

**WETLANDS PERMIT APPLICATION  
(Standard Review, Minor Impact)**

**FOR**

**Proposed Water Main  
at  
Creek Farm**

**400 Little Harbor Road  
Portsmouth, NH**

**Tax Map 203, Lot 08**

**March 2020**

*Prepared For:*

**Society for the Protection of  
New Hampshire Forests  
54 Portsmouth Street, Concord, NH 03302**

**Attn.: Jack Savage**

*Prepared By:*

**ALTUS ENGINEERING, INC.  
133 Court Street  
Portsmouth, NH 03801  
Phone: (603) 433-2335**



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NHDHR Request for Review

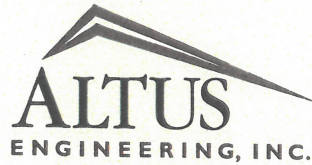
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**Civil  
Site Planning  
Environmental  
Engineering**

133 Court Street  
Portsmouth, NH  
03801-4413

March 25, 2020

New Hampshire Department of Environmental Services  
Land Resources Management, Wetlands Bureau  
29 Hazen Drive  
Concord, New Hampshire 03302-0095

**Re: Wetlands Permit Application  
Creek Farm – Proposed Water Line & Site Improvements  
Tax Map 203 Lot 8  
400 Little Harbor Road  
Portsmouth, NH  
Altus Project #5022**

Dear Reviewer,

Attached please find a Wetlands Permit Application for a Minor Impact project on the existing developed parcel in the City of Portsmouth which is accessed from Little Harbor Road.

The owner and applicant, the Society for the Protection of New Hampshire Forests, is proposing to extend a water line from Little Harbor Road to the existing building at Creek Farm known as Carey Cottage. It will also service the associated Carriage House on the property. All disturbed areas will be loamed & seeded or otherwise returned to original condition.

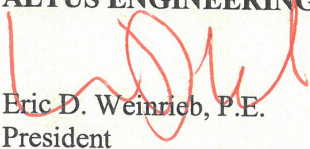
The enclosed plans illustrate the proposed improvements will take place entirely within the previously developed/disturbed/maintained tidal buffer zone and upland portions of the lot. Please note, there are no proposed disturbances to the resource (Sagamore Creek) or the adjacent wetland.

The improvements as proposed are the least impacting alternative to the jurisdictional areas in order to achieve the necessary upgrade to the water services for the property.

Please feel free to contact us, the applicant's consulting engineer, at (603) 433-2335, if you have any questions. Thank you for your time and consideration.

Sincerely,

**ALTUS ENGINEERING, INC.**




Eric D. Weinrieb, P.E.  
President

Wde/5022-wetlands-waterline-reviewer-letter.doc

### Letter of Authorization

I, Jack Savage, of the Society for the Protection of Forests, located at 54 Portsmouth Street in Concord, NH, hereby authorize Altus Engineering, Inc. of Portsmouth, New Hampshire to represent the Society for the Protection of Forests in all matters concerning engineering and related permitting for the "Creek Farm" property in Portsmouth, NH. The property is identified on the Assessor's Maps as Tax Map 203, Lot 08 and is located on Little Harbor Road in Portsmouth, NH. This authorization shall include any signatures required for State and Municipal permit applications.

  
Signature

Jack Savage, President  
Print Name

02/25/2020  
Date

  
Witness

Maria E. Stewart  
Print Name

2/25/2020  
Date



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**CHINBURG BUILDERS, INC.**  
3 Penstock Way  
Newmarket, NH 03857

**Kennebunk Savings Bank**  
52-7450/2112

7587

03/18/2020

PAY TO THE ORDER OF Treasurer, State of New Hampshire NHDES

\$\*\*3,080.00

Three thousand eighty and 00/100\*\*\*\*\* DOLLARS

Treasurer, State of New Hampshire NHDES  
PO Box 3900  
Concord, NH 03302

*[Signature]*

MEMO

⑈007587⑈ ⑆211274502⑆ 44 003427⑈

CHINBURG BUILDERS, INC.

7587

03/18/2020

Treasurer, State of New Hampshire NHDES

Date	Type	Reference	Original Amount	Balance Due	Payment
03/18/2020	Bill	Wetland Bureau Appl	3,080.00	3,080.00	3,080.00
		Check Amount			3,080.00

1000 Operating Acco

3,080.00

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# STANDARD DREDGE AND FILL WETLANDS PERMIT APPLICATION

Water Division/Land Resources Management  
Wetlands Bureau



[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 to requirements in Rules Env-Wt 100-900 to accommodate situations where strict adherence to the requirements would not be in the best interests of the public or the environment. A person may also request a waiver of standard for existing dwellings over water pursuant to RSA 482-A:26, III (b). For more information, please consult the [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 Resource Mapper, or other sources to assist in identifying key features such as: [priority resource areas \(PRAs\)](#), [protected species or habitats](#), coastal areas, designated rivers, or designated prime wetlands.

Has the required planning been completed? ☒ Yes ☐ No

Does the property contain a PRA? ☐ Yes ☒ No. If yes, provide the following information:

- Does the project qualify for an Impact Classification Adjustment or a Project-Type Exception (See Env-Wt 407.02 and Env-Wt 407.04)? ☐ Yes ☐ No
- Protected species or habitat? ☐ Yes ☐ No. If yes, species or habitat name(s):
- NHB Project ID #: NHB19-1673
- Bog? ☐ Yes ☐ No
- Floodplain wetland contiguous to a tier 3 or higher watercourse? ☐ Yes ☐ No
- Designated Prime Wetland or duly-established 100-foot buffer? ☐ Yes ☐ No
- Sand dune, tidal wetland, tidal water, or undeveloped tidal buffer zone? ☐ Yes ☐ No

Is the property within a Designated River corridor? ☐ Yes ☒ No. If yes, provide the following information:

- Name of Local River Management Advisory Committee (LAC):
- A copy of the application was sent to the LAC on Month:  Day:  Year:

For stream crossing projects, provide watershed size: n/a

For dredging projects, is the subject property contaminated? ☐ Yes ☐ No

If yes, list contaminant:

Is there potential to impact impaired waters, class A waters, or outstanding resource waters? ☒ Yes ☐ No

[lrn@des.nh.gov](mailto:lrn@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 2 - PROJECT DESCRIPTION (Env-Wt 311.04(i))**

Provide a brief description of the project and the purpose of the project, outlining the scope of work to be performed and whether impacts are temporary or permanent. DO NOT reply "See attached" in the space provided below.

Install new water line to service domestic water and fire service needs for Carey Cottage on Creek Farm. This will temporarily impact approximately 7,700 sf in previously developed tidal buffer zone. Approximately 3,400 sf of additional temporary impact occurs in the protected buffer zones from 100' to 250' from the resource. The contractor will need to clean and restore the stone rubble trench "culvert" that drains water from the freshwater wetland to the tidal wetland.

**SECTION 3 - PROJECT LOCATION**

Separate wetland permit applications must be submitted for each municipality within which wetland impacts occur.

ADDRESS: 400 Little Harbor Road

TOWN/CITY: Portsmouth

TAX MAP/BLOCK/LOT/UNIT: 203/8

US GEOLOGICAL SURVEY (USGS) TOPO MAP WATERBODY NAME: Sagamore Creek

☐ N/A

(Optional) LATITUDE/LONGITUDE in decimal degrees 43.05832° North  
(to five decimal places):

-70.73921° West

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

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

NAME: Society for the Protection of New Hampshire Forests

MAILING ADDRESS: 54 Portsmouth Street

TOWN/CITY: Concord

STATE: NH

ZIP CODE: 03302

EMAIL ADDRESS: jsavage@forestsociety.org

FAX:

PHONE: 603-224-9945

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

**SECTION 5 - AUTHORIZED AGENT INFORMATION (Env-Wt 311.04(c))**

☐ N/A

LAST NAME, FIRST NAME, M.I.: Weinrieb, Eric D.

COMPANY NAME: Altus Engineering, Inc.

MAILING ADDRESS: 133 Court Street

TOWN/CITY: Portsmouth

STATE: NH

ZIP CODE: 03801

EMAIL ADDRESS: eweinrieb@altus-eng.com

FAX:

PHONE: 603-433-2335

lrm@des.nh.gov or (603) 271-2147

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

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

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

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

☒ Same as applicant

NAME: [REDACTED]

MAILING ADDRESS: [REDACTED]

TOWN/CITY: [REDACTED]

STATE: [REDACTED]

ZIP CODE: [REDACTED]

EMAIL ADDRESS: [REDACTED]

FAX: [REDACTED]

PHONE: [REDACTED]

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

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

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

Env-Wt 400: fresh water and tidal wetlands mapped by Joseph Noel in December 13, 2019; it is classified as Minor as there is less than 10,000 sf of temporary impact in the Wetlands 100' buffer; it is a Utility project Env-Wt 521 and needs to have a new easement assigned to the new location.

Env-Wt 500: The work will be done in a manner to temporarily impact the least amount of area for as short a time as possible and will stabilize or restore to its original condition the areas in the water line locations. A 35' long stone rubble trench culvert or waterway that drains water from the freshwater wetland to the tidal wetland under a pathway needs to be cleaned out to restore connectivity.

Env-Wt 600: The project has been screened through DataCheck and Fish & Game Dept., and there are no expected impacts. The project does not directly impact wetlands so no mitigation is required. The disturbances are all temporary in nature. No other sensitive areas are affected. The area of work will have erosion control measures installed to protect the wetlands.

Env-Wt 700: The project is not in the vicinity of any prime wetlands.

Env-Wt 900: The stone rubble trench with an existing pathway over it is in the location where the proposed water line will cross it. Since the contractor will be working in this existing developed area to install the water line they will clean and restore the water passage without impacting the wetlands on either side.

#### SECTION 8 - AVOIDANCE AND MINIMIZATION



Impacts within wetland jurisdiction must be avoided to the maximum extent practicable (Env-Wt 313.03(a)). If all impacts cannot be avoided, a functional assessment is required for minor and major projects (Env-Wt 311.03(b)(10)). 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.

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

#### 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).

Have you submitted a compensatory mitigation proposal that meets the requirements of Env-Wt 800 for all permanent impacts that will remain after avoidance and minimization demonstration? ☐ Yes ☐ No

☒ N/A - 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 required permitting).

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

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

JURISDICTIONAL AREA		PERMANENT			TEMPORARY		
		SF	LF	ATF	SF	LF	ATF
Wetlands	Forested Wetland	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
	Scrub-shrub Wetland	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
	Emergent Wetland	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
	Wet Meadow	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
	Vernal Pool	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
	Designated Prime Wetland	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
	Duly-established 100-foot Prime Wetland Buffer	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
Surface Water	Intermittent / Ephemeral* Stream	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
	Perennial Stream or River	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
	Lake / Pond	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
	Docking - Lake / Pond	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
	Docking - River	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
B	Bank - Intermittent Stream	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>

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Tidal	Bank - Perennial Stream / River			<input type="checkbox"/>			<input type="checkbox"/>
	Bank/shoreline - Lake / Pond			<input type="checkbox"/>			<input type="checkbox"/>
	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"/>	7,700		<input type="checkbox"/>
	Docking - Tidal Water			<input type="checkbox"/>			<input type="checkbox"/>
<b>TOTAL</b>					<b>7,700</b>		

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

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

Permanent and temporary (non-docking):	7,700 SF	×	\$0.40 =	\$ 3,080.00
Seasonal docking structure:	SF	×	\$2.00 =	\$
Permanent docking structure:	SF	×	\$4.00 =	\$
Projects proposing shoreline structures (including docks) add \$400 =				\$
Total =				\$ 3,080.00

The application fee for minor or major impact is the above calculated total or \$400, whichever is greater = \$ 3,080.00

**SECTION 13 - PROJECT CLASSIFICATION (Env-Wt 306.05)**

Indicate the project classification.

- ☐ Minimum Impact Project      ☒ Minor Project      ☐ Major Project

**SECTION 14 - REQUIRED CERTIFICATIONS ( Env-Wt 311.11)**

Initial each box below to certify:

Initials: BOW	To the best of the signer's knowledge and belief, all required notifications have been provided.
Initials: BOW	The information submitted on or with the application is true, complete, and not misleading to the best of the signer's knowledge and belief.
Initials: BOW	<p>The signer understands that:</p> <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>Deny the application.</li> <li>Revoke any approval that is granted based on the information. And</li> <li>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> <li>The signer is subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641.</li> <li>The signature shall constitute authorization for the municipal conservation commission and the Department to inspect the site of the proposed project, except for minimum impact trail projects, where the signature shall authorize only the Department to inspect the site pursuant to RSA 482-A:6, II.</li> </ul>
Initials: BOW	If the applicant is not the owner of the property, each property owner signature shall constitute certification by the signer that he or she is aware of the application being filed and does not object to the filing.

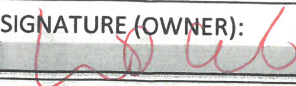

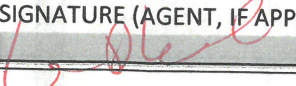
**SECTION 15 - REQUIRED SIGNATURE (Env-Wt 311.04(d); Env-Wt 311.11)**





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SIGNATURE (OWNER): 	PRINT NAME LEGIBLY: Eric Weinrieb	DATE: 3-24-20
SIGNATURE (APPLICANT, IF DIFFERENT FROM OWNER): 	PRINT NAME LEGIBLY: Eric Weinrieb	DATE: 3-24-20
SIGNATURE (AGENT, IF APPLICABLE): 	PRINT NAME LEGIBLY: Eric Weinrieb	DATE: 3-24-20

SECTION 16 - TOWN / CITY CLERK SIGNATURE (Env-Wt 311.04(f))	
As required by RSA 482-A:3, I(a),(1), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.	
TOWN/CITY CLERK SIGNATURE: 	PRINT NAME LEGIBLY: 
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. And
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 single, 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.





# 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 LAST NAME, FIRST NAME, M.I.:** Society for the Protection of NH Forests

Attachment A can be used to satisfy some of the additional requirements for minor and major projects regarding avoidance and minimization, as well as functional assessment.

## 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.

THE PROPOSED LOCATION OF THE WATER LINE IS IN THE MOST DIRECT LOCATION IN PREVIOUSLY DISTURBED AND DEVELOPED PORTIONS OF THE SITE. ALL OF THE IMPACTS ARE TEMPORARY. THE TRENCH AND IMPACT AREA NEEDED TO INSTALL THE WATER LINE IS ESTIMATED TO BE APPROXIMATELY 15' WIDE.

IT IS INTENDED THAT THE STONE RUBBLE "CULVERT" OR PASSAGEWAY BETWEEN THE FRESHWATER WETLANDS AND THE TIDAL WETLANDS WILL BE CLEANED OF SEDIMENT AND ROCKS AND RESTORED AS NECESSARY WITHOUT DIRECTLY IMPACTING EITHER WETLANDS. IF UPON EXCAVATION IT IS DETERMINED TO BE APPROPRIATE THEN IT WILL BE RECONSTRUCTED. WATER APPEARS TO FREELY FLOW THROUGH THE STONES.

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**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, crustacea, shellfish and wildlife of significant value.

The proposed work does not directly impact any marsh.

Erosion control measures will be utilized to safeguard the wetlands nearby.

The location of the proposed water line was chosen to allow for ease of construction and will only temporarily impact already maintained paths and lawn areas in the buffer.

**SECTION I.III – HYDROLOGIC CONNECTION (Env-Wt 313.03(b)(3))**

Describe how the project maintains hydrologic connections between adjacent wetland or stream systems.

Water drains from the freshwater wetlands through a compromised stone rubble "culvert" or passageway currently. It will be restored as part of this project to re-establish the hydrologic connection between the two wetlands or re-created if that is appropriate.



**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.

The project has no permanent impacts to the wetland buffers and no impacts at all to the wetlands. Erosion control measures will be installed including silt soxx and stabilized construction exit/entrance to further ensure the wetland areas are protected.

The area chosen for the proposed waterline is all previously disturbed and developed upland and a direct path should keep construction time to a minimum.

All disturbed areas will be stabilized with loam & seed or restored to original condition and grade.

**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 project does not eliminate, depreciate or obstruct public commerce, navigation, or recreation.

When completed the new water line will enhance the recreation experience at the site.

**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 project has no effect on floodplain wetlands that provide flood storage.

**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.

The project has only positive effects on such areas as this is temporary disturbances that are confined to previously disturbed and developed upland areas. The wetlands will be protected with appropriate erosion control measures.

The project avoids working close to the resource area by replacing the water main in a location that reduces the work in the buffer.



**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 disturbance is temporary and minimal. Erosion control measures will be utilized at the limits of work. If possible, work will be performed i the driest time of the year.

**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 project has no impact to stream channels with the exception of cleaning and restoring the connecting stone rubble trench "culvert" that connects the freshwater wetland to drain into the tidal wetland. Maintaining this connection will only enhance the ability of the channel to handle runoff of waters.

**PART II: FUNCTIONAL ASSESSMENT****REQUIREMENTS**

Ensure that project meets requirements of Env-Wt 311.10 regarding functional assessment (Env-Wt 311.04(j); Env-Wt 311.10).

**FUNCTIONAL ASSESSMENT METHOD USED:**

US ACE Highway Methodology

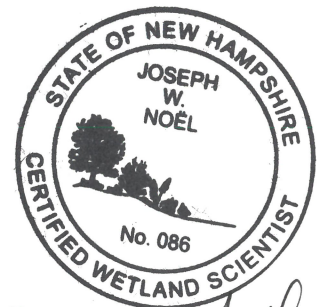
NAME OF CERTIFIED WETLAND SCIENTIST (FOR NON-TIDAL PROJECTS) OR QUALIFIED COASTAL PROFESSIONAL (FOR TIDAL PROJECTS) WHO COMPLETED THE ASSESSMENT: JOSEPH W. NOEL (NON-TIDAL ASSESSMENT ONLY)

DATE OF ASSESSMENT: 3/23/2020

Check this box to confirm that the application includes a NARRATIVE ON FUNCTIONAL ASSESSMENT: ☒

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: ☒

Note: The Wetlands Functional Assessment worksheet can be used to compile the information needed to meet functional assessment requirements.



*Joseph W. Noel*  
3/23/2020



**WETLAND DELINEATION  
&  
FUNCTIONAL ASSESSMENT REPORT**

**FOR**

**CREEK FARM  
400 LITTLE HARBOR ROAD  
PORTSMOUTH, NEW HAMPSHIRE**

**PREPARED FOR:**

**ALTUS ENGINEERING, INC.  
133 COURT STREET  
PORTSMOUTH, NEW HAMPSHIRE 03801**

**PREPARED BY:**

**JOSEPH W. NOEL  
P.O. BOX 174  
SOUTH BERWICK, MAINE 03908**

**JWN# 95-445  
MARCH 23, 2020**

**JOSEPH W. NOEL  
P.O. BOX 174  
SOUTH BERWICK, MAINE 03908  
(207) 384-5587**

CERTIFIED SOIL SCIENTIST

\*

WETLAND SCIENTIST

\*

LICENSED SITE EVALUATOR

## INTRODUCTION

This report replaces the Partial Wetland Delineation Report/Letter dated January 22, 2020. This report was prepared to aid in the review of the proposed municipal waterline replacement (930'+/- linear feet) for Creek Farm. The property is 30.20+/- acres and is located at 400 Little Harbor Road in Portsmouth, New Hampshire. No direct wetland impacts are planned but the proposed project will require encroaching into the 100-foot wetland buffer to relocate and replace a portion of the waterline serving the property. This Functional Assessment is for the freshwater wetland not the adjacent downstream tidal wetland associated with Sagamore Creek.

## WETLAND DELINEATION

To determine the wetland boundary, the methodologies in the U.S. Army Corps of Engineers document *Corps of Engineers Wetlands Delineation Manual* (1987) along with the required *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*, (Version 2.0) were used. Wetlands were identified based on soils, vegetation, and wetland hydrology. Except in special cases, all three factors (hydric soils, hydrophytic vegetation, and wetland hydrology) must be present for an area to classify as wetland. A predominance of wetland and upland vegetation was determined from visual estimates in the vegetative layers (herbaceous, shrub, sapling, and tree layers). Plant species indicator status was based on the U.S. Army Corps of Engineers publication *National Wetland Plant List* (2016).

Shallow soil observations were made using a hand auger to assess the soil morphological features and to examine for wetland hydrology. Hydric soil determinations were conducted in accordance with the United States Department of Agriculture, Natural Resources Conservation Service document *Field Indicators of Hydric Soils in the United States, Version 8.1* (2017) along with the manual *Field Indicators for Identifying Hydric Soils in New England* (Version 4, April 2019).

The freshwater wetland boundary in the vicinity of the proposed waterline replacement/relocation was field delineated with sequentially numbered pink and black striped flagging on December 13, 2019. Flagged sequence A1 thru A8 delineates a portion of the freshwater wetland southwest of the former "Carriage House" now unoccupied and used for storage (not part of the wetland assessment area). Flagged sequences B1 thru B20 delineate a portion of the freshwater wetland north of Creek Farm and west of a Sagamore Creek tidal inlet (wetland assessment wetland). The freshwater and tidal wetlands are separated by a culverted trail (culvert type unknown - may be an old stone culvert or simply stone/boulder pile serving as a drainageway). The tidal boundary or HOTL was flagged with blue flagging on April 24, 2019 and extended on December 13, 2019. These flags were located by Knight Hill Land Surveying Services, Inc. and placed on the project plans.

## FUNCTIONAL ASSESSMENT

The majority of the freshwater wetland being assessed is nearly level to gently sloping and dominated by a scrub-shrub plant community with forested edges and pockets of emergent vegetation. The National Wetland Inventory (NWI) database classifies the wetland as PFO1C (palustrine, forested, broad-leaved deciduous, seasonally flooded), PSS1C (palustrine, scrub-shrub, broad-leaved deciduous, seasonally flooded), and PEM1C (palustrine, emergent, persistent, seasonally flooded). The soils are poorly drained and fine textured. Project plans show no direct wetland impacts will occur. No formal vernal pool survey was conducted by the undersigned; however, the delineated wetlands near the proposed project did not appear to have the physical characteristics of a vernal pool. Refer to attached photos of the wetland systems and the trail where the waterline will be crossing.

The parcel contains an old farm/estate that contains the main house and the Creek Farm Cottage that was originally built in the 1800s. In ~1997 a conservation easement was established and in 2000 the Society For the Protection Of Forests acquired the property as a conservation area. Currently the land is being used for hiking trails, outdoor education, tree farm, bird sanctuary and wildlife refuge. The freshwater wetland drains down to Sagamore Creek through a constricted outlet (intermittent stream section and wetland swale with a portion that was dug out a long time ago to improve drainage out of the freshwater wetland system.

## METHODOLOGY

Provided by Altus Engineering, Inc. for the wetland assessment was a plan with the existing condition and where the proposed waterline is being replaced/rerouted. Also reviewed by the undersigned were the following resource maps: NH Wetland Mapper map, NRCS soil survey, FEMA map, and the NWI map. The fieldwork portion of the wetland assessment was conducted on March 1, 2020 using *The Highway Methodology Workbook Supplement: Wetland Functions and Values, A Descriptive Approach* (US Army Corps of Engineers, New England Division, 1999). One completed Wetland Function-Value Evaluation Form has been included (refer to Attachments for details). There is one identified rare species or exemplary community documented on the site by the New Hampshire Natural Heritage Bureau (NHB). Marsh elder/jesuit's-bark (*Iva frutescens*) is documented but is not in the wetland being assessed. A survey was conducted by the undersigned in close proximity to the project and two additional small communities were noted on the upper banks of the downstream tidal system (located ~70' or more from the waterline project). Attached are plant and wildlife lists of the subject development area (not detailed lists of the entire property). Observations were also limited due to winter conditions. The FEMA map verified that the wetland is not within the 100 year floodplain. There are no downstream public or private wells (municipal water on-site). The USGS shows a blue line associated with the subject wetland, however, this stream appears to be dug out in some areas and more intermittent in nature in the freshwater wetland from the limited site observations (refer to stream photo in Attachment section).

The Highway Methodology utilizes list of considerations/qualifiers to assist in determining the presence and evaluating the importance of the following functions and values. The description

of each function and value comes directly from *The Highway Methodology Workbook Supplement* (1999).

- 1) Groundwater Recharge/Discharge – This function considers the potential for a wetland to serve as a groundwater recharge and/or discharge area.
- 2) Floodflow Alteration – 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.
- 3) 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
- 4) 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.
- 5) 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.
- 6) Production Export – This function evaluates the effectiveness of the wetland to produce food or usable products for humans or other living organisms.
- 7) Sediment/Shoreline Stabilization – This function considers the effectiveness of a wetland to stabilize streambanks and shorelines against erosion.
- 8) 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.
- 9) Recreation – This value considers the suitability of the wetland and associated watercourses to provide recreational opportunities such as hiking, canoeing, boating, fishing, hunting, and other passive recreational activities.
- 10) Education/Scientific Value – This value considers the suitability of the wetland as a site for an "outdoor classroom" or a location for scientific study or research.
- 11) Uniqueness/Heritage – This value considers the effectiveness of the wetland or its associated waterbodies to provide certain special values.
- 12) Visual Quality/Aesthetics – This value considers the visual and aesthetic quality or usefulness of the wetland.
- 13) Endangered Species Habitat – This value considers the suitability of the wetland to support threatened or endangered species.

#### FUNCTION AND VALUES DISCUSSION

The wetlands will not be directly impacted by the proposed waterline. There is one principle function in the wetland system (i.e., Wildlife Habitat). This wetland is favorable for birds (migrating, nesting, etc.) along with a number of smaller mammals. Deer use was also noted in the wetland. Two other principle values were noted but had more to do with the area adjacent to or surrounding the freshwater wetland (i.e., Recreation and Education/Scientific Value). In addition, the wetland system does provide the following functions and values: Groundwater Recharge/Discharge, Floodflow Alteration, Sediment/Toxicant Retention, Nutrient Removal, Production Export, Uniqueness/Heritage, and Visual Quality/Aesthetics. The wetland does not

provide the following functions and values: Fish and Shellfish Habitat, Sediment/Shoreline Stabilization, or Endangered Species Habitat. The adjacent tidal wetland does provide these values and should be considered a highly valuable wetland system. No Historic Preservation database review was provided. This should be conducted due to the historic nature of the site (first settled in 1640).

The wetland buffer to be impacted is almost all along the existing trail system and through an overgrown old field that is dominated by invasive species. The water line is planned in uplands represented by invasive plant species such as: asian bittersweet (*Celastrus orbiculatus*), japanese-knotweed (*Reynoutria japonica*), european buckthorn (*Rhamnus cathartica*), european barberry (*Berberis vulgaris*), japanese barberry (*Berberis thunbergii*), glossy false buckthorn (*Frangula alnus*), rambler rose (*Rosa multiflora*), honeysuckles (*Lonicera spp.*), norway maple (*Acer platanoides*), and black locust (*Robinia pseudoacacia*). These invasive plants are listed in the *New Hampshire Guide to Upland Invasive Species* (2011) or the NH Invasive Plant Species Watch List (April 24, 2019). In addition to the aforementioned invasive plants: eastern white pine (*Pinus strobus*), northern red oak (*Quercus rubra*), quaking aspen (*Populus tremuloides*), apple (*Malus sp.*), stag-horn sumac (*Rhus typhina*), sensitive fern (*Onoclea sensibilis*), and grape (*Vitis sp.*) were also noted. The water line will pass through an existing narrow stone culverted trail where the freshwater "B" flagged series drains to the tidal creek (i.e., wetlands separated by trail). The downslope side of the trail where the waterline is crossing is essentially boulders. The upslope side of the trail is the freshwater wetland. Plant species noted on the upslope side slope side of the trail and in close proximity to the trail in the freshwater wetland included: rambler rose, sedges, smooth arrow-wood, sedges, Japanese barberry, asian bittersweet, and buckthorn. Observations were limited due the winter conditions and area just upslope was still iced over. The trail where the waterline will be crossing between the two wetland systems is the natural constricted point of the freshwater wetland system and being adjacent to the tidal system, this crossing was most likely established here back in the late 1800's.

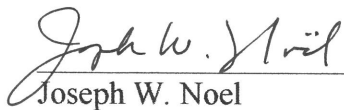
The upland soils are shallow to moderately deep to bedrock (i.e., ranging from 10 to 40 inches deep) with textures ranging from fine sandy loam to loamy sand. The hydric soils within the freshwater wetlands are primarily fine textured (i.e., very fine sandy loam or finer).

By using the existing gravel path to cross between the wetland system (where existing line is) and rerouting the balance of the waterline through upland that are further away from the tidal system than the existing waterline, there will be no permanent impacts to the wetland buffer or the wetland systems from the new waterline. This will also be further away from the marsh elder communities.

Selective thinning of the vegetation will also occur within the 100-foot buffer. By removing the invasive species, etc. a more natural plant community/buffer could regenerate here. Proper removal of the invasive species should be conducted to prevent further spread. Contractors should be familiar with proper removal of these plants (e.g., *New Hampshire Guide to Upland Invasive Species* publication is one guide that provides proper removal of invasive species). Soil disturbance will be limited to the waterline corridor, this will not impact the wetlands function and values. This should enhance the wetland buffer.

Wildlife Habitat is the function that will be temporarily impacted by the proposed development. White-tailed deer rubs were noted but wildlife observations were very limited due to the time of

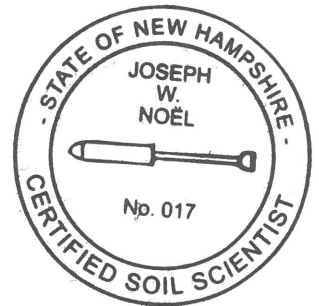
year and several groups of people walking their leashed dogs on the trail system. The impacts to the wildlife will be temporary during the construction of the waterline. The wildlife will return after the construction is completed. Kim Tuttle of the NHB also noted concerns about a nearby bat hibernacula and voluntary recommendations provided Ms. Tuttle in her email dated March 6, 2020 should be followed. If Best Management Practices are strictly adhered to along with the other design features to limit impacts (e.g., SiltSoxx will be installed around the project limits), there should be no secondary impacts to the wetlands or direct impacts to the wetland buffers. This will also be the case with the highly valuable tidal wetland that is downstream. Refer to Altus Engineering, Inc. plans for details on erosion control, etc. Please note, the NH Wetland Functional Assessment worksheet was referred to but is not part of this report. All pertinent information discussed in the worksheet is included in the narrative report or the attached Corps Wetland Function-Value Form.



Joseph W. Noel

New Hampshire Certified Soil Scientist #017

New Hampshire Certified Wetland Scientist #086



## **ATTACHMENTS**



## PHOTOS

Creek Farm – 400 Little Harbor Road – Portsmouth, New Hampshire  
(Photos taken by Joseph W. Noel on March 1, 2020)



Walkway Where Waterline Crosses Between Wetlands



From The Walkway Looking At The Freshwater Wetland



## PHOTOS

**Creek Farm – 400 Little Harbor Road – Portsmouth, New Hampshire**

(Photos taken by Joseph W. Noel on March 1, 2020)



From Walkway Looking At the Tidal Wetland



Overview Of Wetland Assessment Wetland (Forested Example)



## **PHOTOS**

**Creek Farm – 400 Little Harbor Road – Portsmouth, New Hampshire**

(Photos taken by Joseph W. Noel on March 1, 2020)



Overview Of Wetland Assessment Wetland (Scrub-Shrub Example)



Overview Of Wetland Assessment Wetland (Emergent Example)



## PHOTOS

Creek Farm – 400 Little Harbor Road – Portsmouth, New Hampshire

(Photos taken by Joseph W. Noel on March 1, 2020)



Intermittent Stream Segment Leaving Wetland System Upslope From Walkway



Jesuit's-bark (*Iva frutescens*) – Also Known As Marsh Elder Or High-tide Bush Community



## Wetland Function-Value Evaluation Form (freshwater wetland only – not downstream tidal wetland)

Total area of wetland 5.2 +/- Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No  
 Adjacent land use Residential Homes Distance to nearest roadway or other development <100 feet  
 Dominant wetland system present PSSI Contiguous undeveloped buffer zone present No  
 Is the wetland a separate hydraulic system? Yes If not, where does the wetland lie in the drainage basin? ---  
 How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list) yes attached  
 PFO Swale

Wetland I.D. Unnamed freshwater wetland  
 Latitude 43.059 Longitude 70.741  
 Prepared by: JWN NHCWS #086 Date 3/23/2020  
 Wetland Impacts: amount subject to change (no direct impacts)  
 Type N/A Amount N/A  
 Evaluation based on: Office – Yes Field – Yes  
 Corps manual wetland delineation  
 Completed? Yes

Function/Value	Suitability		Rationale (Reference #)	Principal Function(s)/Value(s)	Comments
	Y	N			
Groundwater Recharge/Discharge	X		6,(7), 9, 10	No	Fine-textured soils limit this function, discharge via intermittent stream/wetland swale only near outlet may contribute to limited groundwater recharge. Wetlands near project (waterline crossing) drain to Sagamore Creek Tidal wetland.
Floodflow Alteration	X		3, (6), (7), 9, 15 (18)	No	Subject wetland provides limited flood storage from surrounding uplands, Intermittent stream/wetland swale drains to Sagamore Creek via a bedrock natural constricted outlet. Limited floodplain storage near waterline
Fish and Shellfish Habitat (Freshwater)		X	1	No	This function does not appear to apply to the freshwater wetland system. Just downstream of the evaluation area is a special aquatic site. Freshwater wetland has negligible surface water.
Sediment/Toxicant Retention	X		4, 7, 8, 9, (10), 13, 14, 16	No	Wetland structure (basin) can trap sediment. Contains constricted outlet. Some dense vegetation. Limited opportunity exists to trap sediments from overland flow from adjacent parking areas.
Nutrient Removal	X		3, 7, 8, 9, 11, 12, 13, 14	No	Minor potential for nutrient uptake exist, lack of persistent deep open water, little dense vegetation except in limited areas
Production Export	X		1, 2, 4, 5, (7), 12	No	Seeds, fruits, berries, etc., are present intermittent stream provides mode of transportation
Sediment/Shoreline Stabilization		X	2, 7, (9), 12, 15	No	Intermittent stream/wetland swale outlets to Sagamore Creek. No erosive forces in freshwater wetland.
Wildlife Habitat	X		3, (4), 5, 7, 8, 11, (13),(15), 16, 17, 18, 19, (21)	Yes	Favorable for birds (migrating, nesting, insect source, etc.), small mammals, etc. Limited wildlife observations due to winter conditions. Adjacent forested uplands and tidal system increase this function.
Recreation	X		1, (4), 5, 7, 8, 10, 11, 12	Yes*	* = not in freshwater wetland itself but existing trail system provides opportunity for hiking, birdwatching, etc.. Access to available parking.
Educational/Scientific Value	X		(1), 3, (4), 5, 6, 8, 9, 10, 13, 15, 16	Yes*	* = not in freshwater wetland Lacks unusual wetland plant community in freshwater wetland, parking is available, handicap accessible. Downstream tidal wetland has threatend plant. Trail system with some limited views of freshwater wetland.
Uniqueness/Heritage	X		4, 5, 7, 8, 9, 10, 12, (13), (15), 19, (20)	No	Freshwater wetland is not unique. Database search should be conducted for historic features – part of old farm estate dating back to 1887 & first settled in 1640. Downstream is man-made tidal pool.
Visual Quality/Aesthetics	X		1, 3, 4, 5, 7, 8, (9), 10	No	Freshwater wetland is not visually distinct – parking available – trail access provided - Sagamore Creek (adjacent is high quality)
Endangered Species Habitat		X	(1)	No	No trees will be cut for the proposed waterline. NHB and NHFG reviewed proposed project – no expected impacts to sensitive wildlife or the Marsh Elder plant communities (noted during wetland assessment)
Ecological Integrity (Required For NH Permits)		X	N/A	No	A review should be conducted with the Federal Wildlife Service (IPAC) (not provided for the wetland assessment). Old farmland (not natural area), invasive plant species noted in the area, trail system/road in wetland buffer, parking areas, man-made tidal pool, ditch out just upstream from the walkway – alter the natural communities

Sagamore Creek tidal/marine system (very valuable wetland system) is downstream of the walkway (i.e., where waterline will cross). The tidal system is not part of this wetland assessment but pertinent comments will be included. The watershed is ~35 acres and the freshwater wetland being assessed is ~5.2 acres per NH Wetland Mapper.

## Plant List

Alder-leaf buckthorn  
Allegheny blackberry  
American bittersweet  
Apple  
Asian bittersweet  
Barberry  
Black cherry  
Black locust  
Bluejoint  
Bristly dewberry  
Broad-leaf cat-tail  
Burning bush  
Common winterberry  
Cottongrass bulrush  
Eastern marsh fern  
Eastern poison ivy  
Eastern white pine  
European barberry  
European buckthorn  
Fringed sedge  
Glossy False Buckthorn  
Grape  
Honeysuckle  
Horsetail  
Japanese barberry  
Japanese-knotweed  
Jesuit's-bark  
Lamp rush  
Maleberry  
New England American-aster  
New York fern  
Northern bayberry  
Northern bracken fern  
Northern red oak  
Norway maple  
Pointed broom sedge  
Possumhaw  
Purple loosestrife  
Quaking aspen  
Rambler rose  
Red maple  
Royal fern  
Sedges  
Sensitive fern

*Rhamnus alnifolia*  
*Rubus allegheniensis*  
*Celastrus scandens*  
*Malus sp.*  
*Celastrus orbiculatus*  
*Berberis sp.*  
*Prunus serotina*  
*Robinia pseudoacacia*  
*Calamagrostis canadensis*  
*Rubus hispidus*  
*Typha latifolia*  
*Euonymus alatus*  
*Ilex verticillata*  
*Scirpus cyperinus*  
*Thelypteris palustris*  
*Toxicodendron radicans*  
*Pinus strobus*  
*Berberis vulgaris*  
*Rhamnus cathartica*  
*Carex crinita*  
*Frangula alnus*  
*Vitis sp.*  
*Lonicera spp.*  
*Equisetum sp.*  
*Berberis thunbergii*  
*Reynoutria japonica*  
*Iva frutescens*  
*Juncus effusus*  
*Lyonia ligustrina*  
*Symphyotrichum novae-angliae*  
*Parathelypteris noveboracensis*  
*Morella pensylvanica*  
*Pteridium aquilinum*  
*Quercus rubra*  
*Acer platanoides*  
*Carex scoparia*  
*Viburnum nudum*  
*Lythrum salicaria*  
*Populus tremuloides*  
*Rosa multiflora*  
*Acer rubrum*  
*Osmunda spectabilis*  
*Carex spp.*  
*Onoclea sensibilis*

Shag-bark hickory  
Silky dogwood  
Smooth arrow-wood  
Speckled alder  
Stag-horn sumac  
Steeplebush  
White meadowsweet  
Willowherb

*Carya ovata*  
*Cornus amomum*  
*Viburnum recognitum*  
*Alnus incana*  
*Rhus typhina*  
*Spiraea tomentosa*  
*Spiraea alba*  
*Epilobium sp.*

## Wildlife List

American crow	<i>Corvus brachyrhynchos</i>
Black-capped chickadee	<i>Poecile atricapillus</i>
Blue jay	<i>Cyanocitta cristata</i>
Cardinal	<i>Cardinalis cardinalis</i>
Carolina wren	<i>Thryothorus ludovicianus</i>
Downy woodpecker	<i>Picoides pubescens</i>
Eastern chipmunk	<i>Tamias striatus</i>
Eastern gray squirrel	<i>Sciurus carolinensis</i>
Nuthatch	<i>Sitta sp.</i>
White-tailed deer	<i>Odocoileus virginianus</i>

\*\* A complete wildlife survey was not conducted. Observations from visual sightings, scat, and tracks.



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

**New Hampshire General Permits (GPs)  
Appendix B - Corps Secondary Impacts Checklist  
(for inland wetland/waterway fill projects in New Hampshire)**

1. Attach any explanations to this checklist. Lack of information could delay a Corps 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 5, regarding single and complete projects.
4. Contact the Corps at (978) 318-8832 with any questions.

1. Impaired Waters	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See <a href="http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm">http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm</a> to determine if there is an impaired water in the vicinity of your work area.*	<del>X</del>	
2. Wetlands	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?	<del>X</del>	
2.2 Are there proposed impacts to SAS, special wetlands. 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://www2.des.state.nh.us/nhb_datacheck/">https://www2.des.state.nh.us/nhb_datacheck/</a> . The book <a href="#">Natural Community Systems of New Hampshire</a> also contains specific information about the natural communities found in NH.		<del>X</del>
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	<del>X</del>	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.)		<del>X</del>
2.5 The overall project site is more than 40 acres?		<del>X</del>
2.6 What is the area of the previously filled wetlands? <b>NONE RECENTLY.</b>	<del>X</del>	UNKNOWN.
2.7 What is the area of the proposed fill in wetlands?	<del>X</del>	0
2.8 What is the % of previously and proposed fill in wetlands to the overall project site?	<del>X</del>	0%/0%
3. Wildlife	Yes	No
3.1 Has the NHB & USFWS determined that there are known occurrences of rare species, exemplary natural communities, Federal and State threatened and endangered species and habitat, in the vicinity of the proposed project? (All projects require an NHB ID number & a USFWS IPAC determination.) NHB DataCheck Tool: <a href="https://www2.des.state.nh.us/nhb_datacheck/">https://www2.des.state.nh.us/nhb_datacheck/</a> USFWS IPAC website: <a href="https://ecos.fws.gov/ipac/location/index">https://ecos.fws.gov/ipac/location/index</a> <b>NO EXPECTED IMPACTS</b>	<del>X</del>	

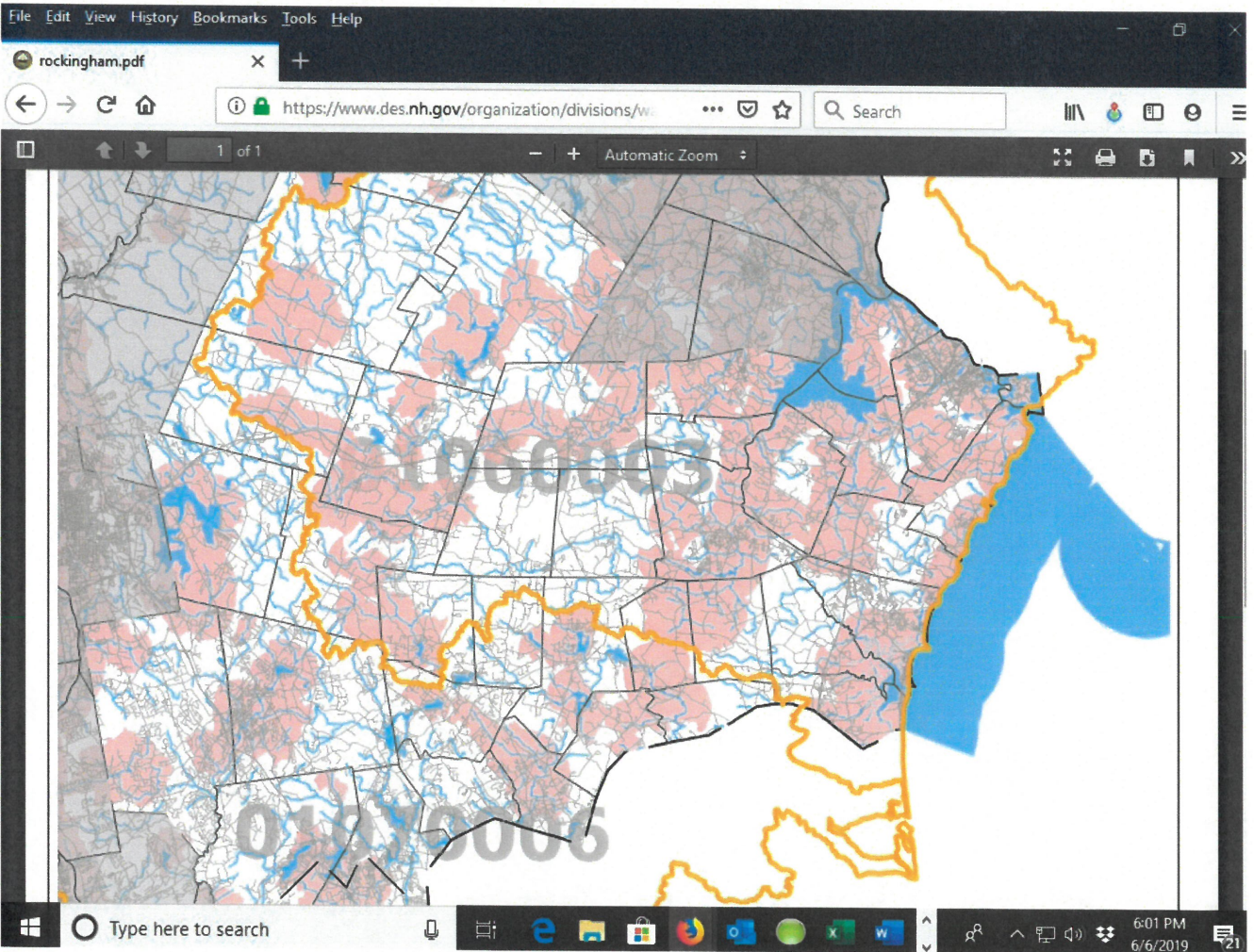
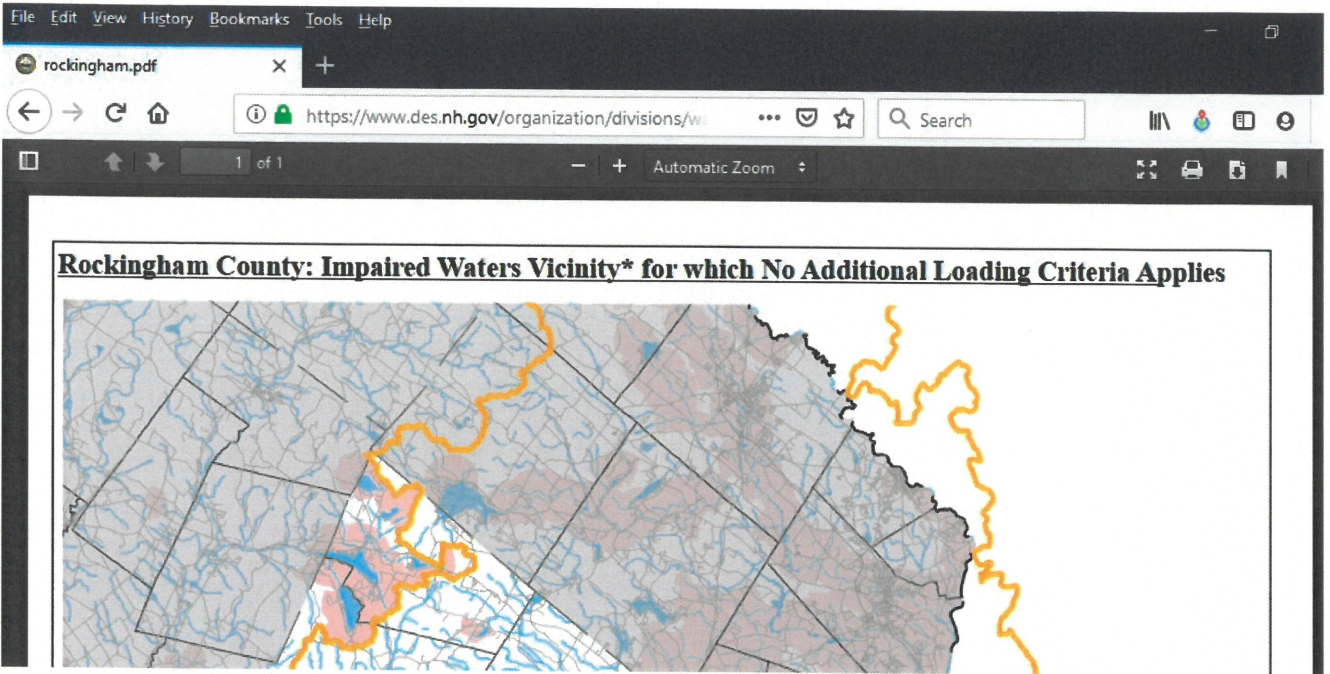


3.2 Would work occur in any area identified as either "Highest Ranked Habitat in N.H." or "Highest Ranked Habitat in Ecological Region"? (These areas are colored magenta and green, respectively, on NH Fish and Game's map, "2010 Highest Ranked Wildlife Habitat by Ecological Condition.") Map information 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>			
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)?			
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?			
3.5 Are stream crossings designed in accordance with the GC 21?			N/A
<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?			
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 Request for Project Review (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 11 GC 8(d) of the GP document**			

\*Although this checklist utilizes state information, its submittal to the Corps is a Federal requirement.

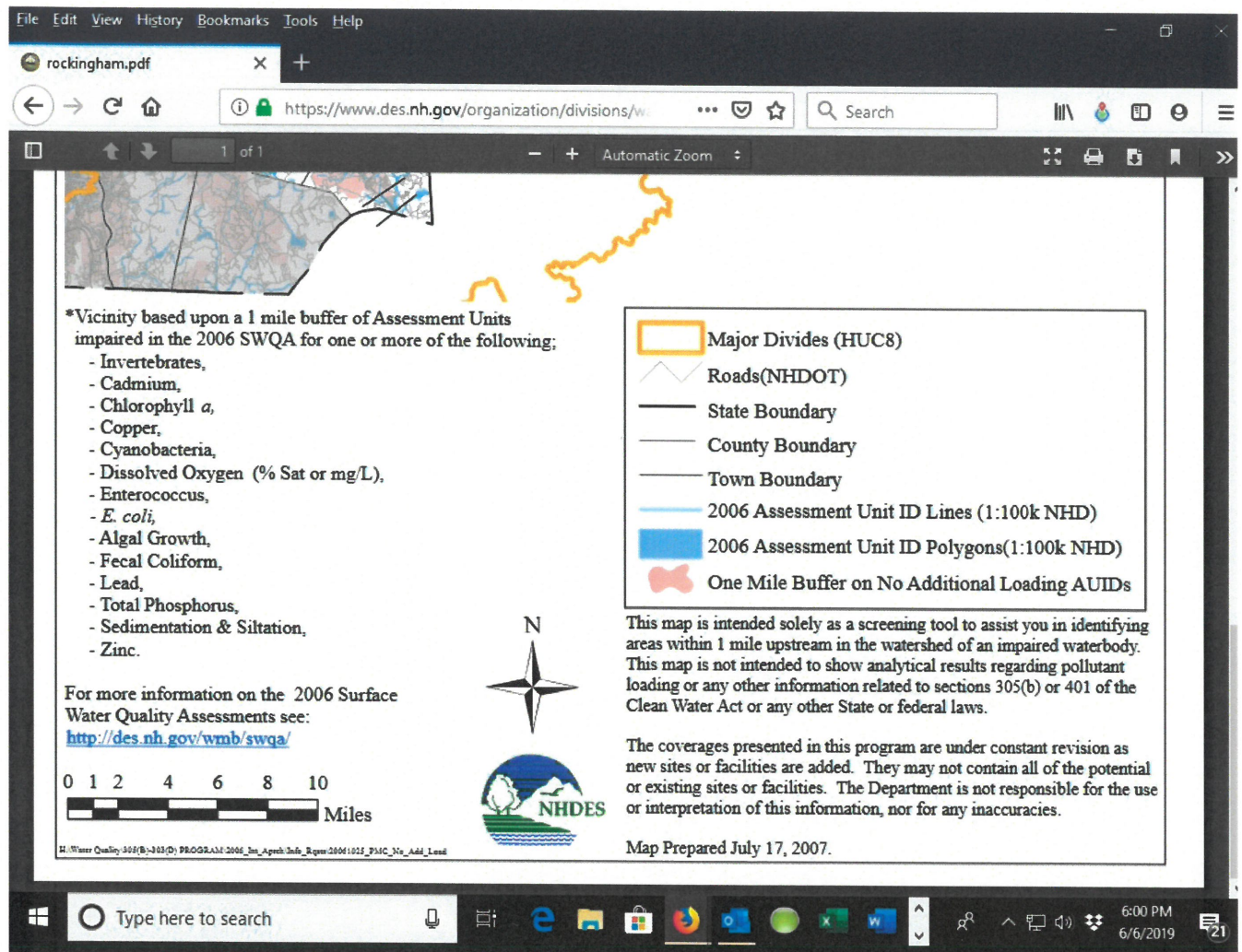
\*\* If your project is not within Federal jurisdiction, coordination with NH DHR is not required under Federal law.





IMPAIRED WATERS MAP





## IMPAIRED WATERS MAP (LEGEND)



# SHORELAND APPLICATION WORKSHEET

## Calculating Impervious Area

This form must be submitted to the NHDES Wetlands Bureau accompanied with a Shoreland Permit Application. [Instructions for completing this form](#) are available on the Shoreland Program web page.

For the purposes of this worksheet, "Pre-Construction" impervious surface area<sup>1</sup> means all human made impervious surfaces<sup>2</sup> currently present on the property, whether to be removed or to remain after the project is completed. "Post-Construction" impervious area means all impervious surfaces that will exist on the property upon completion of the project, including both new and any remaining pre-existing impervious surfaces. All answers shall be given in square feet.

CALCULATING IMPERVIOUS AREA WITHIN 250 FEET OF THE REFERENCE LINE			
	STRUCTURE DESCRIPTION	PRE-CONSTRUCTION IMPERVIOUS AREAS	POST-CONSTRUCTION IMPERVIOUS AREAS
<b>PRIMARY STRUCTURE(S)</b> House and all <u>attached</u> decks and porches.	<u>Creek Farm Building (Carey Cottage)</u>	<u>7,750</u> FT <sup>2</sup>	<u>7,750</u> FT <sup>2</sup>
<b>ACCESSORY STRUCTURES</b> All other impervious surfaces excluding lawn furniture, well heads, and fences.  Common accessory structures include, but are not limited to: driveways, walkways, patios, and sheds.	<u>Conc. Utility Building</u>	<u>350</u> FT <sup>2</sup>	<u>350</u> FT <sup>2</sup>
	<u>Conc. Pads</u>	<u>250</u> FT <sup>2</sup>	<u>250</u> FT <sup>2</sup>
	<u>Paved Driveway</u>	<u>9,665</u> FT <sup>2</sup>	<u>9,665</u> FT <sup>2</sup>
	<u>Utility Structures</u>	<u>90</u> FT <sup>2</sup>	<u>90</u> FT <sup>2</sup>
	<u>Foundation Stones</u>	<u>370</u> FT <sup>2</sup>	<u>370</u> FT <sup>2</sup>
	_____	_____ FT <sup>2</sup>	_____ FT <sup>2</sup>
<b>TOTAL:</b>		(A) <u>18,475</u> FT <sup>2</sup>	(B) <u>18,475</u> FT <sup>2</sup>
Area of the lot located within 250 feet of reference line:			(C) <u>558,000</u> FT <sup>2</sup>
Percentage of lot covered by pre-construction impervious area within 250 feet of the reference line: <i>[divide (a) by (c) x 100]</i>			(D) <u>3.3</u> %
Percentage of lot to be covered by post-construction impervious area within 250 feet of the reference line upon completion of the project: <i>[divide (b) by (c) x 100]</i>			(E) <u>3.3</u> %

<sup>1</sup> "Impervious surface area" as defined in Env-Wq 1402.15 means, for purposes of the impervious surface limitation specified in RSA 483-B:9, V(g), the sum total of the footprint of each impervious surface that is located within the protected shoreland.

<sup>2</sup> "Impervious Surface" as defined in RSA 483-B:4, VII-b means any modified surface that cannot effectively absorb or infiltrate water. Examples of impervious surfaces include, but are not limited to, roofs, and unless designed to effectively absorb or infiltrate water, decks, patios, and paved, gravel, or crushed stone driveways, parking areas, and walkways.

## Stormwater Management Requirements

The Impervious Area Thresholds	
<input type="checkbox"/>	A net <i>decrease</i> in impervious area is proposed (If <b>Calculation E</b> is less than <b>Calculation D</b> ).
<input type="checkbox"/>	The percentage of post-construction impervious area ( <b>Calculation E</b> ) is less than or equal to 20%.  This project <b>does not</b> require a stormwater management plan and <b>does not</b> require a plan demonstrating that each waterfront buffer grid segment at least meets the minimum required tree and sapling point score.
<input type="checkbox"/>	A net increase in impervious area is proposed and the percentage of post-construction impervious area ( <b>Calculation E</b> ) is greater than 20%, but less than 30%.  This project <b>requires</b> a stormwater management but, <b>does not</b> require a plan demonstrating that each waterfront buffer grid segment at least meets the minimum required tree and sapling point score.  <i>See details on the Checklist of Required Items on page 6</i>
<input type="checkbox"/>	A net increase in impervious area is proposed and the percentage of post-construction impervious area ( <b>Calculation E</b> ) is greater than 30%.  This project <b>requires</b> a stormwater management plan designed and certified by a professional engineer and <b>requires</b> plans demonstrating that each waterfront buffer grid segment meets at least the minimum required tree and sapling point score.  <i>See details on the Checklist of Required Items on page 6</i>

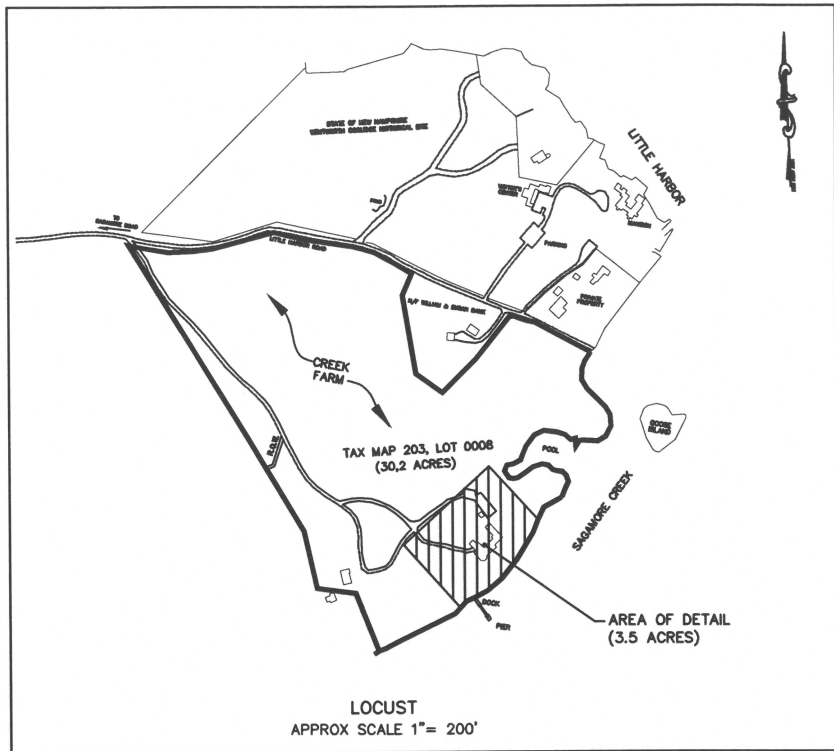
## Natural Woodland Area Requirement

DETERMINING THE AREA TO REMAIN AS NATURAL WOODLAND	
Total area of the lot between 50 feet and 150 feet of the reference line within which the vegetation currently exists as natural woodland <sup>3</sup> (see definition below).	(F) <u>91,200 SF +/-</u>
Total area of the lot between 50 feet and 150 feet from the <u>reference line</u> .	(G) <u>193,000 SF +/-</u>
At least 25% of area (G) must remain in as natural woodland. [0.25 x G]	(H) <u>48,250 SF +/-</u>
Place the lesser of area (F) and calculation (H) on this line. In order to remain compliant with the <b>natural woodland area requirement</b> , this is the minimum area that must remain as natural woodland between 50 feet and 150 feet from the <u>reference line</u> . This area <b>must</b> be represented on all plans and this area, exclusive of existing lawn, must remain in an unaltered state <sup>4</sup> .	(I) <u>48,250 SF +/-</u>
Name of person who prepared this worksheet: <u>ERIC D. WEINRIEB, PE</u>	
Name and date of the plan this worksheet is based upon: <u>NHDES SHORELAND NATURAL WOODLAND AREAS WORKSHEET - MAR. 23, 2020</u>	
SIGNATURE: <u>[Signature]</u>	DATE: <u>3/24/20</u>

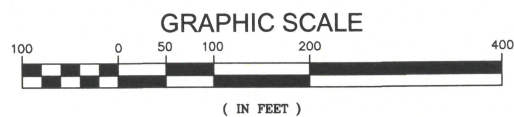
<sup>3</sup> "Natural Woodland" means a forested area consisting of various species of trees, saplings, shrubs, and ground covers in any combination and at any stage of growth.

<sup>4</sup> "Unaltered State" means native vegetation allowed to grow without cutting, limbing, trimming, pruning, mowing, or other similar activities except as needed for renewal or to maintain or improve plant health.



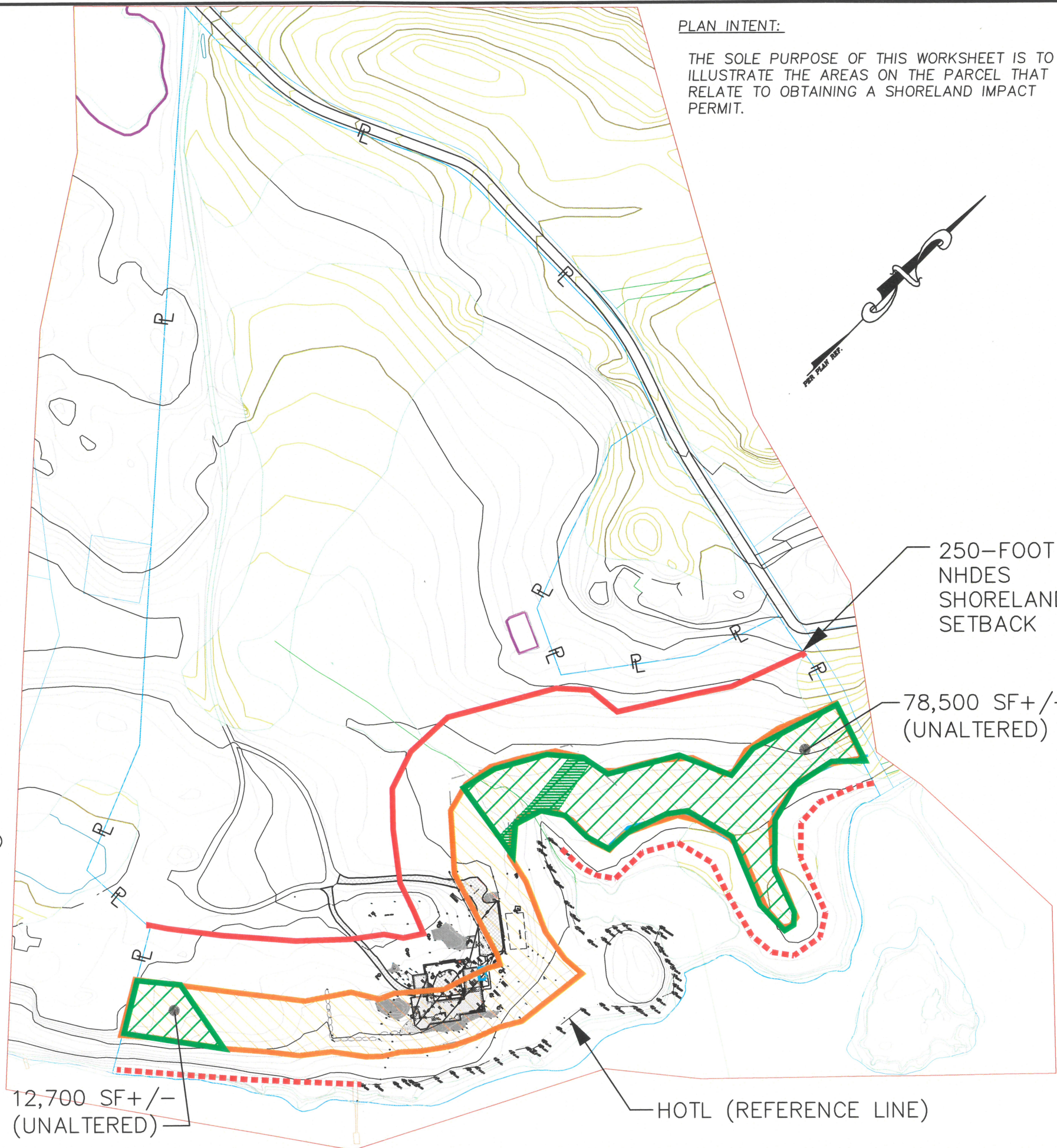


193,000 SF+/- (AREA BETWEEN  
50-FOOT PRIMARY STRUCTURE  
SETBACK LINE & 150-FOOT  
NATURAL WOODLAND BUFFER  
SETBACK LINE)



#### LEGEND

- PROPERTY LINE PER PORTSMOUTH G.I.S.
- HOTL ——— HIGHEST OBSERVABLE TIDE LINE (FLAGGED & MAPPED)
- HIGHEST OBSERVABLE TIDE LINE (APPROXIMATE)
- 50 FT – 150 FT NHDES NATURL WOODLAND AREA
- 50 FT – 150 FT NHDES NATURAL WOODLAND AREA TO REMAIN UNALTERED
- 50 FT – 150 FT NHDES NATURAL WOODLAND AREA THAT HAS BEEN ALTERED
- 250 FT NHDES SHORELAND SETBACK



#### PLAN INTENT:

THE SOLE PURPOSE OF THIS WORKSHEET IS TO  
ILLUSTRATE THE AREAS ON THE PARCEL THAT  
RELATE TO OBTAINING A SHORELAND IMPACT  
PERMIT.

ENGINEER:  
**ALTUS**  
ENGINEERING, INC.  
133 COURT STREET PORTSMOUTH, NH 03801  
(603) 433-2335 www.ALTUS-ENG.com

ISSUED FOR:  
**SHORELAND WORKSHEET**  
ISSUE DATE:  
**MARCH 23, 2020**

NO.	DESCRIPTION	BY	DATE
0	SHORELAND SUBMISSION	EDW	06/20/19
1	UPDATE ALTERED AREA IN 50 – 150 FEET BASED ON SURVEY	EDW	03/23/20

DRAWN BY: \_\_\_\_\_ RLH  
APPROVED BY: \_\_\_\_\_ EDW  
DRAWING FILE: 3950\_demo\_2019.DWG

SCALE:  
22" x 34" – 1" = 100'  
11" x 17" – 1" = 200'

OWNER OF RECORD/APPLICANT:  
**SOCIETY FOR THE  
PROTECTION OF  
N.H. FORESTS**  
54 PORTSMOUTH ST.  
CONCORD, NH 03302

PROJECT:  
**CREEK FARM  
DEMOLITION**  
400 LITTLE HARBOR ROAD  
PORTSMOUTH, NH  
TAX MAP 203, LOT 08

TITLE:  
**NHDES  
SHORELAND  
NATURAL  
WOODLAND AREAS  
WORKSHEET**

SHEET NUMBER:  
**1 OF 1**

P3950.2





Photograph 1 - Looking northerly from wooden water cover. Sagamore Creek (tidal) to right, beyond maintained lawn & field. - October 15, 2019



Photograph 2 - Looking southeasterly toward Carey Cottage from causeway. - October 15, 2019





Photograph 3 - Looking northerly from lawn toward septic/tidal pool area. – October 15, 2019



Photograph 4 - Looking southeasterly at tidal inlet. – October 15, 2019





Photograph 5 – On causeway looking east towards water and 30-inch outlet. – October 15, 2019



Photograph 6 – On causeway looking northerly up proposed water line corridor. – October 15, 2019



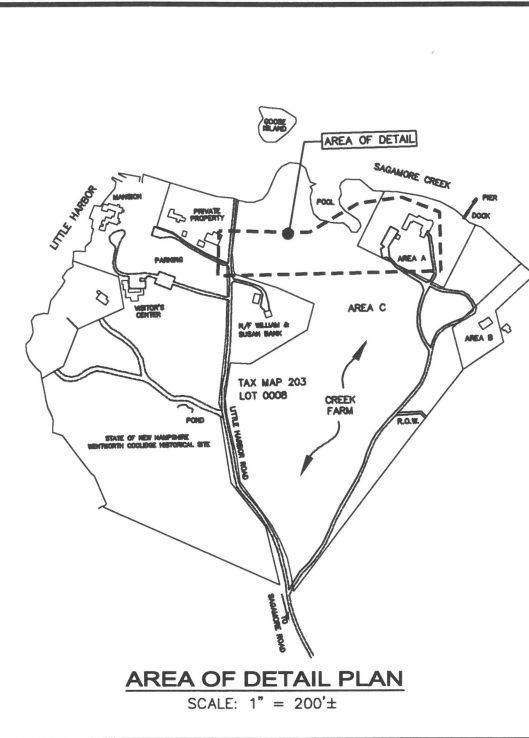
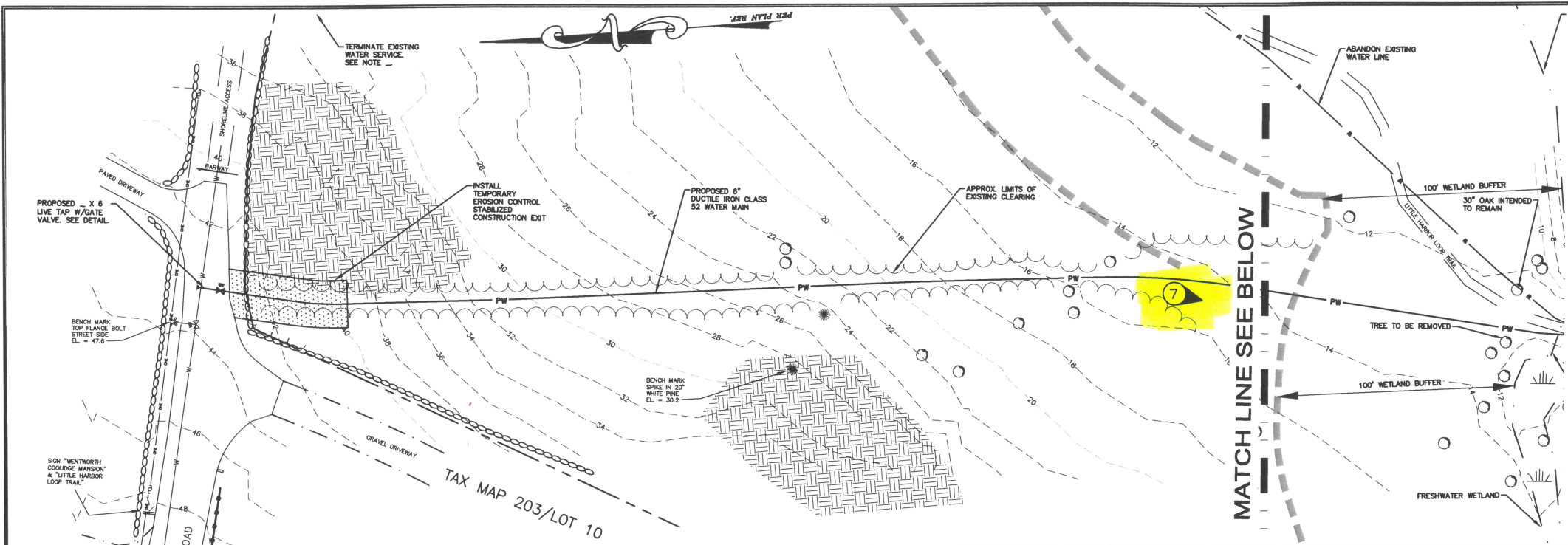


Photograph 7 - Looking northeasterly at field. – October 15, 2019



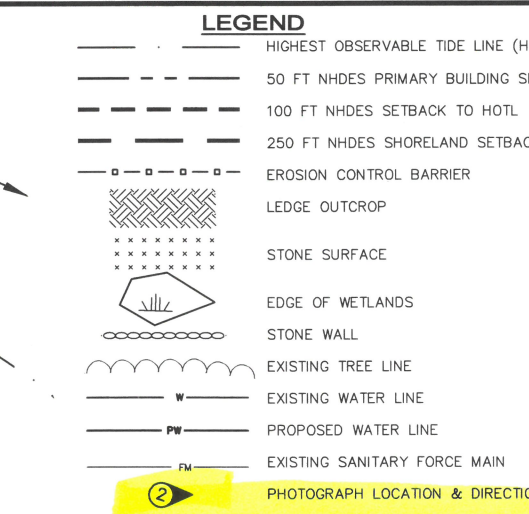
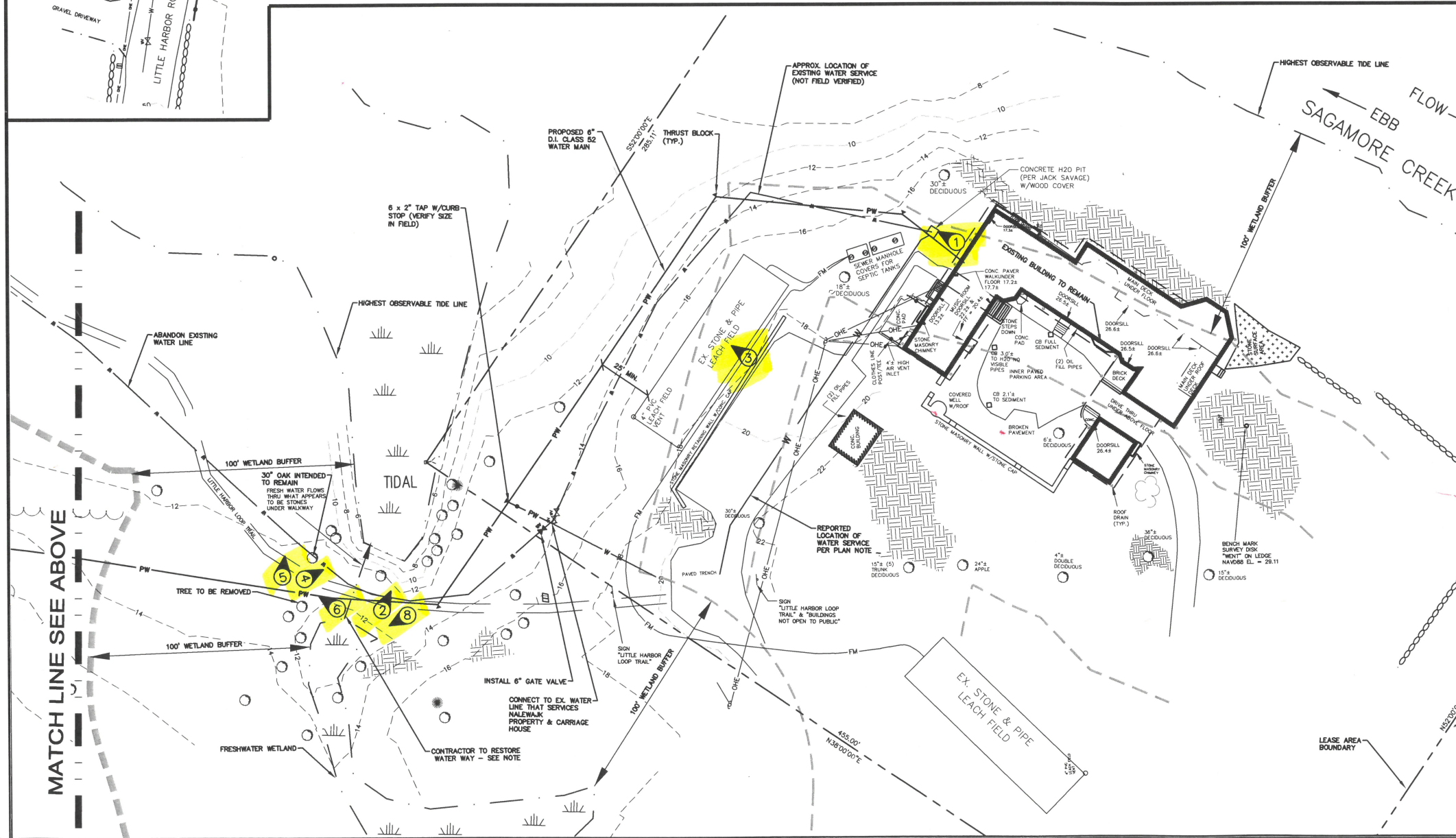
Photograph 8 - Looking northwesterly at freshwater wetland. – October 15, 2019





ENGINEER:  
**ALTUS**  
 ENGINEERING, INC.  
 133 COURT STREET PORTSMOUTH, NH 03801  
 (603) 433-2335 www.ALTUS-ENG.com

ISSUED FOR: CLIENT REVIEW  
 ISSUE DATE: JANUARY, 2020  
 REVISIONS:  
 NO. DESCRIPTION BY DATE  
 0 DISCUSSION EDW 01/ /20



DRAWN BY: RLH  
 APPROVED BY: EDW  
 DRAWING FILE: 5022.DWG

SCALE:  
 22" x 34" - 1" = 30'  
 11" x 17" - 1" = 60'

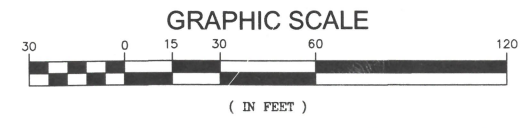
OWNER OF RECORD/APPLICANT:  
 SOCIETY FOR THE PROTECTION OF N.H. FORESTS  
 54 PORTSMOUTH ST. CONCORD, NH 03302

PROJECT:  
**PROPOSED WATER LINE**  
**CREEK FARM**  
 400 LITTLE HARBOR ROAD PORTSMOUTH, NH  
 TAX MAP 203, LOT 08

TITLE:  
**NHDES WETLANDS & SHORELAND PERMITS PLAN**

SHEET NUMBER:  
**C-3**

**PHOTOGRAPH LOCATION PLAN**







P5022



# Creek Farm

Aerial Image

## Legend

-  Creek Farm
-  Island
-  Little Harbor Chapel
-  Wentworth Coolidge



Google Earth

1000 ft





ADDITIONAL DETAIL OF MAPPED MARSH ELDER



## Richard Hackeman

---

**From:** Lamb, Amy <Amy.Lamb@dnrc.nh.gov>  
**Sent:** Thursday, March 05, 2020 3:02 PM  
**To:** Richard Hackeman  
**Subject:** RE: NHB19-1673 - Joe Noel recently mapped 2 clumps of marsh elder when he was doing his functional wetlands work  
**Attachments:** nhb19-1673-map.JPG

Hi Richard,

Thank you for your email explaining that the project will have no direct impacts to wetlands, and that SiltSoxx will be installed around work areas to prevent impacts to freshwater and tidal wetlands. Thank you as well for your follow-up email regarding the documentation of marsh elder close to the project area.

The DataCheck for this site included records of marsh elder in the vicinity, on Leach's Island as you reference, but also just northeast of the mapped project location. The marsh elder locations show up as small points/lines on the map, and are a bit hard to see, but they are mapped on the peninsula just northeast of the house, as well as further north along the shoreline near the tidal "pool" and near Goose Island. I've attached a map that shows this more clearly.

Based on Joe Noel's findings, there are additional clumps of marsh elder beyond what we have mapped in this location. However, since all work will be about 70' or more from the observed plants, NHB does not have concerns about the proposed work. Additionally, we are supportive of any efforts to restore tidal connectivity at the filled trench between the freshwater and tidal wetlands.

Thank you,  
Amy

Amy Lamb  
Ecological Information Specialist  
(603) 271-2834  
[amy.lamb@dnrc.nh.gov](mailto:amy.lamb@dnrc.nh.gov)

NH Natural Heritage Bureau  
DNCR - Forests & Lands  
172 Pembroke Rd  
Concord, NH 03301

---

**From:** Richard Hackeman <rhackeman@altus-eng.com>  
**Sent:** Tuesday, March 03, 2020 7:20 PM  
**To:** Lamb, Amy <Amy.Lamb@dnrc.nh.gov>  
**Subject:** FW: NHB19-1673 - Joe Noel recently mapped 2 clumps of marsh elder when he was doing his functional wetlands work

**EXTERNAL: Do not open attachments or click on links unless you recognize and trust the sender.**

---

Hello Amy,

Here is some more information concerning the Creek Farm NHB Datacheck.

Recently (within the last week I think) Joe Noel was out to the site again so he can finish his functions & values evaluation of the freshwater wetland.

I had mentioned I was in communication with you and that the previous species of concern was Marsh elder and that it was on Leach Island. He said he would look around and find where the nearest clumps were to the proposed water line route since he had seen some previously.

Attached please find a pdf of the plan we are working on showing the two closest clumps he could find – highlighted in purple. He mentioned there is a third on much further away.

The nearest one is about 70 feet from the edge of the proposed waterline work area.

I hope this helps with your concerns and recommendations.

Thanks,  
Richard

Altus Engineering, Inc.  
603-433-2335

---

**From:** Richard Hackeman <[rhackeman@altus-eng.com](mailto:rhackeman@altus-eng.com)>

**Sent:** Thursday, February 27, 2020 2:09 PM

**To:** 'Lamb, Amy' <[Amy.Lamb@dncr.nh.gov](mailto:Amy.Lamb@dncr.nh.gov)>

**Cc:** 'Weinrieb Eric D.' <[eric@altus-eng.com](mailto:eric@altus-eng.com)>

**Subject:** RE: NHB19-1673 - Demolition of Carey Cottage is no longer happening but renovation requires a new water line be brought in from Little Harbor Road

Hello Amy,

I appreciate you getting back to me. Here are the photos and descriptions.

No direct impacts are proposed to the wetlands. There is a trench between the freshwater wetlands and the tidal wetlands either intentionally filled with rocks so as to slow down water runoff or possibly it has collapsed over time. Either way, with the installation of the waterline at least 5 feet below grade they will need to either put it back the way it is or if NHDES wetlands thinks it is allowable/advisable, clean it out and restore greater capacity and connectivity.

That connector begins at the freshwater wetlands and ends at the tidal wetlands. Erosion control silt soxx will be placed at the edges to prevent sedimentation.

Thanks for your time and consideration of this matter.

Please call or email with any questions or comments.

Thanks,  
Richard

Altus Engineering, Inc.  
603-433-2335

---

**From:** Lamb, Amy <[Amy.Lamb@dncr.nh.gov](mailto:Amy.Lamb@dncr.nh.gov)>

**Sent:** Thursday, February 27, 2020 8:48 AM

**To:** Richard Hackeman <[rhackeman@altus-eng.com](mailto:rhackeman@altus-eng.com)>



**Subject:** RE: NHB19-1673 - Demolition of Carey Cottage is no longer happening but renovation requires a new water line be brought in from Little Harbor Road

Hi Richard,

Based on a quick review of the plan sheet you sent, it appears that the new project will involve impacts in close proximity to tidal wetlands. Therefore, I will need some additional information before dismissing potential concerns. The plan sheet references photo stations in the vicinity of the tidal and freshwater wetlands that are close to impact areas; can you please send me these photos (#s 2, 4, 5, 6, 8)? Will there be any direct impact to tidal wetlands, and if not, how close will impact areas come to tidal wetlands? If you could please respond to these questions, it will give me a good start in assessing potential impacts to any marsh elder (*Iva frutescens*) that may occur in the vicinity of tidal wetlands.

Thank you,  
Amy

Amy Lamb  
Ecological Information Specialist  
(603) 271-2834  
[amy.lamb@dncr.nh.gov](mailto:amy.lamb@dncr.nh.gov)

NH Natural Heritage Bureau  
DNCR - Forests & Lands  
172 Pembroke Rd  
Concord, NH 03301

---

**From:** Richard Hackeman <[rhackeman@altus-eng.com](mailto:rhackeman@altus-eng.com)>

**Sent:** Thursday, February 20, 2020 1:09 PM

**To:** Lamb, Amy <[Amy.Lamb@dncr.nh.gov](mailto:Amy.Lamb@dncr.nh.gov)>

**Subject:** NHB19-1673 - Demolition of Carey Cottage is no longer happening but renovation requires a new water line be brought in from Little Harbor Road

**EXTERNAL: Do not open attachments or click on links unless you recognize and trust the sender.**

---

Hello Amy,

I've got a question. Can I can use your response of no anticipated impacts in my new Wetlands/shoreland permit application even though now our impact area has now changed from the 20-room mansion itself to the gravel/pathway/lawn and area skirting the mansion in order to install a new water main for domestic water and fire service?

There is a separate proposed septic system for the carriage house employees and visitors at the bottom of the worksheet.

The species cited is Marsh elder on neighboring islands. This work occurs further away from the Sagamore Creek for the most part and is largely temporary disturbance in nature.

Thanks for your time and consideration of this matter. Please call or email with any questions or comments.

Richard

# CONFIDENTIAL – NH Dept. of Environmental Services review

## Memo



NH NATURAL HERITAGE BUREAU  
NHB DATACHECK RESULTS LETTER

**To:** Cory Belden, Altus Engineering  
133 Court St.  
Portsmouth, NH 03801

**From:** Amy Lamb, NH Natural Heritage Bureau

**Date:** 6/4/2019 (valid for one year from this date)

**Re:** Review by NH Natural Heritage Bureau

NHB File ID: NHB19-1673

Town: Portsmouth

Location: Tax Maps: TM 203, Lot 08

**cc:** Kim Tuttle

Description: This project is the demolition of the existing house on TM 208, Lot 08. The house, driveway and parking areas, and utilities will be removed and restored back to grassland. Over 20,000 sf of impervious area will be removed for the project.

As requested, I have searched our database for records of rare species and exemplary natural communities, with the following results.

**Comments: Please clarify where wetland impacts will occur. Please send a site plan to NHB showing wetlands to be impacted and existing and proposed conditions. Contact the NH Fish & Game Department to address wildlife concerns.**

### Plant species

marsh elder (*Iva frutescens*)

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

### Vertebrate species

Sensitive species

Sensitive species

State <sup>1</sup>	Federal	Notes
E	T	Contact the NH Fish & Game Dept (see below).
E	T	Contact the NH Fish & Game Dept (see below).

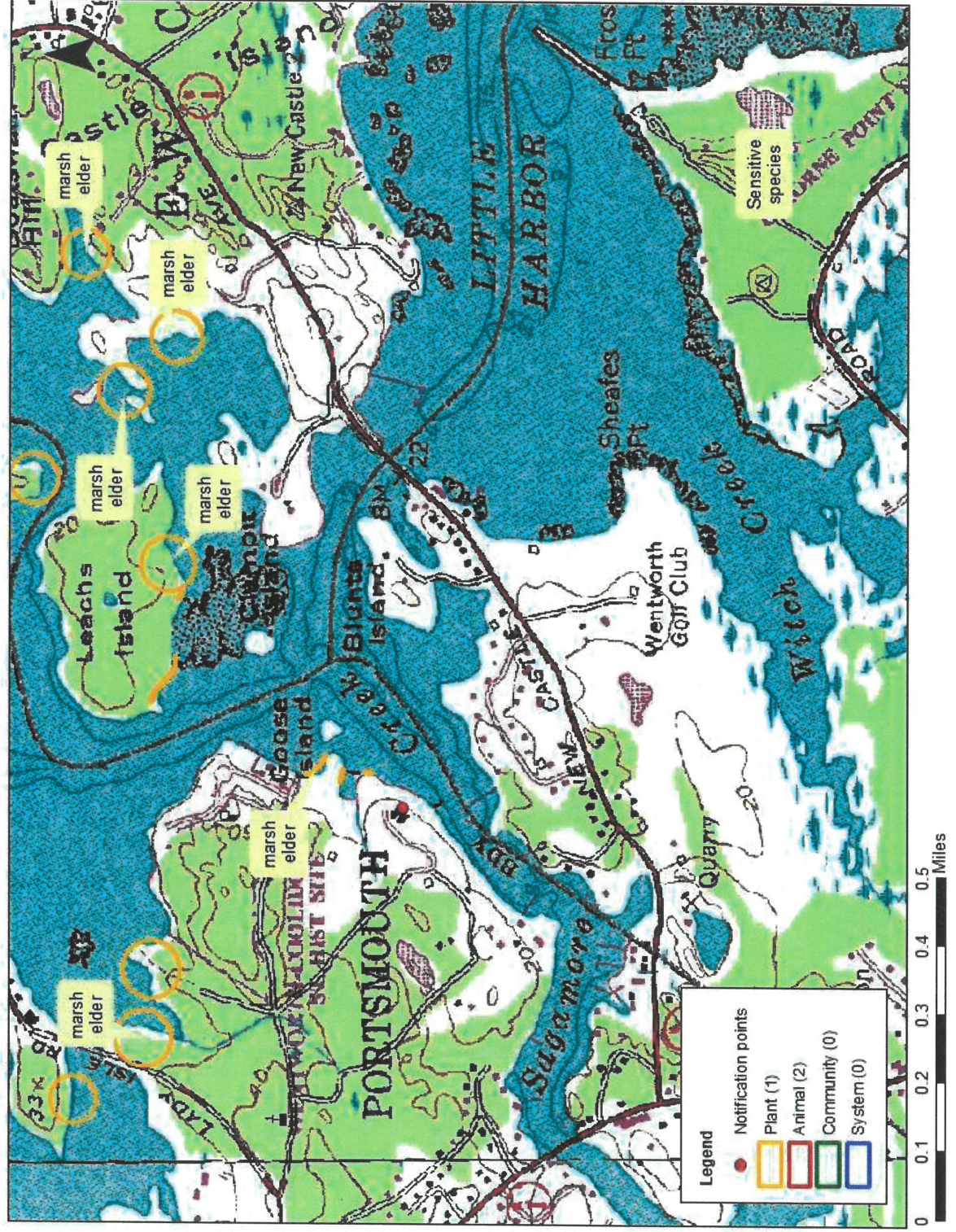
<sup>1</sup>Codes: "E" = Endangered, "T" = Threatened, "SC" = Special Concern, "--" = an exemplary natural community, or a rare species tracked by NH Natural Heritage that has not yet been added to the official state list. An asterisk (\*) indicates that the most recent report for that occurrence was more than 20 years ago.

Contact for all animal reviews: Kim Tuttle, NH F&G, (603) 271-6544.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.



**NHB19-1673**





## New Hampshire Natural Heritage Bureau - Plant Record

marsh elder (*Iva frutescens*)**Legal Status**

Federal: Not listed  
State: Listed Threatened

**Conservation Status**

Global: Demonstrably widespread, abundant, and secure  
State: Imperiled due to rarity or vulnerability

**Description at this Location**

Conservation Rank: Excellent quality, condition and landscape context ('A' on a scale of A-D).  
Comments on Rank: This rank may be for the state rather than relative to others in the region.

Detailed Description: 2017: Leachs Island: Several thousand plants spread along 800+ feet of shoreline. 10-20% dieback, 10-15% yellowing, 65-80% normal to vigorous. Aphids observed on 80% of clumps. <br />2016: Peirce Island: Additional subpopulations located, raising total number of plants to over 600. Plants appear to be in much better health than 2014, with all individuals in fruit and in good vigor. Shaws Hill: Several clumps over an area approximately 30 x 15 feet. Estimated at over 200 individuals. Tidal Pool: Plants in 3 areas along shoreline near tidal pool.<br />2014 Peirce Island: Over 500 plants were observed, all stunted, with approximately 50-60% dead stems, mostly confined to the upper portions of the plants.<br />1996: Constant observation since 1953 reported, including all stages of phenology and age structure.<br />1982: Good clump observed.

General Area: 2017: Leachs Island: Upper edge of brackish marsh/rocky shore. Plants absent from areas with broader expanse of marsh. Rocks present in most areas where the plants are growing. Associated species include black oak (*Quercus velutina*), saltmarsh rush (*Juncus gerardii*), sea-blite (*Suaeda* sp.), hastate-leaved orache (*Atriplex* cf. *prostrata*), smooth cordgrass (*Spartina alterniflora*), Carolina sea-lavender (*Limonium carolinianum*), and seaside plantain (*Plantago maritima* ssp. *juncooides*).<br /><br />2016: Peirce Island: Population forms a narrow band immediately above the highest observed wrack line along the shore. Associated upland species include staghorn sumac (*Rhus hirta*), autumn-olive (*Elaeagnus umbellata* var. *parvifolia*), Asian bittersweet (*Celastrus orbiculatus*), and speckled alder (*Alnus incana* ssp. *rugosa*). The saline areas downslope of the marsh elder contained over 50% unvegetated substrate, as well as a mixture of cordgrass (*Spartina* sp.) and saltgrass (*Distichlis spicata*). Shaws Hill: Surrounding land use is developed. All plants below highest observable tide line in **high salt marsh**, located among saltmeadow cordgrass (*Spartina patens*), smooth cordgrass (*Spartina alterniflora*), and seaside goldenrod (*Solidago sempervirens*). Tidal Pool: Sagamore Creek/Great Bay shoreline, with smooth cordgrass (*Spartina alterniflora*), saltmarsh rush (*Juncus gerardii*), saltmeadow cordgrass (*Spartina patens*), seaside goldenrod (*Solidago sempervirens*), and sea-blite (*Suaeda* spp.).<br />1996: On shores of several islands and peninsulas in the more or less enclosed bay system. Associated plant species: *Solidago sempervirens* (seaside goldenrod), *Juncus gerardii* (salt marsh rush), *Spartina patens* (salt-meadow cord-grass), *Triglochin maritimum* (arrow-grass), *Elymus virginicus* (Virginia wild rye), *Atriplex patula* (narrow-leaved orach), and *Artemisia vulgaris* (common mugwort). Substrate: gravel and marsh peat and muck. 1982: On shore at Pleasant Point.

General Comments: 2016: Peirce Island: "The population currently appears to be in good health, although the results of the June 2014 surveys indicated that there may be some intermittent pressure on this population. The propensity of this species to grow in a very narrow band along the tide line does not allow for rapid adaptation to changing sea levels, storm events, or polluted runoff that a larger, robust population may resist. If sea levels gradually rise as expected, the marsh elder will be unable to move inland due to a small but steep cut bank that forms the upland break adjacent to the marsh elder population. The remaining subpopulations may also be getting shaded by the adjacent upland vegetation, which appears to be encroaching on the shoreline. This vegetation is comprised of large shrub species and the invasive Oriental bittersweet that is capable of overtaking the native plants in the area."

Management  
Comments:



**Location**

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Survey Site Name: Little Harbor, back channel

Managed By: Little Harbor Trust

County: Rockingham

Town(s): Portsmouth

Size: 59.9 acres

Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2017: Leachs Island: Island in New Castle only accessible by boat. Plants observed on south shore of island  
2016: Peirce Island: Along the southern shore of Peirce Island, along the edge of a small cove west of the wastewater treatment facility. Shaws Hill: Take Laurel Lane off New Castle Avenue, bear left onto driveway right-of-way servicing 51A & 51B Laurel Lane. At end of right-of-way, 51B will be located on the right.  
Tidal Pool: Along Sagamore Creek shoreline on Creek Farm Reservation property in Portsmouth.  
In the vicinity of Rte. 1B which encircles the Little Harbor back channel from Portsmouth to New Castle and Rye. Many of the sites are visible only by boat.

**Dates documented**

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First reported: 1953

Last reported: 2017-09-05

## Richard Hackeman

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**From:** Tuttle, Kim <Kim.Tuttle@wildlife.nh.gov>  
**Sent:** Friday, March 06, 2020 9:25 AM  
**To:** 'Richard Hackeman'  
**Subject:** RE: 400 Little Harbor Road, Portsmouth, NH - NHB19-1673

Hello Richard,

The NHFG Nongame and Endangered Species Program does not expect impacts to the sensitive species on NHB19-1673 from the proposed installation of a new water line (s) to Carey Cottage and the associated Carriage House. It does not sound like any trees will be removed during the construction but wanted to include the previous recommendations if the project scope changes:

The project is more than ¼ mile from a known bat hibernacula (however it is within 5 miles of a known hibernacula and coastal areas in the northeast have been strongholds for northern long-eared bats). Voluntary conservation measures to consider include:

- A. The buildings/structure may be used by bats during either the maternity season or if the basement has suitable conditions as a hibernacula. An emergence survey (<https://www.wildlife.state.nh.us/surveys/bats.html>) or an internal survey for bats and/or guano could determine if bats are using the structure.
- B. Conduct tree removal activities outside of the northern long-eared bat pup season (June 1 to July 31) and/or the active season (April 1 to October 31). This will minimize impacts to pups at roosts not yet identified.
- C. Avoid clearing suitable spring staging and fall swarming habitat within a 5-mile radius of known northern long-eared bat hibernacula during the staging and swarming seasons (April 1 to May 15 and August 15 to November 14, respectively).
- D. If any bats are seen during the work then stop work and contact NHFG for guidance.

Thanks,

Kim Tuttle  
Wildlife Biologist  
NH Fish and Game  
11 Hazen Drive  
Concord, NH 03301  
603-271-6544

---

**From:** Richard Hackeman <rhackeman@altus-eng.com>  
**Sent:** Thursday, March 5, 2020 6:04 PM  
**To:** Tuttle, Kim <Kim.Tuttle@wildlife.nh.gov>  
**Subject:** 400 Little Harbor Road, Portsmouth, NH - NHB review: NHB19-1673

**EXTERNAL: Do not open attachments or click on links unless you recognize and trust the sender.**

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Hello Kim,



I found email correspondence from you to Cory Belden of our office dated July 29, 2019, when we were obtaining demolition permits for the main structure, Carey Cottage. As you may know, that process generated considerable interest in the property and a non-profit was found to partner with the Society of Preservation of NH Forests in order to save and renovate the structure.

Now, we are in the process of applying for a Portsmouth Conditional Use Permit and Wetlands Permit Application in order to on the property. As proposed it will follow as short a route as possible and use an existing woods path and field area to connect to the city water main in Little Harbor Road.

I have contacted Amy Lamb of NHB Datacheck to see if their previous review can be updated. There is one species (Marsh elder) that they have concerns about but she is confident that there will be no direct impacts as the nearest clump is 70' from the proposed water line and we will use silt soxx and a defined work area during the installation.

Please review the attached plan and see if you have any updated concerns regarding this new proposed water line location. The existing water line is closer to the resource (Sagamore Creek), is longer and has a few mature trees on top of it now, so we would prefer to abandon that location.

Please call or email with any questions or comments.

Thanks,  
Richard

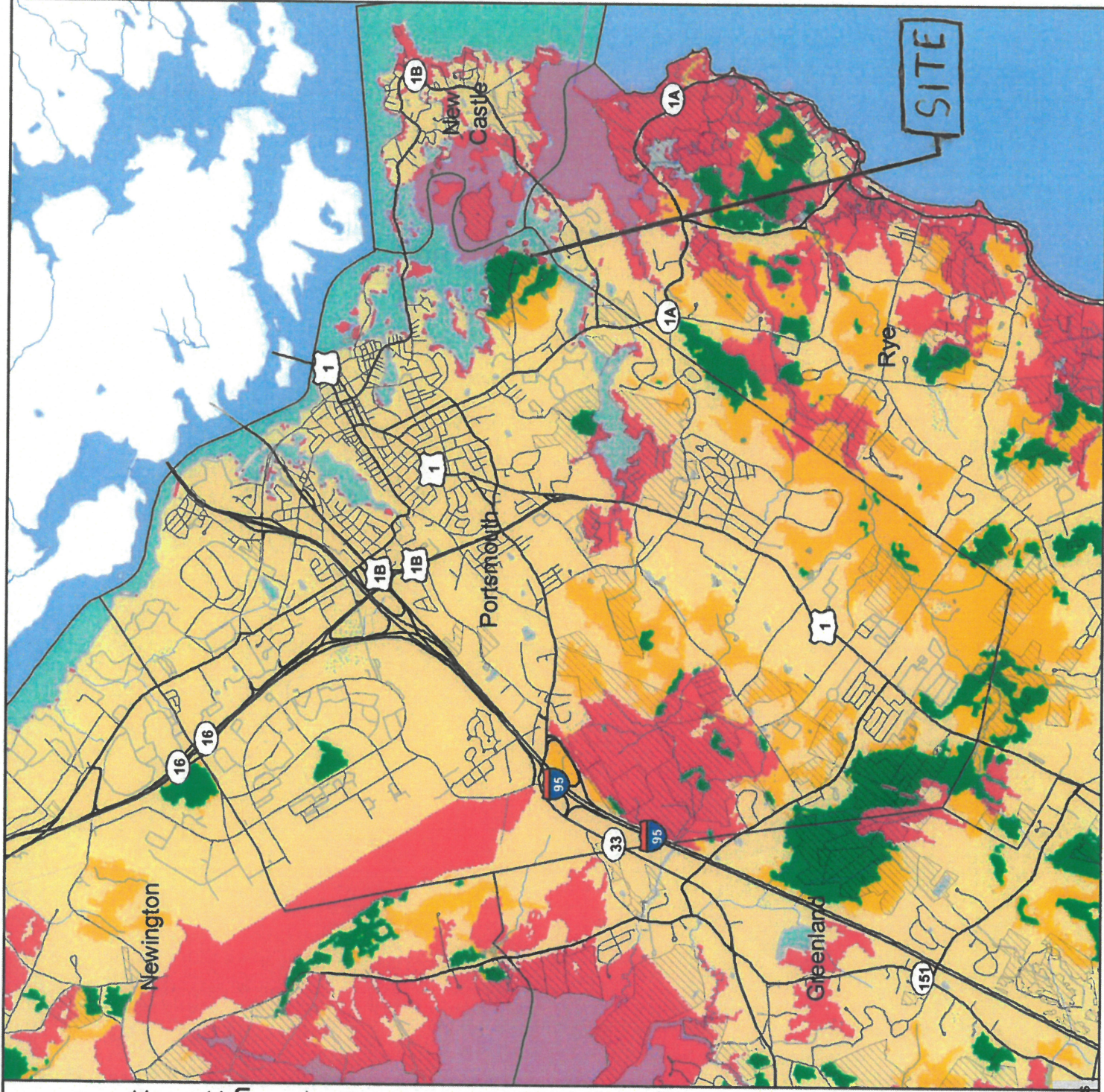
Altus Engineering, Inc.  
603-433-2335



# 2015 HIGHEST RANKED WILDLIFE HABITAT BY ECOLOGICAL CONDITION

- Highest Ranked Habitat in New Hampshire
- Highest Ranked Habitat in the Biological Region
- Supporting Landscapes
- Conservation or public

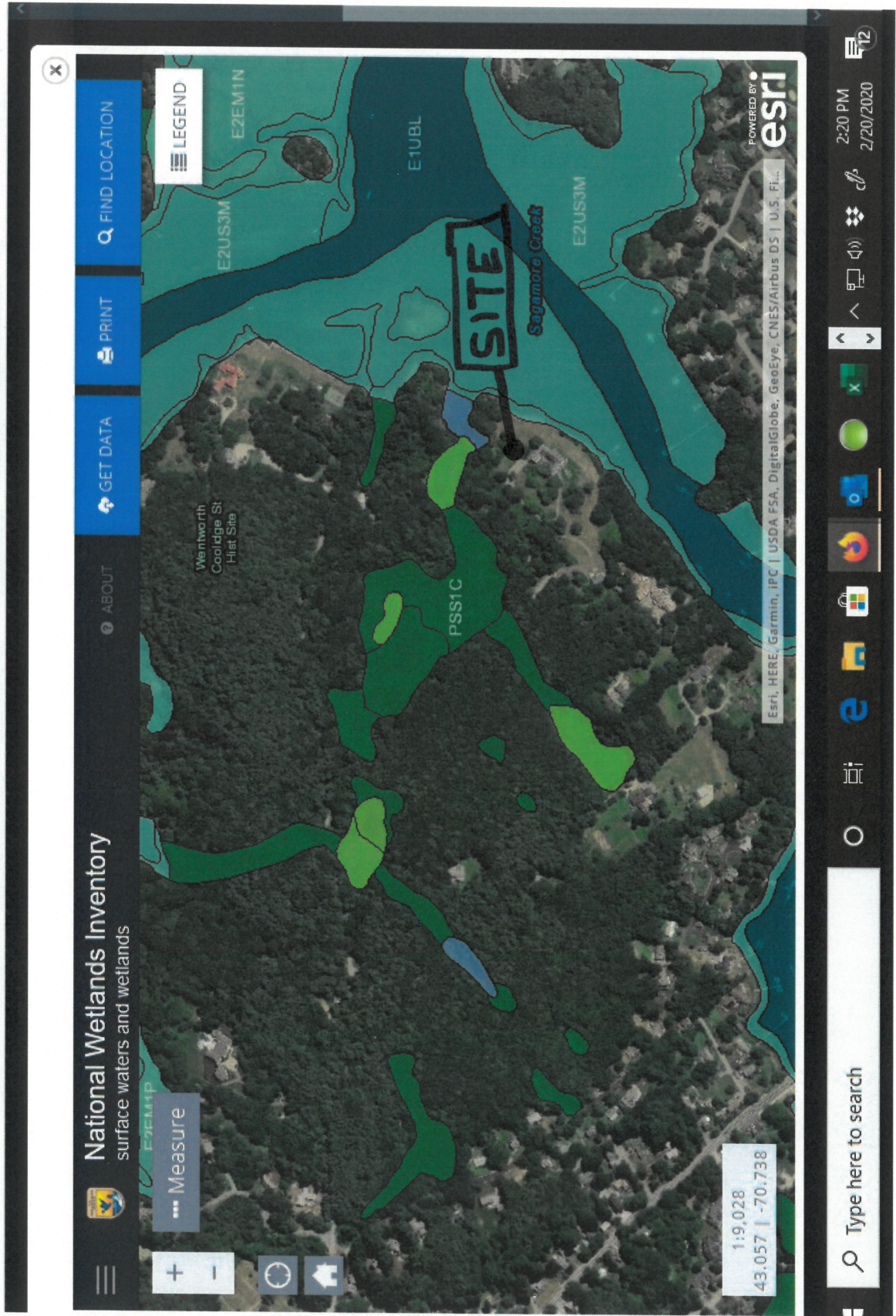
Biological region = TNC ecoregional subsection for terrestrial habitats or Aquatic Resource Mitigation region for wetlands and floodplain forest.



Base map data provided by NH GRANIT (2015)  
Not intended for legal use.









Display Color	Wetland Type	Map Code	Cowardin	General Description
R 0 G 136 B 55	Freshwater - Forested and Shrub wetland	PFO, PSS	Palustrine forested and/or Palustrine shrub	Forested swamp or wetland shrub bog or wetland
R 127 G 195 B 28	Freshwater Emergent wetland	PEM	Palustrine emergent	Herbaceous marsh, fen, swale and wet meadow
R 104 G 140 B 192	Freshwater pond	PUB, PAB	Palustrine unconsolidated bottom, Palustrine aquatic bed	Pond
R 102 G 194 B 165	Estuarine and Marine wetland	E2, M2	Estuarine intertidal and Marine intertidal wetland	Vegetated and non-vegetated brackish and saltwater marsh, shrubs, beach, bar, shoal or flat
R 1 G 144 B 191	Riverine	R	Riverine wetland and deepwater	River or stream channel
R 19 G 0 B 124	Lakes	L	Lacustrine wetland and deepwater	Lake or reservoir basin
R 0 G 124 B 136	Estuarine and Marine Deepwater	E1, M1	Estuarine and Marine subtidal deepwater	Open water estuary, bay, sound, open ocean
R 178 G 134 B 83	Other Freshwater wetland	Misc. types	Palustrine wetland	Farmed wetland, saline seep or other miscellaneous wetland types

Table 1. The Wetlands Mapper uses multiple display categories corresponding to different wetland types.

The Service provides extensive documentation of the Cowardin Classification System. The [Wetlands and Deepwater Habitats Classification chart](#) is a map code legend that shows the relationship of wetland systems (e.g. estuarine), subsystems (e.g. intertidal), and classes (e.g. emergent wetland).



**JOSEPH W. NOEL  
P.O. BOX 174  
SOUTH BERWICK, MAINE 03908  
(207) 384-5587**

CERTIFIED SOIL SCIENTIST

\*

WETLAND SCIENTIST

\*

LICENSED SITE EVALUATOR

January 22, 2020

Mr. Eric D. Weinrieb, P.E.  
Altus Engineering, Inc.  
133 Court Street  
Portsmouth, New Hampshire 03801

RE: Partial Wetland Delineation, Creek Farm, Portsmouth, New Hampshire, JWN #95-445

Dear Eric:

On December 13, 2019, we met at the above-referenced site to delineate/extend the wetland boundaries on a portion of the property. Initial wetland work in 2019 was conducted on April 24, 2019 (refer to pink flagging designated as HOTL 1 thru 49). The second visit to delineate/extend the wetland flagging was conducted for the planning of a proposed new municipal water line (930+/- linear feet) to serve Creek Farm. You were on hand to designate the approximate proposed pathway of the water line and the areas that needed to be delineated.

The following is a summary of the flagging conducted on December 13, 2019.

Flagged Sequence Summary

A1 thru A8 pink and black striped flagging delineates a freshwater wetland southwest of the former "Carriage House" now unoccupied and used for storage.

B1 thru B20 pink and black striped flagging delineates a freshwater wetland north of Creek Farm and west of a Sagamore Creek tidal inlet that is separated by a culverted trail.

HOTL 50 thru 58 blue flagging delineates a tidal wetland and extends the HOTL line flagged on April 24, 2019.

Wetland Delineation Methods

To determine the wetland boundary, the methodologies in the U.S. Army Corps of Engineers document *Corps of Engineers Wetlands Delineation Manual* (1987) along with the required *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*, (Version 2.0) were used. Wetlands were identified based on soils, vegetation, and wetland hydrology. Except in special cases, all three factors (hydric soils, hydrophytic



vegetation, and wetland hydrology) must be present for an area to classify as wetland. A predominance of wetland and upland vegetation was determined from visual estimates in the vegetative layers (herbaceous, shrub, sapling, and tree layers). Plant species indicator status was based on the U.S. Army Corps of Engineers publication *National Wetland Plant List* (2016).

Shallow soil observations were made using a hand auger to assess the soil morphological features and to examine for wetland hydrology. Hydric soil determinations were conducted in accordance with the United States Department of Agriculture, Natural Resources Conservation Service document *Field Indicators of Hydric Soils in the United States, Version 8.1* (2017) along with the manual *Field Indicators for Identifying Hydric Soils in New England* (Version 4, April 2019).

### Findings

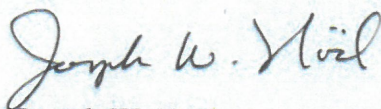
The water line is planned in uplands that are dominated by invasive plant species such as: asian bittersweet (*Celastrus orbiculatus*), japanese-knotweed (*Reynoutria japonica*), european buckthorn (*Rhamnus cathartica*), european barberry (*Berberis vulgaris*), japanese barberry (*Berberis thunbergii*), glossy false buckthorn (*Frangula alnus*), rambler rose (*Rosa multiflora*), honeysuckles (*Lonicera spp.*), norway maple (*Acer platanoides*), and black locust (*Robinia pseudoacacia*). These invasive plants are listed in the *New Hampshire Guide to Upland Invasive Species* (2011) or the NH Invasive Plant Species Watch List (April 24, 2019). In addition to the aforementioned invasive plants: eastern white pine (*Pinus strobus*), northern red oak (*Quercus rubra*), quaking aspen (*Populus tremuloides*), apple (*Malus sp.*), stag-horn sumac (*Rhus typhina*), sensitive fern (*Onoclea sensibilis*), and grape (*Vitis sp.*) were also noted. The water line will pass through an existing narrow culverted trail where the freshwater "B" flagged series drains to the tidal creek (i.e., wetlands separated by trail).

The upland soils are shallow to moderately deep to bedrock (i.e., ranging from 10 to 40 inches deep) with textures ranging from fine sandy loam to loamy sand. The hydric soils within the freshwater wetlands are primarily fine textured (i.e., very fine sandy loam or finer).

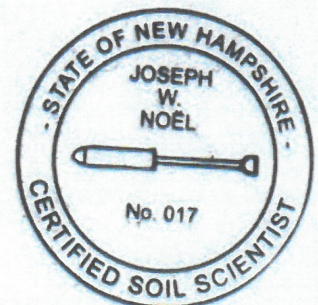
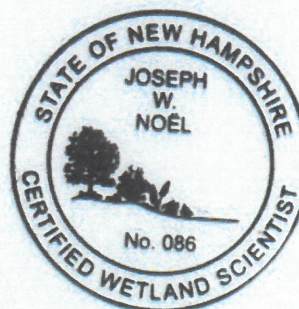
At the time fieldwork was conducted there was snow cover on the ground, thereby making strict application of the wetland delineation methodology difficult. Many of the herbaceous species had decomposed beyond the point of identification and were covered by snow. There appeared to be sufficient evidence of the shrub, sapling, and tree layers to delineate the wetland boundary with reasonable accuracy.

Please feel free to call with any questions or if you need additional information.

Sincerely,



Joseph W. Noel  
New Hampshire Certified Wetland Scientist #086  
New Hampshire Certified Soil Scientist #017





# National Flood Hazard Layer FIRMette



## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) Zone A, V, A99	With BFE or Depth Zone AE, AO, AH, VE, AR	Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile 	Future Conditions 1% Annual Chance Flood Hazard 	Area with Reduced Flood Risk due to Levee. See Notes. 	Area with Flood Risk due to Levee 
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OTHER AREAS	Area of Minimal Flood Hazard 	Effective LOMRs 	Area of Undetermined Flood Hazard 
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer 	Levee, Dike, or Floodwall 	

OTHER FEATURES	Cross Sections with 1% Annual Chance Water Surface Elevation 	Coastal Transect 	Base Flood Elevation Line (BFE) 	Limit of Study 	Jurisdiction Boundary 	Coastal Transect Baseline 	Profile Baseline 	Hydrographic Feature 
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MAP PANELS	Digital Data Available 	No Digital Data Available 	Unmapped 
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The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/17/2019 at 1:48:52 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

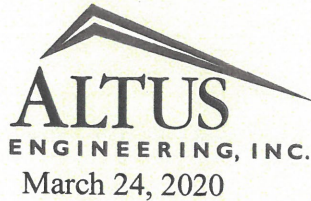
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



USGS The National Map: Orthoimagery. Data refreshed April, 2019.

43°3'40.24"N 70°44'7.63"W  
1:6,000  
Feet  
0 250 500 1,000 1,500 2,000





**Civil  
Site Planning  
Environmental  
Engineering**

133 Court Street  
Portsmouth, NH  
03801-4413

New Hampshire Division of Historical Resources  
State Historic Preservation Office  
Attention: Review and Compliance  
19 Pillsbury Street  
Concord, NH 03301-3570

Re: Request for Review  
Assessor's Map 203, Lot 8  
400 Little Harbor Road  
Portsmouth, NH  
Altus Project #P5022

Dear Reviewer,

On behalf of the Applicant, the Society for the Protection of New Hampshire Forests, Altus Engineering, Inc. (Altus) respectfully submits the following items to fulfill the requirements of filing a NHDES Wetlands Permit Application (Minor Impact, Standard Review) for the installation of water line(s) to service Carey Cottage on the Creek Farm property along with an associated structure (Carriage House) (7,700 s.f.+/- impact in the 100-foot setback).

- Request for Project Review
- Project Narrative
- Photographs keyed to Plan
- USGS Map
- NRCS Soils information
- Conditional Use Wetlands Plan
- NHDES Wetlands Plan & Detail Sheet
- Self-addressed Stamped Envelope

Please call me if you have any questions or need any additional information.

Sincerely,

Eric D. Weinrieb, PE  
President

Enclosure

Wde/5022\_SHPO-cover-letter.doc



## **PROJECT NARRATIVE**

### **Site Overview**

The applicant, the Society for the Protection of New Hampshire Forests, is proposing to install water line (s) to two building(s) on the property known as Creek Farm (Carey Cottage & the Carriage House) on the existing parcel. Carey Cottage and the Carriage House are being renovated and updated. The existing water line is outdated and undersized and has a less direct route from Little Harbor Road. The proposed water line(s) would be located in previously disturbed or developed/maintained areas, including a woods path and will receive loam and seed. All of the construction activity occurs in previously disturbed upland tidal buffer zone (7,750 s.f.+/-) and shoreland zone (3,400 s.f.+/-) on the lot. The improvements are being undertaken to serve the buildings which in turn will increase public access to the parcel and the views of Sagamore Creek. The project site, located at 400 Little Harbor Road, Portsmouth, NH, is a 30.2 acre+/- parcel.

### **Site Soils**

The NRCS indicates that the area of disturbance consists primarily of three soil classifications:

- 140B – Chatfield-Hollis-Canton complex, 0 to 8 percent slopes, rocky

- 140C – Chatfield-Hollis-Canton complex, 8 to 15 percent slopes, rocky &

- 538A – Squamscott fine sandy loam, 0 to 5 percent slopes

Due to the nature of the project a Site Specific or High Intensity Soils Survey was not conducted for this project.

### **Buildings**

Creek Farm (The Carey Cottage) was constructed in 1888 per the Inventory Form POR0006. The city records trace construction back to 1900. It is currently being restored and updated by a partner non-profit entity that will be responsible for its restoration, use program and maintenance in the future. The parcel also has an existing carriage house that was constructed in 1975 per city records. There is a proposed septic system upgrade for the Carriage House. The waterline(s) upgrade will service both buildings.

### **Site Disturbance**

The parcel had been used as a residence and retreat for generations until it was gifted to the Society. Except for recent typical activities associated with residential building and landscape maintenance there has been no significant disturbance within the project area. All the construction activities will take place within previously disturbed upland and wetland buffer areas. The portion of temporary disturbance within the 100-foot tidal buffer zone is approximately 7,750 s.f.+/- and another 3,400 s.f.+/- is located from 100-feet to 250-ft from the resource (Sagamore Creek). There are no additional known or suspected archaeological resources (cellar holes, wells, foundations, etc.) within the areas of disturbance beyond what are documented in the Individual Inventory Form.

**NHDHR File Review**

Investigation of NHDHR's archives on May 31, 2019 yielded an Individual Architectural Inventory file POR0006 for the property (15 pages) detailing its history. A re-check on November 22, 2019 had only a few email updates about the progress of efforts to save the mansion.

**Conclusion**

It is our opinion that this information along with the Request for Project Review form and attached exhibits meet NHDES Wetland Bureau Permit Application requirements. If you need any additional information, please feel free to contact the project manager, Eric Weinrieb, PE directly.



# Custom Soil Resource Report Soil Map



Map Scale: 1:3,930 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
140B	Chatfield-Hollis-Canton complex, 0 to 8 percent slopes, rocky	17.1	53.3%
140C	Chatfield-Hollis-Canton complex, 8 to 15 percent slopes, rocky	4.7	14.6%
538A	Squamscott fine sandy loam, 0 to 5 percent slopes	10.2	31.7%
W	Water	0.1	0.4%
<b>Totals for Area of Interest</b>		<b>32.1</b>	<b>100.0%</b>

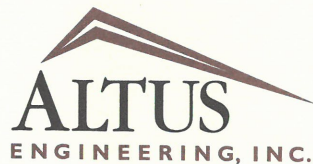
## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.





**Civil  
Site Planning  
Environmental  
Engineering**

133 Court Street  
Portsmouth, NH  
03801-4413

March 24, 2020

Kelli Barnaby, City Clerk  
City of Portsmouth  
1 Junkins Avenue  
Portsmouth, NH 03801

**Re: NHDES Wetlands Permit Application  
Tax Map 203, Lot 8  
400 Little Harbor Road  
Portsmouth, NH 03801  
P5022**

Dear Ms. Barnaby:

In accordance with RSA 482-A:3, attached please find one original and four copies of the application package submitted on behalf of the Society for the Protection of New Hampshire Forests (Tax Map 203, Lot 8) owner and applicant, for a Wetlands Permit Application to the NHDES Wetlands Bureau.

The application proposes to extend a water line to the Carey Cottage building on the grounds of Creek Farm and connect to a service to the Carriage House on the same property. All disturbed areas will be loamed & seeded or otherwise returned to their original condition. The property is accessed from Little Harbor Road. The improvements will impact approximately 7,700 s.f.+/- within the 100-foot Wetlands Buffer and an additional 3,400 s.f.+/- within the 250-foot Shoreland Protection Buffer from the reference line of the Highest Observable Tide Line of Sagamore Creek.

Please feel free to contact us, the Applicant's engineering consultant, at (603) 433-2335, if you have any questions. Thank you for your time concerning this matter.

Sincerely,

A handwritten signature in red ink, appearing to read "E. Weinrieb", is written over the "Sincerely," text.

Eric D. Weinrieb, P.E.  
President

Enclosures

Wde/5022.015.Portsmouth-wetlands.cov.ltr.doc



**Civil  
Site Planning  
Environmental  
Engineering**

133 Court Street  
Portsmouth, NH  
03801-4413

March 24, 2020

New Hampshire Department of Environmental Services  
29 Hazen Drive, PO Box 95  
Concord, NH 03302-0095

Re: Creek Farm Water Line Installation  
Tax Sheet 203, Lot 8  
400 Little Harbor Road  
Portsmouth, NH  
P5022

**ABUTTER'S LIST – Wetlands & Shoreland applications only**

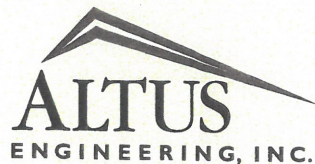
<u>Tax Map / Parcel</u>	<u>Abutter name &amp; address</u>
202 / 16	Nalewajk Family Revocable Trust Susan L. & Robert J. Nalewajk Sr., Trustees 350 Little Harbor Road Portsmouth, NH 03801
203 / 10	Bank Family Revocable Trust Susan S. & William J. Bank, Trustees 124 West Walnut Lane Philadelphia, PA 19144

**Owner/Applicant:**

203 / 8	Society for the Protection of N.H. Forests c/o Jack Savage 54 Portsmouth Street Concord, NH 03302
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wde/5022.011.abutters.list-wetlands-waterline.doc





**Civil  
Site Planning  
Environmental  
Engineering**

133 Court Street  
Portsmouth, NH  
03801-4413

March 24, 2020

**Subject: NHDES Wetlands Permit Application  
Tax Map 203 Lot 8  
Society for the Protection of New Hampshire Forests  
400 Little Harbor Road  
Portsmouth, NH  
P5022**

Dear Abutter:

Pursuant to State of New Hampshire RSA Chapter 482-A, this letter is to notify you that the Society for the Protection of New Hampshire Forests (Tax Map 203, Lot 8) owner and applicant is submitting a Wetlands Permit Application to the NHDES Wetlands Bureau. This letter is to inform you, as an abutter to the above-referenced property, that an application for a permit has been filed with the NHDES Wetlands Bureau.

The application proposes to extend a water line to the Carey Cottage building and will also service Carriage House at Creek Farm. The installation will impact up to 7,700 sf temporarily within the previously disturbed upland tidal buffer zone and up to an additional 3,400 sf temporarily within the 250-foot Shoreland Protection Buffer.

The work is greater than 20-feet from any abutting parcel therefore no further action by you is required.

Once filed, the plans that show the proposed project are available for viewing during normal business hours at the City of Portsmouth City Clerk's office (603) 610-7245 or at the office of the NHDES Wetlands Bureau (603) 271-2147, 6 Hazen Drive, Concord, N.H. (8am to 4pm). It is suggested the appropriate office is contacted to verify availability of the documents prior to visiting them. Please feel free to contact us, the Applicant's engineering consultant, at (603) 433-2335, if you have any questions.

Sincerely,

A handwritten signature in red ink, appearing to read "E. Weinrieb", is written over the word "Sincerely,".

Eric D. Weinrieb, P.E.  
President

wde\5022-waterline-abutter-notify-wetland.ltr.doc  
CERTIFIED MAIL



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# U.S. Postal Service™ CERTIFIED MAIL® RECEIPT Domestic Mail Only

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PORTSMOUTH, NH 03801

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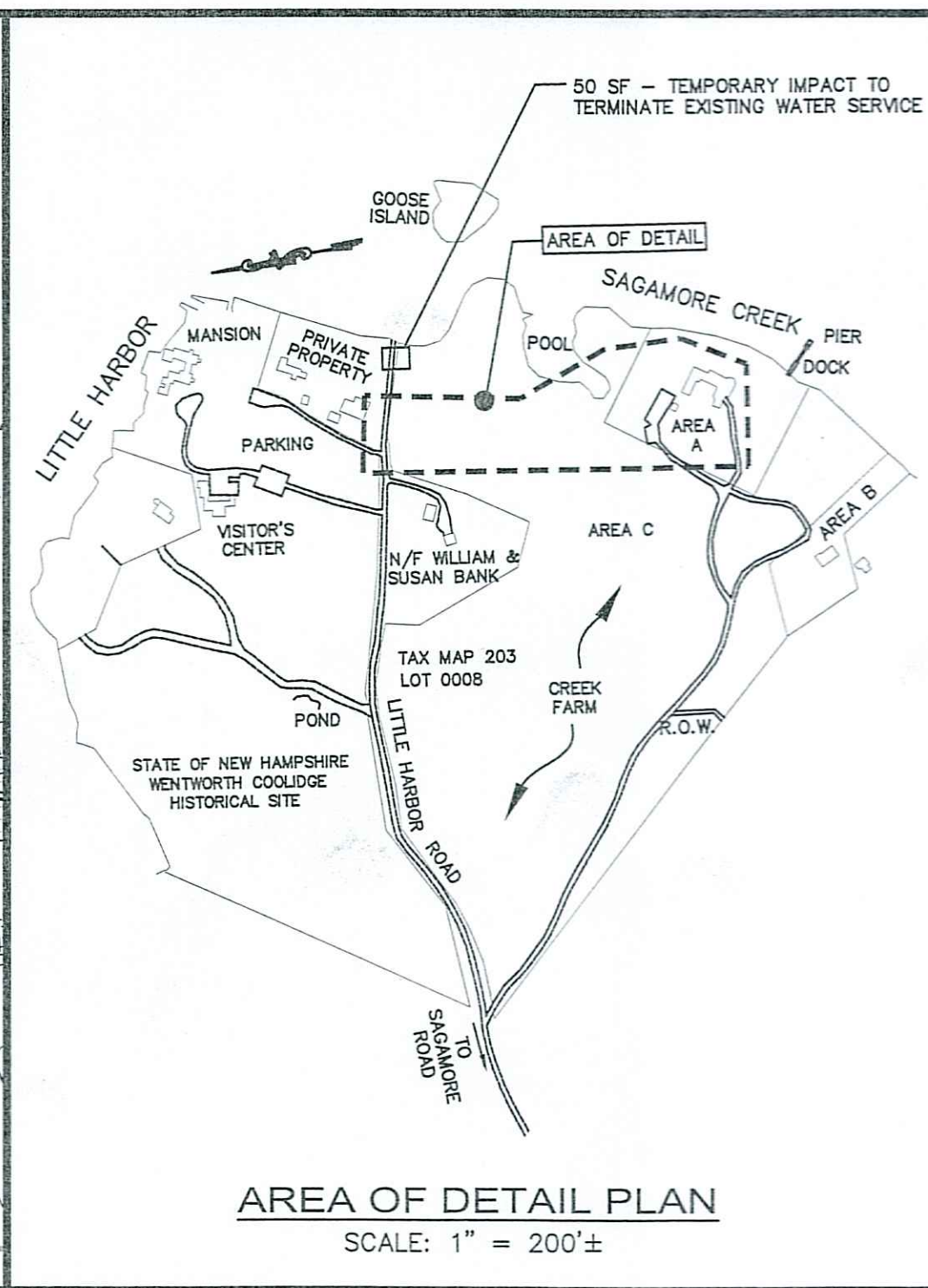
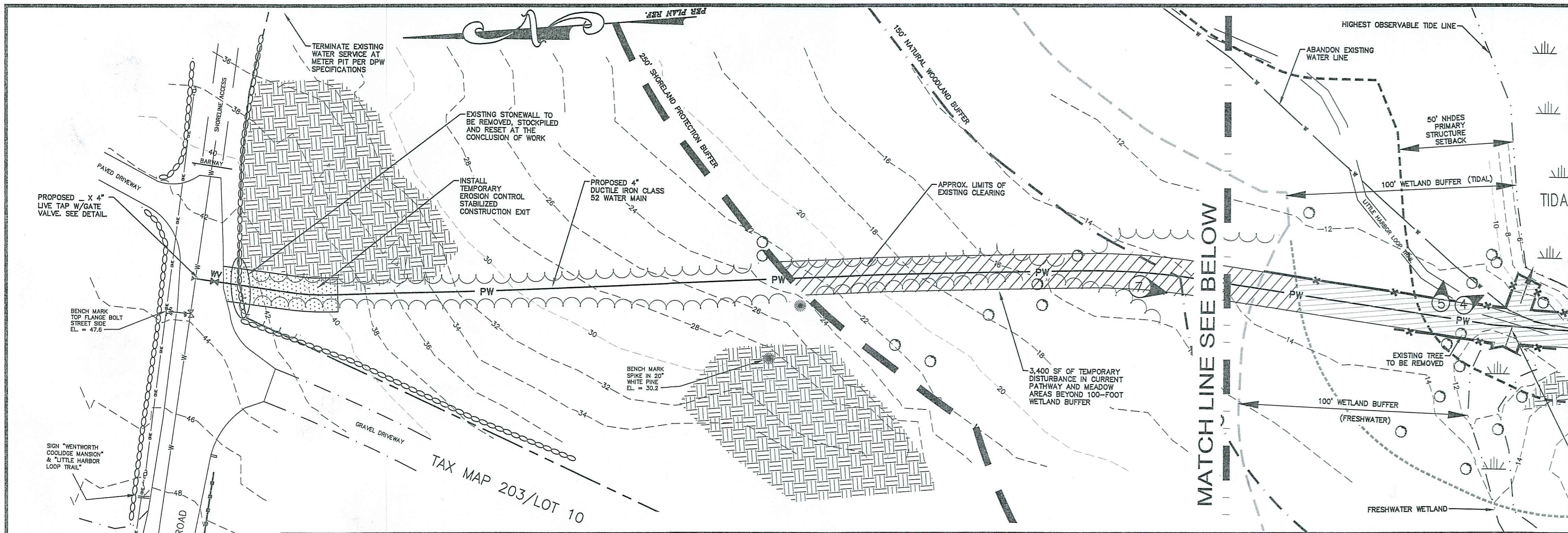
See Reverse for Instructions

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03/25/2020





ENGINEER:

**ALTUS**  
ENGINEERING, INC.

133 COURT STREET PORTSMOUTH, NH 03801  
(603) 433-2335 www.ALTUS-ENG.com

ISSUED FOR: APPROVAL

ISSUE DATE: MARCH 23, 2020

REVISIONS:  
NO. DESCRIPTION BY DATE  
0 INITIAL SUBMISSION EDW 03/23/20

DRAWN BY: RLH  
APPROVED BY: EDW  
DRAWING FILE: 5022.DWG

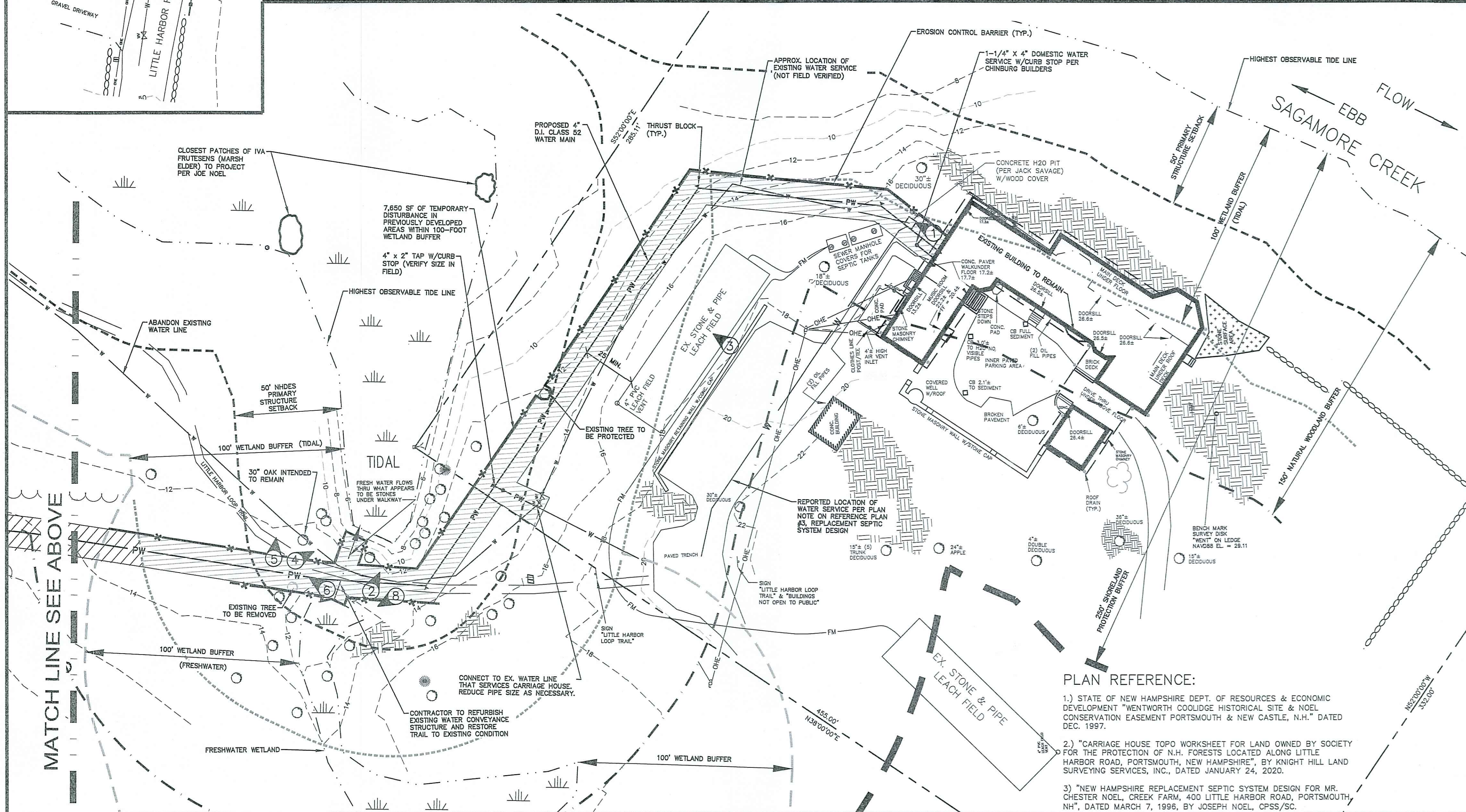
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22" x 34" - 1" = 30'  
11" x 17" - 1" = 60'

OWNER OF RECORD/APPLICANT:  
SOCIETY FOR THE PROTECTION OF N.H. FORESTS  
54 PORTSMOUTH ST.  
CONCORD, NH 03302

PROJECT:  
PROPOSED WATER LINE  
CREEK FARM  
400 LITTLE HARBOR ROAD  
PORTSMOUTH, NH  
TAX MAP 203, LOT 08

TITLE:  
NHDES WETLANDS & SHORELAND PERMITS PLAN

SHEET NUMBER:  
C-1



**LEGEND**

— HIGHEST OBSERVABLE TIDE LINE (HOTL)  
 - - - 50' NHDES PRIMARY BUILDING SETBACK  
 - - - 100' NHDES SETBACK TO HOTL  
 - - - 100' SETBACK TO FRESHWATER WETLANDS  
 - - - 150' NATURAL WOODLAND BUFFER  
 - - - 250' NHDES SHORELAND SETBACK  
 \* \* \* EROSION CONTROL BARRIER  
 [Hatched Box] LEDGE OUTCROP  
 [Stippled Box] STONE SURFACE  
 [Wavy Line] EDGE OF WETLANDS  
 [Dashed Line] STONE WALL  
 W — EXISTING TREE LINE  
 PW — EXISTING WATER LINE  
 PW — PROPOSED WATER LINE  
 FM — EXISTING SANITARY FORCE MAIN  
 [Arrow] PHOTOGRAPH LOCATION & DIRECTION

**DISTURBANCE AREA SUMMARY**

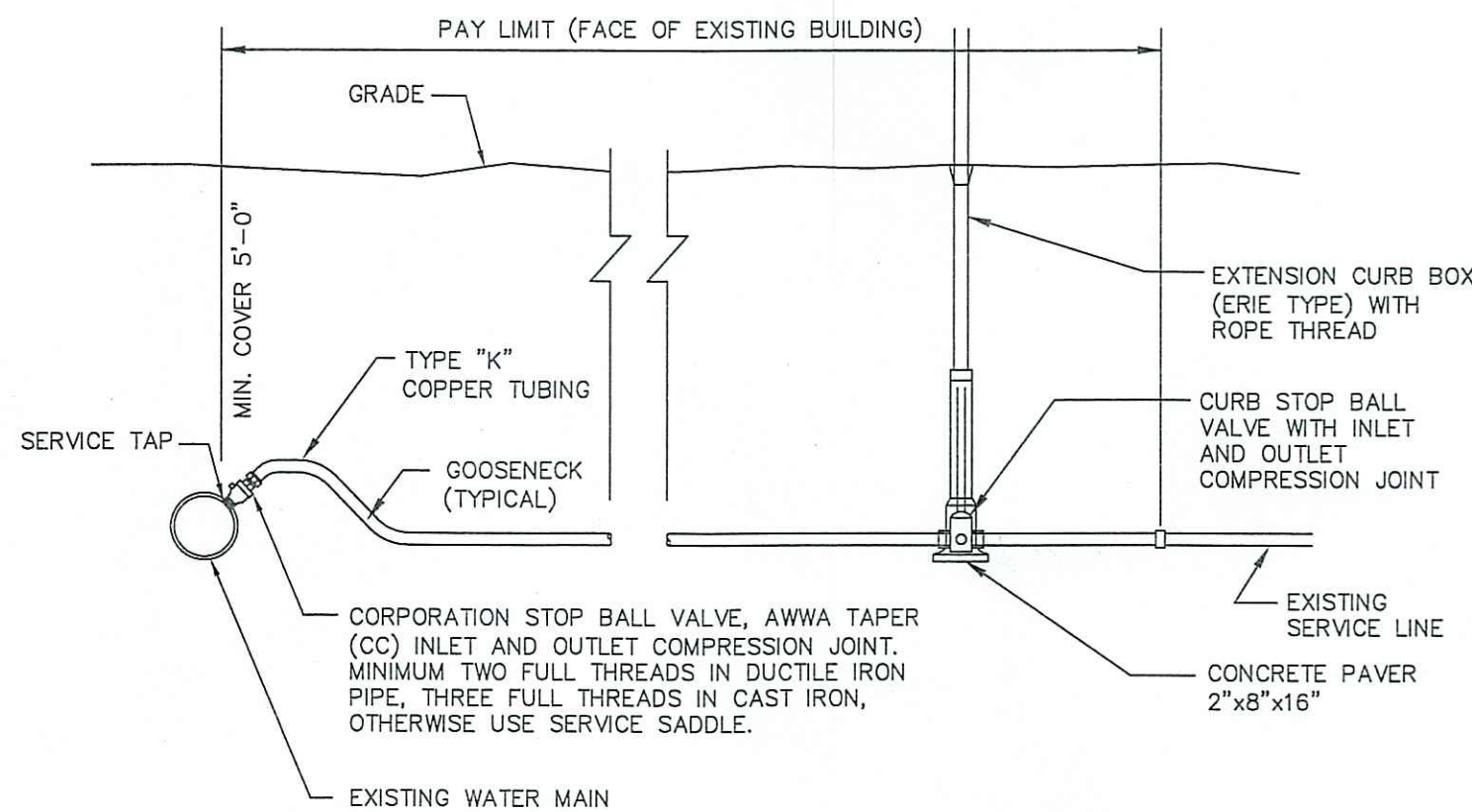
3,050 SF±	0 - 50' (STATE)
4,600 SF±	50 - 100' (STATE)
5,930 SF±	0 - 100' CITY C.U.P.)
11,100 SF±	0 - 250' (STATE)

**GRAPHIC SCALE**  
( IN FEET )

30 0 15 30 60 120

- PLAN REFERENCE:**
- 1.) STATE OF NEW HAMPSHIRE DEPT. OF RESOURCES & ECONOMIC DEVELOPMENT "WENTWORTH COOLIDGE HISTORICAL SITE & NOEL CONSERVATION EASEMENT PORTSMOUTH & NEW CASTLE, N.H." DATED DEC. 1997.
  - 2.) "CARRIAGE HOUSE TOPO WORKSHEET FOR LAND OWNED BY SOCIETY FOR THE PROTECTION OF N.H. FORESTS LOCATED ALONG LITTLE HARBOR ROAD, PORTSMOUTH, NEW HAMPSHIRE", BY KNIGHT HILL LAND SURVEYING SERVICES, INC., DATED JANUARY 24, 2020.
  - 3.) "NEW HAMPSHIRE REPLACEMENT SEPTIC SYSTEM DESIGN FOR MR. CHESTER NOEL, CREEK FARM, 400 LITTLE HARBOR ROAD, PORTSMOUTH, NH", DATED MARCH 7, 1998, BY JOSEPH NOEL, CPSS/SC.

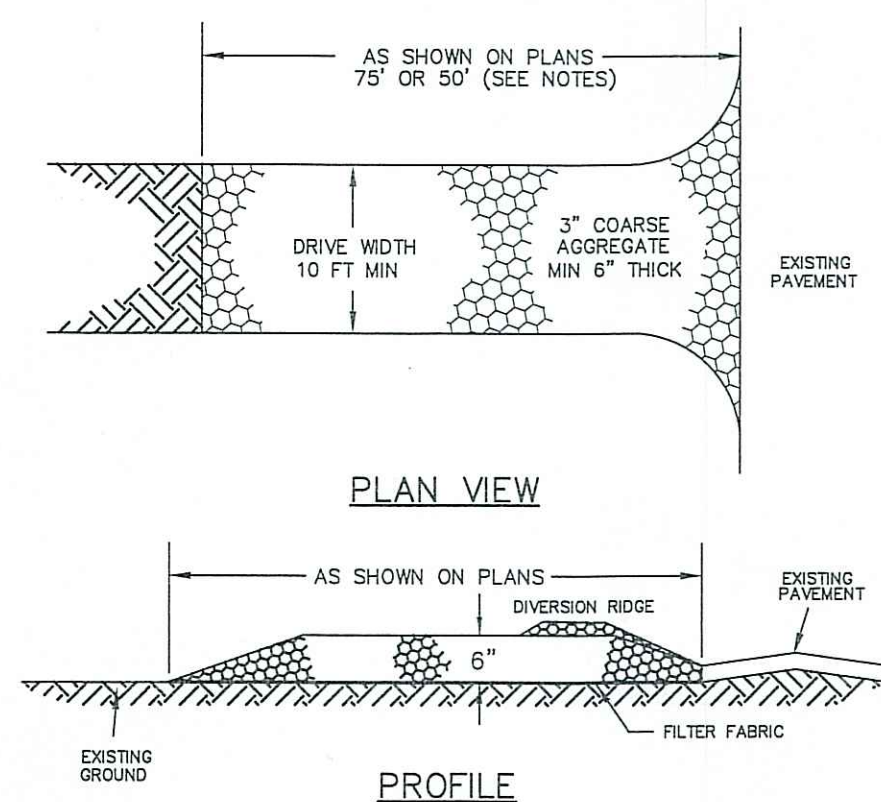




#### NOTES

1. PROVIDE NEW LINE USING CONTINUOUS LENGTHS OF COPPER. NO COUPLING ALLOWED IN ROADWAY WITHOUT APPROVAL OF ENGINEER.
2. TAPS TO BE MADE AT APPROXIMATELY 2:00 & 10:00
3. PROVIDE FOR SERVICE LINE CONTRACTION AND EXPANSION BY INSTALLING "S" IN SERVICE LINE NEAR MAIN.
4. IF SERVICE IS INSTALLED WITH LESS THAN 5' COVER, INSULATE OVER LINE.
5. REMOVE EXISTING CURB STOP.
6. CONNECT CURB STOP TO EXISTING SERVICE LINE AT PROPERTY LINE OR AT LOCATION APPROVED BY THE ENGINEER (NO COUPLING WITHOUT APPROVAL OF ENGINEER) AFTER PRESSURE TESTING AND DISINFECTION.
7. SHUT OFF EXISTING CORPORATION AND REMOVE OR ABANDON EXISTING SERVICE LINE.
8. CURB BOX SHALL BE SET IN THE GRASS/LANDSCAPE AREA BETWEEN CURB AND SIDEWALK UNLESS DIRECTED OTHERWISE.
9. 2" OR LARGER SERVICE CONNECTIONS SHALL USE A STAINLESS STEEL SERVICE SADDLE.

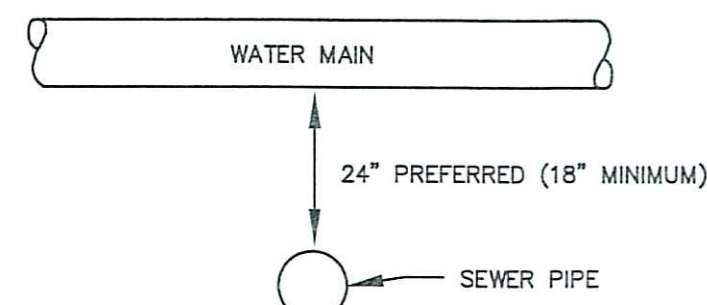
#### SERVICE CONNECTION DETAIL NOT TO SCALE



#### CONSTRUCTION SPECIFICATIONS

1. REFERENCE NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3 (LATEST EDITION), SECTION 4.2
2. "TEMPORARY CONSTRUCTION EXIT" REQUIREMENTS AND BMP DETAIL.
3. STONE SIZE - 3" COARSE AGGREGATE
4. THICKNESS - SIX (6) INCHES (MINIMUM).
5. LENGTH - 75 FOOT MINIMUM, OR 50 FOOT ALLOWED WHEN DIVERSION RIDGE IS PROVIDED.
6. WIDTH - 1/2 OF DRIVEWAY (10 FOOT MINIMUM).
7. FILTER FABRIC - MIRAFI 600X OR APPROVED EQUAL.
8. SURFACE WATER CONTROL - ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
9. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

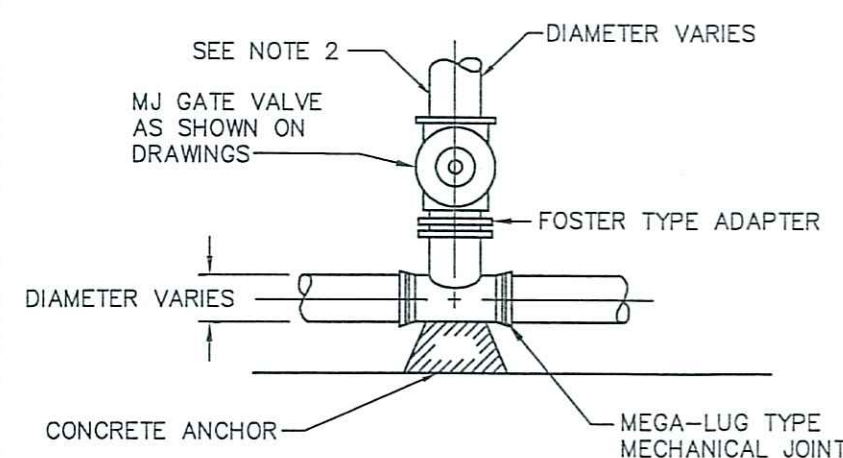
#### STABILIZED CONSTRUCTION EXIT NOT TO SCALE



#### NOTES

1. A MINIMUM HORIZONTAL DISTANCE OF 10 FEET SHALL BE MAINTAINED BETWEEN WATER AND SEWER MAINS. A MINIMUM VERTICAL DISTANCE WITH WATER ABOVE SEWER SHALL BE MAINTAINED.
2. SEWER PIPE JOINTS SHALL BE LOCATED A MINIMUM OF 6 FEET HORIZONTALLY FROM WATER MAIN.
3. IF THE REQUIRED CONFIGURATION CANNOT BE MET, THE SEWER MAIN SHALL BE CONSTRUCTED TO MEET THE NHDES REQUIREMENTS FOR FORCE MAIN CONSTRUCTION.

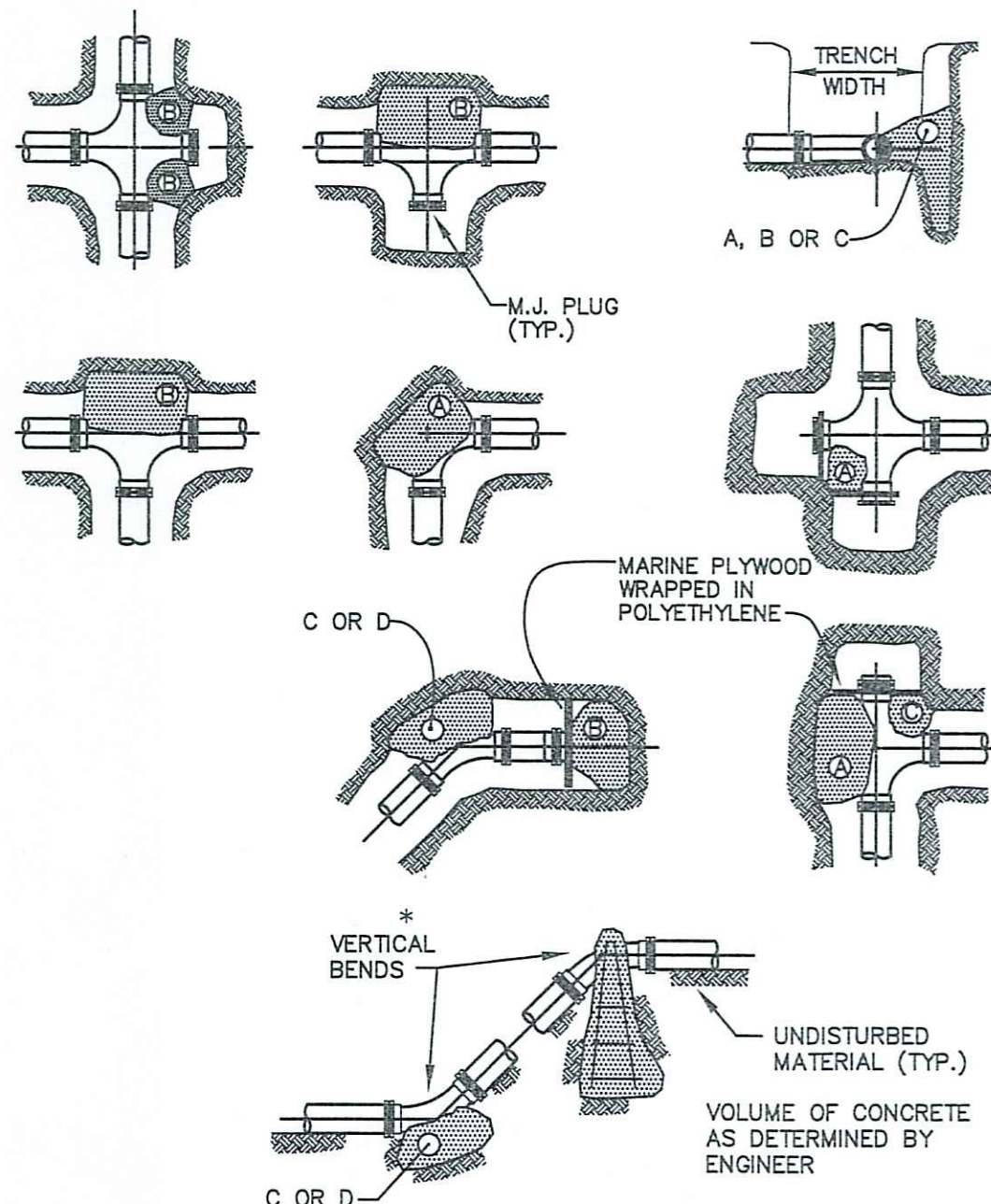
#### WATER MAIN / SEWER CROSSING NOT TO SCALE



#### NOTES

1. GATE VALVES SHALL OPEN RIGHT, PER CITY STANDARDS.
2. BRANCH PIPING SHALL BE MECHANICALLY RESTRAINED AS NOTED UNDER THRUST BLOCK DETAIL REQUIREMENTS.

#### TEE & GATE VALVE ASSEMBLY DETAIL NOT TO SCALE

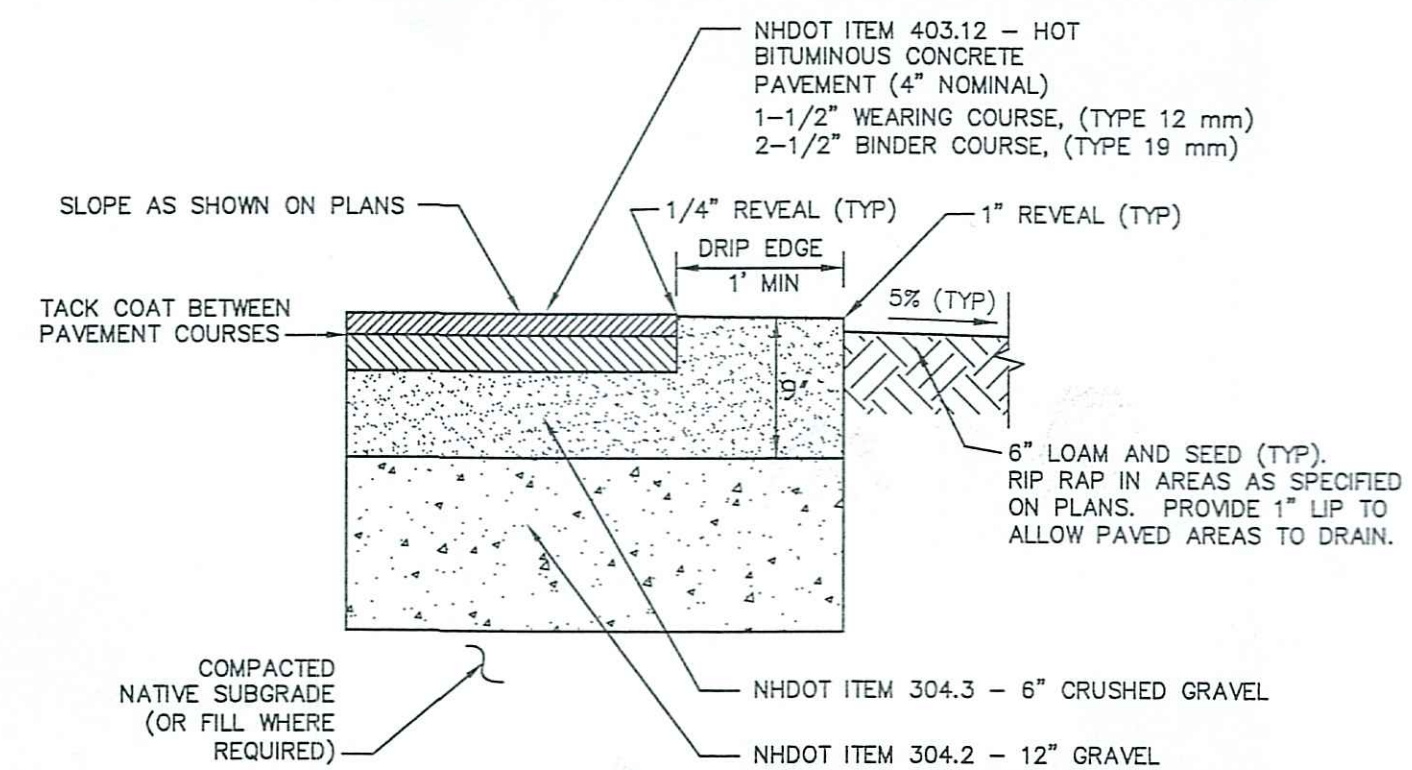


SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL		PIPE SIZE				
REACTION TYPE	4"	6"	8"	10"	12"	
A 90°	0.89	2.19	3.82	11.14	17.24	
B 180°	0.65	1.55	2.78	8.38	12.00	
C 45°	0.48	1.19	2.12	6.02	9.32	
D 22-1/2°	0.25	0.80	1.06	3.08	4.74	
E 11-1/4°	0.13	0.30	0.54	1.54	2.38	

#### NOTES

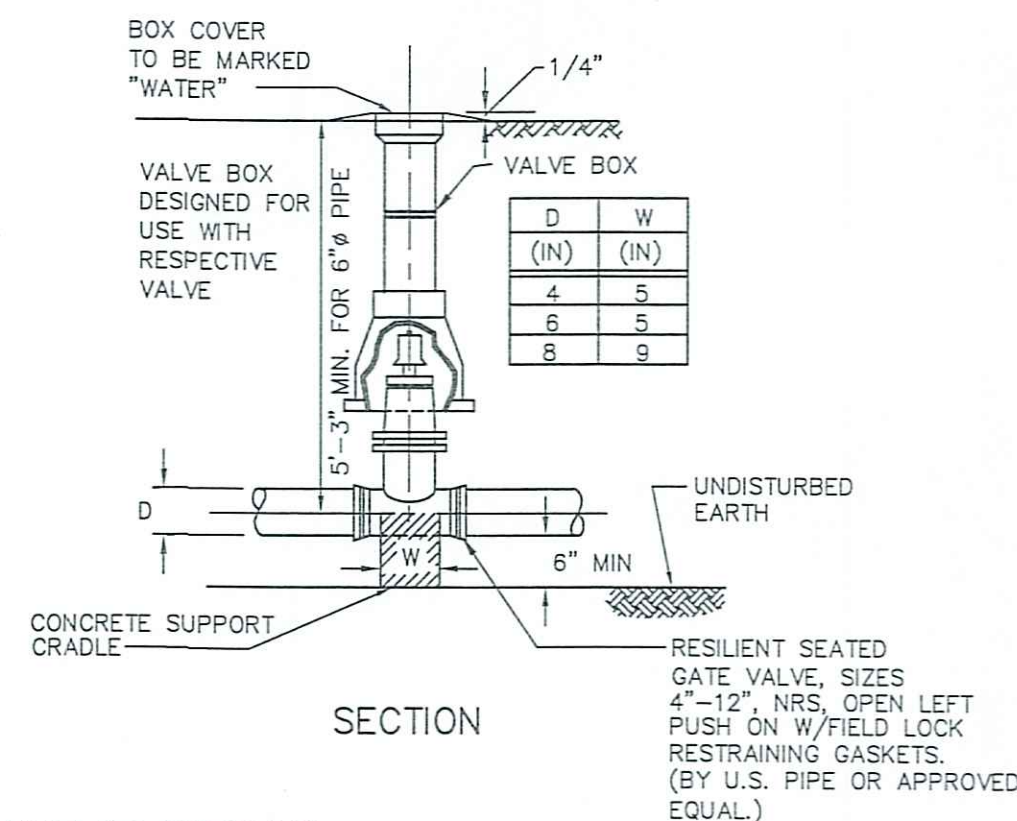
1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
4. WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.
5. POLYETHYLENE (8 MIL) SHALL BE PLACED AROUND FITTINGS PRIOR TO CONCRETE PLACEMENT.

#### THRUST BLOCKING DETAIL NOT TO SCALE

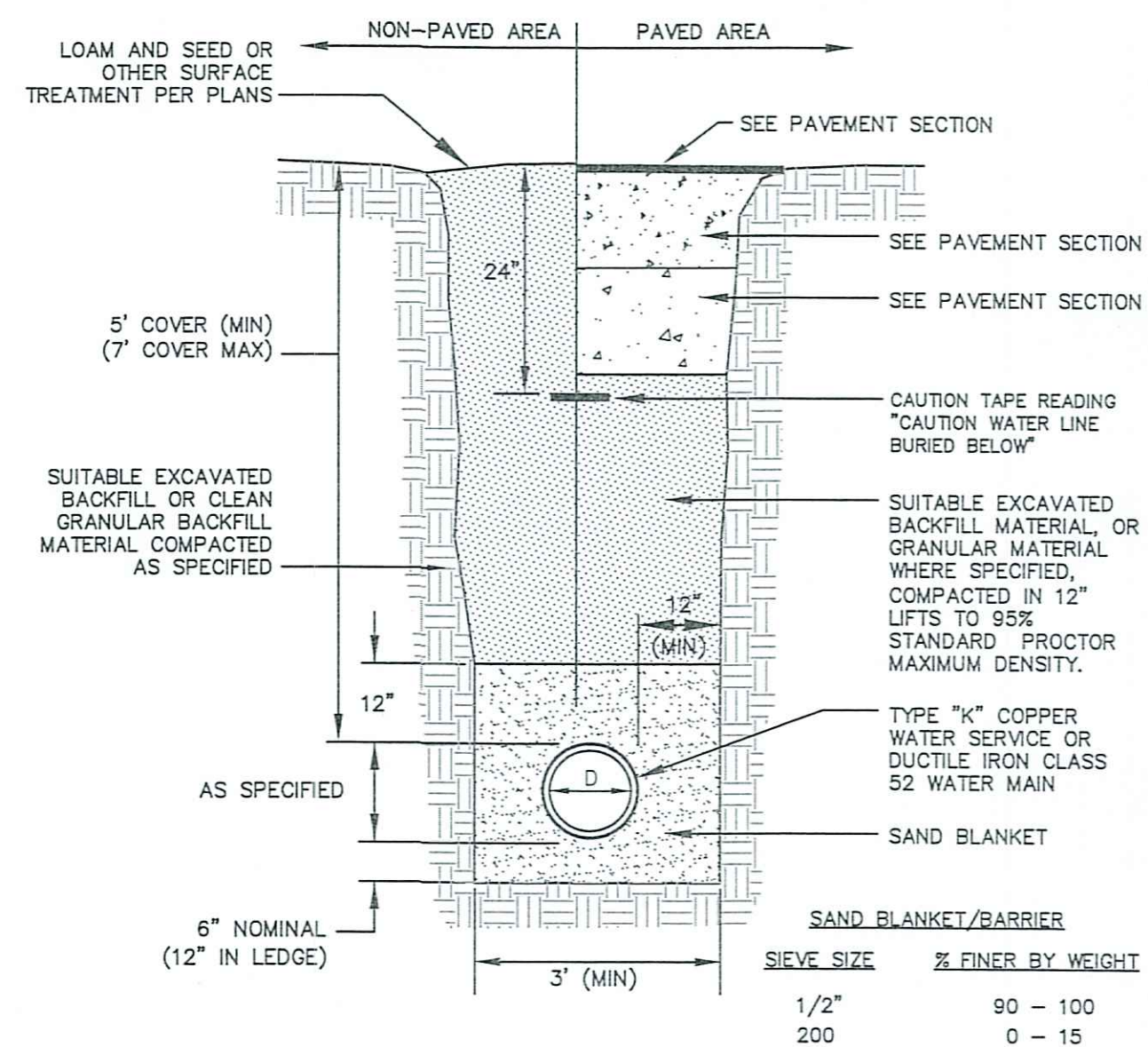


NOTE: SUBGRADE AREA TO BE PROOF ROLLED PER GEOTECHNICAL REPORT RECOMMENDATIONS OR ENGINEER.

#### PAVEMENT CROSS SECTION NOT TO SCALE



#### WATER VALVE DETAIL NOT TO SCALE



#### NOTES

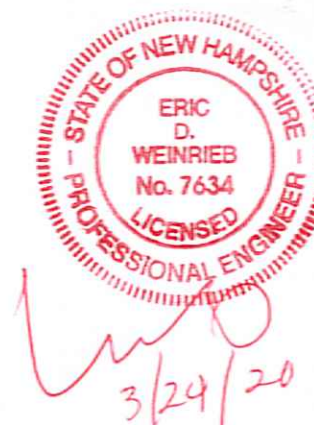
1. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.
2. WATER MAINS SHALL BE POLY WRAPPED.
3. WATER MAINS SHALL HAVE 3 WEDGES PER JOINT.

#### WATER MAIN TRENCH NOT TO SCALE

ENGINEER:

**ALTUS**  
ENGINEERING, INC.

133 COURT STREET PORTSMOUTH, NH 03801  
(603) 433-2335 www.ALTUS-ENG.com



ISSUED FOR:

APPROVAL

ISSUE DATE:

MARCH 23, 2020

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	DISCUSSION	EDW	03/23/20

DRAWN BY:

RLH

APPROVED BY:

EDW

DRAWING FILE:

5022.DWG

SCALE:

22" x 34" - NOT TO SCALE

OWNER OF RECORD/APPLICANT:

SOCIETY FOR THE  
PROTECTION OF  
N.H. FORESTS  
54 PORTSMOUTH ST.  
CONCORD, NH 03302

PROJECT:

PROPOSED  
WATER LINE

CREEK FARM  
400 LITTLE HARBOR ROAD  
PORTSMOUTH, NH

TAX MAP 203, LOT 08

TITLE:

CONSTRUCTION  
DETAILS

SHEET NUMBER:

D-1

P5022

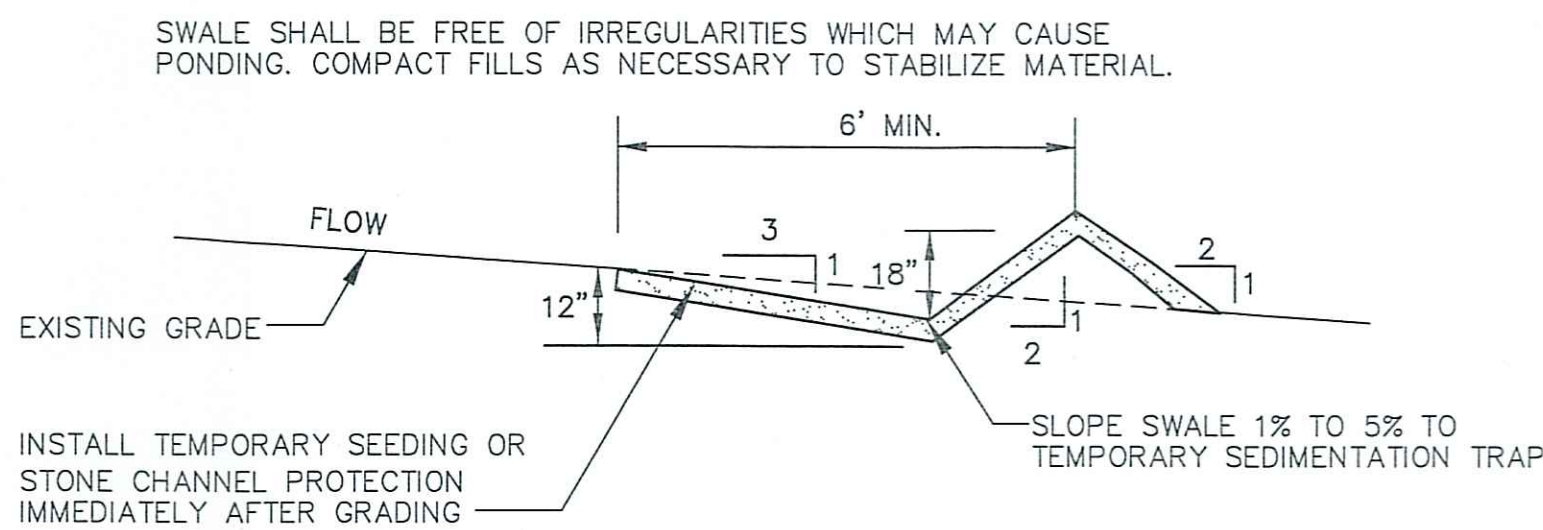


GENERAL NOTES

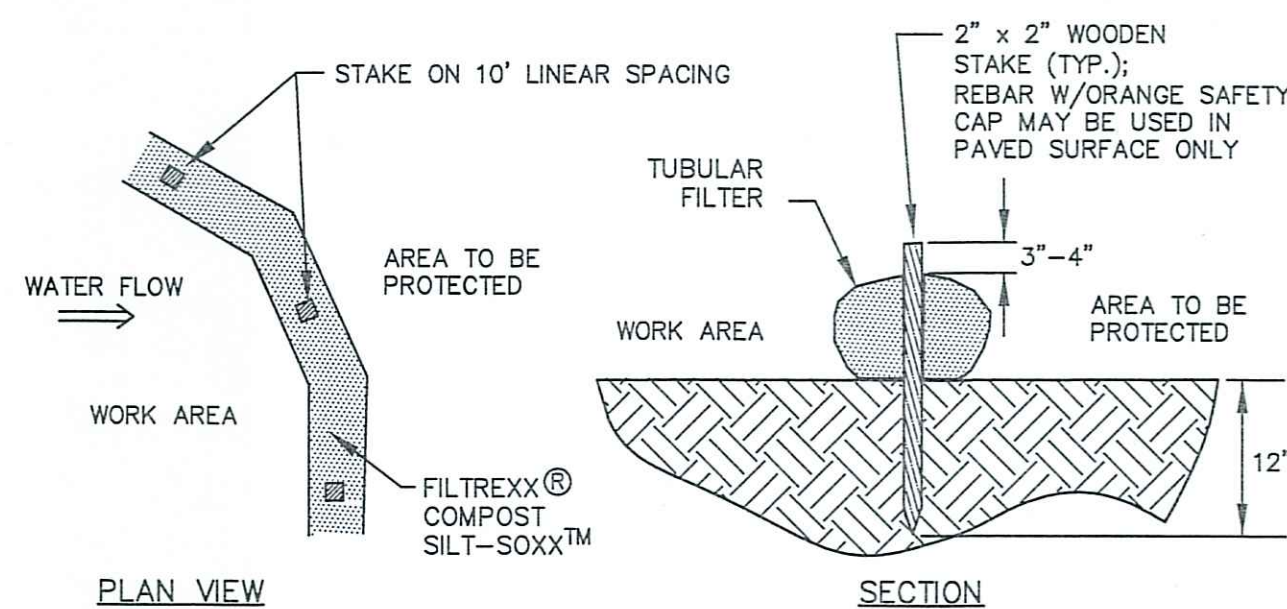
- DO NOT BEGIN CONSTRUCTION UNTIL ALL STATE, LOCAL AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.
- CONTRACTOR SHALL CALL DIG SAFE AT 1 (800) DIG-SAFE AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO COMMENCING CONSTRUCTION.
- CONTRACTOR SHALL NOTIFY CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.
- CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY SEDIMENT AND EROSION CONTROL ITEMS TO PREVENT SEDIMENT FROM CONSTRUCTION ACTIVITIES FROM LEAVING THE SITE. CONTROLS SHALL BE INSPECTED ON A REGULAR BASIS AND AFTER ALL RAIN EVENTS OF 0.25 INCHES OR GREATER. ANY DEFICIENCIES IN THE CONTROLS SHALL BE ADDRESSED IMMEDIATELY AND BROUGHT TO THE ATTENTION OF THE OWNER. ALL STORMS DRAINS WITHIN OR ADJACENT TO THE WORK AREA, WITH THE POTENTIAL TO RECEIVE RUNOFF FROM EXPOSED CONSTRUCTION AREAS, SHALL RECEIVE STORM DRAIN INLET PROTECTION.
- CONTRACTOR SHALL PREVENT TRACKING OF DIRT ONTO ANY PUBLIC OR PRIVATE ROADWAYS. IF TRACKING OF DIRT FROM CONSTRUCTION VEHICLES IS PRESENT ON THE OPEN STREETS, CONTRACTOR WILL BE REQUIRED TO SWEEP THE ROADWAY AT NO ADDITIONAL EXPENSE TO THE OWNER.
- ALL BONDS AND FEES SHALL BE PAID/POSTED PRIOR TO INITIATING CONSTRUCTION.
- CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAWCUT LINE WITH RS-1 IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
- THE CONTRACTOR SHALL VERIFY ALL BENCHMARKS AND TOPOGRAPHY IN THE FIELD PRIOR TO CONSTRUCTION.
- THIS PROJECT WILL NOT REQUIRE COVERAGE UNDER EPA NPDES PHASE II CONSTRUCTION GENERAL PERMIT.
- THIS PROJECT REQUIRES A CONDITIONAL USE PERMIT (CUP) FROM THE PORTSMOUTH PLANNING BOARD FOR SITEWORK ACTIVITIES WITHIN THE 100-FOOT WETLANDS BUFFER.

UTILITY NOTES

- ALL ROAD/LANE CLOSURES OR OTHER TRAFFIC INTERRUPTIONS ON CITY ROADS SHALL BE COORDINATED WITH THE PORTSMOUTH POLICE DEPARTMENT, PORTSMOUTH DPW.
- ALL WATER MAIN INSTALLATIONS AND SERVICE CONNECTIONS SHALL CONFORM TO PORTSMOUTH WATER DEPARTMENT STANDARDS. WATER MAIN SHALL BE WRAPPED WITH A WATER TIGHT POLYETHYLENE WRAPPING. ALL JOINTS SHALL HAVE THREE (3) WEDGES PER JOINT.
- DO NOT BEGIN CONSTRUCTION UNTIL ALL STATE, LOCAL, AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED. CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH ALL PERMIT CONDITIONS AND REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR POSTING OF ALL BONDS AND PAYMENT OF ALL TAP, TIE-IN AND CONNECTION FEES.
- THE OWNER/DEVELOPER TO PROVIDE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS WITH AN EASEMENT TO ALLOW UNLIMITED ACCESS TO THE SITE FOR THE PURPOSE OF MAINTAINING/CONTROLLING DOMESTIC WATER SUPPLY. IN THE EVENT OF NON-PAYMENT, THE CITY OF PORTSMOUTH WILL HAVE THE RIGHT TO SHUT OFF THE DOMESTIC WATER SUPPLY CURB STOP.
- ALL TRENCHING, PIPE LAYING AND BACKFILLING SHALL CONFORM TO FEDERAL OSHA AND CITY REGULATIONS.
- SITEWORK CONTRACTOR SHALL COORDINATE ALL WORK WITH MECHANICAL DRAWINGS.
- SEE ARCHITECTURAL/MECHANICAL DRAWINGS FOR EXACT LOCATIONS & ELEVATIONS OF UTILITY CONNECTIONS AT BUILDINGS. COORDINATE ALL WORK WITHIN FIVE (5) FEET OF BUILDINGS WITH BUILDING CONTRACTOR AND ARCHITECTURAL/MECHANICAL DRAWINGS. ALL CONFLICTS AND DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY AND PRIOR TO COMMENCING RELATED WORK.
- FINAL UTILITY LOCATIONS TO BE COORDINATED BETWEEN THE CONTRACTOR, ALL APPROPRIATE UTILITY COMPANIES.
- CONTRACTOR SHALL CONTACT CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS AT 603-427-1530 TO COORDINATE INSPECTION OF WATER WORK.
- DOMESTIC & FIRE SUPPRESSION WATER SERVICES SIZED PER DIRECTION OF CHINBURG BUILDERS. ALTUS ENGINEERING, INC. TAKES NO RESPONSIBILITY FOR ENSURING ADEQUATE FLOW TO BUILDINGS FOR EITHER DOMESTIC AND/OR FIRE PROTECTION.

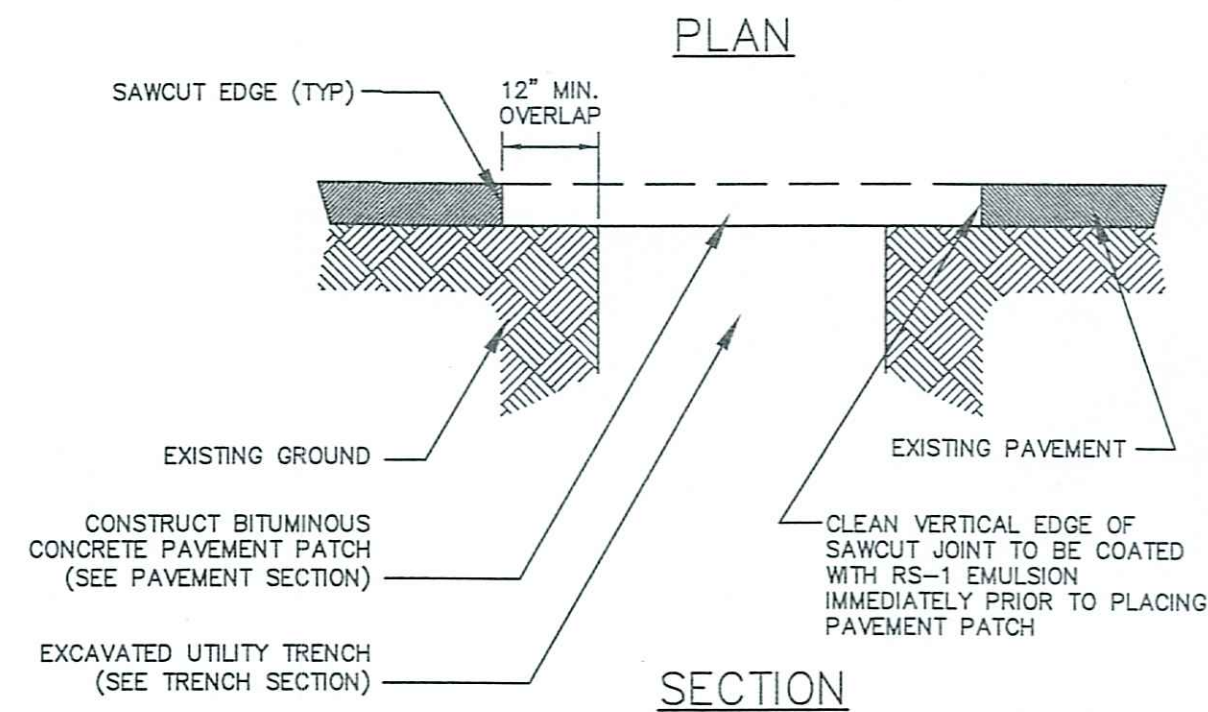
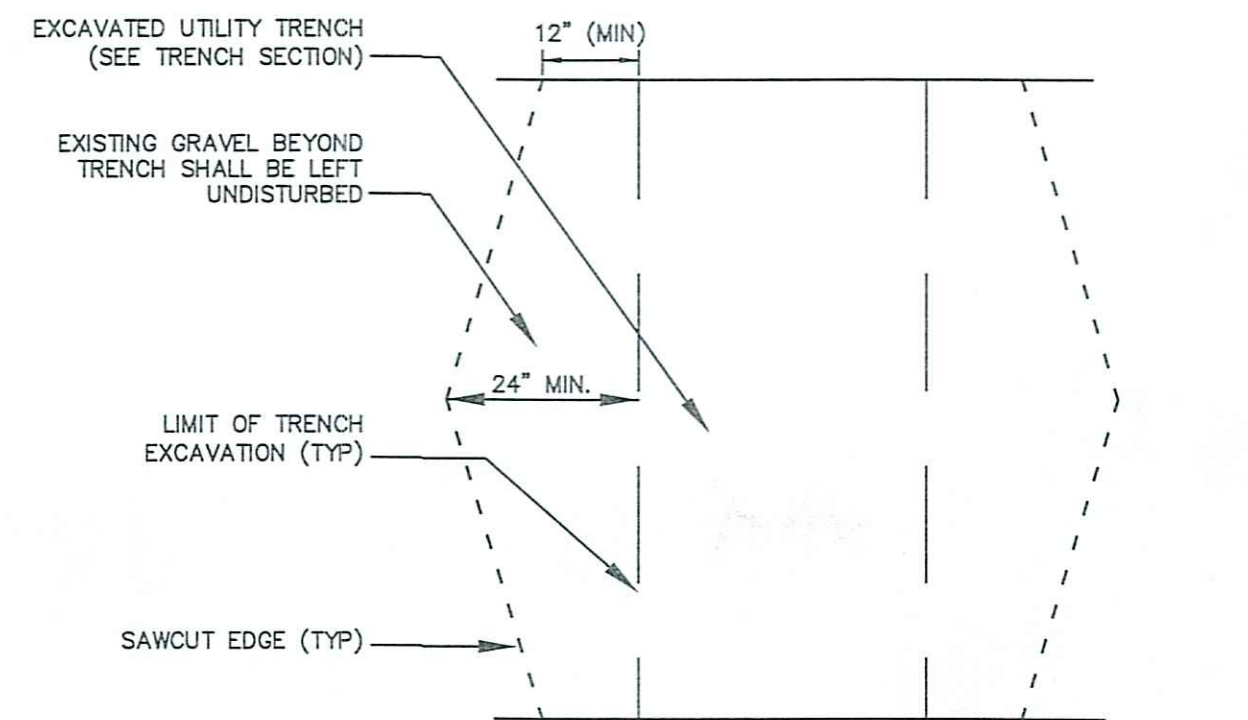


TEMPORARY DIVERSION SWALE NOT TO SCALE



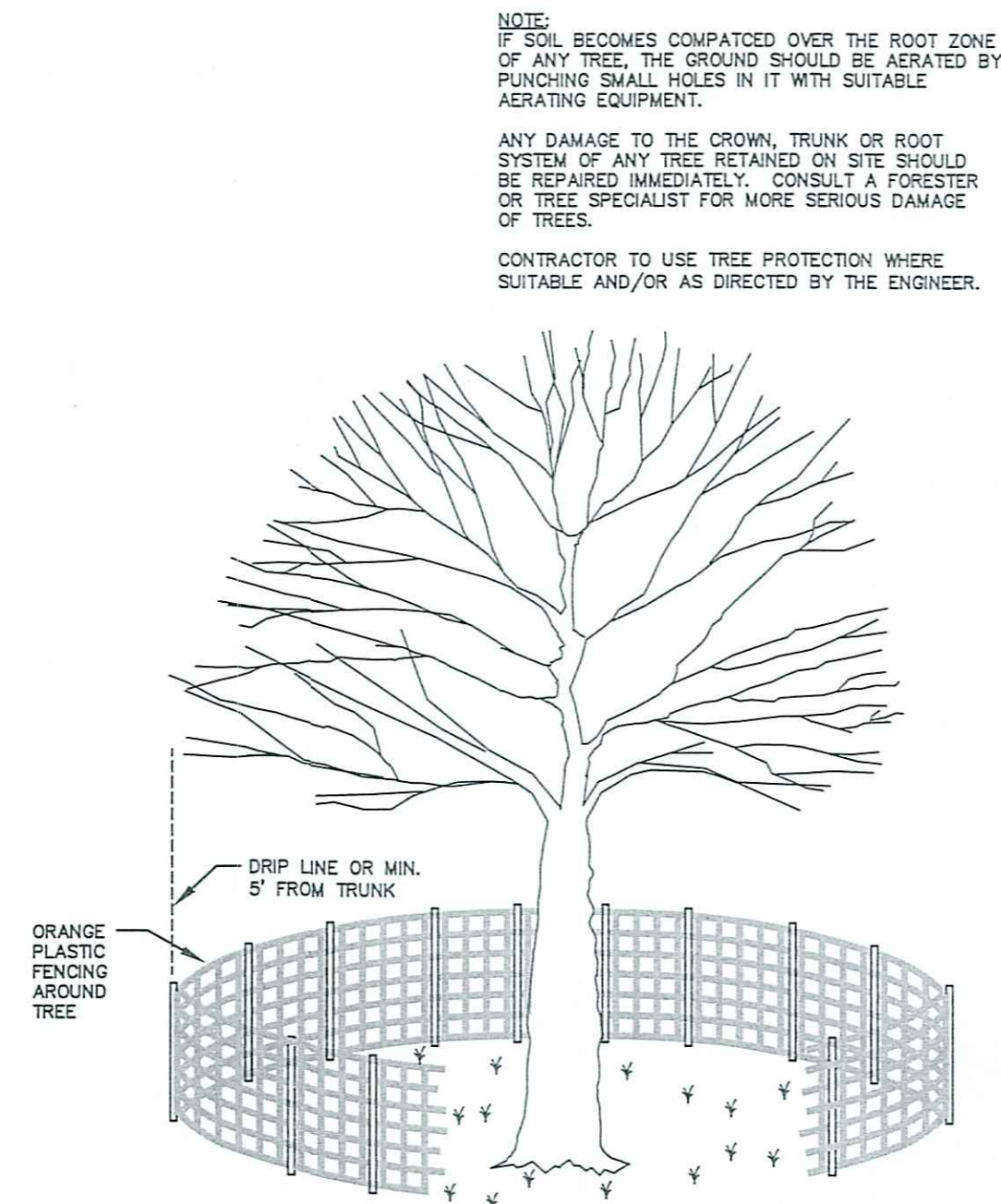
- NOTES:
- SILT-SOXX OR APPROVED EQUAL SHALL BE USED FOR TUBULAR SEDIMENT BARRIERS.
  - ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS.
  - COMPOST/SOIL/ROCK/SEED FILL MATERIAL SHALL BE ADJUSTED AS NECESSARY TO MEET THE REQUIREMENTS OF THE SPECIFIC APPLICATION.
  - ALL SEDIMENT TRAPPED BY BARRIER SHALL BE DISPOSED OF PROPERLY.

TUBULAR SEDIMENT BARRIER DETAIL NOT TO SCALE



- NOTES
- MACHINE CUT EXISTING PAVEMENT.
  - ALL TEMPORARY, DAMAGED OR DEFECTIVE PAVEMENT SHALL BE REMOVED PRIOR TO PLACEMENT OF PERMANENT TRENCH REPAIRS.
  - DIAMOND PATCHES, SHALL BE REQUIRED FOR ALL TRENCHES CROSSING ROADWAY. DIAMOND PATCHES SHALL MEET NHDOT REQUIREMENTS.

TYPICAL TRENCH PATCH NOT TO SCALE



TREE PROTECTION DETAILS NOT TO SCALE

ENGINEER:

**ALTUS**  
ENGINEERING, INC.

133 COURT STREET PORTSMOUTH, NH 03801  
(603) 433-2335 www.ALTUS-ENG.com



ISSUED FOR: APPROVAL

ISSUE DATE: MARCH 23, 2020

REVISIONS	NO.	DESCRIPTION	BY	DATE
	0	DISCUSSION	EDW	03/23/20

DRAWN BY: \_\_\_\_\_ RLH  
APPROVED BY: \_\_\_\_\_ EDW  
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PROPOSED WATER LINE  
CREEK FARM  
400 LITTLE HARBOR ROAD  
PORTSMOUTH, NH  
TAX MAP 203, LOT 08

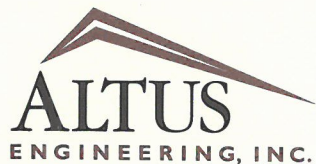
TITLE:

CONSTRUCTION DETAILS

SHEET NUMBER:

D-2





**Civil  
Site Planning  
Environmental  
Engineering**

133 Court Street  
Portsmouth, NH  
03801-4413

March 25, 2020

Juliet T. H. Walker, AICP, Planning Director  
Peter L. Britz, Environmental Planner  
City of Portsmouth Municipal Complex  
Planning Department  
1 Junkins Avenue  
Portsmouth, New Hampshire 03801

Re: **Application for Wetlands Conditional Use Permit  
Assessor's Map 203, Lot 08  
400 Little Harbor Road**

Dear Juliet and Peter:

On behalf of the Society for the Protection of N.H. Forests and Chinburg Properties, Altus Engineering, Inc. (Altus) respectfully submits an application for a Conditional Use Wetlands Permit for the construction of a replacement water main to service the existing Carey Cottage at Creek Farm located at 400 Little Harbor Road, Tax Map 203, Lot 08. The proposed water line will allow for the existing building to be renovated and will provide the ability for a fire suppression system to be installed. All of the work within the tidal and freshwater buffer will be restored to its current conditions. There will be no increase in site impervious. There will be no direct impacts to any jurisdictional wetlands. All disturbed areas will be loam and seeded.

In addition to the online submission package, the following will be submitted at a later date:

- Application fee check in the sum of \$1,000 (to be submitted via snail mail)
- 10 copies of the site plans (1 full sized, 9 reduced)
  - Wetlands, C-1
  - Construction Details, D-2 and D-3
- 10 copies of the Project Narrative – Conditional Use Wetlands Permit Criteria for Approval
- 10 copies Wetlands Functions and Values Assessment

At this uncertain time, Altus fully understands that the Public Hearing may not occur on April 9<sup>th</sup> as scheduled, we respectfully request that we are placed on the next Conservation Commission meeting agenda. In addition, a NHDES Wetlands Bureau Permit Application is being filed for the sitework activities that will be occurring within 100-feet of the highest observable tide line.

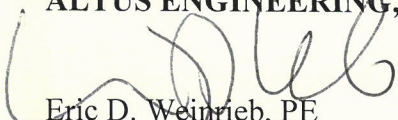


Juliet T. H. Walker, AICP, Planning Director  
Peter L. Britz, Environmental Planner  
March 25, 2020  
Page 2

Altus is excited to present this application and to see that Carey Cottage will be restored. Please call me if you have any questions or need any additional information.

Sincerely,

**ALTUS ENGINEERING, INC.**



Eric D. Weinreb, PE  
President

wde/50227-App-City-cvr ltr

Ecopy: Jack Savage, Society for the Protection of N.H. Forests  
Eric Chinburg, Chinburg Properties



**Civil  
Site Planning  
Environmental  
Engineering**

133 Court Street  
Portsmouth, NH  
03801-4413

## **Project Narrative**

**Conditional Use Permit – Inland Wetland Buffer  
“Creek Farm” – Carey Cottage water line  
Tax Map 203, Lot 8  
400 Little Harbor Road, Portsmouth, NH  
Altus Project #5022**

In 2019, the Society for the Protection of New Hampshire Forests (SPNHF) secured permits to raze the Carey Cottage at Creek Farm. Subsequent to the permitting, a non-profit organization came forward to preserve and restore the historic structure. In order to safely occupy the building, the existing antiquated and under sized water line needs to be replaced and enlarged to provide adequate domestic and fire suppression services to the building.

The water service is tapped off the City main at the end of the Little Harbor Road near the highest observable water line. The exact location of the existing main is unknown as it runs in a serendipitous route through a densely vegetated area along the tidal shoreline. Rather than excavate and disturb a significant portion of the shoreline, we are proposing to reroute a portion of the main to create a more direct route and reduce the site disturbances within the sensitive buffer.

All of the disturbances will be temporary as there will be no regrading of the site and the vegetated areas will be returned to their existing conditions.

±7,700 SF of sitework activities are expected within the 100-foot tidal and inland wetlands buffer areas. No wetlands freshwater or tidal will be disturbed.

### **Conditional Use Permit Criteria for Approval**

*1. The land is reasonably suited to the use, activity or alteration.*

The Carey Cottage was constructed in the late 1880's. It has been vacant for an extended period. The building is undergoing a major renovation to allow it to be reoccupied. Major deficiencies need to be addressed including providing an adequate source of water for both domestic water supply and fire protection. The proposed water service will not permanently impact the buffer area as the vegetation will be restored.

*2. There is no alternative location outside the wetland buffer that is feasible and reasonable for the proposed use, activity or alteration.*



The Carey Cottage is located at Creek Farm which is now under conservation and owned by the Society for the Protection of New Hampshire Forests (SPNHF). Portions of the cottage itself are located within the 100-foot buffer to Sagamore Creek. Almost the entire water line is within the buffer. A significant portion of the lot is wetlands. The proposed route minimizes the impacts as it runs as close as possible to the septic system as possible and then runs across the narrow upland area adjacent to the freshwater and tidal wetlands. From this area, the proposed waterline diverges from the existing route and runs through the open area outside the buffer to Little Harbor Road.

The only other route explored was running the water line down the existing driveway. This route would likely be significantly more expensive as the main would need to be larger to offset the friction losses in the longer service length and would require the roadway to be reconstructed. The majority of the work would still be within the buffer area. The substantial increase in cost would make the project nonviable. Thus, the SPNHF would have to raze the building as previously permitted.

3. *There will be no adverse impact on the wetland functional values of the site or surrounding properties.*

The work required to construct the waterline will not alter the functions and values of the adjacent wetland systems. The construction of a new water line will not permanently alter the landscape as the site will be restored to the pre-construction conditions.

4. *Alteration of the natural vegetative state or managed woodland will occur only to the extent necessary to achieve construction goals.*

The proposed water line route is designed to minimize disturbing specimen trees. The existing waterline runs under or adjacent to a 30-inch oak tree. The new route is proposed to avoid disturbing the oak but will require removal of a cherry tree that is of lower value.

5. *The proposal is the alternative with the least adverse impact to areas and environments under the jurisdiction of this section.*

The proposed design has been located as far as possible away from jurisdictional areas and as such has the least impact.

6. *Any area within the vegetated buffer strip will be returned to a natural state to the extent feasible.*

No new impervious surfaces are proposed and all areas impacted by this project will be graded and restored to the current conditions.



**WETLAND DELINEATION  
&  
FUNCTIONAL ASSESSMENT REPORT**

**FOR**

**CREEK FARM  
400 LITTLE HARBOR ROAD  
PORTSMOUTH, NEW HAMPSHIRE**

**PREPARED FOR:**

**ALTUS ENGINEERING, INC.  
133 COURT STREET  
PORTSMOUTH, NEW HAMPSHIRE 03801**

**PREPARED BY:**

**JOSEPH W. NOEL  
P.O. BOX 174  
SOUTH BERWICK, MAINE 03908**

**JWN# 95-445  
MARCH 23, 2020**



**JOSEPH W. NOEL  
P.O. BOX 174  
SOUTH BERWICK, MAINE 03908  
(207) 384-5587**

CERTIFIED SOIL SCIENTIST

\*

WETLAND SCIENTIST

\*

LICENSED SITE EVALUATOR

## INTRODUCTION

This report replaces the Partial Wetland Delineation Report/Letter dated January 22, 2020. This report was prepared to aid in the review of the proposed municipal waterline replacement (930'+/- linear feet) for Creek Farm. The property is 30.20+/- acres and is located at 400 Little Harbor Road in Portsmouth, New Hampshire. No direct wetland impacts are planned but the proposed project will require encroaching into the 100-foot wetland buffer to relocate and replace a portion of the waterline serving the property. This Functional Assessment is for the freshwater wetland not the adjacent downstream tidal wetland associated with Sagamore Creek.

## WETLAND DELINEATION

To determine the wetland boundary, the methodologies in the U.S. Army Corps of Engineers document *Corps of Engineers Wetlands Delineation Manual* (1987) along with the required *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*, (Version 2.0) were used. Wetlands were identified based on soils, vegetation, and wetland hydrology. Except in special cases, all three factors (hydric soils, hydrophytic vegetation, and wetland hydrology) must be present for an area to classify as wetland. A predominance of wetland and upland vegetation was determined from visual estimates in the vegetative layers (herbaceous, shrub, sapling, and tree layers). Plant species indicator status was based on the U.S. Army Corps of Engineers publication *National Wetland Plant List* (2016).

Shallow soil observations were made using a hand auger to assess the soil morphological features and to examine for wetland hydrology. Hydric soil determinations were conducted in accordance with the United States Department of Agriculture, Natural Resources Conservation Service document *Field Indicators of Hydric Soils in the United States, Version 8.1* (2017) along with the manual *Field Indicators for Identifying Hydric Soils in New England* (Version 4, April 2019).

The freshwater wetland boundary in the vicinity of the proposed waterline replacement/relocation was field delineated with sequentially numbered pink and black striped flagging on December 13, 2019. Flagged sequence A1 thru A8 delineates a portion of the freshwater wetland southwest of the former "Carriage House" now unoccupied and used for storage (not part of the wetland assessment area). Flagged sequences B1 thru B20 delineate a portion of the freshwater wetland north of Creek Farm and west of a Sagamore Creek tidal inlet (wetland assessment wetland). The freshwater and tidal wetlands are separated by a culverted trail (culvert type unknown - may be an old stone culvert or simply stone/boulder pile serving as a drainageway). The tidal boundary or HOTL was flagged with blue flagging on April 24, 2019 and extended on December 13, 2019. These flags were located by Knight Hill Land Surveying Services, Inc. and placed on the project plans.



## FUNCTIONAL ASSESSMENT

The majority of the freshwater wetland being assessed is nearly level to gently sloping and dominated by a scrub-shrub plant community with forested edges and pockets of emergent vegetation. The National Wetland Inventory (NWI) database classifies the wetland as PFO1C (palustrine, forested, broad-leaved deciduous, seasonally flooded), PSS1C (palustrine, scrub-shrub, broad-leaved deciduous, seasonally flooded), and PEM1C (palustrine, emergent, persistent, seasonally flooded). The soils are poorly drained and fine textured. Project plans show no direct wetland impacts will occur. No formal vernal pool survey was conducted by the undersigned; however, the delineated wetlands near the proposed project did not appear to have the physical characteristics of a vernal pool. Refer to attached photos of the wetland systems and the trail where the waterline will be crossing.

The parcel contains an old farm/estate that contains the main house and the Creek Farm Cottage that was originally built in the 1800s. In ~1997 a conservation easement was established and in 2000 the Society For the Protection Of Forests acquired the property as a conservation area. Currently the land is being used for hiking trails, outdoor education, tree farm, bird sanctuary and wildlife refuge. The freshwater wetland drains down to Sagamore Creek through a constricted outlet (intermittent stream section and wetland swale with a portion that was dug out a long time ago to improve drainage out of the freshwater wetland system.

## METHODOLOGY

Provided by Altus Engineering, Inc. for the wetland assessment was a plan with the existing condition and where the proposed waterline is being replaced/rerouted. Also reviewed by the undersigned were the following resource maps: NH Wetland Mapper map, NRCS soil survey, FEMA map, and the NWI map. The fieldwork portion of the wetland assessment was conducted on March 1, 2020 using *The Highway Methodology Workbook Supplement: Wetland Functions and Values, A Descriptive Approach* (US Army Corps of Engineers, New England Division, 1999). One completed Wetland Function-Value Evaluation Form has been included (refer to Attachments for details). There is one identified rare species or exemplary community documented on the site by the New Hampshire Natural Heritage Bureau (NHB). Marsh elder/jesuit's-bark (*Iva frutescens*) is documented but is not in the wetland being assessed. A survey was conducted by the undersigned in close proximity to the project and two additional small communities were noted on the upper banks of the downstream tidal system (located ~70' or more from the waterline project). Attached are plant and wildlife lists of the subject development area (not detailed lists of the entire property). Observations were also limited due to winter conditions. The FEMA map verified that the wetland is not within the 100 year floodplain. There are no downstream public or private wells (municipal water on-site). The USGS shows a blue line associated with the subject wetland, however, this stream appears to be dug out in some areas and more intermittent in nature in the freshwater wetland from the limited site observations (refer to stream photo in Attachment section).

The Highway Methodology utilizes list of considerations/qualifiers to assist in determining the presence and evaluating the importance of the following functions and values. The description



of each function and value comes directly from *The Highway Methodology Workbook Supplement* (1999).

- 1) Groundwater Recharge/Discharge – This function considers the potential for a wetland to serve as a groundwater recharge and/or discharge area.
- 2) Floodflow Alteration – 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.
- 3) 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
- 4) 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.
- 5) 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.
- 6) Production Export – This function evaluates the effectiveness of the wetland to produce food or usable products for humans or other living organisms.
- 7) Sediment/Shoreline Stabilization – This function considers the effectiveness of a wetland to stabilize streambanks and shorelines against erosion.
- 8) 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.
- 9) Recreation – This value considers the suitability of the wetland and associated watercourses to provide recreational opportunities such as hiking, canoeing, boating, fishing, hunting, and other passive recreational activities.
- 10) Education/Scientific Value – This value considers the suitability of the wetland as a site for an "outdoor classroom" or a location for scientific study or research.
- 11) Uniqueness/Heritage – This value considers the effectiveness of the wetland or its associated waterbodies to provide certain special values.
- 12) Visual Quality/Aesthetics – This value considers the visual and aesthetic quality or usefulness of the wetland.
- 13) Endangered Species Habitat – This value considers the suitability of the wetland to support threatened or endangered species.

#### FUNCTION AND VALUES DISCUSSION

The wetlands will not be directly impacted by the proposed waterline. There is one principle function in the wetland system (i.e., Wildlife Habitat). This wetland is favorable for birds (migrating, nesting, etc.) along with a number of smaller mammals. Deer use was also noted in the wetland. Two other principle values were noted but had more to do with the area adjacent to or surrounding the freshwater wetland (i.e., Recreation and Education/Scientific Value). In addition, the wetland system does provide the following functions and values: Groundwater Recharge/Discharge, Floodflow Alteration, Sediment/Toxicant Retention, Nutrient Removal, Production Export, Uniqueness/Heritage, and Visual Quality/Aesthetics. The wetland does not



provide the following functions and values: Fish and Shellfish Habitat, Sediment/Shoreline Stabilization, or Endangered Species Habitat. The adjacent tidal wetland does provide these values and should be considered a highly valuable wetland system. No Historic Preservation database review was provided. This should be conducted due to the historic nature of the site (first settled in 1640).

The wetland buffer to be impacted is almost all along the existing trail system and through an overgrown old field that is dominated by invasive species. The water line is planned in uplands represented by invasive plant species such as: asian bittersweet (*Celastrus orbiculatus*), japanese-knotweed (*Reynoutria japonica*), european buckthorn (*Rhamnus cathartica*), european barberry (*Berberis vulgaris*), japanese barberry (*Berberis thunbergii*), glossy false buckthorn (*Frangula alnus*), rambler rose (*Rosa multiflora*), honeysuckles (*Lonicera spp.*), norway maple (*Acer platanoides*), and black locust (*Robinia pseudoacacia*). These invasive plants are listed in the *New Hampshire Guide to Upland Invasive Species* (2011) or the NH Invasive Plant Species Watch List (April 24, 2019). In addition to the aforementioned invasive plants: eastern white pine (*Pinus strobus*), northern red oak (*Quercus rubra*), quaking aspen (*Populus tremuloides*), apple (*Malus sp.*), stag-horn sumac (*Rhus typhina*), sensitive fern (*Onoclea sensibilis*), and grape (*Vitis sp.*) were also noted. The water line will pass through an existing narrow stone culverted trail where the freshwater "B" flagged series drains to the tidal creek (i.e., wetlands separated by trail). The downslope side of the trail where the waterline is crossing is essentially boulders. The upslope side of the trail is the freshwater wetland. Plant species noted on the upslope side slope side of the trail and in close proximity to the trail in the freshwater wetland included: rambler rose, sedges, smooth arrow-wood, sedges, Japanese barberry, asian bittersweet, and buckthorn. Observations were limited due the winter conditions and area just upslope was still iced over. The trail where the waterline will be crossing between the two wetland systems is the natural constricted point of the freshwater wetland system and being adjacent to the tidal system, this crossing was most likely established here back in the late 1800's.

The upland soils are shallow to moderately deep to bedrock (i.e., ranging from 10 to 40 inches deep) with textures ranging from fine sandy loam to loamy sand. The hydric soils within the freshwater wetlands are primarily fine textured (i.e., very fine sandy loam or finer).

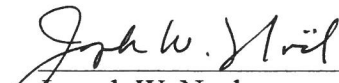
By using the existing gravel path to cross between the wetland system (where existing line is) and rerouting the balance of the waterline through upland that are further away from the tidal system than the existing waterline, there will be no permanent impacts to the wetland buffer or the wetland systems from the new waterline. This will also be further away from the marsh elder communities.

Selective thinning of the vegetation will also occur within the 100-foot buffer. By removing the invasive species, etc. a more natural plant community/buffer could regenerate here. Proper removal of the invasive species should be conducted to prevent further spread. Contractors should be familiar with proper removal of these plants (e.g., New Hampshire Guide to Upland Invasive Species publication is one guide that provides proper removal of invasive species). Soil disturbance will be limited to the waterline corridor, this will not impact the wetlands function and values. This should enhance the wetland buffer.

Wildlife Habitat is the function that will be temporarily impacted by the proposed development. White-tailed deer rubs were noted but wildlife observations were very limited due to the time of

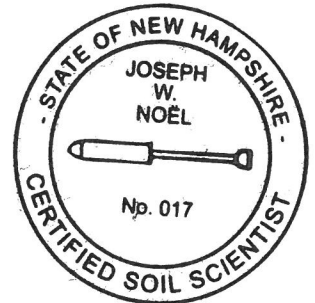


year and several groups of people walking their leashed dogs on the trail system. The impacts to the wildlife will be temporary during the construction of the waterline. The wildlife will return after the construction is completed. Kim Tuttle of the NHB also noted concerns about a nearby bat hibernacula and voluntary recommendations provided Ms. Tuttle in her email dated March 6, 2020 should be followed. If Best Management Practices are strictly adhered to along with the other design features to limit impacts (e.g., SiltSoxx will be installed around the project limits), there should be no secondary impacts to the wetlands or direct impacts to the wetland buffers. This will also be the case with the highly valuable tidal wetland that is downstream. Refer to Altus Engineering, Inc. plans for details on erosion control, etc. Please note, the NH Wetland Functional Assessment worksheet was referred to but is not part of this report. All pertinent information discussed in the worksheet is included in the narrative report or the attached Corps Wetland Function-Value Form.

  
\_\_\_\_\_  
Joseph W. Noel

New Hampshire Certified Soil Scientist #017

New Hampshire Certified Wetland Scientist #086





## **ATTACHMENTS**



## **PHOTOS**

**Creek Farm – 400 Little Harbor Road – Portsmouth, New Hampshire**  
(Photos taken by Joseph W. Noel on March 1, 2020)



**Walkway Where Waterline Crosses Between Wetlands**



**From The Walkway Looking At The Freshwater Wetland**



## **PHOTOS**

**Creek Farm – 400 Little Harbor Road – Portsmouth, New Hampshire**

(Photos taken by Joseph W. Noel on March 1, 2020)



From Walkway Looking At the Tidal Wetland



Overview Of Wetland Assessment Wetland (Forested Example)



## **PHOTOS**

**Creek Farm – 400 Little Harbor Road – Portsmouth, New Hampshire**

(Photos taken by Joseph W. Noel on March 1, 2020)



Overview Of Wetland Assessment Wetland (Scrub-Shrub Example)



Overview Of Wetland Assessment Wetland (Emergent Example)



## PHOTOS

Creek Farm – 400 Little Harbor Road – Portsmouth, New Hampshire

(Photos taken by Joseph W. Noel on March 1, 2020)



Intermittent Stream Segment Leaving Wetland System Upslope From Walkway



Jesuit's-bark (*Iva frutescens*) – Also Known As Marsh Elder Or High-tide Bush Community



# Wetland Function-Value Evaluation Form (freshwater wetland only – not downstream tidal wetland)

Total area of wetland 5.2 +/- Human made? No Is wetland part of a wildlife corridor? No or a "habitat island"? No  
 Adjacent land use Residential Homes Distance to nearest roadway or other development <100 feet  
 Dominant wetland system present PSSI Contiguous undeveloped buffer zone present No  
 Is the wetland a separate hydraulic system? Yes If not, where does the wetland lie in the drainage basin? \_\_\_\_\_  
 How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list) yes attached \_\_\_\_\_  
 PFO Swale

Wetland I.D. Unnamed freshwater wetland  
 Latitude 43.059 Longitude 70.741  
 Prepared by: TWN NHCWS #086 Date 3/23/2020  
 Wetland Impacts: amount subject to change (no direct impacts)  
 Type N/A Amount N/A  
 Evaluation based on: Office – Yes Field – Yes  
 Corps manual wetland delineation  
 Completed? Yes

Function/Value	Suitability Y N	Rationale (Reference #)	Principal Function(s)	Comments
Groundwater Recharge/Discharge	X	6, (7), 9, 10	No	Fine-textured soils limit this function, discharge via intermittent stream/wetland swale only near outlet may contribute to limited groundwater recharge. Wetlands near project (waterline crossing) drain to Sagamore Creek Tidal wetland.
Floodflow Alteration	X	3, (6), (7), 9, 15 (18)	No	Subject wetland provides limited flood storage from surrounding uplands, Intermittent stream/wetland swale drains to Sagamore Creek via a bedrock natural constricted outlet. Limited floodplain storage near waterline
Fish and Shellfish Habitat (Freshwater)	X	1	No	This function does not appear to apply to the freshwater wetland system. Just downstream of the evaluation area is a special aquatic site.
Sediment/Toxicant Retention	X	4, 7, 8, 9, (10), 13, 14, 16	No	Freshwater wetland has negligible surface water. Wetland structure (basin) can trap sediment. Contains constricted outlet. Some dense vegetation. Limited opportunity exists to trap sediments from overland flow from adjacent parking areas.
Nutrient Removal	X	3, 7, 8, 9, 11, 12, 13, 14	No	Minor potential for nutrient uptake exist, lack of persistent deep open water, little dense vegetation except in limited areas
Production Export	X	1, 2, 4, 5, (7), 12	No	Seeds, fruits, berries, etc., are present intermittent stream provides mode of transportation
Sediment/Shoreline Stabilization	X	2, 7, (9), 12, 15	No	Intermittent stream/wetland swale outlets to Sagamore Creek. No erosive forces in freshwater wetland.
Wildlife Habitat	X	3, (4), 5, 7, 8, 11, (13), (15), 16, 17, 18, 19, (21)	Yes	Favorable for birds (migrating, nesting, insect source, etc.), small mammals, etc. Limited wildlife observations due to winter conditions. Adjacent forested uplands and tidal system increase this function.
Recreation	X	1, (4), 5, 7, 8, 10, 11, 12	Yes*	* = not in freshwater wetland itself but existing trail system provides opportunity for hiking, birdwatching, etc.. Access to available parking.
Educational/Scientific Value	X	(1), 3, (4), 5, 6, 8, 9, 10, 13, 15, 16	Yes*	* = not in freshwater wetland. Lacks unusual wetland plant community in freshwater wetland, parking is available, handicap accessible. Downstream tidal wetland has threatend plant. Trail system with some limited views of freshwater wetland.
Uniqueness/Heritage	X	4, 5, 7, 8, 9, 10, 12, (13), (15), 19, (20)	No	Freshwater wetland is not unique. Database search should be conducted for historic features – part of old farm estate dating back to 1887 & first settled in 1640. Downstream is man-made tidal pool.
Visual Quality/Aesthetics	X	1, 3, 4, 5, 7, 8, (9), 10	No	Freshwater wetland is not visually distinct – parking available – trail access provided - Sagamore Creek (adjacent is high quality)
Endangered Species Habitat	X	(1)	No	No trees will be cut for the proposed waterline. NHB and NHFG reviewed proposed project – no expected impacts to sensitive wildlife or the Marsh Elder plant communities (noted during wetland assessment) A review should be conducted with the Federal Wildlife Service (IPAC) (not provided for the wetland assessment).
Ecological Integrity (Required For NH Permits)	X	N/A	No	Old farmland (not natural area), invasive plant species noted in the area, trail system/road in wetland buffer, parking areas, man-made tidal pool, ditch out just upstream from the walkway – alter the natural communities

Sagamore Creek tidal/marine system (very valuable wetland system) is downstream of the walkway (i.e., where waterline will cross). The tidal system is not part of this wetland assessment but pertinent comments will be included. The watershed is ~35 acres and the freshwater wetland being assessed is ~5.2 acres per NH Wetland Mapper.



## Plant List

Alder-leaf buckthorn  
Allegheny blackberry  
American bittersweet  
Apple  
Asian bittersweet  
Barberry  
Black cherry  
Black locust  
Bluejoint  
Bristly dewberry  
Broad-leaf cat-tail  
Burning bush  
Common winterberry  
Cottongrass bulrush  
Eastern marsh fern  
Eastern poison ivy  
Eastern white pine  
European barberry  
European buckthorn  
Fringed sedge  
Glossy False Buckthorn  
Grape  
Honeysuckle  
Horsetail  
Japanese barberry  
Japanese-knotweed  
Jesuit's-bark  
Lamp rush  
Maleberry  
New England American-aster  
New York fern  
Northern bayberry  
Northern bracken fern  
Northern red oak  
Norway maple  
Pointed broom sedge  
Possumhaw  
Purple loosestrife  
Quaking aspen  
Rambler rose  
Red maple  
Royal fern  
Sedges  
Sensitive fern

*Rhamnus alnifolia*  
*Rubus allegheniensis*  
*Celastrus scandens*  
*Malus sp.*  
*Celastrus orbiculatus*  
*Berberis sp.*  
*Prunus serotina*  
*Robinia pseudoacacia*  
*Calamagrostis canadensis*  
*Rubus hispidus*  
*Typha latifolia*  
*Euonymus alatus*  
*Ilex verticillata*  
*Scirpus cyperinus*  
*Thelypteris palustris*  
*Toxicodendron radicans*  
*Pinus strobus*  
*Berberis vulgaris*  
*Rhamnus cathartica*  
*Carex crinita*  
*Frangula alnus*  
*Vitis sp.*  
*Lonicera spp.*  
*Equisetum sp.*  
*Berberis thunbergii*  
*Reynoutria japonica*  
*Iva frutescens*  
*Juncus effusus*  
*Lyonia ligustrina*  
*Symphotrichum novae-angliae*  
*Parathelypteris noveboracensis*  
*Morella pensylvanica*  
*Pteridium aquilinum*  
*Quercus rubra*  
*Acer platanoides*  
*Carex scoparia*  
*Viburnum nudum*  
*Lythrum salicaria*  
*Populus tremuloides*  
*Rosa multiflora*  
*Acer rubrum*  
*Osmunda spectabilis*  
*Carex spp.*  
*Onoclea sensibilis*



Shag-bark hickory  
Silky dogwood  
Smooth arrow-wood  
Speckled alder  
Stag-horn sumac  
Steeplebush  
White meadowsweet  
Willowherb

*Carya ovata*  
*Cornus amomum*  
*Viburnum recognitum*  
*Alnus incana*  
*Rhus typhina*  
*Spiraea tomentosa*  
*Spiraea alba*  
*Epilobium sp.*



## Wildlife List

American crow  
Black-capped chickadee  
Blue jay  
Cardinal  
Carolina wren  
Downy woodpecker  
Eastern chipmunk  
Eastern gray squirrel  
Nuthatch  
White-tailed deer

*Corvus brachyrhynchos*  
*Poecile atricapillus*  
*Cyanocitta cristata*  
*Cardinalis cardinalis*  
*Thryothorus ludovicianus*  
*Picoides pubescens*  
*Tamias striatus*  
*Sciurus carolinensis*  
*Sitta sp.*  
*Odocoileus virginianus*

\*\* A complete wildlife survey was not conducted. Observations from visual sightings, scat, and tracks.








### Letter of Authorization

I, Jack Savage, of the Society for the Protection of Forests, located at 54 Portsmouth Street in Concord, NH, hereby authorize Altus Engineering, Inc. of Portsmouth, New Hampshire to represent the Society for the Protection of Forests in all matters concerning engineering and related permitting for the "Creek Farm" property in Portsmouth, NH. The property is identified on the Assessor's Maps as Tax Map 203, Lot 08 and is located on Little Harbor Road in Portsmouth, NH. This authorization shall include any signatures required for State and Municipal permit applications.

  
\_\_\_\_\_  
Signature

Jack Savage, President  
Print Name

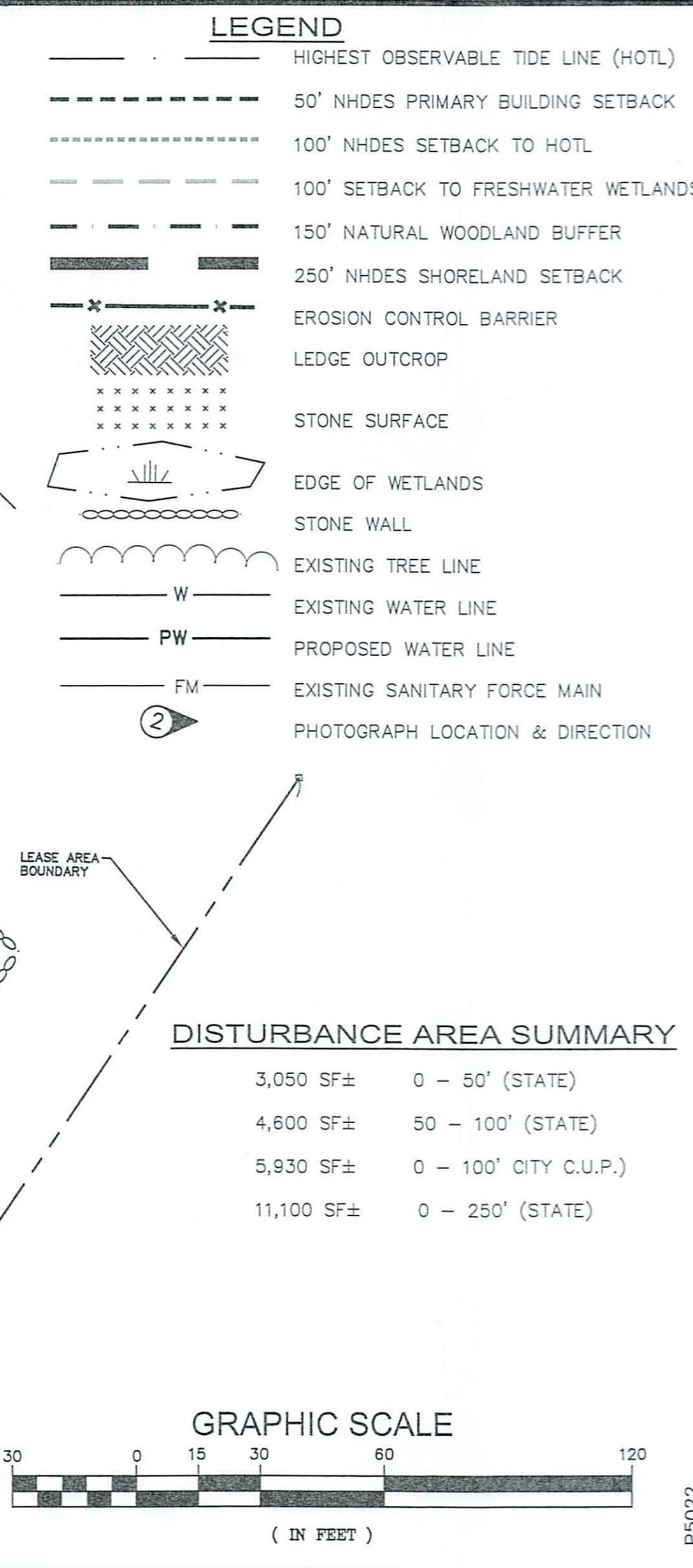
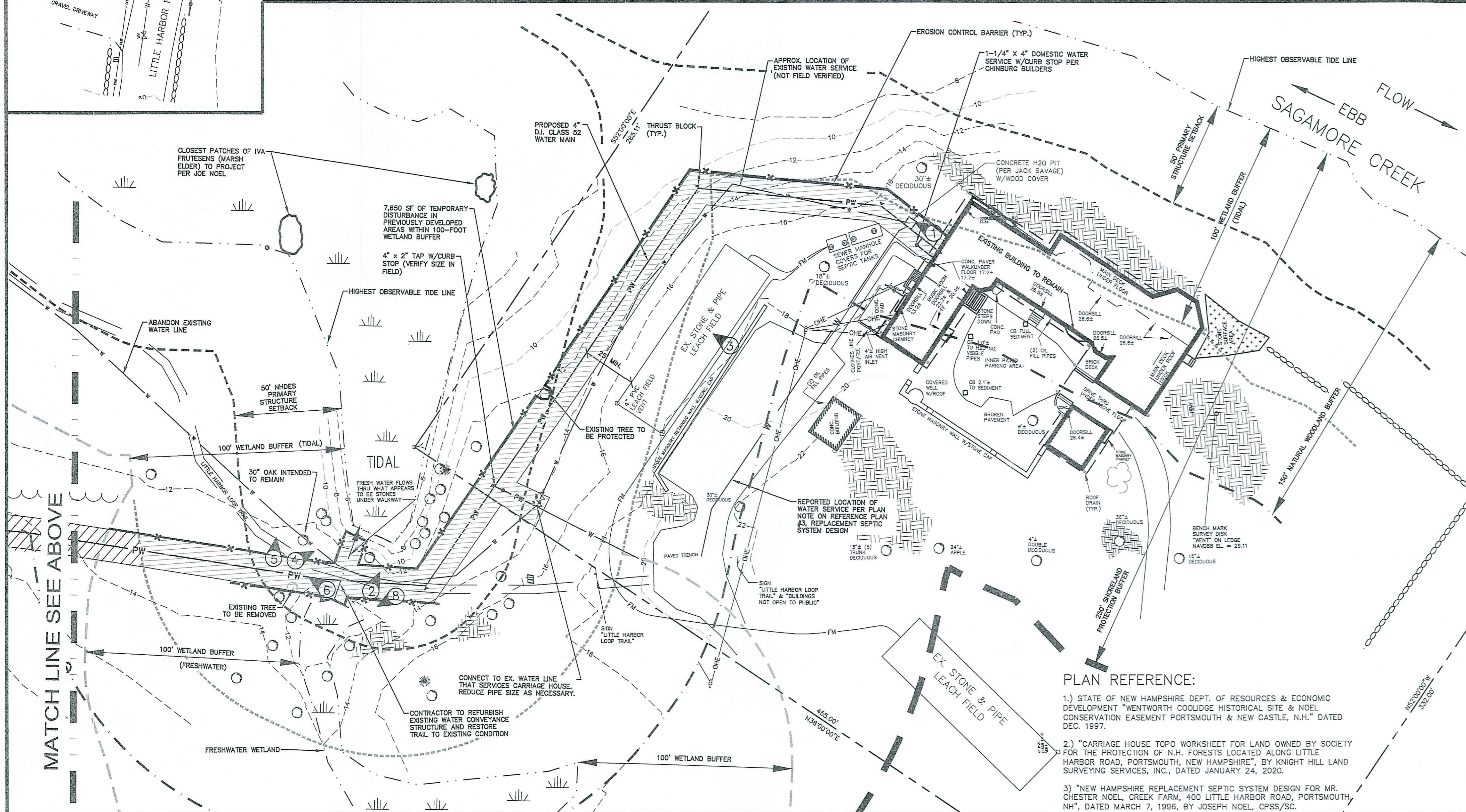
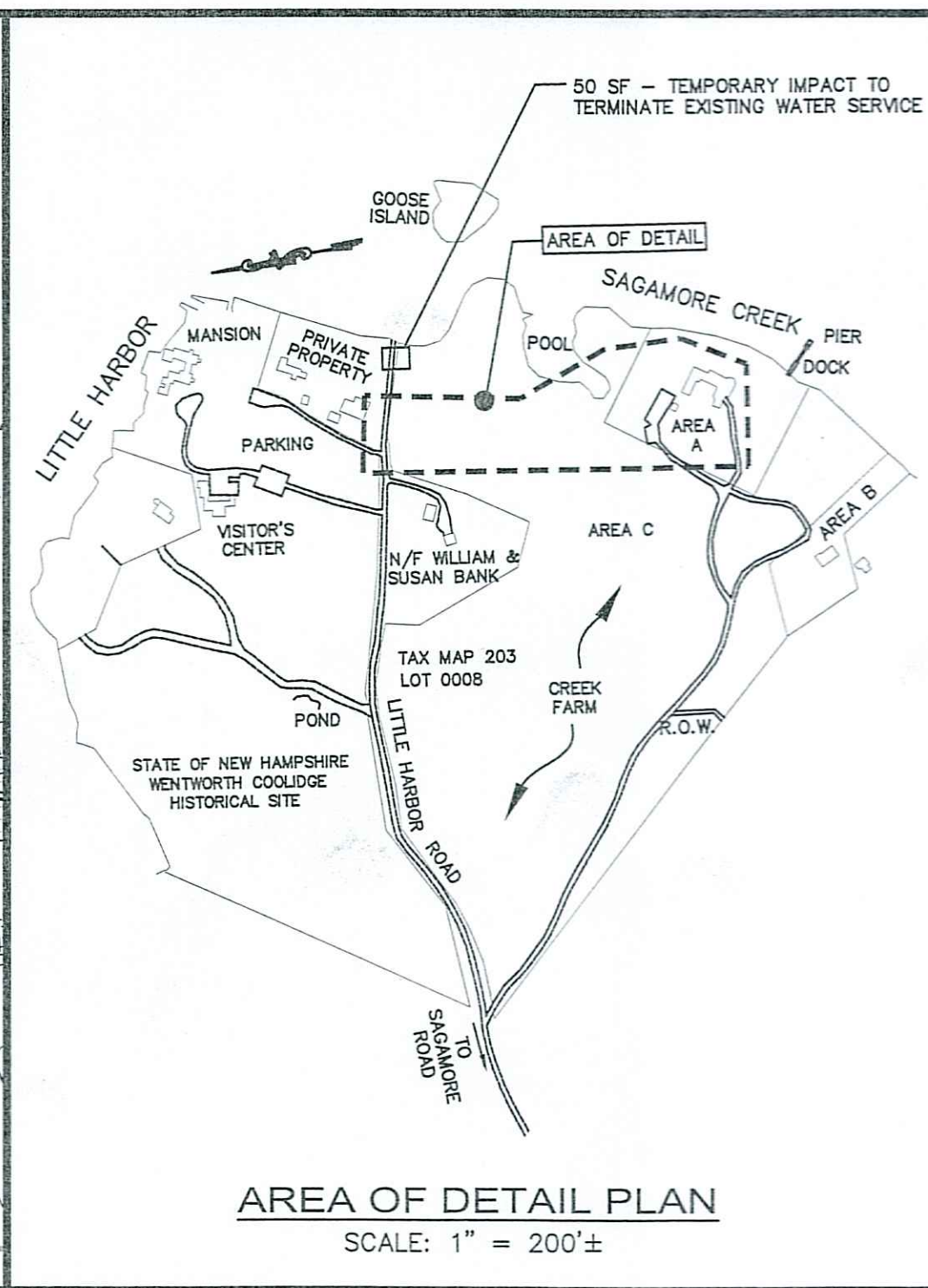
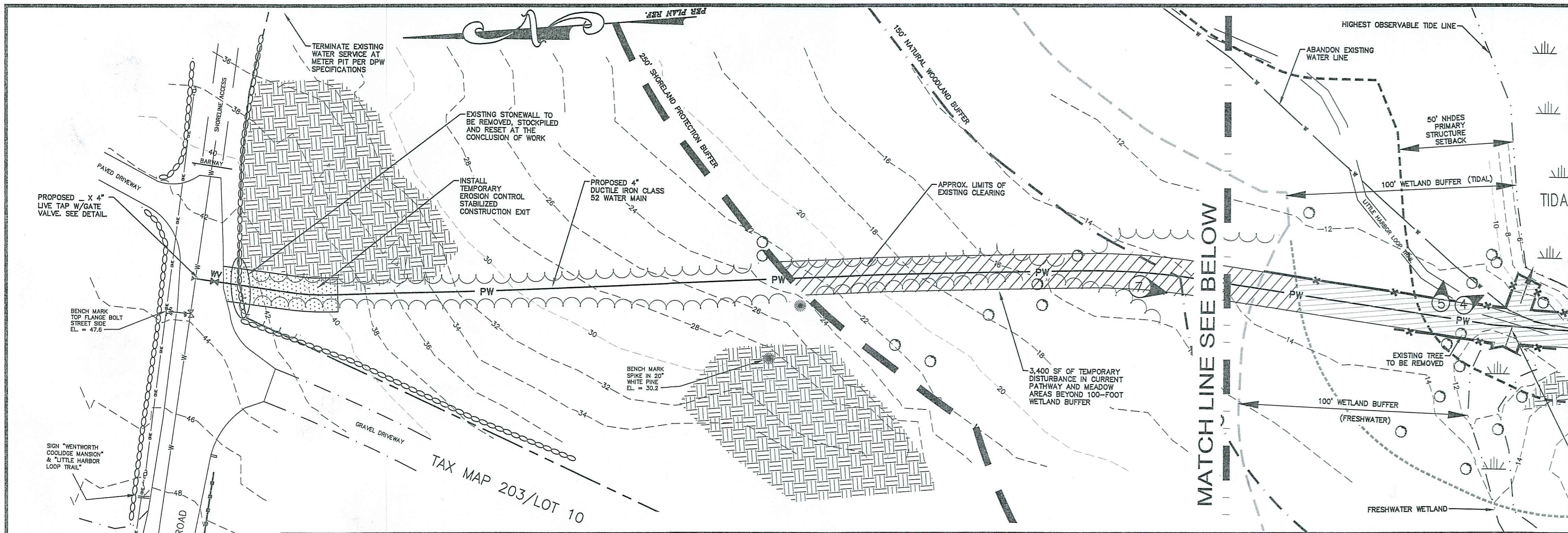
02/25/2020  
Date

  
\_\_\_\_\_  
Witness

Maria E. Stewart  
Print Name

2/25/2020  
Date





**ENGINEER:**  
**ALTUS**  
ENGINEERING, INC.  
133 COURT STREET PORTSMOUTH, NH 03801  
(603) 433-2335 www.ALTUS-ENG.com

**ISSUED FOR:** APPROVAL  
**ISSUE DATE:** MARCH 23, 2020

**REVISIONS:**  
NO. DESCRIPTION BY DATE  
0 INITIAL SUBMISSION EDW 03/23/20

**DRAWN BY:** RLH  
**APPROVED BY:** EDW  
**DRAWING FILE:** 5022.DWG

**SCALE:**  
22" x 34" - 1" = 30'  
11" x 17" - 1" = 60'

**OWNER OF RECORD/APPLICANT:**  
SOCIETY FOR THE PROTECTION OF N.H. FORESTS  
54 PORTSMOUTH ST. CONCORD, NH 03302

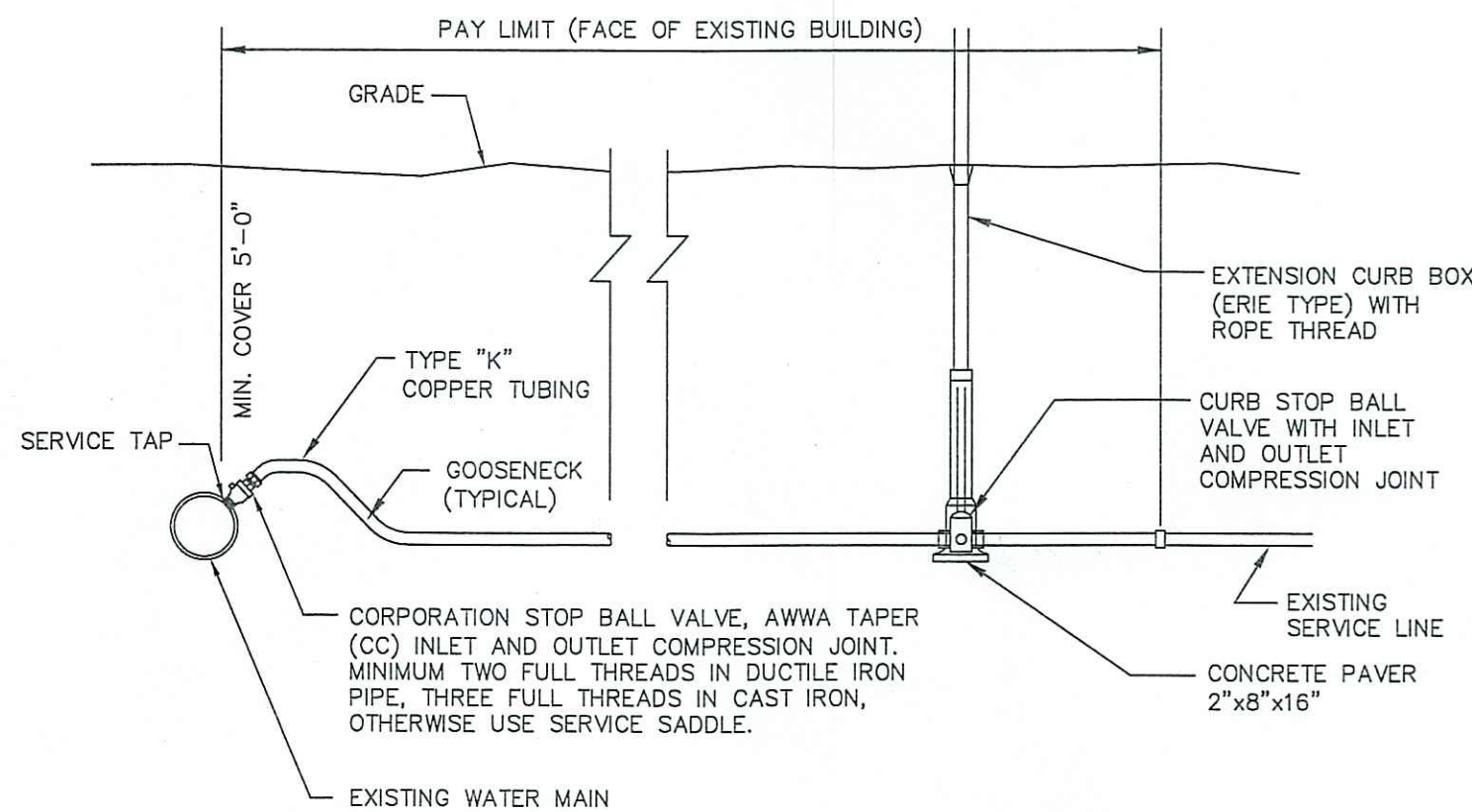
**PROJECT:**  
**PROPOSED WATER LINE**  
**CREEK FARM**  
400 LITTLE HARBOR ROAD PORTSMOUTH, NH  
TAX MAP 203, LOT 08

**TITLE:**  
**NHDES WETLANDS & SHORELAND PERMITS PLAN**

**SHEET NUMBER:**  
C-1

- PLAN REFERENCE:**
- 1.) STATE OF NEW HAMPSHIRE DEPT. OF RESOURCES & ECONOMIC DEVELOPMENT "WENTWORTH COOLIDGE HISTORICAL SITE & NOEL CONSERVATION EASEMENT PORTSMOUTH & NEW CASTLE, N.H." DATED DEC. 1997.
  - 2.) "CARRIAGE HOUSE TOPO WORKSHEET FOR LAND OWNED BY SOCIETY FOR THE PROTECTION OF N.H. FORESTS LOCATED ALONG LITTLE HARBOR ROAD, PORTSMOUTH, NEW HAMPSHIRE", BY KNIGHT HILL LAND SURVEYING SERVICES, INC., DATED JANUARY 24, 2020.
  - 3.) "NEW HAMPSHIRE REPLACEMENT SEPTIC SYSTEM DESIGN FOR MR. CHESTER NOEL, CREEK FARM, 400 LITTLE HARBOR ROAD, PORTSMOUTH, NH", DATED MARCH 7, 1998, BY JOSEPH NOEL, CPSS/SC.

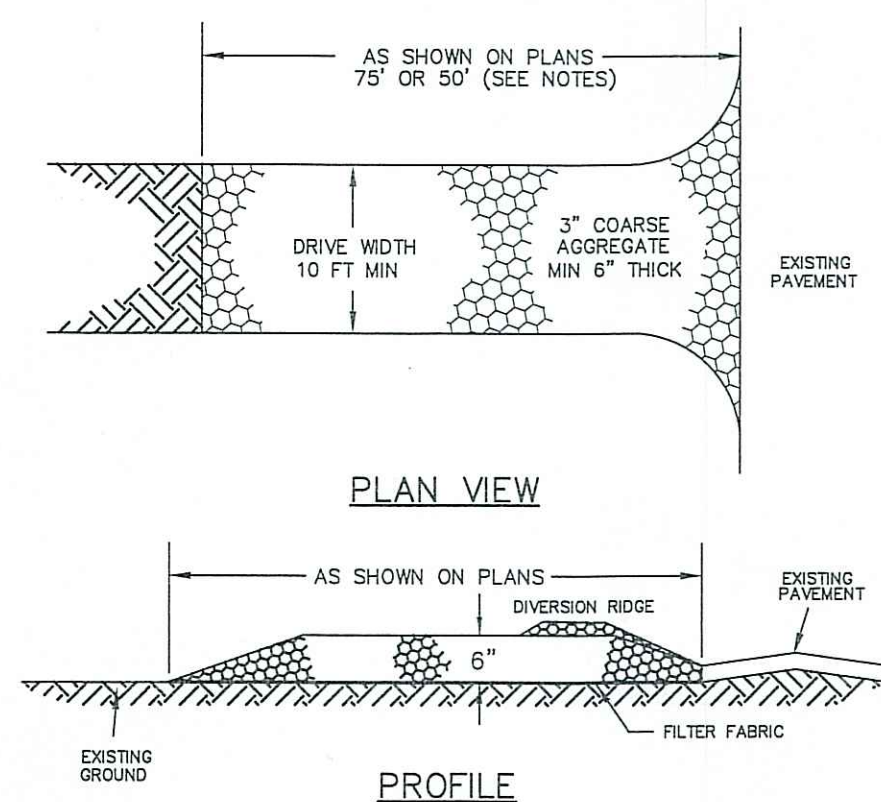




#### NOTES

1. PROVIDE NEW LINE USING CONTINUOUS LENGTHS OF COPPER. NO COUPLING ALLOWED IN ROADWAY WITHOUT APPROVAL OF ENGINEER.
2. TAPS TO BE MADE AT APPROXIMATELY 2:00 & 10:00
3. PROVIDE FOR SERVICE LINE CONTRACTION AND EXPANSION BY INSTALLING "S" IN SERVICE LINE NEAR MAIN.
4. IF SERVICE IS INSTALLED WITH LESS THAN 5' COVER, INSULATE OVER LINE.
5. REMOVE EXISTING CURB STOP.
6. CONNECT CURB STOP TO EXISTING SERVICE LINE AT PROPERTY LINE OR AT LOCATION APPROVED BY THE ENGINEER (NO COUPLING WITHOUT APPROVAL OF ENGINEER) AFTER PRESSURE TESTING AND DISINFECTION.
7. SHUT OFF EXISTING CORPORATION AND REMOVE OR ABANDON EXISTING SERVICE LINE.
8. CURB BOX SHALL BE SET IN THE GRASS/LANDSCAPE AREA BETWEEN CURB AND SIDEWALK UNLESS DIRECTED OTHERWISE.
9. 2" OR LARGER SERVICE CONNECTIONS SHALL USE A STAINLESS STEEL SERVICE SADDLE.

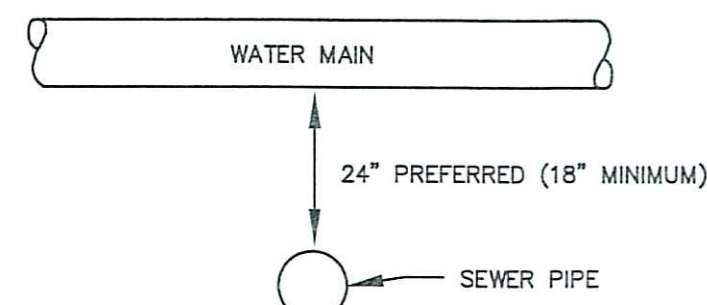
#### SERVICE CONNECTION DETAIL NOT TO SCALE



#### CONSTRUCTION SPECIFICATIONS

1. REFERENCE NEW HAMPSHIRE STORMWATER MANUAL VOLUME 3 (LATEST EDITION), SECTION 4.2
2. "TEMPORARY CONSTRUCTION EXIT" REQUIREMENTS AND BMP DETAIL.
3. STONE SIZE - 3" COARSE AGGREGATE
4. THICKNESS - SIX (6) INCHES (MINIMUM).
5. LENGTH - 75 FOOT MINIMUM, OR 50 FOOT ALLOWED WHEN DIVERSION RIDGE IS PROVIDED.
6. WIDTH - 1/2 OF DRIVEWAY (10 FOOT MINIMUM).
7. FILTER FABRIC - MIRAFI 600X OR APPROVED EQUAL.
8. SURFACE WATER CONTROL - ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
9. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

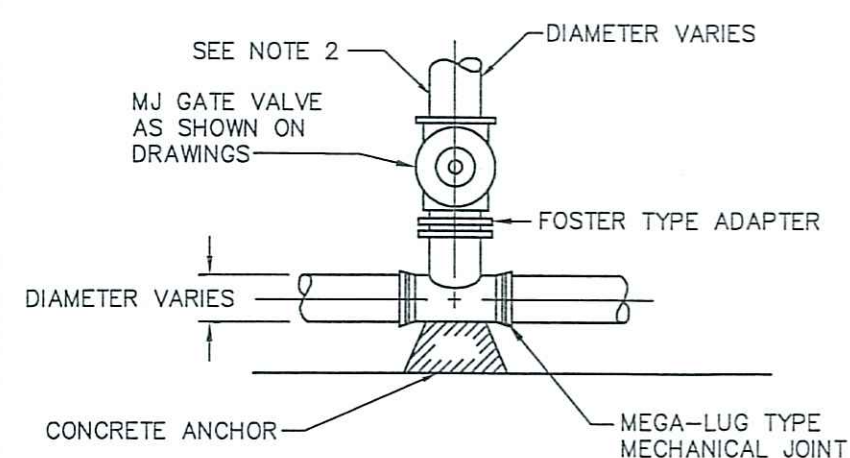
#### STABILIZED CONSTRUCTION EXIT NOT TO SCALE



#### NOTES

1. A MINIMUM HORIZONTAL DISTANCE OF 10 FEET SHALL BE MAINTAINED BETWEEN WATER AND SEWER MAINS. A MINIMUM VERTICAL DISTANCE WITH WATER ABOVE SEWER SHALL BE MAINTAINED.
2. SEWER PIPE JOINTS SHALL BE LOCATED A MINIMUM OF 6 FEET HORIZONTALLY FROM WATER MAIN.
3. IF THE REQUIRED CONFIGURATION CANNOT BE MET, THE SEWER MAIN SHALL BE CONSTRUCTED TO MEET THE NHDES REQUIREMENTS FOR FORCE MAIN CONSTRUCTION.

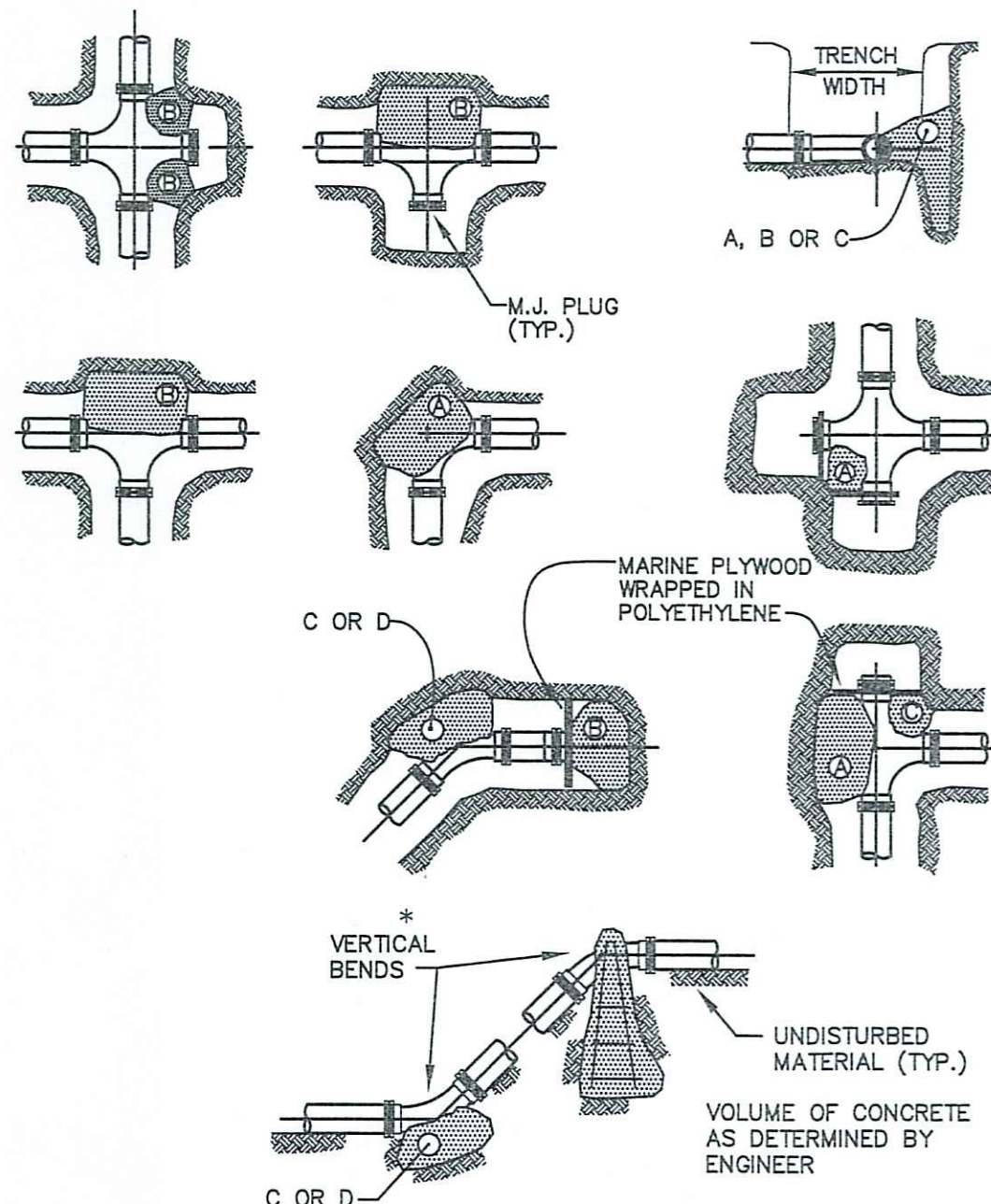
#### WATER MAIN / SEWER CROSSING NOT TO SCALE



#### NOTES

1. GATE VALVES SHALL OPEN RIGHT, PER CITY STANDARDS.
2. BRANCH PIPING SHALL BE MECHANICALLY RESTRAINED AS NOTED UNDER THRUST BLOCK DETAIL REQUIREMENTS.

#### TEE & GATE VALVE ASSEMBLY DETAIL NOT TO SCALE

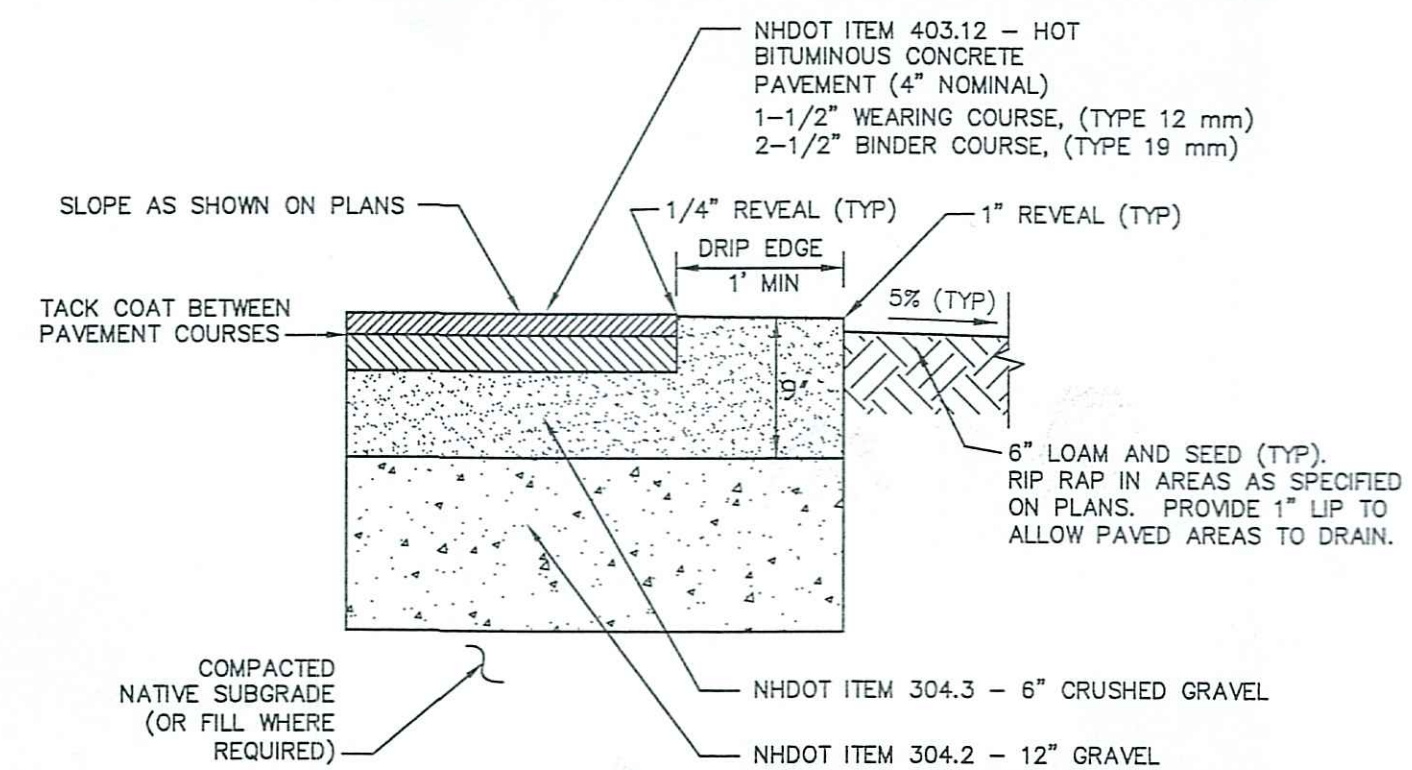


REACTION TYPE	PIPE SIZE				
	4"	6"	8"	10"	12"
A 90°	0.89	2.19	3.82	11.14	17.24
B 180°	0.65	1.55	2.78	8.38	12.00
C 45°	0.48	1.19	2.12	6.02	9.32
D 22-1/2°	0.25	0.80	1.06	3.08	4.74
E 11-1/4°	0.13	0.30	0.54	1.54	2.38

#### NOTES

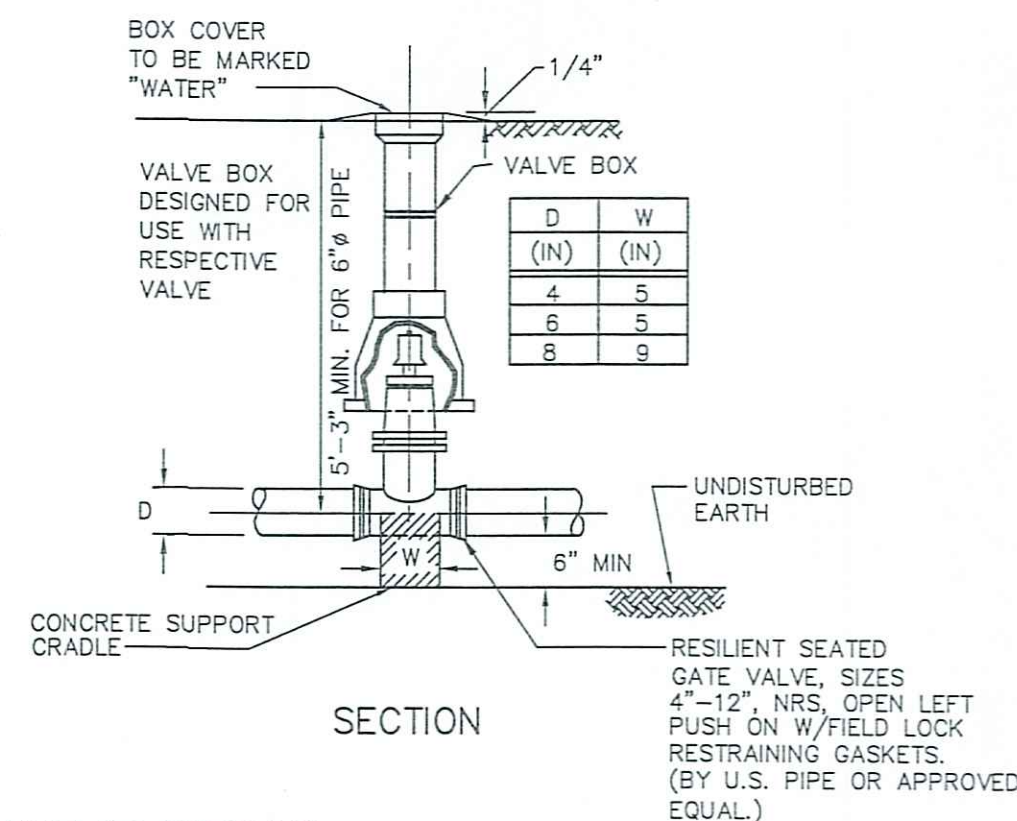
1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
3. PLACE BOARD IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCKS.
4. WHERE M.J. PIPE IS USED, M.J. PLUG WITH RETAINER GLAND MAY BE SUBSTITUTED FOR END BLOCKINGS.
5. POLYETHYLENE (8 MIL) SHALL BE PLACED AROUND FITTINGS PRIOR TO CONCRETE PLACEMENT.

#### THRUST BLOCKING DETAIL NOT TO SCALE

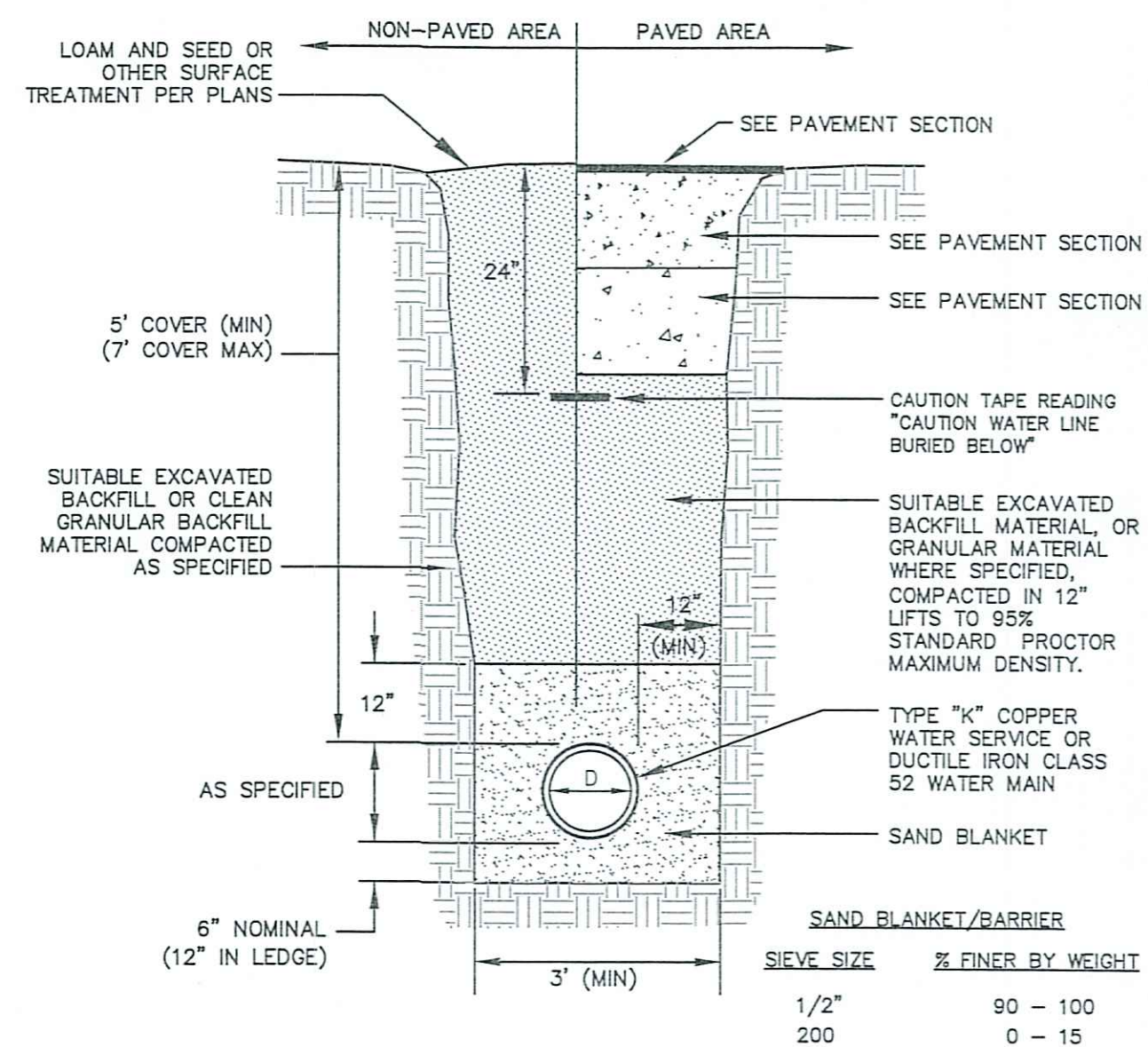


NOTE: SUBGRADE AREA TO BE PROOF ROLLED PER GEOTECHNICAL REPORT RECOMMENDATIONS OR ENGINEER.

#### PAVEMENT CROSS SECTION NOT TO SCALE



#### WATER VALVE DETAIL NOT TO SCALE

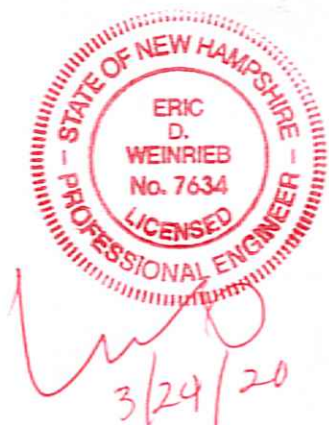
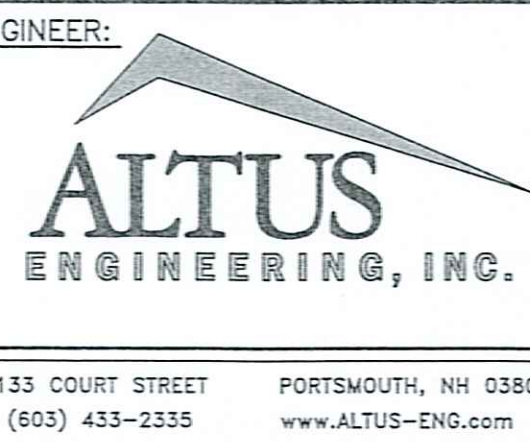


#### NOTES

1. BACKFILL MATERIAL BELOW PAVED OR CONCRETE AREAS, BEDDING MATERIAL, AND SAND BLANKET SHALL BE COMPACTED TO NOT LESS THAN 95% OF AASHTO T 99, METHOD C. SUITABLE BACKFILL MATERIAL BELOW LOAM AREAS SHALL BE COMPACTED TO NOT LESS THAN 90% OF AASHTO T 99, METHOD C.
2. WATER MAINS SHALL BE POLY WRAPPED.
3. WATER MAINS SHALL HAVE 3 WEDGES PER JOINT.

#### WATER MAIN TRENCH NOT TO SCALE

ENGINEER:



ISSUED FOR:

APPROVAL

ISSUE DATE:

MARCH 23, 2020

REVISIONS

NO.	DESCRIPTION	BY	DATE
0	DISCUSSION	EDW	03/23/20

DRAWN BY:

RLH

APPROVED BY:

EDW

DRAWING FILE:

5022.DWG

SCALE:

22" x 34" - NOT TO SCALE

OWNER OF RECORD/APPLICANT:

SOCIETY FOR THE PROTECTION OF N.H. FORESTS  
54 PORTSMOUTH ST.  
CONCORD, NH 03302

PROJECT:

PROPOSED WATER LINE

CREEK FARM  
400 LITTLE HARBOR ROAD  
PORTSMOUTH, NH

TAX MAP 203, LOT 08

TITLE:

CONSTRUCTION DETAILS

SHEET NUMBER:

D-1

P5022

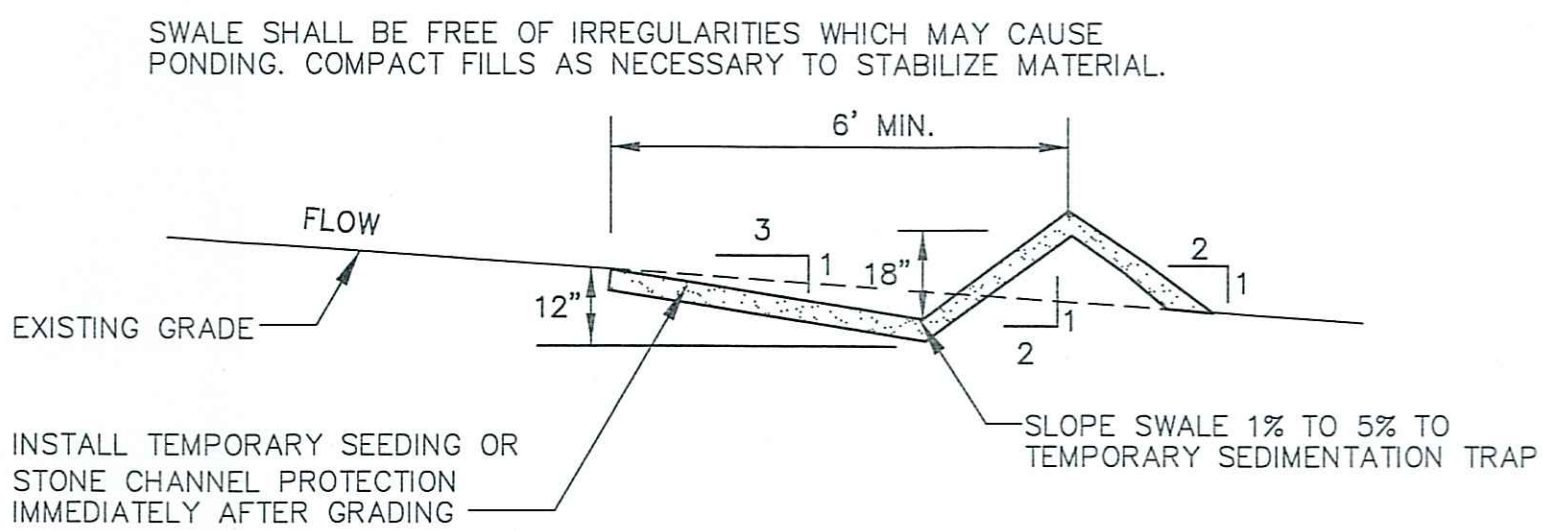


GENERAL NOTES

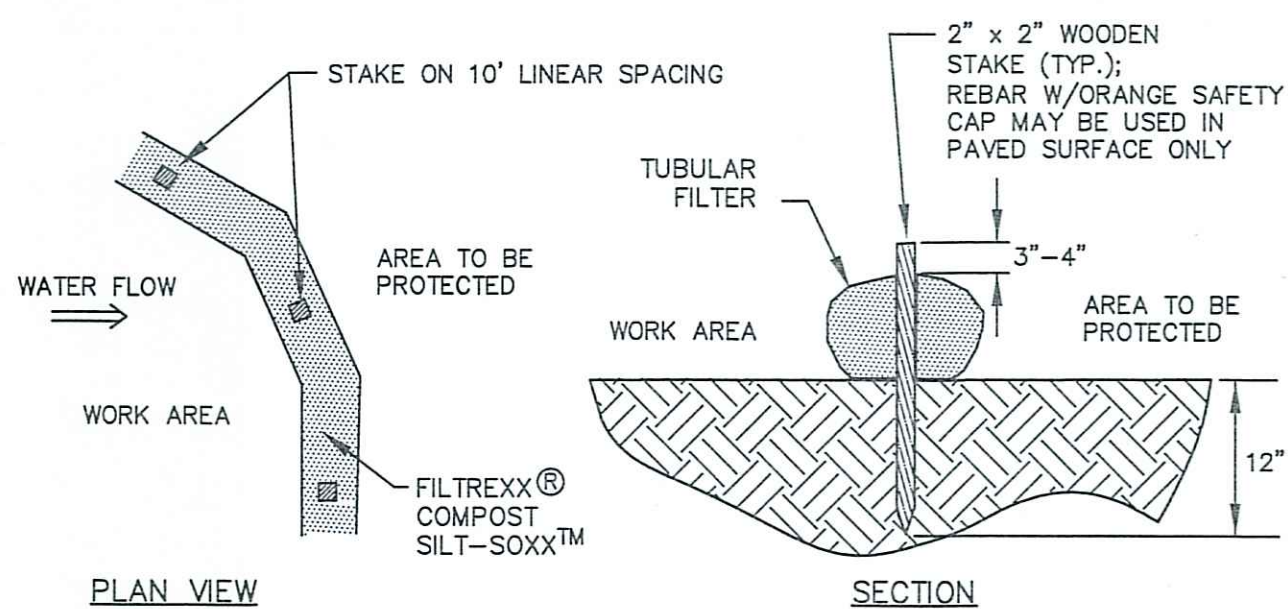
- DO NOT BEGIN CONSTRUCTION UNTIL ALL STATE, LOCAL AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.
- CONTRACTOR SHALL CALL DIG SAFE AT 1 (800) DIG-SAFE AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO COMMENCING CONSTRUCTION.
- CONTRACTOR SHALL NOTIFY CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.
- CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY SEDIMENT AND EROSION CONTROL ITEMS TO PREVENT SEDIMENT FROM CONSTRUCTION ACTIVITIES FROM LEAVING THE SITE. CONTROLS SHALL BE INSPECTED ON A REGULAR BASIS AND AFTER ALL RAIN EVENTS OF 0.25 INCHES OR GREATER. ANY DEFICIENCIES IN THE CONTROLS SHALL BE ADDRESSED IMMEDIATELY AND BROUGHT TO THE ATTENTION OF THE OWNER. ALL STORMS DRAINS WITHIN OR ADJACENT TO THE WORK AREA, WITH THE POTENTIAL TO RECEIVE RUNOFF FROM EXPOSED CONSTRUCTION AREAS, SHALL RECEIVE STORM DRAIN INLET PROTECTION.
- CONTRACTOR SHALL PREVENT TRACKING OF DIRT ONTO ANY PUBLIC OR PRIVATE ROADWAYS. IF TRACKING OF DIRT FROM CONSTRUCTION VEHICLES IS PRESENT ON THE OPEN STREETS, CONTRACTOR WILL BE REQUIRED TO SWEEP THE ROADWAY AT NO ADDITIONAL EXPENSE TO THE OWNER.
- ALL BONDS AND FEES SHALL BE PAID/POSTED PRIOR TO INITIATING CONSTRUCTION.
- CLEAN AND COAT VERTICAL FACE OF EXISTING PAVEMENT AT SAWCUT LINE WITH RS-1 IMMEDIATELY PRIOR TO PLACING NEW BITUMINOUS CONCRETE.
- THE CONTRACTOR SHALL VERIFY ALL BENCHMARKS AND TOPOGRAPHY IN THE FIELD PRIOR TO CONSTRUCTION.
- THIS PROJECT WILL NOT REQUIRE COVERAGE UNDER EPA NPDES PHASE II CONSTRUCTION GENERAL PERMIT.
- THIS PROJECT REQUIRES A CONDITIONAL USE PERMIT (CUP) FROM THE PORTSMOUTH PLANNING BOARD FOR SITEWORK ACTIVITIES WITHIN THE 100-FOOT WETLANDS BUFFER.

UTILITY NOTES

- ALL ROAD/LANE CLOSURES OR OTHER TRAFFIC INTERRUPTIONS ON CITY ROADS SHALL BE COORDINATED WITH THE PORTSMOUTH POLICE DEPARTMENT, PORTSMOUTH DPW.
- ALL WATER MAIN INSTALLATIONS AND SERVICE CONNECTIONS SHALL CONFORM TO PORTSMOUTH WATER DEPARTMENT STANDARDS. WATER MAIN SHALL BE WRAPPED WITH A WATER TIGHT POLYETHYLENE WRAPPING. ALL JOINTS SHALL HAVE THREE (3) WEDGES PER JOINT.
- DO NOT BEGIN CONSTRUCTION UNTIL ALL STATE, LOCAL, AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED. CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH ALL PERMIT CONDITIONS AND REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR POSTING OF ALL BONDS AND PAYMENT OF ALL TAP, TIE-IN AND CONNECTION FEES.
- THE OWNER/DEVELOPER TO PROVIDE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS WITH AN EASEMENT TO ALLOW UNLIMITED ACCESS TO THE SITE FOR THE PURPOSE OF MAINTAINING/CONTROLLING DOMESTIC WATER SUPPLY. IN THE EVENT OF NON-PAYMENT, THE CITY OF PORTSMOUTH WILL HAVE THE RIGHT TO SHUT OFF THE DOMESTIC WATER SUPPLY CURB STOP.
- ALL TRENCHING, PIPE LAYING AND BACKFILLING SHALL CONFORM TO FEDERAL OSHA AND CITY REGULATIONS.
- SITEWORK CONTRACTOR SHALL COORDINATE ALL WORK WITH MECHANICAL DRAWINGS.
- SEE ARCHITECTURAL/MECHANICAL DRAWINGS FOR EXACT LOCATIONS & ELEVATIONS OF UTILITY CONNECTIONS AT BUILDINGS. COORDINATE ALL WORK WITHIN FIVE (5) FEET OF BUILDINGS WITH BUILDING CONTRACTOR AND ARCHITECTURAL/MECHANICAL DRAWINGS. ALL CONFLICTS AND DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY AND PRIOR TO COMMENCING RELATED WORK.
- FINAL UTILITY LOCATIONS TO BE COORDINATED BETWEEN THE CONTRACTOR, ALL APPROPRIATE UTILITY COMPANIES.
- CONTRACTOR SHALL CONTACT CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS AT 603-427-1530 TO COORDINATE INSPECTION OF WATER WORK.
- DOMESTIC & FIRE SUPPRESSION WATER SERVICES SIZED PER DIRECTION OF CHINBURG BUILDERS. ALTUS ENGINEERING, INC. TAKES NO RESPONSIBILITY FOR ENSURING ADEQUATE FLOW TO BUILDINGS FOR EITHER DOMESTIC AND/OR FIRE PROTECTION.

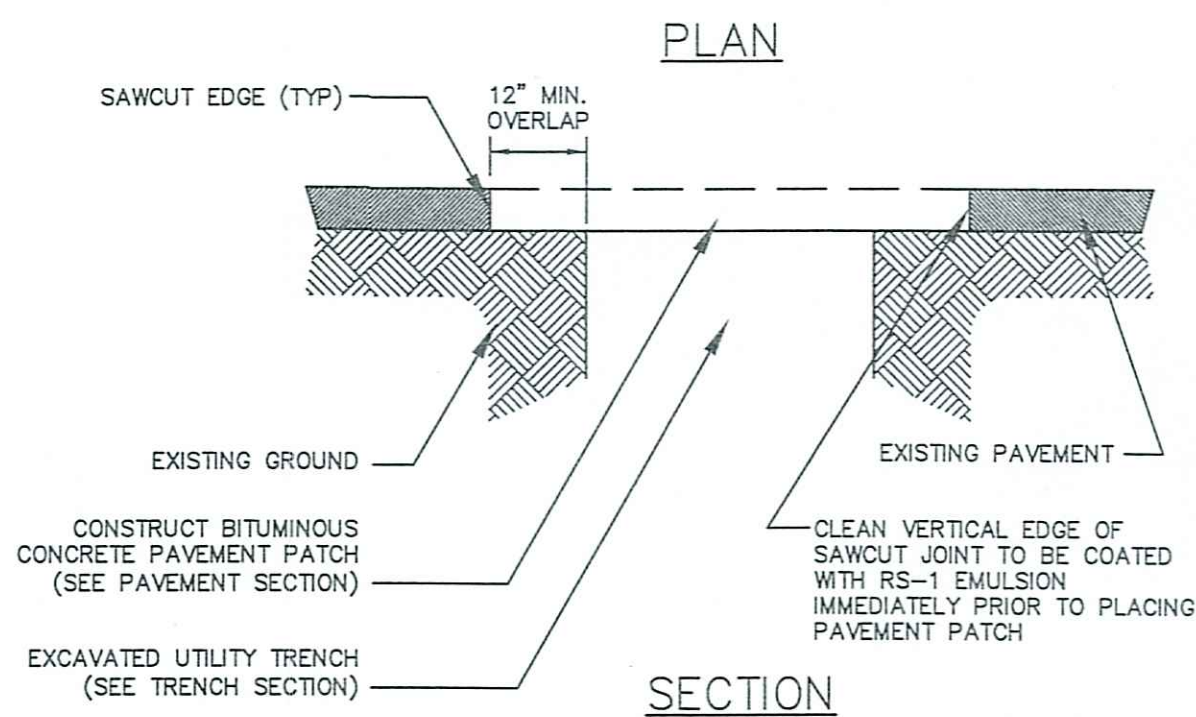
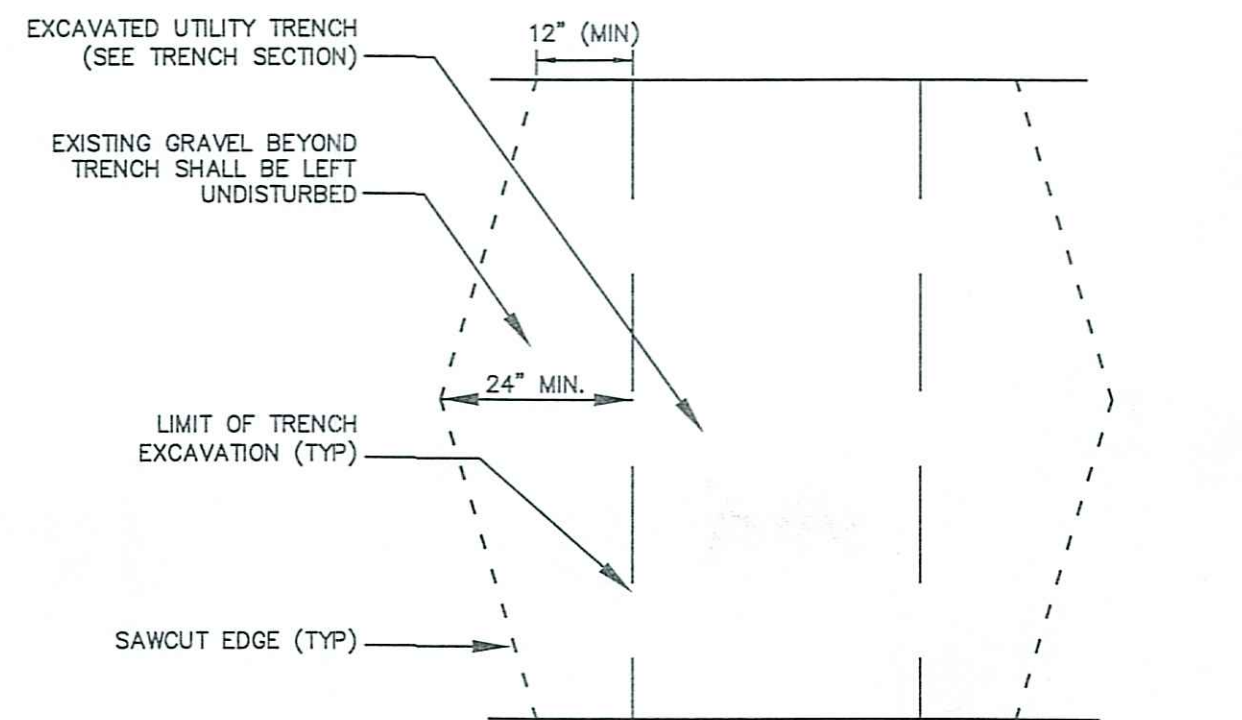


TEMPORARY DIVERSION SWALE NOT TO SCALE



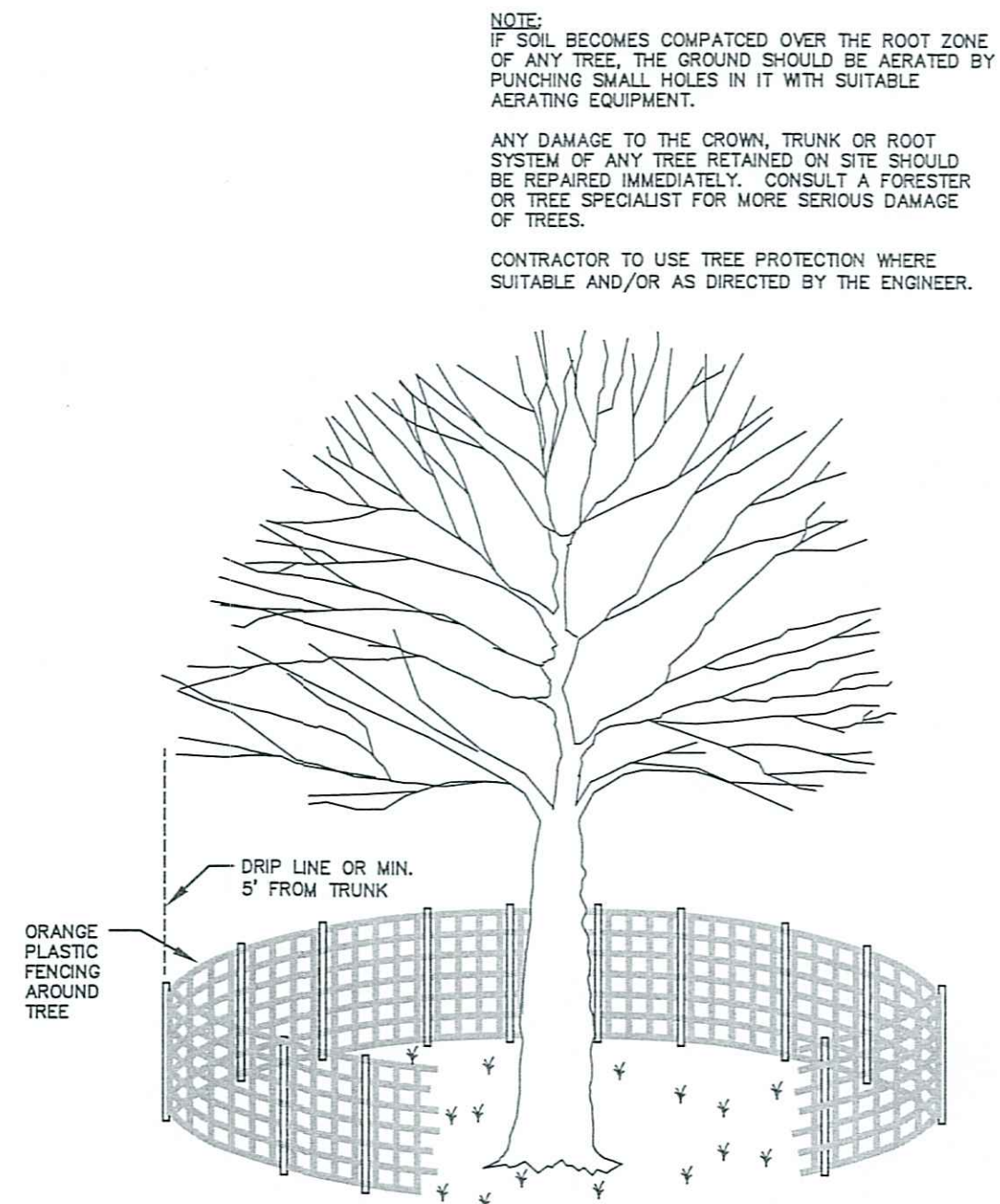
- NOTES:
- SILT-SOXX OR APPROVED EQUAL SHALL BE USED FOR TUBULAR SEDIMENT BARRIERS.
  - ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS.
  - COMPOST/SOIL/ROCK/SEED FILL MATERIAL SHALL BE ADJUSTED AS NECESSARY TO MEET THE REQUIREMENTS OF THE SPECIFIC APPLICATION.
  - ALL SEDIMENT TRAPPED BY BARRIER SHALL BE DISPOSED OF PROPERLY.

TUBULAR SEDIMENT BARRIER DETAIL NOT TO SCALE



- NOTES
- MACHINE CUT EXISTING PAVEMENT.
  - ALL TEMPORARY, DAMAGED OR DEFECTIVE PAVEMENT SHALL BE REMOVED PRIOR TO PLACEMENT OF PERMANENT TRENCH REPAIRS.
  - DIAMOND PATCHES, SHALL BE REQUIRED FOR ALL TRENCHES CROSSING ROADWAY. DIAMOND PATCHES SHALL MEET NHDOT REQUIREMENTS.

TYPICAL TRENCH PATCH NOT TO SCALE



TREE PROTECTION DETAILS NOT TO SCALE

ENGINEER:

**ALTUS**  
ENGINEERING, INC.

133 COURT STREET PORTSMOUTH, NH 03801  
(603) 433-2335 www.ALTUS-ENG.com



ISSUED FOR: APPROVAL

ISSUE DATE: MARCH 23, 2020

REVISIONS	NO.	DESCRIPTION	BY	DATE
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TAX MAP 203, LOT 08

TITLE:

CONSTRUCTION DETAILS

SHEET NUMBER:

D-2