a>	Endangered
Rufa Red Knot <i>Calidris canutus rufa</i> There is <b>proposed</b> critical habitat for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/1864">https://ecos.fws.gov/ecp/species/1864</a>	Threatened

## INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Candidate

## 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: Nyssa Seekamp  
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City: Dover  
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## 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.:** **Sea Level, LLC and Goulemas Family Trust**

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 purpose and goal is to complete remediation of PCBs, stabilize slopes and revegetate 410 SF of marsh, with adjacent slopes hardscape stabilized; also 1 CY soil of upland soil (>11 FT MSL) removed, 770 SF covered with 6 in soil cover (>1<25 ppm PCBs) and 5,000 SF concrete cap installed over soils with >25<50 ppm PCBs and lead, see Sheet 5. Resources proposed for impact include previously developed tidal buffer zone (TBZ) and shoreland. The TBZ and salt marsh within which work is proposed is currently disturbed.**

**All screening information and associated maps are provided in Appendix J, Part 2--Figure J1. A Coastal Functional Assessment (CFA) is completed in Appendix L for Sagamore Creek and associated tidal wetlands which includes saltmarsh and mudflat, completed by Adel Fiorillo Mattson, PWS#832 and Patrick Seekamp, CWS# 00128. The CFA was completed utilizing the USACE Highway Methodology (HM) Supplement (1993), USACE New England District HM Workbook Supplement (1999) for all functions and values except Ecological Integrity, which was assessed using the Method for the Evaluation and Inventory of Vegetated Tidal Marshes in NH (June 1993).**

**The Vulnerability Assessment is provided in Appendix K.**

[irm@des.nh.gov](mailto:irm@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO BOX 95, Concord, NH 03302-0095

[www.des.nh.gov](http://www.des.nh.gov)

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.

**Per Env 311.07c, an Avoidance and Minimization Checklist May 2020 NH W-06-050 has been completed in Appendix F, which demonstrates compliance with Env-Wt 311.07. This Checklist demonstrates also that impacts to functions and values of all jurisdictional areas have been avoided and minimized to the maximum extent practicable, as required by Env-Wt 313.03.**

**Recognizing the location cannot be moved for this remediation project, methods to protect natural resources are described in Appendix J, Part 3--Coastal Resource Worksheet Narrative.**

**Vulnerability Assessment is provided in Appendix K.**

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

**The project addresses the cited Env-Wt 307 and 313.01, see Appendix J, Part 3, Coastal Resource Worksheet Narrative.**

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.

**See Appendix J, Part 3, Coastal Resource Worksheet Narrative, which addresses each of these requirements. For erosion/siltation control methods to be used, see Appendix E, Engineering Plans, Sheets 5-7. No dewatering is required. For Construction Sequence, see Sheet 5. For discussion of how completed project will be maintained and managed, see Appendix J, Part 4, Operations Monitoring & Maintenance Plan.**

- 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.

**See Appendix J, Part 3, Narrative to Coastal Resource Worksheet concerning design plans and water depth supporting information. See also Section 5 of this Worksheet. No structures are proposed or exist.**

**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.

1 month.

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.

See Vulnerability Assessment, Appendix K.

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.

The 2 ft sea level rise for mapping was employed (see Appendix J, J1).

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

See Appendix J, Figure J1.

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

See Appendix E, Engineering Plans, Sheets 2, 5 through 7.

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

See Appendix J, Figure J1f, used SLR Scenario 2 ft.

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:

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

[irm@des.nh.gov](mailto:irm@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO BOX 95, Concord, NH 03302-0095

[www.des.nh.gov](http://www.des.nh.gov)



**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.

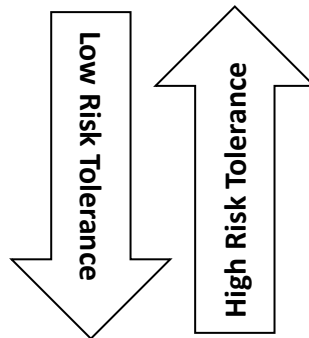
**SECTION 10 – GUIDANCE**

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.

Sea Level, LLC and Goulemas Family Trust



APPENDIX J, Part 2

Legend

NH Parcels

City/Town

Map Scale  
1: 3,247

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Map Generated: 7/18/2023

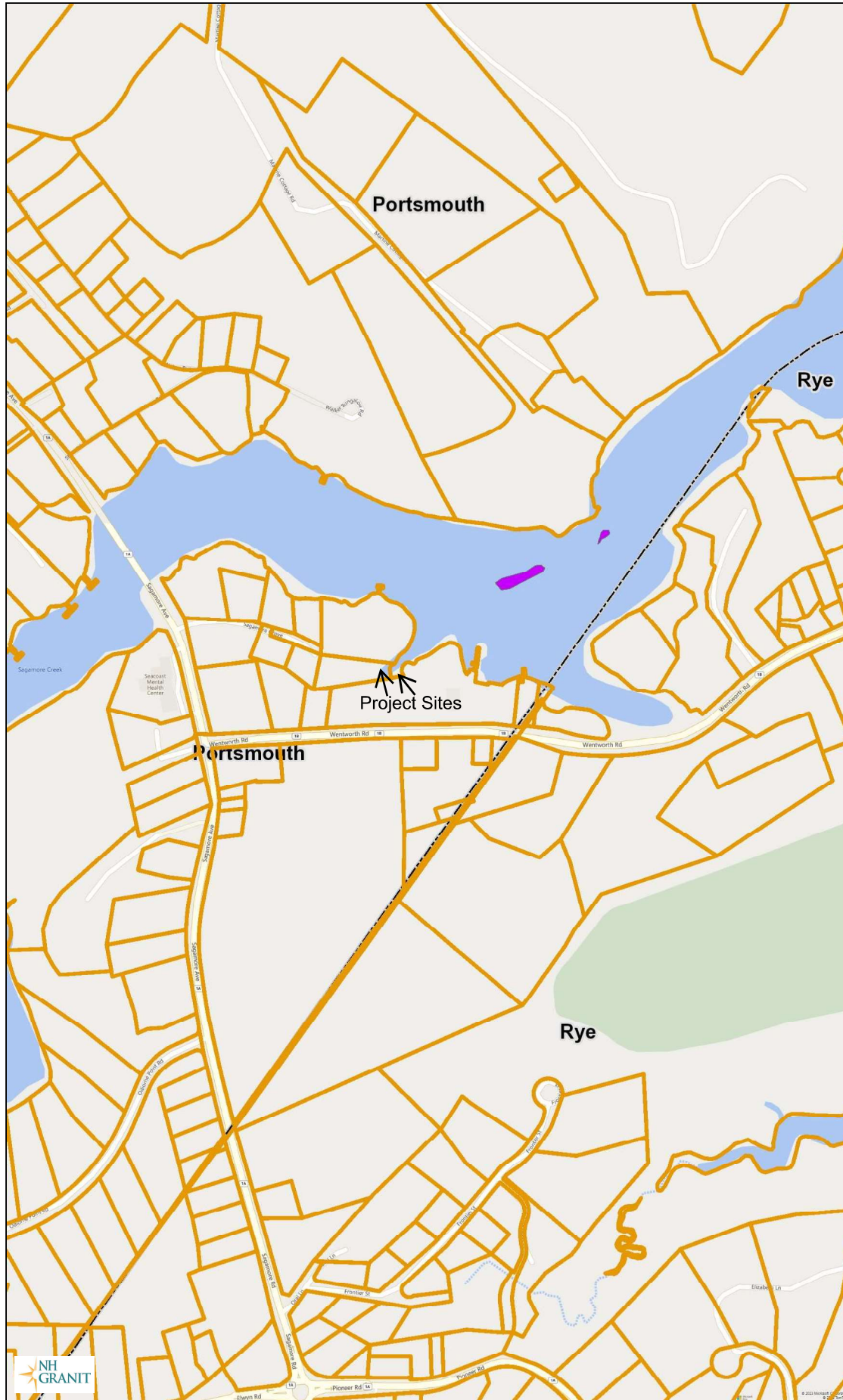
Notes

Impaired Waters, ORW's, Class A Waters,  
Contaminated Sites,








Attachment J1a



# Sea Level, LLC and Goulemas Family Trust



## Legend

-  NH Parcels
-  Eelgrass 2017
-  Eelgrass 2016
-  Eelgrass 2006
-  Eelgrass 1996
-  Eelgrass 1986
-  Oyster Restoration Sites

Map Scale

1: 6,494

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Map Generated: 5/19/2023



## Notes

Eelgrass and Shellfish Map  
(none present on the project site)

## Attachment J1b

# J1c. Essential Fish Habitat Report and Map

8/4/23, 4:49 PM

EFH Report

## EFH Mapper Report

### EFH Data Notice

Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional fishery management councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

[Greater Atlantic Regional Office](#)  
[Atlantic Highly Migratory Species Management Division](#)

### Query Results










Degrees, Minutes, Seconds: Latitude = 43° 3' 14" N, Longitude = 71° 15' 18" W  
 Decimal Degrees: Latitude = 43.054, Longitude = -70.745























The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

### \*\*\* WARNING \*\*\*

Please note under "Life Stage(s) Found at Location" the category "ALL" indicates that all life stages of that species share the same map and are designated at the queried location.

### EFH



Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Atlantic Butterfish	Adult	Mid-Atlantic	Atlantic Mackerel, Squid, & Butterfish Amendment 11
		Atlantic Cod	Adult, Eggs, Larvae	New England	Amendment 14 to the Northeast Multispecies FMP
		Atlantic Herring	Adult, Juvenile, Larvae	New England	Amendment 3 to the Atlantic Herring FMP
		Atlantic Mackerel	Eggs, Juvenile, Larvae	Mid-Atlantic	Atlantic Mackerel, Squid, & Butterfish Amendment 11
		Atlantic Sea Scallop	ALL	New England	Amendment 14 to the Atlantic Sea Scallop FMP
		Atlantic Wolffish	ALL	New England	Amendment 14 to the Northeast Multispecies FMP

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Bluefin Tuna	Adult	Secretarial	Amendment 10 to the 2006 Consolidated HMS FMP: EFH
		Bluefish	Adult, Juvenile	Mid-Atlantic	Bluefish
		Little Skate	Adult, Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
		Pollock	Eggs, Juvenile, Larvae	New England	Amendment 14 to the Northeast Multispecies FMP
		Red Hake	Adult, Eggs/Larvae/Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
		Smooth Skate	Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
		Thorny Skate	Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP
		White Hake	Adult, Eggs, Juvenile	New England	Amendment 14 to the Northeast Multispecies FMP
		Windowpane Flounder	Adult, Eggs, Juvenile, Larvae	New England	Amendment 14 to the Northeast Multispecies FMP
		Winter Flounder	Eggs, Juvenile, Larvae/Adult	New England	Amendment 14 to the Northeast Multispecies FMP
		Winter Skate	Juvenile	New England	Amendment 2 to the Northeast Skate Complex FMP



### Pacific Salmon EFH

No Pacific Salmon Essential Fish Habitat (EFH) were identified at the report location.

### Atlantic Salmon EFH / HAPC

Link	Data Caveat	Name	Designation	Lifestage	Management Council	FMP
		Coastal Areas	EFH	All	New England	Amendment 3 to the Atlantic Salmon FMP

### HAPCs

Link	Data Caveats	HAPC Name	Management Council
		Inshore 20m Juvenile Cod	New England Fishery Management Council

### EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.

\*\*For links to all EFH text descriptions see the complete data inventory: [open data inventory -->](#)

All EFH species have been mapped for the Greater Atlantic region,

Atlantic Highly Migratory Species EFH,

Bigeye Sand Tiger Shark,

Bigeye Sixgill Shark,

Caribbean Sharpnose Shark,

Galapagos Shark,

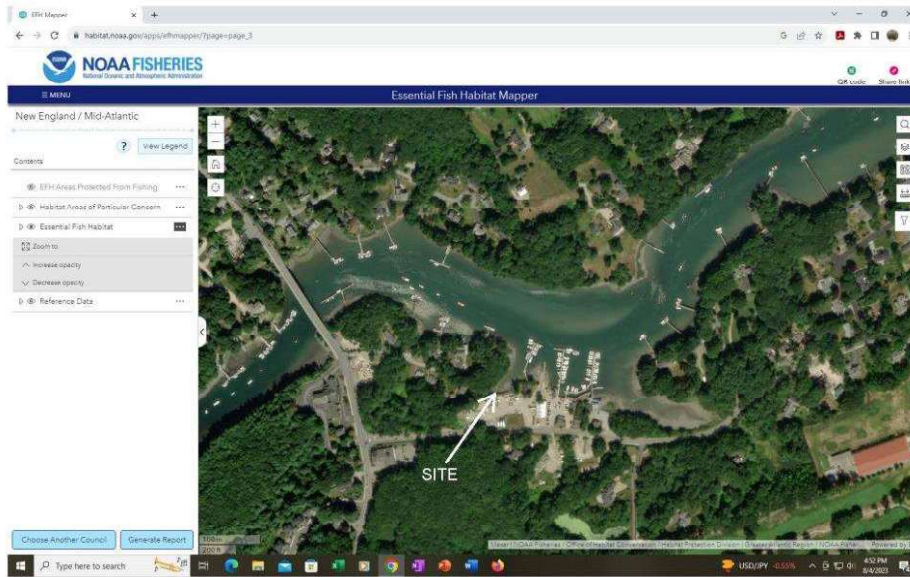
Narrowtooth Shark,

Sevengill Shark,

Sixgill Shark,

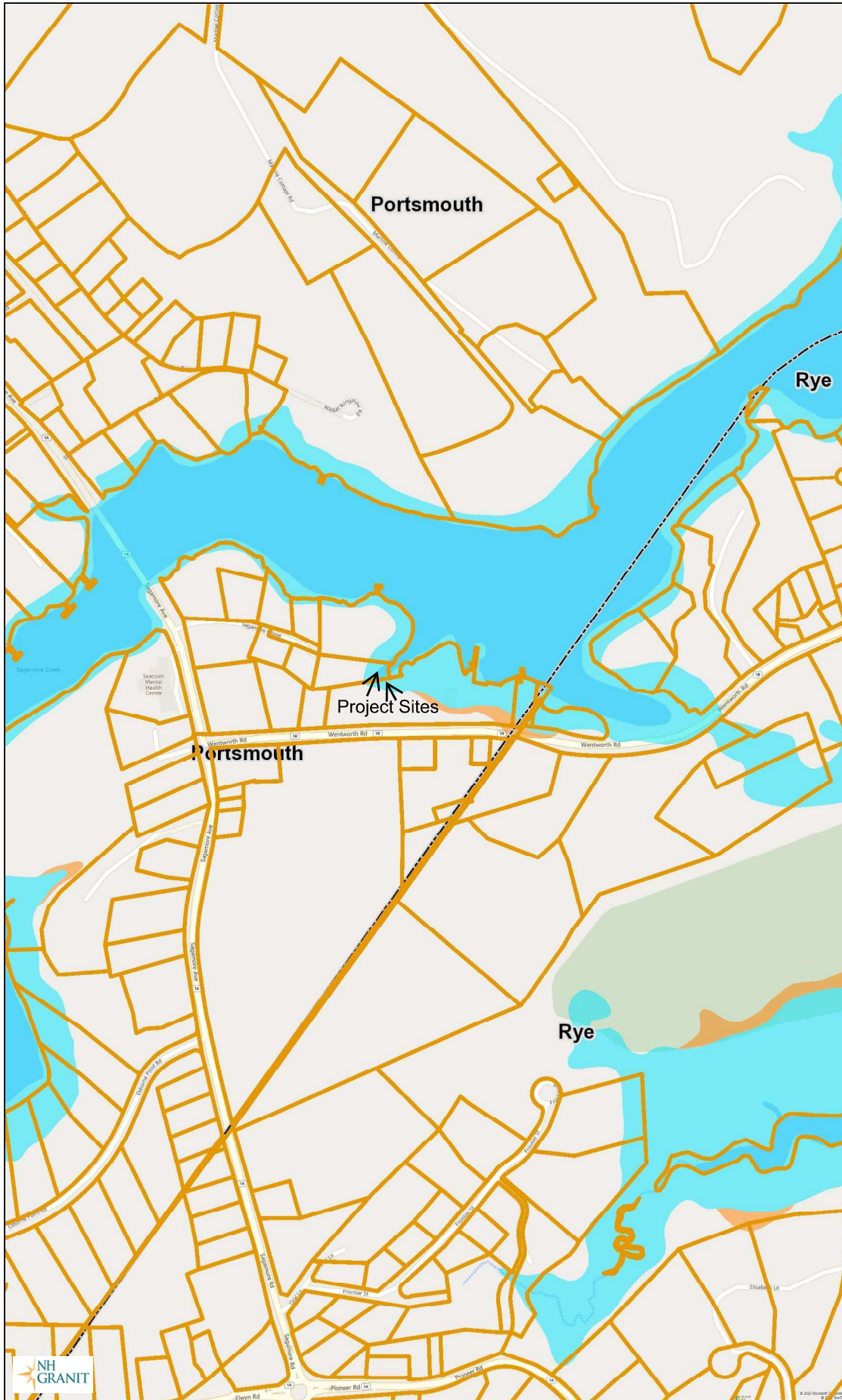
Smooth Hammerhead Shark,

Smalltail Shark










# Sea Level, LLC and Goulemas Family Trust



## Legend

 NH Parcels

### FEMA Floodplains

-  1 pct. Annual Chance Flood Hazard
-  Floodway
-  0.2 pct. Annual Chance Flood Hazard
-  Area of Undetermined Flood Hazard
-  Area Protected by Levee

Map Scale

1: 6,494

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Map Generated: 5/19/2023

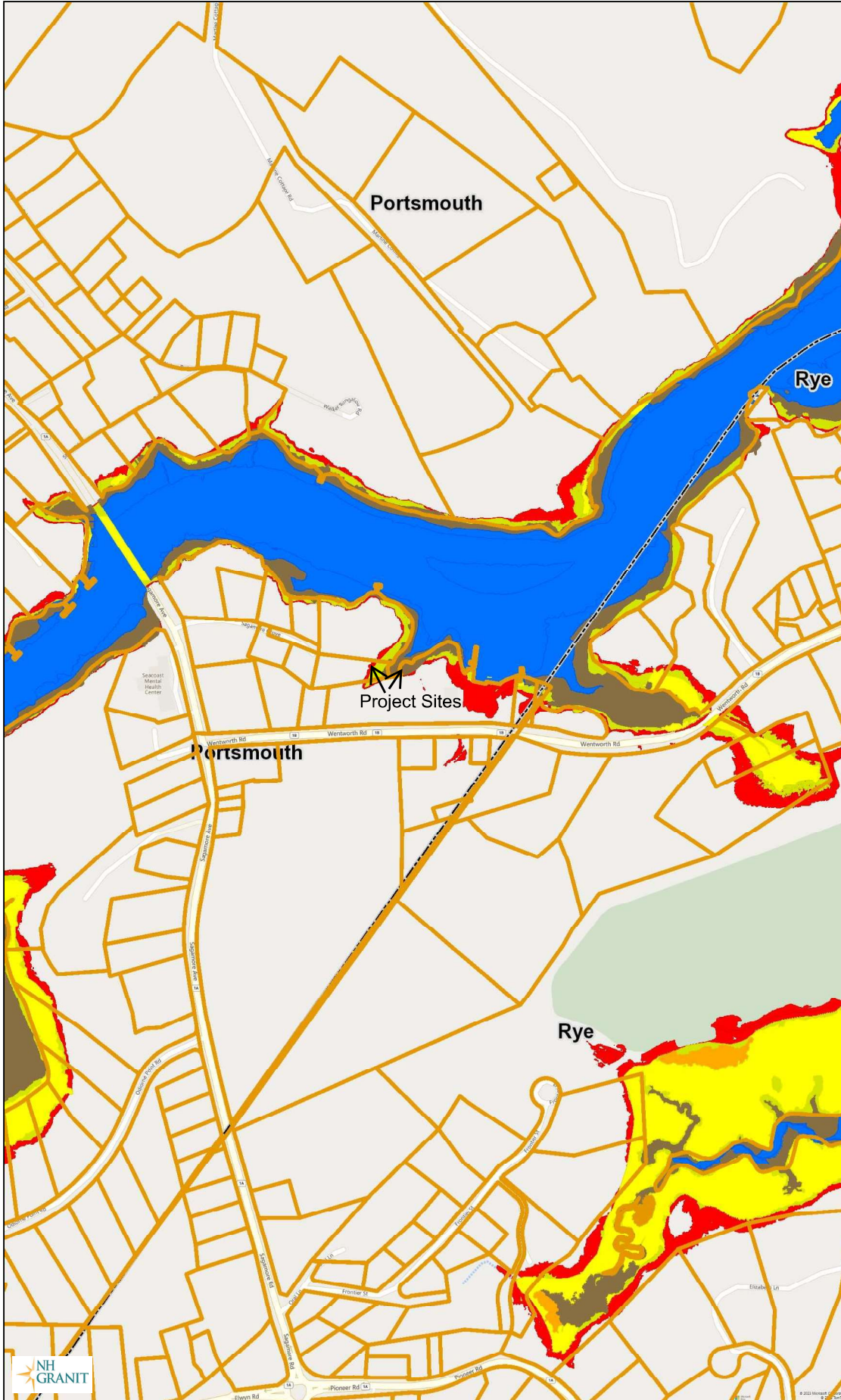


## Notes

Flood Hazard Map

Attachment J1d

# Sea Level, LLC and Goulemas Family Trust



## Legend

- NH Parcels
- SLAMM 2022 - 0.5-m SLR at Year 2050
  - Developed
  - Developed-Impervious
  - Estuarine Beach
  - Estuarine Open Water
  - Inland Fresh Marsh
  - Inland Open Water
  - Inland Shore
  - Irregularly-flooded Marsh
  - Ocean Beach
  - Open Ocean
  - Regularly-flooded Marsh
  - Riverine Tidal
  - Rocky Intertidal
  - Swamp
  - Tidal Flat
  - Tidal Fresh Marsh
  - Tidal Swamp
  - Transitional Salt Marsh
  - Undeveloped

Map Scale

1: 6,494



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Map Generated: 5/19/2023

## Notes

Salt Marsh Migration Map

Attachment J1e



# Sea Level, LLC and Goulemas Family Trust



### Legend

- NH Parcels
- MHHW Baseline
- MHHW + 2-ft SLR
  - 0 - 2
  - 2 - 4
  - 4 - 6
  - 6 - 8
  - 8 - 10
  - 10 +

### Map Scale

1: 6,494



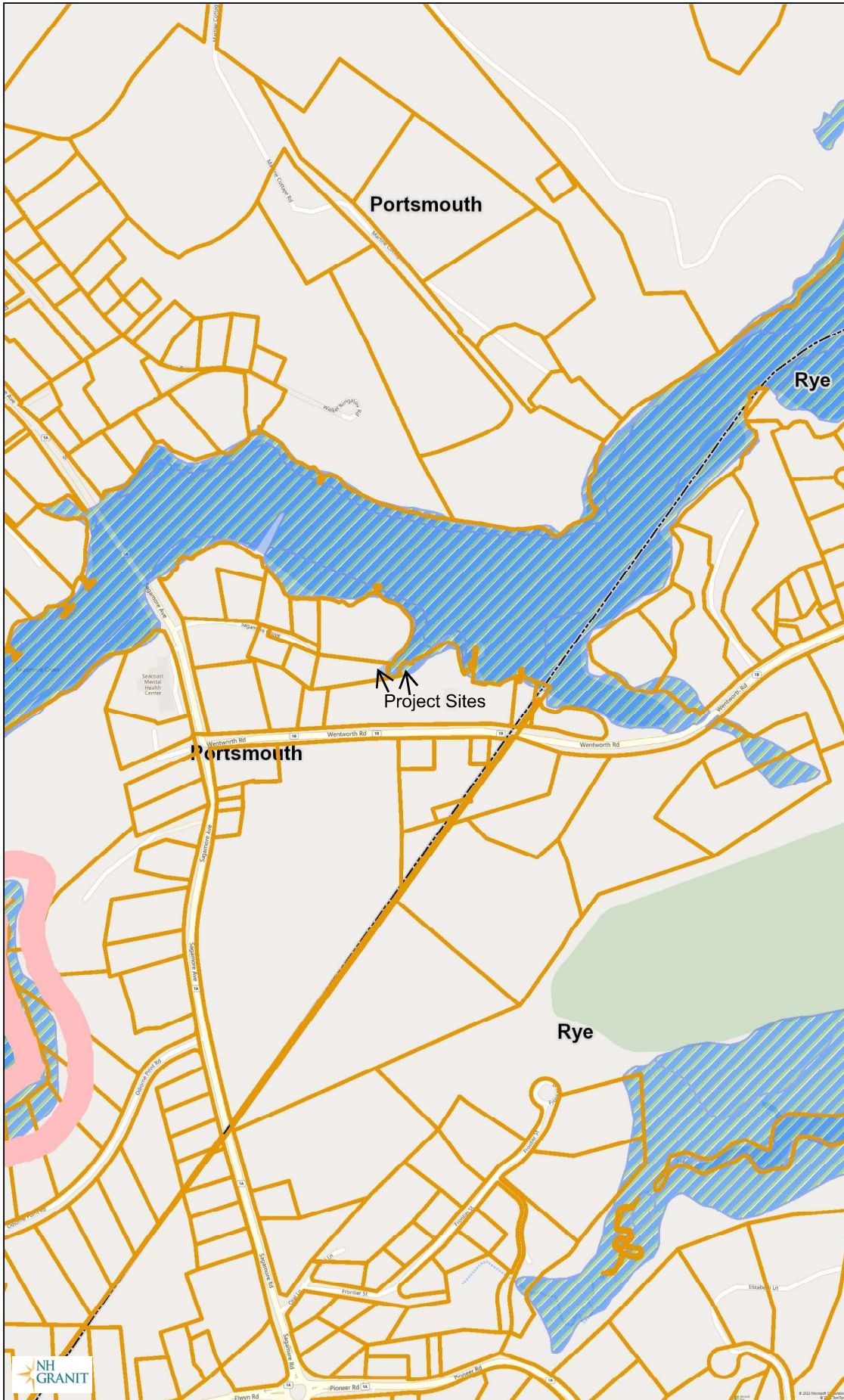
© NH GRANIT, [www.granit.unh.edu](http://www.granit.unh.edu)  
Map Generated: 5/19/2023

### Notes



2 Foot Sea Level Rise Map

Attachment J1f

# Sea Level, LLC and Goulemas Family Trust



## Legend

-  NH Parcels
-  Flood Plain Wetlands  
Adjacent to Tier 3 Streams

Map Scale

1: 6,494

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Map Generated: 5/19/2023



## Notes

Priority Resource Map


Attachment J1g

# Sea Level, LLC and Goulemas Family Trust



## Legend

 NH Parcels

 Prime Wetlands

Map Scale

1: 6,494

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Map Generated: 5/19/2023



## Notes

Prime Wetlands Map  
(none present on or  
near the project site)

## Attachment J1h

## APPENDIX J, Part 3

### **Narrative For Coastal Resource Worksheet (CRW), Env Wt 307 and Env Wt 311.09, Env-Wt 400, Env-Wt 500, Env-Wt 600, and Env-Wt 700, and RSA 482-A:11; and Env Wt 313.01 and 313.03**

1. Env Wt 307: The project addresses the proposed dredging, filling, and construction within a jurisdictional area, per 307.1; complies with all conditions of US Army Corps NH state general permit for dredging per 307.2; for 307.3 compliance,
  - (a) The Proposed project activities are being conducted in such a way as to not cause or contribute to any violation of:
    - (1) The surface water quality standards specified in RSA 485-A:8 or Env-Wq 1700;
    - (2) The ambient groundwater quality standards established under RSA 485-C;
    - (3) The limitations on activities in a sanitary protective area established under Env-Dw 302.10 or Env-Dw 305.10; or
    - (4) Any provision of RSA 485-A, Env-Wq 1000, RSA 483-B, or Env-Wq 1400 that protects water quality.
  - (b) Soil erosion control: All work, including management of soil stockpiles, will be conducted so as to minimize erosion, minimize sediment transfer to surface waters or wetlands, and minimize turbidity in surface waters and wetlands using the techniques described in:
    - (1) Env-Wq 1505.02, Env-Wq 1505.04, Env-Wq 1506, and Env-Wq 1508; specifically, to comply with Env-Wq 1506, mulching will be anchored with mulch netting or tackifier so that either are not blown away by wind or washed away by flowing water, applied at a rate of 70 to 90 pounds per 1,000 square feet to a thickness of at least two (2) inches; or alternatively, if an erosion control blanket is employed, it would be placed within 24 hours after sowing seed in the area being covered, by being laid loosely over the soils, maintaining contact with the soil, and not stretched; and installed per the manufacturer's specifications and will be anchored at the top of the slope in a trench, unrolled in the direction of the water flow, overlapping the edges and stapling. The seeding will be fertilized by limestone application only, see below. Also, coir logs will be installed and staked at the toe (at HOTL, or 8 FT MSL) and top of the slope, at Elev 11 FT MSL, replacing the existing coir logs which exist in part along this 11 FT MSL line.
    - (2) The applicable BMP manual for Wetlands and Waterways Minimization and Avoidance is being followed;
  - (c) Water quality control measures have been:
    - (1) Selected and implemented based on the size and nature of the project and the physical characteristics of the site, including slope, soil type, vegetative cover, and proximity to jurisdictional areas;
    - (2) Comprised of wildlife-friendly erosion control materials;
    - (3) Installed prior to start of work and in accordance with the manufacturer's recommended specifications or, if none, the applicable requirements of Env-Wq 1506 or Env-Wq 1508, and will consist of staked coir logs at top

### APPENDIX J, Part 3

and toe of slopes, see **WPA Appendix E, Engineering Sheets 5-7 (“Sheets 5-7”)**;

- (4) Is capable of:
    - a. Minimizing erosion;
    - b. Collecting sediment and suspended and floating materials; and
    - c. Filtering fine sediment;
  - (5) Will be maintained so as to ensure continued effectiveness in minimizing erosion and retaining sediment on-site during and after construction;
  - (6) Remain in place until all disturbed surfaces are stabilized to a condition in which soils on the site will not experience accelerated or unnatural erosion, using techniques such as achieving and maintaining a minimum of 85% vegetative cover using an erosion control seed mix that is certified by its manufacturer as not containing any invasive species; and will consist of tall fescue and creeping red fescue applied at a rate of .45 lbs/1,000 SF and birdsfoot trefoil applied at a rate of 0.2 lbs/1,000 SF; per the NH Stormwater Handbook, Volume 1, 2008, since the upland soils cap area lies within 50 feet of a surface water, only limestone fertilizer will be applied at a rate of 138 lbs/1,000 SF; and
  - (7) If designed and installed as temporary methods, be removed upon completion of work when compliance with (6), above, is achieved;
- (d) Any sediment collected by water quality control measures shall be:
- (1) Removed with sufficient frequency to prevent the discharge of sediment; and
  - (2) Placed in an upland location in a manner that prevents its erosion into a surface water or wetland.
- (e) All exposed soils and other fills shall be permanently stabilized within 3 days following final grading.
- (f) Turbidity curtain--this will be deployed prior to dredging activities to:
- (1) Enclose the area of dredging conducted along the shoreline of the tidal inlet to Sagamore Creek, and will not be installed during periods of high flow; and
  - (2) Will be removed after work within the turbidity control is completed, the contained water has returned to background clarity, and removing the structure will not cause or contribute to a violation of (c)(6), above.
- (g) The person in charge of construction equipment shall:
- (1) Inspect such equipment for leaking fuel, oil, and hydraulic fluid each day prior to entering surface waters or wetlands or operating in an area where such fluids could reach groundwater, surface waters, or wetlands;
  - (2) Repair any leaks prior to using the equipment in an area where such fluids could reach groundwater, surface waters, or wetlands;
  - (3) Maintain oil spill kits and diesel fuel spill kits, as applicable to the type(s) and amount(s) of oil and diesel fuel used, on site so as to be readily accessible at all times during construction; and
  - (4) Train each equipment operator in the use of the spill kits.
- (h) Equipment shall be staged and refueled in accordance with Env-Wt 307.15, ie it will not be stored, maintained or repaired within wetlands; and it is anticipated

### APPENDIX J, Part 3

- that the 4-8 cubic yards of wetland sediment to be removed, will be excavated by long reach excavator from the top of a riprap slope outside wetlands areas.
2. ENV WT 307.4: the project will avoid and minimize discharges of dredged material or placement of fill material during spawning or breeding seasons by using water quality protection techniques as specified in Env-Wt 307 and timing of project as specified in Env-Wt 307.10(g) or (h);
  3. ENV WT 307.5: the contractor will not use imported soil or seed stock containing nuisance or invasive species, by following the Invasive Plant BMPs;
  4. ENV WT 307.6: no threatened or endangered species exist within the work area;
  5. ENV WT 307.7: the proposed activities are consistent with the Shoreland Water Quality Protection Act, specifically maintenance and protection of waterfront buffer, natural woodland buffer, and protected shoreland, through adherence to Env Wq 1400 and RSA 483-B;
  6. ENV WT 307.8: water quality and environmental minimization measures will be in place to ensure that functions and values of prime wetlands and duly-established 100-foot buffers are protected to extent practicable during construction;
  7. ENV WT 307.09: no structures within jurisdictional areas are proposed;
  8. ENV WT 307.10: dredging will not affect setbacks, will occur during low flow conditions, and turbidity controls shall:
    - (a) Be installed prior to construction and maintained during construction such that no turbidity escapes the immediate dredge area; and
    - (b) Remain in place until suspended particles have settled and water at the work site has returned to normal clarity;
    - (c) Dredged materials shall be disposed of out of jurisdictional areas, at a licensed disposal facility;
    - (d) Dredged materials (11 CY max) are intended to be to live-loaded and transported off-site, thus no stockpiling in uplands areas is anticipated. If this does become necessary, such stockpiling shall be dewatered in sedimentation basins that are:
      - (1) Contained within turbidity controls that prevent turbid water from leaving the basins; and
      - (2) Located outside of any jurisdictional area. Also, no dredging shall occur in tidal waters during a fish migration or larval setting stage of fish and shellfish, unless required, which is between March 15 and November 15; and will be designed and implemented to ensure that there is no disruption of tidal flushing;
  9. ENV WT 307.11: proposed fill shall be clean wetland hydric soil for dredging restoration areas, and clean topsoil for upland areas, and clean 4 or 5 inch stone and boulders for planned riprap areas, which do not contain any material that could contaminate surface or groundwater or otherwise adversely affect the ecosystem in which it is used; the limits of fill are clearly identified on the drawings (see **Sheets 5 through 7**) and will be controlled in accordance with Env-Wt 307.03 to ensure that fill does not spill over or erode into any area where filling is not authorized; slopes



### APPENDIX J, Part 3

adjacent to the dredging area and transitioning from upland areas to the dredging area will during construction, be immediately stabilized (as specified in Env-Wq 1506 or Env-Wq 1508), to prevent erosion into adjacent wetlands or surface waters. Fill shall be not placed so as to direct flows onto adjacent or down-current property. No swamp or construction mats nor temporary fill are anticipated, and construction work will be accomplished by excavators stationed on existing upland soils or riprap.

10. ENV WT 307-12: Following project completion, project area will be restored according to the following:
  - (a) Within 3 days of final grading or temporary suspension of work in an area that is in or adjacent to surface waters, all exposed soil areas shall be stabilized by:
    - (1) Seeding and mulching, if during the growing season; or
    - (2) Mulching with tackifiers within the growing season;
  - (b) Upon completion of construction, all disturbed wetland areas shall be stabilized with either wetland plantings (See **Sheets 5-7**) or seed mix. Salt marsh bulrush will be planted below 6 FT MSL, and salt tolerant grass mix will be planted from 6 FT MSL to the HOTL at 8 FT MSL; see details under Construction Sequence note on **Sheet 5**;
  - (c) Any seed mix used shall not contain plant species that are invasive species;
  - (d) Mulch used within an area being restored shall be natural straw or equivalent non-toxic, non-seed-bearing organic material;
  - (e) Wetland soils from areas vegetated with invasive species shall not be used in the area being restored;
  - (f) If any temporary impact area that is stabilized with seeding or plantings does not have at least 75% successful establishment of wetlands vegetation after 2 growing seasons, the area shall be replanted or reseeded, as applicable;
  - (g) If a temporary impact area is restored by seeding or plantings, then:
    - (1) The work shall not be deemed successful if the area is invaded by invasive species during the first full growing season following the completion of construction; and
    - (2) The person responsible for the work shall submit a remediation plan to the department that proposes measures to be taken to eradicate invasive species during this same period;
  - (h) any trees cut in an area of authorized temporary impacts shall be cut at ground level with the shrub and tree roots left intact, to prevent disruption to the wetland soil structure and to allow stump sprouts to revegetate the work area.
11. ENV WT 307-1: work will occur within 10 feet of an abutting property line, but written consent of the abutter has been obtained.
12. ENV WT 307-14: rocks will not be removed from surface waters;
13. per 307-15, heavy equipment such as excavator and loader will need to be operated in the shoreland and wetlands buffer jurisdictional areas, but no mobile heavy equipment working in wetlands buffer area will be stored, maintained, or repaired in wetlands, except that repairing or refueling in a wetland is allowed if equipment cannot practicably be removed and secondary containment is provided; Where construction

### APPENDIX J, Part 3

requires the operation of heavy equipment in wetlands, the equipment will either have low ground pressure, namely less than 4 psi, or not be located directly on wetland soils and vegetation.

14. Per 307-16, adherence to approved plans will be maintained; and
15. per 307-18, a construction monitoring plan (CMP) with inspection reports, water quality reports, and review of project wetland planting plan which has been prepared by a certified wetland scientist is provided as **Appendix J, Part 5** and **Sheets 5-7**. A report that describes the monitoring conducted and date(s) of inspections, and includes photos showing the extent of jurisdictional impacts, areas of restoration, and progress of any plantings will be provided at the conclusion of work, along with a description of the stability of and status of the wetland system, including a description of any necessary adjustments; and a schedule and description of measures to be taken during construction and after completion of the project will be provided in CMP.
16. Env-Wt 311.09, Env-Wt 400, Env-Wt 500, Env-Wt 600, and Env-Wt 700: These criteria have been met, including project-specific criteria established in Env-Wt 500 and Env-Wt 600.
17. Env Wt 800, Compensatory Mitigation, and Env-Wt 900, Stream Crossings, are not applicable. Specifically, for 311.09, since this project lies within the protected shoreland as defined by RSA 483-B, the following has been provided on Sheets 2, and 5-7:
  - (a) The reference line;
  - (b) The location of all existing structures between the primary building line and the reference line;
  - (c) The location of all proposed structures (no new structures are proposed);
  - (d) The landward limit of the 100-foot tidal buffer zone; and
  - (e) The total jurisdictional area within the protected shoreland to be impacted as a result of the project.
18. Compliance with Env-Wt 400 has been achieved regarding requirements for wetland and hydric soil delineation, jurisdictional area delineation, and assessment/classification of type of impact.
19. Compliance with Env Wt 500 is demonstrated for: natural aquatic vegetation removal and restoration; maintenance of current shoreland alignment and function; and application and design requirements for shoreland riprap installation.
20. For Env Wt 600, the Tidal Dredging Worksheet has been completed as WPA Appendix R, and requirements are met for shoreland design narrative and plans. Specifically, for 603.07,
  - (a) design plans for the project in both plan and elevational views are provided in Sheets 1 through 7 which depict and identify all required elements, as described in Env-Wt 311 and (b) and (c), below.
  - (b) The plan view depicts the following:
    - (1) The engineering scale used, no larger than one inch equals 50 feet;
    - (2) The location of tidal datum lines depicted as a line with the associated elevation noted, based on NAVD 88, as described in Env-Wt 603.08;

### APPENDIX J, Part 3

- (3) An imaginary extension of property boundary lines into the waterbody and a 20-foot setback from those property line extensions;
  - (4) The location of all special aquatic sites at or within 100 feet of the subject property, if any (none exist, See **WPA Appendix C**, which contains Wildlife Habitat Map, and **WPA Appendix J**, Current Shellfish Beds, and 2023 Eelgrass maps, all of which show no applicability to the project area);
  - (5) Existing bank contours;
  - (6) The name and license number of each individual responsible for the plan, including the certified wetland scientist who completed the CFA report and located the identified resources on the plan; and
  - (7) The location and dimensions of all existing and proposed structures and landscape features on the property.
- (c) The elevational views in **Sheets 1-7** depict the following:
- (1) The nature and slope of the shoreline;
  - (2) 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, as presented on Sheet 5, and as identified in 603.08 has been provided therein. The predicted sea-level rise is identified in the vulnerability assessment (see **Appendix K**) per Env-Wt 603.05.(b); and
- (d) A bathymetric survey is essentially provided in Sheet 5 for the purposes of this Application.
21. Regarding ENV WT 607.04,. A sediment dispersion modeling defined in 607.04 has not been undertaken, because only 0.5 to 1.0 feet of either marsh sediment with silty grain size (defined per 607.05(g)) or prior fill materials from prior remediation activities are being excavated. Avoidance and minimization BMPs have been provided in the narrative.
  22. In accordance with 607.03(b)(2), a pre-application meeting was held on April 6, 2023 with Kristin Duclos, Wetlands Permitting Specialist, and David Price, Eastern Region Supervisor, of NHDES Water Pollution Division, and a site visit subsequently on April 24, 2023.
  23. Per Env Wt 700, wetlands/tidal buffers have been delineated by a Certified Wetlands Scientist, and there is no significant net loss of values of the prime wetland/buffer results from the proposed dredging and restoration activities, based on a functional assessment and impact analysis.
  24. Finally, as required by RSA 482-A:11, II for a permit to dredge or fill, the work will not "infringe on the property rights or unreasonably affect the value or enjoyment of property of abutting owners".
  25. Env Wt 313.01: The project meets the criteria of this regulation, regarding functional assessments and avoidance and minimization requirements specified in Env-Wt 313.03, since no practicable alternative exists. No compensatory mitigation is

### APPENDIX J, Part 3

required. No permanent impacts will remain due to avoidance and minimization activities, all applicable conditions specified in Env-Wt 307 have been met.

26. Env Wt 313.03: a demonstration has been made concerning temporary impacts to jurisdictional areas which avoids such impacts to the maximum extent practicable, and establishes that any unavoidable impacts have been minimized, as described in NH Wetlands Avoidance and Mitigation BMPs, as noted above. Furthermore:
- (a) There is no practicable alternative that would have a less adverse impact on the area and environments under the department's jurisdiction;
  - (b) The project avoids and minimizes impacts to tidal marshes and non-tidal marshes where documented which could provide sources of nutrients for finfish, crustacea, shellfish, and wildlife of significant value;
  - (c) The project maintains hydrologic connections between adjacent wetlands;
  - (d) The project avoids and minimizes impacts to wetlands and other areas of jurisdiction under RSA 482-A;
  - (e) The project avoids and minimizes impacts that eliminate, depreciate, or obstruct public commerce, navigation, or recreation;
  - (f) The project avoids and minimizes impacts to floodplain wetlands that provide flood storage;
  - (g) The project avoids and minimizes impacts to wetlands that would be detrimental to adjacent drinking water supply and groundwater aquifer levels.

**APPENDIX J, Part 4**

**OPERATIONS MONITORING & MAINTENANCE (OMM) PLAN  
PORTSMOUTH MARINA RESTORATION PROJECT  
185 - 187 WENTWORTH ROAD, PORTSMOUTH, NH**

**Prepared for:  
Mr. Tom Reis, President  
Sea Level, LLC  
187 Wentworth Road  
Portsmouth, NH**

**Prepared by:**  
  
**104 Pleasant Street  
Concord, New Hampshire 03301  
(603) 228-0008**

**October 17, 2024  
Aries Project No. 2021-075  
NHDES #198604143**

## TABLE OF CONTENTS

<b>SECTION</b>	<b>PAGE</b>
1.0 - INTRODUCTION	1
2.0 - ACTIVITY AND USE RESTRICTION (AUR)	2
3.0 - STORMWATER MANAGEMENT SYSTEM/OPERATIONS MONITORING AND MAINTENANCE PLAN (MMP)	6
3.1 - Operations, Monitoring & Maintenance (OMM) Plan	7
3.2 - Inspection and Maintenance Frequency and Corrective Measures	9
4.0 - TSCA CAP	10
4.1 - Cap Maintenance	10
4.2 - Record Keeping	11
4.3 - Change in Ownership	11
5.0 - FINAL SOIL COVER CAP	11
5.1 - Cap Maintenance	11
5.2 - Record Keeping	11
LIMITATIONS	12

### **FIGURES/SHEETS**

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Sheet 4 – Concrete Cap Construction

Sheet 5 – Site Layout, Showing AUR Areas (Final Soil Cover and Concrete Caps)

### **ATTACHMENTS**

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Attachment AA - AUR Application

Attachment BB - AUR Self Cert Form

Attachment CC - Operations Monitoring and Maintenance (OMM)



**OPERATIONS MONITORING AND MAINTENANCE PLAN  
SEA LEVEL, LLC. PORTSMOUTH MARINA RESTORATION PROJECT,  
185 - 187 WENTWORTH ROAD, PORTSMOUTH, NH**

## **1.0 - INTRODUCTION**

---

This Operations Monitoring and Maintenance (OMM) Plan (“Plan”) is intended to identify procedures and requirements applicable to the portion of the Portsmouth Marina property owned by Sea Level, LLC at 185-187 Wentworth Road, Portsmouth, NH (the “site”), which will be restored in accordance with applicable federal, state, and local environmental regulations. These procedures and requirements will concern as-built structures or constructed features which will have been implemented and need to be maintained and monitored to verify that regulatory standards and protocols are being met and that the integrity and effectiveness of the constructed features will continue over the anticipated 25-year life of the remediated portion of the site.

The applicable environmental regulations and associated requirements are as follows:

- Federal TSCA, 40 CFR 761 et al, for an approved Self-Implementing Plan (SIP), approved September 9, 2016, supplemented by a SIP Addendum approved January 31, 2023 by the U.S. Environmental Protection Agency (EPA), TSCA Section, Region I;
- NH Department of Environmental Services (DES) requirements associated with the Wetlands Protection Act and NH Stormwater Management Standards;
- NHDES requirements for hazardous waste cleanup, noting that EPA regulations take precedence over state regulations for the specific parameter of concern, PCBs, which has been present on site in concentrations exceeding 50 ppm, the threshold which triggers EPA jurisdiction; and
- City of Portsmouth Conservation Commission (ConCom) Wetlands Protection Regulations, Article 10, and Planning Commission requirements for a Conditional Use Permit, as applicable.

Therefore, this OMM Plan will need to be updated once final regulatory approvals from the respective state, local and federal agencies have been issued. It is prepared at present as a technical submittal to accompany the Wetlands Protection Act Application (WPA) and related permit applications, especially the Coastal Resource Worksheet, as Part 4 of the Shoreland Permit Application, to demonstrate the commitment of the WPA Applicant, Sea Level, LLC, to provide long-term maintenance and care of the several different components of remediation measures which will be implemented at the site, which include the following:

- Uplands Final Cover Area, 760 SF in area, a level area above Mean Sea Level (MSL) Elevation 11 to 12 feet and borders the armored riprap which lines the cove. This Area covers PCBs >1 < 25 ppm with a six-inch clean soil cap vegetated



with wetland compatible or wildlife meadow mix; it is regulated by TSCA as a “Low Occupancy Area”, with certain requirements thereto; and

- Uplands Concrete Cap Area, 5,000 SF in area, covering PCBs >25<50 ppm and lead. It occurs at MSL Elevation 13 to 15 and has a dual design in addition to providing a TSCA cap compliant with 40 CFR 761(a)(7), allows heavier boat storage to occur within this footprint. This Cap is sloped at a 2% slope from east to west, allowing precipitation to drain via sheet flow to the western and northern edges of the cap where it encounters a two-foot-wide 2-inch stone flow level spreader/attenuation barrier which reduces flow prior to entry to a packaged underground stormwater treatment and retention system such as Stormtech or equivalent. This system is intended to be sufficiently sized in design to retain and slowly release into adjacent soils after treatment for oils, metals, and other residues found on the concrete surface, the full volume of rainwater from a 2-year, 24-hour storm (3-inch precipitation event).

Other stormwater originating adjacent to the cap will drain via overland sheet flow down to the riprap area, either directly in the north direction and over the Final Soil Cover Area, or indirectly (for flow to the west) via the natural vegetated drainage swale which currently exists above MSL Elevation 12 feet, in an east-west direction and downwards over the MSL Elevation 11 to 12 foot area to the riprap zone between MSL Elevation 8 to 11, with 8 feet being the Highest Observable Tide Line.

The anticipated limits of work and final layout and dimensions and components of the completed project components are identified in Engineering Plan/Sheet 5. Each component is addressed separately in the sections which follow.

## **2.0 - ACTIVITY AND USE RESTRICTION (AUR)**

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The U.S. EPA will accept a state-defined environmental deed restriction instrument as the legal mechanism by which the remediation area of the site containing final cleanup measures is assured to be maintained and monitored over the post-closure project life to continue to protect human health and the environment, in accordance with TSCA regulations established at 40 CFR 761(a)(8). Specific TSCA requirements pertinent to an AUR, and identified in EPA’s January 23, 2023 approval letter, are as follows:

- Within sixty (60) days of completing final property-wide remediation, Sea Level LLC shall submit to EPA a recorded deed restriction for the property in its entirety. The deed restriction shall include: a description of the extent and levels of contamination at the property following abatement; a description of the actions taken at the property; and a description of the use restrictions for the property; and the long-term monitoring and maintenance requirements on the property per the requirements of 40 CFR § 761.61(a)(8).



NHDES En Or 608 Contaminated Site Management provides for an Activity and Use Restriction (AUR) to provide this deed restriction. The Applicant will after completion of remediation activities, file an AUR Application (Attachment AA) which is completed at that time to identify the measures and activities it will undertake to provide assurance that regulatory requirements and environmental controls will remain in good condition.

Where the area subject to the AUR comprises only a portion of a lot, the AUR Application will include both of the following:

- a. A metes and bounds description of the restricted area and
- b. A recordable plan, prepared by a New Hampshire registered land surveyor that shows the location of the restricted area in relation to the property boundaries of the site.

Also necessary is the following information, which are identified in Sections 3, 4 and 5 of this document, unless provided below in parenthesis following the applicable requirement, or is stated on the AUR Application:

1. The time period during which the AUR shall be effective (25 years).
2. A precise description of the site activities and uses that will be prohibited on the site and allowed on the site.
3. A description of how the restrictions will eliminate the risks to human health and the environment.
4. A precise description of the measures to be taken to ensure compliance with the AUR.
5. A description of the procedures to be followed when an emergency requires immediate excavation of contaminated soil to repair utility lines or other infrastructure on the site, or to respond to other emergencies that might result in a significant risk to human health, evaluated pursuant to procedure specified in Env-Or 606.19(d)(2) and (3), from exposure to contaminants at the site, which shall include:
  - a. Notifying NHDES of such emergency condition; and
  - b. Limiting disturbance of contaminated media to the minimum necessary to adequately respond to the emergency; and
  - c. Undertaking specified precautions to reduce exposure of workers and neighbors of the site to contaminated media and
  - d. Preparation and implementation of a written plan for restoring the site to a condition consistent with the AUR.
6. An acknowledgement by the applicant that the AUR shall run with the land pursuant to Env-Or 608.01(b)(3).
7. An analysis of the long-term feasibility of maintaining the AUR.
8. An acknowledgement by the applicant to incorporate either in full or by reference to the AUR into all deeds, easements, mortgages, leases, licenses, occupancy agreements, or any other instruments conveying an

interest in and/or a right to use the property pursuant to Env-Or 608.01(b)(2).

9. The procedures for modifying and terminating the AUR pursuant to Env-Or 608.06 and Env-Or 608.07.
10. Title reference by which the property owner(s) acquired title to the property.
11. A schedule for self-certifying compliance with the AUR pursuant to Env-Or 608.01(e).

Future use restrictions and obligations which require the monitoring, maintenance and record keeping are anticipated to exist for the following permanent site remediation features, which are TSCA caps in accordance with 40 CFR 761(a): 1) impermeable concrete cap in upland soils, installed over a 5,000 square foot (SF) area at the site to prevent infiltration of precipitation to soils beneath which contain residual but legally compliant levels of environmental constituents of concern (PCBs >25<50 ppm and lead); and 2) a permeable cap (Final Cover) installed to prevent contact with subsurface levels of PCBs >1<25 ppm considered to exist below regulatory levels, as long as the six-inch-thick Final Cover over the affected 770 SF remains intact; and 3) maintenance of stormwater management controls and features which allow the two caps in Items 1 and 2 to remain intact and prevent human or wildlife contact with the PCBs/lead in soils.

To enforce the prevention of contact with the PCBs/lead in soils, the AUR will be self-certified using the NHDES template (Attachment BB) recorded on the property deed by the Applicant once soil remedial activities are complete as planned for 2025, and will identify the following restrictions and conditions for the site consistent with EPA, NHDES, and City of Portsmouth issued permits and approvals:

- Low occupancy use, as described below with respect to the TSCA Cap;
- Construction Worker Caution, as described below;
- Industrial/Commercial land use restriction, meaning that residential development is prohibited;
- Future Building Construction restriction: Any commercial/industrial building constructed intended for regular occupancy must have a full concrete slab-on-grade floor;
- Any future disturbance of the AUR area, including by utility companies working for third parties, should only be undertaken under the supervision of a NH-Licensed Professional Engineer or Professional Geologist, who will prepare a Health and Safety Plan (HASP) consistent with 29 CFR 1910.120, and conducted in accordance with a Soil and Groundwater Management Plan (SMP), which in combination with a HASP will proscribe safe and environmentally compliant procedures and protocols to protect human health, safety, welfare and the environment while the temporary disturbance of the soils occurs;
- A notification that the caps must be maintained in perpetuity by any potential purchaser of the property; and

- A notification that the land has been used for PCB remediation waste disposal and is restricted to use as a low occupancy area as defined in 40 CR 761.3.

The SMP would need to address the following items:

- Be prepared by a NH-licensed professional and implemented prior to the commencement of any construction activity, or any planned (non-emergency) utility installation, repair or maintenance activity, which is likely to disturb or encounter soil or groundwater located below surface grade (current elevation at the date of the Notice of AUR) within the AUR area unless such activity is permitted as noted above. The SMP shall be prepared in accordance with the MCP (310 CMR 40.0030). The SMP should describe soil excavation, handling, storage, transport, and disposal procedures and include a description of engineering controls and air monitoring procedures necessary to ensure that on-site workers and receptors in the vicinity are not affected by fugitive dust or particles. Procedures for managing water encountered in the excavation should also be addressed in the SMP. On-site workers who may come into contact with impacted soils on the Property must be appropriately trained concerning the requirements of the SMP, must be informed of the requirements in the SMP, and the SMP must be made available on site; and
- Be supplemented by a health and safety plan (“HASP”) prepared by a qualified professional and implemented prior to the commencement of any non-emergency utility installation, repair or maintenance activity, or construction activity which is likely to disturb or encounter soil or groundwater located below surface grade (current elevation assumed to be 11+ FT MSL at the date of the Notice of AUR) within the AUR area. The HASP shall require workers encountering subsurface soils and groundwater to be adequately protected and trained consistent with relevant federal and state occupational, health and safety requirements (e.g. 29 CFR 1910.120), and must otherwise be prepared in accordance with the guidelines discussed in the AUR. The HASP should consider the appropriate personal protection equipment (PPE) for construction workers and monitoring of the breathing zone air quality during Site construction and earth work activities. The HASP should clearly identify the location(s) and nature(s) of the capped materials which may be encountered.

The caps must be maintained in perpetuity and include the completion of annual inspections and maintenance activities, unless additional remedial actions are completed and their removal is approved by the appropriate regulatory agency(s);

- On-site construction and utility workers must be informed of the location and nature of contaminated soil within the AUR area and of the restrictions imposed by the AUR. Copies of the HASP and SMP must be available on site during any activities that may result in disturbance of contaminated soil or groundwater in the AUR area;
- Any soils removed from the AUR area in accordance with the AUR must be managed in a manner consistent with NHDES protocols and guidance, and in accordance with federal, state, and local regulations;

- The U.S. EPA requires notification from current and future owners thirty (30) days prior to any change in ownership of the property. Such notice must include the name, address, and telephone number of the new owner, and the name of the new owner's contact person. The current and future owners must also submit a letter to EPA, signed by the potential purchaser, stating whether it intends to maintain the TSCA cap, and whether it plans to maintain the TSCA-defined "low occupancy land use", or whether it intends to remove and dispose of additional PCB-contaminated soils off-site instead;
- The lessee/owner will restrict routine access to the AUR deed restricted area.
- The lessee must notify the owner of any planned or proposed soil disturbance activities in the AUR area at least 30 days prior to the activity;
- No site soils from the AUR area are to be transferred off-site with the prior approval of the owner;
- Lessee/owner will ensure that site access is secured when the site is not occupied;
- Lessee/owner will allow agency access, if requested;
- Sea Level, LLC. will provide sufficient financial assurance to enable annual inspections and maintenance activities.

### **3.0 - STORMWATER MANAGEMENT SYSTEM/OPERATIONS MONITORING AND MAINTENANCE PLAN (OMM PLAN)**

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EPA set forth in its January 31, 2023 SIP approval letter the following conditions pertinent to long term maintenance and monitoring:

- Within 30 days of completion of the work authorized under this Approval, Sea Level LLC shall submit for EPA's review and concurrence, a detailed OMM Plan for the caps and other pertinent features. Sea Level Inc. shall incorporate any changes to the OMM Plan required by EPA.
  - a. The OMM Plan shall include: a description of the activities that will be
  - b. The OMM Plan shall include a communications component which details how the maintenance and monitoring results will be communicated to the Site users, including building users, other on-site workers, and interested stakeholders, if requested.
  - c. The OMM Plan also shall include a worker training component for maintenance workers or for any person that will be conducting work that could impact the cap(s).
  - d. Sea Level Inc. shall submit the results of these long-term monitoring and maintenance activities to EPA. Based on its review of the results, EPA may determine that modification to the OMM Plan is necessary in order to monitor and/or evaluate the long-term effectiveness of the cap(s).
  - e. Activities required under the OMM Plan shall be conducted until such time that EPA determines, in writing, that such activities are no longer necessary.

This present OMM Plan is intended to address each of the above requirements. In addition to specific measures identified in Section 3.1, the findings of annual OMM Plan inspections will be communicated to site personnel, and filed with EPA and other regulatory entities as needed; and personnel conducting the inspections and providing maintenance activities, repairs or restoration work, will be trained in performance of their duties.

Consistent with the New Hampshire Stormwater Handbook:

- The owner shall conduct an annual summary inspection using a Stormwater Operation & Maintenance Checklist, which will be the OMM Plan Checklist in Attachment CC, and keep this inspection and log on-site. It can be provided to the City of Portsmouth ConCom if requested. The inspection will focus on inspection and maintenance activities including performances of Best Management Practices (BMPs); and,
- Should ownership of the site change, the owner will continue to be responsible until the succeeding owner shall notify the US EPA, NHDES, and as appropriate, the City of Portsmouth ConCom, that the succeeding owner has assumed such responsibility.

### **3.1 - Operations, Monitoring & Maintenance (OMM) Plan**

Features of the OMM plan, which will meet the EPA requirements for a OMM Plan, including Best Management Practices (BMPs) are as follows:

- **Housekeeping**

The existing development has been designed to maintain an appropriate level of water quality treatment for stormwater discharge, which will occur via sheet flow to the low point of the cap areas and ultimately to the wetland areas. An OMM plan has been prepared and the owner (or its designee) is responsible for adherence to the OMM plan in a strict and complete manner.

- **Storing of Materials & Water Products**

The trash and waste program for the site includes exterior dumpsters designed to capture trash and debris.

- **Vehicle Washing**

Outdoor vehicle washing has the potential to result in high loads of nutrients, metals, and hydrocarbons during dry weather conditions, as the detergent-rich water used to wash the grime off the vehicle enters the stormwater drainage system. The existing site status does not include any designated vehicle washing areas, although it is expected that any vehicle washing will take place on-site on a routine basis, but outside the 100-foot Tidal Buffer Zone.

- **Spill Prevention & Response**

Sources of potential spill hazards include vehicle fluids, liquid fuels, pesticides, paints, solvents, and liquid cleaning products. The majority of the spill hazards would likely occur within the enclosed site buildings or on the 5,000 SF concrete cap (Engineering Sheet 5) which is provided for heavier boat storage. Other smaller boat storage will occur on NHDES-designated impervious gravel outside the limits of the two caps (soil or concrete). It is noted that this “impervious gravel” is 1-2 inch in size, is a combination of degraded and intact gravel. The degraded gravel has over time, due to its location adjacent to a woodland buffer, received leaf detritus which over time via natural biodegradation has covered its upper surface. However, both the degraded and intact gravel are quite pervious in function, and cover the majority of the site, as noted in the Shoreland Permit Application for this project. This gravel base allows rapid infiltration of stormwater even for design storm events.

The project design avoids the need for stormwater to enter the local municipal stormwater drainage system. However, there are spill hazards from vehicle fluids from hydraulic lines located outside of the building on the concrete cap which has the potential to enter the overland stormwater drainage system and are to be addressed as follows:

- Spill hazards of pesticides, paints, and solvents shall be remediated using the Manufacturers’ recommended spill cleanup protocol.
- Vehicle fluids and liquid fuel spills shall be remediated according to the local and state regulations governing fuel spills.
- The owner shall have the following equipment and materials on hand to address a spill clean-up: brooms, dust pans, mops, rags, gloves, absorptive material and/or sand, and plastic or metal trash containers.
- All spills shall be cleaned up immediately after discovery.
- Spills of oil or hazardous material over US EPA and NHDES thresholds would be reported to the appropriate agencies, and cleanup operations undertaken by the owner, if small, or by a licensed spill response contractor.
- Should a spill occur, the pollution prevention plan will be adjusted to include measures to prevent another spill of a similar nature. A description of the spill, along with the causes and cleanup measures will be included in the updated pollution prevention plan.

- **Management of Deicing Chemicals and Snow**

Snow will be stockpiled on site until the accumulated snow becomes a hazard to the daily operations of the site. It will be the responsibility of the snow removal contractor to properly dispose of transported snow according to NHDES guidelines governing the proper disposal of snow. It will be the responsibility of the snow removal contractor to follow these guidelines and all applicable laws and regulations. The owner’s maintenance staff (or its designee) will be responsible for the clearing of the sidewalk and building entrances. The owner may be required to use a deicing agent such as potassium chloride to maintain a safe walking

surface. If used, the de-icing agent for the walkways and building entrances will be kept within the storage rooms located within the building. If used, de-icing agents will not be stored outside. The owner's maintenance staff will limit the application of sand.

- **Inspection Log Form**

A OMM Plan Inspection Form (Attachment CC) will be kept summarizing inspections, maintenance, and any corrective actions taken. The log will include the date on which each inspection or maintenance task was performed, a description of the inspection findings or maintenance completed, and the name of the inspector or maintenance personnel performing the task. If a maintenance task requires the clean-out of any sediments or debris, the location where the sediment and debris was disposed after removal will be indicated. The log will be made accessible to ConCom and NHDES upon request, and will be issued annually to EPA.

- **Stormwater Collection System – On-Site**

The stormwater collection system is comprised of natural water quality swales, stone check dam/level spreaders at the north and west ends of the concrete cap, (see Engineering Sheets 4 and 5) and the packaged underground stormwater treatment and retention system described above. The packaged system will be maintained by periodic flushing or removal of solids as needed

### **3.2 - Inspection and Maintenance Frequency and Corrective Measures**

The following will be observed for this site:

- **Scope and Frequency of Inspections:**

In accordance with NHDES Stormwater Handbook: Volume 2, the following areas, facilities, and measures will be inspected and the identified deficiencies will be corrected: Clean-out of stormwater control devices must include the removal and legal disposal of any accumulated sediments, trash, and debris. In any and all cases, operations, inspections, and maintenance activities shall utilize best practical measures to avoid and minimize impacts to wetland resource areas outside the footprint of the Limits of Work. An annual inspection at a minimum, and after severe storm events impacting the caps, is anticipated.

Proper construction, inspections, maintenance, and repairs are key elements in maintaining a successful stormwater management program on a developed property. Routine inspections ensure permit compliance and reduce the potential for deterioration of infrastructure or reduced water quality. For the purpose of this Stormwater Management Program, a significant rainfall event is considered an event of three (3) inches or more in a 24-hour period or at least 0.5 inches in a one-hour period.

- **Construction Requirements:**

During construction, expected to require only one month, inspections will be conducted every two weeks or after a 0.25” rainfall event in a 24-hour period per the EPA NPDES Phase II SWPPP, until the entire disturbed area is fully restabilized, which should occur within two months after completion of work. Upon full stabilization of the project and filing of an NOI, inspections need only be conducted after a significant rainfall event as described above or as described in the maintenance guidelines below.

- **Invasive Species:**

The NH Commissioner of Agriculture prohibits the collection, possession, importation, transportation, sale, propagation, transplantation, or cultivation of plants banned by NH LAW RSA 430:53 and NH Code Administrative Rules AGR 3800. The project shall meet all requirements and the intent of RSA 430:53 and AGR 3800 relative to invasive species.

## **4.0 - TSCA CAP**

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The TSCA Cap will be inspected on a yearly basis using the OMM Plan inspection form presented in Attachment CC. The TSCA Cap will be maintained as described below, and repaired as needed with the methods identified in the following sections.

### **4.1 - Cap Maintenance**

Recommendations for routine maintenance of the TSCA cap as well as maintenance for asphalt damage and weathering are provided below, in the event repairs are needed. Engineering Sheets 4 and 5 depict the construction and extent of the concrete TSCA cap, which serves as an impermeable barrier.

- **Crack Filling or Sealing**

This treatment should be used for small and medium cracks that are found to be 0.25 to 2 inches in width. The cracks should be cleaned with high pressure air blasting equipment over the entire length of the cracks prior to sealing. Small cracks (between 0.25 inch and 0.5 inch) should be widened to a minimum of 0.5 inch using a pavement saw where feasible. An appropriate sealant or Type II concrete should be applied to fill such cracks.

- **Full Depth Pavement Reconstruction**

This repair method should be used where potholes or depressions greater than 3 inches in depth, or extensive spalling or surface degradation, are observed. The edges of the repair should be saw cut to the full depth of the concrete pavement and the existing subbase material removed if needed and replaced with a new 6-inch concrete cap and sub-base material, matching the original cap section.



Because Federal regulations indicate “repairs shall begin within 72 hours of discovery for any breaches which would impair the integrity of the cap” (40 CFR 761.61 (a) (7)), annual cap inspection and routine informal monitoring is recommended. It is expected that the new owner will perform the annual cap inspection and identify deficiencies or recommended actions, using the OMM Plan Inspection Form in Attachment CC.

#### **4.2 - Record Keeping**

Copies of the inspections and any maintenance or inspection follow-up activities should be maintained on-site. The facility must maintain a written record of all sampling and analyses of PCBs or notifications for 3 years from the date of the waste's generation. The records must be made available to US EPA and/or NHDES upon request, per 40 CFR 761.62 (b)(5).

#### **4.3 - Change in Ownership**

The US EPA requires notification from Sea Level LLC. thirty (30) days prior to any change in ownership of the property. Such notice must include the name, address, and telephone number of the new owner, and the name of the new owner's contact person. Sea Level LLC must also submit a letter, signed by the potential purchaser, stating whether it intends to maintain the TSCA cap, and whether it plans to maintain the low occupancy land use, or whether it intends to remove and dispose of additional PCB-contaminated soils off-site instead.

### **5.0 - FINAL SOIL COVER CAP**

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The Low Occupancy Final Soil Cover's location and dimensions are provided on Engineering Sheet 5, and its composition consists of six inches of clean soil cover/topsoil vegetated with wetland-compatible or wildlife habitat plants. The Cover will be inspected on a yearly basis using the form presented in Attachment CC, and will be maintained as described below, and repaired as needed with the methods identified in the following sections.

#### **5.1 - Cap Maintenance**

The integrity of the Cover must be maintained, and repairs as needed must be made “in kind”. If animal burrows are detected, the animal must be removed in accordance with local regulations on animal control, and the burrow sealed with loam (not sand or gravel). Stormwater controls (swales, check dams, level spreaders) must be repaired to original condition.

#### **5.2 - Record Keeping**

Copies of the inspections and any maintenance or inspection follow-up activities should be maintained on-site.

## LIMITATIONS

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Aries prepared this Post-Closure Operation and Maintenance (O & M) Plan for Soil RBDP Stormwater Management System (SMS), TSCA Cap, & Engineered Barriers; BUD Area; and Former Radiological Control Area on behalf of and for the exclusive use of Sea Level, LLC. (Client) solely for its use. This Plan shall not be transmitted to any other party, or relied upon by any other party, without Aries' written consent. However, Aries acknowledges the report may be conveyed to the U.S. EPA, New Hampshire Department of Environmental Services and other local, state, and federal agencies. Aries made the reported observations under the conditions stated herein. Aries based the report conclusions solely on the services described herein, and not on scientific tasks or procedures beyond the scope of described services.

In preparing this report, Aries relied on certain information provided by state officials, federal officials and other parties referenced herein, and on information contained in the files of federal, state and local agencies available to Aries at the time of the report. Although there may have been some degree of overlap in the information provided by these various sources, Aries did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this report.

Aries anticipates variations in actual site conditions beyond those interpreted, and would have to reevaluate the report conclusions and recommendations if additional site data are made available.

Laboratory testing was performed as part of the study. Where such analyses were conducted by an outside laboratory, Aries relied upon the data provided, and did not conduct an independent evaluation of the reliability of these data.

Aries conducted this report in general accordance with accepted consulting practices. Aries makes no warranty, either expressed or implied.

**APPENDIX J, Part 4**



**Application for  
Activity and Use Restriction (AUR)  
Waste Management Division**



Env-Or 608

AN ACTIVITY AND USE RESTRICTION (AUR) is implemented under Env-Or 608 at sites where a New Hampshire Department of Environmental Services (NHDES) approved remedial action relies on the restriction of site activities and uses to achieve or maintain protection of human health and the environment.

**SUBMIT:**

- ONE SIGNED AND COMPLETED APPLICATION SUPPORTING INFORMATION
- SUPPORTING INFORMATION
- PROPOSED AUR DOCUMENT (using NHDES approved template)

**TO:** NHDES/Waste Management Division  
 Site Remediation Programs  
 Groundwater Management Permit Coordinator  
 P.O. Box 95, 29 Hazen Drive  
 Concord, NH 03302-0095

**I. SITE INFORMATION**

Site Name: \_\_\_\_\_ DES Site #: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Tax Map: \_\_\_\_\_ Lot Number: \_\_\_\_\_  
 Deed Reference: County: \_\_\_\_\_ Book and Page: \_\_\_\_\_

**II. SITE OWNER INFORMATION**

Site Owner Name: \_\_\_\_\_ Phone: \_\_\_\_\_  
 Mailing  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Email: \_\_\_\_\_ Fax: \_\_\_\_\_

**III. CONTACT PERSON INFORMATION (complete only if different than site owner)**

Contact Person Name: \_\_\_\_\_ Phone: \_\_\_\_\_  
 Mailing  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Email: \_\_\_\_\_ Fax: \_\_\_\_\_

**APPENDIX J, Part 4**

**IV. SUPPORTING INFORMATION** (Check Yes, “Y”, if information is enclosed, or Not Applicable, “N/A”, if requested information does not apply.)

**Y    N/A**

1. Where the AUR applies to an entire lot, include at least one of the following:
  - a. Recordable plan of the site prepared by a New Hampshire registered land surveyor;  
OR
  - b. A reference by book and page number to a survey plan of the lot that has been recorded or registered in the registry of deeds for the county in which the site is located OR
  - c. A reference by book and page number to a property description of the lot that has been recorded or registered in the registry of deeds for the county in which the site is located.
2. Where the area subject to the AUR comprises only a portion of a lot, include both of the following:
  - a. A metes and bounds description of the restricted area and
  - b. A recordable plan, prepared by a New Hampshire registered land surveyor that shows the location of the restricted area in relation to the property boundaries of the site.
3. The time period during which the AUR shall be effective.
4. A precise description of the site activities and uses that will be prohibited on the site and allowed on the site.
5. A description of how the restrictions will eliminate the risks to human health and the environment.
6. A precise description of the measures to be taken to ensure compliance with the AUR.
7. A description of the procedures to be followed when an emergency requires immediate excavation of contaminated soil to repair utility lines or other infrastructure on the site, or to respond to other emergencies that might result in a significant risk to human health, evaluated pursuant to procedure specified in Env-Or 606.19(d)(2) and (3), from exposure to contaminants at the site, which shall include:
  - a. Notifying NHDES of such emergency condition; and
  - b. Limiting disturbance of contaminated media to the minimum necessary to adequately respond to the emergency; and
  - c. Undertaking specified precautions to reduce exposure of workers and neighbors of the site to contaminated media and
  - d. Preparation and implementation of a written plan for restoring the site to a condition consistent with the AUR.
8. An acknowledgement by the applicant that the AUR shall run with the land pursuant to Env-Or 608.01(b)(3).
9. An analysis of the long-term feasibility of maintaining the AUR.
10. An acknowledgement by the applicant to incorporate either in full or by reference to the AUR into all deeds, easements, mortgages, leases, licenses, occupancy agreements, or any other instruments conveying an interest in and/or a right to use the property pursuant to Env-Or 608.01(b)(2).
11. The procedures for modifying and terminating the AUR pursuant to Env-Or 608.06 and Env-Or 608.07.
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**APPENDIX J, Part 4**

- 12. Title reference by which the property owner(s) acquired title to the property.
- 13. A schedule for self-certifying compliance with the AUR pursuant to Env-Or 608.01(e).
- 14. The proposed AUR document that will be recorded if the AUR application is approved, including a block for the property owner(s) notarized signature (use NHDES template).

**V. AUR ISSUANCE INFORMATION**

1. Within 90 days from the receipt of a complete AUR application, NHDES shall notify the applicant in writing of its decision to approve or deny the application OR notify the applicant in writing that the information submitted is not sufficient to make a decision and request additional information from the applicant.
2. NHDES shall approve and AUR application if the application contains all items required by Env-Or 608.03 and the proposed AUR is consistent with Env-Or 608.01(b).
3. An AUR that is approved by NHDES shall become effective upon recordation.
4. Within 30 days of the date NHDES approves the AUR application pursuant to Env-Or 608.02(c), the applicant shall provide notice of the AUR to current holders of any interest in the site of the existence and location of the contamination subject to the AUR. Notice sent pursuant to the above shall be on a form provided by NHDES and via certified mail, return receipt requested.
5. Within 60 days of the date on which NHDES approves the AUR application pursuant to Env-Or 608.029(c), the applicant shall sign and acknowledge the document AND record the AUR document and a site plan prepared in accordance with Env-Or 608.03(a)(2) or (a)(3), (as applicable), in the registry of deeds on the chain of title for each lot that is subject to the AUR.
6. Within 30 days of recordation, the applicant shall submit a copy of the recorded AUR document and site plan to NHDES and the governing body of the municipality in which the site is located.

**VI. CERTIFICATION**

To the best of my knowledge, the data and information that I have submitted to obtain the Activity and Use Restriction (AUR) from the New Hampshire Department of Environmental Services are true and correct.

**Date:** \_\_\_\_\_ **Signature:** \_\_\_\_\_  
Permit Applicant

**Name (print or type):** \_\_\_\_\_

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No liability is incurred by the State by reason of any approval for Groundwater Management Permits. Approval by the New Hampshire Department of Environmental Services is based on the information supplied by the applicant. No guarantee is intended or implied by reason of any advice given by NHDES or its staff.



# Self-Certification of Activity and Use Restriction

Waste Management Division  
Site Remediation Programs



Env-Or 608.01(a) and Env-Or 608.01(f)

Pursuant to N.H. Administrative Rules Env-Or 608.01(a), an Activity and Use Restriction (AUR) must be implemented at each site where a remedial action approved by the New Hampshire Department of Environmental Services (NHDES) relies on the restriction of site activities and uses to achieve or maintain protection of human health and the environment. Maintaining compliance with the conditions of the AUR is essential to ensure long term effectiveness of the remedial actions.

Pursuant to Env-Or 608.01(f), the owner of record of a site that is subject to an AUR must certify that all conditions of the AUR for the site are being met. This self-certification is accomplished by completing, signing and returning this form to NHDES within 30 days after receiving it.

**SUBMIT TO:**

NHDES/Waste Management Division  
Site Remediation Programs  
Groundwater Management Permit Compliance Coordinator  
P.O. Box 95, 29 Hazen Drive  
Concord, NH 03302-0095

**I. SITE OR FACILITY INFORMATION**

Site or Facility Name: \_\_\_\_\_  
NHDES Site or Facility #: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Tax Map: \_\_\_\_\_ Lot Number: \_\_\_\_\_  
Recorded AUR: County: \_\_\_\_\_ Book and Page: \_\_\_\_\_

**II. OWNER INFORMATION**

Name: \_\_\_\_\_ Phone: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Email: \_\_\_\_\_ Fax: \_\_\_\_\_

**III. DESCRIPTION** (Please provide a brief description of contaminants remaining at the site and AUR site controls in place, e.g.; fencing, paving, building, soil cover, vegetation, marker barrier, etc.)

**IV. CONDITIONS** Please check (Yes, "Y" or No "N")

Y N

Are all conditions of the AUR being met? (If your answer is no, please provide a detailed explanation and what action will be taken to achieve compliance with all the conditions of the AUR.)

Have site conditions that required implementation of the AUR changed since recordation of the AUR? (If answer is yes, please describe in detail how site conditions changed and what actions will be taken to achieve compliance with the terms of the AUR.)

If detailed explanations are required for either question above, it may indicate the terms of the AUR require modification. In such a case NHDES refers the owner to the modification process requirements outlined in Env-Or 608.06.

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**V. CERTIFICATION**

To the best of my knowledge and belief, the data and information that I have provided to the New Hampshire Department of Environmental Services under this Activity and Use Restriction (AUR) self-certification are true and correct.

**Date:** \_\_\_\_\_ **Signature:** \_\_\_\_\_

**Name** (print or type): \_\_\_\_\_ (Owner)

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No liability is incurred by the State by reason of any approval for Groundwater Management Permits. Approval by the New Hampshire Department of Environmental Services is based on the information supplied by the applicant. No guarantee is intended or implied by reason of any advice given by NHDES or its staff.

**APPENDIX J, Part 4**  
**ATTACHMENT CC**  
**OPERATIONS MONITORING AND MAINTENANCE (OMM) PLAN**

Inspection Checklist

Sea Level, LLC  
 185-187 Wentworth Rd, Portsmouth, NH

<b>BMP / System</b>	<b>Minimum Inspection Frequency</b>	<b>Minimum Inspection Requirement</b>	<b>Maintenance Threshold</b>	<b>Inspection Completed? (yes/no)</b>
Stabilized Construction Entrance	Quarterly	Inspect adjacent roadway for sediment tracking Inspect gravel stone for sediment accumulation	Sweep adjacent roadways as soon as sediment is tracked  Top dress with additional stone when necessary to prevent tracking	
Level Spreader (N & W End of Concrete Cap)	Quarterly	Inspect accumulated sediment level, rips, and tears	Repair or replace damaged sections  Remove and dispose of accumulated sediment once level reaches 1/3 of barrier height	
Gravel Base	Annually	Inspect gravel for ruts and depth	Replace gravel as necessary, regrade as necessary to maintain design grades, remove any accumulated gravel washed from roadway	
Litter/Trash Removal	Routinely	Inspect dumpsters, outdoor waste receptacles area, and yard areas.	Site will be free of litter/trash.	
Deicing Agents	<b>N/A</b>	<b>N/A</b>	Use agents approved by ConCom as the primary agent for roadway safety during winter.	



<b>BMP / System</b>	<b>Minimum Inspection Frequency</b>	<b>Minimum Inspection Requirement</b>	<b>Maintenance Threshold</b>	<b>Inspection Completed? (yes/no)</b>
Stormwater Packaged System	Annually	Check for sediment accumulation & clogging.	More than 12" sediment depth	
Grass Lined Drainage Swale, Final Cover Area (Low Occupancy)	Spring and Fall and after every 3" of rain or greater in a 24- hour period, as needed	Check for sediment buildup Check for damaged vegetation, re-seed as needed Inspect for erosion rills or channels .	Remove excess sediment and any trash/debris. Loss of vegetation > 10 % of Final Cover or Drainage Swale Loss of > 1 in of total 6 in Final Cover	
Annual Report	1 time per year	Submit Annual Report to EPA, Other agencies upon request	EPA Requirement	

Inspection Notes:

Inspector: \_\_\_\_\_

Date of Inspection: \_\_\_\_\_

Date of Repairs: \_\_\_\_\_

Repairs Verified By: \_\_\_\_\_

**NHDES WPA, APPENDIX J, Part 5 — Construction Monitoring Plan**



*Environmental Engineers  
& Hydrogeologists*

2021-075

October 22, 2024

# **CONSTRUCTION MONITORING PLAN FOR PORTSMOUTH MARINA RESTORATION PROJECT**

**Prepared by:**

Aries Engineering, LLC  
104 Pleasant Street  
Concord, NH 03301  
(603) 228-0008

**Prepared for:**

Sea Level LLC  
185-187 Wentworth House Road  
Portsmouth, New Hampshire 03801

**TABLE OF CONTENTS**

**1.0 INTRODUCTION .....1**  
1.1 Scope of Work ..... 1

**ATTACHMENTS**

Attachment A:                    Inspection Reports



## 1.0 INTRODUCTION

This Construction Monitoring Plan (CMP) is needed for this project per NH DES Env-Wt 307-18, which requires a CMP to contain inspection reports, water quality reports, and a review/implementation of a project wetland planting plan which has been prepared by a certified wetland scientist. Also, a report must be generated at project completion which describes the monitoring conducted and date(s) of inspections, and includes photos showing the extent of jurisdictional impacts, areas of restoration, and progress of any plantings, along with a description of the stability of and status of the wetland system, including a description of any necessary adjustments. The CMP must also include a schedule and description of measures to be taken during construction and after completion of the project.

### 1.1 Scope of Work

The specific activities included in this CMP are as follows:

- Inspection reports: a checklist of initial (Week 1) and at-completion (Week 4) inspections is presented in **Attachment A**;
- Water quality reports will be also be filed using the **Attachment A** form, before and after Week 1 of dredging and restoration activities in the wetland area. Only one (1) day of dredging is anticipated in the wetland area (see **Engineering Sheets 1-7, WPA Appendix E**), to remove a maximum of 12 inches of surficial, submerged sediment, generating 8 to 11 CY of sediment via shore-based excavator with dredge attachment. Installation of the marsh grasses (see **Engineering Sheets 5-7**) will be completed within Week 1. The water quality evaluation will be qualitative in nature, observing the relative absence or presence of sediment in the over-sediment water column before and after dredging, to the extent possible. This evaluation must necessarily take into account the potentially twice daily flushing of this wetland area, assuming that the natural berm at the eastern end of this cove area is surmounted by incoming tidal water;
- The review/implementation of a project wetland planting plan in **Engineering Sheet 6** which has been prepared by a certified wetland scientist before and after installation of different vegetative types (6 to 8 FT MSL), from Week 1 installation and then monthly for the next three months until vegetation is adequately established. This frequency of inspection is also documented in Attachment A, and will serve as the report which must be generated at project completion and is required to describe the monitoring conducted and date(s) of inspections;
- Photos showing the extent of jurisdictional impacts, areas of restoration, and progress of plantings will be obtained prior to Week 1, and monthly until Month 3, assuming that period of time is adequate to establish vegetation. A qualitative evaluation of the description of the stability of and status of the wetland vegetative system, including a description of any necessary adjustments, will also be included in the **Attachment A** form.

**NHDES WPA, APPENDIX K, VULNERABILITY ASSESSMENT**

# SECTION E. WORKSHEET AND PROJECT INVENTORY TABLE

This Worksheet and Project Inventory Table is a companion resource to be used while referencing the *New Hampshire Coastal Flood Risk Summary Part II: Guidance for Using Coastal Flood Risk Projections* (Guidance). The purpose of the Worksheet is to help decision makers work through the seven step approach for incorporating coastal flood risk projections in multiple local, state, and federal projects, including planning, regulatory, or site-specific efforts. The Guidance provides principles, step-by-step instructions, and key resources needed to fill out this Worksheet. Use of the Worksheet is voluntary. For some projects, the Worksheet will be a useful tool for decision makers working through the seven step process. For other projects, decision makers may find that only part of the Worksheet is useful, that they need to adjust the worksheet to tailor it to their project, or that they prefer to apply the Guidance to their project without using the Worksheet. Decision makers are expected to acquire additional data about their project in order to use the Guidance and complete the Worksheet.

The seven step approach recommended in the Guidance is intended for private, local, state, and federal planning, regulatory, and site-specific projects affecting or taking place in New Hampshire's 17 coastal zone municipalities, including Dover, Durham, Exeter, Greenland, Hampton, Hampton Falls, Madbury, New Castle, Newfields, Newington, Newmarket,

North Hampton, Portsmouth, Rollinsford, Rye, Seabrook, and Stratham. The seven steps provide a framework to guide decision makers as they select appropriate coastal flood risk projections, begin assessing impacts of those projections, and consider actions to increase project resilience. The term "decision maker" refers broadly to project proponents, regulators, advisors, and stakeholders affected or served by a project. In the Guidance and Worksheet, project-specific considerations are provided for steps where Guidance application is likely to differ for planning, regulatory, or site-specific projects. Referenced resources that may be useful for completing the Worksheet appear at the end of each step in the Guidance. The Project Inventory Table is provided for decision makers working on detailed projects and/or projects that are broad in scale with multiple areas, facilities, structures, and/or resources to evaluate.

In order to fill out this worksheet, decision makers will need to reference the Guidance. Prior to beginning the worksheet, read the **Guidance Section A Purpose and Intended Use**, as well as **Guidance Section B Guiding Principles for Enhancing Coastal Flood Resilience**. **Guidance Section C Step-by-Step Approach for Selecting and Incorporating Coastal Flood Risk Projections** presents Steps 1-7 that are directly referenced throughout this Worksheet and Project Inventory Table.

## BACKGROUND

B.1 Preparer name: Pete McGlew, PG

B.2 Preparer affiliation to the project: Environmental Consultant

B.3 Preparer contact information: Email pmcglew@aries-eng.com Phone 603-228-0008

B.4 Select the municipality or municipalities where the project takes place.

- |  |                                      |                                    |                                    |                                    |  |
|--|--------------------------------------|------------------------------------|------------------------------------|------------------------------------|--|
| <input type="checkbox"/> Dover                 | <input type="checkbox"/> Durham      | <input type="checkbox"/> Exeter    | <input type="checkbox"/> Greenland | <input type="checkbox"/> Hampton   | <input type="checkbox"/> Hampton Falls |
| <input type="checkbox"/> Madbury               | <input type="checkbox"/> New Castle  | <input type="checkbox"/> Newfields | <input type="checkbox"/> Newington | <input type="checkbox"/> Newmarket | <input type="checkbox"/> North Hampton |
| <input checked="" type="checkbox"/> Portsmouth | <input type="checkbox"/> Rollinsford | <input type="checkbox"/> Rye       | <input type="checkbox"/> Seabrook  | <input type="checkbox"/> Stratham  |  |

B.5 Date: September 30, 2024

## STEP 1 DEFINE PROJECT GOAL, TYPE, LOCATION, AND TIMEFRAME(S)

See Guidance Step 1, including Resources to Reference.

### STEP 1.1 DEFINE THE PROJECT GOAL AND PROJECT TYPE.

1.1.1 Project name: Marina Restoration Project, 187 Wentworth Rd, Portsmouth, NH

1.1.2 Project goal:

Remediate PCB waste, restore waterfront use (boat storage, marina support)

1.1.3 Identify the project beneficiaries.

Sea Level, LLC

1.1.4 Select the project type:

Planning     Regulatory     Site-specific     Other: \_\_\_\_\_

1.1.5 Briefly describe the project activities.

See WPA attached

### STEP 1.2 DEFINE AND INVENTORY THE PROJECT AREA.

1.2.1 Describe the project planning, regulatory, or site-specific area. If relevant (likely for site-specific projects) identify address and tax lot number.

See WPA attached, also Appendix D, Memo to NHDES 4-23-23

*Optional: For detailed projects, use the Project Inventory Table, row 1, to list project sub-areas.*

1.2.2 Identify important facilities, structures, and resources within the project area.

gravel upland area                      tidal wetlands, shoreland

*Optional: For detailed projects, use the Project Inventory Table, row 1, to list facilities, structures, and resources.*



1.2.3 Identify important access and services relevant to the project.

water, primary road direct

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### STEP 1.3 DEFINE THE TIMEFRAME(S) FOR THE PROJECT.

*Optional: For detailed projects, use the Project Inventory Table, rows 2-3, to identify multiple timeframes.*

1.3.1 Identify the planning horizon, regulatory timeframe, or useful life of the project. .083 Years

1.3.2 Identify the year when the project timeframe ends. Year: 2050

1.3.3 Identify likely incremental action points over the course of the project timeframe.

Incremental Action Point (Year)	Explanation
2037	50% design life

## STEP 2 DETERMINE TOLERANCE FOR FLOOD RISK

*See Guidance Step 2, including Step 2 Table and Resources to Reference.*

### STEP 2.1 IDENTIFY PROJECT CHARACTERISTICS THAT INFLUENCE TOLERANCE FOR FLOOD RISK.

2.1.1 Identify and rank characteristics of the overall project that influence tolerance for flood risk using the table provided.

Project Characteristics that Influence Tolerance for Flood Risk	Very High	High	Medium	Low	N/A	Explanation
Value or replacement cost	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	medium cost
Capacity to adapt	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	medium ability to adapt
Implication for public safety & function	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	medium implication
Sensitivity to inundation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	medium sensitivity
Other, if applicable:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

*Optional: For detailed projects, use the Project Inventory Table, rows 4-7, to describe tolerance for flood risk characteristics of multiple features.*

**STEP 2.2 DETERMINE TOLERANCE FOR FLOOD RISK APPLICABLE TO THE PROJECT.**

2.2.1 The tolerance for flood risk applicable to the overall project is:

High       Medium       Low       Very Low

Explanation:

meets medium criteria. Re-established marina use can be repaired relatively quickly.

*Optional: For detailed projects, use the Project Inventory Table, row 8, to determine tolerance for flood risk of multiple features.*

2.2.2 Consider the tolerance for flood risk of important access and services identified in Step 1.2 and possible implications for the project.

access continues directly.

2.2.3 Consider how the project goal and use of the project area may change over the course of the project timeframe and resulting changes in tolerance for flood risk.

no change anticipated

**STEP 3 SELECT AND ASSESS RELATIVE SEA-LEVEL RISE (RSLR) ESTIMATE(S)**

See Guidance Step 3, including Step 3 Table A or B and Resources to Reference.

**STEP 3.1 SELECT THE RSLR ESTIMATE(S) FOR THE PROJECT.**

3.1.1 Based on tolerance for flood risk and project timeframe, select the RSLR or range of RSLR estimate(s) that the project should plan to, regulate for, or design for: 1.6 feet by 2050 year from 1.3.2

3.1.2 Based on tolerance for flood risk and incremental action points, select the RSLR or range of RSLR estimate(s) that the project should make incremental plans for. (Repeat for all incremental action point years).

Incremental Action Point (Year from 1.3.3)	RSLR (feet)
2037	1,3

*Optional: For detailed projects, use the Project Inventory Table, row 9, to select RSLR estimate(s) for multiple, different features.*

**STEP 3.2 ASSESS RSLR IMPACTS TO THE PROJECT.**

Mapping tools listed in Guidance Step 3 may assist with Step 3.2.

3.2.1 Identify the tidal datum used for the project.

NAVD88       NGVD29       Other:

3.2.2 Select the tidal (non-storm) water reference levels that are most relevant to the project overall.

Mean Lower Low Water       Mean Low Water       Mean Sea Level  
 Mean High Water       Mean Higher High Water       Highest Observable Tide Line       Other: \_\_\_\_\_

3.2.3 Calculate RSLR-adjusted elevations for the relevant tidal water reference line(s).

Tidal Water Reference Level	Present-Day Elevation (feet)	RSLR-Adjusted Elevation or Range of Elevations (feet)
Mean Lower Low Water (MLLW)	-4.62	-3.02
Mean Low Water (MLW)	-4.3	-2.7
Mean Sea Level (MSL)		
Mean High Water (MHW)	3.81	5.41
Mean Higher High Water (MHHW)	4.22	5.8
Highest Observable Tide Line (HOTL)	7.9	9.5
Other:		

3.2.4 If relevant, describe present-day sediment deposition and/or erosion dynamics at the site.

Not relevant just removing a limited zone of PCB containing sediment

3.2.5 Evaluate risks to the project from RSLR-induced increases in tidal extent, water level, current velocities, and changes in sediment deposition and/or erosion using the table provided.

<b>Risks from RSLR-Induced:</b>	<b>Very High</b>	<b>High</b>	<b>Medium</b>	<b>Low</b>	<b>N/A</b>	<b>Explanation</b>
Increase in tidal extent	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	medium still allows sed removal
Increase in water level	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	medium still allows sed removal
Increase in current velocities	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	medium still allows sed removal
Changes in sediment deposition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a
Changes in erosion	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	medium still allows sed removal
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

*Optional: For detailed projects, use the Project Inventory Table, row 10, to evaluate risks from RSLR-induced impacts to project features.*

3.2.6 Describe how nearby landscape features and infrastructure such as undersized culverts and bridges, as well as future land use change may affect risks to the overall project from RSLR in the future.

Project interactions with RSLR and nearby landscape features and infrastructure:

nearby land use expected to continue as at present, homeowners mostly, state road parallel to site

Project interactions with RSLR and future land use change:

Limited changes in project area in past anticipated to remain in future

3.2.7 Evaluate the RSLR impacts on the overall project, natural resources, cultural and historic resources, public access, socially vulnerable populations, and other relevant project characteristics.

RSLR Impacts on:	Very High	High	Medium	Low	N/A	Explanation
Overall Project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	medium to low anticipated
Natural Resource	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	medium
Cultural and Historic Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	medium to low anticipated
Socially Vulnerable Populations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	medium
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

*Optional: For detailed projects, use the Project Inventory Table, row 11, to evaluate RSLR impacts for multiple project features.*

## STEP 4 IDENTIFY AND ASSESS RSLR-ADJUSTED COASTAL STORMS

See Guidance Step 4, including Step 4 Table and Resources to Reference.

### STEP 4.1 DETERMINE RSLR-ADJUSTED DESIGN FLOOD ELEVATION (DFE).

4.1.1 If relevant, identify the Flood Design Class or classes most closely associated with the project.

- Class 1                       Class 3                       Not applicable  
 Class 2                       Class 4

*Optional: For detailed projects, use the Project Inventory Table, row 12, to identify Flood Design Class for multiple project features.*

4.1.2 Identify the present-day coastal storm(s) relevant to the project.

- 1% annual chance storm (100-year)  
 0.2% annual chance storm (500-year)  
 Other: \_\_\_\_\_

4.1.3 Identify present-day FEMA Flood Insurance Rate Map Special Flood Hazard Area(s) flood zone(s) for the project area.

- AE Zone
  AO Zone
  Coastal A Zone  
 VE Zone
  X Zone
  Other: \_\_\_\_\_

4.1.4 If the project takes place in a FEMA Special Flood Hazard Area, identify the present-day Base Flood Elevation(s) (BFE) for the project area.

8 feet or  No BFE

*Optional: For detailed projects, use the Project Inventory Table, rows 13-14, to identify Flood Zone and BFE for multiple project features.*

4.1.5 Identify any freeboard requirements or recommendations associated with the project area related to present-day coastal flood protection.

0 feet
  1 foot
  2 feet
  Other: \_\_\_\_\_

*Optional: For detailed projects, use the Project Inventory Table, row 15, to identify freeboard for multiple project features.*

4.1.6 Identify the present-day coastal storm DFE(s) for the project. For instructions on how to calculate DFE, see **Guidance Step 4 Table**.

11.6 feet

*Optional: For detailed projects, use the Project Inventory Table, row 16, to identify DFE for multiple project features.*

4.1.7 For projects with no DFE or for which DFE is not applicable, describe how a present-day coastal storm might affect the project.

NA

4.1.8 Identify RSLR-adjusted DFE(s) or range of DFE that the project should plan to, regulate for, or design for. For instructions on how to calculate RSLR-adjusted DFE, see **Guidance Step 4 Table**.

11.6 feet

*Optional: For detailed projects, use the Project Inventory Table, row 16, to identify RSLR-adjusted DFE for multiple project features.*

**STEP 4.2 ASSESS RSLR-ADJUSTED COASTAL STORM IMPACTS TO THE PROJECT.**

Mapping tools listed in Guidance Step 4 Resources to Reference may assist with Step 4.2.

4.2.1 Evaluate risks to the project from RSLR-adjusted coastal storm induced increases in tidal extent, water level, current velocities, and changes in sediment deposition and/or erosion using the table provided.

Risks from RSLR-Adjusted Coastal Storms Resulting in:	Very High	High	Medium	Low	N/A	Explanation
Increase in flood extent	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Medium can time work
Increase in flood water level	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Medium can time work
Increase in storm current velocities	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Medium can time work
Changes in sediment deposition	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Medium can time work
Changes in erosion	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Medium can time work
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Optional: For detailed projects, use the Project Inventory Table, row 18, to evaluate risks from RSLR-adjusted coastal storm impacts on project features.

4.2.2 Describe how nearby landscape features and infrastructure such as undersized culverts and bridges, as well as future land use change may affect risks to the project from RSLR-adjusted coastal storms in the future.

Project interactions with RSLR-adjusted coastal storms and nearby landscape features and infrastructure:

NA

Project interactions with RSLR-adjusted coastal storms and future land use change:

Remove limited sediment within embayment no structures in immediate project area will time work to safe conditions

4.2.3 Assess the RSLR-adjusted coastal storm impacts on the overall project, natural resources, cultural and historic resources, public access, socially vulnerable populations, and other relevant project characteristics.

RSLR-Adjusted Coastal Storm Impacts on:	Very High	High	Medium	Low	N/A	Explanation
Overall Project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	limited sed removal no structures
Natural Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	limited sed removal no structures
Cultural and Historic Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	limited sed removal no structures
Socially Vulnerable Populations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	limited sed removal no structures
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

*Optional: For detailed approach, use the Project Inventory Table, row 19, to evaluate RSLR-adjusted coastal storm impacts for multiple project features.*

## STEP 5 IDENTIFY AND ASSESS RSLR-INDUCED GROUNDWATER RISE

See Guidance Step 5, including Step 5 Table and Resources to Reference.

### STEP 5.1 IDENTIFY RSLR-INDUCED GROUNDWATER RISE FOR THE PROJECT.

5.1.1 Identify the groundwater rise mapping status for the communities associated with the project area.

Mapped                       Unmapped                       Both

5.1.2 If the project area is mapped, identify the RSLR-induced groundwater rise estimate(s) or range of estimates. 1.2-2.2 feet

5.1.3 If the project area is unmapped, identify the RSLR-induced groundwater rise estimates for the project.

Commit to manage to: \_\_\_\_\_ feet                      and be prepared to adapt to: \_\_\_\_\_ feet.

*Optional: For detailed projects, use the Project Inventory Table, rows 20-21, to identify RSLR-induced groundwater rise for project features.*



**STEP 5.2 ESTIMATE DEPTH TO PRESENT-DAY AND FUTURE GROUNDWATER FOR THE PROJECT AREA.**

5.2.1 Estimate the present-day depth to Seasonal High Water Table (SHWT). 5 feet

*Optional: For detailed projects, use the Project Inventory Table, row 22, to estimate present-day depth to SHWT for project features.*

5.2.2 Determine estimated depth or range of depths to projected SHWT. 2.8-3.8 feet

*Optional: For detailed projects, use the Project Inventory Table, row 23, to estimate depth to projected SHWT for project features.*

**STEP 5.3 EVALUATE IMPACTS OF RSLR-INDUCED GROUNDWATER RISE FOR THE PROJECT.**

5.3.1 Describe risks to the overall project from RSLR-induced groundwater rise.

Very High       High       Medium       Low       No Risk

Explanation:

Consistent with mapped groundwater elevation the risk appears medium to this marina boat storage facility. No structures in the work limits we propose.

*Optional: For detailed projects, use the Project Inventory Table, row 24, to describe risk from RSLR-induced groundwater rise on project features.*

5.3.2 Assess the RSLR-induced groundwater rise impacts on the overall project, natural resources, cultural and historic resources, public access, socially vulnerable populations, and other relevant project characteristics.

RSLR-Induced Groundwater Rise Impacts on:	Very High	High	Medium	Low	N/A	Explanation
Overall Project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	sed removal in embayment
Natural Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	sed removal in embayment
Cultural and Historic Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	sed removal in embayment
Socially Vulnerable Populations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	sed removal in embayment
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

*Optional: For detailed projects, use the Project Inventory Table, row 25, to evaluate RSLR-adjusted coastal storm impacts for multiple project features.*

## STEP 6 IDENTIFY AND ASSESS EXTREME PRECIPITATION ESTIMATES.

See Guidance Step 6, including Step 6 Table and Resources to Reference.

### STEP 6.1 ACCOUNT FOR PROJECTED INCREASES IN EXTREME PRECIPITATION.

6.1.1 Based on tolerance for flood risk, identify the percent increase in extreme precipitation for the project.

15%  More than 15% Specify: \_\_\_\_\_%

*Optional: For detailed projects, use the Project Inventory Table, row 26, to identify percent increase in extreme precipitation for multiple project features.*

6.1.2 For projects involving hydrologic and/or hydraulic modeling, identify the following:

- Duration and recurrence interval(s) relevant to the project,
- Best available present-day extreme precipitation estimates for the selected duration and recurrence interval(s), and
- Projected extreme precipitation estimates for the selected duration and recurrence interval(s).

Duration and Recurrence Interval	Present-day Precipitation Estimate	Projected Precipitation Estimate

**STEP 6.2 ASSESS PROJECTED EXTREME PRECIPITATION IMPACTS TO THE PROJECT.**

*For projects not involving hydrologic and/or hydraulic modeling, qualitatively assess projected extreme precipitation impacts.*

*For projects conducting hydrologic and/or hydraulic modeling, use modeling results to analyze projected extreme precipitation impacts.*

6.2.1 Evaluate risks to the project from projected extreme precipitation using the following table.

Risks from Projected Extreme Precipitation Resulting in:	Very High	High	Medium	Low	N/A	Explanation
Increase in flood extent <b>NA</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	can time PCB sed removal work
Increase in flood water level	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	can time PCB sed removal work
Increase in storm current velocities	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	can time PCB sed removal work
Changes in sediment deposition	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	can time PCB sed removal work
Changes in erosion	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	can time PCB sed removal work
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

*Optional: For detailed projects, use the Project Inventory Table, row 27, to evaluate risks from projected extreme precipitation for multiple project features.*

6.2.2 Describe how nearby landscape features and infrastructure such as undersized culverts and bridges, as well as future land use change may affect risks to the project from projected extreme precipitation.

Project interactions with projected extreme precipitation and nearby landscape features and infrastructure:

NA

Project interactions with projected extreme precipitation and future land use, including possible changes in impervious cover:

NA

6.2.3 Assess the projected extreme precipitation impacts on the overall project, natural resources, cultural and historic resources, public access, socially vulnerable populations, and other relevant project characteristics.

Projected Extreme Precipitation Impacts on:	Very High	High	Medium	Low	N/A	Explanation
Overall Project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	no structures in work area, will time work
Natural Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	no structures in work area, will time work
Cultural and Historic Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	no structures in work area, will time work
Socially Vulnerable Populations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	no structures in work area, will time work
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

*Optional: For detailed projects, use the Project Inventory Table, row 28, to assess projected extreme precipitation impacts on multiple project features.*

## STEP 7 ASSESS CUMULATIVE RISK AND EVALUATE ADAPTATION OPTIONS

See Guidance Step 7, including Step 7 Tables A and B and Resources to Reference.

### STEP 7.1 ASSESS CUMULATIVE COASTAL FLOOD RISK TO THE PROJECT.

7.1.1 Specify, based on responses to Steps 3-6, projected coastal flood risk impacts to the overall project.

Overall future coastal flood risk impacts to the project:	Very High	High	Medium	Low	N/A
RSLR (3.2.7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RSLR-adjusted coastal storms (4.2.3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RSLR-induced groundwater rise (5.3.2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Projected extreme precipitation (6.2.3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7.1.2 Describe how the cumulative impact of multiple coastal flood risks occurring together may affect the project.

Will be able to time the limited PCB sediment removal to fair weather. No structures are in the embayment where the sediment will be removed. Upslope on land has been operating as a marina and boat storage for decades.

7.1.3 Select the coastal flood risk(s) that are most impactful to the project and explain.

- RSLR                                       RSLR-adjusted coastal storms                                       RSLR-induced groundwater rise  
 Projected extreme precipitation       No coastal flood risk outweighs others

Explanation:

limited PCB sediment removal within embayment will time and work around specific issu

*Optional: For detailed projects, use the Project Inventory Table, row 29, to specify coastal flood risks that are most impactful for multiple project features.*

**STEP 7.2 IDENTIFY AND EVALUATE POSSIBLE ADAPTATION OPTIONS TO MITIGATE COASTAL FLOOD RISK.**

7.2.1 Identify adaptation options and select relevant action category(ies) for each option. Insert more rows if needed.

Option ID#	Option	Action Category				
		No Action	Avoid	Accommodate	Resist	Relocate
1	Remove limited volume PCB Seds	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Refurbish existing rirprap after sed work	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*Use the table "Framework for Evaluating Adaptation Options" on the following page to complete Steps 7.2.2-7.2.3. Insert more rows if needed.*

7.2.2 Identify additional "custom" criteria to evaluate adaptation options.

7.2.3 Evaluate adaptation options against each "effectiveness," "guiding principles," and "custom" criteria.

FRAMEWORK FOR EVALUATING ADAPTATION OPTIONS													
Option ID# from 7.2.1	Action Categories from 7.2.1	Evaluation Criteria											
		EFFECTIVENESS			GUIDING PRINCIPLES							CUSTOM	
		Mitigation of Flood Risk	Meets Project Goal	Short-Term or Long-Term	Cost	Contributes to Mal-Adaptation	Effect on Socially Vulnerable Populations	Effect on Natural Resources	Effect on Cultural and Historic Resources	Effect on Public access	Custom Criteria	Custom Criteria	
		High Medium Low	Yes/No	ST/LT	\$/\$\$/\$\$\$	Yes/No	Positive Neutral Negative	Positive Neutral Negative	Positive Neutral Negative	Positive Neutral Negative			
1	1,2	Low	Yes	ST	0\$	No	Neutral	Neutral	Neutral	Neutral			
2	1,2,3	Low	Yes	ST/SLT	\$10K	No	Neutral	Neutral	Neutral	Positive			
3													
4													
5													

Optional: For detailed projects, fill out this framework for each relevant column (project feature) in the Project Inventory Table.

### STEP 7.3 SELECT PREFERRED OPTION(S) AND PROCEED WITH PROJECT OR REVISIT AND REVISE PREVIOUS STEPS.

7.3.1 Describe adaptation option(s) selected for the project and considerations to ensure transparent disclosure of flood risk and future actions that may be necessary to further mitigate flood risk, particularly if a flexible adaptation approach is followed.

Project adaptations are to remove the shallow PCB sediments from the embayment when there is not high precipitation, flooding, tidal surges or high velocities from wind and waves. No other adaptations are proposed.

Optional: For detailed projects, use the Project Inventory Table, row 30, to describe preferred option(s) for multiple project features.

7.3.2 Should the project proceed with the adaptation options selected, revisit and revise previous steps, or not proceed?

Proceed

Revisit and revise

Do not proceed

PROJECT INVENTORY TABLE			1
<b>PROJECT DEFINITION</b>	1	Project Sub-area, Structures, Facilities, and/or Resources (list one feature per column; add columns if needed)	No structures in proposed project active area.
	2	Project Timeframe (year)	2025
	3	Incremental Action Points (year(s))	2037
<b>TOLERANCE FOR FLOOD RISK</b>	4	Value or Replacement Cost (very high, high, medium, or low)	Low
	5	Capacity to Adapt (very high, high, medium, or low)	Medium
	6	Importance for Public Function and/or Safety (very high, high, medium, or low)	Medium
	7	Sensitivity to Inundation (very high, high, medium, or low)	Medium
	8	Tolerance for Flood risk (high, medium, low, very low)	Medium
<b>RELATIVE SEA-LEVEL RISE (RSLR)</b>	9	RSLR estimate (in feet)	by 2050 =1.6 feet
	10	Notes about RSLR impacts to the project from changed tidal extent, water level, current velocities, sediment deposition, erosion	Limited impacts
	11	RSLR impact (very high, high, medium, or low)	Medium
<b>RSLR-ADJUSTED COASTAL STORMS</b>	12	Flood Design Class (1, 2, 3, 4)	2
	13	FEMA Flood Zone (AE, AO, Coastal A, VE, X)	AE
	14	BFE (in feet)	8
	15	Freeboard (in feet)	2
	16	DFE (in feet)	11.6
	17	RSLR-adjusted DFE (in feet)	10
	18	Notes about RSLR-adjusted coastal storm impacts from changed tidal extent, water level, current velocities, sediment deposition, erosion	v water embayment on Sagamore Creek low velocity subject to tidal storm
	19	Coastal storm impact (very high, high, medium, or low)	medium
<b>RSLR-INDUCED GROUNDWATER RISE</b>	20	Map status (mapped, unmapped)	Mapped
	21	RSLR-induced groundwater rise estimate (in feet)	1.2 to 2.2
	22	Present-day depth to SHWT (in feet)	5
	23	Projected depth to RSLR-adjusted SHWT (in feet)	2.8 to 3.8
	24	Notes about RSLR-induced groundwater rise impacts	Marina & boat storage work area in creek
	25	Groundwater rise impact (very high, high, medium, or low)	Medium
<b>PROJECTED EXTREME PRECIPITATION</b>	26	Percent increase in extreme precipitation (15% or greater)	15%
	27	Notes about projected extreme precipitation impacts	can perform work when not extreme precipitation
	28	Projected extreme precipitation impact (very high, high, medium, or low)	Medium
<b>CUMULATIVE IMPACTS</b>	29	Which, if any, projected coastal flood risks outweigh others in terms of impacts to the project? (RSLR, RSLR-adjusted coastal storms, RSLR-induced groundwater rise, projected extreme precipitation)	No Risk outweighs the other
	30	Use framework in worksheet (Step 7.2.3) to identify and evaluate adaptation options for each structure, facility, or resource, as needed.	No structures in project area only limited sediment removal

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## **L - Coastal Functional Assessment Narrative**

The completed Wetland Function - Value Evaluation Form, Ecological Integrity Worksheet and list of considerations and qualifiers are provided in Attachment L2. All data screening maps are provided in Attachment J1. Table 1 provides a summary of principal functions and values for Sagamore Creek and associated salt marsh and mudflats.

### **1 - Ecological Integrity**

In general, the function of Ecological Integrity focuses on components of the unit such as invasive plant species, extent of tidal flow, level of human disturbance and buffer characteristics. All considerations and calculations are included in Attachment L2. The maximum score is 1.00 and the minimum score is 0.10. The Ecological Integrity (EI) of the Ecological Unit (EU) for Sagamore Creek and associated salt marsh and mudflats is 0.90. Therefore, Sagamore Creek scored high for Ecological Integrity of the EU. However, the EI for the Zone of Influence (ZI), which is more focused around the project site, scored 0.30 which is a low score for the ZI.

### **2 – Educational Potential**

This value considers the ability of the wetlands to provide educational opportunities. This site is not known to currently provide these values and the area is too small and can only be accessed over private land. Therefore, this is not a principal value for this project area.

### **3 - Fish and Aquatic Life Habitat**

This function considers the wetlands ability to support marine resources. The estuarine wetland includes salt marshes and tidal flats that are exposed at low tide. The salt marshes and tidal flats are “special aquatic sites” and the creek provides suitable spawning habitat for small resident fish. However, desktop data indicates that Sagamore Creek is not mapped as Essential Fish Habitat (Attachment J1). There is no eelgrass mapped in Sagamore Creek and, although shellfish areas are not mapped (Attachment J1), the creek does provide the potential for shellfish habitat within the mudflats but within the cove associated with the project site. Therefore, although suitable, Fish and Aquatic Life Habitat are not a principal function of Sagamore Creek and associated mudflats. The project proposes salt marsh restoration which will only benefit the tidal system as a whole.

### **4 - Flood Storage**

This function considers the wetland effectiveness in reducing flood damage. The salt marsh restoration area is within the 100 year floodplain and will continue to provide some storage capacity because post remediation grads will be restored to pre-remediation grades. The adjacent sloping landscape provides little flood storage. This is a principal function of Sagamore Creek but not the narrow cove associated with the proposed project. The project does not propose any impact on flood storage function.

### **5 - Groundwater Recharge**

This function considers the potential for the wetlands to interact with groundwater. The primary source of surface water is from incoming tides. The wetlands associated with Sagamore Creek do not support groundwater recharge as they are predominately salt water and tidal.

## **6 - Noteworthiness**

This value considers the suitability of the wetlands to provide habitat for rare species. The NH NHB has identified the potential for the presence of rare species but has determined that the proposed project is not likely to have an impact on rare species. However, the proposed remediation and restoration work will be an overall benefit. The IPAC data indicates the potential presence of the endangered Northern Long-eared Bat (*Myotis septentrionalis*), threatened Red Knot (*Calidris canutus rufa*) and the endangered Roseate Tern (*Sterna dougallii dougallii*). The narrow tidal cove and previously developed tidal buffer zone associated with this project do not provide habitat for these mammal or avian species. Overall, the area surrounding the project site is suitable for rare species but this is not a principal value.

## **7 - Nutrient Trapping/Retention & Transformation**

This function considers the wetlands ability to trap, retain or transform excess nutrients from adjacent uplands. The limited tidal marsh vegetation represents the majority of the capability to perform this function here making this a principal function. Additionally, the proposed restoration work will be an overall benefit.

## **8 - Production Export**

This function considers the ability of the wetland to export nutrients to other areas. The high productivity of the tidal marsh and the presence of food resources within it and the creek, together with the tidal flushing of the creek make production export a suitable function of the creek, however, this is not a principal function of the narrow cove associated with the project site. The proposed project will not have any negative impact on the ability of the wetland complex to provide production export functions.

## **9 - Scenic Quality**

This value considers the quality of the wetland from a visual perspective. Sagamore Creek and associated wetlands have visual quality but the visibility of these areas is not present at the project site due to the narrow cove so this is not considered a principal value. The proposed project will not detract from this value. The aesthetics of the restored area will be an improvement to the existing conditions.

## **10 – Sediment Trapping**

This function considers the wetlands ability to trap sediments. The major source of sediments come from the incoming tides and any sedimentation that occurs within the tidal wetland is natural. The tidal flushing limits the retention of toxicants and pathogens. The proposed project may protect Sagamore Creek and associated wetlands from upland toxicants or pathogen sources through the completion of the remediation work making this a principal function.

## **11 - Shoreline Anchoring**

This function considers the ability of the wetland to maintain shoreline stability. Sagamore Creek and the project site are relatively low energy areas as indicated by the presence of mudflats and salt marshes but storm surges result in high energy flows. These areas provide for the deposition of sediments carried in by the tide making this a principal function.

## 12 - Uniqueness/Heritage

This value considers the wetlands with respect to local and/or geographical significance as well as the functions it provides. Sagamore Creek provides a significant number of principal functions and values to the community and the public but the project site does not offer these amenities and is therefore not a principal value. The proposed project will not impact the uniqueness or heritage of the area. Both the restoration and the remediation will be a benefit to the community.

## 13 – Wetland – Based Recreation

This value considers the ability of the wetlands to provide recreational opportunities. Sagamore Creek is frequently used by boaters and offers many other recreational opportunities, however; this is not the case in the narrow cove associated with the project site so recreation is not a principal value. The project will not create barriers to the recreational uses of the creek.

## 14 – Wetland-Dependent Wildlife Habitat

This function considers the effectiveness of the wetland to provide habitat to species particularly adapted to wetland environments. Sagamore Creek and the tidal marsh is mapped as Highest Ranked Habitat in The Wildlife Action Plan (Attachment J1). Wildlife particularly suited to wetlands are associated with the areas within Sagamore Creek. A list of observed and potential wildlife is provided with the Wetland Function - Value Evaluation Form in Attachment J1. Wildlife habitat is a suitable function of the narrow cove associated with the project site. The proposed restoration project will only serve to improve the ability of the wetlands to perform this function.

**Table 1. Summary of Principal Functions and Values**

Wetland ID	Cowardin Classes	Ecological Integrity	Educational Potential	Fish/ & Aquatic Life Habitat	Flood Storage	Groundwater Recharge	Noteworthiness	Nutrient Trapping/Retention & Transformation	Production Export	Scenic Quality	Sediment/Toxicant Retention	Sediment Trapping	Uniqueness/Heritage	Wetland-Based Recreation	Wetland-Based Wildlife Habitat	Wetland Description:
Wetland A	E2US3	Y	N	N	N	N	N	Y	N	N	N	Y	N	N	N	Tidal creek complex with mudflats and salt marsh. The project area includes previously disturbed salt marsh due to ongoing remediation efforts.

## **L1. Wetland Functional Assessment Worksheets**



# WETLANDS FUNCTIONAL ASSESSMENT WORKSHEET

Water Division/Land Resource Management  
Wetlands Bureau



[Check the Status of your Application](#)

**RSA/Rule:** RSA 482-A / Env-Wt 311.03(b)(10); Env-Wt 311.10

**APPLICANT LAST NAME, FIRST NAME, M.I.:** **Sea Level LLC and Goulemas Family Trust**

As required by Env-Wt 311.03(b)(10), an application for a standard permit for minor and major projects must include a functional assessment of all wetlands on the project site as specified in Env-Wt 311.10. This worksheet will help you compile data for the functional assessment needed to meet federal (US Army Corps of Engineers (USACE); if applicable) and NHDES requirements. Additional requirements are needed for projects in tidal area; please refer to the [Coastal Area Worksheet \(NHDES-W-06-079\)](#) for more information.

Both a desktop review and a field examination are needed to accurately determine surrounding land use, hydrology, hydroperiod, hydric soils, vegetation, structural complexity of wetland classes, hydrologic connections between wetlands or stream systems or wetland complex, position in the landscape, and physical characteristics of wetlands and associated surface waters. The results of the evaluation are to be used to select the location of the proposed project having the least impact to wetland functions and values (Env-Wt 311.10). This worksheet can be used in conjunction with the [Avoidance and Minimization Written Narrative \(NHDES-W-06-089\)](#) and the [Avoidance and Minimization Checklist \(NHDES-W-06-050\)](#) to address Env-Wt 313.03 (Avoidance and Minimization). If more than one wetland/ stream resource is identified, multiple worksheets can be attached to the application. All wetland, vernal pools, and stream identification (ID) numbers are to be displayed and located on the wetlands delineation of the subject property.

<b>SECTION 1 - LOCATION (USACE HIGHWAY METHODOLOGY)</b>	
ADJACENT LAND USE: <b>Marina/ Residential</b>	
CONTIGUOUS UNDEVELOPED BUFFER ZONE PRESENT? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
DISTANCE TO NEAREST ROADWAY OR OTHER DEVELOPMENT (in feet): <b>&lt;75 feet</b>	
<b>SECTION 2 - DELINEATION (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)</b>	
CERTIFIED WETLAND SCIENTIST (if in a non-tidal area) or QUALIFIED COASTAL PROFESSIONAL (if in a tidal area) who prepared this assessment: <b>Patrick Seekamp, CWS</b>	
DATE(S) OF SITE VISIT(S): <b>10/01/20</b>	DELINEATION PER ENV-WT 406 COMPLETED? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
CONFIRM THAT THE EVALUATION IS BASED ON: <input checked="" type="checkbox"/> Office and <input checked="" type="checkbox"/> Field examination.	
METHOD USED FOR FUNCTIONAL ASSESSMENT (check one and fill in blank if "other"): <input checked="" type="checkbox"/> USACE Highway Methodology. <input checked="" type="checkbox"/> Other scientifically supported method (enter name/ title): <b>Vegetated Tidal Wetlands</b>	

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<b>SECTION 3 - WETLAND RESOURCE SUMMARY (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)</b>	
WETLAND ID: <b>A</b>	LOCATION: (LAT/ LONG) 43.05333/70.74555
WETLAND AREA: <b>0.5 acres</b>	DOMINANT WETLAND SYSTEMS PRESENT: <b>Wetland/ Salt Marsh</b>
HOW MANY TRIBUTARIES CONTRIBUTE TO THE WETLAND? <b>None</b>	COWARDIN CLASS: <b>E2US3</b>
IS THE WETLAND A SEPARATE HYDRAULIC SYSTEM? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No if not, where does the wetland lie in the drainage basin? <b>Coastal</b>	IS THE WETLAND PART OF: <input checked="" type="checkbox"/> A wildlife corridor or <input type="checkbox"/> A habitat island?
IS THE WETLAND IN A 100-YEAR FLOODPLAIN? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	IS THE WETLAND HUMAN-MADE? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
ARE ANY WETLANDS PART OF A STREAM OR OPEN-WATER SYSTEM? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	ARE VERNAL POOLS PRESENT? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If yes, complete the Vernal Pool Table)
PROPOSED WETLAND IMPACT TYPE: <b>Remediation and Restoration</b>	ARE ANY PUBLIC OR PRIVATE WELLS DOWNSTREAM/ DOWNGRADIENT? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	PROPOSED WETLAND IMPACT AREA: <b>410 SF, 11 CY</b>

#### **SECTION 4 - WETLANDS FUNCTIONS AND VALUES (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)**

The following table can be used to compile data on wetlands functions and values. The reference numbers indicated in the "Functions/ Values" column refer to the following functions and values:

1. Ecological Integrity (from RSA 482-A:2, XI)
2. Educational Potential (from USACE Highway Methodology: Educational/Scientific Value)
3. Fish & Aquatic Life Habitat (from USACE Highway Methodology: Fish & Shellfish Habitat)
4. Flood Storage (from USACE Highway Methodology: Floodflow Alteration)
5. Groundwater Recharge (from USACE Highway Methodology: Groundwater Recharge/Discharge)
6. Noteworthiness (from USACE Highway Methodology: Threatened or Endangered Species Habitat)
7. Nutrient Trapping/Retention & Transformation (from USACE Highway Methodology: Nutrient Removal)
8. Production Export (Nutrient) (from USACE Highway Methodology)
9. Scenic Quality (from USACE Highway Methodology: Visual Quality/Aesthetics)
10. Sediment Trapping (from USACE Highway Methodology: Sediment /Toxicant Retention)
11. Shoreline Anchoring (from USACE Highway Methodology: Sediment/Shoreline Stabilization)
12. Uniqueness/Heritage (from USACE Highway Methodology)
13. Wetland-based Recreation (from USACE Highway Methodology: Recreation)
14. Wetland-dependent Wildlife Habitat (from USACE Highway Methodology: Wildlife Habitat)

First, determine if a wetland is suitable for a particular function and value ("Suitability" column) and indicate the rationale behind your determination ("Rationale" column). Please use the rationale reference numbers listed in Appendix A of USACE *The Highway Methodology Workbook Supplement*. Second, indicate which functions and values are principal ("Principal Function/value?" column). As described in *The Highway Methodology Workbook Supplement*, "functions and values can be principal if they are an important physical component of a wetland ecosystem (function only) and/or are considered of special value to society, from a local, regional, and/or national perspective".

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“Important Notes” are to include characteristics the evaluator used to determine the principal function and value of the wetland.

FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE (Reference #)	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The Ecological Integrity of the Ecological Umt{EU} is 0.90 and the Zone of Influence (ZI) is 0.30	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Yes for the EU but no for the ZI.
2	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	None	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Project is located on private commercial property.
3	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1,5	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Small fringe salt marsh at tip of tidal cove exposed at low tide.
4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5,9,18	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Small fringe salt marsh at tip of tidal cove.
5	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	10,15	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Tidal exchange is dominant hydrology.
6	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	NHB report states no anticipated Impact.
7	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2,3,4,6,7,8,11,12	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Relatively small watershed with biggest threat being residential lawns and marina operation. Point source discharge present
8	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1,2,4,6,7,10,14	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Assessment based on scale/size of salt marsh fringe.
9	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2,6,8	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	No primary viewing location available.
10	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1,7,3,4,8	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Small fringe salt marsh at upper reach of tidal cove.
11	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1,5,6,10,11,12,13,15	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Signs of erosion are present. Proposed restoration and bank stabilization will enhance this function.
12	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	1,2,13,22,23,31	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Old marina cribbing present in wetland.
13	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5,9	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Private marina

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14	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6,8,11,13,16,17,18,19,21	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
----	--	--------------------------	--	--

**SECTION 5 - VERNAL POOL SUMMARY (Env-Wt 311.10)**

Delineations of vernal pools shall be based on the characteristics listed in the definition of “vernal pool” in Env-Wt 104.44. To assist in the delineation, individuals may use either of the following references:

- *Identifying and Documenting Vernal Pools in New Hampshire 3<sup>rd</sup> Ed.*, 2016, published by the New Hampshire Fish and Game Department; or
- The USACE *Vernal Pool Assessment* draft guidance dated 9-10-2013 and form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

All vernal pool ID numbers are to be displayed and located on the wetland delineation of the subject property.

“Important Notes” are to include documented reproductive and wildlife values, landscape context, and relationship to other vernal pools/wetlands.

Note: For projects seeking federal approval from the USACE, please attach a completed copy of The USACE “Vernal Pool Assessment” form dated 9-6-2016, Appendix L of the USACE New England District *Compensatory Mitigation Guidance*.

VERNAL POOL ID NUMBER	DATE(S) OBSERVED	PRIMARY INDICATORS PRESENT (LIST)	SECONDARY INDICATORS PRESENT (LIST)	LENGTH OF HYDROPERIOD	IMPORTANT NOTES
1	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
2	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
3	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
4	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
5	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

**SECTION 6 - STREAM RESOURCES SUMMARY**

DESCRIPTION OF STREAM: [REDACTED]	STREAM TYPE (ROSGEN): [REDACTED]
HAVE FISHERIES BEEN DOCUMENTED? <input type="checkbox"/> Yes <input type="checkbox"/> No	DOES THE STREAM SYSTEM APPEAR STABLE? <input type="checkbox"/> Yes <input type="checkbox"/> No
OTHER KEY ON-SITE FUNCTIONS OF NOTE: [REDACTED]	

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The following table can be used to compile data on stream resources. "Important Notes" are to include characteristics the evaluator used to determine principal function and value of each stream. The functions and values reference number are defined in Section 4.

FUNCTIONS/ VALUES	SUITABILITY (Y/N)	RATIONALE	PRINCIPAL FUNCTION/VALUE? (Y/N)	IMPORTANT NOTES
1	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
4	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
5	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
6	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
7	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
8	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
9	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
10	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
11	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
12	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
13	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	
14	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No	

**SECTION 7 - ATTACHMENTS (USACE HIGHWAY METHODOLOGY; Env-Wt 311.10)**

- Wildlife and vegetation diversity/abundance list.
- Photograph of wetland.
- Wetland delineation plans showing wetlands, vernal pools, and streams in relation to the impact area and surrounding landscape. Wetland IDs, vernal pool IDs, and stream IDs must be indicated on the plans.

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For projects in tidal areas only: additional information required by Env-Wt 603.03/603.04. Please refer to the [Coastal Area Worksheet \(NHDES-W-06-079\)](#) for more information.

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#### 4.1 Functional Assessment.

### Function 1 — Ecological Integrity

Tidal marshes are among the most productive and most disturbed ecosystems in the state. It is estimated that 50% of the tidal marshes in New Hampshire have been destroyed. Of the remaining 50%, most of them have been negatively impacted by coastal development to some degree. These impacts include filling and dredging within the EU, construction of roads, railroads or other impounding structures across the surface of the marsh, and adverse land-use in the area surrounding the EU. These impacts can result in the trapping of freshwater from upland drainage, as well as restricting flow of tidal waters that flood the EU. Both of these changes can alter the water and soil chemistry, allowing the EU to be dominated by invasive plant species (e.g. common reed, purple loosestrife), which can lead to the loss of function.

The Ecological Integrity of the marsh is a measure of the extent to which the natural ecosystem has been altered. EUs that have a high Average Functional Index (AFI) for Ecological Integrity have most likely undergone little alteration or degradation. A low AFI for Ecological Integrity indicates an EU that has suffered a high degree of degradation.

This function is divided into two parts. Part A assesses the Ecological Integrity within the EU. Part B assesses the Ecological Integrity of the Zone of Influence by looking at the current condition of the area surrounding the EU. By assessing the two areas separately, the user can gain a better understanding of the factors that influence the integrity of the EU. For example, if the AFI for Part A is high and the AFI for Part B is low, then the EU is being more negatively impacted by what is happening in the Zone of Influence than by a disruption of tidal flushing or extensive damage to the EU itself.

#### PART A: ECOLOGICAL INTEGRITY OF THE EU

##### Questions that may require field observation.

##### **Question 1A. Percent of the marsh plant community dominated by invasive plant species.**

**Directions** — Estimate the size of the area of the EU in which plants indicative of changes in the marsh community occur. These species may include common reed (*Phragmites communis*), purple loosestrife (*Lythrum salicaria*), or narrow leaf cattail (*Typha angustifolia*) or other freshwater or upland species that do not naturally occur in tidal marsh communities (see Appendix J).

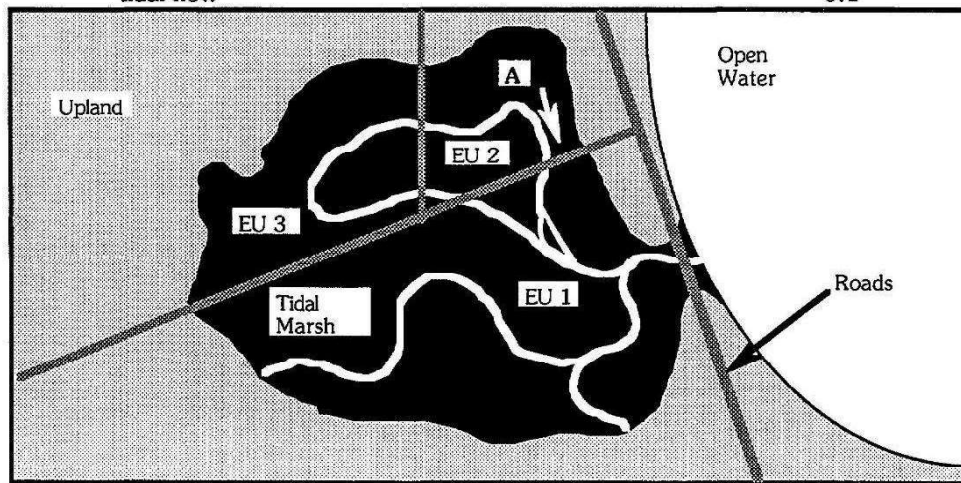
- |  |     |
|--|-----|
| a. less than 5% of EU dominated by invasive species  | 1.0 |
| b. 5% – 20% of EU dominated by invasive species      | 0.5 |
| c. more than 20% of EU dominated by invasive species | 0.1 |

**Rationale** — Invasive plant species may occur in the transition zone of a tidal marsh and not indicate disturbance. However, they can invade and eventually dominate disturbed tidal marshes, causing the loss of the natural diversity in the plant and animal communities. The disturbance can result from changes in drainage patterns caused by road construction, excessive development in the upland, fragmentation of the marsh system, or restriction of tidal flow.

**Question 2A. Number of tidal restrictions.**

**Directions** — Count the number of tidal restrictions from the EU to unrestricted tidal flow by the shortest route (see Figure 4-1). Do not consider the bridges over the major tidal rivers as a restriction. A list of the major tidal rivers can be found on page 12.

- a. no tidal restrictions 1.0
- b. one tidal restriction between EU and free tidal flow 0.5
- c. more than one tidal restriction between the EU and free tidal flow 0.1



From point A in EU 2 tidal waters may flow in either direction to reach unrestricted tidal flow. To place this EU in the proper criterion, the shortest route would follow the arrow and have two man-made tidal restrictions

**FIGURE 4-1 Counting Tidal Restrictions**

**Rationale** — The restriction of seawater to, and the detention of the freshwater in the marsh can cause changes in the salinity which in turn may affect the natural plant and animal communities of the marsh. The fragmentation of the system by the construction of roads or other types of impoundments and restrictions may influence all of the functions of the marsh. The present condition of the EU may be caused by the cumulative impact of two or more sequential restrictions of tidal flow (see Appendix J).

**Question 3A. Type of tidal restriction.**

**Directions** — Identify all the tidal restrictions between the EU and unrestricted tidal waters by the shortest route (See Figure 4-1). Determine which restriction is the most severe and apply the following criteria. Be sure to consider all tidal restrictions affecting flow into the EU (see Appendix J).

- |  |     |
|--|-----|
| a. no restriction affecting flow   | 1.0 |
| b. flow through bridge appears adequate  | 0.5 |
| c. flow through bridge appears inadequate and/or flow restricted by culvert(s) | 0.1 |

**Rationale** —The type of tidal restriction can be one of the main causes of degradation in an EU. A bridge that spans a tidal creek may allow adequate flow in the channel, but the approaches to the bridge are usually associated with the restriction of flow across the surface of the marsh. The presence and type of flow restriction may also cause freshwater flooding in the EU during springtime runoff or major rainstorms. In marsh systems such as the Little River in North Hampton, this flooding can damage surrounding roads and buildings.

There are many types of structures that can influence the free flow of tides, ranging from jetties to culverts. Each type of restriction has different effects on the hydrology of the marsh. For example, jetties, such as those at the mouths of Rye and Hampton Harbors, affect the flow of tidal waters in and out of the marsh. The level of information that will be collected using the *Coastal Method* will not allow for the evaluation of the effects of these changes in hydrology. However, some of the restrictions are so severe that there is a direct effect on the biotic communities of the EU.

Bridges and culverts in the marsh can be of two different types. The restriction with the least effect on a marsh is a structure spanning a tidal creek from headland to headland such as the Rt. 1A bridge over Parsons Creek in Rye. The other type is a road across the surface of the marsh with bridges or culverts over tidal creeks. The construction of the road across the marsh fragments the marsh and creates impoundments which prevent the free flow of tidal waters across the surface of the marsh at the point of construction. Even if the bridge is properly sized for the creek it spans, the amount of tidal water reaching the far side of the road is limited by the presence of the road. Culverts are the most restrictive and are often associated with degraded EUs because of the limited amount of tidal flow that reaches the far side of the culvert.

**Question 4A. Ditching on the surface of the EU.**

**Directions** — Determine from the base map or a site visit if man-made ditches are present in the EU and in what pattern.

- |                                      |     |
|--------------------------------------|-----|
| a. no ditching within the EU         | 1.0 |
| b. ditches present in linear pattern | 0.5 |
| c. ditches present in grid pattern   | 0.1 |

**Rationale** — Many of the larger marshes in New Hampshire were ditched either for agricultural purposes or in an attempt to help in the control of salt marsh mosquitoes. The effects of the ditching on the integrity of a marsh are not fully understood, but there is little doubt that the ditches do affect the functioning of the EU. Many times the spoils from the ditching were left on the surface of the marsh next to the ditch, trapping water and leading to the degradation of the marsh peat. A grid pattern of ditches and the associated spoils is more likely to have a negative impact on the EU by trapping both tidal waters and freshwater drainage from the surrounding upland on the marsh surface leading to the dieback of natural tidal marsh plant communities, degradation of the marsh peat and changes in water and soil chemistry.

## **PART B: ECOLOGICAL INTEGRITY OF THE ZONE OF INFLUENCE**

### **Questions that may require field observation.**

#### ***Question 1B. Dominant land-use in the 500 foot Zone of Influence surrounding the EU.***

**Directions** — Using the base map, determine the dominant land-use based on the current use of the land. The dominant land-use refers to the use which occupies the largest percentage of the Zone of Influence.

- |  |     |
|--|-----|
| a. forested, fields, open water, or similar open space                       | 1.0 |
| b. agriculture or rural residential  | 0.5 |
| c. commercial, industrial, high density residential or heavily used highways | 0.1 |

**Rationale** — The *Coastal Method* assumes that marshes in areas which have low intensity use, such as forestry or open space, are least likely to have undergone past disturbances. In addition, these areas are most likely to remain undisturbed in the future.

#### ***Question 2B. Ratio of the number of occupied buildings (including seasonally occupied) within the EU or within the Zone of Influence to the total area of EU.***

**Directions** — Count the number of occupied buildings in the EU and/or within 500 feet of the EU's edge. Use the EU area as previously determined on the base map. Express the number of occupied buildings as a ratio to the area of the EU. If an occupied structure falls half in and half out of the Zone of Influence it should be counted as being in.

$$\frac{\text{number of occupied dwellings}}{\text{total area of EU (acres)}} = \frac{\text{buildings}}{\text{acre}}$$

- |                                 |     |
|---------------------------------|-----|
| a. less than 0.1 building/ac.   | 1.0 |
| b. from 0.1 to 0.5 building/ac. | 0.5 |
| c. more than 0.5 building/ac.   | 0.1 |

**Rationale** — Occupied buildings are an indicator of the human impact on the EU. These impacts can include increased runoff, nutrient loading from malfunctioning septic systems and use of fertilizers and increased activity in and around the EU. This activity can be detrimental to water quality and many plants and animals.

**Question 3B. Percent of the EU/upland border which has a buffer of woodland or idle land at least 500 feet in width.**

**Directions** — Using the base map, measure the total length of the EU/upland border. Then measure the length of this border which has a 500 foot buffer zone of woodland or idle land. The 500 foot buffer zone will coincide with the Zone of Influence as mapped. **Do not include those areas bordered by agricultural use.** Express the length of the buffer as a percentage of the total length of the EU/upland border.

$$\frac{\text{length of 500 foot wide undeveloped buffer}}{\text{length EU/upland border}} \times 100$$

- |                    |     |
|--------------------|-----|
| a. more than 70%   | 1.0 |
| b. from 30% to 70% | 0.5 |
| c. less than 30%   | 0.1 |

**Rationale** — A buffer zone (an uncut area of vegetation providing wildlife cover, and helping to control erosion and maintain water quality) increases the ecological integrity of a EU in several important ways. It provides habitat for upland animals, which may use a tidal marsh during parts of their life cycle, and habitat for water dependent wildlife species that require upland habitat for parts of their life cycle. The vegetation in an undisturbed buffer zone acts as a filter to absorb some of the contaminants from residential, agricultural or commercial development before they can enter the EU. During severe storm events the buffer zone can provide refuge for marsh animals to escape high winds and flooding. These undisturbed areas may also slowly evolve into tidal marsh as sea level rises. Agricultural land is not counted as a buffer zone because the application of fertilizers and pesticides can be harmful to the marsh ecosystem.

**Question 4B. Square footage of roads, driveways and parking lots within 150 feet of EU.**

**Directions** — Determine the square footage of roads, driveways and other paved areas such as parking lots within 150 feet of the EU and express it as a ratio to the area of the EU (in acres).

$$\frac{\text{square footage of roads and other paved areas (in sq. feet)}}{\text{area of EU (in acres)}}$$

- |  |     |
|--|-----|
| a. ratio less than 1500 sq. feet/acre      | 1.0 |
| b. ratio between 1500 – 6000 sq. feet/acre | 0.5 |
| c. ratio greater than 6000 sq. feet/acre   | 0.1 |



**Rationale** — Roads, driveways, parking lots, and other paved areas are the focus of considerable disturbance including noise, air pollution and polluted runoff. All of these factors can have a negative effect on populations of plant and animals within the EU.

The Ecological Integrity of the Ecological Unit is 0.90

The Ecological Integrity of the Zone of Influence is 0.30



## L2: Army Corps Appendix A - List of Considerations and Qualifiers

# Appendix A

## Wetland evaluation supporting documentation; Reproducible forms.

Below is an example list of considerations that was used for a New Hampshire highway project. Considerations are flexible, based on best professional judgment and interdisciplinary team consensus. This example provides a comprehensive base, however, and may only need slight modifications for use in other projects.



**GROUNDWATER RECHARGE/DISCHARGE**— This function considers the potential for a wetland to serve as a groundwater recharge and/or discharge area. It refers to the fundamental interaction between wetlands and aquifers, regardless of the size or importance of either.

### CONSIDERATIONS/QUALIFIERS

1. Public or private wells occur downstream of the wetland.
2. Potential exists for public or private wells downstream of the wetland.
3. Wetland is underlain by stratified drift.
4. Gravel or sandy soils present in or adjacent to the wetland.
5. Fragipan does not occur in the wetland.
6. Fragipan, impervious soils, or bedrock does occur in the wetland.
7. Wetland is associated with a perennial or intermittent watercourse.
8. Signs of groundwater recharge are present or piezometer data demonstrates recharge.
9. Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet.
10. Wetland contains only an outlet, no inlet.
11. Groundwater quality of stratified drift aquifer within or downstream of wetland meets drinking water standards.
12. Quality of water associated with the wetland is high.
13. Signs of groundwater discharge are present (e.g., springs).
14. Water temperature suggests it is a discharge site.
15. Wetland shows signs of variable water levels.
16. Piezometer data demonstrates discharge.
17. Other



**FLOODFLOW ALTERATION (Storage & Desynchronization)**— This function considers the effectiveness of the wetland in reducing flood damage by water retention for prolonged periods following precipitation events and the gradual release of floodwaters. It adds to the stability of the wetland ecological system or its buffering characteristics and provides social or economic value relative to erosion and/or flood prone areas.

#### CONSIDERATIONS/QUALIFIERS

1. Area of this wetland is large relative to its watershed.
2. Wetland occurs in the upper portions of its watershed.
3. Effective flood storage is small or non-existent upslope of or above the wetland.
4. Wetland watershed contains a high percent of impervious surfaces.
5. Wetland contains hydric soils which are able to absorb and detain water.
6. Wetland exists in a relatively flat area that has flood storage potential.
7. Wetland has an intermittent outlet, ponded water, or signs are present of variable water level.
8. During flood events, this wetland can retain higher volumes of water than under normal or average rainfall conditions.
9. Wetland receives and retains overland or sheet flow runoff from surrounding uplands.
10. In the event of a large storm, this wetland may receive and detain excessive flood water from a nearby watercourse.
11. Valuable properties, structures, or resources are located in or near the floodplain downstream from the wetland.
12. The watershed has a history of economic loss due to flooding.
13. This wetland is associated with one or more watercourses.
14. This wetland watercourse is sinuous or diffuse.
15. This wetland outlet is constricted.
16. Channel flow velocity is affected by this wetland.
17. Land uses downstream are protected by this wetland.
18. This wetland contains a high density of vegetation.
19. Other

**FISH AND SHELLFISH HABITAT (FRESHWATER)** — This function considers the effectiveness of seasonal or permanent watercourses associated with the wetland in question for fish and shellfish habitat.



#### CONSIDERATIONS/QUALIFIERS

1. Forest land dominant in the watershed above this wetland.
  2. Abundance of cover objects present.
- STOP HERE IF THIS WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE**
3. Size of this wetland is able to support large fish/shellfish populations.
  4. Wetland is part of a larger, contiguous watercourse.
  5. Wetland has sufficient size and depth in open water areas so as not to freeze solid and retain some open water during winter.
  6. Stream width (bank to bank) is more than 50 feet.
  7. Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish populations.
  8. Streamside vegetation provides shade for the watercourse.
  9. Spawning areas are present (submerged vegetation or gravel beds).
  10. Food is available to fish/shellfish populations within this wetland.
  11. Barrier(s) to anadromous fish (such as dams, including beaver dams, waterfalls, road crossing) are absent from the stream reach associated with this wetland.
  12. Evidence of fish is present.
  13. Wetland is stocked with fish.
  14. The watercourse is persistent.
  15. Man-made streams are absent.
  16. Water velocities are not too excessive for fish usage.
  17. Defined stream channel is present.
  18. Other

Although the above example refers to freshwater wetlands, it can also be adapted for marine ecosystems. The following is an example provided by the National Marine Fisheries Service (NMFS) of an adaptation for the fish and shellfish function.

**FISH AND SHELLFISH HABITAT (MARINE)** — This function considers the effectiveness of wetlands, embayments, tidal flats, vegetated shallows, and other environments in supporting marine resources such as fish, shellfish, marine mammals, and sea turtles.

**CONSIDERATIONS/QUALIFIERS**

1. Special aquatic sites (tidal marsh, mud flats, eelgrass beds) are present.
2. Suitable spawning habitat is present at the site or in the area.
3. Commercially or recreationally important species are present or suitable habitat exists.
4. The wetland/waterway supports prey for higher trophic level marine organisms.
5. The waterway provides migratory habitat for anadromous fish.
6. Essential fish habitat, as defined by the 1996 amendments to the Magnuson-Stevens Fishery & Conservation Act, is present (consultation with NMFS may be necessary).
7. Other



**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 in runoff water from surrounding uplands or upstream eroding wetland areas.

**CONSIDERATIONS/QUALIFIERS**

1. Potential sources of excess sediment are in the watershed above the wetland.
2. Potential or known sources of toxicants are in the watershed above the wetland.
3. Opportunity for sediment trapping by slow moving water or deepwater habitat are present in this wetland.
4. Fine grained mineral or organic soils are present.
5. Long duration water retention time is present in this wetland.
6. Public or private water sources occur downstream.
7. The wetland edge is broad and intermittently aerobic.
8. The wetland is known to have existed for more than 50 years.
9. Drainage ditches have not been constructed in the wetland.

**STOP HERE IF WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE.**

10. Wetland is associated with an intermittent or perennial stream or a lake.
11. Channelized flows have visible velocity decreases in the wetland.
12. Effective floodwater storage in wetland is occurring. Areas of impounded open water are present.
13. No indicators of erosive forces are present. No high water velocities are present.
14. Diffuse water flows are present in the wetland.
15. Wetland has a high degree of water and vegetation interspersion.
16. Dense vegetation provides opportunity for sediment trapping and/or signs of sediment accumulation by dense vegetation is present.
17. Other



**NUTRIENT REMOVAL/RETENTION/TRANSFORMATION** — This function considers the effectiveness of the wetland as a trap for nutrients in runoff water from surrounding uplands or contiguous wetlands and the ability of the wetland to process these nutrients into other forms or trophic levels. One aspect of this function is to prevent ill effects of nutrients entering aquifers or surface waters such as ponds, lakes, streams, rivers, or estuaries.

**CONSIDERATIONS/QUALIFIERS**

1. Wetland is large relative to the size of its watershed.
2. Deep water or open water habitat exists.
3. Overall potential for sediment trapping exists in the wetland.

4. Potential sources of excess nutrients are present in the watershed above the wetland.
  5. Wetland saturated for most of the season. Pondered water is present in the wetland.
  6. Deep organic/sediment deposits are present.
  7. Slowly drained fine grained mineral or organic soils are present.
  8. Dense vegetation is present.
  9. Emergent vegetation and/or dense woody stems are dominant.
  10. Opportunity for nutrient attenuation exists.
  11. Vegetation diversity/abundance sufficient to utilize nutrients.
- STOP HERE IF WETLAND IS NOT ASSOCIATED WITH A WATERCOURSE.**
12. Waterflow through this wetland is diffuse.
  13. Water retention/detention time in this wetland is increased by constricted outlet or thick vegetation.
  14. Water moves slowly through this wetland.
  15. Other

**PRODUCTION EXPORT (Nutrient)** — This function evaluates the effectiveness of the wetland to produce food or usable products for humans or other living organisms.



**CONSIDERATIONS/QUALIFIERS**

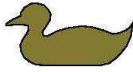
1. Wildlife food sources grow within this wetland.
2. Detritus development is present within this wetland
3. Economically or commercially used products found in this wetland.
4. Evidence of wildlife use found within this wetland.
5. Higher trophic level consumers are utilizing this wetland.
6. Fish or shellfish develop or occur in this wetland.
7. High vegetation density is present.
8. Wetland exhibits high degree of plant community structure/species diversity.
9. High aquatic vegetative diversity/abundance is present.
10. Nutrients exported in wetland watercourses (permanent outlet present).
11. "Flushing" of relatively large amounts of organic plant material occurs from this wetland.
12. Wetland contains flowering plants that are used by nectar-gathering insects.
13. Indications of export are present.
14. High production levels occurring, however, no visible signs of export (assumes export is attenuated).
15. Other

**SEDIMENT/ShORELINE STABILIZATION** — This function considers the effectiveness of a wetland to stabilize streambanks and shorelines against erosion.



**CONSIDERATIONS/QUALIFIERS**

1. Indications of erosion or siltation are present.
2. Topographical gradient is present in wetland.
3. Potential sediment sources are present up-slope.
4. Potential sediment sources are present upstream.
5. No distinct shoreline or bank is evident between the waterbody and the wetland or upland.
6. A distinct step between the open waterbody or stream and the adjacent land exists (i.e., sharp bank) with dense roots throughout.
7. Wide wetland (>10') borders watercourse, lake, or pond.
8. High flow velocities in the wetland.
9. The watershed is of sufficient size to produce channelized flow.
10. Open water fetch is present.
11. Boating activity is present.
12. Dense vegetation is bordering watercourse, lake, or pond.
13. High percentage of energy-absorbing emergents and/or shrubs border a watercourse, lake, or pond.
14. Vegetation is comprised of large trees and shrubs that withstand major flood events or erosive incidents and stabilize the shoreline on a large scale (feet).
15. Vegetation is comprised of a dense resilient herbaceous layer that stabilizes sediments and the shoreline on a small scale (inches) during minor flood events or potentially erosive events.
16. Other



**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.<sup>1</sup>

**CONSIDERATIONS/QUALIFIERS**

1. Wetland is not degraded by human activity.
2. Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.
3. Wetland is not fragmented by development.
4. Upland surrounding this wetland is undeveloped.
5. More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., brushland, woodland, active farmland, or idle land) at least 500 feet in width.
6. Wetland is contiguous with other wetland systems connected by a watercourse or lake.
7. Wildlife overland access to other wetlands is present.
8. Wildlife food sources are within this wetland or are nearby.
9. Wetland exhibits a high degree of interspersion of vegetation classes and/or open water.
10. Two or more islands or inclusions of upland within the wetland are present.
11. Dominant wetland class includes deep or shallow marsh or wooded swamp.
12. More than three acres of shallow permanent open water (less than 6.6 feet deep), including streams in or adjacent to wetland, are present.
13. Density of the wetland vegetation is high.
14. Wetland exhibits a high degree of plant species diversity.
15. Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses)
16. Plant/animal indicator species are present. (List species for project)
17. Animal signs observed (tracks, scats, nesting areas, etc.)
18. Seasonal uses vary for wildlife and wetland appears to support varied population diversity/abundance during different seasons.
19. Wetland contains or has potential to contain a high population of insects.
20. Wetland contains or has potential to contain large amphibian populations.
21. Wetland has a high avian utilization or its potential.
22. Indications of less disturbance-tolerant species are present.
23. Signs of wildlife habitat enhancement are present (birdhouses, nesting boxes, food sources, etc.).
24. Other

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<sup>1</sup>In March 1995, a rapid wildlife habitat assessment method was completed by a University of Massachusetts research team with funding and oversight provided by the New England Transportation Consortium. The method is called WEThings (wetland habitat indicators for non-game species). It produces a list of potential wetland-dependent mammal, reptile, and amphibian species that may be present in the wetland. The output is based on observable habitat characteristics documented on the field data form. This method may be used to generate the wildlife species list recommended as backup information to the wetland evaluation form and to augment the considerations. Use of this method should first be coordinated with the Corps project manager. A computer program is also available to expedite this process.

**RECREATION (Consumptive and Non-Consumptive)** — This value considers the suitability of the wetland and associated watercourses to provide recreational opportunities such as hiking, canoeing, boating, fishing, hunting, and other active or passive recreational activities. Consumptive opportunities consume or diminish the plants, animals, or other resources that are intrinsic to the wetland. Non-consumptive opportunities do not consume or diminish these resources of the wetland.



**CONSIDERATIONS/QUALIFIERS**

1. Wetland is part of a recreation area, park, forest, or refuge.
2. Fishing is available within or from the wetland.
3. Hunting is permitted in the wetland.
4. Hiking occurs or has potential to occur within the wetland.
5. Wetland is a valuable wildlife habitat.
6. The watercourse, pond, or lake associated with the wetland is unpolluted.
7. High visual/aesthetic quality of this potential recreation site.
8. Access to water is available at this potential recreation site for boating, canoeing, or fishing.
9. The watercourse associated with this wetland is wide and deep enough to accommodate canoeing and/or non-powered boating.
10. Off-road public parking available at the potential recreation site.
11. Accessibility and travel ease is present at this site.
12. The wetland is within a short drive or safe walk from highly populated public and private areas.
13. Other

**EDUCATIONAL/SCIENTIFIC VALUE** — This value considers the suitability of the wetland as a site for an “outdoor classroom” or as a location for scientific study or research.



**CONSIDERATIONS/QUALIFIERS**

1. Wetland contains or is known to contain threatened, rare, or endangered species.
2. Little or no disturbance is occurring in this wetland.
3. Potential educational site contains a diversity of wetland classes which are accessible or potentially accessible.
4. Potential educational site is undisturbed and natural.
5. Wetland is considered to be a valuable wildlife habitat.
6. Wetland is located within a nature preserve or wildlife management area.
7. Signs of wildlife habitat enhancement present (bird houses, nesting boxes, food sources, etc.).
8. Off-road parking at potential educational site suitable for school bus access in or near wetland.
9. Potential educational site is within safe walking distance or a short drive to schools.
10. Potential educational site is within safe walking distance to other plant communities.
11. Direct access to perennial stream at potential educational site is available.
12. Direct access to pond or lake at potential educational site is available.
13. No known safety hazards exist within the potential educational site.
14. Public access to the potential educational site is controlled.
15. Handicap accessibility is available.
16. Site is currently used for educational or scientific purposes.
17. Other



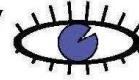
**UNIQUENESS/HERITAGE** — This value considers the effectiveness of the wetland or its associated waterbodies to provide certain special values. These may include archaeological sites, critical habitat for endangered species, its overall health and appearance, its role in the ecological system of the area, its relative importance as a typical wetland class for this geographic location. These functions are clearly valuable wetland attributes relative to aspects of public health, recreation, and habitat diversity.

#### CONSIDERATIONS/QUALIFIERS

1. Upland surrounding wetland is primarily urban.
2. Upland surrounding wetland is developing rapidly.
3. More than 3 acres of shallow permanent open water (less than 6.6 feet deep), including streams, occur in wetlands.
4. Three or more wetland classes are present.
5. Deep and/or shallow marsh or wooded swamp dominate.
6. High degree of interspersed vegetation and/or open water occur in this wetland.
7. Well-vegetated stream corridor (15 feet on each side of the stream) occurs in this wetland.
8. Potential educational site is within a short drive or a safe walk from schools.
9. Off-road parking at potential educational site is suitable for school buses.
10. No known safety hazards exist within this potential educational site.
11. Direct access to perennial stream or lake exists at potential educational site.
12. Two or more wetland classes are visible from primary viewing locations.
13. Low-growing wetlands (marshes, scrub-shrub, bogs, open water) are visible from primary viewing locations.
14. Half an acre of open water or 200 feet of stream is visible from the primary viewing locations.
15. Large area of wetland is dominated by flowering plants or plants that turn vibrant colors in different seasons.
16. General appearance of the wetland visible from primary viewing locations is unpolluted and/or undisturbed.
17. Overall view of the wetland is available from the surrounding upland.
18. Quality of the water associated with the wetland is high.
19. Opportunities for wildlife observations are available.
20. Historical buildings are found within the wetland.
21. Presence of pond or pond site and remains of a dam occur within the wetland.
22. Wetland is within 50 yards of the nearest perennial watercourse.
23. Visible stone or earthen foundations, berms, dams, standing structures, or associated features occur within the wetland.
24. Wetland contains critical habitat for a state- or federally-listed threatened or endangered species.
25. Wetland is known to be a study site for scientific research.
26. Wetland is a natural landmark or recognized by the state natural heritage inventory authority as an exemplary natural community.
27. Wetland has local significance because it serves several functional values.
28. Wetland has local significance because it has biological, geological, or other features that are locally rare or unique.
29. Wetland is known to contain an important archaeological site.
30. Wetland is hydrologically connected to a state or federally designated scenic river.
31. Wetland is located in an area experiencing a high wetland loss rate.
32. Other



**VISUAL QUALITY/AESTHETICS** — This value considers the visual and aesthetic quality or usefulness of the wetland.



**CONSIDERATIONS/QUALIFIERS**

1. Multiple wetland classes are visible from primary viewing locations.
2. Emergent marsh and/or open water are visible from primary viewing locations.
3. A diversity of vegetative species is visible from primary viewing locations.
4. Wetland is dominated by flowering plants or plants that turn vibrant colors in different seasons.
5. Land use surrounding the wetland is undeveloped as seen from primary viewing locations.
6. Visible surrounding land use form contrasts with wetland.
7. Wetland views absent of trash, debris, and signs of disturbance.
8. Wetland is considered to be a valuable wildlife habitat.
9. Wetland is easily accessed.
10. Low noise level at primary viewing locations.
11. Unpleasant odors absent at primary viewing locations.
12. Relatively unobstructed sight line exists through wetland.
13. Other

**ENDANGERED SPECIES HABITAT** — This value considers the suitability of the wetland to support threatened or endangered species.

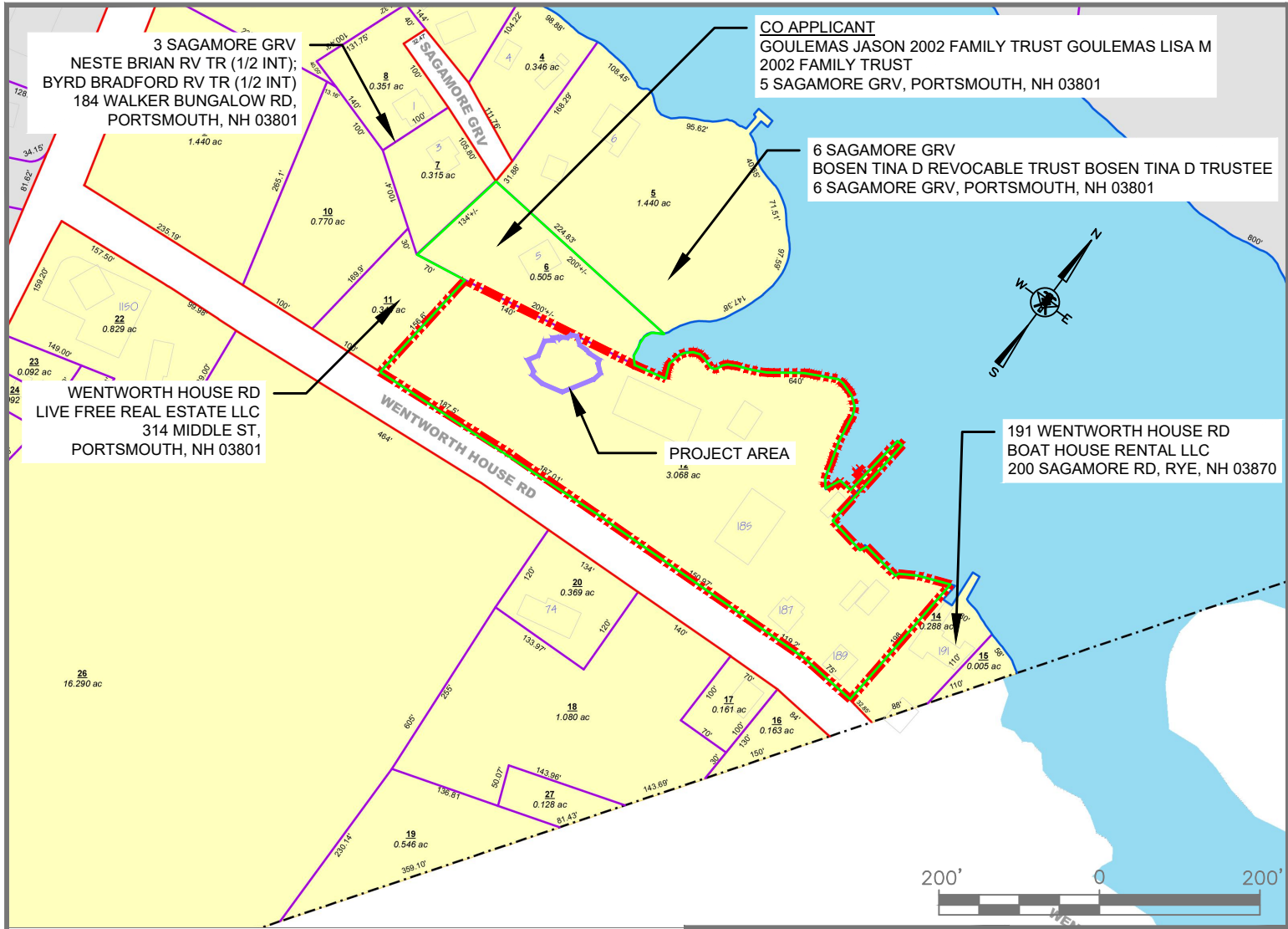
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**CONSIDERATIONS/QUALIFIERS**

1. Wetland contains or is known to contain threatened or endangered species.
2. Wetland contains critical habitat for a state or federally listed threatened or endangered species.

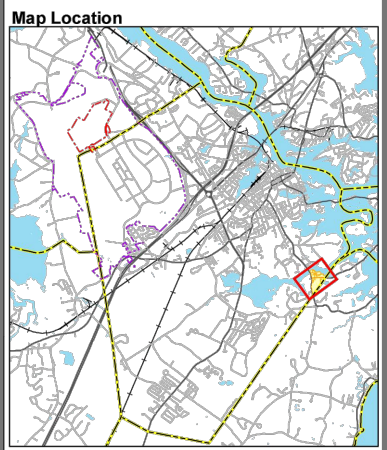
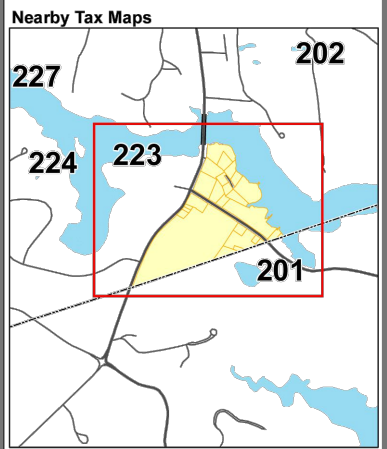
NHDES Wetlands Bureau file number 2024-03673

**WPA APPENDIX M** -- Copy of Town Tax Map, Location of Project on property, and location, name, and address of abutters, recorded deeds for site properties with book and page numbers, and copies of certified postal receipts to abutters (Per Application Checklist, NH ENV-WT 311.06, 311.12, 311.13)



**LEGEND**

- SUBJECT PROPERTY
- PROJECT AREA
- PROJECT SITE OUTLINE



**ARIES ENGINEERING**  
104 PLEASANT STREET  
CONCORD, NH

**PROPERTY ABUTTERS**

SEA LEVEL, LLC.  
MAP 201, LOT 12  
PORTSMOUTH, NH

**DRAWN BY:** JD  
**APPROVED BY:** SG

Figure 1  
October 17, 2024

Portsmouth, New Hampshire  
2023  
**Tax Map 201**

## **List of Abutters to Portsmouth Marina and Goulemas Properties**

3 Sagamore Grove (Map 201, Lot 7)

Owners: Neste Brian Rv Tr (1/2 Int); Byrd Bradford Rv Tr (1/2 Int)

Owners Address: 184 Walker Bungalow Rd, Portsmouth, NH 03801

6 Sagamore Grove (Map 201, Lot 5)

Owners: Bosen Tina D Revocable Trust, Bosen Tina D Trustee

Owners Address: 6 Sagamore Grove, Portsmouth, NH 03801

191 Wentworth House Road (Map 201, Lot 14)

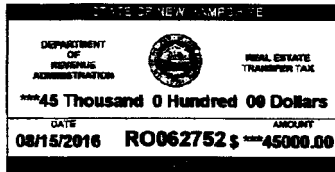
Owner: Boat House Rental LLC

Owners Address: 200 Sagamore Rd, Rye, NH 03870

Wentworth House Road (Map 201, Lot 11)

Owner: Live Free Real Estate LLC

Owners Address: 314 Middle St, Portsmouth, NH 03801



**WARRANTY DEED**

**KNOW EVERYONE BY THESE PRESENTS** that I, J.P. Nadeau, of 507 State Street, Portsmouth, County of Rockingham and State of New Hampshire (hereinafter referred to as "Grantor"), for consideration paid grants to Sea Level LLC, of 185 Wentworth Road, Portsmouth, County of Rockingham and State of New Hampshire (hereinafter referred to as "Grantee"), with WARRANTY COVENANTS, all of Grantor's right, title and interest in the following described property, none of which is homestead property.

**LEGAL DESCRIPTION**

**Parcel 1:** A certain tract or parcel of land, with buildings located thereon, in Portsmouth, New Hampshire, bounded and described as follows:

Beginning at a point in the Northerly sideline of Wentworth House Road at the Southeasterly corner of land now or formerly of William F. Huber, thence running N 27° 10' E by land of said Huber one hundred fifty-six and six tenths (156.6) feet to a corner; thence turning and running S 79° 08' E by land now or formerly of Philip A. and Anita M. Hayes one hundred forty (140) feet, more or less, to Sagamore Creek; thence turning and running Southeasterly by said creek to land formerly of Michael and Dunya D. Kuchtey; thence turning and running S 15° 38' W by land of said Kuchtey about one hundred sixty (160) feet to Wentworth House Road; thence turning and running N 74° 22' W by said road one hundred eighty-seven and five tenths (187.5) feet to the point of beginning.

Subject to all covenants and conditions contained in deed of Wentworth Hotel, Inc., to Michael Kuchtey and Dunya D. Kuchtey, dated November 10, 1958 and recorded in the Rockingham County Registry of Deeds at Book 1487, Page 419.

**Parcel 2:** A certain lot or parcel of land together with the buildings located thereon, situate in Portsmouth, County of Rockingham, State of New Hampshire, on the Northerly side of Wentworth House Road, so-called, and more particularly bounded and described as follows:

Beginning at a point at the Southwesterly corner of land now or formerly of one Apostolides at the Southeasterly corner of the premises herein conveyed thence running in a Westerly direction by said Wentworth House Road one hundred eighty-three (183) feet to a point at land now or formerly of Sadie P. Gouse; thence turning and running at right angles in a general Northerly direction by said land of Gouse one hundred forty-four and fifty-eight hundredths (144.58) feet, more or less, to Sagamore Creek; thence turning and running in a general Easterly direction, following the course of said Sagamore Creek, to the Northwesterly corner of land of said Apostolides; thence turning and running in a Southerly direction by said

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 REGISTRY OF DEEDS

Apostolides land one hundred seventy-five (175) feet, more or less, to said Wentworth House Road and the point of beginning.

Parcel 3: A certain parcel of land, with the buildings thereon, situate in Portsmouth, County of Rockingham and State of New Hampshire, bounded and described as follows:

Beginning at the Southwesterly corner of the parcel conveyed at a point in the Northerly sideline of Wentworth House Road; thence running North 09° 50' East by other land now or formerly of said Sadie Gouse about 210 feet to Sagamore Creek; thence turning and running in a general Easterly direction by said Creek to a point distant 150 feet Easterly at right angles from the first described course; thence turning and running South 09° 50' West by other land of said Sadie Gouse about 250 feet to Wentworth House Road; thence turning and running Westerly by said road about 150 feet to the point of beginning.

Also another parcel of land with the buildings thereon situated in said Portsmouth, and bounded and described as follows:

Beginning at a point on the Northerly side of Wentworth House Road at the Southeasterly corner of other land of this grantor; thence running North 09° 50' East by other land of this grantor about 185 feet to Sagamore Creek; thence running Easterly by said Creek about 40 feet to land conveyed to Nicholas Pesarik; thence turning and running South 22° 35' West by said land conveyed to said Pesarik passing through a drill hole in a ledge about 180 feet to Wentworth House Road and the point of beginning.

Parcel 4: A certain tract or parcel of land, together with the buildings thereon, situated on the Northerly side of Wentworth House Road in Portsmouth, County of Rockingham and State of New Hampshire, bounded and described as follows:

Beginning at a hub in the ground on the Northerly side of said road and at the Southwesterly corner of land now or formerly of Joseph LaCava thence turning and running North 69° 09' West by said Wentworth House Road 119.2 feet to land now or formerly of Peter and Florence Apostolides; thence turning and running North 22° 35' East by other land now or formerly of Sadie P. Gouse and passing through a drill hole in a ledge about 180 feet to Sagamore Creek; thence running in a general Southerly and Easterly direction by said Creek to land of Joseph LaCava; thence turning and running South 23° 26' West by land of said LaCava about 104 feet to Wentworth House Road and the point of beginning.

Parcel 5: A certain tract of land, with the buildings thereon, situate in Portsmouth, County of Rockingham and State of New Hampshire, bounded and described as follows:

Beginning at a hub on the Northerly side of Wentworth House Road at land now or formerly of Sadie P. Gouse; thence running North 23° 26' East by land now or formerly of Gouse to Sagamore Creek; thence turning and running Northeasterly by said creek to land now or formerly of Henry Chartrand; thence turning and running South 26° 30'

West by land now or formerly of said Chartrand to said Wentworth House Road; thence turning and running  $66^{\circ} 34'$  West by said road seventy five (75) feet to the point of beginning.

See also boundary agreement between Michael Kuchtey and Dunya D. Kuchtey and Ronald F. Eagan and Anne M. Eagan, dated June 17, 1968 and recorded in the Rockingham County Registry of Deeds at Book 1772, Page 192, as said agreement may affect the above description.

**Parcels 1, 2, 3, 4 and 5 are also collectively depicted as one parcel located on the northerly side of Wentworth House Road on a plan entitled, "Plan of Land for Michael Kuchtey Revocable Trust, Wentworth Road, County of Rockingham, Portsmouth/Rye, NH, Scale 1"=50", by Millette, Sprague & Colwell, Inc., dated March 25, 1999 and recorded in the Rockingham County Registry of Deeds on July 20, 1999 as Plan Number D-27320, which parcel is bounded and described as follows"**

Beginning at an iron rod on the Northerly sideline of Wentworth House Road at the Southeasterly corner of the within described parcel and the Southwesterly corner of land now or formerly of the B.R. Graves, Jr. Revocable Trust of 1992; thence running along the Northerly sideline of Wentworth House Road the following courses and distances: North  $68^{\circ} 01' 00''$  West for a distance of 75.00 feet to a point; North  $70^{\circ} 36' 00''$  West for a distance of 119.20 feet to a point; North  $75^{\circ} 07' 00''$  West for a distance of 150.97 feet to a point; North  $78^{\circ} 31' 34''$  West for a distance 187.01 feet to a point; and North  $75^{\circ} 19' 24''$  West for a distance 187.50 feet to an iron rod at the Southeasterly corner of land now or formerly of Michael A. Kuchtey; thence turning and running North  $26^{\circ} 12' 36''$  East along land of said Kuchtey for a distance of 156.60 feet to an iron pipe at land now or formerly of Lawrence E. Hayes; thence turning and running South  $80^{\circ} 05' 24''$  East along land of said Hayes for a distance of 140.00 feet to a point at the high water mark of Sagamore Creek; thence running in a Southeasterly direction along said high water mark (on a tie course of South  $86^{\circ} 48' 59''$  East for a distance of 174.75 feet); thence turning and running on a Northeasterly direction along said high water mark (on a tie course of North  $72^{\circ} 48' 54''$  East for a distance of 137.81 feet); thence turning and running in a Southeasterly direction along said high water mark (on tie courses of South  $43^{\circ} 01' 00''$  East for a distance of 80.94 feet; South  $21^{\circ} 22' 41''$  East for a distance of 80.31 feet; and South  $68^{\circ} 07' 25''$  East for a distance of 106.49 feet); thence turning and running in a Northeasterly direction along said high water mark (one a tie course of North  $79^{\circ} 28' 21''$  East for a distance of 81.44 feet) to a point at land now or formerly of The B.R. Graves, Jr. Revocable Trust of 1992; thence turning and running South  $25^{\circ} 03' 00''$  West along said Graves Trust land for a distance of 198.00 feet to the point of beginning.

Parcel 6: A certain parcel of land, with any buildings thereon, located on Wentworth Road, Portsmouth, County of Rockingham, State of New Hampshire, more particularly described follows:

Beginning at a point in the Southerly sideline of Wentworth Road, said point being two hundred eleven and eighteen hundredths (211.18) feet Easterly of the Northeast corner of

land now or formerly of Herman Odiorne; thence running South 19° 59' West by land of Ronald F. Eagan and Anne M. Eagan one hundred and no-tenths (100.00) feet to a corner; thence turning and running North 69° 09' West by land now or formerly of the Michael Kuchtey Revocable Trust dated July 2, 1996 seventy and no-tenths (70.0) feet to a corner; thence turning and running North 19° 59' East by other land now or formerly of said Kuchtey Trust one hundred and no-tenths (100.) feet to said Wentworth Road; thence turning and running South 69° 09' East by said road seventy and no-tenths (70.0) feet to the point of beginning.

See also boundary agreement between Michael Kuchtey and Dunya D. Kuchtey and Ronald F. Eagan and Anne M. Egan, dated June 17, 1968 and recorded in Rockingham Registry of Deeds at Book 1772, Page 192 as said agreement may affect the above description.

**Parcel 6 is also depicted as one parcel located on the Southerly side of Wentworth House Road on a plan entitled, "Plan of Land for Michael Kuchtey Revocable Trust, Wentworth Road, County of Rockingham, Portsmouth/Rye, NH, Scale 1"=50", by Millette, Sprague & Colwell, Inc. dated March 25, 1999 and recorded in the Rockingham County Registry of Deeds on July 20, 1999 as Plan Number D-27320, which parcel is bounded and described as follows:**

Beginning at an iron rod on the Southerly sideline of Wentworth House Road at the Northeasterly corner of the within described parcel and the Northwesterly corner of land now or formerly of The B.R. Graces, Jr. Revocable Trust of 1992; thence running South 19° 59' 00" West along said Graves Trust land for a distance of 100.00 feet to an iron rod; thence turning and running North 69° 09'; 00" West along Parcel 2 above-described for a distance of 70.00 feet to an iron rod; thence turning and running North 19° 59' 00" East along Parcel 2 above-described for a distance of 100.00 feet to an iron rod on the Southerly sideline of Wentworth House Road; thence turning and running South 69° 09' 00" East along the Southerly sideline of said Wentworth House Road for a distance of 70.00 feet to the point of beginning.

Parcel 7: Two certain tracts of land together with any buildings thereon, partly in Portsmouth and partly in Rye, County of Rockingham, State of New Hampshire, further described as follows:

**TRACT I:**

Beginning at a pipe in the Southerly sideline of Wentworth Road at the Northeasterly corner of land now or formerly of Herman Odiorne, said pipe being also one hundred thirty-four (134) feet more or less Easterly of land now or formerly of the Mark Wentworth Home for Chronic Invalids; thence running South 76° 35' East one hundred twenty-six and twenty-three one-hundredths (126.23) feet to an iron pin at land now or formerly of Andrew J. and Kathleen P. DeLisle; thence turning and running South 19° 59' West one hundred (100) feet, more or less, by land of said DeLisle to an iron pin at a corner; thence turning and running South 69° 9' East by land of said DeLisle seventy (70) feet, more or less, to an iron pin at the Southeasterly corner of said land of DeLisle and in the Westerly sideline of land now or formerly of Paul F. and Ruth G. Brockway; thence turning and running South 19° 59' West by land of said Paul F. and Ruth O. Brockway



one hundred thirty-one (131) feet, more or less, to a pipe at a corner; thence turning and running South 89° 49' West by a proposed street or way two hundred twenty-five (225) feet to a pipe at a corner in said proposed street or way; thence turning and running South 0° 11' East fifty (50) feet to a pipe in the Southerly line of said proposed street or way; thence turning and running South 89° 49' West one hundred thirty-six and eighty-four one-hundredths (136.84) feet to a pipe in the Easterly sideline of the said Mark Wentworth Home for Chronic Invalids land; thence turning and running N 16° 45' East along said Mark Wentworth Home for Chronic Invalids two hundred fifty-five (255) feet to a pipe in the Southerly line of land of said Herman Odiorne; thence running and running South 76° 35' East along land of said Herman Odiorne one hundred thirty four (134) feet to the Southeasterly corner of land of said Odiorne; thence turning and running North 16° 45' East along land of said Herman Odiorne one hundred twenty (120) feet to the pipe in the Southerly sideline of Wentworth Road at the point of beginning.

TRACT II:

Beginning at a pipe situated one hundred twenty (120) feet Southerly of the Southerly line of Wentworth Road, said distance being measured along the Easterly sideline of land now or formerly of the Mark Wentworth Home for Chronic Invalids, thence turning and running South 16° 45' West two hundred fifty-five (255) feet along said land of Mark Wentworth Home for Chronic Invalids to a pipe at a corner in the conveyed premises; thence turning and running North 89° 45' East along land now or formerly of Helen Mulcahy one hundred thirty-six and eighty-four one hundredths (136.84) feet to a pipe at a corner in the conveyed premises; thence turning and running North 0° 11' West fifty (50) feet to a pipe at a corner in the conveyed premises; thence turning and running North 89° 49' East along a proposed street or way seventy-five (75) feet to a pipe at a corner in the conveyed premises; thence turning and running North 0° 11' West along other land herein conveyed one hundred (100) feet to a pipe at a corner in the conveyed premises; thence turning and running South 89° 49' West along other land herein conveyed seventy-five (75) feet to a pipe at a corner in the conveyed premises; thence turning and running North 0° 11' West along other land herein conveyed seventy-eight and eighty-three one hundredths (78.83) feet to a pipe at land now or formerly of Herman Odiorne; thence turning and running North 76° 35' West along land now or formerly of said Hermand Odiorne sixty-four and thirty-five one hundreds (64.35) feet to the pipe at the place of beginning.

Meaning and intending to convey hereby lots No. 1 and No. 2 on a plan entitled "Plan showing property of Blanche M. Chartrand -- Surveyed by Moulton Engineering Co., September 1953 and June 1955."

Also hereby conveying to the grantees, their heirs and assigns, the right to use in common with others a certain right of way as shown on said foregoing plan which runs from Wentworth Road Southerly and Westerly to and from land formerly of Frank Jones and now or formerly of Helen Mulcahy, said right of way adjoining said lots No. 1 and No. 2 in part and running to and from said Wentworth Road, with the right to use such right of way in common with others for all such purposes as may be necessary or useful for the use and occupation of the land hereby conveyed, in common with said Blanche M. Chartrand, her heirs and assigns.

See also boundary agreement between the Michael Kuchtey and Dunya D. Kuchtey and Ronald F. Eagen and Anne M. Eagen, dated June 17, 1968 and recorded in Rockingham Registry of Deeds at Book 1772, Page 192 as said agreement may affect the above description.

**Parcel 7 is also depicted as one parcel located on the Southerly side of Wentworth House Road on a plan entitled, "Plan of Land for Michael Kuchtey Revocable Trust, Wentworth Road, County of Rockingham, Portsmouth/Rye, NH, Scale 1"=50", by Millette, Sprague & Colwell, Inc., dated March 25, 1999 as Plan Number D-27320, which parcel is bounded and described as follows:**

Beginning at an iron rod on the Southerly sideline of Wentworth House Road at the Northwesterly corner of the within described parcel and the Northeasterly corner of land now or formerly of Gertrude A. Lamont; thence running South 76° 35' 00" East along the Southerly sideline of Wentworth House Road for a distance of 126.33 feet to a point; thence continuing South 69° 09' 00" East along said Wentworth House Road for a distance of 14.95 feet to an iron rod at the Northwesterly corner of land identified as Map R1, Lot 17 on the above-referenced plan; thence turning and running South 19° 59' 00" West along said Map R1, Lot 17 for a distance of 100.00 feet to an iron rod; thence turning and running South 69° 09' 00" East along said Map R1, Lot 17 for a distance of 70.00 feet to an iron rod at land now or formerly of The B.R. Graves, Jr. Revocable Trust of 1992; thence turning and running South 19° 59' 00" West along said Graves Trust land and land now or formerly of Bruce and Joanna Graves, and crossing the Portsmouth/Rye Town Line, for a distance of 131.00 feet to a point; thence turning and running South 89° 49' 00" West along land of said Graves and land now or formerly of Edmund J. and David L. Mulcahy, and crossing the Portsmouth/Rye Town Line for a distance of 225.00 feet to a point; thence turning and running South 00° 11' 00" East along said Mulcahy land for a distance of 50.07 feet to a point; thence turning and running South 89° 45' 15" West along said Mulcahy land for a distance of 136.81 feet to an iron pipe at land now or formerly of the City of Portsmouth Conservation Commission; thence turning and running North 16° 45' 00" East along said Conservation Commission land for a distance of 173.80 feet to an iron pipe; thence continuing North 16° 46' 51" East still along said Conservation Commission land for a distance of 80.99 feet to an iron pipe at land now or formerly of Gertrude A. Lamont; thence turning and running South 76° 40' 24" East along said Lamont land for a distance of 133.97 feet to an iron rod; thence turning and running North 16° 45' 00" East still along said Lamont land for a distance of 120.00 feet to the point of beginning.

Meaning and intending to convey all of the parcels of land with the buildings thereon as bounded and described in the deed from Witch Cove Properties, LLC to William H. Shaheen, et al dated December 17, 2002, recorded in the Rockingham county Registry of Deeds at Book 3922, Page 1165, the Grantor having acquired all right title and interest in said land and buildings by the following Warranty Deeds:

Deed of Priscilla Dalrymple, Trustee of the Walter G. Stanley Revocable Trust of 1994 to J.P. Nadeau dated April 13, 2006, recorded in the Rockingham County Registry of deeds at Book

4648, Page 0685;


Deed of William H. Shaheen to J.P. Nadeau dated April 17, 2006, recorded in the Rockingham County Registry of Deeds at Book 4648, Page 0686; and


Deed of Bruce E. Nadeau to J.P. Nadeau dated April 11, 2006 recorded in the Rockingham County Registry of Deeds at Book 4648, Page 0687;

This Conveyance Is Subject To The Following Conditions, Restrictions And Encumbrances:

- a.) By accepting this Deed, the Grantee is accepting conveyance of the premises in its "as is" condition and without Grantor's warranting compliance with any zoning, land use and other governmental laws, rules and regulations, and particularly those governing the United States Environmental Protection Agency (USEPA) and the State of New Hampshire Department of Environmental Services (NHDES); and
- b.) By accepting this Deed, the Grantee is also accepting the responsibility for completing any and all USEPA and NHDES remediation requirements and will accept any Deed Notice provision they may require; and
- c.) The free use of one boat slip reserved to William H. Shaheen of 140 Washington Street, Second Floor, Dover, New Hampshire, for the duration of his life, for a boat not in excess of thirty (30) feet in length, which use he can assign for the use of others during his life.

Witness my hand this 15 day of August, 2016

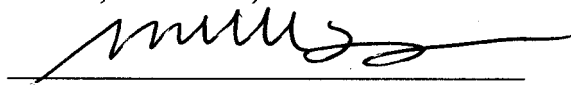
  
\_\_\_\_\_  
Witness

  
\_\_\_\_\_  
J.P. Nadeau

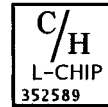
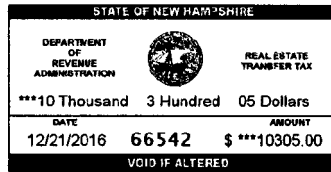
**STATE OF NEW HAMPSHIRE  
ROCKINGHAM COUNTY**

Dated: August 15, 2016

**PERSONALLY APPEARED** the above named, J.P. Nadeau, and gave oath that the foregoing subscribed to by him is his own free act and deed, Before me;

  
\_\_\_\_\_  
Notary Public / Justice of the Peace  
Commission Expires: 5/9/17  
Michelle Lagun

Return to:



## WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS, that Paul W. Cain Investments, LLC, a New Hampshire limited liability company, with an address of 19 Revolutionary Lane, Nottingham NH 03290, for consideration paid grant(s) to Jason Goulemas, Trustee of the Jason Goulemas 2002 Family Trust and Lisa M. Goulemas, Trustee of the Lisa M. Goulemas 2002 Family Trust, with an address of 1 Phillips Cove Road, Cape Neddick, ME 03902, as tenants in common, with WARRANTY COVENANTS:

A certain tract or parcel of land with the buildings thereon situate in Portsmouth, Rockingham County, State of New Hampshire, and further bounded and described as follows:

Beginning at a hub in the ground on the easterly side of a private roadway leading from Sagamore Avenue in said Portsmouth through land now or formerly of William F. Huber known as Sagamore Grove and at a point bearing S 14° 34' W a distance of thirty-one and eight-tenths (31.8) feet from a hub at the southeasterly corner of land of Leroy Terrio; thence running S 65° 10' E by other land now or formerly of said William F. Huber two hundred six and four-tenths (206.4) feet to a hub; thence turning and running S 41° 52' W, a distance of ninety (90) feet to a hub at other land now or formerly of said Huber; thence turning and running N 79° 08' W by other land now or formerly of said Huber one hundred ninety-seven and three-tenths (197.3) feet to a hub at the private roadway aforesaid; thence turning and running N 29° 44' E by said private road one hundred thirty-four and two-tenths (134.2) feet to the point of beginning. Together with the land lying easterly of the above described parcel including between the northerly and southerly sidelines of the parcel projected easterly to the cove, so-called.

Right of way over Private Roadway from Sagamore Avenue to the premises is hereby granted.

See also, Right of Way benefitting the within conveyed premises contained in deed of George D. Mavrikis and Marion B. Mavrikis to John B. Gibbons and Clarissa B. Gibbons, recorded in the Rockingham County Registry of Deeds, Book 1733, Page 8. Containing about 21,300 square feet.

Property address is 5 Sagamore Grove, Portsmouth New Hampshire, 03801

E 59269

ROCKINGHAM COUNTY  
REGISTRY OF DEEDS

2016 Dec 21 PM 01:33

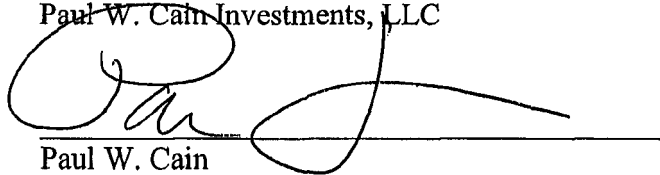
E 59269

ROCKINGHAM COUNTY  
REGISTRY OF DEEDS

Meaning and intending to describe and convey the same premises conveyed to Paul W. Cain Investments, LLC by deed dated February 19, 2015 and recorded in the Rockingham County Registry of Deeds in Book 5595, Page 2404.

Executed this 21<sup>st</sup> day of December, 2016.

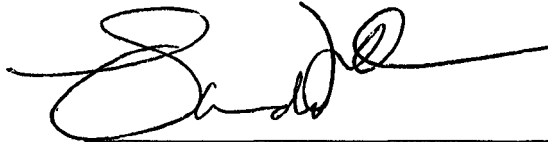
Paul W. Cain Investments, LLC



Paul W. Cain  
Duly authorized Member

State of New Hampshire  
County of Rockingham

Then personally appeared before me on this 21<sup>st</sup> day of December, 2016, the said Paul W. Cain, who acknowledged himself to be the duly authorized Member of Paul W. Cain Investments, LLC and acknowledged the foregoing to be his voluntary act and deed in said capacity.



Notary Public/Justice of the Peace  
Commission expiration:

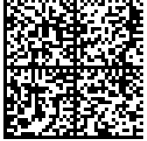


Electronic Delivery Confirmation™



Aries Engineering, LLC  
104 PLEASANT ST  
CONCORD NH 03301-2902

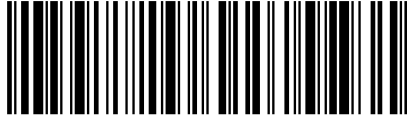
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FIRST-CLASS IMI  
Dec 12 2024  
Mailed from ZIP 03301  
1 OZ FIRST-CLASS MAIL LETTER  
RATE  
11923275



endicia

063S0011718299

USPS CERTIFIED MAIL



9407 1118 9876 5452 7484 99

Brian Neste RV TR & Bradford Byrd RV TR  
184 BUNGALOW ROAD  
PORTSMOUTH NH 03801



Reference

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USPS History	Available for Pickup, 12/16/2024, 4:05 am, PORTSMOUTH, NH 03801 Notice Left (No Authorized Recipient Available), 12/14/2024, 4:32 pm, PORTSMOUTH, NH 03801 Out for Delivery, 12/14/2024, 7:56 am, PORTSMOUTH, NH 03801 Arrived at Post Office, 12/14/2024, 7:45 am, PORTSMOUTH, NH 03801 Arrived at USPS Facility, December 12, 2024, 8:12 pm, MANCHESTER, NH 03103 Accepted at USPS Origin Facility, December 12, 2024, 6:57 pm, CONCORD, NH 03301 Shipping Label Created, USPS Awaiting Item, 12/12/2024, 2:57 pm, CONCORD, NH 03301

Electronic Delivery Confirmation™



Aries Engineering, LLC  
104 PLEASANT ST  
CONCORD NH 03301-2902

**\$5.54 US POSTAGE**  
FIRST-CLASS IMI  
Dec 12 2024  
Mailed from ZIP 03301  
1 OZ FIRST-CLASS MAIL LETTER  
RATE  
11923275



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063S0010282493

USPS CERTIFIED MAIL



9407 1118 9876 5452 7476 21

Boat House Rental LLC  
200 SAGAMORE RD  
RYE NH 03870-2057



Reference

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Electronic Delivery Confirmation™



Aries Engineering, LLC  
104 PLEASANT ST  
CONCORD NH 03301-2902

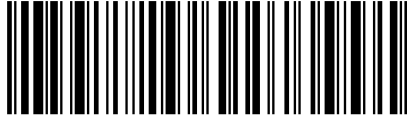
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1 OZ FIRST-CLASS MAIL LETTER  
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063S0011718298

USPS CERTIFIED MAIL



9407 1118 9876 5452 7473 86

Live Free Real Estate LLC  
314 MIDDLE ST  
PORTSMOUTH NH 03801-5102



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Electronic Delivery Confirmation™



Aries Engineering, LLC  
104 PLEASANT ST  
CONCORD NH 03301-2902

**\$5.54 US POSTAGE**  
FIRST-CLASS IMI  
Dec 12 2024  
Mailed from ZIP 03301  
1 OZ FIRST-CLASS MAIL LETTER  
RATE  
11923275



endicia

063S0011718298

USPS CERTIFIED MAIL



9407 1118 9876 5452 7478 74

Tina D Bosen, Trustee  
6 SAGAMORE GRV  
PORTSMOUTH NH 03801-5547



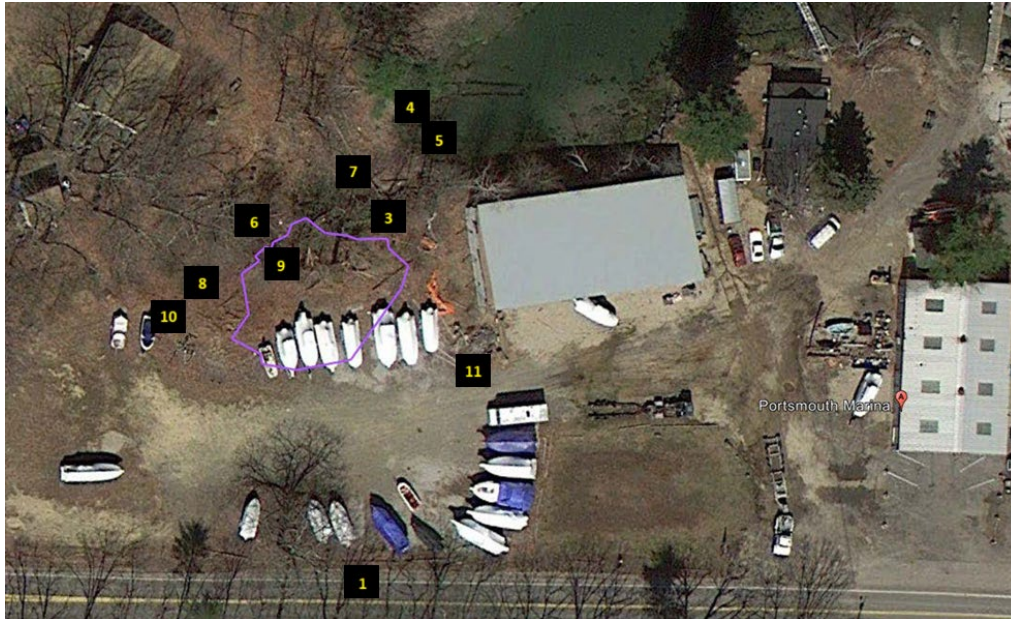
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**APPENDIX N - Photograph Log**  
Portsmouth Marina Restoration Project  
187 Wentworth Hill Road  
Portsmouth, New Hampshire



Photograph 1: Google Maps Street View – 187 Wentworth Road (prior to November 2021 fire destroyed 3-sided structure, work area to left of structure).



Photograph 2: April 2013 Google Earth Image – Approximate 2016-2017 PCB excavation extents outlined in purple with mapped photo key

**APPENDIX N - Photograph Log**  
Portsmouth Marina Restoration Project  
187 Wentworth Hill Road  
Portsmouth, New Hampshire



Photograph 3a: Looking east to Sagamore Creek, east end of wetland remediation area in isolated cove in foreground, berm separates wetland remediation area from Witch Cove; April 2024



Photograph 3b: Looking east to Sagamore Creek, east end of wetland remediation area in isolated cove in foreground, berm separates wetland remediation area from Witch Cove; July 2024

**APPENDIX N - Photograph Log**  
Portsmouth Marina Restoration Project  
187 Wentworth Hill Road  
Portsmouth, New Hampshire



Photograph 4a: Looking east, east of wetland remediation area and berm, in vicinity of cribbed retaining wall and building foundation, at right; April 2024



Photograph 4b: Looking east, east of wetland remediation area and berm, in vicinity of cribbed retaining wall and building foundation, at right; July 2024

**APPENDIX N - Photograph Log**  
Portsmouth Marina Restoration Project  
187 Wentworth Hill Road  
Portsmouth, New Hampshire



Photograph 5a: Looking south, view of cribbed stone retaining wall, from A-10 eastward (see Sheet 5);  
April 2024



Photograph 5b: Looking south, view of cribbed stone retaining wall, from A-10 eastward (see Sheet 5);  
July 2024

**APPENDIX N - Photograph Log**  
Portsmouth Marina Restoration Project  
187 Wentworth Hill Road  
Portsmouth, New Hampshire



Photograph 6a: Looking west to abutter at 5 Sagamore Grove at northwest end of wetland remediation area; April 2024



Photograph 6b: Looking west to abutter at 5 Sagamore Grove at northwest end of wetland remediation area; July 2024

**APPENDIX N - Photograph Log**  
Portsmouth Marina Restoration Project  
187 Wentworth Hill Road  
Portsmouth, New Hampshire



Photograph 7a: Looking north, at north end of wetland remediation area, showing highest observable tide line; April 2024



Photograph 7b: Looking north, at north end of wetland remediation area, showing highest observable tide line; July 2024

**APPENDIX N - Photograph Log**  
Portsmouth Marina Restoration Project  
187 Wentworth Hill Road  
Portsmouth, New Hampshire



Photograph 8a: Looking east, storm drain pipe to left of rock underneath green ash tree, pipe above highest observable tide line; April 2024



Photograph 8b: Looking north, storm drain pipe underneath green ash tree, pipe above highest observable tide line; July 2024



**APPENDIX N - Photograph Log**  
Portsmouth Marina Restoration Project  
187 Wentworth Hill Road  
Portsmouth, New Hampshire



Photograph 9a: Looking east from storm drain pipe, note eroded bank along right, shows entire wetland remediation area; April 2024



Photograph 9b: Looking east from storm drain pipe, note eroded bank along right, shows entire wetland remediation area; July 2024

**APPENDIX N - Photograph Log**  
Portsmouth Marina Restoration Project  
187 Wentworth Hill Road  
Portsmouth, New Hampshire



Photograph 10a: Looking east, also showing south bank and upland remediation area; April 2024



Photograph 10b: Looking east, also showing south bank and upland remediation area; July 2024

**APPENDIX N - Photograph Log**  
Portsmouth Marina Restoration Project  
187 Wentworth Hill Road  
Portsmouth, New Hampshire



Photograph 11a: Looking west, showing prior upland remediation area; April 2024



Photograph 11b: Looking west, showing prior upland remediation area; July 2024

**APPENDIX O**  
**Portsmouth Marina, 185-187 Wentworth House Road,**  
**Portsmouth, NH**



**STANDARD DREDGE AND FILL**  
**WETLANDS PERMIT APPLICATION**  
**ATTACHMENT A: MINOR AND MAJOR PROJECTS**

Water Division/Land Resources Management  
Wetlands Bureau

[Check the Status of your Application](#)

**RSA/ Rule:** RSA 482-A/ Env-Wt 311.10; Env-Wt 313.01(a)(1); Env-Wt 313.03

**APPLICANT'S NAME:** Tom Reis, Sea Level, LLC and Goulemas Family Trust      **TOWN NAME:** Portsmouth

Attachment A is required for *all minor and major projects*, and must be completed *in addition* to the [Avoidance and Minimization Narrative](#) or [Checklist](#) that is required by Env-Wt 307.11.

For projects involving construction or modification of non-tidal shoreline structures over areas of surface waters having an absence of wetland vegetation, only Sections I.X through I.XV are required to be completed.

**PART I: AVOIDANCE AND MINIMIZATION**

In accordance with Env-Wt 313.03(a), the Department shall not approve any alteration of any jurisdictional area unless the applicant demonstrates that the potential impacts to jurisdictional areas have been avoided to the maximum extent practicable and that any unavoidable impacts have been minimized, as described in the [Wetlands Best Management Practice Techniques For Avoidance and Minimization](#).

**SECTION I.I - ALTERNATIVES (Env-Wt 313.03(b)(1))**

Describe how there is no practicable alternative that would have a less adverse impact on the area and environments under the Department's jurisdiction.

OBJECTIVE IS FINAL REMEDIATION OF PCBS INITIALLY ADDRESSED UNDER U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) APPROVAL ISSUED ON 9-9-2016 PER 40 CFR 761.61(A) (SEE 4-24-2023 MEMO TO NHDES, WPA APPENDIX D, FOR HISTORY AND REGULATORY REQUIREMENTS). THIS NEW CLEANUP OCCURRING WITHIN ZONE AE AND ADJACENT JURISDICTIONAL ZONES MUST BE UNDERTAKEN PER EPA DIRECTION TO REMOVE CONTAMINATED WETLAND SEDIMENT AND UPLAND SOILS. NO PRACTICABLE ALTERNATIVE EXISTS.

**SECTION I.II - MARSHES (Env-Wt 313.03(b)(2))**

Describe how the project avoids and minimizes impacts to tidal marshes and non-tidal marshes where documented to provide sources of nutrients for finfish, crustacean, shellfish, and wildlife of significant value.

Impacts to salt marsh are direct but temporary, lasting < one month, and limited to 410 SF with the purpose of completing the remediation work. The original salt marsh disturbance under the previous remediation activities created a sump that ponds tidal flows and traps flotsam and debris within this small, narrow, blind cove. The area proposed for temporary impacts will be restored to match original grades and planted with native salt marsh vegetation to improve existing conditions to the extent possible given the tidal dynamics of the cove. The proposed native salt marsh plantings, in this area with currently limited such vegetation, will improve habitat. Under existing conditions, tidal flushing is the only contributor to nutrients for adjacent Sagamore Creek. Under proposed conditions tidal flushing will continue with the benefit of additional nutrients furnished through natural seasonal senescence (biological breakdown).

**SECTION I.III - HYDROLOGIC CONNECTION (Env-Wt 313.03(b)(3))**

Describe how the project maintains hydrologic connections between adjacent wetland or stream systems.

The narrow cove where work is proposed is tidally connected to Sagamore Creek. This will not change under proposed future conditions.

**SECTION I.IV - JURISDICTIONAL IMPACTS (Env-Wt 313.03(b)(4))**

Describe how the project avoids and minimizes impacts to wetlands and other areas of jurisdiction under RSA 482-A, especially those in which there are exemplary natural communities, vernal pools, protected species and habitat, documented fisheries, and habitat and reproduction areas for species of concern, or any combination thereof.

Proposed remediation activities limit the extent of disturbance to the absolute minimum, and have been defined by hundreds of samples analyzed by a licensed laboratory. Certain temporary (< 1 month) impacts to the following jurisdictional areas will occur: Zone AE: 410 SF; HOTL To Within 50 FT Waterfront Shoreline Buffer: 5,230 SF; HOTL to 75 FT Setback, 6,375 SF; and within 100 FT Tidal Buffer Zone, 6,375 SF. Mitigative measures are discussed in WPA Appendix J, Part 3, Narrative to Coastal Resource Worksheet and Appendix E, Engineering Plans, Sheets 1 through 7. The project avoids and minimizes impacts to wetlands and other areas of jurisdiction under RSA 482-A, especially those in which there are exemplary natural communities, protected species and habitat, documented fisheries, or any combination thereof, as described further in Appendix J, Coastal Resource Worksheet. Remediation methodologies are driven by site cleanup/EPA regulatory requirements.

**SECTION I.V - PUBLIC COMMERCE, NAVIGATION, OR RECREATION (Env-Wt 313.03(b)(5))**

Describe how the project avoids and minimizes impacts that eliminate, depreciate or obstruct public commerce, navigation, or recreation.

The narrow tidal cove where work is proposed is bordered by private property, and does not currently provide public commerce, navigation or recreation opportunities nor will the proposed project provide for this. The section of Witch Cove within which work will occur lies approximately 100 feet away from the main channel of Sagamore Creek. See also Coastal Resource Worksheet.

**SECTION I.VI - FLOODPLAIN WETLANDS (Env-Wt 313.03(b)(6))**

Describe how the project avoids and minimizes impacts to floodplain wetlands that provide flood storage.

The proposed remediation project will improve flood storage by reducing floodplain by six inches within the 175 SF remediation footprint, and also within an adjacent 235 FT area previously filled in, to total 410 SF, see Sheet 5. Vegetation to be installed above the 11 FT MSL line will retard runoff, in combination with re-engineering the drainage swale south of the cove remediation area, which will be modified to a 4% grade from its current 2:1 slope, and which drains into the remediation footprint area during precipitation events. Sheet flow runoff from the concrete cap will be controlled by two feet of 2 inch stone installed around south and west perimeter edge with underdrain routed to packaged underground stormwater treatment system to treat and intercept runoff directed from this 2% sloped pad, see Sheets 4 and 5. Also, extensive existing gravel fill immediately outside the project limits of work (Sheets 2, 5-7) is permeable, thus little runoff occurs during precipitation events. Note that a 15 inch storm drain pipe discharging into this blind cove from the state/city roadways east of and outside the project area, will be capped with a 5 ft concrete plug, once the origin of that pipe is terminated by others and approved by regulators. This will also reduce significant stormwater discharge originating during precipitation events.

**SECTION I.VII - RIVERINE FORESTED WETLAND SYSTEMS AND SCRUB-SHRUB – MARSH COMPLEXES (Env-Wt 313.03(b)(7))**

Describe how the project avoids and minimizes impacts to natural riverine forested wetland systems and scrub-shrub – marsh complexes of high ecological integrity.

There are no riverine forested wetlands or scrub-shrub-marsh complexes of high ecological integrity associated with this proposed project.

**SECTION I.VIII - DRINKING WATER SUPPLY AND GROUNDWATER AQUIFER LEVELS (Env-Wt 313.03(b)(8))**

Describe how the project avoids and minimizes impacts to wetlands that would be detrimental to adjacent drinking water supply and groundwater aquifer levels.

The proposed project is in and adjacent to tidal, saltwater wetlands which do not provide for drinking water or which impact groundwater aquifer levels.

**SECTION I.IX - STREAM CHANNELS (Env-Wt 313.03(b)(9))**

Describe how the project avoids and minimizes adverse impacts to stream channels and the ability of such channels to handle runoff of waters.

The proposed project is not associated with any stream channel, but Witch Cove is tributary to tidal Sagamore Creek.



**SECTION I.X - SHORELINE STRUCTURES - CONSTRUCTION SURFACE AREA (Env-Wt 313.03(c)(1))**

Describe how the project has been designed to use the minimum construction surface area over surface waters necessary to meet the stated purpose of the structures.

No structures over surface waters are proposed.

**SECTION I.XI - SHORELINE STRUCTURES - LEAST INTRUSIVE UPON PUBLIC TRUST (Env-Wt 313.03(c)(2))**

Describe how the type of construction proposed is the least intrusive upon the public trust that will ensure safe docking on the frontage.

No new structures are proposed within waters that intrude upon the public trust. To maintain slope stabilization, and to avoid the possibility of exposing adjacent soils containing PCBs >1<25 ppm covered by 6 inches of soil above the 11 FT MSL line, pre-existing boulders will be re-established along the eastern shoreline of the cove supplemented by 4 to 5 inch stone to create an armored rip rap from HOTL 8 FT to 11 FT MSL. The location of these boulders which have been saved are shown in the NHDES 4-26-23 Memo, WPA APPENDIX D, in photographs section and WPA, Appendix C, Wildlife Habitat photo.

**SECTION I.XII - SHORELINE STRUCTURES – ABUTTING PROPERTIES (Env-Wt 313.03(c)(3))**

Describe how the structures have been designed to avoid and minimize impacts on ability of abutting owners to use and enjoy their properties.

No new shoreline structures are proposed so the project will not have any impact on abutting properties relative to shoreline structures nor will the the single abutter have diminished use and enjoyment of his/her property. Notification to abutter(s) has been confirmed in writing in WPA, Appendix M.

**SECTION I.XIII - SHORELINE STRUCTURES – COMMERCE AND RECREATION (Env-Wt 313.03(c)(4))**

Describe how the structures have been designed to avoid and minimize impacts to the public’s right to navigation, passage, and use of the resource for commerce and recreation.

No new shoreline structures are proposed so the project will not have any impact on the public's right to navigation, passage or use of the resource for commerce or recreation.

**SECTION I.XIV - SHORELINE STRUCTURES – WATER QUALITY, AQUATIC VEGETATION, WILDLIFE AND FINFISH HABITAT (Env-Wt 313.03(c)(5))**

Describe how the structures have been designed, located, and configured to avoid impacts to water quality, aquatic vegetation, and wildlife and finfish habitat.

No new shoreline structures are proposed so the proposed project will not have any impact on water quality, aquatic vegetation, wildlife or finfish habitat. However, the proposed project may be beneficial for water quality by remediating hazardous waste and, beneficial through the addition of native salt marsh vegetation where there currently is none, and minor addition of increased flood storage.

**SECTION I.XV - SHORELINE STRUCTURES – VEGETATION REMOVAL, ACCESS POINTS, AND SHORELINE STABILITY (Env-Wt 313.03(c)(6))**

Describe how the structures have 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.

No structures are contemplated. The number of future access points through wetlands or over the bank will remain unchanged, see Sheets 5-7. The shoreline stability will be greatly enhanced as described above.

<b>PART II: FUNCTIONAL ASSESSMENT</b>
<p><b>REQUIREMENTS</b></p> <p>Ensure that project meets the requirements of Env-Wt 311.10 regarding functional assessment (Env-Wt 311.04(j); Env-Wt 311.10).</p>
<p><b>FUNCTIONAL ASSESSMENT METHOD USED:</b></p> <p>Army Corps of Engineers Highway Methodology and Method for the Evaluation and Inventory of Vegetated Tidal Marshes in New Hampshire was employed.</p>
<p><b>NAME OF CERTIFIED WETLAND SCIENTIST (FOR NON-TIDAL PROJECTS) OR QUALIFIED COASTAL PROFESSIONAL (FOR TIDAL PROJECTS) WHO COMPLETED THE ASSESSMENT:</b> PATRICK SEEKAMP, CWS</p>
<p><b>DATE OF ASSESSMENT:</b> 10 OCT 2020/CONFIRMED 202</p>
<p>Check this box to confirm that the application includes a NARRATIVE ON FUNCTIONAL ASSESSMENT:</p> <p><input checked="" type="checkbox"/></p>
<p>For minor or major projects requiring a standard permit without mitigation, the applicant shall submit a wetland evaluation report that includes completed checklists and information demonstrating the RELATIVE FUNCTIONS AND VALUES OF EACH WETLAND EVALUATED. Check this box to confirm that the application includes this information, if applicable:</p> <p><input checked="" type="checkbox"/></p> <p>Note: The Wetlands Functional Assessment worksheet can be used to compile the information needed to meet functional assessment requirements.</p>

## APPENDIX P

### Portsmouth Marina, 185-187 Wentworth House Road, Portsmouth, NH

#### NHDES WPA, Concurrent Review Request and Other Items (ENV WT 313.05, 311.06 (e)(g)(h)(i))

**Per NH ENV Wt 313.05:** because the proposed project requires both a Shoreland permit under the Shoreland Water Quality Protection Act (RSA 483-B) and a Wetlands permit under RSA 482-A, as they are proposing impacts regulated under these two statutes, the applicant is requesting that the permit applications for these permits be reviewed concurrently by the New Hampshire Department of Environmental Service (NHDES) Shoreland and Wetlands programs.

**Per NH Evt Wt 311.06 (a):** Maps and Other Documents: A copy of a 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 is provided in **WPA Appendix M**.

**Per NH Evt Wt 311.06(e):** Since the project is located in a protected tidal zone, a copy of the recorded deed with book and page numbers for the property is provided as **WPA Appendix M**.

**Per NH Evt Wt 311.06 (g):** The NHB memo in **WPA Appendix A** contains the NHB identification number and results and recommendations from NHB as well as any consultation requests made to NHF&G pursuant to Fis 1004.01, communications and information related to the consultation, results of the consultation from NHF&G pursuant to Fis 1004.01, and any recommendation for actions necessary to prevent adverse impacts to species protected under Fis 1400.

**Per NH Evt Wt 311.06 (h), (i):** Regarding providing a statement of whether the applicant has received comments from the local conservation commission, or LAC, none have been received.



**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.



**APPENDIX R**  
**Portsmouth Marina, 185-187 Wentworth**  
**House Road, Portsmouth, NH**



**TIDAL DREDGING**  
**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 607

This worksheet summarizes the criteria and requirements for a Standard Permit for “Tidal Dredging”, 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.

Pursuant to Env-Wt 607.01, this project type applies to:

- Maintenance and Improvement Dredging of Federal Navigation Projects (FNPs);
- New, improvement, and maintenance dredging associated with non-FNP projects that are in the direct interest of maintaining commerce for the well-being of the general public, such as shipping conveyance of fuel oil or road salt cargo and marinas; and
- Dredging that is necessary to:
  - (1) Remediate contaminated sites;
  - (2) Restore storm-driven sediment depositions that threaten public safety or hinder navigation; and
  - (3) Maintain intake and outflow infrastructure.

### SECTION 1 - APPLICATION REQUIREMENTS (Env-Wt 607.05)

An application for a tidal dredge project shall include the following details:

- Plans for tidal dredging projects shall include the following:
  - Location of the state boundary line for projects proposed in the Piscataqua River or Salmon Falls River;
  - Location of each sediment sampling location, with a key to sampling findings;
  - Projected dredge prism tied to bottom contours; and
  - Proposed overdredge, not to exceed 2 feet;
- Disposal sites adequate to contain the volume of dredged material, including the volume of allowable over-depth dredging, shall be identified;
- Bankward slopes of the dredged area shall be no steeper than 3:1 to ensure that sloughing of the channel side slopes does not occur;
- Fishery habitat functions/services in the project areas, including an essential fish habitat study, shall be identified and characterized prior to any dredge and fill activities;
- The impacts of dredge or fills on fishery habitat shall be identified during proposed project reviews, including alterations of hydrology and water quality as a result of the proposed project;

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- The coastal functional assessment (CFA) required in Env-Wt 603.04 shall include an assessment of the cumulative impact from past, current, and all reasonably foreseeable future dredge and fill operations that impact aquatic habitats and an anticipated dredge cycle;
- Sediment from the proposed dredge site shall be characterized according to the following:
  - Benthic analysis;
  - Grain size; and
- History of exposure to contamination sources, whether from a land-based discharge source or in-water source from a spill. If the results of the sediment characterization assessment above meet the formula for potential or known contamination, then testing of the sediment in the proposed dredge location shall be as required by:
  - Requirements for land-based solid or hazardous waste disposal as specified in Env-Sw 100- 2000, Env-Hw 100-1200, and Env-Or 600; and
  - Regional Implementation “Manual for the Evaluation of Dredged Material Proposed for Disposal in New England Waters”, US Environmental Protection Agency New England and US Army Corps of Engineers New England District, dated April 2004.

## **SECTION 2 - APPROVAL CRITERIA (Env-Wt 607.03)**

An application for a tidal dredge project shall meet the following criteria:

- Dredging in tidal waters or tidal wetlands shall not be allowed unless the primary purpose of the dredging is to:
  - Maintain or improve a FNP that provides a public benefit to commercial and industrial shipping, commercial fishing, existing working waterfront areas, or homeland security;
  - Construct, maintain, or improve a marina, private association, or public facility; or
  - Remediate contamination, remove storm-driven sediment, or maintain intake and outflow infrastructure;
- Dredging in tidal waters or tidal wetlands shall not be approved unless:
  - The project meets standard conditions of Env-Wt 307 and avoidance and minimization techniques in Env-Wt 607.02;
  - The project applicant participates in and follows guidance provided in a pre-application meeting with the department or the New Hampshire dredge management task force; and
  - The project is sponsored by the state so that:
    - All applications to the department for dredging of FNPs in tidal waters or tidal wetlands are submitted by the division of ports and harbors (“DP&H”) pursuant to RSA 12-G:45; and
    - All other dredging projects in tidal waters/wetlands have DP&H sponsorship or authorization for another entity, such as a municipality or private person, to act as an agent to apply for a permit from the department.

## **SECTION 3 - DESIGN & CONSTRUCTION REQUIREMENTS (Env-Wt 607.02; Env-Wt 607.06; Env-Wt 607.07; Env-Wt 607.08; Env-Wt 607.09)**

**A tidal dredge project shall be designed and constructed as follows:**

- The footprint and volume of material to be dredged shall be reduced to the maximum extent practicable;
- Sequential dredging shall be used when practicable to avoid dredging activity during specific time periods in environmentally sensitive areas, to avoid turbidity and sedimentation, bottom disruption, and noise in sensitive areas used by fishery resources during spawning, migration, and egg development;

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- Avoidance and minimization techniques require avoidance of dredging in accordance with Env-Wt 607.05 in areas of high resource value identified by the CFA, including the following resource areas:
  - Areas that support shellfish beds;
  - Areas with submerged aquatic vegetation, areas that historically supported submerged aquatic vegetation, historic and maintained FNP areas that exhibit high resource value, and publicly funded restoration sites;
  - Intertidal and wetland habitat; or
  - Estuarine/salt marshes, and other high value habitat areas, including shorebird habitat and nesting areas, essential fish habitat, and other protected species or habitat;
- New cable and pipeline crossings shall be aligned along the least environmentally damaging route, specifically to avoid sensitive habitats including rocky reefs, submerged aquatic vegetation, oyster reefs, shellfish beds, emergent marsh, and mud flats;
- Pipelines and submerged cables shall be buried where possible to avoid impacts to invertebrate migratory patterns resulting from pipe exposure;
- Open trenching for pipeline or cable installation shall not be used unless all other methods are not practicable. If open trenching is used, a method in which the trench is immediately backfilled shall be used to reduce the impact duration;
- Existing rights-of-way shall be used whenever possible to lessen overall encroachment and disturbance of coastal areas;
- Equipment access shall be limited to the immediate project area unless access requires use of a more environmentally sensitive access;
- No dredged material shall be disposed in areas containing sensitive or unique marine benthic habitats, including spawning sites, feeding sites, and surface deposits of cobble or gravel substrate;
- Prior to finalizing a dredge proposal, the applicant shall conduct an existing conditions bathymetric survey and submit it with the application to the department; and
- Prior to finalizing a dredge proposal, the applicant shall submit information regarding the current and historic presence of submerged aquatic vegetation, as documented by the CFA in Env-Wt 603.04, within and adjacent to the proposed dredging footprint.

**Dredge Methods:**

- For non-FNP projects, sediment dispersion modeling shall be done to characterize sediment resuspension and dispersion during operations, and modeling outputs shall be used to design operations, including measures to avoid and minimize impacts from suspended sediment and turbidity on living marine resources. Sediment dispersion models shall be field-verified to various sediment and hydraulic conditions to ensure they have been calibrated appropriately to predict sediment transport and dispersion; and
- Dredging methods shall:
  - Be based on the nature of the sediment as determined by sediment characterization, results of contaminant testing, turbidity transport modeling, and resource vulnerabilities;
  - Be based on suitability of existing site conditions;
  - Be based on location and suitability of disposal options;
  - Represent the least environmentally-impacting practicable alternative; and

Be by one of the following means, listed in descending order of preference:

- Mechanical closed, or enviro, bucket dredge;
- Mechanical clamshell dredge;
- Mechanical open bucket dredge; or
- Suction dredge.

**Dredging Contaminated Sites:**

- Areas of known contamination shall not be partially dredged, leaving freshly-exposed sources of contamination to be transported by currents and dispersed into uncontaminated areas; and
- For sites identified as contaminated, no dredging of contaminated sediments shall be allowed without complete removal of all contaminated material.

**Sedimentation Control:**

- Dredging in fine sediments shall be avoided when possible to reduce turbidity plumes and the release of nutrients and contaminants that bind to fine particles, and
- All practicable methods for minimizing suspended sediment and turbidity shall be employed, including closed buckets when appropriate.

**Sediment Transport and Disposal:**

- The applicant shall include in the application an explanation of how the dredged material will be transported and off-loaded to minimize dispersion of sediments;
- The CFA report shall be considered when assessing the potential impact of proposed disposal locations and determining the least impacting disposal location;
- Sediment disposal shall not negatively impact priority resource areas;
- Any unavoidable negative impacts from sediment disposal shall require compensatory mitigation;
- The primary acceptable means of disposal for uncontaminated sediments shall be for beneficial use, such as beach nourishment, dune restoration, and shoal creation associated with living shorelines;
- Near-shore disposal of dredged material with the intent of creating a berm to provide a sand source for a nearby sandy beach shall be considered beneficial use;
- If dredged materials will not be beneficially used, the disposal location shall be:
- Appropriate to the nature of the material; and
  - Identified in the application;
- Contaminated sediment shall be disposed of at a facility authorized to accept such material;
- For non-FNP requests to place dredged material in state waters, the applicant shall evaluate the site evaluation criteria developed for selection or designation of dredged material disposal sites, in accordance with 40 CFR 228 and EPA's ocean dumping program described for Region I at <https://www.epa.gov/ocean-dumping/managing-ocean-dumping-epa-region-1>.

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**SECTION 4 - PROJECT CLASSIFICATION (Env-Wt 607.10)**

***Removal of sediments surrounding an intake or outflow structure shall be classified as minimum impact provided:***

- (1) The sediments are removed by means of hand-held suction equipment;
- (2) Work is limited to the immediate mouth of the structure; and
- (3) The footprint of the activity does not exceed 500 square feet.

***Except as provided above, all forms of dredging in tidal waters/wetlands shall be classified as major.***

**APPENDIX S**  
**Portsmouth Marina, 185-187 Wentworth**  
**House Road, Portsmouth, NH**

Entity	SQFT
Buildings	931.5
	824.1
	474.69
	1136.6
	4100
	444.85
	103.2
	493.22
	1001.19
	182.5
	95.16
	4799.76
<b>Total</b>	<b>14586.77</b>

Entity	SQFT
Pavement	2464.64
	1189.32
	1275.32

Entity	SQFT
Leachfield	6684.72
Other Permeable Surfaces (Lawn etc)	14401.8899
	5036.8111
	2015.4271
	2405.6524
	3441.3926
	1204.2673
	298.3394

Property Boundary Area as shown in CAD File	131660.4931	3.022497 <---ACRE
Gravel, Intact Gravel, Degraded Gravel, Riprap, Current Rip Rap, Woodland, Buildings, Pavement, Permeable Areas	130642.3256	
Remaining SQFT = Water+ Saltmarsh areas	1018.1675	

Entity	SQFT
Salt Marsh Restoration	236.12
RipRap	471.496
Current RipRap	130.455
Upland Area Regrade	773.34
	409.77
	363.57
Wetland Restoration	175.2
Proposed Concrete	5000
Concrete Drainage	63.32
Intact Gravel (Red Hatch)	35006.8907
	29126.6909
	5880.1998
Degraded Gravel (Green Hatch)	14557.6824
Gravel Drive (Black Dots)	31973
Woodland Blue Hatch	10364.7816
	4210.3537
	213.739
	5940.6889
Area Outside of 50' Offset (Part of Concrete and Gravel)	1135.11

Sheet 5 Calcs	
Below HOTL	411.32
Hottl to 50' (Rip, Regrade, Concrete, Drain, - Area Outside	5173.046
HOTL to 11' Elev (RipRap only)	471.496
HOTL to 75' Setback (Rip, Regrade, Concrete, Drain)	6308.156
50' to 75' Setback (Part of Concrete and Drain)	1135.11
Within 50' Buffer (All above except 50-75 and Salt Marsh Restore	5348.246
Between 50 and 150	1135.11

Note: Tax map says property = 3.07 acres