

Findings of Fact | Wetland Conditional Use Permit

City of Portsmouth Planning Board

Date: July 17, 2025

Property Address: 15 & 49 Marjorie Street

Application #: LU-25-82

Decision: ☐ Approve ☐ Deny ☐ Approve with Conditions

Findings of Fact:

Per RSA 676:3, I: The local land use board shall issue a final written decision which either approves or disapproves an application for a local permit and make a copy of the decision available to the applicant. **The decision shall include specific written findings of fact that support the decision. Failure of the board to make specific written findings of fact supporting a disapproval shall be grounds for automatic reversal and remand by the superior court upon appeal, in accordance with the time periods set forth in RSA 677:5 or RSA 677:15, unless the court determines that there are other factors warranting the disapproval.** If the application is not approved, the board shall provide the applicant with written reasons for the disapproval. If the application is approved with conditions, the board shall include in the written decision a detailed description of all conditions necessary to obtain final approval.

In order to grant Wetland Conditional Use permit approval the Planning Board shall find the application satisfies criteria set forth in the Section 10.1017.50 (Criteria for Approval) of the Zoning Ordinance.

	Zoning Ordinance Sector 10.1017.50 Criteria for Approval	Finding (Meets Criteria for Approval)	Supporting Information
1	<i>1. The land is reasonably suited to the use activity or alteration.</i>	Meets Does Not Meet	Due to aging infrastructure, these sewer lines need to be upgraded and/or replaced in order to ensure the safety of the neighborhood, soils, groundwater, and local ecosystems. The land already has an existing driveway which will be removed and replaced in a new location with a pervious material.
2	<i>2. There is no alternative location outside the wetland buffer that is feasible and reasonable for the proposed use, activity or alteration.</i>	Meets Does Not Meet	The existing sewer infrastructure already travels through the wetland buffer which means that any repair or replacement work has to occur within the buffer. This is a critical line servicing the home at 15 Marjorie Street.

	Zoning Ordinance Sector 10.1017.50 Criteria for Approval	Finding (Meets Criteria for Approval)	Supporting Information
3	<i>3. There will be no adverse impact on the wetland functional values of the site or surrounding properties.</i>	Meets Does Not Meet	The sewer replacement will serve as temporary disturbance while the permanent disturbance will be in the removal and rebuilding of the driveway. If the pervious driveway can be properly maintained, minimal adverse impact should occur to the wetland.
4	<i>4. Alteration of the natural vegetative state or managed woodland will occur only to the extent necessary to achieve construction goals.</i>	Meets Does Not Meet	The project proposes to revegetate areas that are temporarily disturbed and permeability for those that are permanent disturbances including a porous pavement for the new driveway.
5	<i>5. The proposal is the alternative with the least adverse impact to areas and environments under the jurisdiction of this section.</i>	Meets Does Not Meet	Removal The necessary infrastructure upgrades will have the minimal amount of permanent disturbance to the wetland buffer. If not upgraded, the potential for sewer failure on this property could create a detrimental impact to the wetland resource.
6	<i>6. Any area within the vegetated buffer strip will be returned to a natural state to the extent feasible.</i>	Meets Does Not Meet	The project proposes minimal impact to the vegetated buffer strip, all temporary disturbance areas are to be revegetated and all permanent disturbance areas are to be porous.
7	<u>Other Board Findings:</u>		

June 27, 2025

Rick Chellman
Planning Board Chair
1 Junkins Ave
Portsmouth, NH 03801

SUBJECT: 15 Marjorie St Sewer Service Replacement - WCUP

Dear Mr. Chellman,

Please find, described herein and attached, our application for a Wetlands Conditional Use Permit for 15 Marjorie St Sewer Service Replacement.

15 Marjorie St has an existing sewer service connected to a sewer main which will be decommissioned. The first step to decommissioning the sewer main included construction of a new pump station at 80 Marjorie St which will be completed in May 2025. This project will include installing a new 6" PVC sewer service for 15 Marjorie St. The service will be approximately 295 linear feet with two cleanouts before tying into the new Marjorie St Pump Station collection system. The sewer service will be connected to the 8" AC sewer main on Marjorie St with a wye and cleanout configuration. In support of the sewer service work, a new driveway will be constructed for access to 15 Marjorie St. The existing driveway will be returned to a vegetated area with New England Wetlands Seed Mix. A 12" PVC culvert will be installed under the new driveway to convey stormwater flow towards the wetlands area.

The scope of work described above will occur within a wetlands 100-ft buffer area. Areas that will be disturbed for pipe installation and demolition of the existing driveway will be re-vegetated with a New England Wetlands Seed Mix to enhance the buffer area. Additionally, the new driveway will use porous pavement as specified in Attachment 3.

As noted in the online application, this project is expected to include 5,437 sq. ft. of temporary disturbance. There will not be any new impervious areas installed. The new driveway will be constructed of porous pavement which will provide improved stormwater management than the existing compacted gravel driveway. Overall, this project is expected to enhance the wetland buffer area and will not have any impacts within a wetland area.

Lastly, per the Conservation Commission's recommendation, six native wetlands buffer tolerant shrubs have been added in the vicinity of the driveway/culvert and additional information on asbestos cement pipe removal is provided in Attachment 5.

The following attachments provide further details on the project:

1. WCUP Application Checklist
2. Site Plan and Disturbance Areas
3. Porous Pavement Specification
4. Porous Pavement Operations and Maintenance Plan
5. Asbestos Cement Pipe Removal Specification

Sincerely,
WRIGHT-PIERCE



Andrew Morrill, PE
Project Manager
andy.morrill@wright-pierce.com

cc:
Erich Fiedler, PE – City of Portsmouth
Christine Sproviero – City of Portsmouth
Lauren King, EIT – Wright-Pierce





City of Portsmouth, New Hampshire

Wetland Conditional Use Permit Application Checklist

This wetland conditional use permit application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Conservation Commission and Planning Board review. The checklist is required to be uploaded as part of your wetland conditional use permit application to ensure a full and complete application is submitted to the Planning and Sustainability Department and to the online portal. A pre-application conference with a member of the Planning and Sustainability Department is encouraged as additional project information may be required depending on the size and scope of the project. The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all wetland conditional use permit requirements. Please refer to Article 10 of the City of Portsmouth Zoning Ordinance for full details.

Applicant Responsibilities: Applicable fees are due upon application submittal to the Planning Board (no fees are required for Conservation Commission submission). The application will be reviewed by Planning and Sustainability Department staff to determine completeness. Incomplete applications which do not provide required information for the evaluation of the proposed site development shall not be provided review by the Conservation Commission or Planning Board.

Name of Applicant: _____ Date Submitted: _____

Application # (in City's online permitting): _____

Site Address: _____ Map: _____ Lot: _____

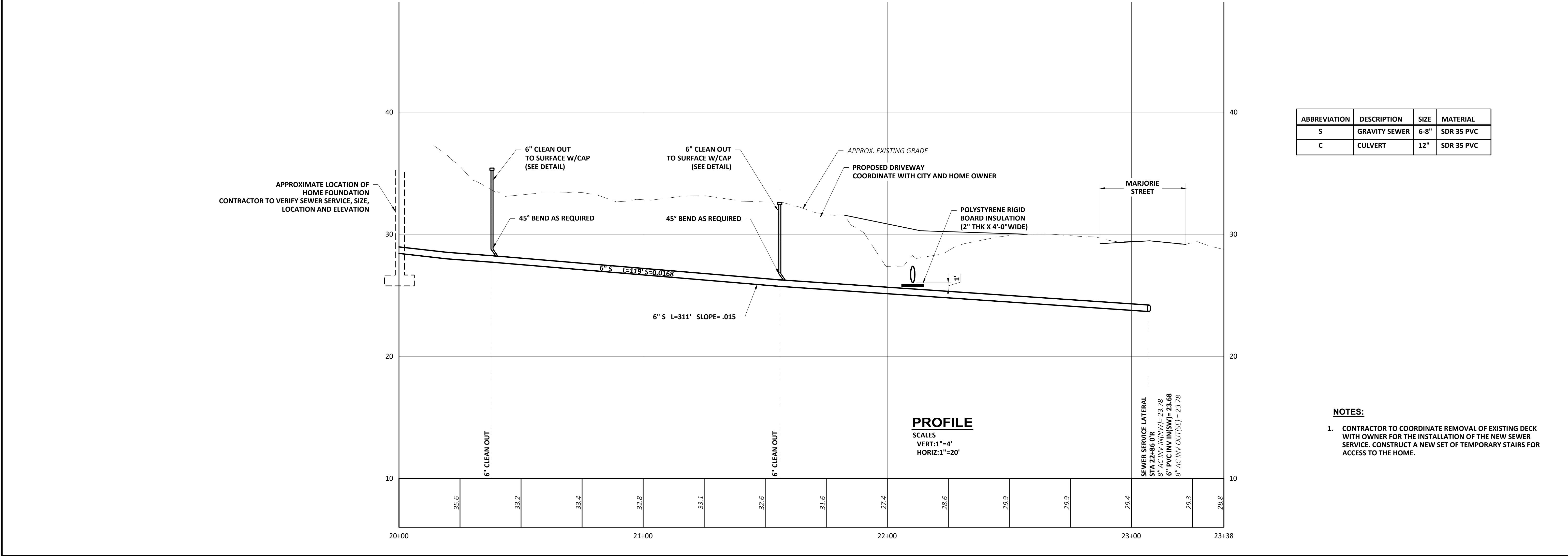
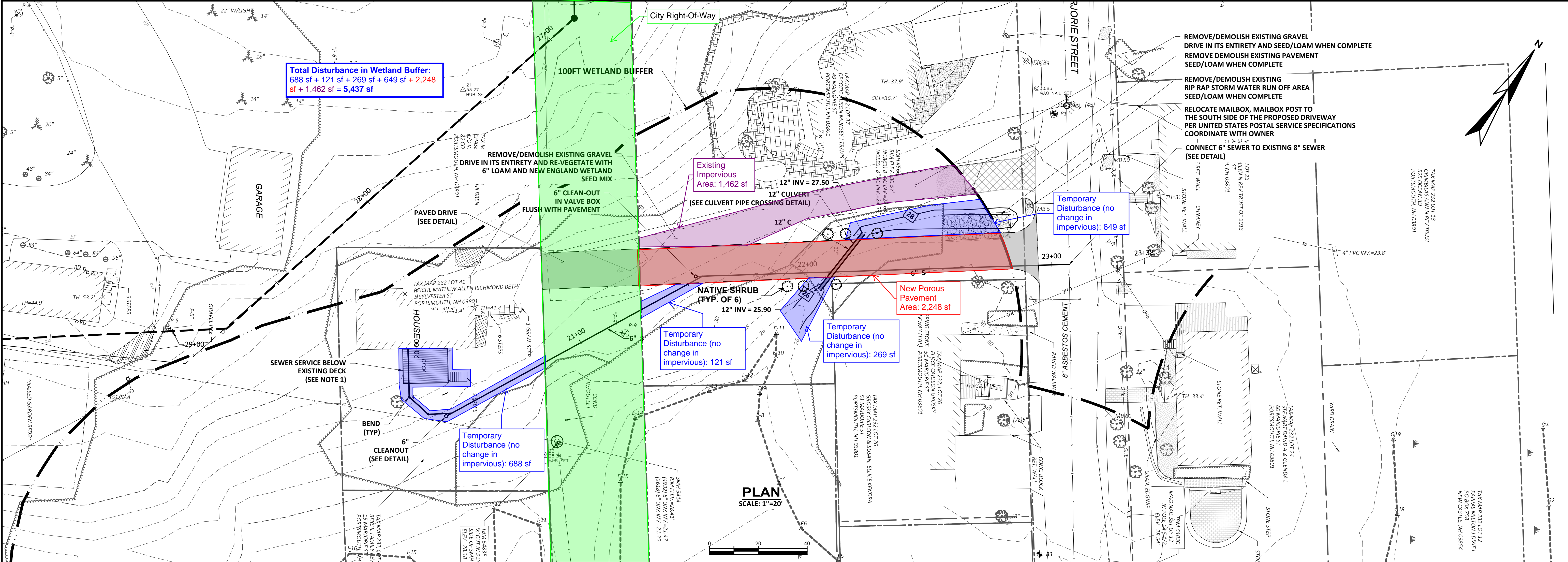
<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page or Plan Sheet/Note #)
<input type="checkbox"/>	Complete application form submitted via the City's web-based permitting program	
<input type="checkbox"/>	All application documents, plans, supporting documentation, this checklist and other materials uploaded to the application form in OpenGov in digital Portable Document Format (PDF) . One hard copy of all plans and materials shall be submitted to the Planning and Sustainability Department by the published deadline.	

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)
<input type="checkbox"/>	Basic property and wetland resource information. (10.1017.21)	
<input type="checkbox"/>	Additional information required for projects proposing greater than 250 square feet of permanent or temporary impacts. (10.1017.22)	
<input type="checkbox"/>	Demonstrate impacts as they relate to the criteria for approval set forth in Section 10.1017.50 (or Section 10.1017.60 in the case of utility installation in a right-of-way). (10.1017.23)	
<input type="checkbox"/>	Balance impervious surface impacts with removal and/or wetland buffer enhancement plan. (10.1017.24)	

<input checked="" type="checkbox"/>	Required Items for Submittal	Item Location (e.g. Page/line or Plan Sheet/Note #)
<input type="checkbox"/>	Wetland buffer enhancement plan. (10.1017.25)	
<input type="checkbox"/>	Living shoreline strategy provided for tidal wetland and/or tidal buffer impacts. (10.1017.26)	
<input type="checkbox"/>	Stormwater management must be in accordance with Best Management Practices including but not limited to: 1. <i>New Hampshire Stormwater Manual, NHDES, current version.</i> 2. <i>Best Management Practices to Control Non-point Source Pollution: A Guide for Citizens and City Officials, NHDES, January 2004.</i> (10.1018.10)	
<input type="checkbox"/>	Vegetated Buffer Strip slope of greater than or equal to 10%. (10.1018.22)	
<input type="checkbox"/>	Removal or cutting of vegetation, use of fertilizers, pesticides and herbicides. (10.1018.23/10.1018.24/10.1018.25)	
<input type="checkbox"/>	All new pavement within a wetland buffer shall be porous pavement. (10.1018.31)	
<input type="checkbox"/>	An application that proposes porous pavement in a wetland buffer shall include a pavement maintenance plan. (10.1018.32)	
<input type="checkbox"/>	Permanent wetland boundary markers shall be shown on the plan submitted with an application for a conditional use permit and shall be installed during project construction. (10.1018.40)	
<input checked="" type="checkbox"/>	Requested Items for Submittal	Item Location (e.g. Page or Plan Sheet/Note #)
<input type="checkbox"/>	A narrative/letter addressed to the Conservation Commission Chair (if recommended to Planning Board then an additional narrative addressed to the Planning Board Chair at that time) describing the project and any proposed wetland and/or wetland buffer impacts. Please visit the WCUP instruction page for further application instructions.	
<input type="checkbox"/>	If New Hampshire Department of Environmental Services (NHDES) Standard Dredge and Fill Permit is required for this work, please provide this permit application at the same time as your submission for a Wetland Conditional Use Permit.	

Applicant's Signature: _____ Date: _____

2



REVISIONS		PROJECT NO: C590	DESIGNED: CAD COORD: CHECKED: DATE: APPROVED: DATE: SUBMISSION:
NO	DATE		

WRIGHT-PIERCE
230 COMMERCE WAY, SUITE 302, PORTSMOUTH, NH 03801

CITY OF PORTSMOUTH, NEW HAMPSHIRE
SEWER SERVICE IMPROVEMENTS

REICHEL-HOME SEWER SERVICE
PLAN AND PROFILE

DRAWING
C-2

3

SECTION 02513A

POROUS BITUMINOUS CONCRETE PAVING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work Included:
 - 1. Furnish all plant, labor, equipment and materials required to install porous bituminous concrete pavement. Furnish all plant, labor, equipment and materials required to install all layers or aggregates, filter fabric and underdrain below the porous bituminous concrete pavement.
- B. Work Not Included: Removal and replacement of paving for the convenience of the Contractor will not be considered for payment.
- C. Related Work Specified Elsewhere (When Applicable): Earthwork, Bituminous Concrete Pavement and pavement markings.

1.2 SUBMITTALS AND MEETINGS

- A. Contractor shall submit to the Engineer a proposed design for the porous pavement material. Gradations, abrasion, degradation, angularity, hardness and all other applicable test results for all aggregates to be used in the mix shall be submitted. The porous pavement will be discussed at the pre-pave conference(s).
- B. Delivery slips shall be furnished with each load of mix delivered to the project. Information shall include:
 - 1. Vehicle identification.
 - 2. Date.
 - 3. Project.
 - 4. Identification of material.
 - 5. Gross, tare and net weights.
 - 6. Signed by the bituminous concrete producer.
 - 7. Stamped by a licensed public weighmaster.

PART 2 - PRODUCTS

2.1 POROUS AGGREGATE MEDIA COURSES- MATERIALS

- A. Porous Media Infiltration Beds. Porous media infiltration beds are located below the porous asphalt mix. Gradation and compaction requirements are listed in Table 1. Washed aggregate for the choker course and reservoir course shall meet the following:
 - Maximum Wash Loss of 0.5% (AASHTO T 11 / ASTM C 117)
 - Maximum Abrasion Loss of 10% for 100 revolutions, and maximum of 50% for 500 revolutions. (AASHTO T 96 / ASTM C 131)
- B. A choker course of crushed stone, meeting the requirements of AASHTO M 43 Standard Size No. 57 shall be located directly below the porous pavement mix at a minimum thickness of 4".
- C. A filter course of poorly graded sand (modified 304.1) is located below the choker course. Filter course material shall have a hydraulic conductivity (also

referred to as coefficient of permeability) of 10 to 60 ft/day at 95% standard proctor compaction (AASHTO T 99) unless otherwise approved by the Engineer. The filter course shall be located directly below the choker course at a minimum thickness of 12”.

- D. A filter blanket that is an intermediate setting bed (3/8-inch pea gravel), located below the filter course at a minimum thickness of 3”.
- E. A reservoir course of crushed stone meeting the requirements of AASHTO M 43 Standard Size No. 3 is located over the subgrade materials at minimum thickness of 4”.

Table 1. - Gradations and compaction of choker, filter and reservoir course materials.

US Standard Sieve Size	Percent Passing (%)			
Sieve Size inch (mm)	Choker Course (AASHTO Standard Size No. 57)	Filter Course (Modified NHDOT 304.1)	Reservoir Course (AASHTO Standard Size No.3)	Reservoir Course Alternative* (AASHTO Standard Size No.5)
6 (150)		100		
2.5 (63)		-	100	
2 (50)		-	90-100	
1.5 (37.5)	100	-	35-70	100
1 (25)	95-100	-	0-15	90-100
0.75 (19)	-	-	-	20-55
0.50 (12.5)	25-60	-	0-5	0-10
0.375 (9.5)	-	-	-	0-5
No.4 (4.75)	0-10	70-100	-	-
No.8 (2.36)	0-5	-	-	-
No.200 (0.075)	-	0-6**	-	-
% Compaction (AASHTO T 99)	95	95	95	95

* Alternate gradations (e.g. AASHTO Standard Size No. 5) may be accepted upon Engineer's approval.

** Preferably less than 4% fines

2.2. POROUS PAVEMENT MIX- MATERIALS

Bituminous materials used for asphalt cement binder shall meet the properties specified in AASHTO M 320. The grade of asphalt cement binder for this project shall be PG 64-28 SBR with 5 pounds of fibers per ton of asphalt mix. The dosage of fiber additives shall be either 0.25 percent cellulose fibers or 0.4 percent mineral fibers by total mixture mass. Table 2 provides the Porous Asphalt Mix Criteria. Porous pavement shall be applied at a minimum thickness of 4”.

Table 2 - Porous Asphalt Mix Design Criteria

Sieve Size (inch/mm)	Percent Passing (%)
0.75 (19)	100
0.50 (12.5)	85-100
0.375 (9.5)	55-75
No. 4 (4.75)	10-25
No 8 (2.36)	5-10
No. 200 (0.075)	2-4
Binder Content (AASHTO T 164)	6-6.5%
Fiber Content by Total Mixture Mass	0.25 cellulose or 0.4% mineral
Air Void Content (ASTM D6752/AASHTO T 275)	16.0-22.0%
Draindown (ASTM D 6390)_*	<0.3%
Retained Tensile Strength (AASHTO T 283)**	>80%

* Cellulose or mineral fibers may be used to reduce draindown.

** If the TSR (retained tensile strength) values fall below 80% when tested per NAPA IS 131 (with a single freeze thaw cycle rather than 5), then in Step 4, the contractor shall employ an antistrip additive, such as hydrated lime (ASTM C977) or a fatty amine, to raise the TSR value.

PART 3 – EXECUTION AND CONSTRUCTION REQUIREMENTS

3.1 GENERAL

- A. Porous media aggregate bases shall only be compacted to establish sound contact between particles. Overcompaction must be avoided to protect the infiltration capacity of the soil materials.
- B. Material delivered to the spreader not having a temperature between 275° and 325° F (135° and 163° F), within 10° F (6° C) of the compaction temperature for the approved mix design, will not be used.
- C. Rollers shall move at a slow but uniform speed with the drive roll or drive wheels nearest the paver, except on steep grades. Static rollers shall not operate at speeds in excess of 6 mph (10 km/h). All courses shall be rolled until all roller marks are eliminated. The compaction objective is 16% - 19% in-place void content (Core-Lok test, AASHTO TP-69). When ordered by the Engineer, density tests shall be taken at the beginning of the porous pavement course construction to establish the correct rolling patterns that will achieve the required density.
- D. Breakdown rolling shall occur when the mix temperature is between 135-163°C (275 to 325°F). Intermediate rolling shall occur when the mix temperature is between 93-135°C (200 to 275°F). Finish rolling shall occur when the mix temperature is between 66-93°C (150 to 200°F). The cessation temperature occurs at approximately 79°C (175°F).

END OF SECTION

4

OPERATION & MAINTENANCE PLAN FOR POROUS PAVEMENT STORMWATER CONTROL MEASURE

Documentation Requirements

Property owner of parcel 232/41 (Map/Lot) shall be responsible for ensuring the proper operation and maintenance of the porous pavement stormwater control measure as required by the criteria below. Stormwater Control Measures (porous pavement) locations are identified in Attachment 1 of the permit application.

Regular inspection and maintenance is critical to the effective operation of porous pavement. Inspection and cleaning logs shall be maintained. The maintenance log, below, shall summarize inspections, maintenance performed, any corrective actions taken, and the name of the inspector. Disposal of any accumulated sediment must be in accordance with applicable local, state, and federal regulations.

Operation & Maintenance Procedures

Monitor pavement to ensure that the surface drains properly after storms. As needed and at least annually, clean the surface using vacuum sweeping machines. A power washer or compressed blower may be used to carefully remove any particles and sediment from the pavement surface. Disposal of the accumulated sediment and hydrocarbons must be in accordance with applicable local, state, and federal guidelines and regulations. Annually, inspect the surface for deterioration or spalling. Keep landscaped areas well maintained to prevent soil from being transported onto the pavement.

No winter sanding of porous surfaces is allowed. Minimize salt use during winter months. Never reseal or repave with impermeable materials. Visual inspections are an integral part of system maintenance. This includes monitoring pavement to ensure water drainage, debris accumulation, and surface deterioration.

Regular Inspection and Maintenance Activities

Activities	Frequency
CLOGGING AND SYSTEM PERFORMANCE	
Check adjacent vegetated or landscaped areas for signs of erosion and run-on to porous pavement. Remedy: Stabilize areas, repair or replace any damaged structural parts.	Whenever vacuuming adjacent permeable pavements
Check for standing water remaining on the surface of the pavement after a precipitation event within 30 minutes. Remedy: Use of a power washer or compressed air blower at an angle of 30 degrees or less can be effective, particularly in combination with a vacuum or vacuum sweeper.	1-2 times per year
Check for standing water remaining on the surface of the pavement after a precipitation event within 30 minutes. Remedy: Use of a power washer or compressed air blower at an angle of 30 degrees or less can be effective, particularly in combination with a vacuum or vacuum sweeper.	
Check for debris accumulation, particularly in the winter.	

Activities	Frequency
Remedy: Loose debris such as leaves or trash can be removed using a power/leaf blower or gutter broom. Fall and spring cleanup should be accompanied by pavement vacuuming.	
Check for accumulation of sediment and organic debris on the pavement surface. Remedy: Regular use of a vacuum sweeper can remove sediment and organic debris. The sweeper may be fitted with water jets.	
PAVEMENT CONDITION	
Check for accumulation of snow or other stockpiles of materials such as sand/salt, mulch, soil, yard waste, etc. Stockpiling of these materials on permeable pavements can lead to premature clogging. Remedy: Remove stockpile if possible and check for clogging in storage area.	
Check for damage to pavement Remedy: Repairs should be repaired as they are identified	

POROUS PAVEMENT MAINTENANCE LOG

Inspection Activity	Yes / No	Corrective Action
Observance of accumulated sediment, organic debris, or trash		
Observance of standing water		
Damage to pavement such as deterioration or spalling		
Observance of erosion contributing to run on		
Other (specify)		

5

SECTION 02076

ASBESTOS-CEMENT (TRANSITE) PIPE REMOVAL AND DISPOSAL

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work Included: Remove and dispose of Asbestos-Cement (AC) sewer pipe according to all applicable Federal, State, and local laws, regulations, and ordinances.

1.2 SCHEDULING

- A. Prior to initiating AC pipe removal, the Contractor shall prepare an abatement plan and provide a copy for record purposes to the Engineer. Refer to Paragraph 1.5 SUBMITTALS for more information.
- B. The Contractor shall update the abatement schedule as requested by the Engineer.

1.3 CODES, REGULATIONS, AND STANDARDS

- A. General Applicability
 - 1. Contractor shall perform all work in accordance with these specifications: U.S. Environmental Protection Agency (U.S. EPA) and Occupational Safety & Health Administration (OSHA) regulations, NIOSH recommendations, New Hampshire Department of Environmental Services (NHDES), and any other applicable Federal, State and local government regulations and guidelines
 - 2. The most recent edition of any relevant regulation, standard, document, code or policy statement shall be in effect. Where conflict among the requirements or with these specifications exists, the most stringent requirement(s) shall be utilized.
- B. Contractor Responsibility
 - 1. The Contractor shall assume full responsibility and liability for compliance with all applicable Federal, State and local regulations related to all aspects of the abatement project. The Contractor is responsible for providing and maintaining training, accreditation, medical exams, medical records, and personal protective equipment as required by applicable Federal, State and local regulations. The Contractor shall hold the Owner and Owner's Representative harmless for any failure to comply with any applicable work, packaging, transporting, disposal, safety, health, or environmental requirement on the part of the Contractor, Contractor's employees, or subcontractors of the Contractor.
- C. The publications listed below form a part of this specification to the extent referenced. The publications listed below are not intended to be a comprehensive list of all regulations, applicable to this work.
 - 1. Environmental Protection Agency (EPA):
 - a. National Emission Standards for Hazardous Air Pollutants (NESHAP) Title 40, Part 61).
 - b. A Guide to Respiratory Protection for the Asbestos Abatement Industry.
 - 2. Occupational Safety and Health Administration (OSHA):
 - a. Asbestos Construction Standard 29 CFR Part 1926.1101

- b. Asbestos General Industry Standard 29 CFR 1910.1001
- c. Respiratory Protection, 29 CFR 1910.134
- d. Construction Industry Standards, 29 CFR 1926
- 3. U.S. Department of Transportation
 - a. 49 CFR 100 - 185, Transportation
- 4. National Institute for Occupational Safety and Health (NIOSH):
 - a. "Respiratory Protection A Guide for the Employee."
- 5. American National Standards Institute (ANSI):
 - a. Z86.1-1973 - Commodity Specification for Air
 - b. Z9.2 - HEPA Filter Specifications
 - c. Z88.2-1980-Respiratory Protective Equipment
- 6. New Hampshire Department of Environmental Services (NHDES):
 - a. Env-A 1800 Asbestos Management and Control

1.4 PERSONNEL QUALIFICATIONS

- A. All personnel of the Contractor or any approved subcontractors involved with asbestos abatement work shall meet the following minimum qualifications:
 - 1. Medical examination within the past year in accordance with OSHA 1926.134 with a physician's written opinion that the worker has no condition that would preclude them from working with asbestos or wearing a respirator.
- B. The Contractor shall employ a competent person to oversee all aspects of AC pipe removal.
- C. There shall be a sufficient number of trained and qualified workers, foremen and superintendents to accomplish the work within the required schedule. No untrained or unqualified person shall be employed to speed up completion of the abatement work.

1.5 SUBMITTALS

- A. At a minimum, the following submittals shall be submitted to the Engineer.
 - 1. Certification of compliance with OSHA requirements including but not limited to medical surveillance, record keeping and personnel exposure monitoring.
 - 2. Respiratory Protection Program. Include site specific exposure assessment for respirator selection.
 - 3. A written project schedule. The schedule shall be date specific and include all phases of the project.
 - 4. Emergency Action Plan.
 - 5. Copies of training certificates for all personnel involved in the removing of asbestos cement pipe.
 - 6. Copy of current license of the asbestos abatement contractor if utilized.
 - 7. Proposed waste disposal site and waste transporter. Include name, address, telephone number and operating permits, etc.
 - 8. Safety data sheets (SDS) for all materials and products to be used by the Contractor on this project.
 - 9. A work plan outlining the methods to be used during the removal of AC pipe. The work plan shall include the use of the Best Management Practices pertaining to the qualifications of field personnel and methods for dust control, packaging, transportation, and decontamination of equipment.

- B. During Abatement
 - 1. Results of personnel exposure monitoring.
 - 2. Project schedule.
- C. Post Abatement Submittals
 - 1. Disposal receipts (within timeframes regulated by EPA) signed by the landfill operator demonstrating that the AC pipe removed from the project has been packaged, transported and disposed of properly.
 - 2. Provide the Engineer with copies of on-site job logs, notifications, permits, accident reports, personnel exposure air monitoring results, waivers of lien.
 - 3. Copies of any notices of non-compliance issued by governmental authorities.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Polyethylene sheeting: shall be at least 6-mil thickness. Sheeting, labels and tape shall comply with OSHA standard 29 CFR 1926.
- B. Disposable bags and/or drums: shall be of 6-mil polyethylene, on which labels are directly printed, as required by EPA, OSHA and DOT regulations.
- C. Surfactant (wetting agent): shall be a 50/50 mixture of polyoxyethylene ether and polyoxyethylene ester, or equivalent, mixed in a proportion of 1 fluid ounce to 5 gallons of water or as specified by manufacturer.

2.2 PERSONNEL PROTECTION

- A. The Contractor is responsible to determine what personnel protection equipment is needed.
 - 1. The MassDEP suggests employees engaged in work involving intact asbestos pipe be provided with medical monitoring and personal protective equipment as specified in the OSHA standard 29 CFR Part 1926.1101.
- B. The Contractor is required to provide all required personnel protective equipment.

PART 3 - EXECUTION

3.1 TOOLS AND EQUIPMENT

- A. Transportation Equipment: Transportation equipment, as required, shall be suitable for loading, temporary storage, transport, and unloading of contaminated waste without exposure to persons or property. The equipment shall be secured at all times and access limited to authorized personnel only.
- B. The Contractor shall provide approved respirators and protective clothing to all Contractor personnel. The Contractor shall also provide approved protective clothing to representatives of the Owner, and to representatives of the State or other governmental entity who may inspect the job site.
- C. Protective clothing requirements must include, but may not be limited to:
 - 1. One-time use, disposable, full-body coveralls made by Tyvek®, 3M, or approved equal.
 - 2. Hard Hats
 - 3. Eye protection

ASBESTOS-CEMENT (TRANSITE) PIPE REMOVAL AND DISPOSAL

4. Gloves
 5. Respiratory protective equipment as required by State law
 6. Other as appropriate for site conditions
- D. The Contractor shall have sufficient equipment to mix and spray wetting agents.
- E. The Contractor shall have a sufficient quantity of, ladders, hand tools and materials to conduct the abatement project in an efficient and workmanlike manner.

3.2 INSPECTION AND PREPARATION

- A. Before any work commences, post danger signs in and around the work area to comply with Federal, State, and local law.

3.3 WORK AREA PREPARATION:

- A. Regulated area access is to be restricted to authorized trained/accredited and protected personnel. The Contractor shall control site security during abatement operations in order to isolate work in progress and protect adjacent personnel.
- B. Prior to any asbestos related work in an area, restrict access to all persons other than trained personnel and authorized visitors. The Contractor shall erect signs around the perimeter in accordance with EPA, OSHA and this specification. Maintain a log of all people entering and exiting the workplace during abatement work.
- C. The Contractor shall be responsible for taking whatever steps are necessary to prevent a release to the environment and additional contamination of the areas beneath the AC pipe.

3.4 AC PIPE CONNECTION AND REMOVAL PROCEDURES

- A. Cutting of existing AC pipe shall be minimized. Cutting of AC pipe shall be performed in accordance with all applicable OSHA standards and shall minimize release of AC fibers.
- B. AC pipe shall be secured, wrapped, and disposed of in a timely manner. Stockpiling of removed pipe in an unsecured area shall not be allowed.
- C. AC pipe shall be transported to a licensed facility for proper disposal.
- D. Crushing of pipe in-place shall not be allowed.

3.5 GENERAL PROCEDURES

- A. Install polyethylene sheeting beneath the AC pipe to minimize contamination of adjacent soil.
- B. All surfaces shall be wetted during removal activities.
- C. If AC pipe is found to be friable or will be rendered friable, abatement shall be conducted in containment.
- D. AC pipe shall be removed from the trench in an "intact" condition in sizes such that the piping may be handled without breakage.
- E. If AC pipe sections can be separated without cutting, the removal may be conducted without containment.
- F. Separated non-friable AC pipe sections may be removed without containment.
- G. If AC pipe sections require breaking/cutting to separate, all breaking/cutting activities shall be conducted within a glove bag or negative pressure regulated work area (containment).
- H. In the event of breakage of AC pipe during removal which results in pieces contacting

ASBESTOS-CEMENT (TRANSITE) PIPE REMOVAL AND DISPOSAL

soil, then the Contractor shall remove all debris and soil located adjacent to and beneath the debris as well as six inches of soil from beneath and surrounding the debris. All resultant debris and soils shall be properly handled, packaged and disposed of as friable, regulated asbestos waste.

- I. The Engineer and Owner shall be notified immediately in the event of breakage.
- J. AC pipe shall be double wrapped in 6-mil polyethylene sheeting and labeled prior to transport as required.

3.6 DISPOSAL ACTIVITIES

- A. It is the responsibility of the Contractor to determine current waste handling, transportation, and disposal regulations and or requirements for AC pipe and for each waste disposal facility. The Contractor must comply fully with these regulations and all U. S. Department of Transportation and EPA requirements.
- B. The Contractor will document actual disposal of the waste at the designated landfill by completing a Waste Shipment Record and forwarding a copy of it along with a copy of the Bill of Lading to the Engineer.
- C. All waste load-out and disposal activities shall be the responsibility of the Contractor.
- D. Contractor shall insure that transport vehicles do not leak water or other material while being loaded, transported or while on site partially loaded. At minimum, transport vehicles shall be lined with two layers of 6-mil thick polyethylene sheeting installed to form a watertight barrier within the vehicle. If water is observed leaking from any transport or storage container, contractor shall immediately stop work, unload the container (including dumpsters and semi-trailers) find and correct the source of the leak, and place waste material back into the container. This process will be repeated each time any water is observed leaking from a storage or transport vehicle that contains asbestos waste. Contractor shall also take all steps necessary, to decontaminate the ground or other surfaces that became wet due to water leaking from a container that holds asbestos waste.

3.7 CLEANING AND FINAL DECONTAMINATION

- A. After the removal of the AC pipe has been completed and before removal of barriers (as applicable), the entire area shall be thoroughly cleaned. All plastic barriers, tapes and disposable contaminated equipment shall also be disposed of as asbestos waste. All reusable contaminated equipment such as masks, hard hats, etc., shall be thoroughly decontaminated through wet cleaning or sealed within 6-mil polyethylene bags before removal from the work area.

END OF SECTION

APPENDIX

FIGURE 2 (generally adjacent to Toyota of Portsmouth- April 24-27, 2023)

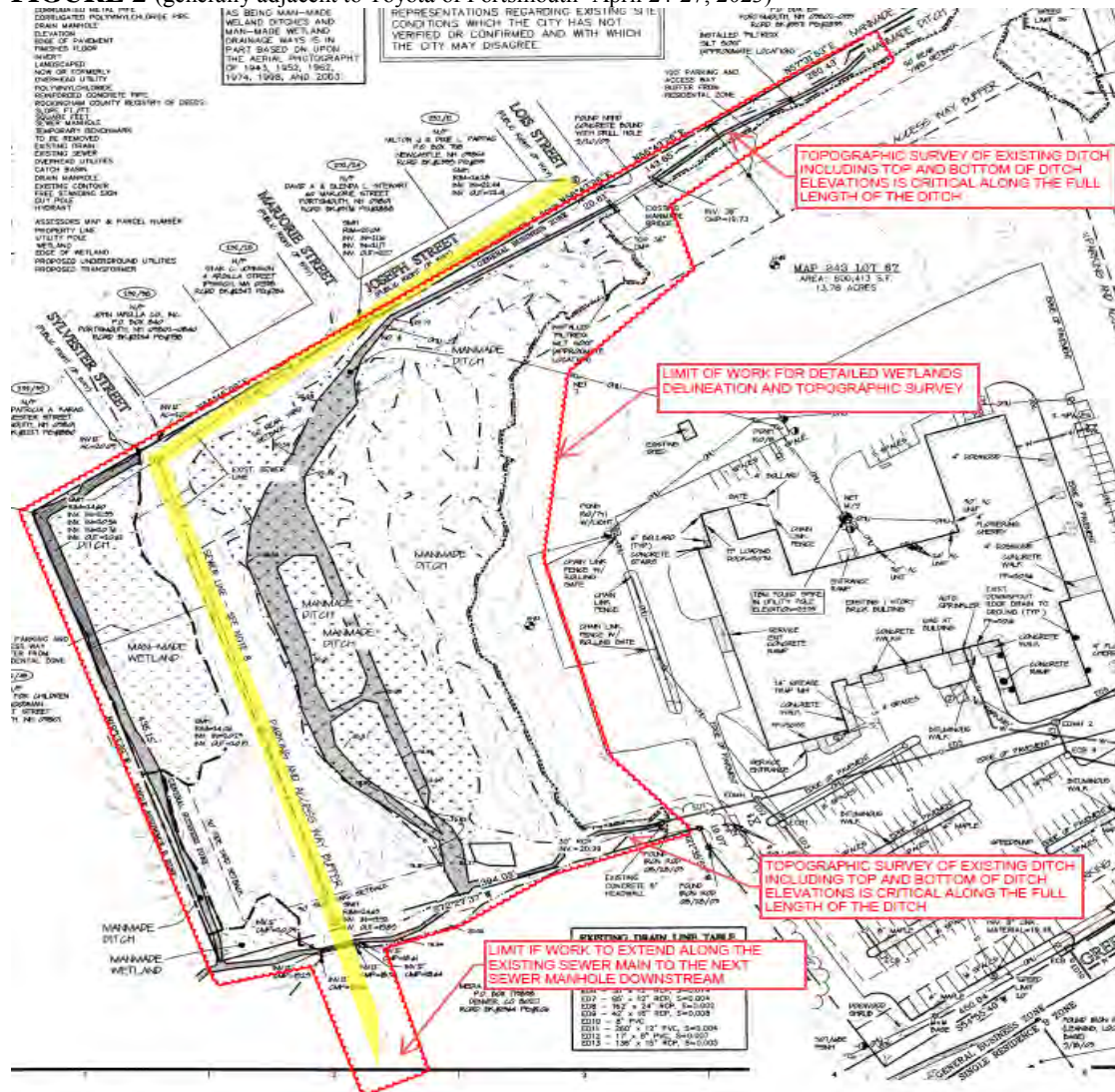


FIGURE 3 (November 13, 2023 and January 23, 2025)



Certification Note

Site investigations were conducted and man-made and natural jurisdictional wetland boundaries (and bank associated with streams in specific locations) were delineated by Marc Jacobs, Certified Wetland Scientist number 090, in April and November 2023, as well as January 2025, according to the standards of the U.S. Army Corps of Engineers – 1987 Wetlands Delineation Manual; the 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region; the Code of Administrative Rules, NH Department of Environmental Services - Wetlands Bureau – Env-Wt 100-900 and Article 10, §10.1010 – Environmental Protection Standards of the City of Portsmouth, NH zoning ordinance. Predominant hydric soils were evaluated utilizing the Field Indicators for Identifying Hydric Soils in New England, Version 4, June 2020 and the Field Indicators of Hydric Soils in the United States, Version 8.2, 2018. The status of dominant vegetation as hydrophytic was determined according to the U.S. Army Corps of Engineers - Northcentral and Northeast 2020 Regional Wetland Plant List. Copies of site plans depicting the wetland delineation which have been reviewed by the wetland scientist are individually stamped, signed and dated. This note has been customized for this project. Bank associated with streams is identified per Env-Wt 102.15.

General Methodology

Jurisdictional wetlands were identified and wetland-upland boundaries within the AOI were delineated in the field based upon direct observation and on-the-ground investigations using the technical guidance above. Whereas portions of the AOI were apparently altered by previous site activities, and therefore represent atypical (versus natural) conditions, the delineation utilized protocols for altered wetlands, as well as best professional judgment and prior experience with sites having similar conditions, to ascertain the presence of wetlands and establish the wetland-upland boundary where necessary.¹ With a couple of exceptions noted by specific wetland flag sequence below, site alterations do not appear to be recent.²

Solid color pink survey flags were then placed at random intervals to mark wetland-upland boundaries in the field. Each flag series bears a unique letter and each flag a unique number to assist in subsequent field location by instrument survey as well as to ascertain exact field position when referencing site plans during any future site visits or during project design and permitting. The following flag series and numbers were used: A5-A15, E7-E18, I1-I32, J1-J9, K1-K, L1-L27, M1-M10, N1-N136, O1-O17, P1-P12, Q1-Q10, R1-R4, S1-S50, T1-T6, U1-U13, V1-V3, and W1-W9. Where they are depicted on site plans having been prepared in 2023, flags A1-A4, B1-B18, C1-C5, D1-D11, E1-E6, F1-F5, G1-G19 and H1-H4 were placed in 2020.

General Wetland Description

The following section generally describes wetland hydrology, vegetation and soil conditions within the various AOI. More specific information for each wetland area is provided below, generally organized by wetland flag series or, where appropriate, groups of flag series that generally define a discreet wetland area. Wetland classifications according to the National Wetland Inventory and the Cowardin system are also provided.

¹ Site alterations within jurisdictional wetlands may be considered violations of N.H. RSA 482-A: if they were undertaken without permits on or after July 2, 1969.

² For the purposes of this report, recent (filling, excavation, regrading, stump removal or other land altering activity) is defined as having occurred within the previous year and is an estimate based upon preliminary observations only. Additional investigations would be necessary to confirm the presence, date of placement and extent of any filled wetlands.

Hydrology

All flags and flag series identify freshwater wetlands. Dominant wetland hydrology for the majority of wetlands in these AOI were historically sustained by a perennial stream.³ The stream has been channelized and straightened by a combination of excavation and filling. Some of the filling is associated with the installation of sewer utilities while some filling is associated with residential and commercial land development. Our observations suggest that significant wetland acreage has been lost within and adjacent to the AOI over the years due to filling. The channelization of the stream has also diverted some of the stream flow around certain wetland areas but the wetlands are still mostly hydrologically contiguous and the stream continues to play an important, albeit somewhat diminished role in sustaining wetland hydrology. No geographically isolated wetlands have resulted from the stream diversion, especially owing to the installation of various culverts as well as dominant soil types. Wetland area 'N' may have been geographically isolated at one time, partly due to the stream diversion, but subsequent earth moving activity has resulted in a channel that connects this wetland to other wetlands. However, this channel serves mostly to drain the wetland. As a result of the stream diversion, other sources of hydrology, such as sheet flow from surrounding uplands, stormwater from adjacent development and direct precipitation, have taken on increased importance. Increased stormwater inputs have ramifications for water quality, especially if the stormwater is not treated prior to discharge to wetlands.

No primary or secondary vernal pool indicators were observed during site investigations and our preliminary observations suggest that the delineated wetlands do not provide breeding habitat for species customarily associated with vernal pools; however, an exhaustive vernal pool survey was not conducted. These wetlands likely provide significant supporting habitat however.

Vegetation

The largest portion of the AOI comprised by the Portsmouth Toyota property has experienced historic and more recent alterations of the plant community and is therefore dominated by emergent and herbaceous plant species with a few trees and a significant amount of shrubs. The west side of the site is less altered and is constituted by a forested swamp. Dominant vegetation in the tree canopy includes red maple (*Acer rubrum*) and American elm (*Ulmus Americana*), both deciduous species. Portions of the AOI located to the north and west of Portsmouth Toyota are generally forested and/or shrub dominated and are described in the 2020 delineation report. Vegetation is described in more detail by wetland flag series below.

Soils

Hydric soils predominantly involve a mosaic of poorly drained Scitico series (*Typic Endoaquepts*) mineral soils and very poorly drained Maybid series (*Typic Humaquepts*) mineral soils. Scitico and Maybid series soils are derived from silt and clay parent materials of marine origin. We did not distinguish between wetlands with poorly drained soils versus those with very poorly drained soils in the field. Similarly, any fill materials were only evaluated as needed to ascertain if they represent hydric soils and have not been thoroughly assessed or characterized otherwise.

³ The status of streams as ephemeral, intermittent or perennial is based upon a single observation only and is therefore preliminary. If the definitive jurisdictional status of any stream is required for future design or permitting efforts, additional inspections or investigations will be necessary.

Wetland Flag Series A, B and K

Wetland flag series 'A', 'B' and 'K' generally identify the bank of a low-gradient stream; the channel alignment of which appears to be the result of excavation and filling. The stream is likely perennial although much of the flow is likely constituted by urban storm water runoff. Flags \pm A1, \pm B1 and \pm K1 start at a 36-inch diameter corrugated metal pipe (CMP) with boulder retaining walls. Flag B18 ends at twin 18-inch diameter high-density polyethylene (HDPE) culverts. The slopes on the approach to the HDPE culverts and the mouth of the culverts have been stabilized with riprap. The stream was observed to be flowing during site investigations. Flags A1-A4 were placed in 2020 and this flag series was extended in 2023. The 'B' series flags were also placed during the 2020 site investigations. The classification of this resource is: Riverine, Lower Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated (R2UBFx). A significant colony of Japanese knotweed (*Polygonum cuspidatum*) was observed along wetland flag series 'K'. The colony had been mowed relatively recently. Other colonies of knotweed exist in various locations within the AOI. Refer to images 1 and 2.

Wetland Flag Series C – F

Wetland flag series 'C – F' identify the toe-of-fill. The fill does not appear to be recent. Wetland flag series F represents an upland island created by fill. Flags E1 and D11 are located to either side of a 10-inch diameter polyvinylchloride (PVC) culvert with a flared-end section comprised of high density polyethylene (HDPE). All flags were placed in 2020 although flags E7-E18 were placed in 2023. Wetlands identified by flag series 'C – F' are hydrologically contiguous to other wetlands outside the AOI by virtue of a 15-inch diameter CMP near wet flags C5 and D1. Classification of the dominant wetland condition delineated by these flag series is Palustrine, Scrub-shrub, Broad-leaved Deciduous (PSS1). Common shrub species include winterberry (*Ilex verticillata*), dogwood (*Cornus* sp.), glossy buckthorn (*Frangula alnus*) and speckled alder (*Alnus incana rugosa*). Willow (*Salix* sp.) trees were common around the periphery of the wetland. Dominant soil conditions involve a complex of poorly drained Scitico series soils and very poorly drained Maybid series soils. Both soil types are derived from marine sediments dominated by silt and clay size soil particles and textures.

Wetland Flag Series I

Wetland flag series 'I' identifies a variety of conditions. Flag I1 starts at a 15-inch diameter CMP. Flags \pm I1 to \pm I12 and \pm I21 to \pm I32 identify the toe-of-fill. Flags \pm I21 to \pm I32 appear to represent the toe-of-fill placed to create athletic fields at the Chase School. Flags \pm I12 to \pm I21 identify relatively natural vegetation, soil and hydrology conditions. Classification of the dominant wetland conditions delineated by flag series 'I' include Palustrine, Scrub-shrub, Broad-leaved Deciduous (PSS1) and Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded/Saturated. (PFO1E). Common shrub species include winterberry, dogwood, speckled alder, multiflora rose (*Rosa multiflora*) and glossy buckthorn. Common trees include willow and red maple. Dominant soil conditions involve a complex of poorly drained Scitico series soils and very poorly drained Maybid series soils.

Wetland Flag Series J

Wetland flag series 'J' identifies an upland island that appears to have been created by the placement of fill (dredge spoils). Similar shrub species as those identified along the 'E' and 'I' series were noted in adjacent wetlands and common buckthorn (*Rhamnus cathartica*) was noted along the wetland-upland boundary. A mature swamp white oak (*Quercus bicolor*) tree was observed here.

Wetland Flag Series L

Wetland flag series 'L' identifies a variety of conditions. Flag L1 starts at the downstream end of a 36-inch diameter CMP with a boulder retaining wall. Flags \pm L1 to \pm L4 and \pm L20 to \pm L27 generally represent the bank of the stream and mean high water and are the likely result of excavation and/or filling. Flags \pm L4 to \pm L20 generally represent an area that has highly altered soils and vegetation. The area appears to have been altered more recently than most areas on site. Indeed, the vegetation appeared to have been mowed or cut within the last year. Refer to images 3 and 4 below. Flags \pm L26 to \pm L27 generally involve a riprap slope. Flag L27 ends at twin 18-inch diameter HDPE culverts. Classification of the dominant wetland condition delineated by flag series 'L' include Palustrine, Emergent, Persistent (PEM1). Common herbaceous vegetation that was observed includes soft rush (*Juncus effusus*), broadleaf cat-tail (*Typha latifolia*), tussock sedge (*Carex stricta*), reed canary grass (*Phalaris arundinacea*) and cranesbill (*Geranium maculatum*). Dominant soil conditions are highly altered and generally involve poorly drained Udorthents series soils. Where the flags identify (stream) bank, the classification of this resource is: Riverine, Lower Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated (R2UBFx).

Wetland Flag Series M

Wetland flag series 'M' identifies an upland island that appears to have been created inadvertently during other site alterations or activities. Flags \pm M1 to \pm M4 generally represent the bank of the stream. Nearby wetlands / vegetation between the 'L' and 'M' series flags have been cut within the last year or two. Where the flags identify (stream) bank, the classification of this resource is: Riverine, Lower Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated (R2UBFx).

Wetland Flag Series N

Wetland flag series 'N' identifies a large area comprised by wetlands that are classified as Palustrine, Emergent, Persistent (PEM1) and Palustrine, Scrub-shrub, Broad-leaved Deciduous (PSS1). The wetland, while altered, represents relatively natural conditions, although the wetland-upland boundary is almost entirely man-made by filling. An obscure swale was observed within the wetland. This swale may have been constructed to support agriculture or it may be the remnants of the former perennial stream channel that existed before the stream was channelized and diverted around this wetland. Significant communities of invasive common reed (*Phragmites australis*) and purple loosestrife (*Lythrum salicaria*) were observed within this wetland. Other vegetation commonly observed included willow, speckled alder and dogwood shrubs. Recent site alteration activities were also observed. Refer to images 5 and 6 below.

Flag N1 starts at a buried culvert(s) and boulder retaining wall. Flag N136 ends at a 24-inch diameter reinforced concrete pipe (RCP) and poured concrete headwall. Flags \pm N3 to \pm N4, \pm N5 to \pm N6, \pm N127 to \pm N130 and \pm N130 to \pm N136 identify the bank of another stream. The stream is likely intermittent, receiving flow from the wetland as well as stormwater runoff from nearby development and associated impervious surfaces upgradient of and adjacent to flag N136. The finger-like wetland projection identified by flags \pm N98 to \pm N108 may be man-made. More investigations would be necessary to be certain, however it appears that the original wetland has been filled, but wetland characteristics are developing in the topographic depression created by the fill slopes and associated grading. Similar conditions may be responsible for wetlands identified by flags \pm N119 to \pm N122.

Wetland Flag Series O

Wetland flag series 'O' generally identifies wetlands associated with a likely intermittent stream. Flag O1 starts at a 24-inch diameter RCP and poured concrete headwall. Flags \pm O1 to \pm O3 and \pm O6 to \pm O7 identify the bank of the stream. Flag O17 ends at a buried culvert(s) and boulder retaining wall. The stream is likely the result of stormwater runoff as described above but there appears to be a groundwater component as well. The bank and wetland boundary or portions thereof were created by fill. The vegetation community on the side of the stream closest to the AOI would generally be classified as Palustrine Scrub-Shrub, Broad-leaved Deciduous (PSS1). Dominant shrubs included speckled alder, multiflora rose, highbush cranberry (*Viburnum trilobum*), honeysuckle (*Lonicera* sp.) and dogwood. The stream is best classified as Riverine, Intermittent, Unconsolidated Bottom, Mud (R4UB3).

Wetland Flag Series P

Wetland flag series 'P' encloses a densely vegetated upland island that appears to have been created by the placement of fill. Dominant vegetation involves honeysuckle, common buckthorn, glossy buckthorn and autumn olive (*Elaeagnus umbellata*) shrubs.

Flag Series Q

Flag series 'Q' identifies the bank of a likely intermittent stream confined by wetlands identified by the 'N' and 'O' series flags. Solid color blue flags numbered Q1 to Q10 were placed in pairs on either side of the bank but do not appear to be shown on site plans that depict the wetland delineation. We believe however, based upon communications with Doucet Survey and the survey crew in the field during site investigations, that some of the flags were located via survey and that the channel depicted on the plan generally coincides with those flags, except along flags \pm O12 to \pm O16. The stream is best classified as Riverine, Intermittent, Unconsolidated Bottom, Mud (R4UB3). Refer to image 7.

Wetland Flag Series R

Wetland flag series 'R' identifies an isolated wetland that is likely man-made. The area supports a dominance of wetland vegetation (willow, dogwood and alder shrubs) and wetland hydrology, and appears to flow intermittently from flag R1 toward flag N8 on occasion. The soils, while not meeting the hydric soil definition (likely due to prior alteration), provided signs of periodic saturation (signs of shallow flooding were also observed) and it is my opinion that the saturation and flooding occur with a frequency and duration sufficient to meet the definition of a wetland, so we have delineated and flagged the area. The area is best classified as Palustrine Scrub-Shrub, Broad-leaved Deciduous, Excavated (PSS1x).

Wetland Flag Series S

Wetland flag series 'S' identifies a variety of conditions. Flag S1 starts at a buried culvert(s) and boulder retaining wall. Flags \pm S1 to \pm S3, \pm S4 to \pm S14 and \pm S26 to \pm S41 generally identify the toe-of-fill and, in the case of flags \pm S4 to \pm S14 (and \pm S37 to \pm S46), likely dredge spoils. Flags \pm S3 to \pm S4, \pm S14 to \pm S15, \pm S21 to \pm S26 and \pm S34 to \pm S36 generally identify natural conditions. Flags \pm S15 to \pm S21 and \pm S41 to \pm S49 identify the bank of the aforementioned diverted perennial stream, which was created by excavation. Exposed bedrock was observed in the bottom and sides of the excavated channel from flags \pm S17 to \pm S19. Wetlands adjacent to flags \pm S21 to \pm S41 represent a relatively natural forested condition. These wetlands are best classified as Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded/Saturated. (PFO1E). Common trees include red maple, American elm and swamp white oak.

Along flags $\pm S15$ to $\pm S21$ and $\pm S41$ to $\pm S49$ the classification of the stream is: Riverine, Lower Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated (R2UBFx). Downstream of flag S1, to the confluence with the perennial stream, the stream is best classified as Riverine, Intermittent, Unconsolidated Bottom, Mud (R4UB3). Flags S47 and S48 are located to either side of twin 18-inch diameter HDPE culverts. Flag S50 ends at a 15-inch diameter CMP. Refer to images 8 and 9.

Flag series T

Flag series 'T' identifies the bank of a likely intermittent stream confined by wetlands identified by the 'S' and 'U' series flags. Solid color blue flags numbered T1 to T6 were placed in pairs on either side of the bank but do not appear to be shown on site plans that depict the wetland delineation. We believe however, based upon communications with Doucet Survey and the survey crew in the field during site investigations, that the flags were located via survey and that the channel depicted on the site plan generally coincides with those flags. The stream is best classified as Riverine, Intermittent, Unconsolidated Bottom, Cobble/Gravel (R4UB1) down to its confluence with the diverted perennial stream discussed below. See flag series 'V' and 'W'. Refer to image 10.

Wetland Flag Series U

Wetland flag series 'U' generally identifies wetlands associated with a likely intermittent stream although there appears to be a groundwater component as well, especially along flags U6 to U11. This groundwater may also be associated with a poorly constructed and poorly maintained stormwater detention facility on the adjacent property, which is also causing occasional surface flow to scour a channel near flags $\pm U6$ to $\pm U8$ and along flags $\pm U12$ and $\pm U13$. Flag U1 starts at a buried culvert(s) and boulder retaining wall. Flag U13 ends at or very near the property line but the hydrology continues off site.

Wetland Flag Series V

Wetland flag series 'V' generally identifies two sources of runoff. Flags $\pm V1$ to $\pm V2$ identify the bank of a man-made intermittent, scoured channel resulting from the poorly maintained stormwater facility described above. Flags $\pm V2$ to $\pm V3+$ identify the bank of the stream just downstream of the confluence of the aforementioned intermittent stream and diverted perennial stream. The stream below the confluence is therefore best classified as Riverine, Lower Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated (R2UBFx).

Wetland Flag Series W

Wetland flag series 'W' mostly identifies the bank of the aforementioned diverted perennial stream, which was created by excavation. Exposed bedrock was observed in the bottom of the excavated channel near flag $\pm W6$. Flags W1 to W8 identify the bank of the stream. The stream is best classified as Riverine, Lower Perennial, Unconsolidated Bottom, Semipermanently Flooded, Excavated (R2UBFx). The area along flags W8 to W9 represents the edge of a large forested wetland which extends off site and is best classified as Palustrine, Forested, Broad-leaved Deciduous, Seasonally Flooded/Saturated. Refer to images 8 and 9.

Storm Water Control Measure

The storm water control measure⁴ on Marjorie Street was evaluated during site investigations conducted on November 13, 2023 (as part of the larger AOI depicted in Figure 3) and January 23, 2025. It is apparently man-made, chiefly by excavation, and the portion closest to Marjorie Street is lined with riprap stone. Refer to the green shaded area in Figure 4 and Images 11 and 12 below.

As is to be expected, the soils in the storm water control measure are highly altered and possess minimal horizon development that is customary to natural soils. Also to be expected, as a storm water control measure, the soils possess some morphological signs consistent with episodic short-term wetness. However, the soils do not currently meet the definition of a hydric soil per the technical standards cited above in the certification note. This is likely due to significant periods of drying between storm events.

FIGURE 4



The storm water control measure supports a variety of herbaceous and shrub vegetation. A significant community of herbaceous species dominated by sensitive fern (*Onoclea sensibilis*) was observed in the portion of the storm water control measure that is not lined with riprap. Sensitive fern is a facultative wetland species and as such is customarily considered a hydrophyte and an indicator of jurisdictional wetlands in the presence of hydric soils. However, facultative wetland species are also commonly found in upland (non-wetland areas). Sensitive fern is known to colonize altered and natural soils including non-hydric soils that experience periodic wetness.

The storm water control measure likely drains to the south, towards assessor's Lot 38, via intermittent overland flow during larger storm events. There may also be infiltration to groundwater taking place through the bottom of the practice during smaller storm events that do not generate sufficient runoff to result in overland flow. There is however no contiguous wetland connection via hydric soils or hydrophytic vegetation to nearby jurisdictional wetlands identified by the 'E' flag series at the rear of assessor's Lots 26 or 38 which were delineated in 2023.

⁴ Storm water control measures were formerly referred to as storm water best management practices.

For the above reasons, the storm water control measure does not possess the three factors (a plant community dominated by hydrophytic plant species, hydric soils and signs of wetland hydrology) necessary to be considered a jurisdictional wetland per state regulation or Portsmouth zoning §10.1014.11.

The conclusion above notwithstanding, if the area was legally constructed as a storm water management practice and subsequently developed the necessary wetland characteristics identified above, thus becoming jurisdictional as a wetland, it may be maintained, repaired, replaced or modified under state law (NH RSA 482-A:3, IV(b)) without a permit.

Similarly, per Portsmouth zoning §10.1013.10, inland (freshwater) wetlands, which are not vernal pools and are less than 10,000 square feet (SF) in area, are not subject to local regulation. November and January are not ideal months in which to make determinations regarding vernal pools. I did not observe any secondary indicator species in 2023 (in the absence of snow cover); the presence of which would suggest that the area is a potential vernal pool. Whereas I also concluded that the area is not a wetland, it was not delineated. Regardless, the storm water control measure does not appear to be $\geq 10,000$ SF in size, but additional calculations or measurements may be necessary to confirm the size of the area.

Invasive Species

Observations of plant species in the AOI which are commonly considered invasive included: purple loosestrife, Japanese knotweed, common reed, Asian bittersweet (*Celastrus orbiculata*), glossy buckthorn, common buckthorn, multiflora rose, Autumn olive, Japanese barberry (*Berberis thunbergii*), garlic mustard (*Alliaria petiolata*) and honeysuckle.

Japanese knotweed, bittersweet and purple loosestrife are considered Type II Priority Invasive Plant Species by the NH Department of Transportation (NHDOT). There is no NHDOT jurisdiction within the AOI, however it should be noted that NHDOT Type II priority invasive plant species can be dispersed by seed *and* vegetative means (root and stem fragments) and thus are very easily spread by typical construction and infrastructure maintenance activities involving soil excavation, transportation and deposition. Infestations of these species are very difficult to control and nearly impossible to eradicate once established. It is therefore recommended that any proposed work areas are inspected prior to alteration so that invasive species can be avoided if possible or a management plan can be developed if invasive species cannot be avoided.

State Jurisdiction

All wetlands and any banks are jurisdictional under NH RSA 482:A and the NH Code of Administrative Rules – Chapter Env-Wt 100-900.⁵ With the exception of prime wetlands in certain communities, the NHDES does not require a buffer to freshwater wetlands, to the extent that any work in adjacent uplands does not cause indirect impacts, such as sedimentation, to areas under NHDES jurisdiction.

Shoreland Protection

There are no water bodies located within 250 feet of the AOI that are identified on the Comprehensive List of Water Bodies subject to RSA 483-B, the Shoreland Water Quality Protection Act.

⁵ The definition of bank (Env-Wt 102.15) can be difficult to apply in the field, resulting in occasional disagreement with the N.H. Department of Environmental Services over the location of the bank, and correspondingly, where state jurisdiction begins and ends. Should any project need to alter the streams at this location, I encourage you to correspond with NHDES regarding this potential issue prior to design, permitting and/or construction.

Prime Wetlands

The NHDES applies applicable rules and law to all municipally designated prime wetlands (and in certain municipalities all land within 100-feet of municipally designated prime wetlands). Prime wetlands are those wetlands with higher functions and values and receive additional protection under the law. Portsmouth has designated municipal prime wetlands which are recognized by NHDES. Portsmouth prime wetlands receive a 100-foot state buffer. The subject wetlands are not identified as prime wetlands. Refer to Figure 5 below.

FIGURE 5



Priority Resource Areas

Areas that embody bogs, sand dunes, tidal waters, tidal wetlands, undeveloped tidal buffer zone, floodplain wetlands adjacent to a tier 3 or higher watercourse, designated prime wetland or duly established prime wetland buffer zone and/or documented occurrences of protected rare species or habitat are considered Priority Resource Areas (PRA). Projects which propose impacts to jurisdictional areas that involve PRA's are elevated to major project classification for permitting review purposes, with a couple of exceptions. With the possible exception of rare species, remote sensing and direct observation confirm that there are no PRA's within the AOI. However, we have not contacted the Natural Heritage Bureau for information regarding rare species, which we presume will take place during the permitting process for any proposed project going forward.

Local Zoning

Chapter 10 of the Portsmouth Zoning Ordinance, specifically Article 10 – Environmental Protection Standards and Section 10.1010 – Wetland Protection, take jurisdiction over the following areas:

- Any inland wetland area greater than 10,000 SF in size;
- Any vernal pool regardless of size;
- Any non-tidal perennial river or stream; and,
- Any tidal wetlands.

The local zoning requires a buffer of all land within 100–feet of any jurisdictional area. Permitted uses in wetlands and the wetland buffer include any use that does not involve the erection or construction of any structure or impervious surface and will not alter the natural surface configuration by the addition of fill or dredging. Any use or activity not specifically permitted is prohibited unless authorized by the Portsmouth Planning Board pursuant to a Conditional Use Permit (CUP) application after review by the

Wright-Pierce
Marjorie Street, Portsmouth Toyota & Chase School Area
Portsmouth, NH
March 11, 2025

Portsmouth Conservation Commission. Regarding CUP applications, the following specific criteria for approval apply to public and private utilities within rights-of-way in wetlands and wetland buffers:

- The proposed construction is in the public interest;
- Design, construction and maintenance methods will utilize best management practices to minimize impact and will include restoration of sites as nearly as possible to the original grade;
- No alternative feasible route exists; and
- Alteration of natural vegetation will occur only to the extent necessary.

The zoning identifies performance standards for stormwater management and vegetation management, including fertilizer and herbicide application, within local jurisdiction. The zoning requires vegetation buffers within the overall 100-foot buffer.

The above represents a brief summary of the applicable local wetland zoning and state jurisdiction. We recommend that you consult this office, the Portsmouth Planning Department or the NHDES for further guidance before proceeding with any design, permitting or construction at this location.

Please contact the undersigned with any questions regarding the above-referenced information.

Cordially,

Marc Jacobs, CWS, PWS, CSS, CPESC

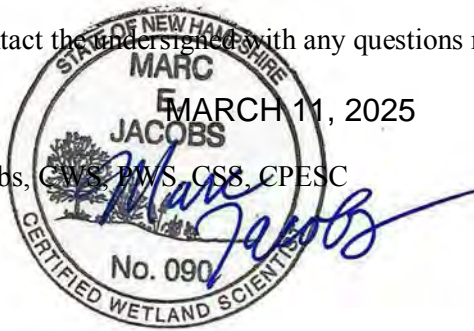




Image 1 – Looking northeast / upstream towards Rt. 1 by-pass at the perennial stream from wetland-upland boundary flag \pm K2. Note the knotweed stalks on the right.



Image 2 – Looking southwest / downstream at the perennial stream from wetland-upland boundary flag \pm L1.



Image 3 – Looking westerly near wetland-upland boundary flag \pm L9. Note the numerous clumps of soft rush.



Image 4 – Looking easterly toward Rt. 1 by-pass. Note the boulder from image 1 above, ruts and standing water.



Image 5 – Looking north from wetland-upland boundary flag \pm P2 toward Rt. 1 by-pass. Note wetland-upland boundary flag N91 on right in background. Note wide rut (center) with spoils deposition in foreground.



Image 6 – Looking northwesterly at wetland 'N' from near wetland-upland boundary flag \pm N127.



Image 7 – Looking northeast / upstream towards Rt. 1 by-pass at intermittent stream from wetland-upland boundary flags $\pm N1$ and $\pm O17$. Note foreground recently brush hogged.



Image 8 – Looking southeast / downstream at perennial stream from wetland-upland boundary flag $\pm S21$.

Wright-Pierce
Marjorie Street, Portsmouth Toyota & Chase School Area
Portsmouth, NH
March 11, 2025



Image 9 – Looking northwest / upstream at the perennial stream from wetland-upland boundary flag \pm S21. Note forested wetland ‘S’ on right.



Image 10 – Looking southwest / downstream at the intermittent stream from wetland-upland boundary flags S1 and U1. Note foreground recently brush hogged.



Image 11 – Looking at the storm water control measure on January 23, 2025. Marjorie Street is in the background.

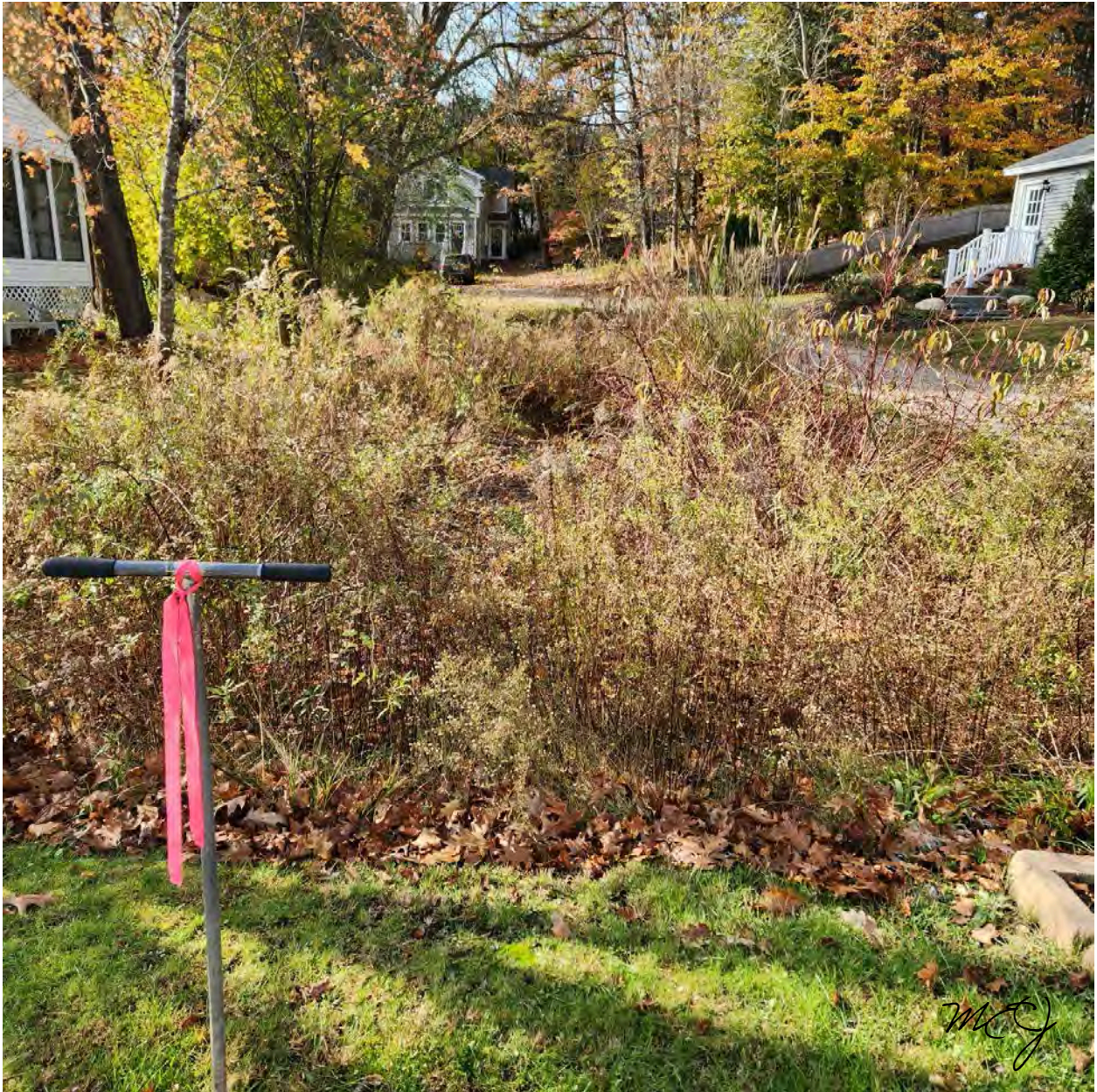


Image 12 – Looking at the storm water control measure from Marjorie Street on November 13, 2023.



VIA EMAIL to jack@doucetsurvey.com

September 21, 2020

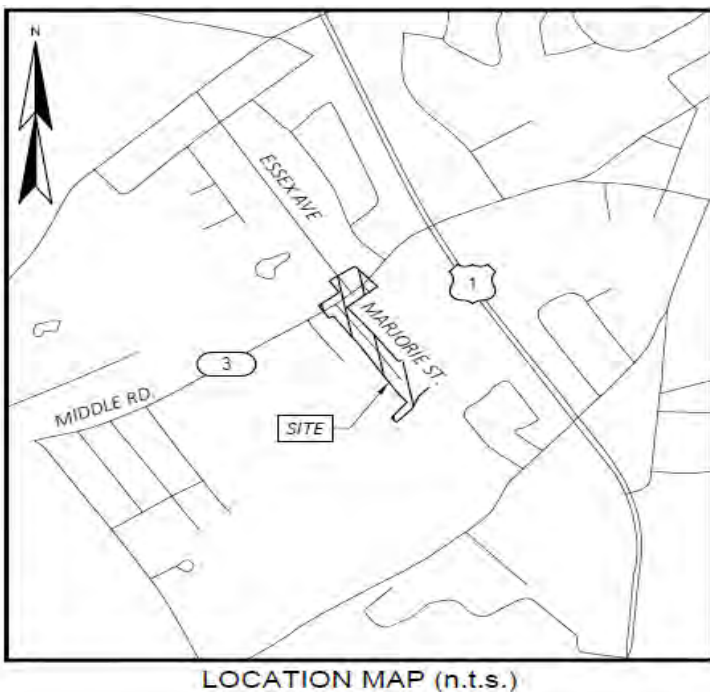
Mr. Jack Kaiser, LLS, Vice-President
Doucet Survey, Inc.
102 Kent Place
Newmarket, NH 03857

Re: Marjorie Street
Portsmouth, NH
DSI #6483

Dear Mr. Kaiser,

The following preliminary remarks summarize observations made during site inspections at the above-referenced location conducted on July 3 and 16, 2020 to identify and delineate wetlands. The approximate area-of-interest (AOI) is depicted below in Figure 1.

FIGURE 1



Certification Note

Jurisdictional wetlands within the AOI were delineated in July 2020 by Marc Jacobs, Certified Wetland Scientist number 090, according to the standards of the US Army Corps of Engineers - Wetlands Delineation Manual; the 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region; the Code of Administrative Rules, NH Department of Environmental Services - Wetlands Bureau – Env-Wt 100-900 and Article 10 – Environmental Protection Standards of the City of Portsmouth, NH Zoning. Soils were evaluated utilizing the Field Indicators for Identifying Hydric Soils in New England, Version 4, April 2017 and the Field Indicators of Hydric Soils in the United States, Version 8, 2016. The indicator status of dominant vegetation as hydrophytic was determined according to the U.S. Army Corps of Engineers - Northcentral and Northeast 2016 Regional Wetland Plant List. Copies of any site plans which depict the delineation that have been reviewed by the wetland scientist are individually stamped, signed and dated. This note has been customized for this project.

General Methodology

Jurisdictional wetlands were identified and wetland-upland boundaries within the AOI were delineated in the field based upon on-the-ground investigations using the technical guidance above. Solid color pink survey flags were then placed at random intervals to mark wetland-upland boundaries in the field. Each flag bears a unique letter and number to assist in subsequent field location by instrument survey as well as to ascertain exact field position when referencing site plans during any future site visits. The following flag sequences were used: A1-A4, B1-B18, C1-C5, D1-D11, E1-E6, F1-F5, G1-G19 and H1-H4.

General Wetland Description

The following section generally describes wetland hydrology, vegetation and soil conditions at this location. More specific information for each wetland area is provided below, organized by wetland flag series or, where appropriate, groups of flag series that generally define a discrete wetland area.

Hydrology

All flags and flag series identify freshwater wetlands. Dominant wetland hydrology historically involved groundwater discharge and sheet flow from upgradient uplands to the north and west. This hydrology has been altered more recently by residential development and associated impervious surfaces which have intercepted precipitation and concentrated the resulting stormwater runoff. We note the absence of catch basins in Marjorie Street however. There is a channel that runs along the south edge of the AOI. The channel appears to be man-made by excavation and filling and confines slow moving surface waters.

No primary or secondary vernal pool indicators were observed during site investigations and, with the possible exception of wetland area ‘G’ below, preliminary observations suggest that the delineated wetlands do not provide breeding habitat for species customarily associated with vernal pools. However, additional investigations during the spring would be necessary to definitively conclude that no vernal pool habitat exists.

Vegetation

The dominant wetland classification according to the National Wetlands Inventory and the Cowardin system involves palustrine forested (PFO) wetlands, except as noted below. Dominant vegetation in the tree canopy includes red maple (*Acer rubrum*), a deciduous species.

Plant species which were observed in the AOI that are customarily considered invasive include multiflora rose (*Rosa multiflora*), Japanese barberry (*Berberis thunbergii*), Japanese knotweed (*Polygonum cuspidatum*), glossy buckthorn (*Frangula alnus*), common buckthorn (*Rhamnus cathartica*), honeysuckle (*Lonicera* sp.), Asian bittersweet (*Celastrus orbiculatus*), garlic mustard (*Alliaria petiolata*) and purple loosestrife (*Lythrum salicaria*).

The garlic mustard infestation is located near wet flag D7. The infestation appears to be small and might be easily controlled with early intervention. The knotweed infestation is located on the opposite bank of the stream identified by the 'A' and 'B' series wetland flags and therefore may currently be confined to abutting property. Invasive species are often easily transported and spread to other sites during earth moving and construction work.

Soils

Except as noted below, all wet flags generally identify man-made wetland-upland boundaries created by filling and/or excavation activities associated with prior residential and utility construction. (The fill was not deposited recently – within the last few years – but may have been placed after the wetlands law became effective in 1969. Additional investigations would be needed to establish the extent of fill or determine when the fill was placed.) Similarly, several piles of organic yard wastes were observed along the wetland-upland boundary on either side of the unimproved section of Marjorie Street and adjacent to the 'D' and 'G' wetland flag series. Some of the piles are recent and this appears to be an ongoing activity.

Predominant hydric soils involve poorly drained Scitico series (*Typic Endoaquepts*) mineral soils although significant pockets of very poorly drained Maybid series (*Typic Humaquepts*) mineral soils can also be found in some locations. Scitico and Maybid series soils are derived from marine silt and clay parent materials. We did not distinguish between wetlands with poorly drained soils versus those with very poorly drained soils in the field. The fill materials were only evaluated as needed to ascertain if they represent hydric soils and have not been thoroughly assessed or characterized otherwise.

Wetland Flag series A & B

Wetland flags series 'A' and 'B' generally identify the bank of a low-gradient stream that is the result of excavation and filling. Wet flags A1± and B1± start at either end of a 24-inch diameter corrugated metal pipe (CMP) with boulder retaining walls. The stream was observed to be flowing during site investigations although stream velocity was very low, almost stagnant.

Wetland Flag series C – F

Wetland flags series 'C – F' identify the toe-of-fill. Wetland flag series F represents an upland island created by fill. Wet flags E1 and D11 are located to either side of a 10-inch diameter polyvinylchloride (PVC) culvert with a flared-end section comprised of high density polyethylene (HDPE). A trickle was observed to be discharging from this culvert during site investigations. The origin of this discharge is unclear given the absence of a stormwater management system within Marjorie Street. Wetlands identified by flag series 'C – F' are hydrologically contiguous to other wetlands outside the AOI by virtue of a 15-inch diameter CMP near wet flags C5 and D1.

Wetland Flag series G

Wetland flags series 'G' identifies the toe-of-fill. Palustrine scrub-shrub wetlands with a minor emergent wetland component exist in the area between wet flags G1-G3± and G17-G19±. Based upon our

observations of physical attributes and occasional adult wood frogs (*Lithobates sylvaticus*), this area may have more potential to provide vernal pool habitat than other areas within the AOI. Wetlands identified by flag series 'G' extend outside the AOI that was investigated so it is unclear if there are other upgradient wetlands that drain to these wetlands but remote sensing suggests that wetland 'G' does not appear to be hydrologically contiguous to other wetlands outside the AOI (or the stream identified by wetland flag series 'A' and 'B') and therefore may be isolated. It appears however that the area easily exceeds 10,000 square feet (SF) in size and as a result is jurisdictional pursuant to local zoning.

Wetland Flag series H

Wetland flag series H identifies a geographically isolated wetland created by filling. The area is very sparsely vegetated. The soils were saturated during site investigations but no flooding or ponding was observed and evidence suggests that the area infrequently ponds or ponds for very short durations such that the area is incapable of providing viable vernal pool habitat. We do not have an exact calculation regarding the surface area of this wetland but it would appear that the area is too small to be jurisdictional under Portsmouth zoning.

State Jurisdiction

All wetlands and any banks are jurisdictional under NH RSA 482:A and the NH Code of Administrative Rules – Chapter Env-Wt 100-900. With the exception of prime wetlands in certain communities, the NHDES does not require a buffer to freshwater wetlands, to the extent that any work in adjacent uplands does not cause indirect impacts, such as sedimentation, to areas under NHDES jurisdiction.

Shoreland Protection

There are no water bodies identified on the Comprehensive List of Water Bodies subject to RSA 483-B, the Shoreland Water Quality Protection Act, which are located within 250 feet of the AOI.

Prime Wetlands

The NHDES applies applicable rules and law to all municipally designated prime wetlands (and in certain municipalities all land within 100-feet of municipally designated prime wetlands). Prime wetlands are those wetlands with higher functions and values and receive additional protection under the law. Portsmouth has designated municipal prime wetlands which are recognized by NHDES. The subject wetlands are not identified as prime wetlands. Portsmouth prime wetlands receive a 100-foot state buffer. Refer to Figure 2 below.

FIGURE 2



Priority Resource Areas

Areas that embody bogs, sand dunes, tidal waters, tidal wetlands, undeveloped tidal buffer zone, floodplain wetlands adjacent to a tier 3 or higher watercourse, designated prime wetland or duly established prime wetland buffer zone and/or documented occurrences of protected rare species or habitat are considered Priority Resource Areas (PRA). Projects which propose impacts to jurisdictional areas that involve PRA's are elevated to major project classification for permitting review purposes, with a couple of exceptions. With the possible exception of rare species, remote sensing and direct observation confirm that there are no PRA's within the AOI. We have not contacted the Natural Heritage Bureau for information regarding rare species, which we presume will take place during the permitting process for any proposed project going forward.

Local Zoning

Chapter 10 of the Portsmouth Zoning Ordinance, specifically Article 10 – Environmental Protection Standards and Section 10.1010 – Wetland Protection, take jurisdiction over the following areas:

- Any inland wetland area greater than 10,000 SF in size;
- Any vernal pool regardless of size;
- Any non-tidal perennial river or stream; and,
- Any tidal wetlands.

The local zoning requires a buffer of all land within 100–feet of any jurisdictional area. Permitted uses in wetlands and the wetland buffer include any use that does not involve the erection or construction of any structure or impervious surface and will not alter the natural surface configuration by the addition of fill or dredging. Any use or activity not specifically permitted is prohibited unless authorized by the Portsmouth Planning Board by Conditional Use Permit (CUP) after review by the Portsmouth Conservation Commission. Regarding CUP applications, the following specific criteria for approval apply to public and private utilities within rights-of-way in wetlands and wetland buffers:

- The proposed construction is in the public interest;
- Design, construction and maintenance methods will utilize best management practices to minimize impact and will include restoration of sites as nearly as possible to the original grade;
- No alternative feasible route exists; and
- Alteration of natural vegetation will occur only to the extent necessary.

The zoning identifies performance standards for stormwater management and vegetation management, including fertilizer and herbicide application, within local jurisdiction. The zoning requires vegetation buffers within the overall 100-foot buffer.

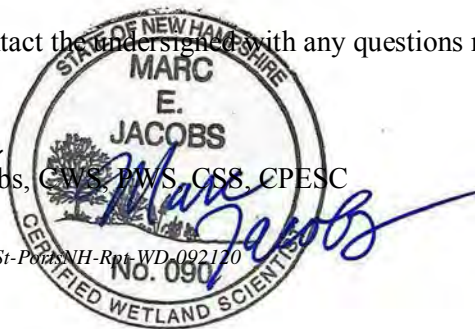
The above represents a brief summary of the applicable local wetland zoning and state jurisdiction. We recommend that you consult this office, the Portsmouth Planning Department or the NHDES for further guidance before proceeding with any design, permitting or construction at this location.

Please contact the undersigned with any questions regarding the above-referenced information.

Cordially,


Marc Jacobs, CWS, PWS, CSS, CPESC

DSI-MarjorieSt-PortsmouthNH-Rep-WD-092170



MEMORANDUM

VIA: First class mail/Certified/Facsimile/Hand Delivery/Overnight/E-mail

TO: Andy Morrill, P.E.

FROM: Marc Jacobs, CWS, CSS, CPESC

DATE: February 3, 2025

SUBJECT: Marjorie Street
Portsmouth, N.H.

RE: Assessor's Map 232 / Lot 37



The purpose of this memorandum is to summarize my observations regarding potential jurisdictional wetlands within the area-of-interest (AOI) on the above-referenced lot on Marjorie Street. The AOI is identified on Figure 1 below by a yellow polygon. A site inspection was conducted on January 23, 2025. Refer to Image 1.

Figure 1



I originally inspected and evaluated the AOI on November 13, 2023 as part of site investigations and delineation of a larger AOI that included this AOI. The AOI generally represents a storm water management best management practice. It is apparently man-made, chiefly by excavation, and the portion closest to Marjorie Street is lined with riprap stone. Refer to Image 2.

As is to be expected, the soils in the AOI are highly altered and possess minimal horizon development. Also to be expected, as a storm water management practice, the soils possess some morphological signs consistent with episodic short-term wetness. However, the soils do not currently meet the definition of a hydric soil per:

- Field Indicators for Identifying Hydric Soils in New England, Version 4, June 2020
- Field Indicators of Hydric Soils in the United States, Version 8.2, 2018.

The AOI supports a variety of herbaceous and shrub vegetation. A significant community of herbaceous species dominated by sensitive fern (*Onoclea sensibilis*) was observed in the portion of the storm water management feature that is not lined with riprap. Sensitive fern is a facultative wetland species and as such is customarily considered an indicator of jurisdictional wetlands in the presence of hydric soils. Facultative wetland species can also commonly be found in upland (non-wetland areas). Sensitive fern is known to colonize altered and natural soils including non-hydric soils that experience periodic wetness.

The AOI likely drains to the south, towards Lot 38, via intermittent overland flow during larger storm events. There may also be infiltration to groundwater taking place through the bottom of the practice during smaller storm events that do not generate sufficient runoff to result in overland flow. There is no contiguous wetland connection via hydric soils or hydrophytic vegetation however to nearby jurisdictional wetlands at the rear of Lots 26 or 38 which were delineated in 2023.

For the above reasons, the AOI does not possess the three factors (a plant community dominated by hydrophytic plant species, hydric soils and signs of wetland hydrology) necessary to be considered a jurisdictional wetland per state regulation or Portsmouth zoning §10.1014.11.

The conclusion above notwithstanding, if the area was legally constructed as a storm water management practice and subsequently developed the necessary wetland characteristics identified above, thus becoming jurisdictional as a wetland, it may be maintained, repaired, replaced or modified under state law (NH RSA 482-A:3, IV(b)) without a permit.

Similarly, per Portsmouth zoning §10.1013.10, inland (freshwater) wetlands, which are not vernal pools and are less than 10,000 square feet (SF) in area, are not subject to local regulation. November and January are not ideal months in which to make determinations regarding vernal pools, however I did not observe any features in 2023 (without snow cover) which suggest that the area is a potential vernal pool. Whereas I concluded that the area is not a wetland, it was not delineated. That fact notwithstanding, the storm water practice does not appear to be 10,000 SF in size, but additional calculations or measurements may be necessary to confirm the size of the area.



Image 1 – Looking at the area-of-interest. Marjorie Street is in the background.

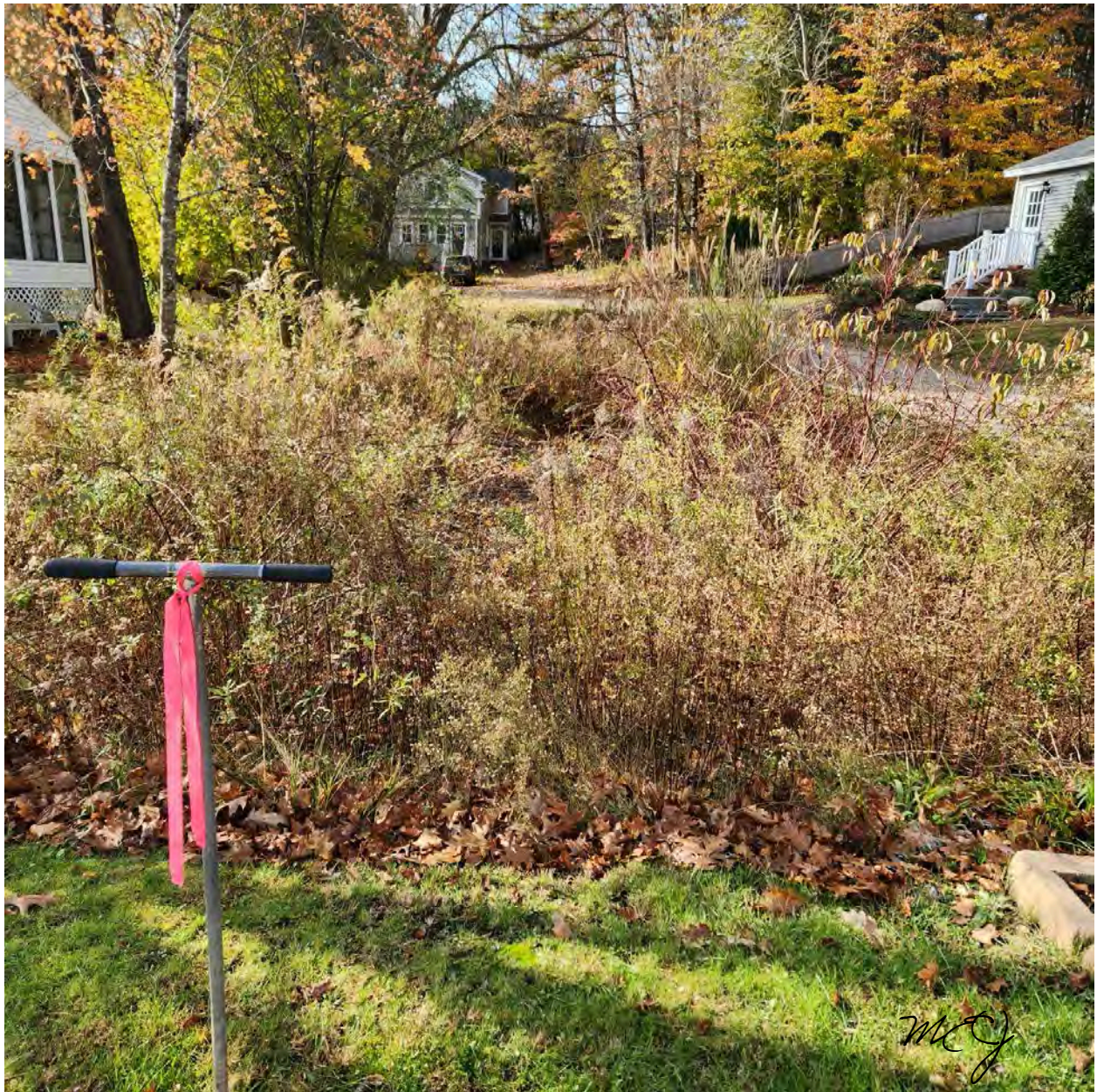


Image 2 – Looking at the area-of-interest from Marjorie Street.