



Land Surveying – Planning - Permitting

NH DES WETLANDS BUREAU MAJOR DREDGE & FILL APPLICATION

for
Residential Development

for
Copley Properties, LLC.
80 & 80R Winnicutt Road
Stratham, NH
May 2026

JVA Project #: 24-2033

Prepared by:

James Verra & Associates., Inc.
100 Griffin Road, Unit C, Portsmouth, NH 03801
Ph (603) 436 3557
mmoody@jvasurveyors.com

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NH DES Standard Dredge and Fill Wetlands Permit Application

Attachment 1

Project Narrative



STANDARD DREDGE AND FILL WETLANDS PERMIT APPLICATION

Water Division / Land Resources Management Program /
Wetlands Bureau

[Check the status of your application](#)



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

Applicant name: Copley Properties, LLC		Town name: Stratham
<i>Administrative Use Only</i>	File number: Check number:	Initials: Amount:

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

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

Please use the [Land Resources Management Permit Planning Tool \(LRMPPT\)](#), the [DataCheck Tool](#), the [Stream Crossing Initiative Data Viewer](#) or other sources to assist in identifying key features such as [Priority Resource Areas \(PRAs\)](#), [protected species or habitats](#), coastal areas, designated rivers or designated prime wetlands.

Has the required planning been completed?	☒ Yes ☐ No
Does the property contain a PRA? If yes, provide the following information:	☐ Yes ☒ No
Does the project qualify for an Impact Classification Adjustment (such as an agreement from the NHDES Ecological Review Section for a classification downgrade) or a Project-Type Exception (such as a Maintenance or Statutory Permit-by-Notification (SPN) project)? 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): greater fringed-gentian (<i>Gentianopsis crinita</i>) - DataCheck project ID number: 26-0300	
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? If yes, provide the following information:	☐ Yes ☒ No
- Name of Local River Management Advisory Committee (LAC): - A copy of the application was sent to the LAC on (mm/dd/yyyy):	
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
For stream crossing projects, provide watershed size (see LRMPPT or Stream Stats): 0.51 square miles	

SECTION 2 - PROJECT DESCRIPTION (Env-Wt 311.04(i))

Provide a description of the project and the purpose of the project, the need for the proposed impacts to jurisdictional areas, an outline of the scope of work to be performed, and whether impacts are temporary or permanent.

The proposed project includes development of a 33-lot residential subdivision on a 103.9-acre parcel in Stratham, New Hampshire. Due to the presence of wetlands across the site, limited impacts to jurisdictional areas are necessary to provide access and install essential infrastructure. A total of seven wetland impact areas are proposed, including five crossings and two additional impacts to previously disturbed emergent wetlands. Temporary impacts total approximately xx linear feet and x,xxx square feet, while permanent impacts total approximately xxx linear feet and 6,190 square feet. These impacts are primarily associated with roadway crossings, culvert installation, and utility access. All wetland impacts have been avoided and minimized to the maximum extent practicable by utilizing existing disturbed areas, placing crossings at the narrowest point, and limiting the extent of disturbance required for construction.

SECTION 3 - PROJECT LOCATION

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

Address: 80 & 80R Winnicutt Road

Town or city: Stratham

Tax map/block/lot/unit: Tax Map 14, Lots 56 & 57

U.S. Geological Survey (USGS) topo map waterbody name: ☐ n/a **Mill Brook**

(Optional) Latitude / longitude in decimal degrees (to five decimal places): 43.01828 / -70.89377

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: Copley Properties, LLC

Mailing address: 94 Portsmouth Avenue

Town or city: Stratham . State: NH ZIP: 03885

Email address: drew@copleyproperties.com Phone: (781)706-1531

Electronic communication: By initialing here, I hereby authorize NHDES to communicate all matters relative to this application electronically: **DG**

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

Last name, first name, middle initial: Moody, Morgan

Company name: James Verra & Associates / Emanuel Engineering, Inc.

Mailing address: 100 Griffin Road, Unit C

Town or city: Portsmouth State: NH ZIP: 03801

Email address: mmoody@jvasurveyors.com Phone: 603-766-4466

Electronic communication: By initialing here, I hereby authorize NHDES to communicate all matters relative to this application electronically: **MM**

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: Helen E. Gallant Revocable Trust 95

Mailing address: 2642 Bolero Drive, #501

Town or city: Naples

State: FL

ZIP: 34109

Email address: pgallantcpa@comcast.net

Phone: (603) 396-4148

Electronic communication: By initialing here, I hereby authorize NHDES to communicate all matters relative to this application electronically: PG

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 406.01(a-d): Delineation and classifications of jurisdictional areas was conducted by Certified Wetland Scientist (CWS), Joe Noel and verified by Luke Hurley, CWS. (See attachment 10). Vernal pools were documented and assessed by Joe Noel and Morgan Moody, CWS (See attachment 11).

Env-Wt 406.06 Wetland classifications using the federal classification method, are depicted on the Soils & Topography Plan (Sheet C2).

Env-Wt 407: The project is classified as a "Major Impact" project.

Env-Wt 524.06(d)(2) - The project exceeds the minor impact criteria because it is more than one proposed stream crossing.

Env-Wt 903.01(g)(5) - "The crossing is part of a larger crossing that meets the criteria for a major project specified in Env-Wt 400, regardless of the tier classification of the stream crossing that is part of the project."

Env-Wt 904.03 Tier 1 Stream Crossings (See attachment 9: Stream Crossing Worksheets)

See EEI Wetland Impact Plan Sheets C8 & C8.1 for impact details.

SECTION 8 - AVOIDANCE AND MINIMIZATION

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

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

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

SECTION 9 - MITIGATION REQUIREMENT (Env-Wt 311.02)

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

Mitigation pre-application meeting date (mm-dd-yyyy):

☒ N/A - Mitigation is not required.

SECTION 10 - THE PROJECT MEETS COMPENSATORY MITIGATION REQUIREMENTS (ENV-WT 313.01(A)(1C))

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

☒ I confirm submittal.

☒ N/A - Compensatory mitigation is not required)

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

For each jurisdictional area that will be or 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; meaning work was started or completed without a permit).

For intermittent and ephemeral streams, linear feet of impact are 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, linear feet of impact are calculated by summing the lengths of disturbances to the channel and banks.

Permanent (PERM) impacts are impacts that will remain after the project is complete (e.g., changes in grade or surface materials). Temporary (TEMP) impacts are impacts not intended to remain (and will be restored to pre-construction conditions) after the project is completed.

JURISDICTIONAL AREA		PERM. SF	PERM. LF	PERM. ATF	TEMP. SF	TEMP. LF	TEMP. ATF
Wetlands	Forested Wetland	4710		☐	1270		☐
	Scrub-shrub Wetland			☐			☐
	Emergent Wetland	745		☐	390		☐
	Wet Meadow			☐			☐
	Vernal Pool			☐			☐
	Designated Prime Wetland			☐			☐
	Duly-established 100-foot Prime Wetland Buffer			☐			☐
Surface Water	Intermittent / Ephemeral Stream	735	147	☐	150	27	☐
	Perennial Stream or River			☐			☐
	Lake / Pond			☐			☐
	Docking - Lake / Pond			☐			☐
	Docking - River			☐			☐
Banks	Bank - Intermittent Stream			☐			☐
	Bank - Perennial Stream / River			☐			☐
	Bank / Shoreline - Lake / Pond			☐			☐
Tidal	Tidal Waters			☐			☐
	Tidal Marsh			☐			☐
	Sand Dune			☐			☐
	Undeveloped Tidal Buffer Zone (TBZ)			☐			☐
	Previously-developed TBZ			☐			☐
	Docking - Tidal Water			☐			☐
TOTAL		6190	147		1810	27	

SECTION 12 - APPLICATION FEE (RSA 482-A:3, 1)

- ☐ Minimum impact: flat fee of \$600.
- ☐ Non-enforcement related, publicly funded and supervised restoration projects, regardless of impact classification: flat fee of \$600 (refer to R2-A:3, 1(c) for restrictions).
- ☒ Minor or major impact fee: calculate using the table below.

Permanent and temporary (non-docking):	8000 SF	$\times \$0.60 = 4800$	\$ 4800
Seasonal docking structure:	SF	$\times \$3.00 =$	\$
Permanent docking structure:	SF	$\times \$6.00 =$	\$
Projects proposing shoreline structures (including docks): add \$600.			\$
Total			\$ 4800
The application fee for minor or major impact is the above calculated total or \$600, whichever is greater.			\$

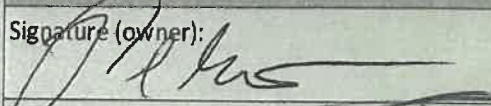
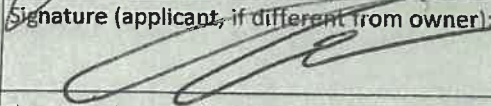
SECTION 13 - PROJECT CLASSIFICATION (Env-Wt 306.05) *Indicate the project classification.*

- ☐ Minimum impact project ☐ Minor project ☒ Major project

SECTION 14 - REQUIRED CERTIFICATIONS (Env-Wt 311.11) *Initial each box below to certify.*

Initials: MM	To the best of the signer's knowledge and belief, all required notifications have been provided.
Initials: MM	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: MM	The signer understands that submission of false, incomplete, or misleading information constitutes grounds for NHDES to: 1. Deny the application. 2. Revoke any approval that is granted based on the information. 3. If the signer is a certified wetland scientist, licensed surveyor, or professional engineer licensed to practice in New Hampshire, refer the matter to the office of professional licensure and certification established by RSA 310.
Initials: MM	If the applicant is not the owner, each property owner's signature shall constitute certification by the signer that he or she is aware of the application being filed and does not object to the filing.

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

Signature (owner): 	Print name legibly: Paul Gallant	Date: 5/6/26
Signature (applicant, if different from owner): 	Print name legibly: Drew Goddard	Date: 5/6/26
Signature (agent, if applicable): Morgan Moody Digitally signed by Morgan Moody Date: 2026.05.05 09:21:49 -04'00'	Print name legibly: Morgan Moody, CWS	Date: 5-5-2026

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 provided a hard copy and a digital copy of a completed application form, with required attachments, to the town or city indicated below.

Town or city clerk signature:

 - Deputy Town Clerk

Print name legibly:

James Joseph

Town or city:

Stratham

Date:

5/7/26

DIRECTIONS FOR TOWN OR CITY CLERK

1. Upon confirming receipt of one paper copy and one digital copy of this application, with its attachments, immediately sign a copy of the application and return it to the applicant for submittal to the department.
2. Retain the hard copy for review by the public and immediately distribute a digital copy of the application package to each of the following bodies:
 - a. Local conservation commission.
 - b. Local governing body such as select board or town or city council.
 - c. Local planning board.

DIRECTIONS FOR APPLICANT

1. Bring one hard copy of the application and its attachments, and one digital copy of the same, to the municipal clerk(s) of the town(s) in which proposed jurisdictional impacts are located. Digital copies shall be in PDF format or other formats approved by NHDES.
2. Submit the copy of the complete application package signed by the municipal clerk(s) to NHDES.
3. State agency applicants may file simultaneously with NHDES and the municipal clerk.

PROJECT NARRATIVE

Proposed cluster subdivision for 80 & 80R Winnicutt Road, Stratham, NH

EXISTING CONDITIONS

The Copley Properties, LLC site is shown on Stratham Tax Map 14 Lots 56 & 57, and is located on the south side of Winnicutt Road in Stratham, New Hampshire. The existing lots have a combined area of 103.90 acres. The subject parcel has one gravel driveway (pavement near the existing house), an existing 4-bedroom house, a 3,780 square foot barn, a pool and associated patio, a pond, grass fields, and a large amount of woodlands, which contain wetlands and streams. The intent of this project is to preserve the existing house and barn on site, but to replace the existing driveway with a paved road, creating a 33-lot subdivision (5 lots of which are to be “array lots” containing 4 houses on each of those lots). The septic system on-site will be managed through six separate leach fields, each designed to serve between two and twenty-six houses. Water supply for the houses will be provided by 37 new wells (one existing well is to remain), with each single-family lot having its own well. Each array lot will have two wells, with each well serving two houses. To accommodate increased runoff from the additional impervious area, additional drainage structures are proposed, including bioswales, drip edges, and stone storage areas. The parcel is bounded northerly by Winnicutt Road, easterly by residential lots and conservation, southerly by residential lots, conservation land and power lines, and westerly by residential lots.

Approximately 82.7 acres (79.6%) of the site analyzed for drainage is undisturbed woodlands. The existing analyzed site's percent of impervious cover is 0.63% (0.65 acres of impervious).

The existing combined site has one main point of discharge for storm-water, which is the wetlands on the west portion of the analyzed area. The high point is generally located at Winnicutt Road on the northern portion of the property where stormwater generally flows to the west through a series of wetlands and streams, ultimately into the wetlands on the western portion of the site.

Site specific soils were delineated on site by Luke Hurley, CSS # 095, Hurley Environmental and Land Planning, LLC. on May 9, 2024. Wetlands were delineated by Joseph

Noel CWS #86 in Spring 2023, and confirmed by Luke Hurley of Hurley Environmental & Land Planning, LLC in Spring 2024.

PROPOSED DEVELOPMENT

Proposed improvements for Tax Map 14 Lots 56 & 57 include replacing the existing driveway with +/- 2,460 linear feet of a paved road, construction of 47 new houses for the 33-lot subdivision, the slight relocation of the existing barn on site, six separate new shared septic systems and thirty-eight wells (total) for the proposed subdivision, stone storage areas/drip edges at each proposed house and driveway for lot-level stormwater management, associated power and utilities, conveyance swales along the proposed roadways, a stormwater forebay, prefabricated pretreatment devices, and two bioretention basins. The proposed site impervious area is 5.24% of the analyzed area (228,060 square feet).

Attachment 2

USACE, FWS IPAC Review, NH DHR Review

[Open Space Cluster Subdivision](#)

2026PR00136.001



Requests

Associated with this submission



You do not have any requests that need to be addressed at this time.

Process	Status	Request Item	Resource/Survey	Description
No requests				

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Attachments

Associated with this submission

View	Name	Description	Date Uploaded
No attachments			

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Project Information

Project Name: Open Space Cluster Subdivision

Project Type: Review & Compliance

Project Description: The proposed project aims to create an open space cluster subdivision, incorporating a paved road network. This network features a 22' wide main road connecting to Winnicut Road. A total of 35 lots are proposed providing 35% as open space. The subdivision will include a trail system, 37 new wells, and the on-site septic system will be managed through 6 separate leach fields. A total of 9,230 SF of wetland impact is proposed.

Submission Information

Submitted By:

Date Due:

03/12/2026

Date Submitted:

Date Response Sent:

02/10/2026

03/02/2026

Reviews

Review Type	Decision
Architectural Review	Comments and/or Attachments Provided
Archaeological Review	No Archaeological Concerns

Comments

Associated with this Submission

Comment

While retaining important above-ground features on the property minimizes impacts that the undertaking may have to National Register eligible properties, the NHSHPO is concerned that the development of the agricultural fields and relocation of the barn will adversely affect the agricultural feeling and association that the property retains. Please work with the Stratham Heritage Commission to determine if they have recommendations as to additional mitigative tasks to help resolve potential adverse effects. The NHSHPO also requests consultation with the Lead Federal Agency (Army Corps?) to continue

Comment

with the Section 106 review including assessing effects and identifying meaningful mitigation tools should NHHPO's initial recommendation of Adverse Effect be confirmed.

Items per page: 5

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NEW HAMPSHIRE DIVISION OF
**HISTORICAL
RESOURCES**
A Division of the New Hampshire
Department of Natural and Cultural Resources

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172 Pembroke Road, Concord, NH 03301

Hours: Monday - Friday, 8:00 am - 4:00 pm



TOWN OF STRATHAM

INCORPORATED 1716

10 BUNKER HILL AVENUE • STRATHAM NH 03885

VOICE (603) 772-7391 • FAX (603) 775-0517

STRATHAM HERITAGE COMMISSION MINUTES

March 10, 2026 at 7:00 pm
Stratham Municipal Center

Present: David Canada, Nate Merrill, Kim Williams, Forrest Barker

Absent: Jeff Hyland, Mike Houghton, Lucy Cushman

Mr. Merrill called the meeting to order at 7:02 pm. He asked Ms. Williams to be a voting member tonight, in Jeff Hyland's absence.

REGULAR BUSINESS

Secretary's Report: Mr. Canada made a motion to approve the minutes from the February 10, 2026 meeting as presented. Mr. Merrill seconded and the motion passed.

Treasurer's Report: None

Correspondence: None

Veterans Memorial Garden: No Updates

COMMITTEE REPORTS

Planning Board: Mr. Canada said there was nothing to report that was relevant to the Heritage Commission.

Select Board: No Updates

Demolition Review Committee: Has not met

Heritage District Advisory Committee: Has not met

OLD BUSINESS

Town marker project: Mr. Merrill reported that there was a price increase of \$60 on January 1st, making the new cost \$2,565. One issue is that the sign company needs a vector file for the town seal. Mr. Merrill will investigate that with town staff. If we can't provide a vector file, the sign price will be higher (\$2,815) if the vendor needs to convert the town seal image. Mr. Canada

made a motion to increase our previous motion up to but not exceeding \$2,815. Ms. Williams seconded and the motion passed.

Historic house placards: Six new applications have come in so far this calendar year. Mr. Merrill will ask Finance to send out an invoice to the Stratham Historical Society for their portion (\$70 each) of the signs purchased in 2025.

Historic resources mapping project: Mr. Merrill and Ms. Barker are still waiting for the snow to melt.

217 Portsmouth Ave. – inventory & easement: Mr. Merrill explained that Copley Properties purchased the property from Shamus Quirk, and Drew Goddard asked for informal feedback on a revised site plan and architectural rendering, both of which he intends to bring to the Planning Board for consideration. The site plan removes the two houses closest to Portsmouth Avenue, and places them at the lower end of the site behind the hammer head. The architectural rendering depicts a cape-style home, which Mr. Merrill explained is smaller than the homes that Mr. Quirk had proposed earlier. Mr. Merrill pointed out that we are only providing advisory input and have no statutory authority to approve any of the proposed changes. Mr. Canada suggested that there be five unique house styles to avoid the cookie-cutter look. Mr. Canada made a motion for feedback to the developer that the Commission supports the revised concept, but technical details are lacking and we recommend five distinct house styles. Ms. Barker seconded the motion, which passed.

80 Winnicutt Rd. – inventory & easement: Mr. Merrill and Lisa Mausolf received word from the state that the property has been determined eligible for listing on the State Register of Historic Places, and is likely eligible for the national register. However, they are concerned about successfully getting National Register status due to the upcoming loss of the farmland, which destroys the historical setting and context of the property. Division of Historical Resources staff said that it would help if the developer tried to mitigate loss of the land by including public trails, and interpretive markers that show historical photos of what the land looked like before subdivision. Mr. Merrill brought these ideas up to the developer, and he liked the idea and indicated that he would pay for interpretive signage. In the meantime, the Heritage Commission and developer can move forward on the state registry listing now, and potentially work on the national register later. Mr. Merrill will work with Ms. Price on the preservation easements for this property and the former goat farm property.

Stratham Hill Park inventory proposals: No Updates

Neglected properties: Mr. Merrill said there has been some work behind the scenes, but nothing new to report.

Lane Homestead: There is a site visit scheduled for March 11th at 10:00 AM for town staff, Select Board members and Heritage Commission members to view the property and begin to prioritize needed repairs.

Public program: Mr. Merrill is still working on the slides for the history of Stuart Farm presentation, and thinks it will be a longer program than usual. He is targeting an hour program, with 15 minutes for Q&A after the slideshow. The program will be held on April 10th at 7:00 pm at the firehouse.

NEW BUSINESS

Mr. Merrill reminded everyone that the N.H. Preservation Alliance's biennial Old House and Barn Expo is this weekend, and our training & workshops budget will cover travel and entry ticket costs for anyone who wants to attend.

Mr. Merrill and Ms. Barker thanked Mr. Canada for his many years of dedicated service on the Heritage Commission. His presence and wise counsel will be sorely missed.

ADJOURNMENT

At 7:44 pm, Mr. Canada made a motion to adjourn. Mrs. Williams seconded and the motion passed.

Respectfully Submitted,

Forrest Barker, Secretary

From: [Komulainen-Dillenburg, Nancy S CIV USARMY CENAE \(USA\)](#)
To: [Miller, Nadine](#)
Cc: [Greenan, Colin M GREENAN, COLIN M CIV USARMY CENAE \(USA\)](#); [Schneible, Elizabeth](#)
Subject: RE: 2026PR00136/80 Winnicutt St, Stratham, NH
Date: Monday, March 2, 2026 5:26:51 PM
Attachments: [image001.png](#)

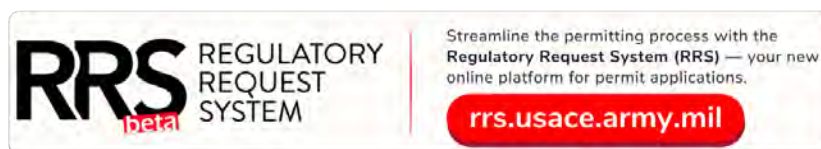
EXTERNAL EMAIL WARNING! This email originated outside of the New Hampshire Executive Branch network. Do not open attachments or click on links unless you recognize the sender and are expecting the email. Do not enter your username and password on sites that you have reached through an email link. Forward suspicious and unexpected messages by clicking the Phish Alert button in your Outlook and if you did click or enter credentials by mistake, report it immediately to helpdesk@doit.nh.gov!

Thanks Nadine!

Nancy

Nancy Komulainen-Dillenburg
NHPA Program Manager & Tribal Liaison
New England District Regulatory Division
US Army Corps of Engineers
696 Virginia Road
Concord, MA 01742
Office: (978) 318-8348
Mobile: (218) 451-8698
Nancy.S.Komulainen-Dillenburg@usace.army.mil

USACE is now accepting pre-construction notifications and applications through the Regulatory Request System (RRS). In order to better serve you and the Nation, USACE has fully transitioned to the RRS. To help ensure timely receipt and processing, please submit your pre-construction notifications and permit applications via the clickable RRS link below.



[USACE RRS Promo 90-sec \(youtube.com\)](#)

From: Miller, Nadine <Nadine.M.Miller@dn-cr.nh.gov>
Sent: Monday, March 2, 2026 11:39 AM
To: Komulainen-Dillenburg, Nancy S CIV USARMY CENAE (USA) <Nancy.S.Komulainen-Dillenburg@usace.army.mil>
Cc: Greenan, Colin M GREENAN, COLIN M CIV USARMY CENAE (USA) <Colin.M.Greenan@usace.army.mil>; Schneible, Elizabeth <Elizabeth.A.Schneible@dn-cr.nh.gov>
Subject: [Non-DoD Source] 2026PR00136/80 Winnicutt St, Stratham, NH

Dear Nancy:

I just added you as a contact in EMMIT+ for the above-referenced project.

Since we have not formalized our new review process, I thought it would be a good idea to loop you into this project since there are potential adverse effects associated with the undertaking should the Corps have jurisdiction. I noted in our comments that we request consultation with the Lead Federal Agency once that has been determined (you can see our comments in the EMMIT+ submission).

Please let me know if you have questions/concerns and we look forward to meeting with you all soon to determine best ways to move forward with Section 106 reviews in NH.

Sincerely,
Nadine

Nadine Miller
Deputy State Historic Preservation Officer
NH Division of Historical Resources
Department of Natural and Cultural Resources
(603) 271-6628
Nadine.m.miller@dncr.nh.gov

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 3301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104



In Reply Refer To:
Project code: 2026-0048204
Project Name: Proposed Open Space Cluster Subdivision

05/01/2026 11:47:30 UTC

Federal Nexus: yes
Federal Action Agency (if applicable): New Hampshire Department of Environmental Services

Subject: Technical assistance for 'Proposed Open Space Cluster Subdivision'

Dear Morgan Moody:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on May 01, 2026, for 'Proposed Open Space Cluster Subdivision' (here forward, Project). This project has been assigned Project Code 2026-0048204 and all future correspondence should clearly reference this number. **Please carefully review this letter. Your Endangered Species Act (Act) requirements may not be complete.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project.

Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key (Dkey), invalidates this letter. ***Answers to certain questions in the DKey commit the project proponent to implementation of conservation measures that must be followed for the ESA determination to remain valid. Note that conservation measures for northern long-eared bat and tricolored bat may differ. If both bat species are present in the action area and the key suggests more conservative measures for one of the species for your project, the Project may need to apply the most conservative measures in order to avoid adverse effects. If unsure which conservation measures should be applied, please contact the appropriate Ecological Services Field Office***

Determination for the Northern Long-Eared Bat and Tricolored Bat

Based upon your IPaC submission and a standing analysis completed by the Service, your project has reached the following effect determination(s):

Species	Listing Status	Determination
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	Endangered	NLAA
Tricolored Bat (<i>Perimyotis subflavus</i>)	Proposed	May affect
	Endangered	

Federal agencies must consult with U.S. Fish and Wildlife Service under section 7(a)(2) of the Endangered Species Act (ESA) when an action *may affect* a listed species. Tricolored bat is proposed for listing as endangered under the ESA, but not yet listed. For actions that may affect a proposed species, agencies cannot consult, but they can *confer* under the authority of section 7(a)(4) of the ESA. Such conferences can follow the procedures for a consultation and be adopted as such if and when the proposed species is listed. Should the tricolored bat be listed, agencies must review projects that are not yet complete, or projects with ongoing effects within the tricolored bat range that previously received a NE or NLAA determination from the key to confirm that the determination is still accurate.

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination key for the northern long-eared bat and tricolored bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Proposed Threatened

You may coordinate with our Office to determine whether the Action may cause prohibited take of the animal species listed above. Note that if a new species is listed that may be affected by the identified action before it is complete, additional review is recommended to ensure compliance with the Endangered Species Act.

Next Steps

Consultation with the Service is necessary. The project has a federal nexus (e.g., Federal funds, permit, etc.), but you are not the federal action agency or its designated (in writing) non-federal representative. Therefore, the ESA consultation status is incomplete and no project activities should occur until consultation between the Service and the Federal action agency (or designated non-federal representative), is completed.

As the federal agency or designated non-federal representative deems appropriate, they should submit their determination of effects to the Service by doing the following.

1. Log into IPaC using an agency email account and click on My Projects, click "Search by record locator" to find this Project using **318-180665929**. (Alternatively, the originator of the project in IPaC can add the agency representative to the project by using the Add Member button on the project home page.)

2. Review the answers to the Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key to ensure that they are accurate.
3. Click on Review/ Finalize to convert the 'not likely to adversely affect' technical assistance letter to a concurrence letter. Download the concurrence letter for your files if needed.

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

If you have any questions regarding this letter or need further assistance, please contact the New England Ecological Services Field Office and reference Project Code 2026-0048204 associated with this Project.

Action Description

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

1. Name

Proposed Open Space Cluster Subdivision

2. Description

The following description was provided for the project 'Proposed Open Space Cluster Subdivision':

The proposed project aims to create an open space cluster subdivision, incorporating a paved road network. This network features a 22' wide main road connecting to Winnicutt Road. A total of 35 lots are proposed providing 35% as open space. The subdivision will include a trail system, 37 new wells, and the on-site septic system will be managed through 6 separate leach fields. A total of 9,230 +/- SF of wetland impact is proposed.

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@43.015188550000005,-70.89943442457954,14z>



DETERMINATION KEY RESULT

Based on the answers provided, the proposed Action is consistent with a determination of “may affect, but not likely to adversely affect” for a least one species covered by this determination key.

QUALIFICATION INTERVIEW

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

Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

No

2. Is the action area wholly within Zone 2 of the year-round active area for northern long-eared bat and/or tricolored bat?

Automatically answered

No

3. Does the action area intersect Zone 1 of the year-round active area for northern long-eared bat and/or tricolored bat?

Automatically answered

No

4. Does any component of the action involve leasing, construction or operation of wind turbines? Answer 'yes' if the activities considered are conducted with the intention of gathering survey information to inform the leasing, construction, or operation of wind turbines.

No

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

Note for projects in Pennsylvania: Projects requiring authorization under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act would be considered as having a federal nexus. Since the U.S. Army Corps of Engineers (Corps) has issued the Pennsylvania State Programmatic General Permit (PASPGP), which may be verified by the PA Department of Environmental Protection or certain Conservation Districts, the need to receive a Corps authorization to perform the work under the PASPGP serves as a federal nexus. As such, if proposing to use the PASPGP, you would answer ‘yes’ to this question.

Yes

6. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

No

7. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

Note: This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

No

8. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

No

9. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

No

10. [Semantic] Is the action area located within 0.5 miles of a known bat hibernaculum or winter roost? Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your state wildlife agency.

Automatically answered

No

11. Does the action area contain any winter roosts or caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating bats?

No

12. Does the action area contain (1) talus or (2) anthropogenic or naturally formed rock shelters or crevices in rocky outcrops, rock faces or cliffs?

No

13. Will the action cause effects to a covered bridge?

No

14. Are trees present within 1000 feet of the action area? **Note:** If there are trees within the action area that are of a sufficient size to be potential roosts for bats answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in the USFWS' [Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines](#).

Yes

15. Does the action include the intentional exclusion of bats from a building or building-like structure? **Note:** Exclusion is conducted to deny bats' entry or reentry into a building. To be effective and to avoid harming bats, it should be done according to established standards. If your action includes bat exclusion and you are unsure whether northern long-eared bats or tricolored bats are present, answer "Yes." Answer "No" if there are no signs of bat use in the building/structure. If unsure, contact your local Ecological Services Field Office to help assess whether northern long-eared bats or tricolored bats may be present. Contact a Nuisance Wildlife Control Operator (NWCO) for help in how to exclude bats from a structure safely without causing harm to the bats (to find a NWCO certified in bat standards, search the Internet using the search term "National Wildlife Control Operators Association bats"). Also see the White-Nose Syndrome Response Team's guide for bat control in structures.

No

16. Does the action involve removal, modification, or maintenance of a human-made building-like structure (barn, house, or other building) **known or suspected to contain roosting bats?**

No

17. Will the action cause construction of one or more new roads open to the public?

For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

Yes

18. Will any new road go through any area of contiguous forest that is greater than or equal to 10 acres in total extent? **Note:** If forested areas exist in the project area, but will be removed as part of the project, contiguous forest areas should only be considered if roads will cross through forest patches that are remaining on the landscape after tree cutting activities have been conducted. "Contiguous forest" of 10 acres or more may include areas where multiple forest patches are separated by less than 1,000 feet of non-forest if the forested patches, added together, comprise at least 10 acres.

No

19. Will any new road pass between two patches of contiguous forest that are each greater than or equal to 10 acres in extent and are separated by less than 1,000 feet? Bats may cross a road by flying between forest patches that are up to 1,000 feet apart. **Note:** If forested areas exist in the project area, but will be removed as part of the project, contiguous forest areas should only be considered if roads will cross through forest patches that are remaining on the landscape after tree cutting activities have been conducted. "Contiguous forest" of 10 acres or more may include areas where multiple forest patches are separated by less than 1,000 feet of non-forested area if the forested patches, added together, comprise at least 10 acres.

No

20. Will the action include or cause any construction or other activity that is reasonably certain to increase average night-time traffic permanently or temporarily on one or more existing roads? **Note:** For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

No

21. Will the action include or cause any construction or other activity that is reasonably certain to increase the number of travel lanes on an existing thoroughfare?

For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

No

22. Will the proposed Action involve the creation of a new water-borne contaminant source (e.g., leachate pond, pits containing chemicals that are not NSF/ANSI 60 compliant)?

Note: For information regarding NSF/ANSI 60 please visit <https://www.nsf.org/knowledge-library/nsf-ansi-standard-60-drinking-water-treatment-chemicals-health-effects>

No

23. Will the proposed action involve the creation of a new point source discharge from a facility other than a water treatment plant or storm water system?

No

24. Will the action include drilling or blasting?

No

25. Will the action involve military training (e.g., smoke operations, obscurant operations, exploding munitions, artillery fire, range use, helicopter or fixed wing aircraft use at night)?

No

26. Will the proposed action involve the use of herbicides or pesticides (e.g., fungicides, insecticides, or rodenticides)?

No

27. Will the action include or cause activities that are reasonably certain to cause chronic or intense nighttime noise (above current levels of ambient noise in the area) in suitable summer habitat for the northern long-eared bat or tricolored bat during the active season? Chronic noise is noise that is continuous or occurs repeatedly again and again for a long time. Sources of chronic or intense noise that could cause adverse effects to bats may include, but are not limited to: road traffic; trains; aircraft; industrial activities; gas compressor stations; loud music; crowds; oil and gas extraction; construction; and mining. **Note:** Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in the USFWS' [Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines](#).

No

28. Does the action include, or is it reasonably certain to cause, the use of permanent or temporary artificial lighting within 1000 feet of suitable forested northern long-eared bat or tricolored bat roosting habitat? **Note:** Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in the USFWS' [Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines](#).

No

29. Will the action include tree cutting or other means of knocking down or bringing down trees, tree topping, or tree trimming?

Yes

30. Is the project related to the production of coal, including projects that support the mining of coal, as well as the production and/or distribution of energy produced from coal?

No

31. Will the proposed action occur exclusively in an already established and currently maintained utility right-of-way?

No

32. Does the action include emergency cutting or trimming of hazard trees in order to remove an imminent threat to human safety or property? See hazard tree note at the bottom of the key for text that will be added to response letters

Note: A "hazard tree" is a tree that is an immediate threat to lives, public health and safety, or improved property.

No

33. Does the project intersect with the 0- 9.9% forest density category?

Automatically answered

No

34. Does the project intersect with the 10.0- 19.9% forest density category map?

Automatically answered

No

35. Does the project intersect with the 20.0- 29.9% forest density category map?

Automatically answered

No

36. Does the project intersect with the 30.0- 100% forest density category map?

Automatically answered

Yes

37. Will the action cause trees to be cut, knocked down, or otherwise brought down across an area greater than 100 acres in total extent?

No

38. Will the proposed action result in the use of prescribed fire?

Note: If the prescribed fire action includes other activities than application of fire (e.g., tree cutting, fire line preparation) please consider impacts from those activities within the previous representative questions in the key. This set of questions only considers impacts from flame and smoke.

No

39. Does the action area intersect the northern long-eared bat species list area?

Automatically answered

Yes

40. [Semantic] Is the action area located within 0.5 miles of radius of an entrance/opening to any known NLEB hibernacula or winter roost? **Note:** The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

Automatically answered

No

41. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats? **Note:** The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

Automatically answered

No

42. [Semantic] Is the action area located within 150 feet of a documented northern long-eared bat roost site?

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency. Have you contacted the appropriate agency to determine if your action is within 150 feet of any documented northern long-eared bat roosts?

Note: A document with links to Natural Heritage Inventory databases and other state-specific sources of information on the locations of northern long-eared bat roosts is available here. Location information for northern long-eared bat roosts is generally kept in state natural heritage inventory databases – the availability of this data varies by state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited.

Automatically answered

No

43. Is suitable summer habitat for the northern long-eared bat present within 1000 feet of project activities? If unsure, answer "Yes." **Note:** Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in the USFWS' [Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines](#)

Yes

44. Has a presence/probable absence summer bat survey targeting the northern long-eared bat following the Service's [Range-wide Indiana Bat and Northern Long-Eared Bat Survey Guidelines](#) been conducted within the project area?

No

45. Are any of the trees proposed for cutting or other means of knocking down, bringing down, topping, or trimming suitable for northern long-eared bat roosting (i.e., live trees and/or snags ≥ 3 inches dbh that have exfoliating bark, cracks, crevices, and/or cavities)?

Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in the USFWS' [Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines](#).

Yes

46. Will any tree cutting/trimming or other knocking or bringing down of trees occur during the **Summer Occupancy season** for northern long-eared bats in the action area? **Note:** Bat activity periods for your state can be found in Appendix 2 of the Service's [Northern long-eared Bat and Tricolored Bat Voluntary Environmental Review Process for Development Projects](#).

No

47. Does the action area intersect the tricolored bat species list area?

Automatically answered

Yes

48. Is the action area located within 0.5-mile of radius of an entrance/opening to any known tricolored bat hibernacula or winter roost?

Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your state wildlife agency.

Automatically answered

No

49. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats? **Note:** The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

Automatically answered

No

50. Has a presence/probable absence bat survey targeting the [tricolored bat and following the Service's Range-wide Indiana Bat and Northern Long-Eared Bat Survey Guidelines](#) been conducted within the project area?

No

51. Is suitable summer habitat for the tricolored bat present within 1000 feet of project activities? (If unsure, answer ""Yes.""") **Note:** If there are trees within the action area that may provide potential roosts for tricolored bats (e.g., clusters of leaves in live and dead deciduous trees, Spanish moss (*Tillandsia usneoides*), clusters of dead pine needles of large live pines) answer ""Yes."" For a complete definition of suitable summer habitat for the tricolored bat, please see the [Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines](#).

Yes

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

No

PROJECT QUESTIONNAIRE

Enter the extent of the action area (in acres) from which trees will be removed - round up to the nearest tenth of an acre. For this question, include the entire area where tree removal will take place, even if some live or dead trees will be left standing.

1

If tree cutting will be part of the proposed action, at what time of year will tree cutting be conducted?

winter

Can the proposed action be modified to ensure that tree cutting will be conducted outside of the season when bats will be present and roosting in trees?

yes

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Morgan Moody
Address: 100 Griffin Road
Address Line 2: Unit C
City: Portsmouth
State: NH
Zip: 03801
Email: mmoody@jvasurveyors.com
Phone: 6034363557

LEAD AGENCY CONTACT INFORMATION

Lead Agency: New Hampshire Department of Environmental Services
Name: Eben Lewis
Email: eben.lewis@des.nh.gov
Phone: 6035591515

My Dashboard

Requests

Requests Requiring Information

Filter Status

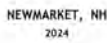
All statuses



Actions	Status	Project Name	Request Type	District	Created Date ↓	DA Number	Project Manager	
							Name	Contact Info
⋮ Actions	Submitted	Residential Development	Application for Department of the Army (DA) Permit	New England	2026-04-14			

Attachment 3

USGS Locus Map



Attachment 4

Site & Impact Photo Log and Map Keys



Site Photo Log

80 & 80R Winnicutt Road Stratham, NH

Photos Taken Early 2024

Photo Log By: Morgan Moody, CWS



Photo #1: Looking northwest at Wetland A (Wetland Impact B).



Photo #2: Looking east at same wetland (Wetland Impact A).



Photo #3: Looking east Wetland E (manmade pond).



Photo #4: Looking west at Wetland C (Wetland Impact D).



Photo #5: Opposite view.



Photo #6: Looking south at existing agricultural field.



Photo #7: Looking southwest at existing house and barn to remain.



Photo #8: Looking east at existing agricultural field.



Photo #9: Looking north at existing scrub-shrub and forested wetland B.



Photo #10: Looking northwest at representative photo of wetland B.



Photo #11: Looking south at existing agricultural field.



Photo #12: Looking south at representative photo of Wetland B.



Photo #13: Looking southwest east at mature upland forest.



Photo #14: Looking north at Wetland C.

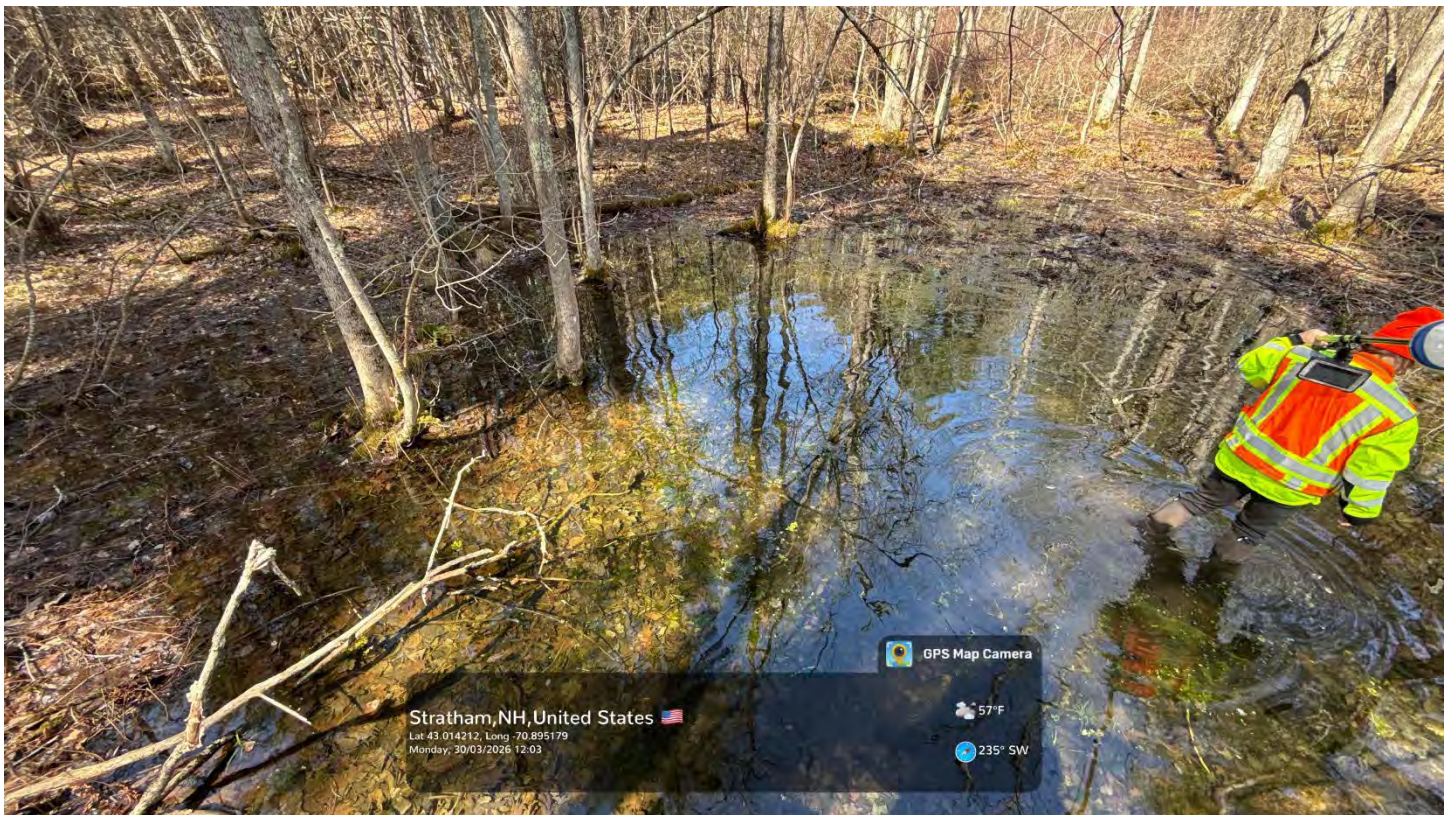


Photo #15: Looking southwest at Vernal Pool #1.

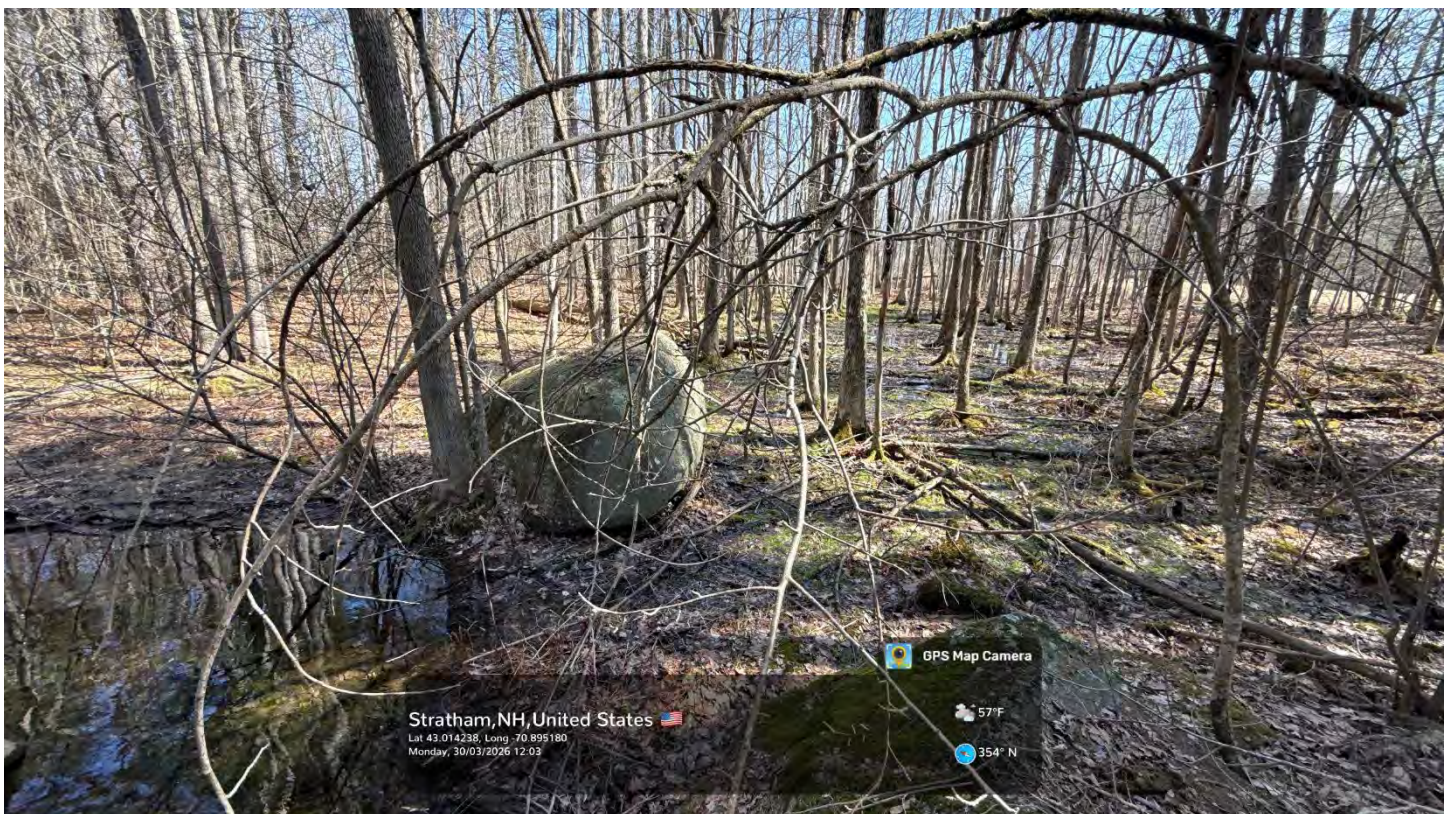
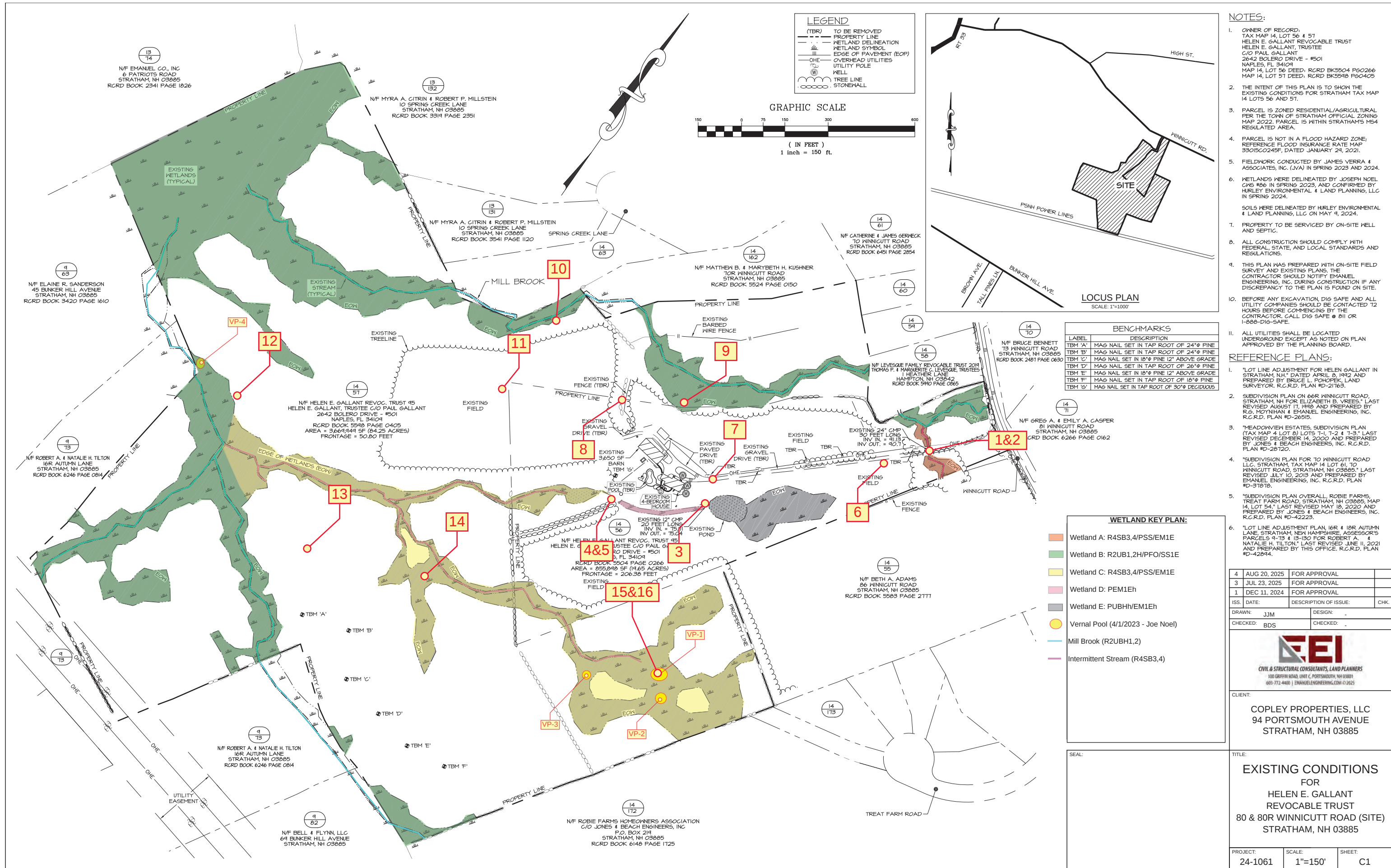


Photo #16: Looking north at Wetland C.

Site Photo Key





Wetland Impact Photo Log
80 & 80R Winnicutt Road Stratham, NH
Photos Taken on March 30th, 2026
By: Morgan Moody, CWS

Wetland Impact A:



Photo #1: Looking north at proposed Wetland Impact “A” for culvert upgrade.



Photo #2: Looking east at same impact area.



Photo #3: Looking east same impact area.



Photo #4: Looking south at same impact area.

Wetland Impact B:



Photo #5: Looking north at proposed Wetland Impact “B” for culvert upgrade (same culvert at “A”)



Photo #6: Looking east at same impact area.

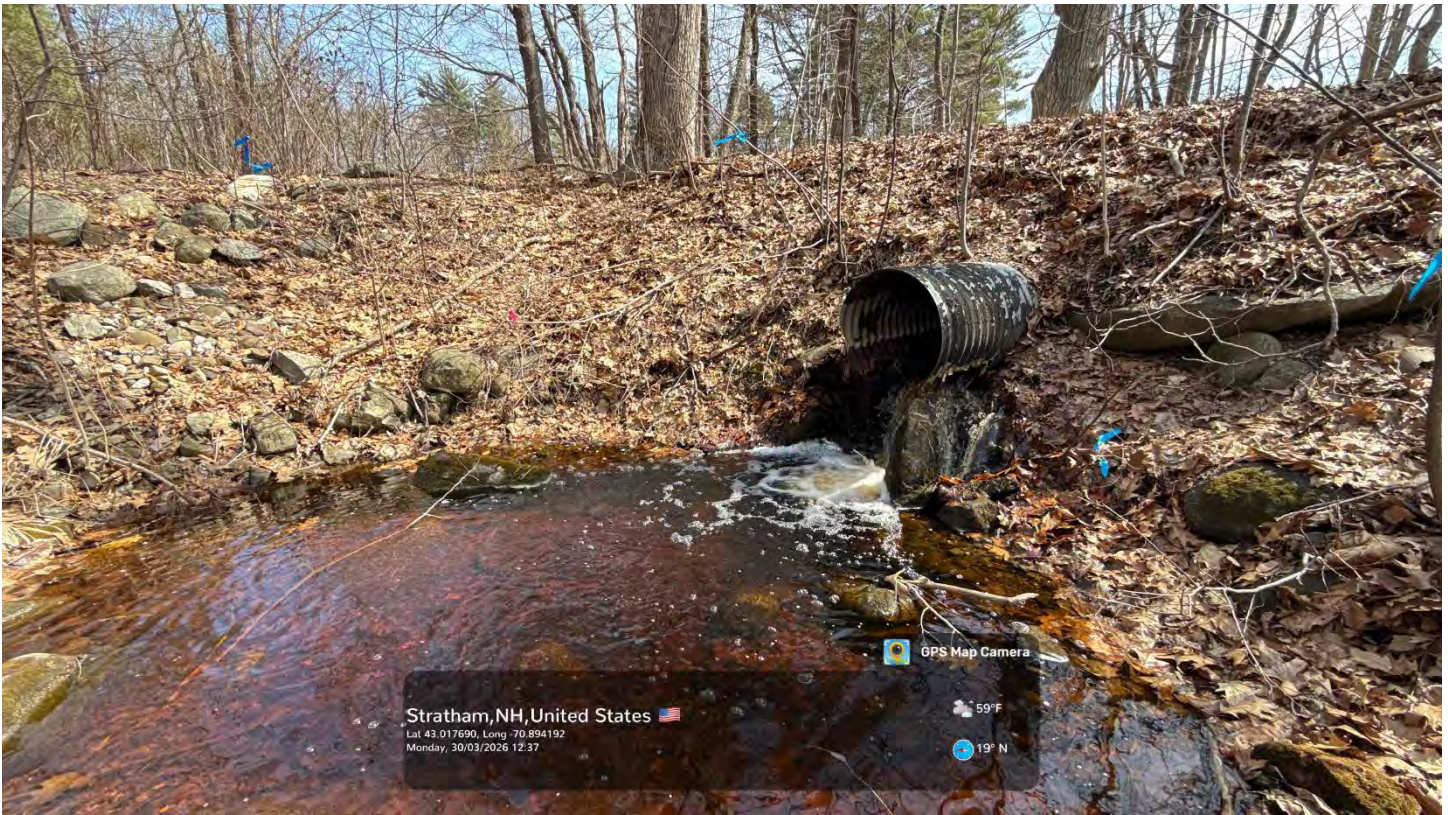


Photo #7: Looking north at same impact area.



Photo #8: Looking west at same impact area.

Wetland Impact C:



Photo #9: Looking north at proposed Wetland Impact “C”.



Photo #10: Looking west at same impact area.

Wetland Impact D:



Photo #11: Looking north at proposed Wetland Impact “D”.



Photo #12: Looking south at same impact area.

Wetland Impact E:



Photo #13: Looking north at proposed Wetland Impact “E”.



Photo #14: Looking east at same impact area.

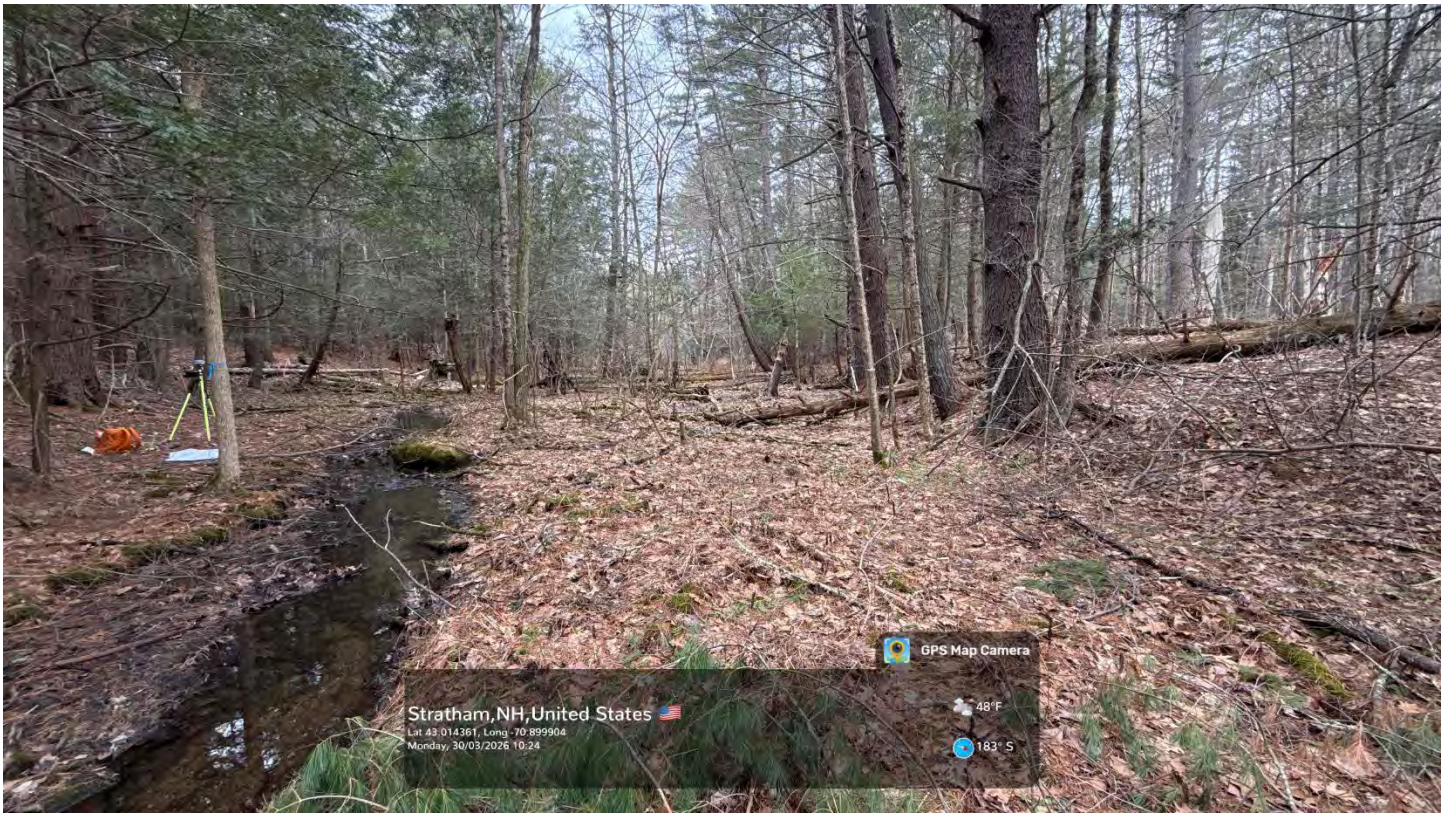


Photo #15: Looking south at same impact area.



Photo #16: Looking west at same impact area.

Wetland Impact F:

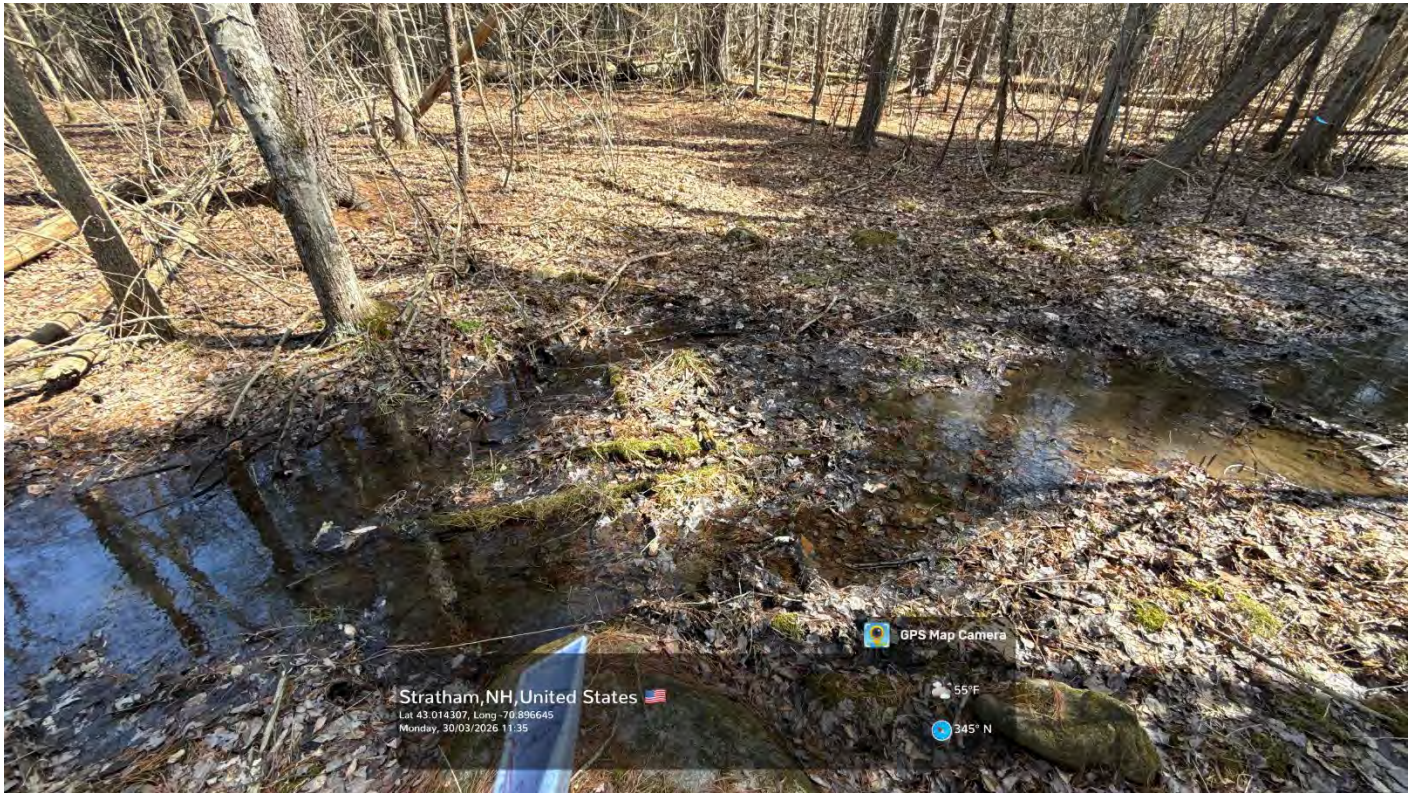


Photo #17: Looking north at proposed Wetland Impact “F”.

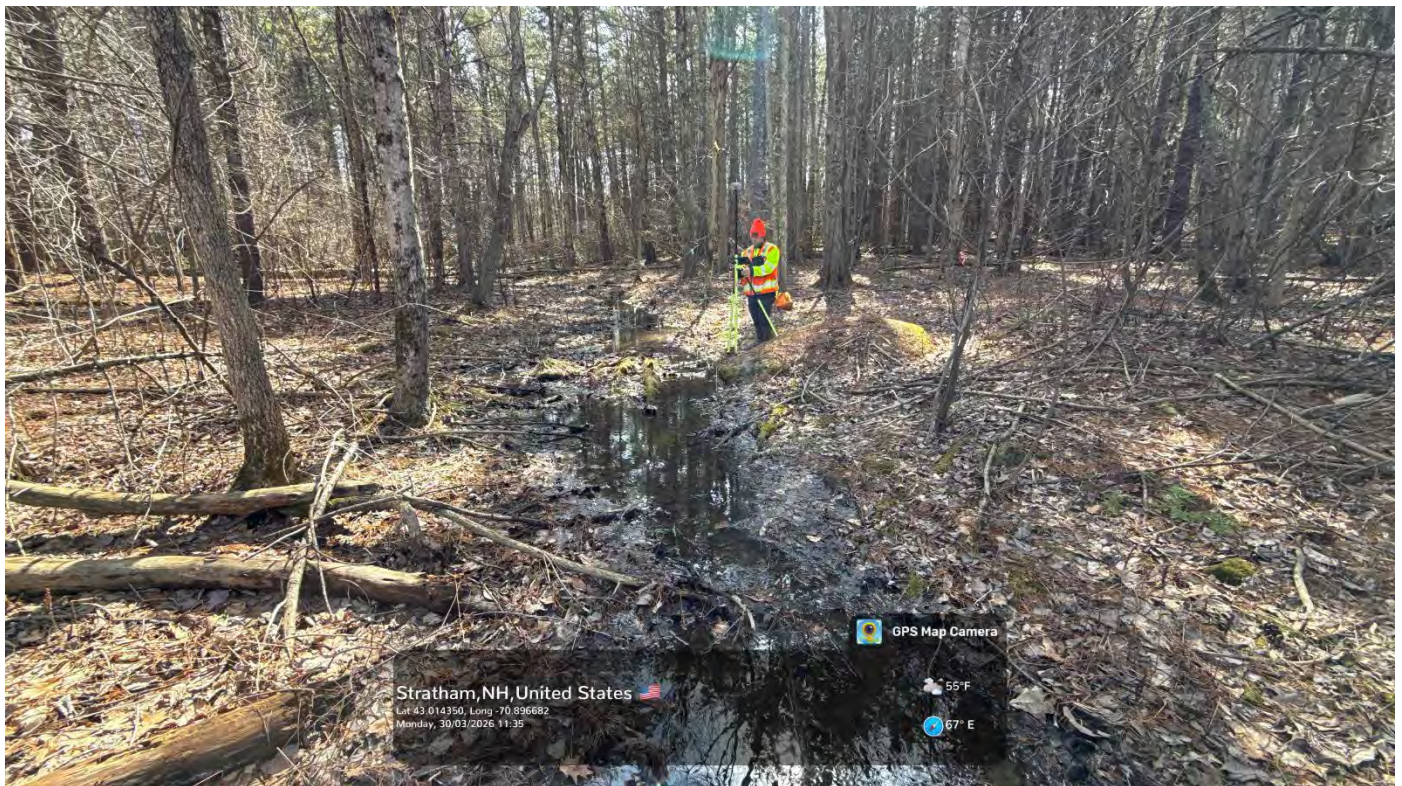


Photo #18: Looking east at same impact area.



Photo #19: Looking south at same impact area.

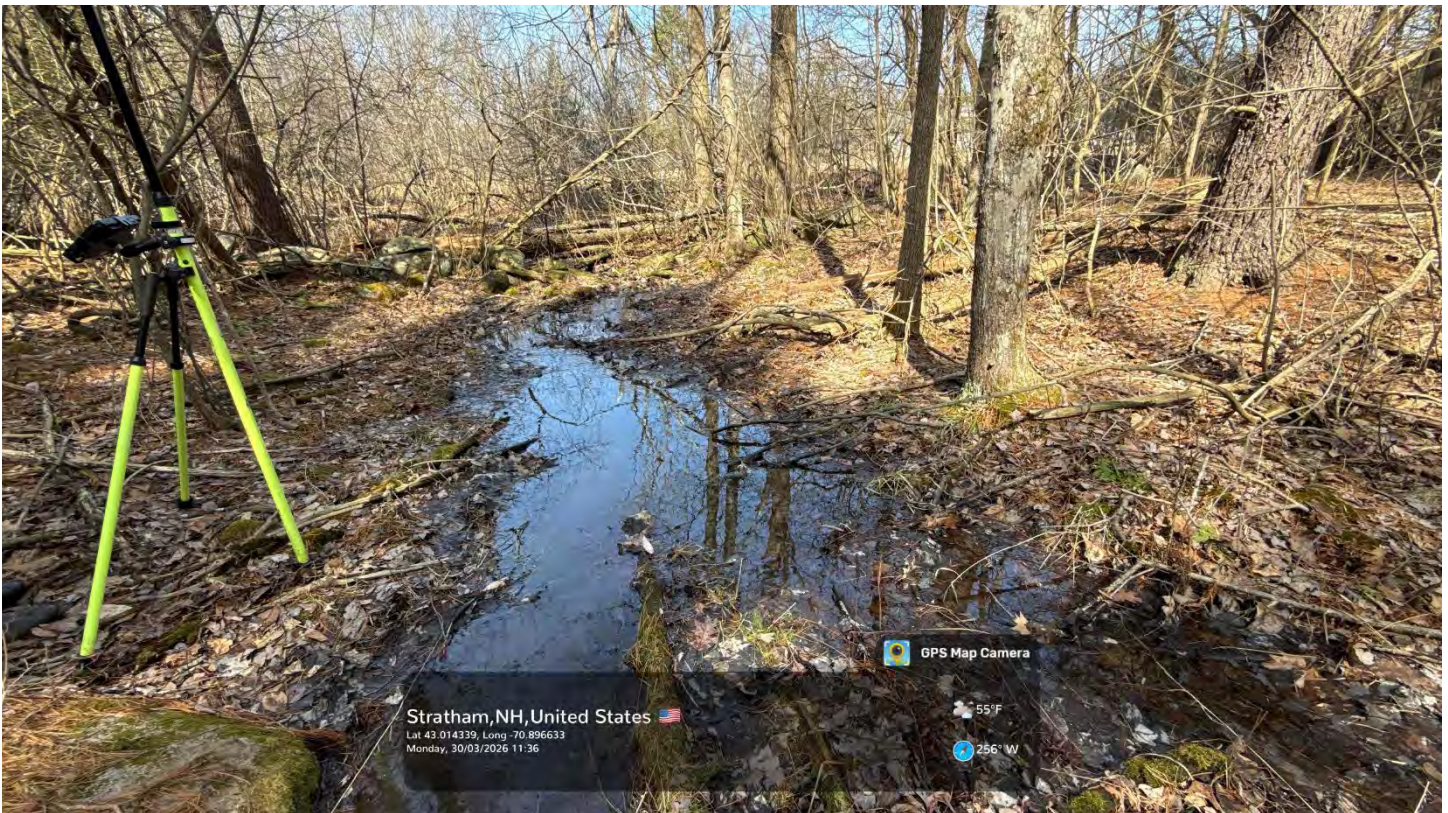


Photo #20: Looking west at same impact area.

Wetland Impact G:

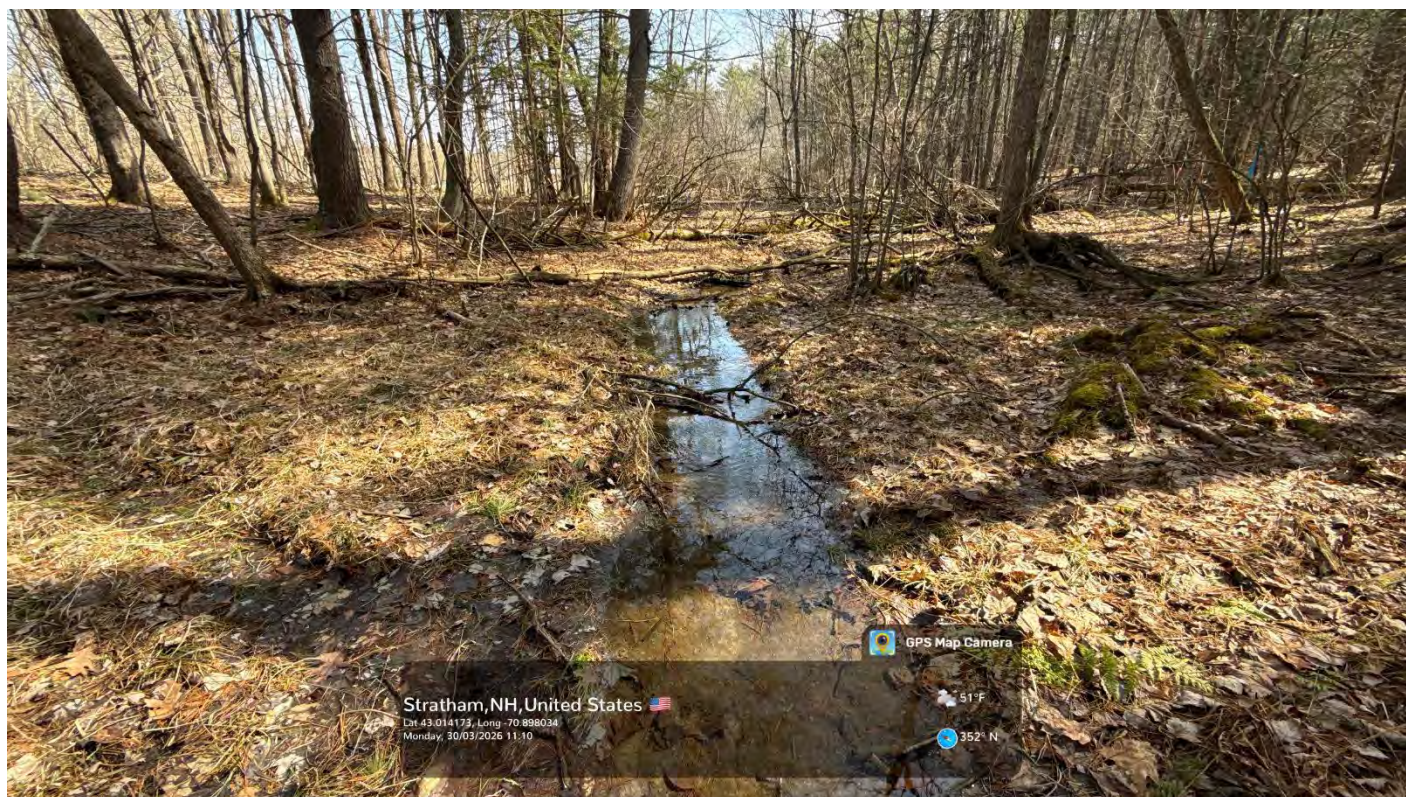


Photo #21: Looking north at proposed Wetland Impact “G”.



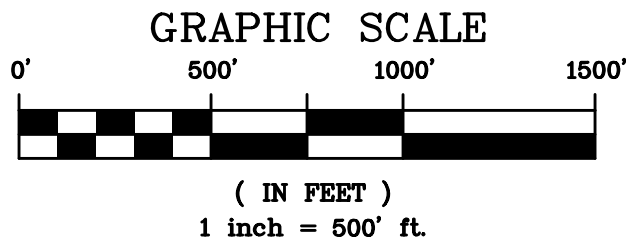
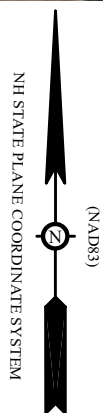
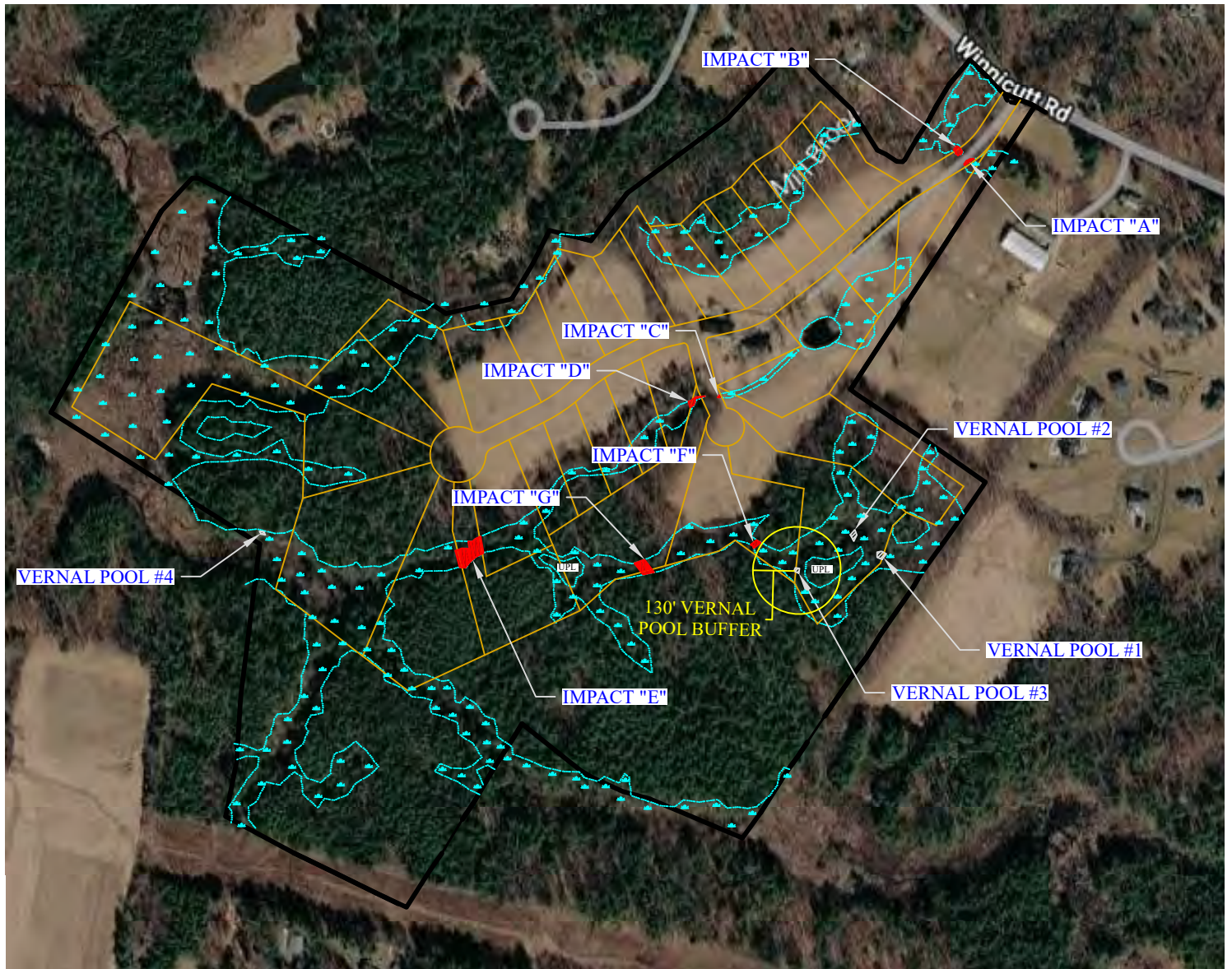
Photo #22: Looking east at same impact area.



Photo #23: Looking south at same impact area.



Photo #24: Looking west at same impact area.



LEGEND:

- WETLAND
- WETLAND LINE
- APPROXIMATE PROPERTY LINE
- PROPOSED SUBDIVISION CONCEPT
- VERNAL POOL
- WETLAND IMPACT

WETLAND IMPACT LOCATIONS
OPEN SPACE CLUSTER SUBDIVISION
COPELY PROPERTIES

DWG: 24-2033-VERNAL POOLS.DWG

DATE: 4/10/2026
JOB: 24-2033

SCALE: 1" = 500'
DWN BY: MM

Attachment 5

Abutter Notification Information (tax map, abutter list, certified mailing receipts)



April 30, 2026

«Name»

«Street»

«TownStateZip»

Re: Tax Map 14 Lot 56 & 57
80 & 80R Winnicutt Road
Stratham, NH

Dear Abutter,

The purpose of this letter is to inform you that Helen E. Gallant Revocable Trust, owner of the above reference property, has submitted a Major Impact Wetland Permit Application to the NH Department of Environmental Services (NHDES) for impacts within jurisdictional wetland resource areas. The applicant, Copley Properties LLC., is proposing permanent and temporary wetland impacts for the proposed residential subdivision. After filing, copies of the final applications, including plans, will be made available for your review at the Stratham Town Hall and at NHDES, 29 Hazen Drive in Concord.

If you have any questions that we might be able to answer, please feel free to contact our office.

Sincerely,

Morgan Moody
Certified Wetland Scientist
603-436-3557

ABUTTERS LIST

Map 14, Lots 56 & 57, 80 & 80R Winnicutt Road, Stratham, NH 03885

<u>Tax Map/Lot No.</u>	<u>Name & Mailing Address</u>
Owner: 14/56 & 57	Gallant, Helen E. Rev Trust 95 Gallant, Helen E. -Trustee C/O Paul Gallant 2642 Bolero Drive - #501 Naples, FL 34109
Applicant:	Copley Properties, LLC 94 Portsmouth Avenue Stratham, NH 03885
Civil Engineer:	Emanuel Engineering, Inc. 100 Griffin Road, Unit C. Portsmouth, NH 03801
Wetland Scientist:	Hurley Environmental and Land Planning, LLC P.O. Box 356 Epsom, NH 03234
Surveyor:	James Verra & Associates, Inc. 100 Griffin Road, Unit C. Portsmouth, NH 03801
Stratham Abutters:	
9/63 Sanderson, Elaine R. 45 Bunker Hill Avenue Stratham, NH 03885	9/73 Tilton, Robert A. & Tilton, Natalie H. 16R Autumn Lane Stratham, NH 03885
9/82 Bell & Flynn, LLLC 69 Bunker Hill Avenue Stratham, NH 03885	13/74 Emanuel Co Inc 6 Patriots Road Stratham, NH 03885
13/131 & 132 Citrin, Myra A. & Millstein, Robert P. 10 Spring Creek Lane Stratham, NH 03885	14/55 Adams, Beth A. 86 Winnicutt Road Stratham, NH 03885

14/58

Levesque Family Revocable Trust 2019
Levesque, Thomas P. & Marguerite C.
1 Heather Lane
Hampton, NH 03842

14/60

Powers, Lisa M. & Powers, Jeffrey A.
72 Winnicutt Road
Stratham, NH 03885

14/172

Robie Farms Homeowners Association
PO Box 1144
Stratham, NH 03885

14/63

Binnie, Pamela W.
C/O Haritos, Sr. Nicholas C.
7 Spring Creek Lane
Stratham, NH 03885

14/59

Crow Family Revocable Trust
Crow, Joshua D. & Christine M.
74 Winnicutt Road
Stratham, NH 03885

14/61

Gerweck, Catherine & Gerweck, James
70 Winnicutt Road
Stratham, NH 03885

14/162

Kushner, Matthew B.
Kushner, Marybeth H.
70R Winnicutt Road
Stratham, NH 03885

14/173

Petrarca, Mark Lewis & Petrarca, Kelly L.
20 Treat Farm Road
Stratham, NH 03885



For Copley Properties, LLC.

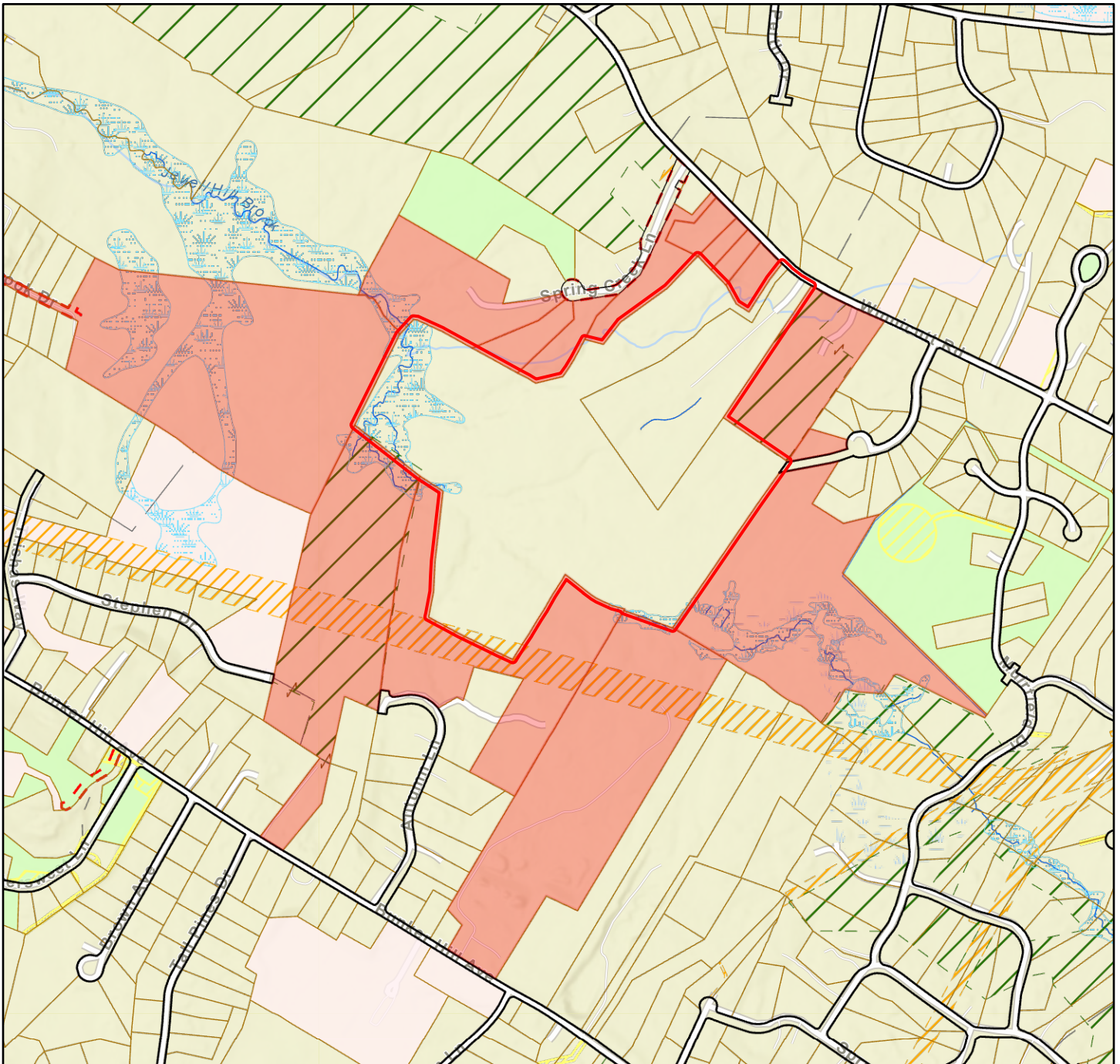
Stratham, NH

1 inch = 1000 Feet



www.cai-tech.com

April 14, 2026



Private Road	Right of Way	WaterLines
Property Line	Utility	Swamps
Public Road	Wetland	Common Land Parcels
Conservation Restriction	Property Hook	Town Owned Parcels
Private Road ROW	Tract Line	

Data shown on this map is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this map.

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Land Planning, LLC.
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Emanuel Engineering, Inc.
100 Griffin Road, Unit C.
Portsmouth, NH 03801

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SANDERSON, ELAINE R.
45 BUNKER HILL AVENUE
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CITRIN, MYRA A.
MILLSTEIN, ROBERT P.
10 SPRING CREEK LANE
STRATHAM, NH 03885

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LEVESQUE FAMILY REVOCABLE
LEVESQUE, THOMAS P. & MAR
1 HEATHER LANE
HAMPTON, NH 03842

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BELL & FLYNN, LLC
69 BUNKER HILL AVENUE
STRATHAM, NH 03885

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Postage \$0.78

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Sent To Helen E. Gallant Rexoc. Trust 95
Helen E. Gallant, Trustee
Street and Apt. No., c/o Paul Gallant
City, State, ZIP+4[®] 2624 Bolero Dr, #501
Naples, FL 34109

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Street and Apt. 100 Griffin Road, Unit C.
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Street and Apt. No., HARITOS SR., NICHOLAS C.
City, State, ZIP+4[®] 7 SPRING CREEK LANE
STRATHAM, NH 03885

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POWERS, JEFFREY A.
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CROW, JOSHUA D. & CHRISTI
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STRATHAM, NH 03885

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TILTON, NATALIE H.
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KUSHNER, MARYBETH H.
City, State, ZIP 70R WINNICUTT ROAD
STRATHAM, NH 03885

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PETRARCA, MARK LEWIS

MONDRIAN

MONDRIAN

Street and Apt. No.

PETRARCA, KELLY

20 TREAT FARM ROAD

STRATHAM, NH 03885

City, State, Zip+4[®]

STRATHAM, NH 03885

STRATHAM, NH 03885

STRATHAM, NH 03885

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9589 0710 5270 1579 5534 82

Attachment 6

NH DES Datacheck Tool



The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES



Robert R. Scott, Commissioner

To: Morgan Moody, James Verra & Associates
100 Griffin Road Unit C
Portsmouth, NH 03801
mmoody@jvasurveyors.com

From: Ecological Review Section
New Hampshire Department of Environmental Services

cc:

Date: 02/09/2026 (valid until 02/09/2027)

Re: DataCheck Review by NHDES Ecological Review Section

Permits: MUNICIPAL POR - STRATHAM, NHDES - Alteration of Terrain Permit, NHDES - Wetlands Standard
Dredge & Fill, USACE - General Permit

DCT ID: DCT26-0300

Town: Stratham
Location: 80 & 80R Winnicut Road

Project Description: Proposing to subdivide the two lots into 33 buildable lots, one of which will be open space. Proposed is ~9,500 SF and ~190 LF of wetland impact associated with 5 stream crossings.

Next Steps for Applicants:

The New Hampshire Department of Environmental Services (NHDES) Ecological Review Section has reviewed the provided mapped project area against available records of protected species, Exemplary Natural Communities (ENCs), and critical habitat. Based on the project mapping and submitted information, protected species may be impacted by the proposed work activities. Please carefully read the comments and instructions below for next steps to avoid and minimize impacts.

Plant and Exemplary Natural

Community Comments: I was unable to find any coordination for this project under NHB24-2849. Please send any coordination that exists. If no coordination has occurred or if it is not considered applicable to this submittal, then an ecological review is required specifically for the wetlands permit, for AoT it would only be recommended. This means no \$500 ecological review fee is required.

Wildlife and Critical Habitat

Comments: No ecological review needed based on provided information.

Ecological Review Instructions

Pursuant to Env-C 804.01, ecological reviews are either required by rule or recommended to comply with RSA 212-A and 217-A. Pursuant to Env-C 804.02, required ecological reviews that meet certain criteria must pay a \$500 fee to request an ecological review.

Instructions regarding how to request an ecological review for plants and/or wildlife are provided below:

When is an Ecological Review for Plants and Exemplary Natural Communities Needed

If this letter includes records of protected plants and/or exemplary natural communities, you may request an Ecological Review from NHDES (see further instructions below).

If no plant or exemplary natural communities are included on this letter, no further plant review is needed.

When is an Ecological Review for Wildlife and Critical Habitat Needed

If this letter includes records of protected wildlife and/or critical habitat, please refer to one of the following next steps:

- a. If your project requires an NHDES permit, authorization, or approval you may request an Ecological Review from NHDES (see further instructions below).
- b. If your project **does not** need an NHDES permit, authorization, or approval, then no ecological review with NHDES is needed. Instead, you can request a review from the New Hampshire Fish and Game (NHFG) Nongame and Endangered species program. Contact NHFGreview@wildlife.nh.gov or 603-271-2461 to request a review with NHFG.

If no wildlife species or critical habitat are included on this letter, then no further wildlife review is needed.

How to Request an Ecological Review from NHDES

To request an ecological review, access and complete the [Ecological Review Request form](https://onlineforms.nh.gov) found at onlineforms.nh.gov.

Submit the completed form and all required attachments by email, mail, or hand delivery to:

New Hampshire Department of Environmental Services
Attn: Ecological Review Section
P.O. Box 95
29 Hazen Drive
Concord, NH 03302-0095
EcologicalReviews@des.nh.gov

For questions about requesting an ecological review, call 603-271-7972.

Federal Compliance

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

Ecological Review Database records:

The following species and habitats may be impacted by the proposed work activities. Please refer to this list when coordinating.

Plant species	State ¹	Federal	Notes
greater fringed-gentian (<i>Gentianopsis crinita</i>)	T	--	Vulnerable to shading by invading trees and to disturbances that destroy plants or impede their ability to reproduce (such as mowing in the mid-summer while the plants are in bloom).

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

Disclaimer:

DataCheck Tool screening only includes occurrences of protected species and exemplary natural communities that have been documented and verified by state biologists and ecologists. This letter does not guarantee these are the only protected species and habitat present at this location, only that their presence has not been documented and verified by state biologists and ecologists. As many areas have never been surveyed, or have only been surveyed for certain species, on site surveys are the best way to determine the resources present on your site.

DCT26-0300



www.des.nh.gov
29 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
(603) 271-3503 • Fax: (603) 271-2867 • TDD Access: Relay NH 1-800-735-2964



The State of New Hampshire

DEPARTMENT OF ENVIRONMENTAL SERVICES



Robert R. Scott, Commissioner

April 22, 2026
Morgan Moody
James Verra & Associates, Inc
100 Griffin Road, Unit C
Portsmouth, NH 03801

RE: Plant Conservation Measures
DCT26-0300
80 & 80R Winnicut Road, Stratham, NH
Tax Map 14, Lots 56 & 57

Dear Morgan Moody:

The New Hampshire Department of Environmental Services Ecological Review Section reviewed materials submitted for ecological review under DCT26-0300. The project proposes to replace an existing driveway with a paved road, construct 47 homes, relocate an existing barn, install associated on site utilities, septic, and stormwater management.

The conservation measures included in this letter are based on the species screening completed February 9, 2026, and the materials provided for ecological review on April 13, 2026. Materials provided include site plans last updated March 17, 2026, prepared by Emmanuel Engineering.

The following conservation measures are recommended by the Ecological Review Section to comply with [RSA 217-A](#) and are not required for NHDES permitting. Greater fringed-gentian (*Gentianopsis crinita*) may occur on site however it is not expected to occur in any wetlands proposed to be impacted and conservation measures for plants are not required for Alteration of Terrain permitting.

1. Greater fringed-gentian may be present in any open field areas that are moist/seepy, along the edge of any wetlands in the field, and along slopes and ditches in the field. If the field is routinely mowed late in the summer into early fall (approximately between August and October) however, this plant is unlikely to occur on site because it would be unable to flower and spread seed.
 - a. If suitable habitat for greater fringed-gentian is proposed to be impacted and is not regularly mowed between August and October, surveys are recommended. Surveys should occur between early September and mid-October and if observed a [rare plant reporting form](#) should be completed and sent to the Ecological Review Section.

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(603) 271-3503 • Fax: (603) 271-2867 • TDD Access: Relay NH 1-800-735-2964

This ecological review decision is based on the presumption that the information submitted as part of the application is true, complete and not misleading. If after the issuance of conservation measures new information is received, the ecological review decision may be considered invalid, and a new ecological review request may need to be submitted.

Sincerely,

Madeline Severance
Environmental Reviewer
Ecological Review Section
Land Resources Management Program
New Hampshire Department of Environmental Services

www.des.nh.gov

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(603) 271-3503 • Fax: (603) 271-2867 • TDD Access: Relay NH 1-800-735-2964

Attachment 7

Attachment A: Minor and Major Projects



STANDARD DREDGE AND FILL WETLANDS PERMIT APPLICATION ATTACHMENT A: MINOR AND MAJOR PROJECTS



Water Division/Land Resources Management
Wetlands Bureau

[Check the Status of your Application](#)

RSA/ Rule: RSA 482-A/ Env-Wt 311.10; Env-Wt 313.01(a)(1); Env-Wt 313.03

APPLICANT'S NAME: Copley Properties, LLC

TOWN NAME: Stratham

Attachment A is required for *all minor and major projects*, and must be completed *in addition* to the [Avoidance and Minimization Narrative](#) or [Checklist](#) that is required by Env-Wt 307.11.

For projects involving construction or modification of non-tidal shoreline structures over areas of surface waters having an absence of wetland vegetation, only Sections I.X through I.XV are required to be completed.

PART I: AVOIDANCE AND MINIMIZATION

In accordance with Env-Wt 313.03(a), the Department shall not approve any alteration of any jurisdictional area unless the applicant demonstrates that the potential impacts to jurisdictional areas have been avoided to the maximum extent practicable and that any unavoidable impacts have been minimized, as described in the [Wetlands Best Management Practice Techniques For Avoidance and Minimization](#).

SECTION I.I - ALTERNATIVES (Env-Wt 313.03(b)(1))

Describe how there is no practicable alternative that would have a less adverse impact on the area and environments under the Department's jurisdiction.

THERE IS NO PRACTICABLE ALTERNATIVE TO THE PROPOSED DESIGN THAT WOULD HAVE LESS ADVERSE IMPACT ON AREAS AND ENVIRONMENTS UNDER THE DEPARTMENT'S JURISDICTION. THE SITE LAYOUT HAS BEEN DEVELOPED THROUGH AN ITERATIVE PROCESS THAT PRIORITIZED AVOIDANCE OF HIGH-VALUE WETLANDS AND OTHER REGULATED RESOURCES TO THE MAXIMUM EXTENT PRACTICABLE WHILE STILL ALLOWING FOR REASONABLE USE OF THE PROPERTY. THE YIELD PLAN (SHEET C3) WAS EVALUATED AS A POTENTIAL ALTERNATIVE DESIGN; HOWEVER, IT WOULD RESULT IN GREATER OVERALL IMPACTS TO JURISDICTIONAL AREAS COMPARED TO THE PROPOSED CLUSTERED SUBDIVISION LAYOUT. SPECIFICALLY, THE YIELD PLAN WOULD INCLUDE APPROXIMATELY 35 LOTS, EACH ROUGHLY 2 ACRES IN SIZE, BUT WOULD REQUIRE TWO SEPARATE CROSSINGS OF THE PERENNIAL STREAM (MILL BROOK), TWO INTERMITTENT STREAM CROSSINGS, AND ONE ADDITIONAL WETLAND IMPACT. THE PROPOSED ROAD ALIGNMENT, LOT CONFIGURATION, AND UTILITY LAYOUT HAVE BEEN CAREFULLY SITED TO UTILIZE EXISTING UPLAND AREAS AND PREVIOUSLY DISTURBED CORRIDORS WHERE POSSIBLE. ALTERNATIVE LAYOUTS WERE CONSIDERED; HOWEVER, FURTHER AVOIDANCE OF WETLANDS WOULD RESULT IN LARGER, MORE DISPURSED IMPACTS FROM THE INCREASE IN OVERALL DISTURBANCE DUE TO LONGER ROADWAYS AND EXPANDED INFRASTRUCTURE. ADDITIONALLY, CERTAIN CROSSINGS ARE NECESSARY TO PROVIDE SAFE AND FUNCTIONAL ACCESS, AS WELL AS TO ACCOMMODATE ESSENTIAL INFRASTRUCTURE SUCH AS SEPTIC SYSTEMS AND UTILITIES IN SUITABLE UPLAND SOILS. ELIMINATING OR RELOCATING THESE CROSSINGS WOULD EITHER SHIFT IMPACTS TO HIGHER-VALUE WETLAND AREAS OR COMPROMISE THE FEASIBILITY OF THE PROJECT. AS A RESULT, THE PROPOSED DESIGN REPRESENTS THE LEAST IMPACTFUL PRACTICABLE ALTERNATIVE, BALANCING WETLAND PROTECTION WITH REASONABLE SITE DEVELOPMENT AND INFRASTRUCTURE REQUIREMENTS.

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

SECTION I.II - MARSHES (Env-Wt 313.03(b)(2))

Describe how the project avoids and minimizes impacts to tidal marshes and non-tidal marshes where documented to provide sources of nutrients for finfish, crustacean, shellfish, and wildlife of significant value.

There are no proposed impacts to tidal and non-tidal marshes.

The project avoids and minimizes impacts to tidal and non-tidal marshes that provide important nutrient sources for finfish, crustacea, shellfish, and other wildlife by carefully siting all proposed work outside of such high-value systems. No tidal marshes are present on or adjacent to the project site, and therefore no impacts to tidal resources are proposed.

With respect to non-tidal marshes, wetland delineations and field assessments were used to identify wetland types and functions, allowing the design to avoid higher-functioning marsh systems to the maximum extent practicable. Proposed impacts are limited to previously disturbed, lower-functioning emergent wetlands while others are minimized through reduced crossing widths and placement at the narrowest feasible locations. The intermittent stream proposed to be impacted is a previously disturbed existing crossing needed to access the existing lot and buildings. Upgrading the existing culvert will avoid direct impacts to Mill Brook and temporary impacts will be minimized to the crossing itself, further enhancing wetland quality functions through culvert upgrade.

In addition, erosion and sediment controls, as well as stormwater management practices (including bioretention, bioswales, and infiltration systems), will protect water quality and prevent downstream transport of sediments or pollutants that could affect wetland function. These measures help preserve the ecological role of nearby wetlands in supporting nutrient cycling and wildlife habitat.

Overall, the project avoids impacts to high-value marsh systems and minimizes disturbance to less sensitive or previously disturbed areas while maintaining water quality and ecological function.

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

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

The project has been designed to maintain hydrologic connections between adjacent wetlands and stream systems by preserving existing drainage patterns and minimizing disruption to surface and subsurface flow paths. All proposed crossings have been limited in number and strategically located to avoid fragmenting wetland systems or interrupting connectivity.

Where crossings are required, appropriately sized culverts will be installed to convey flows consistent with existing conditions, allowing for the continued movement of water between wetlands and along stream channels. The upgraded culvert at the existing crossing will improve hydraulic performance and maintain continuity within the system.

In addition, stormwater management practices—including bioretention areas, bioswales, and subsurface infiltration systems—are designed to promote infiltration and groundwater recharge, helping to sustain base flows and support wetland hydrology. These measures reduce concentrated runoff and mimic pre-development conditions, ensuring that downstream wetlands and connected systems continue to receive adequate hydrologic input.

By minimizing fill within wetlands, maintaining flow conveyance at crossings, and incorporating low-impact stormwater design, the project preserves hydrologic connectivity across the site.

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 been designed to avoid and minimize impacts to wetlands and other jurisdictional areas under RSA 482-A, particularly those containing exemplary natural communities, vernal pools, protected species and habitat, documented fisheries, and areas supporting species of concern. The five proposed crossings have been sited to avoid these sensitive resources to the maximum extent practicable, and unavoidable impacts have been minimized through careful design and placement.

Impacts A & B (R4SB) involve upgrading an existing culvert within a previously disturbed wetland area. Work has been minimized to what is necessary for proper installation while avoiding direct impacts to Mill Brook. The associated stream does not support fish habitat.

Impacts C & D (PEM1E) are limited to the edges of previously disturbed emergent wetlands and have been minimized by utilizing an existing upland opening between two man-made/disturbed wetland areas.

Impacts E, F, and G (R4SB & PFO) have been located at the narrowest sections of wetlands to reduce overall impact. These crossings are necessary to access otherwise land-locked upland areas. Impact E will allow for access to the buildable upland area for two houses. Impact F provides secondary access for maintenance of a proposed leach field, while Impact G supports both sewer infrastructure and access for leach field maintenance.

Overall, the project avoids high-value ecological resources (Mill Brook & vernal pools) and minimizes wetland impacts to the maximum extent practicable while maintaining necessary site access and functionality.

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 avoids and minimizes impacts that could eliminate, depreciate, or obstruct public commerce, navigation, or recreation by confining all proposed work to inland, non-navigable wetland areas that are not used for commercial or recreational navigation. No impacts are proposed to navigable waters, public access points, or established recreational resources.

Wetland crossings have been minimized in number and located at the narrowest practicable points, reducing overall disturbance and preserving the surrounding landscape. Where crossings are required, they are designed to maintain existing hydrology and drainage patterns, ensuring no adverse effects to downstream resources that could support recreational or commercial uses.

Additionally, proposed improvements are internal to the site and do not interfere with public roadways, trails, or access to nearby conservation lands. As such, the project will not impede public use or enjoyment of surrounding natural resources, nor will it affect commerce or navigation.

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.

There are no proposed impacts to floodplain wetlands.

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 been designed to avoid and minimize impacts to natural riverine forested wetland systems and scrub-shrub marsh complexes of high ecological integrity by carefully siting all proposed work outside of these higher-value resources. Wetland delineations and field assessments were used to identify and characterize wetland types on-site, allowing the design to prioritize avoidance of intact and ecologically significant systems.

All four proposed crossings are located in previously disturbed or lower-quality wetland areas, such as previously disturbed emergent wetlands, and existing crossing location, or the narrowest part of a lower-functioning intermittent stream, rather than impacting Mill Brook. Where impacts are unavoidable, they have been minimized by placing crossings at the narrowest feasible points and limiting the extent of disturbance necessary for construction.

In addition, no impacts are proposed to riverine systems with intact forested buffers or high ecological integrity. Existing hydrology will be maintained through appropriately designed crossings, ensuring that wetland functions and connectivity are preserved. Overall, the project avoids high-quality wetland systems and minimizes impacts to less sensitive areas to the maximum extent practicable.

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 project has been designed to avoid and minimize impacts to wetlands in a manner that protects adjacent drinking water supplies and maintains groundwater aquifer levels. All proposed wetland impacts have been limited in size and strategically located to avoid areas that contribute significantly to groundwater recharge or are closely connected to drinking water resources.

Stormwater management practices, including bioretention basins, bioswales, drip edges, and subsurface stone storage, have been incorporated to promote infiltration and groundwater recharge, thereby maintaining pre-development hydrologic conditions to the maximum extent practicable. These measures are designed to reduce runoff, improve water quality, and prevent adverse impacts to nearby wells and aquifers.

Wetland crossings and associated infrastructure have been sited to maintain existing drainage patterns and hydrologic connectivity, ensuring that groundwater flow is not disrupted. In addition, wastewater will be managed through properly designed and distributed leach fields, which are located in suitable upland soils to avoid impacts to wetlands and protect groundwater quality.

Overall, the project minimizes disturbance to wetlands that contribute to groundwater resources and incorporates design features that protect both water quality and aquifer recharge, avoiding detrimental impacts to adjacent drinking water supplies.

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 been designed to avoid and minimize adverse impacts to stream channels and to preserve their ability to convey runoff effectively. Proposed work avoids direct impacts to Mill Brook by maintaining adequate buffers and limiting disturbance to adjacent areas. The intermittent stream impact that flows to Mill Brook is to upgrade an existing crossing to better accommodate daily vehicular traffic, enhance hydrological function, and promote water quality function throughout.

Where crossings are required, they are limited to an existing intermittent stream and are designed to meet hydraulic capacity requirements, allowing for the safe passage of storm flows without constricting the channel. The upgraded culvert at Impacts A & B will improve existing conditions by providing a properly sized structure that maintains natural flow regimes and reduces the potential for erosion or localized flooding. Impacts E, F, and G will also maintain hydrological flow.

The overall site design incorporates stormwater management measures—such as bioretention basins, bioswales, forebays, and subsurface infiltration systems—to reduce peak runoff rates and volumes. These practices are intended to mimic pre-development hydrology, thereby minimizing increased flow to downstream channels.

By avoiding direct impacts to major stream systems, properly designing necessary crossings, and managing stormwater on-site, the project maintains the stability and capacity of stream channels to handle runoff.

SECTION I.X - SHORELINE STRUCTURES - CONSTRUCTION SURFACE AREA (Env-Wt 313.03(c)(1))

Describe how the project has been designed to use the minimum construction surface area over surface waters necessary to meet the stated purpose of the structures.

No shoreline structures are proposed.

SECTION I.XI - SHORELINE STRUCTURES - LEAST INTRUSIVE UPON PUBLIC TRUST (Env-Wt 313.03(c)(2))

Describe how the type of construction proposed is the least intrusive upon the public trust that will ensure safe docking on the frontage.

No shoreline structures are proposed.

SECTION I.XII - SHORELINE STRUCTURES – ABUTTING PROPERTIES (Env-Wt 313.03(c)(3))

Describe how the structures have been designed to avoid and minimize impacts on ability of abutting owners to use and enjoy their properties.

No shoreline structures are proposed.

SECTION I.XIII - SHORELINE STRUCTURES – COMMERCE AND RECREATION (Env-Wt 313.03(c)(4))

Describe how the structures have been designed to avoid and minimize impacts to the public's right to navigation, passage, and use of the resource for commerce and recreation.

No shoreline structures are proposed.

SECTION I.XIV - SHORELINE STRUCTURES – WATER QUALITY, AQUATIC VEGETATION, WILDLIFE AND FINFISH HABITAT (Env-Wt 313.03(c)(5))

Describe how the structures have been designed, located, and configured to avoid impacts to water quality, aquatic vegetation, and wildlife and finfish habitat.

No shoreline structures are proposed.

SECTION I.XV - SHORELINE STRUCTURES – VEGETATION REMOVAL, ACCESS POINTS, AND SHORELINE STABILITY (Env-Wt 313.03(c)(6))

Describe how the structures have been designed to avoid and minimize the removal of vegetation, the number of access points through wetlands or over the bank, and activities that may have an adverse effect on shoreline stability.

No shoreline structures are proposed.

PART II: FUNCTIONAL ASSESSMENT**REQUIREMENTS**

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

FUNCTIONAL ASSESSMENT METHOD USED:

USACE HIGHWAY METHODOLOGY

NAME OF CERTIFIED WETLAND SCIENTIST (FOR NON-TIDAL PROJECTS) OR QUALIFIED COASTAL PROFESSIONAL (FOR TIDAL PROJECTS) WHO COMPLETED THE ASSESSMENT: MORGAN MOODY, CWS #554

DATE OF ASSESSMENT: APRIL 13TH, 2026

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.

Attachment 8

Avoidance and Minimization Written Narrative



**AVOIDANCE AND MINIMIZATION
WRITTEN NARRATIVE**
Water Division/Land Resources Management
Wetlands Bureau



[Check the Status of your Application](#)

RSA/ Rule: RSA 482-A/ Env-Wt 311.04(j); Env-Wt 311.07; Env-Wt 313.01(a)(1)b; Env-Wt 313.01(c)

APPLICANT'S NAME: Copley Properties, LLC

TOWN NAME: Stratham

An applicant for a standard permit shall submit with the permit application a written narrative that explains how all impacts to functions and values of all jurisdictional areas have been avoided and minimized to the maximum extent practicable. This attachment can be used to guide the narrative (attach additional pages if needed). Alternatively, the applicant may attach a completed [Avoidance and Minimization Checklist \(NHDES-W-06-050\)](#) to the permit application.

SECTION 1 - WATER ACCESS STRUCTURES (Env-Wt 311.07(b)(1))

Is the primary purpose of the proposed project to construct a water access structure?

No water access structures proposed with this project

SECTION 2 - BUILDABLE LOT (Env-Wt 311.07(b)(1))

Does the proposed project require access through wetlands to reach a buildable lot or portion thereof?

Yes, the proposed residential subdivision requires access through the wetland for access to the limited suitable soil for septic.

SECTION 3 - AVAILABLE PROPERTY (Env-Wt 311.07(b)(2))*

For any project that proposes permanent impacts of more than one acre, or that proposes permanent impacts to a PRA, or both, are any other properties reasonably available to the applicant, whether already owned or controlled by the applicant or not, that could be used to achieve the project's purpose without altering the functions and values of any jurisdictional area, in particular wetlands, streams, and PRAs?

**Except as provided in any project-specific criteria and except for NH Department of Transportation projects that qualify for a categorical exclusion under the National Environmental Policy Act.*

The project does not propose permanent impacts of more than one acre nor does it propose impacts to a PRA.

SECTION 4 - ALTERNATIVES (Env-Wt 311.07(b)(3))

Could alternative designs or techniques, such as different layouts, different construction sequencing, or alternative technologies be used to avoid impacts to jurisdictional areas or their functions and values as described in the [Wetlands Best Management Practice Techniques For Avoidance and Minimization?](#)

The yield plan (Sheet C3) was evaluated as a potential alternative design; however, it would result in greater overall impacts to jurisdictional areas compared to the proposed clustered subdivision layout. Specifically, the yield plan would include approximately 35 lots, each roughly 2 acres in size, but would require two separate crossings of the perennial stream (Mill Brook), one perennial stream crossing, two intermittent streams crossings, and one additional wetland impact.

The proposed design reduces the number of stream crossings—particularly to Mill Brook, a higher-value resource—thereby minimizing impacts to aquatic habitat, water quality, hydrologic connectivity, and overall stream function. Although the yield plan slightly increases the number of lots, it results in a less efficient layout with more dispersed infrastructure (on-site wells and septic), leading to increased fragmentation and greater direct and indirect impacts to both perennial and intermittent stream systems; the proposed cluster subdivision (47 homes within a 33-lots) will utilize six shared septic systems, allowing the project to maintain its goal while also avoiding the higher-functioning resource of Mill Brook altogether.

Two of three intermittent stream crossings included in the proposed clustered subdivision layout are necessary solely to provide access to the shared leach field areas and do not serve buildable lots. These crossings are required to support essential wastewater infrastructure and were incorporated into the design to allow for the proper siting of leach fields in suitable soils while avoiding more extensive wetland and stream impacts elsewhere on the site. In contrast, the yield plan alternative depicts buildable service lots in these areas, which would eliminate the need for these specific infrastructure crossings but would instead result in greater overall impacts to jurisdictional resources.

By consolidating infrastructure and limiting development within sensitive areas, the proposed layout reduces impacts to more significant resources, even though it requires limited crossings for leach field access. As such, the proposed design represents a more environmentally protective alternative that better avoids and minimizes impacts to jurisdictional areas while still meeting the project purpose.

SECTION 5 - CONFORMANCE WITH Env-Wt 311.10(c) (Env-Wt 311.07(b)(4))**

How does the project conform to Env-Wt 311.10(c)?

***Except for projects solely limited to construction or modification of non-tidal shoreline structures only need to complete relevant sections of Attachment A.*

After completing the functional assessment, the applicant shall:

- (1) Use the results of the functional assessment to select the location of the proposed project having the least impact to wetlands functions;

The project layout was specifically developed to avoid the highest-value aquatic resources on the site, particularly the Mill Brook perennial stream system (Wetland B), representing the most ecologically valuable and functionally significant resources due to their continuous flow, high connectivity, and role as an integrated watershed corridor. As such, no direct impacts are proposed to Wetland B, and crossings have been avoided. Development has instead been directed toward upland areas and previously disturbed portions of the site, as well as toward lower-value constructed or intermittently functioning systems where practicable.

- (2) Design the proposed project to have the least impact to wetlands functions;

The proposed design minimizes impacts by reducing the number and extent of wetland and stream crossings, consolidating infrastructure, and placing crossings at the narrowest practicable locations. Impacts are primarily associated with roadway crossings, culvert installation (or stone ford), and necessary utility access. Two intermittent stream crossings are required solely to access shared leach field areas; while these do not serve buildable lots, they allow for appropriate siting of wastewater infrastructure in suitable upland soils, thereby avoiding more extensive impacts to higher-value wetland systems elsewhere on the site. The design maintains hydrologic connectivity and reduces fragmentation of the more ecologically significant systems. (See attachment 10 - Project Constraint & Alternative Analysis)

- (3) Where impact to wetland functions is unavoidable, limit the project impacts to the least valuable functions on the site while avoiding and minimizing impacts to the highest and most valuable functions; and

Where impacts are unavoidable, they have been directed toward wetlands with lower relative functional value. Wetlands E and D, which function primarily as constructed stormwater treatment, storage, and conveyance features with limited ecological integrity and habitat complexity, are preferentially impacted where necessary. In contrast, impacts to moderate-value systems such as Wetlands A and C have been minimized by ensuring the smallest practicable area or by utilizing a previously disturbed area. First, crossings and disturbance areas within these systems have been limited to the minimum number necessary to achieve safe site access and infrastructure connectivity. Where crossings are required, they have been located at the narrowest practicable points to reduce fill, shorten crossing lengths, and minimize alteration of channel and wetland characteristics. This approach reduces direct impacts to hydrology, habitat, and nutrient transport functions. Direct impacts to the highest-value system (Mill Brook-Wetland B) have been avoided entirely. This approach ensures that project-related disturbances are focused on areas with reduced ecological sensitivity while preserving the most important hydrologic, habitat, and water quality functions on the site.

- (4) Include on-site minimization measures and construction management practices to protect aquatic resource functions.

A suite of on-site minimization measures and construction best management practices will be implemented to protect aquatic resource functions during construction. These include clearly defined limits of disturbance, installation of erosion and sediment controls, use of construction matting in wetland areas, and stabilization of disturbed areas immediately following construction. Work within or adjacent to wetlands and streams will be conducted during appropriate seasonal and low-flow conditions where practicable. Culvert installations will be designed to maintain natural streambed conditions and aquatic organism passage. Temporary impacts will be restored to pre-construction contours and vegetative conditions to ensure recovery of wetland functions.

Overall, the proposed project reflects a deliberate effort to avoid and minimize impacts to the highest-value wetland and stream resources, while directing unavoidable impacts toward lower-value systems and incorporating design and construction measures that protect and maintain aquatic resource functions across the site.

Attachment 9

Stream Crossing Worksheets | Request for Alternative Design



May 5, 2026

New Hampshire Department of Environmental Services
Wetlands Bureau, Land Resources Management
Water Division
NH Department of Environmental Services
29 Hazen Drive, P.O. Box 95
Concord, New Hampshire 03302-0095

RE: Request for Alternative Design
Standard Wetland Dredge and Fill Application
Copley-Gallant Subdivision
80 & 80R Winnicutt Road – Stratham
Tax Map 14 Lots 56 & 57

Dear Reviewer,

James Verra & Associates, Inc. and Emanuel Engineering, Inc. are requesting an alternative design associated with proposed stream crossings related to wetland impacts F and G in accordance with Env-Wt 904.10 Alternative Designs. The proposed alternative designs are two (2) stone ford crossing to be installed “at grade”. The crossings are only for intermittent, low-frequency maintenance access to the shared leach fields. There will be no regular vehicular traffic, no daily use, and no development access. Installing a culvert or bridge would require significant grading and approach work, wider disturbance, and greater permanent and stream impacts. Site constraints include narrow, intermittent channels with limited defined banks and shallow hydrology that does not support traditional spanning structures.

The proposed at-grade stone ford crossings are appropriate for these Tier 1 intermittent streams because they maintain the existing channel geometry and do not introduce constrictions to flow, as can occur with undersized or improperly installed culverts. By remaining at grade, the design minimizes the overall disturbance footprint and avoids the need for extensive excavation, grading, or alteration of the stream banks. This approach also eliminates the potential for perched outlets and maintains continuity of the streambed, which supports aquatic organism passage even in lower-order systems. Given the limited, infrequent use of these crossings for maintenance access only, the stone fords further reduce long-term environmental impacts by avoiding the installation of embedded pipes or permanent structures that may clog, fail, or require ongoing maintenance, thereby minimizing the potential for future disturbance within the stream channel and adjacent wetland resources.

A hydrocad analysis can be provided (by Emanuel Engineering, Inc) upon request per Env-Wt 904.10(d)(3). Please see Wetland Impact Plan Sheet C8.1 for stone ford detail.

Sincerely,

Morgan Moody, CWS
Certified Wetland Scientist



WETLANDS PERMIT APPLICATION STREAM CROSSING WORKSHEET

Water Division/Land Resources Management
Wetlands Bureau



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

This worksheet can be used to accompany Wetlands Permit Applications when proposing stream crossings.

SECTION 1 - TIER CLASSIFICATIONS

Determine the contributing watershed size at [USGS StreamStats](#).

Note: Plans for tier 2 and 3 crossings shall be designed and stamped by a professional engineer who is licensed under RSA 310-A to practice in New Hampshire.

Size of contributing watershed at the crossing location: 6.4 acres

☒ **Tier 1:** A tier 1 stream crossing is a crossing located on a watercourse where the contributing watershed size is less than or equal to 200 acres.

☐ **Tier 2:** A tier 2 stream crossing is a crossing located on a watercourse where the contributing watershed size is greater than 200 acres and less than 640 acres.

☐ **Tier 3:** A tier 3 stream crossing is a crossing that meets **any** of the following criteria:

- ☐ On a watercourse where the contributing watershed is more than 640 acres.
- ☐ Within a [designated river corridor](#) unless:
 - a. The crossing would be a tier 1 stream based on contributing watershed size, or
 - b. The structure does not create a direct surface water connection to the designated river as depicted on the national hydrography dataset as found on GRANIT.
- ☐ Within a [100-year floodplain](#) (see Section 2 below).
- ☐ In a jurisdictional area having any protected species or habitat ([NHB DataCheck](#)).
- ☐ In a prime wetland or within a duly-established 100-foot buffer, unless a waiver has been granted pursuant to RSA 482-A:11, IV(b) and Env-Wt 706. Review the [Wetlands Permit Planning Tool \(WPPT\)](#) for town prime wetland and prime wetland buffer maps to determine if your project is within these areas.

☐ **Tier 4:** A tier 4 stream crossing is a crossing located on a tidal watercourse.

SECTION 2 - 100-YEAR FLOODPLAIN

Use the [FEMA Map Service Center](#) to determine if the crossing is located within a 100-year floodplain. Please answer the questions below:

☒ **No:** The proposed stream crossing *is not* within the FEMA 100-year floodplain.

☐ **Yes:** The proposed project *is* within the FEMA 100-year floodplain. Zone =
Elevation of the 100-year floodplain at the inlet: feet (FEMA El. or Modeled El.)

SECTION 3 - CALCULATING PEAK DISCHARGE

Existing 100-year peak discharge (Q) calculated in cubic feet per second (CFS): 7.0 CFS

Calculation method: [USGS Streamstats](#)

Estimated bankfull discharge at the crossing location: 0.5 CFS

Calculation method: [USGS Streamstats](#)

➡ **Note: If tier 1, then skip to Section 10** ⬅

SECTION 4 - PREDICTED CHANNEL GEOMETRY BASED ON REGIONAL HYDRAULIC CURVES

For **tier 2, tier 3 and tier 4** crossings only.

Bankfull Width: feet

Mean Bankfull Depth: feet

Bankfull Cross Sectional Area: square feet (SF)

SECTION 5 - CROSS SECTIONAL CHANNEL GEOMETRY: MEASUREMENTS OF THE EXISTING STREAM WITHIN A REFERENCE REACH

For **tier 2, tier 3 and tier 4** crossings only.

Describe the reference reach location:

Reference reach watershed size: acres

Parameter	Cross Section 1 Describe bed form (e.g. pool, riffle, glide)	Cross Section 2 Describe bed form (e.g. pool, riffle, glide)	Cross Section 3 Describe bed form (e.g. pool, riffle, glide)	Range
Bankfull Width	feet	feet	feet	feet
Bankfull Cross Sectional Area	SF	SF	SF	SF
Mean Bankfull Depth	feet	feet	feet	feet
Width to Depth Ratio				
Max Bankfull Depth	feet	feet	feet	feet
Flood Prone Width	feet	feet	feet	feet
Entrenchment Ratio				

Use **Figure 1** below to determine the measurements of the Reference Reach Attributes

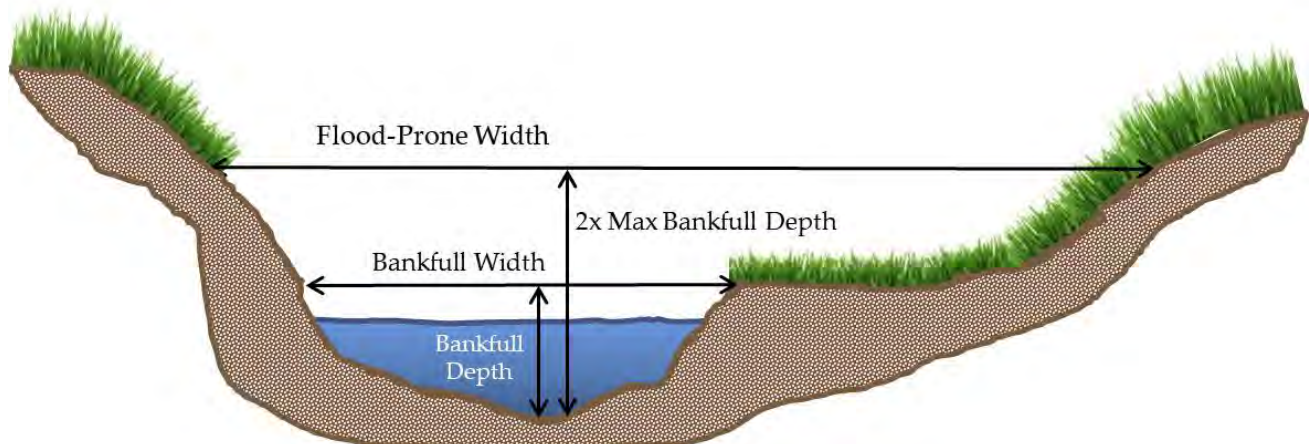


Figure 1: Determining the Reference Reach Attributes.

SECTION 6 - LONGITUDINAL PARAMETERS OF THE REFERENCE REACH AND CROSSING LOCATION

For **tier 2, tier 3 and tier 4** crossings only.

Average Channel Slope of the Reference Reach:

Average Channel Slope at the Crossing Location:

SECTION 7 - PLAN VIEW GEOMETRY

Note: Sinuosity is measured a distance of at least 20 times bankfull width, or 2 meander belt widths.

For **tier 2, tier 3 and tier 4** crossings only.

Sinuosity of the Reference Reach:

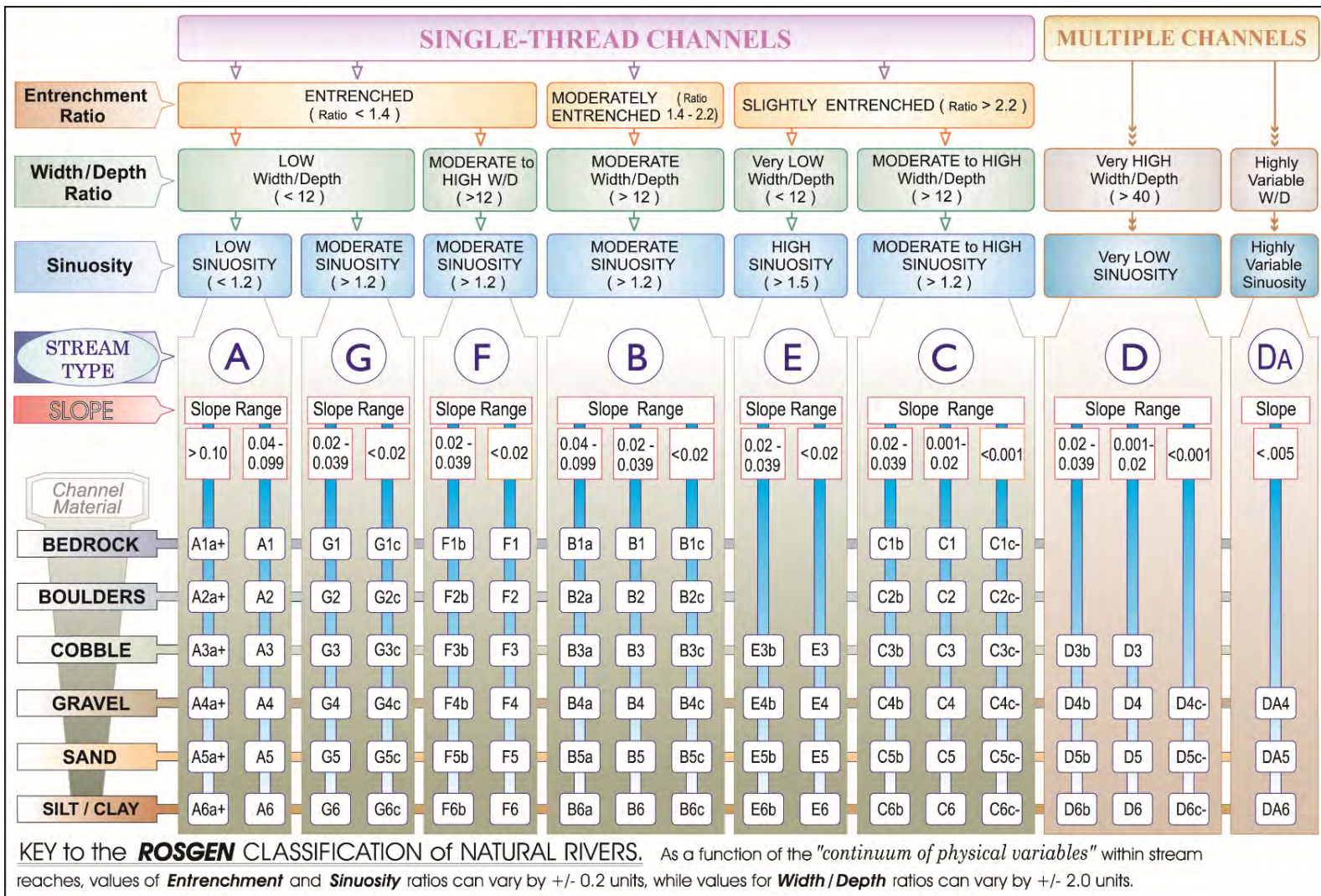
Sinuosity of the Crossing Location:

SECTION 8 - SUBSTRATE CLASSIFICATION BASED ON FIELD OBSERVATIONS*For tier 2, tier 3 and tier 4 crossings only.*

% of reach that is bedrock:	%
% of reach that is boulder:	%
% of reach that is cobble:	%
% of reach that is gravel:	%
% of reach that is sand:	%
% of reach that is silt:	%

SECTION 9 - STREAM TYPE OF REFERENCE REACH*For tier 2, tier 3 and tier 4 crossings only.*

Stream Type of Reference Reach:	
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Refer to Rosgen Classification Chart (**Figure 2**) below:**Figure 2:** Reference from Applied River Morphology, Rosgen, 1996.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

SECTION 10 - CROSSING STRUCTURE METRICS

Existing Conditions	Existing Structure Type: ☐ Bridge span ☐ Pipe arch ☐ Open-bottom culvert ☒ Closed-bottom culvert ☐ Closed-bottom culvert with stream simulation ☐ Other:				
	Existing Crossing Span: <i>(perpendicular to flow)</i> 6 feet		Culvert Diameter: 2 feet Inlet Elevation: El. 91.13 feet		
	Existing Crossing Length: <i>(parallel to flow)</i> 31 feet		Outlet Elevation: El. 90.70 feet Culvert Slope: 1.39		
Proposed Conditions	Proposed Structure Type:	Tier 1	Tier 2	Tier 3	Alternative Design
	Bridge Span	☐	☐	☐	☐
	Pipe Arch	☐	☐		☐
	Closed-bottom Culvert	☒	☐		☐
	Open-bottom Culvert	☐	☐	☐	☐
	Closed-bottom Culvert with stream simulation	☐	☐	☐	☐
	Proposed Structure Span: <i>(perpendicular to flow)</i> 6 feet		Culvert Diameter: 2 feet Inlet Elevation: El. 91.13 feet		
	Proposed Structure Length: <i>(parallel to flow)</i> 40 feet		Outlet Elevation: El. 90.70 feet Culvert Slope: 1.1%		
Proposed Entrenchment Ratio:* <i>For Tier 2, Tier 3 and Tier 4 Crossings Only. To accommodate the entrenchment ratio, floodplain drainage structures may be utilized.</i>					

* Note: Proposed Entrenchment Ratio must meet the minimum ratio for each stream type listed in **Figure 3**, otherwise the applicant must address the Alternative Design criteria listed in Env-Wt 904.10.

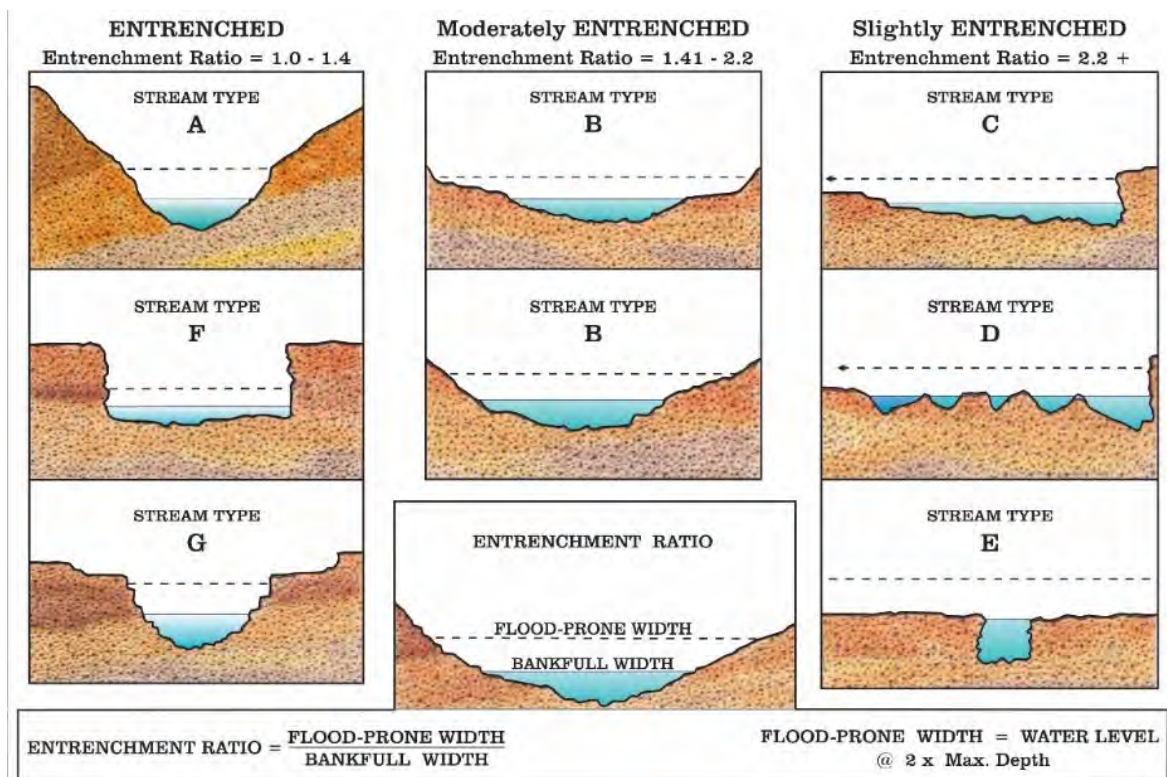


Figure 3: Reference from Applied River Morphology, Rosgen, 1996.

SECTION 11 - CROSSING STRUCTURE HYDRAULICS		
	Existing	Proposed
100 year flood stage elevation at inlet:	93.17	93.06
Flow velocity at outlet in feet per second (FPS):	4.51	3.74
Calculated 100 year peak discharge (Q) for the <i>proposed</i> structure in CFS:		11.62
Calculated 50 year peak discharge (Q) for the <i>proposed</i> structure in CFS:		9.47

SECTION 12 - CROSSING STRUCTURE OPENNESS RATIO
<i>For tier 2, tier 3 and tier 4 crossings only.</i>
Crossing Structure Openness Ratio* = * Openness box culvert = (height x width)/length Openness round culvert = (3.14 x radius ²)/length

SECTION 13 - GENERAL DESIGN CONSIDERATIONS
Env-Wt 904.01 requires all stream crossings to be designed and constructed according to the following requirements. Check each box if the project meets these general design considerations.
All stream crossings shall be designed and constructed so as to: ☒ Not be a barrier to sediment transport. ☒ Prevent the restriction of high flows and maintain existing low flows. ☒ Not obstruct or otherwise substantially disrupt the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction. ☒ Not cause an increase in the frequency of flooding or overtopping of banks. ☒ Maintain or enhance geomorphic compatibility by: a. Minimizing the potential for inlet obstruction by sediment, wood, or debris, and b. Preserving the natural alignment of the stream channel. ☒ Preserve watercourse connectivity where it currently exists. ☒ Restore watercourse connectivity where: a. Connectivity previously was disrupted as a result of human activity(ies), and b. Restoration of connectivity will benefit aquatic life upstream or downstream of the crossing, or both. ☒ Not cause erosion, aggradation, or scouring upstream or downstream of the crossing. ☒ Not cause water quality degradation.

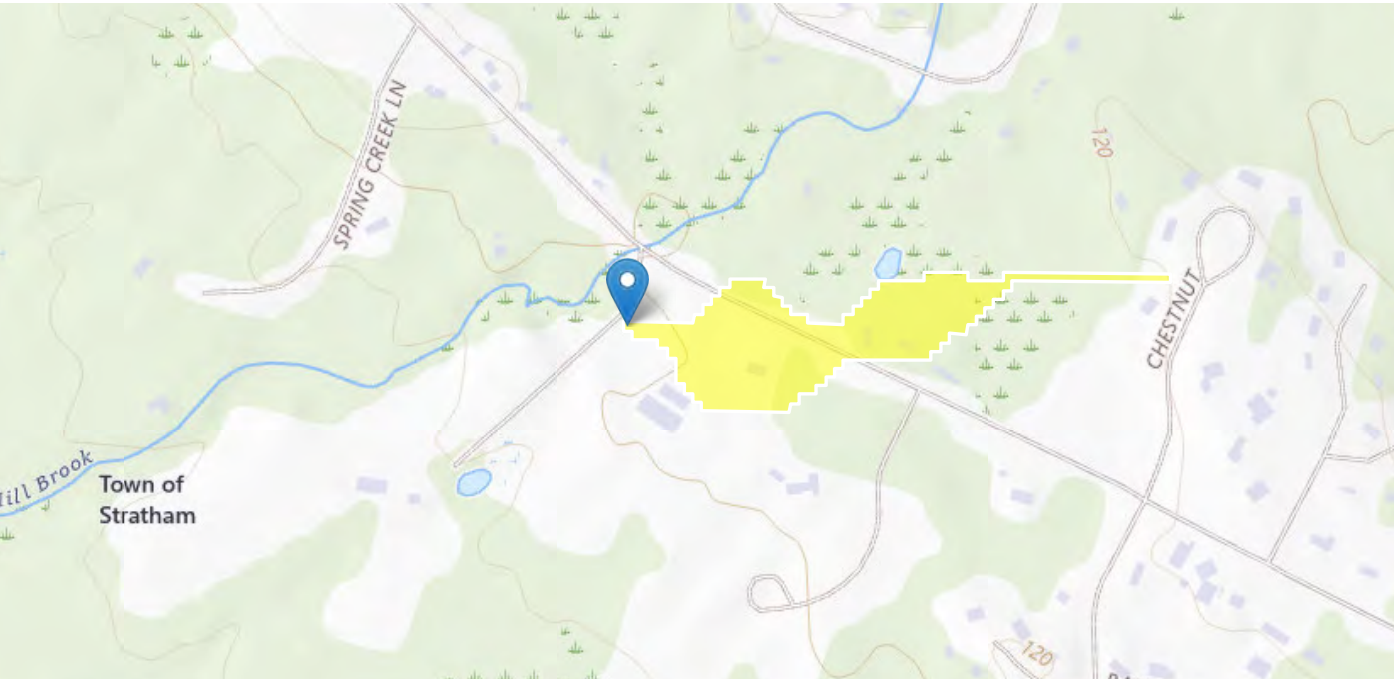
SECTION 14 - TIER-SPECIFIC DESIGN CRITERIA
Stream crossings must be designed in accordance with the tier specific design criteria listed in Part Env-Wt 904.
☒ The proposed project meets the tier specific design criteria listed in Part Env-Wt 904 and each requirement has been addressed in the plans and as part of the wetland application.

SECTION 15 - ALTERNATIVE DESIGN
NOTE: If the proposed crossing does not meet all of the general design considerations, the tier specific design criteria, or the minimum entrenchment ratio for each given stream type listed in Figure 3 , then an alternative design plan and associated requirements must be addressed pursuant to Env-Wt 904.10.
☐ I have submitted an alternative design and addressed each requirement listed in Env-Wt 904.10.

Impact Areas A & B

StreamStats Report

Region ID: NH
Clicked Point (Latitude, Longitude): 43.01771, -70.89384
Time: 2026-04-29 13:14:18 -0400



StreamStats Update

Starting with version 4.30.0, the StreamStats application uses services that were redeveloped with open-source software components. Users may observe minor variations in computed results when compared to those from previous versions. These differences are expected and do not reflect errors in the underlying data or analytical methods. Users are advised to consider these potential variations when interpreting or comparing results generated across different versions of StreamStats. Please email streamstats@usgs.gov with any questions or concerns. A full list of changes can be found at <https://www.usgs.gov/streamstats/news/streamstats-data-updates-open-source-code-release> (<https://www.usgs.gov/streamstats/news/streamstats-data-updates-open-source-code-release>) .

+ Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
APRAVPRE	Mean April Precipitation	4.31	inches
CSL10_85	Change in elevation divided by length between points 10 and 85 percent of distance along main channel to basin divide - main channel method not known	-999	feet per mi

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.01	square miles
LC11IMP	Average percentage of impervious area determined from NLCD 2011 impervious dataset	4.997	percent
WETLAND	Percentage of Wetlands	7.5	percent

➤ Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Flow Statewide SIR2008 5206]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
APRAVPRE	Mean April Precipitation	4.31	inches	2.79	6.23
CSL10_85	Stream Slope 10 and 85 Method	-999	feet per mi	5.43	543
DRNAREA	Drainage Area	0.01	square miles	0.7	1290
WETLAND	Percent Wetlands	7.5	percent	0	21.8

Peak-Flow Statistics Disclaimers [Peak Flow Statewide SIR2008 5206]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors. Equation PK50AEP in GC1460 could not be calculated due to undefined basin characteristic. Equation PK20AEP in GC1460 could not be calculated due to undefined basin characteristic. Equation PK10AEP in GC1460 could not be calculated due to undefined basin characteristic. Equation PK4AEP in GC1460 could not be calculated due to undefined basin characteristic. Equation PK2AEP in GC1460 could not be calculated due to undefined basin characteristic. Equation PK1AEP in GC1460 could not be calculated due to undefined basin characteristic. Equation PK0_2AEP in GC1460 could not be calculated due to undefined basin characteristic.

Peak-Flow Statistics Flow Report [Peak Flow Statewide SIR2008 5206]

Statistic	Value	Unit
50-percent AEP flood	undefined	ft^3/s
20-percent AEP flood	undefined	ft^3/s
10-percent AEP flood	undefined	ft^3/s
4-percent AEP flood	undefined	ft^3/s
2-percent AEP flood	undefined	ft^3/s
1-percent AEP flood	undefined	ft^3/s
0.2-percent AEP flood	undefined	ft^3/s

Peak-Flow Statistics Citations

Olson, S.A.,2009, Estimation of flood discharges at selected recurrence intervals for streams in New Hampshire: U.S.Geological Survey Scientific Investigations Report 2008-5206, 57 p. (<http://pubs.usgs.gov/sir/2008/5206/>)

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Application Version: 4.32.0

SSHydro Services Version: 1.2.1

SSDelineate Services Version: 1.1.0

NSS Services Version: 2.2.1

GageStats Services Version: 1.2.1

Pourpoint Services Version: 1.2.0

Batch Processor Version: 1.6.1



WETLANDS PERMIT APPLICATION STREAM CROSSING WORKSHEET

Water Division/Land Resources Management
Wetlands Bureau



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

This worksheet can be used to accompany Wetlands Permit Applications when proposing stream crossings.

SECTION 1 - TIER CLASSIFICATIONS

Determine the contributing watershed size at [USGS StreamStats](#).

Note: Plans for tier 2 and 3 crossings shall be designed and stamped by a professional engineer who is licensed under RSA 310-A to practice in New Hampshire.

Size of contributing watershed at the crossing location: 96.49 acres

☒ **Tier 1:** A tier 1 stream crossing is a crossing located on a watercourse where the contributing watershed size is less than or equal to 200 acres.

☐ **Tier 2:** A tier 2 stream crossing is a crossing located on a watercourse where the contributing watershed size is greater than 200 acres and less than 640 acres.

☐ **Tier 3:** A tier 3 stream crossing is a crossing that meets **any** of the following criteria:

- ☐ On a watercourse where the contributing watershed is more than 640 acres.
- ☐ Within a [designated river corridor](#) unless:
 - a. The crossing would be a tier 1 stream based on contributing watershed size, or
 - b. The structure does not create a direct surface water connection to the designated river as depicted on the national hydrography dataset as found on GRANIT.
- ☐ Within a [100-year floodplain](#) (see Section 2 below).
- ☐ In a jurisdictional area having any protected species or habitat ([NHB DataCheck](#)).
- ☐ In a prime wetland or within a duly-established 100-foot buffer, unless a waiver has been granted pursuant to RSA 482-A:11, IV(b) and Env-Wt 706. Review the [Wetlands Permit Planning Tool \(WPPT\)](#) for town prime wetland and prime wetland buffer maps to determine if your project is within these areas.

☐ **Tier 4:** A tier 4 stream crossing is a crossing located on a tidal watercourse.

SECTION 2 - 100-YEAR FLOODPLAIN

Use the [FEMA Map Service Center](#) to determine if the crossing is located within a 100-year floodplain. Please answer the questions below:

☒ **No:** The proposed stream crossing *is not* within the FEMA 100-year floodplain.

☐ **Yes:** The proposed project *is* within the FEMA 100-year floodplain. Zone =
Elevation of the 100-year floodplain at the inlet: feet (FEMA El. or Modeled El.)

SECTION 3 - CALCULATING PEAK DISCHARGE

Existing 100-year peak discharge (Q) calculated in cubic feet per second (CFS): 50.5 CFS

Calculation method: [USGS StreamStats](#)

Estimated bankfull discharge at the crossing location: 3.6 CFS

Calculation method: [USGS StreamStats](#)

➡ **Note: If tier 1, then skip to Section 10** ⬅

SECTION 4 - PREDICTED CHANNEL GEOMETRY BASED ON REGIONAL HYDRAULIC CURVES

For **tier 2, tier 3 and tier 4** crossings only.

Bankfull Width: feet

Mean Bankfull Depth: feet

Bankfull Cross Sectional Area: square feet (SF)

SECTION 5 - CROSS SECTIONAL CHANNEL GEOMETRY: MEASUREMENTS OF THE EXISTING STREAM WITHIN A REFERENCE REACH

For **tier 2, tier 3 and tier 4** crossings only.

Describe the reference reach location:

Reference reach watershed size: acres

Parameter	Cross Section 1 Describe bed form (e.g. pool, riffle, glide)	Cross Section 2 Describe bed form (e.g. pool, riffle, glide)	Cross Section 3 Describe bed form (e.g. pool, riffle, glide)	Range
Bankfull Width	feet	feet	feet	feet
Bankfull Cross Sectional Area	SF	SF	SF	SF
Mean Bankfull Depth	feet	feet	feet	feet
Width to Depth Ratio				
Max Bankfull Depth	feet	feet	feet	feet
Flood Prone Width	feet	feet	feet	feet
Entrenchment Ratio				

Use **Figure 1** below to determine the measurements of the Reference Reach Attributes

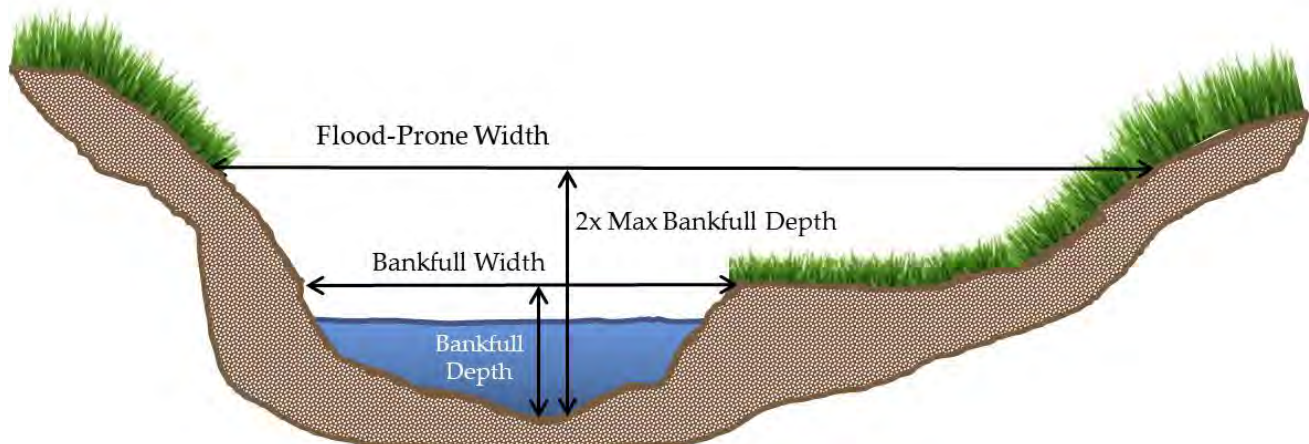


Figure 1: Determining the Reference Reach Attributes.

SECTION 6 - LONGITUDINAL PARAMETERS OF THE REFERENCE REACH AND CROSSING LOCATION

For **tier 2, tier 3 and tier 4** crossings only.

Average Channel Slope of the Reference Reach:

Average Channel Slope at the Crossing Location:

SECTION 7 - PLAN VIEW GEOMETRY

Note: Sinuosity is measured a distance of at least 20 times bankfull width, or 2 meander belt widths.

For **tier 2, tier 3 and tier 4** crossings only.

Sinuosity of the Reference Reach:

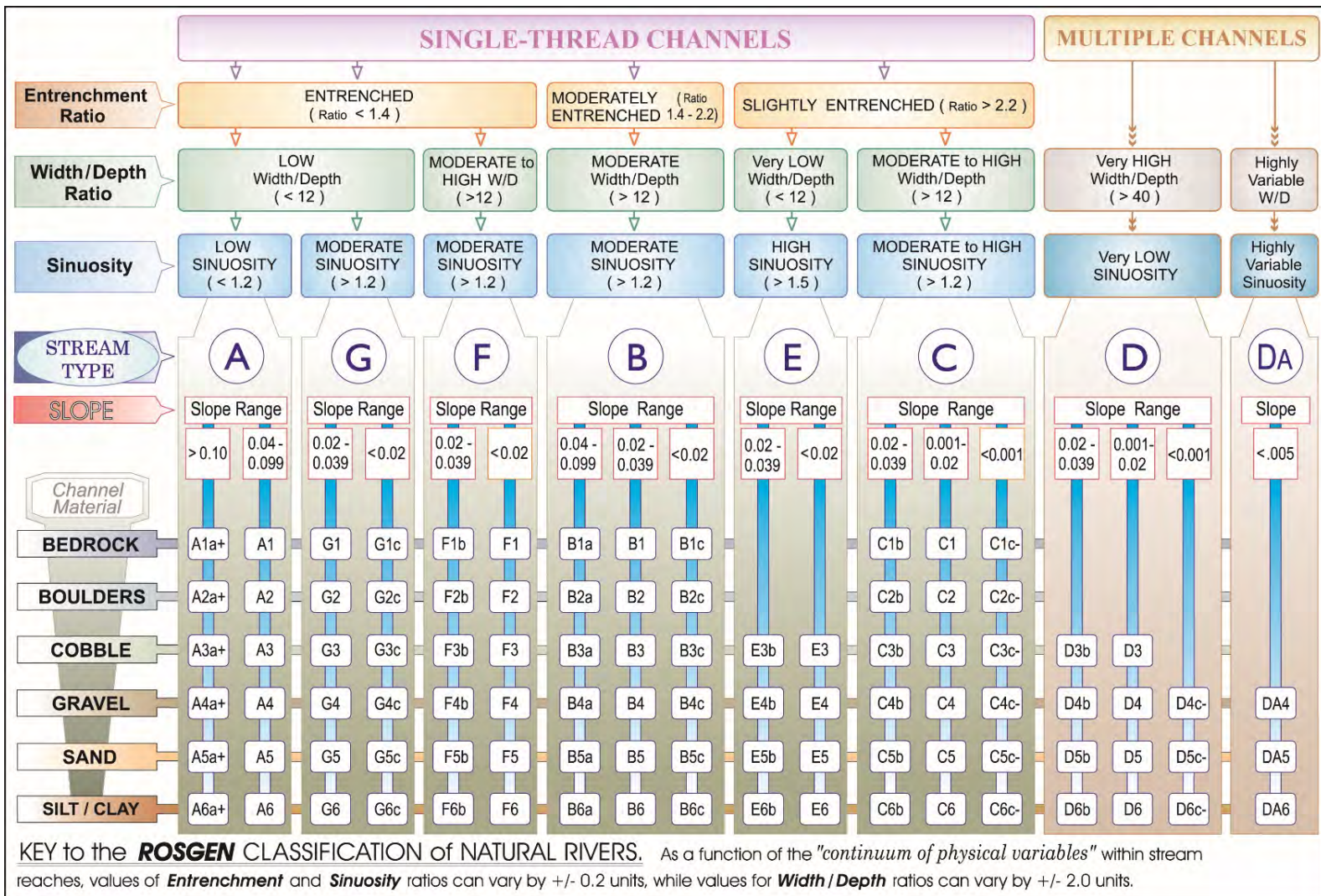
Sinuosity of the Crossing Location:

SECTION 8 - SUBSTRATE CLASSIFICATION BASED ON FIELD OBSERVATIONS*For tier 2, tier 3 and tier 4 crossings only.*

% of reach that is bedrock:	%
% of reach that is boulder:	%
% of reach that is cobble:	%
% of reach that is gravel:	%
% of reach that is sand:	%
% of reach that is silt:	%

SECTION 9 - STREAM TYPE OF REFERENCE REACH*For tier 2, tier 3 and tier 4 crossings only.*

Stream Type of Reference Reach:	
---------------------------------	----------------------

Refer to Rosgen Classification Chart (**Figure 2**) below:**Figure 2:** Reference from Applied River Morphology, Rosgen, 1996.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

SECTION 10 - CROSSING STRUCTURE METRICS

Existing Conditions	Existing Structure Type: ☐ Bridge span ☐ Pipe arch ☐ Open-bottom culvert ☐ Closed-bottom culvert ☐ Closed-bottom culvert with stream simulation ☒ Other: None				
	Existing Crossing Span: <i>(perpendicular to flow)</i> feet		Culvert Diameter: feet Inlet Elevation: El. feet		
	Existing Crossing Length: <i>(parallel to flow)</i> feet		Outlet Elevation: El. feet Culvert Slope:		
Proposed Conditions	Proposed Structure Type:	Tier 1	Tier 2	Tier 3	Alternative Design
	Bridge Span	☐	☐	☐	☐
	Pipe Arch	☐	☐		☐
	Closed-bottom Culvert	☒	☐		☐
	Open-bottom Culvert	☐	☐	☐	☐
	Closed-bottom Culvert with stream simulation	☐	☐	☐	☐
	Proposed Structure Span: 8.0 feet <i>(perpendicular to flow)</i> 2(3') + 2' in between		Culvert Diameter: 3(2) feet Inlet Elevation: El. 49.0 feet		
	Proposed Structure Length: 30' feet <i>(parallel to flow)</i>		Outlet Elevation: El. 48.65 feet Culvert Slope: 0.0117%		
Proposed Entrenchment Ratio:* <i>For Tier 2, Tier 3 and Tier 4 Crossings Only. To accommodate the entrenchment ratio, floodplain drainage structures may be utilized.</i>					

* Note: Proposed Entrenchment Ratio must meet the minimum ratio for each stream type listed in **Figure 3**, otherwise the applicant must address the Alternative Design criteria listed in Env-Wt 904.10.

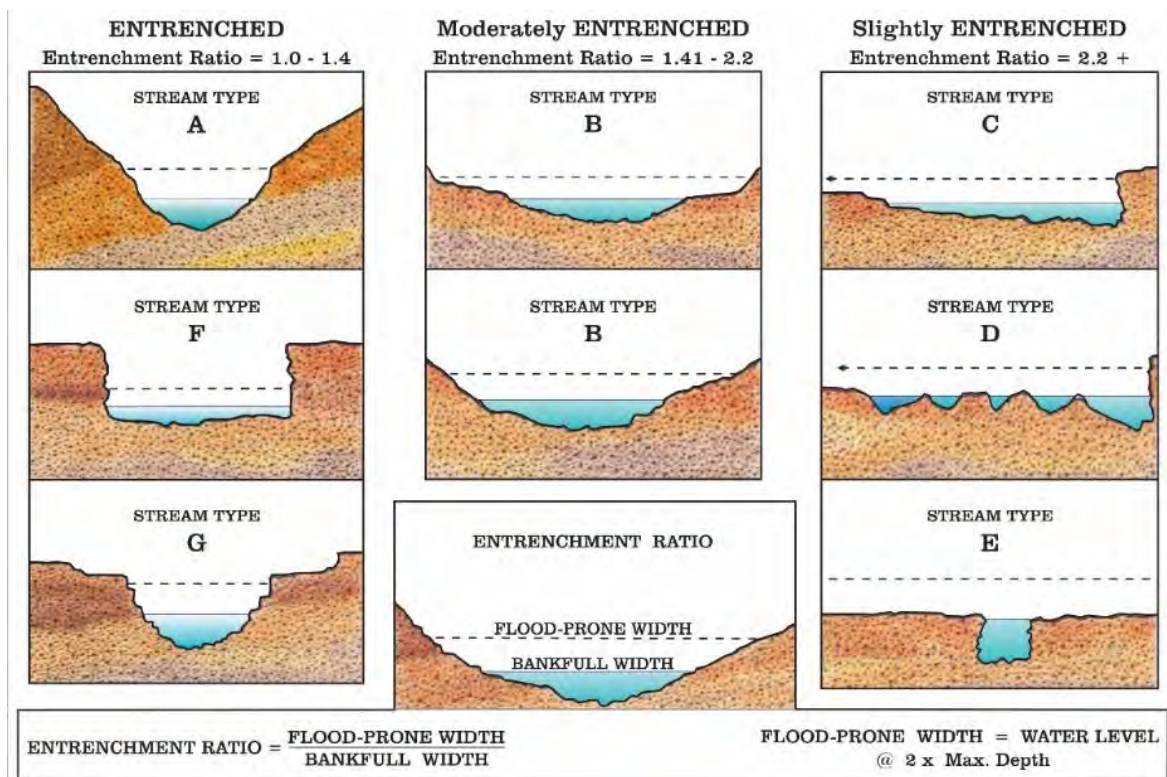


Figure 3: Reference from Applied River Morphology, Rosgen, 1996.

SECTION 11 - CROSSING STRUCTURE HYDRAULICS		
	Existing	Proposed
100 year flood stage elevation at inlet:	47.97	53.32
Flow velocity at outlet in feet per second (FPS):	4.86	7.92
Calculated 100 year peak discharge (Q) for the <i>proposed</i> structure in CFS:		111.95
Calculated 50 year peak discharge (Q) for the <i>proposed</i> structure in CFS:		86.39

SECTION 12 - CROSSING STRUCTURE OPENNESS RATIO
<i>For tier 2, tier 3 and tier 4 crossings only.</i>
Crossing Structure Openness Ratio* = * Openness box culvert = (height x width)/length Openness round culvert = (3.14 x radius ²)/length

SECTION 13 - GENERAL DESIGN CONSIDERATIONS
Env-Wt 904.01 requires all stream crossings to be designed and constructed according to the following requirements. Check each box if the project meets these general design considerations.
All stream crossings shall be designed and constructed so as to: ☒ Not be a barrier to sediment transport. ☒ Prevent the restriction of high flows and maintain existing low flows. ☒ Not obstruct or otherwise substantially disrupt the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction. ☒ Not cause an increase in the frequency of flooding or overtopping of banks. ☒ Maintain or enhance geomorphic compatibility by: a. Minimizing the potential for inlet obstruction by sediment, wood, or debris, and b. Preserving the natural alignment of the stream channel. ☒ Preserve watercourse connectivity where it currently exists. ☒ Restore watercourse connectivity where: a. Connectivity previously was disrupted as a result of human activity(ies), and b. Restoration of connectivity will benefit aquatic life upstream or downstream of the crossing, or both. ☒ Not cause erosion, aggradation, or scouring upstream or downstream of the crossing. ☒ Not cause water quality degradation.

SECTION 14 - TIER-SPECIFIC DESIGN CRITERIA
Stream crossings must be designed in accordance with the tier specific design criteria listed in Part Env-Wt 904.
☒ The proposed project meets the tier specific design criteria listed in Part Env-Wt 904 and each requirement has been addressed in the plans and as part of the wetland application.

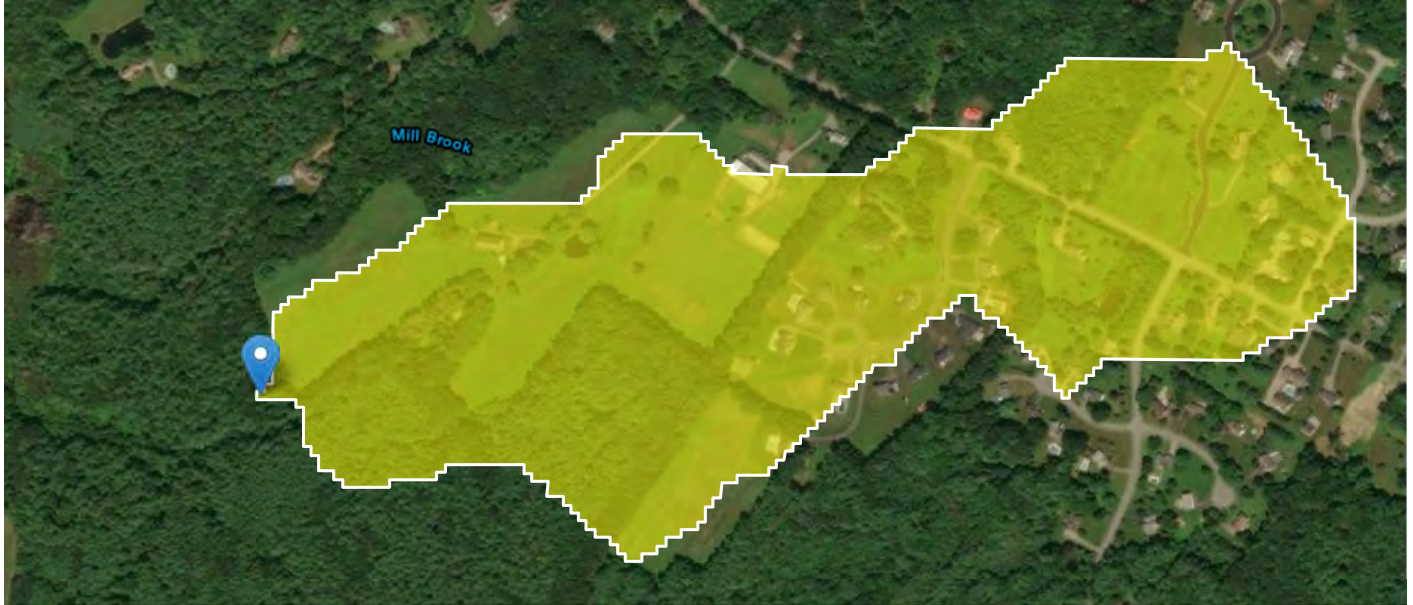
SECTION 15 - ALTERNATIVE DESIGN
NOTE: If the proposed crossing does not meet all of the general design considerations, the tier specific design criteria, or the minimum entrenchment ratio for each given stream type listed in Figure 3 , then an alternative design plan and associated requirements must be addressed pursuant to Env-Wt 904.10. ☐ I have submitted an alternative design and addressed each requirement listed in Env-Wt 904.10.

Impact Area E

StreamStats Report

Flow through the two proposed 36" culverts
under the shared driveway for Lots #36 and 37

Region ID: NH
Workspace ID: NH20250213164848949000
Clicked Point (Latitude, Longitude): 43.01460, -70.90039
Time: 2025-02-13 11:49:24 -0500



+ Collapse All

➤ Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
BSLDEM30M	Mean basin slope computed from 30 m DEM	1.986	percent
DRNAREA	Area that drains to a point on a stream	0.15	square miles
LC11IMP	Average percentage of impervious area determined from NLCD 2011 impervious dataset	3.97	percent

➤ NHD Features of Delineated Basin

NHD Streams Intersecting Basin Delineation Boundary

This functionality attempts to find the stream name at the delineation point. The name of the nearest intersecting National Hydrography Dataset (NHD) stream is selected by default to appear in the report above. NHD streams do not correspond to the StreamStats stream grid and may not be accurate. If you would like a different stream to appear in the above section, please make a selection below.

Watershed Boundary Dataset (WBD) HUC 8 Intersecting Basin Delineation Boundary

This functionality attempts to find the intersecting HUC 8 of the delineated watershed. HUC boundaries do not correspond to the StreamStats data and may not be accurate.

No WBD HUC8s intersect the delineated basin.

U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL

<https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6>.

(<https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6>) U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL <https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4>.

(<https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4>)

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Application Version: 4.26.0

StreamStats Services Version: 1.2.22

NSS Services Version: 2.2.1



WETLANDS PERMIT APPLICATION STREAM CROSSING WORKSHEET

Water Division/Land Resources Management
Wetlands Bureau



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

This worksheet can be used to accompany Wetlands Permit Applications when proposing stream crossings.

SECTION 1 - TIER CLASSIFICATIONS

Determine the contributing watershed size at [USGS StreamStats](#).

Note: Plans for tier 2 and 3 crossings shall be designed and stamped by a professional engineer who is licensed under RSA 310-A to practice in New Hampshire.

Size of contributing watershed at the crossing location: 57.56 acres

☒ **Tier 1:** A tier 1 stream crossing is a crossing located on a watercourse where the contributing watershed size is less than or equal to 200 acres.

☐ **Tier 2:** A tier 2 stream crossing is a crossing located on a watercourse where the contributing watershed size is greater than 200 acres and less than 640 acres.

☐ **Tier 3:** A tier 3 stream crossing is a crossing that meets **any** of the following criteria:

- ☐ On a watercourse where the contributing watershed is more than 640 acres.
- ☐ Within a [designated river corridor](#) unless:
 - a. The crossing would be a tier 1 stream based on contributing watershed size, or
 - b. The structure does not create a direct surface water connection to the designated river as depicted on the national hydrography dataset as found on GRANIT.
- ☐ Within a [100-year floodplain](#) (see Section 2 below).
- ☐ In a jurisdictional area having any protected species or habitat ([NHB DataCheck](#)).
- ☐ In a prime wetland or within a duly-established 100-foot buffer, unless a waiver has been granted pursuant to RSA 482-A:11, IV(b) and Env-Wt 706. Review the [Wetlands Permit Planning Tool \(WPPT\)](#) for town prime wetland and prime wetland buffer maps to determine if your project is within these areas.

☐ **Tier 4:** A tier 4 stream crossing is a crossing located on a tidal watercourse.

SECTION 2 - 100-YEAR FLOODPLAIN

Use the [FEMA Map Service Center](#) to determine if the crossing is located within a 100-year floodplain. Please answer the questions below:

☒ **No:** The proposed stream crossing *is not* within the FEMA 100-year floodplain.

☐ **Yes:** The proposed project *is* within the FEMA 100-year floodplain. Zone =
Elevation of the 100-year floodplain at the inlet: feet (FEMA El. or Modeled El.)

SECTION 3 - CALCULATING PEAK DISCHARGE

Existing 100-year peak discharge (Q) calculated in cubic feet per second (CFS): 34.6 CFS

Calculation method: [USGS StreamStats](#)

Estimated bankfull discharge at the crossing location: 2.5 CFS

Calculation method: [USGS StreamStats](#)

➡ **Note: If tier 1, then skip to Section 10** ⬅

SECTION 4 - PREDICTED CHANNEL GEOMETRY BASED ON REGIONAL HYDRAULIC CURVES

For **tier 2, tier 3 and tier 4** crossings only.

Bankfull Width: feet

Mean Bankfull Depth: feet

Bankfull Cross Sectional Area: square feet (SF)

SECTION 5 - CROSS SECTIONAL CHANNEL GEOMETRY: MEASUREMENTS OF THE EXISTING STREAM WITHIN A REFERENCE REACH

For **tier 2, tier 3 and tier 4** crossings only.

Describe the reference reach location:

Reference reach watershed size: acres

Parameter	Cross Section 1 Describe bed form (e.g. pool, riffle, glide)	Cross Section 2 Describe bed form (e.g. pool, riffle, glide)	Cross Section 3 Describe bed form (e.g. pool, riffle, glide)	Range
Bankfull Width	feet	feet	feet	feet
Bankfull Cross Sectional Area	SF	SF	SF	SF
Mean Bankfull Depth	feet	feet	feet	feet
Width to Depth Ratio				
Max Bankfull Depth	feet	feet	feet	feet
Flood Prone Width	feet	feet	feet	feet
Entrenchment Ratio				

Use **Figure 1** below to determine the measurements of the Reference Reach Attributes

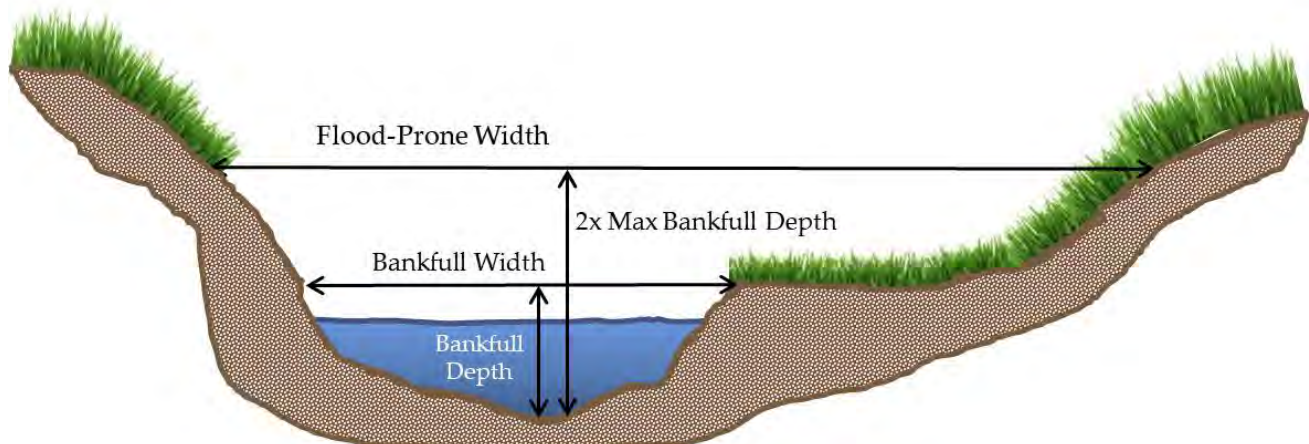


Figure 1: Determining the Reference Reach Attributes.

SECTION 6 - LONGITUDINAL PARAMETERS OF THE REFERENCE REACH AND CROSSING LOCATION

For **tier 2, tier 3 and tier 4** crossings only.

Average Channel Slope of the Reference Reach:

Average Channel Slope at the Crossing Location:

SECTION 7 - PLAN VIEW GEOMETRY

Note: Sinuosity is measured a distance of at least 20 times bankfull width, or 2 meander belt widths.

For **tier 2, tier 3 and tier 4** crossings only.

Sinuosity of the Reference Reach:

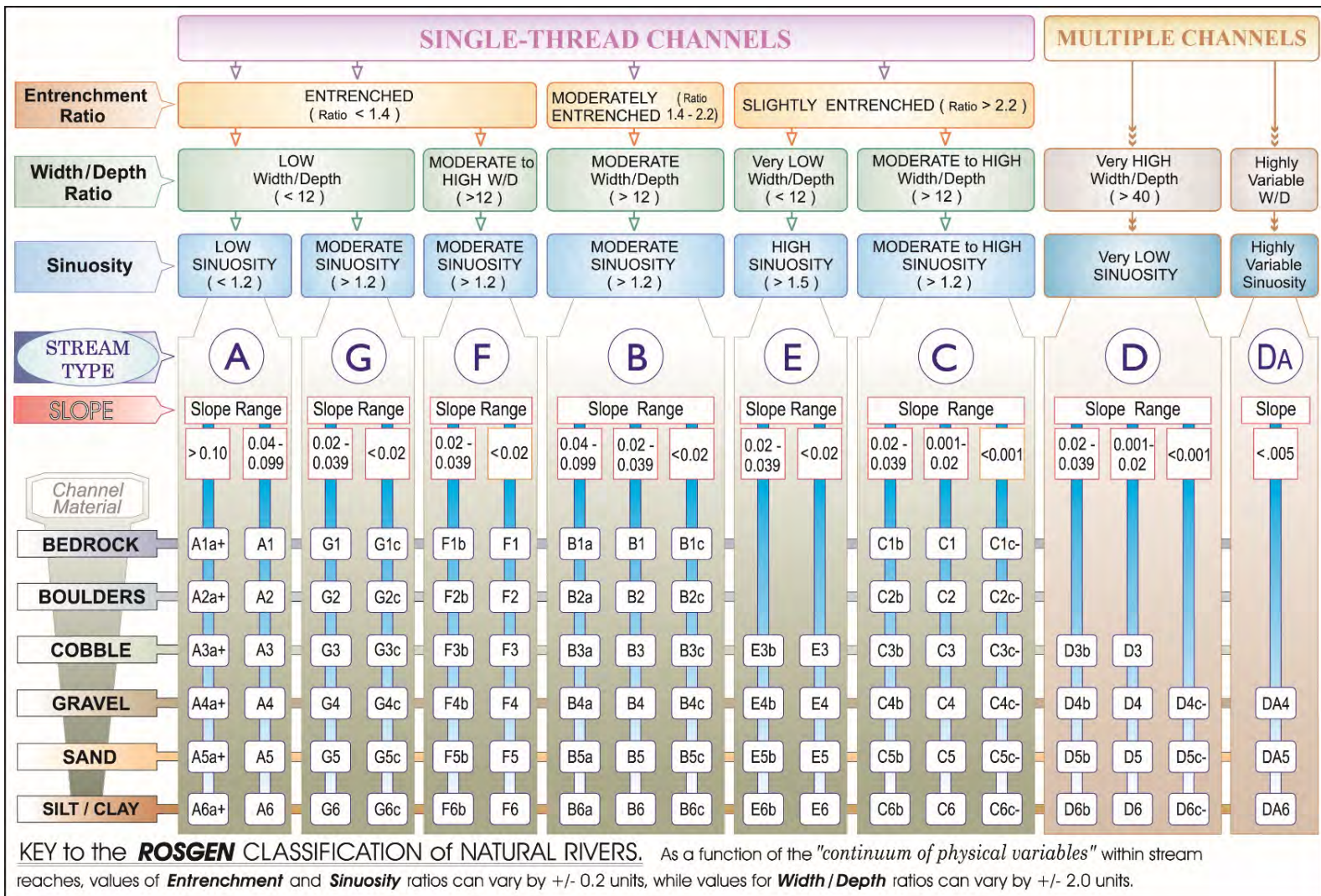
Sinuosity of the Crossing Location:

SECTION 8 - SUBSTRATE CLASSIFICATION BASED ON FIELD OBSERVATIONS*For tier 2, tier 3 and tier 4 crossings only.*

% of reach that is bedrock:	%
% of reach that is boulder:	%
% of reach that is cobble:	%
% of reach that is gravel:	%
% of reach that is sand:	%
% of reach that is silt:	%

SECTION 9 - STREAM TYPE OF REFERENCE REACH*For tier 2, tier 3 and tier 4 crossings only.*

Stream Type of Reference Reach:	
---------------------------------	----------------------

Refer to Rosgen Classification Chart (**Figure 2**) below:**Figure 2:** Reference from Applied River Morphology, Rosgen, 1996.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

SECTION 10 - CROSSING STRUCTURE METRICS

Existing Conditions	Existing Structure Type: ☐ Bridge span ☐ Pipe arch ☐ Open-bottom culvert ☐ Closed-bottom culvert ☐ Closed-bottom culvert with stream simulation ☒ Other: None				
	Existing Crossing Span: <i>(perpendicular to flow)</i> feet		Culvert Diameter: feet Inlet Elevation: El. feet		
	Existing Crossing Length: <i>(parallel to flow)</i> feet		Outlet Elevation: El. feet Culvert Slope:		
Proposed Conditions	Proposed Structure Type:	Tier 1	Tier 2	Tier 3	Alternative Design
	Bridge Span	☐	☐	☐	☐
	Pipe Arch	☐	☐		☐
	Closed-bottom Culvert	☐	☐		☐
	Open-bottom Culvert	☐	☐	☐	☐
	Closed-bottom Culvert with stream simulation	☐	☐	☐	☐
	Proposed Structure Span: feet <i>(perpendicular to flow)</i>		Culvert Diameter: feet Inlet Elevation: El. feet		
	Proposed Structure Length: feet <i>(parallel to flow)</i>		Outlet Elevation: El. feet Culvert Slope:		
Proposed Entrenchment Ratio:*					
<i>For Tier 2, Tier 3 and Tier 4 Crossings Only. To accommodate the entrenchment ratio, floodplain drainage structures may be utilized.</i>					

* Note: Proposed Entrenchment Ratio must meet the minimum ratio for each stream type listed in **Figure 3**, otherwise the applicant must address the Alternative Design criteria listed in Env-Wt 904.10.

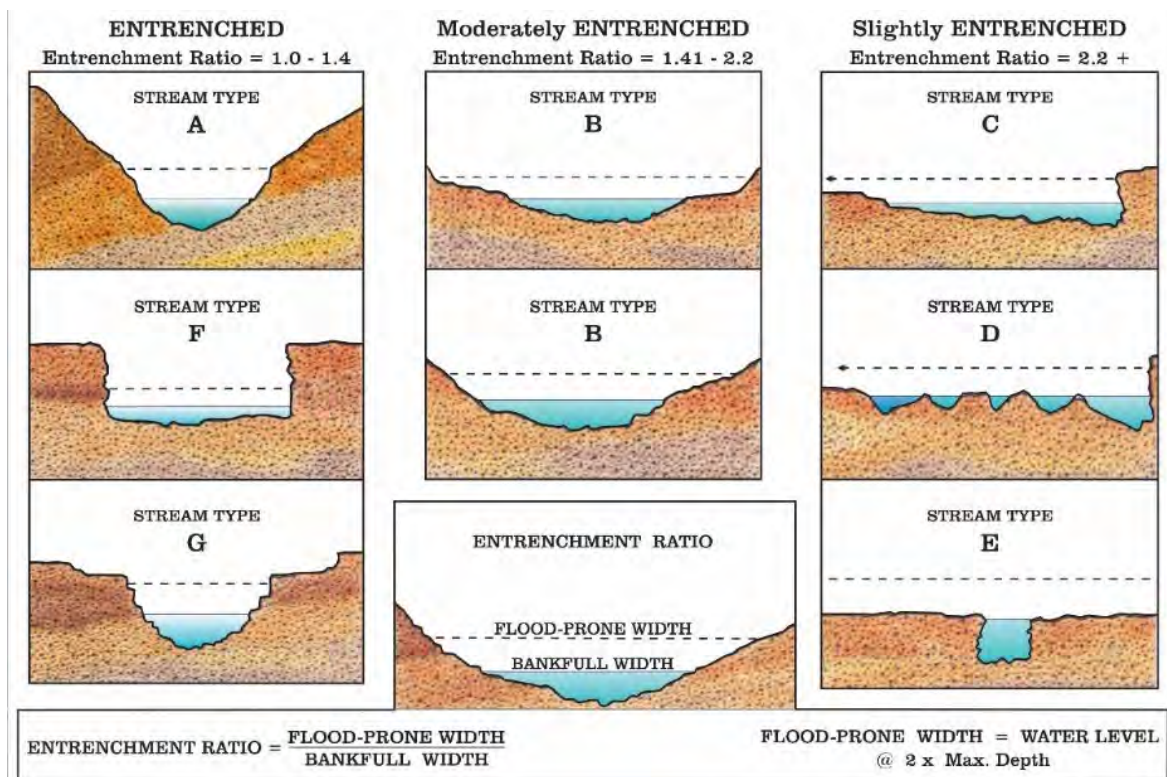


Figure 3: Reference from Applied River Morphology, Rosgen, 1996.

SECTION 11 - CROSSING STRUCTURE HYDRAULICS		
	Existing	Proposed
100 year flood stage elevation at inlet:	71.42	71.62
Flow velocity at outlet in feet per second (FPS):	5.1	2.1
Calculated 100 year peak discharge (Q) for the <i>proposed</i> structure in CFS:		83.94
Calculated 50 year peak discharge (Q) for the <i>proposed</i> structure in CFS:		66.73

SECTION 12 - CROSSING STRUCTURE OPENNESS RATIO
<i>For tier 2, tier 3 and tier 4 crossings only.</i>
Crossing Structure Openness Ratio* = * Openness box culvert = (height x width)/length Openness round culvert = (3.14 x radius ²)/length

SECTION 13 - GENERAL DESIGN CONSIDERATIONS
Env-Wt 904.01 requires all stream crossings to be designed and constructed according to the following requirements. Check each box if the project meets these general design considerations.
All stream crossings shall be designed and constructed so as to: ☒ Not be a barrier to sediment transport. ☒ Prevent the restriction of high flows and maintain existing low flows. ☒ Not obstruct or otherwise substantially disrupt the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction. ☒ Not cause an increase in the frequency of flooding or overtopping of banks. ☒ Maintain or enhance geomorphic compatibility by: a. Minimizing the potential for inlet obstruction by sediment, wood, or debris, and b. Preserving the natural alignment of the stream channel. ☒ Preserve watercourse connectivity where it currently exists. ☒ Restore watercourse connectivity where: a. Connectivity previously was disrupted as a result of human activity(ies), and b. Restoration of connectivity will benefit aquatic life upstream or downstream of the crossing, or both. ☒ Not cause erosion, aggradation, or scouring upstream or downstream of the crossing. ☒ Not cause water quality degradation.

SECTION 14 - TIER-SPECIFIC DESIGN CRITERIA
Stream crossings must be designed in accordance with the tier specific design criteria listed in Part Env-Wt 904.
☒ The proposed project meets the tier specific design criteria listed in Part Env-Wt 904 and each requirement has been addressed in the plans and as part of the wetland application.

SECTION 15 - ALTERNATIVE DESIGN
NOTE: If the proposed crossing does not meet all of the general design considerations, the tier specific design criteria, or the minimum entrenchment ratio for each given stream type listed in Figure 3 , then an alternative design plan and associated requirements must be addressed pursuant to Env-Wt 904.10.
☒ I have submitted an alternative design and addressed each requirement listed in Env-Wt 904.10.



**WETLANDS PERMIT APPLICATION
STREAM CROSSING WORKSHEET**
Water Division/Land Resources Management
Wetlands Bureau



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

This worksheet can be used to accompany Wetlands Permit Applications when proposing stream crossings.

SECTION 1 - TIER CLASSIFICATIONS

Determine the contributing watershed size at [USGS StreamStats](#).

Note: Plans for tier 2 and 3 crossings shall be designed and stamped by a professional engineer who is licensed under RSA 310-A to practice in New Hampshire.

Size of contributing watershed at the crossing location: 57.56 acres

☒ **Tier 1:** A tier 1 stream crossing is a crossing located on a watercourse where the contributing watershed size is less than or equal to 200 acres.

☐ **Tier 2:** A tier 2 stream crossing is a crossing located on a watercourse where the contributing watershed size is greater than 200 acres and less than 640 acres.

☐ **Tier 3:** A tier 3 stream crossing is a crossing that meets **any** of the following criteria:

- ☐ On a watercourse where the contributing watershed is more than 640 acres.
- ☐ Within a [designated river corridor](#) unless:
 - a. The crossing would be a tier 1 stream based on contributing watershed size, or
 - b. The structure does not create a direct surface water connection to the designated river as depicted on the national hydrography dataset as found on GRANIT.
- ☐ Within a [100-year floodplain](#) (see Section 2 below).
- ☐ In a jurisdictional area having any protected species or habitat ([NHB DataCheck](#)).
- ☐ In a prime wetland or within a duly-established 100-foot buffer, unless a waiver has been granted pursuant to RSA 482-A:11, IV(b) and Env-Wt 706. Review the [Wetlands Permit Planning Tool \(WPPT\)](#) for town prime wetland and prime wetland buffer maps to determine if your project is within these areas.

☐ **Tier 4:** A tier 4 stream crossing is a crossing located on a tidal watercourse.

SECTION 2 - 100-YEAR FLOODPLAIN

Use the [FEMA Map Service Center](#) to determine if the crossing is located within a 100-year floodplain. Please answer the questions below:

☒ **No:** The proposed stream crossing *is not* within the FEMA 100-year floodplain.

☐ **Yes:** The proposed project *is* within the FEMA 100-year floodplain. Zone =
Elevation of the 100-year floodplain at the inlet: feet (FEMA El. or Modeled El.)

SECTION 3 - CALCULATING PEAK DISCHARGE

Existing 100-year peak discharge (Q) calculated in cubic feet per second (CFS): 34.6 CFS

Calculation method: [USGS StreamStats](#)

Estimated bankfull discharge at the crossing location: 2.5 CFS

Calculation method: [USGS StreamStats](#)

➡ **Note: If tier 1, then skip to Section 10** ⬅

SECTION 4 - PREDICTED CHANNEL GEOMETRY BASED ON REGIONAL HYDRAULIC CURVES

For **tier 2, tier 3** and **tier 4** crossings only.

Bankfull Width: feet

Mean Bankfull Depth: feet

Bankfull Cross Sectional Area: square feet (SF)

SECTION 5 - CROSS SECTIONAL CHANNEL GEOMETRY: MEASUREMENTS OF THE EXISTING STREAM WITHIN A REFERENCE REACH

For **tier 2, tier 3** and **tier 4** crossings only.

Describe the reference reach location:

Reference reach watershed size: acres

Parameter	Cross Section 1 Describe bed form (e.g. pool, riffle, glide)	Cross Section 2 Describe bed form (e.g. pool, riffle, glide)	Cross Section 3 Describe bed form (e.g. pool, riffle, glide)	Range
Bankfull Width	feet	feet	feet	feet
Bankfull Cross Sectional Area	SF	SF	SF	SF
Mean Bankfull Depth	feet	feet	feet	feet
Width to Depth Ratio				
Max Bankfull Depth	feet	feet	feet	feet
Flood Prone Width	feet	feet	feet	feet
Entrenchment Ratio				

Use **Figure 1** below to determine the measurements of the Reference Reach Attributes

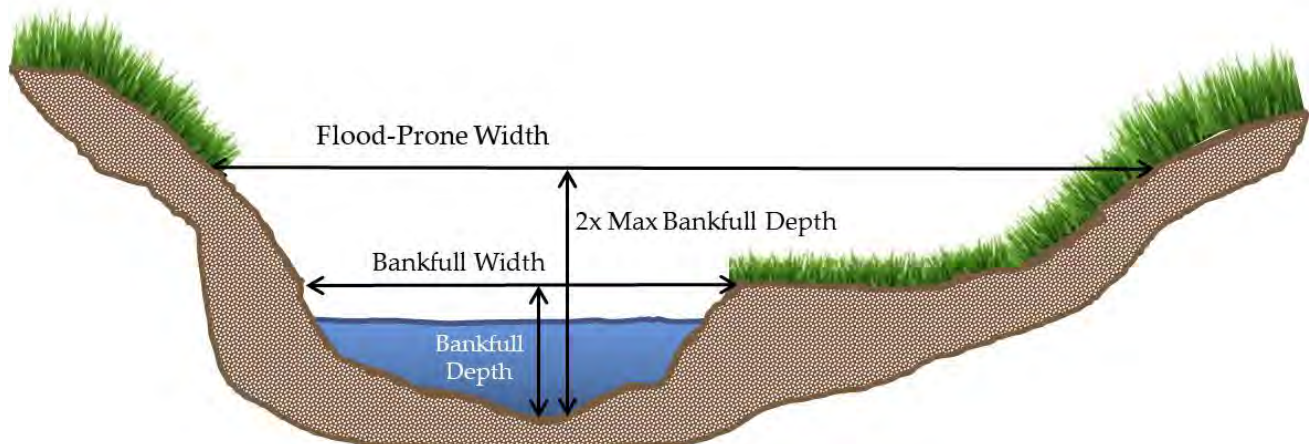


Figure 1: Determining the Reference Reach Attributes.

SECTION 6 - LONGITUDINAL PARAMETERS OF THE REFERENCE REACH AND CROSSING LOCATION

For **tier 2, tier 3** and **tier 4** crossings only.

Average Channel Slope of the Reference Reach:

Average Channel Slope at the Crossing Location:

SECTION 7 - PLAN VIEW GEOMETRY

Note: Sinuosity is measured a distance of at least 20 times bankfull width, or 2 meander belt widths.

For **tier 2, tier 3** and **tier 4** crossings only.

Sinuosity of the Reference Reach:

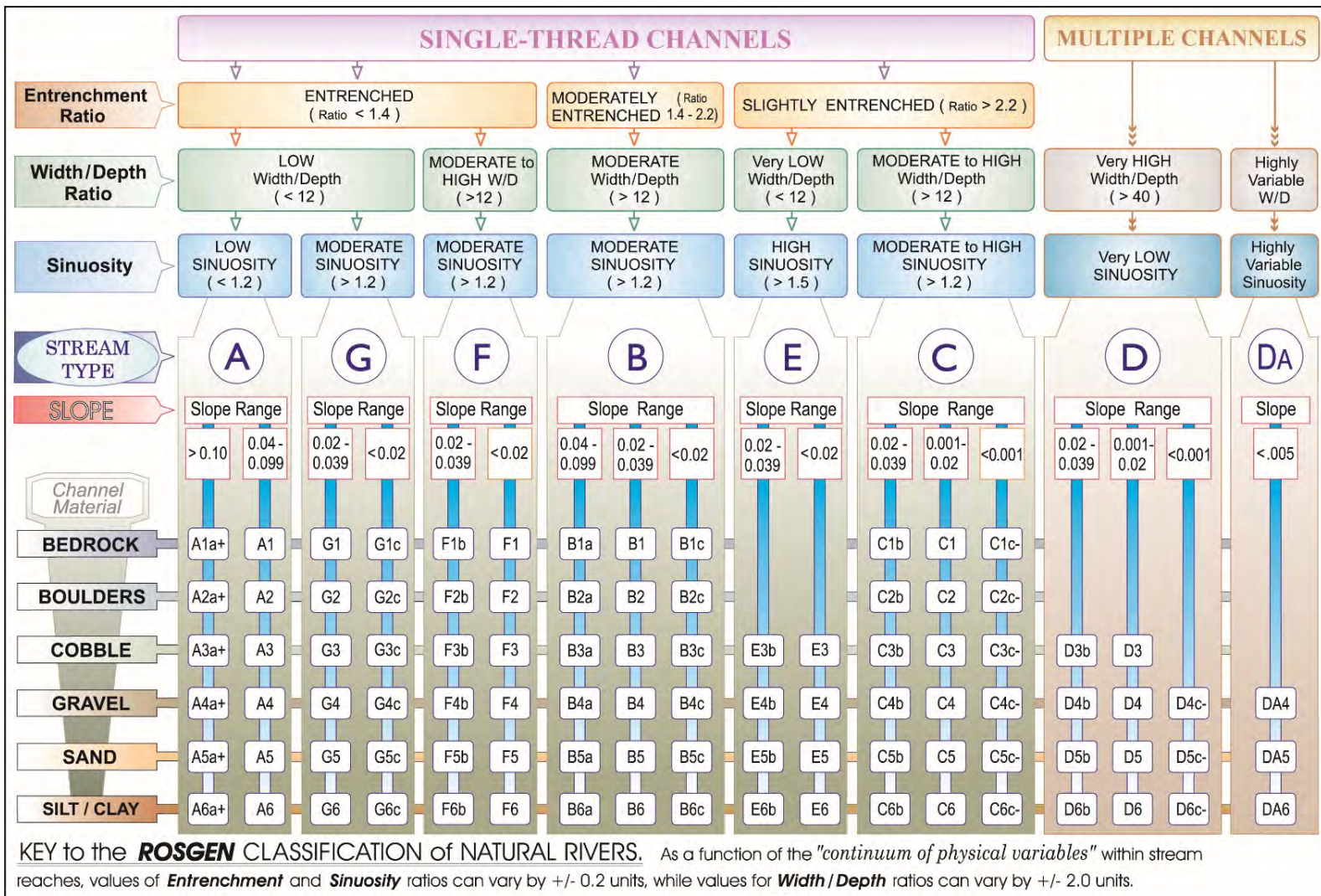
Sinuosity of the Crossing Location:

SECTION 8 - SUBSTRATE CLASSIFICATION BASED ON FIELD OBSERVATIONS*For tier 2, tier 3 and tier 4 crossings only.*

% of reach that is bedrock:	%
% of reach that is boulder:	%
% of reach that is cobble:	%
% of reach that is gravel:	%
% of reach that is sand:	%
% of reach that is silt:	%

SECTION 9 - STREAM TYPE OF REFERENCE REACH*For tier 2, tier 3 and tier 4 crossings only.*

Stream Type of Reference Reach:	
---------------------------------	----------------------

Refer to Rosgen Classification Chart (**Figure 2**) below:**Figure 2:** Reference from Applied River Morphology, Rosgen, 1996.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

SECTION 10 - CROSSING STRUCTURE METRICS

Existing Conditions	Existing Structure Type: ☐ Bridge span ☐ Pipe arch ☐ Open-bottom culvert ☐ Closed-bottom culvert ☐ Closed-bottom culvert with stream simulation ☒ Other: None				
	Existing Crossing Span: <i>(perpendicular to flow)</i> feet		Culvert Diameter: feet Inlet Elevation: El. feet		
	Existing Crossing Length: <i>(parallel to flow)</i> feet		Outlet Elevation: El. feet Culvert Slope:		
Proposed Conditions	Proposed Structure Type:	Tier 1	Tier 2	Tier 3	Alternative Design
	Bridge Span	☐	☐	☐	☐
	Pipe Arch	☐	☐		☐
	Closed-bottom Culvert	☐	☐		☐
	Open-bottom Culvert	☐	☐	☐	☐
	Closed-bottom Culvert with stream simulation	☐	☐	☐	☐
	Proposed Structure Span: feet <i>(perpendicular to flow)</i>		Culvert Diameter: feet Inlet Elevation: El. feet		
	Proposed Structure Length: feet <i>(parallel to flow)</i>		Outlet Elevation: El. feet Culvert Slope:		
Proposed Entrenchment Ratio:*					
<i>For Tier 2, Tier 3 and Tier 4 Crossings Only. To accommodate the entrenchment ratio, floodplain drainage structures may be utilized.</i>					

* Note: Proposed Entrenchment Ratio must meet the minimum ratio for each stream type listed in **Figure 3**, otherwise the applicant must address the Alternative Design criteria listed in Env-Wt 904.10.

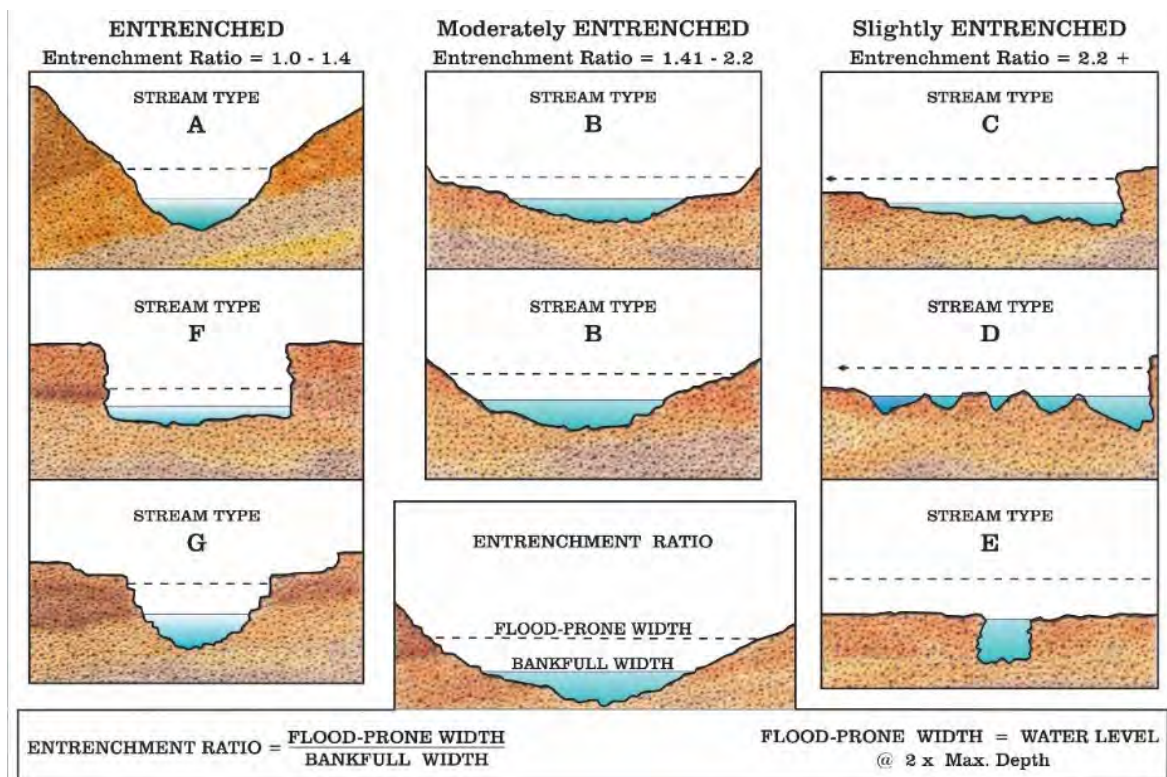


Figure 3: Reference from Applied River Morphology, Rosgen, 1996.

SECTION 11 - CROSSING STRUCTURE HYDRAULICS		
	Existing	Proposed
100 year flood stage elevation at inlet:	64.37	64.48
Flow velocity at outlet in feet per second (FPS):	5.81	1.87
Calculated 100 year peak discharge (Q) for the <i>proposed</i> structure in CFS:		80.48
Calculated 50 year peak discharge (Q) for the <i>proposed</i> structure in CFS:		63.93

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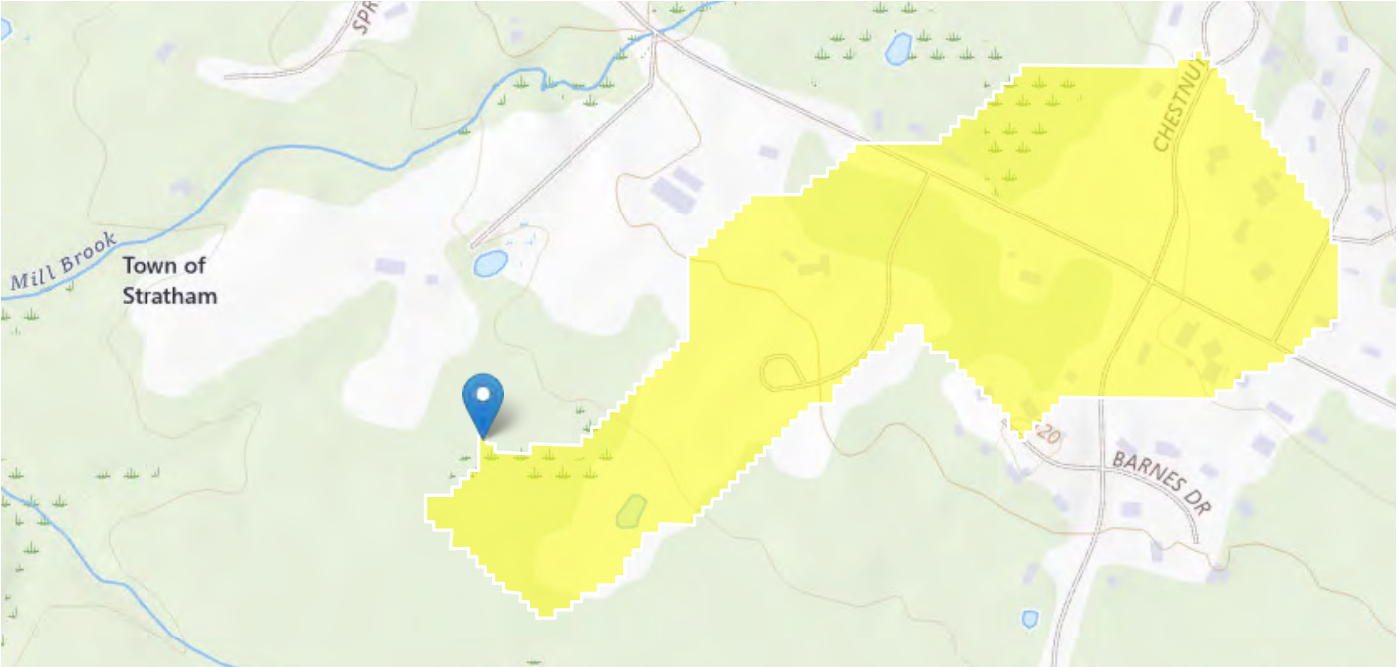
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NOTE: If the proposed crossing does not meet all of the general design considerations, the tier specific design criteria, or the minimum entrenchment ratio for each given stream type listed in Figure 3, then an alternative design plan and associated requirements must be addressed pursuant to Env-Wt 904.10. ☒ I have submitted an alternative design and addressed each requirement listed in Env-Wt 904.10.

Impact Area F & G

StreamStats Report

Region ID: NH
Clicked Point (Latitude, Longitude): 43.01459, -70.89596
Time: 2026-05-01 13:40:09 -0400



StreamStats Update

Starting with version 4.30.0, the StreamStats application uses services that were redeveloped with open-source software components. Users may observe minor variations in computed results when compared to those from previous versions. These differences are expected and do not reflect errors in the underlying data or analytical methods. Users are advised to consider these potential variations when interpreting or comparing results generated across different versions of StreamStats. Please email streamstats@usgs.gov with any questions or concerns. A full list of changes can be found at <https://www.usgs.gov/streamstats/news/streamstats-data-updates-open-source-code-release> (<https://www.usgs.gov/streamstats/news/streamstats-data-updates-open-source-code-release>) .

+ Collapse All

> Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
APRAVPRE	Mean April Precipitation	4.31	inches
CSL10_85	Change in elevation divided by length between points 10 and 85 percent of distance along main channel to basin divide - main channel method not known	83.26	feet per mi
DRNAREA	Area that drains to a point on a stream	0.09	square miles

Parameter Code	Parameter Description	Value	Unit
LC11IMP	Average percentage of impervious area determined from NLCD 2011 impervious dataset	5.436	percent
WETLAND	Percentage of Wetlands	4.235	percent

➤ Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Flow Statewide SIR2008 5206]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
APRAVPRE	Mean April Precipitation	4.31	inches	2.79	6.23
CSL10_85	Stream Slope 10 and 85 Method	83.26	feet per mi	5.43	543
DRNAREA	Drainage Area	0.09	square miles	0.7	1290
WETLAND	Percent Wetlands	4.235	percent	0	21.8

Peak-Flow Statistics Disclaimers [Peak Flow Statewide SIR2008 5206]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Peak-Flow Statistics Flow Report [Peak Flow Statewide SIR2008 5206]

Statistic	Value	Unit
50-percent AEP flood	4.52	ft^3/s
20-percent AEP flood	8.65	ft^3/s
10-percent AEP flood	12.5	ft^3/s
4-percent AEP flood	18.3	ft^3/s
2-percent AEP flood	23.4	ft^3/s
1-percent AEP flood	29.9	ft^3/s
0.2-percent AEP flood	47.4	ft^3/s

Peak-Flow Statistics Citations

Olson, S.A.,2009, Estimation of flood discharges at selected recurrence intervals for streams in New Hampshire: U.S.Geological Survey Scientific Investigations Report 2008-5206, 57 p. (<http://pubs.usgs.gov/sir/2008/5206/>)

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USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.32.0

SSHydro Services Version: 1.2.1

SSDelineate Services Version: 1.1.0

NSS Services Version: 2.2.1

GageStats Services Version: 1.2.1

Pourpoint Services Version: 1.2.0

Batch Processor Version: 1.6.1

Attachment 10

Wetland Functional Assessment | Project Constraint & Alternative Analyses



Land Surveying – Planning – Permitting

WETLAND FUNCTIONAL ASSESSMENT & PROJECT CONSTRAINT AND ALTERNATIVE ANALYSES

Tax Map 14 Lots 56 & 57
80 & 80R Winnicutt Road
Stratham, NH 03885
April 13th, 2026

1.0 INTRODUCTION

This report is being submitted in connection with a proposal by Copley Properties, LLC to construct 47 homes within a 33-lot subdivision slightly relocating the existing barn, and installing six shared septic systems and a total of 38 wells. Additional features include lot-level stormwater management (stone storage and drip edges), utilities, roadside swales, a stormwater forebay, pretreatment devices, and two bioretention basins.

The following sections provide an overview of the wetland delineation process, description of the identified wetland resources, and the functions and values associated with those resources. Attached are functional assessment data forms, photos of the wetlands, and a map of the identified resources.

2.0 WETLAND DELINEATION

Five (5) wetland systems were delineated by Joseph Noel, CWS #86 in spring 2023, confirmed by Luke Hurley of Hurley Environmental & Land Planning, LLC in spring 2024, and survey located by JVA in the spring 2023 and 2024. Vernal pools were reviewed in April 2023 by Joseph Noel and flagged in April 2026 by Morgan Moody, CWS #554, of JVA. The wetland delineation and vernal pool assessment of the above reference site was conducted utilizing the following standards:

- 1) U.S. Army Corps of Engineers. 2011. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, C. V. Noble, and J. F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- 2) Lichvar, R.W., D.L. Banks, W.N. Kirchnew, and N.C. Melvin. 2016 The National Wetland Plant List; 2016
- 3) New England Hydric Soils Technical Committee. 2025 Version 5, Field Indicators for Identifying Hydric Soils in New England.
- 4) United State Department of Agriculture, Natural Resources Conservation Service. 2024. Field Indicators of Hydric Soils in the United States, Version 9.0.
- 5) Classification of Wetlands and Deepwater Habitats of the United States, December 1979.

- US Department of the Interior, Fish & Wildlife Service. FWS/OBS-79/31.
- 6) Marchand, M. 2016. Identifying and Documenting Vernal Pools in New Hampshire. Third Edition: Published by New Hampshire Fish and Game Department – Nongame and Endangered Wildlife Program.
 - 7) Kenney, L.P. and M.R. Burne. 2000. A Field Guide to Animals of Vernal Pools. Massachusetts Division of Fisheries and Wildlife and the Vernal Pool Association, Reading, MA.
 - 8) New Hampshire Code of Administrative Rules Env-Wt 100-1000. Current edition.

3.0 FUNCTION & VALUE ASSESSMENT

The Highway Methodology considers 13 functions and values:

1. *Groundwater recharge/discharge*: This function considers the potential for a wetland to serve as a groundwater recharge and/or discharge area. Recharge should relate to the potential for the wetland to contribute water to an aquifer. Discharge should relate to the potential for the wetland to serve as an area where groundwater can be discharged to the surface.
2. *Floodflow Alteration*: This function considers the effectiveness of the wetland in reducing flood damage by attenuation of floodwaters for prolonged periods following precipitation events.
3. *Fish and Shellfish Habitat*: This function considers the effectiveness of seasonal or permanent water bodies 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.
5. *Nutrient Removal/Retention/Transformation*: This function relates to the effectiveness of the wetland to prevent adverse effects of excess nutrients entering aquifers or surface waters such as ponds, lakes, streams, rivers, or estuaries.
6. *Production Export*: This function relates to the effectiveness of the wetland to produce food or usable products for human, or other living organisms.
7. *Sediment /Shoreline Stabilization*: This function relates to the effectiveness of a wetland to stabilize stream banks 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. Both resident and or migrating species must be considered.
9. *Recreation*: This value considers the effectiveness of the wetland and associated watercourses to provide recreational opportunities such as canoeing, boating, fishing, hunting, and other active or passive recreational activities. Consumptive opportunities consume or diminish the plants, animals, or other resources that are intrinsic to the wetland, whereas non-consumptive opportunities do not.
10. *Educational/Scientific Value*: This value considers the effectiveness of the wetland as a site for an “outdoor classroom” or as a location for scientific study or research.
11. *Uniqueness/Heritage*: This value relates to the effectiveness of the wetland or its associated water bodies to produce certain special values. Special values may include such things as archaeological sites, unusual aesthetic quality, historical events, or unique plants, animals, or geological features.

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

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

Wetland I.D.	Wetland Classification	Principle Function	Justification
A	R4SB3,4 PSS1E PEM1E	Groundwater Recharge/Discharge Nutrient Removal	Primary function of groundwater recharge/discharge and nutrient removal by way of intermittent stream receiving stormwater runoff. Secondary functions of wildlife habitat, sediment/toxicant retention, and production export by way of intermittent stream, but the area lacks deep water and dense vegetation.
B	R2UBH1,2 PSS1E PEM1E	Groundwater Recharge/Discharge Floodflow Alteration Sediment/Toxicant Retention Nutrient Removal Production Export Wildlife Habitat	Primary functions of water quality, production export, and wildlife habitat by way of lower perennial stream (Mill Brook) and connectivity to multiple intermittent streams, offering diverse wetland communities throughout. The enhanced watershed connectivity increases sediment/nutrient processing potential associated with high-functioning production export corridor and habitat heterogeneity throughout. Channel complexity with connected floodplain.
C	R4SB3,4 PFO1E PSS1E	Groundwater Recharge/Discharge Nutrient Removal Production Export Wildlife Habitat	Contributes to localized groundwater interactions through episodic infiltration during low-flow and storm events. Nutrient removal driven by frequent wetting and drying cycles that promote microbial processing, adsorption to sediments, and retention of nutrient pulses delivered from upslope areas. Production export by way of transporting organic matter and dissolved nutrients downstream, contributing to the productivity of Wetland B, or Mill Brook. One area of upstream that supports three vernal pools. Secondary functions of floodflow alteration and sediment/shoreline stabilization, but highly variable due its episodic flow regime. Overall stability is generally low to moderate and strongly dependent on vegetation density and soil composition. Attenuation is short-lived compared to Mill Brook.

D	PEM1Eh	Sediment/Toxicant Retention	Primary function of sediment/toxicant retention mainly due to its hydrological connectivity with wetland E, the manmade agriculture pond. The swale functions as a transitional buffer that attenuates but does not fully prevent sediment and contaminant delivery to the downslope impoundment. Nutrient removal function is considered secondary due to the swale's limited storage capacity, shallow depth, and high variability in flow conditions typical of agricultural runoff events.
E	PUBHh PEM1Eh	Floodflow Alteration Sediment/Toxicant Retention	Primary function of floodflow alteration by acting as a surface water storage feature that intercepts and temporarily retains stormwater runoff generated from the surrounding agricultural watershed. Receives associated particulate-bound nutrients and agricultural contaminants such as phosphorus, pesticides, and other potential toxicants. Accumulation of sediments reduces downstream transport. Secondary functions of groundwater recharge/discharge, nutrient removal, production export, and wildlife habitat, each influenced by its constructed nature and hydrologic connectivity within the agricultural watershed.

Table 1. Wetland Function and Value Summary

4.0 COMPARATIVE WETLAND EVALUATION

Wetland B is considered the most valuable because this system provides the highest overall ecological value due to its integrated stream-wetland network, high connectivity, and diverse habitat structure. This system functions as a high-integrity watershed corridor, meaning it is not just a single wetland, but a connected network that supports ecological processes across spatial and temporal scales.

Wetland C provides moderate ecological value, ranking between the Mill Brook system and Wetlands A and E. Although hydrologically connected to Mill Brook, it functions independently as an ephemeral-to-intermittent flow system with distinct wetting and drying cycles. Nutrient processing is supported through microbial activity and sediment interaction, while also supporting organic matter transport to downstream to Mill Brook. Habitat value is moderate, with strong importance for amphibians and invertebrates, and it is further enhanced by connectivity to multiple vernal pools in the upstream reach. However, reduced hydroperiod

duration and limited structural complexity constrain long-term aquatic habitat value compared to the perennial system.

Wetland A represents a moderate-value natural intermittent stream-wetland system that is hydrologically connected to Mill Brook through a culvert, providing direct downstream linkage within the watershed network. This connection enhances its functional importance by facilitating the transfer of water, nutrients, organic matter, and sediments between upland areas and the perennial stream system. Compared to the Mill Brook system, Wetland A has reduced hydrologic permanence, habitat stability, and channel complexity; however, its direct connection via culvert increases its importance as a contributing hydrologic and ecological input area rather than an isolated system. Secondary functions include floodflow alteration and sediment/shoreline stabilization, though these remain variable due to intermittent flow conditions and limited channel development.

Wetland E functions as a constructed treatment-to-storage sequence rather than a natural wetland system, with ecological function concentrated in hydrologic attenuation rather than landscape integration. Downstream sediment and contaminant export is reduced, particularly during moderate storm events, though performance decreases during high-intensity runoff when conveyance exceeds storage capacity.

Wetland D is considered the least valuable wetland due to its small overall narrow shape/size and continued disturbance, but functions as a mid-system conveyance feature that routes flow from the upstream pond to downstream wetland and pond components, ultimately contributing to discharge toward Wetland A. It conveys pond outflows while reducing flow velocity and moderating peak discharge between constructed storage features. The emergent vegetation within the swale provides limited hydraulic roughness, promoting minor attenuation of flow energy and short-duration surface water retention during storm events.

Overall, the wetlands function as an integrated mosaic of natural and constructed features that collectively support watershed hydrology and water quality processes. The Mill Brook perennial stream represents the highest-value aquatic resource on site, serving as the primary receiving water with continuous flow conditions and strong downstream connectivity, and providing key functions related to habitat support, production export, and water quality processing at the watershed scale. Wetland A contributes moderate ecological value as a semi-natural intermittent stream system, providing seasonal hydrologic connectivity, nutrient cycling, and organic matter transport, and discharging to Mill Brook via culvert. In contrast, Wetlands E and D, along with the associated pond systems, function as a constructed stormwater treatment and conveyance sequence, providing primary benefits in floodflow attenuation and sediment/toxicant retention, with secondary contributions to nutrient removal and limited habitat functions. While these constructed systems reduce sediment and nutrient loading prior to discharge to natural waters, their ecological integrity and habitat complexity are limited relative to the natural stream-wetland network. Collectively, the site exhibits a gradient of wetland function, with the perennial Mill Brook system and associated natural wetlands providing the highest ecological value and the constructed systems providing hydrologic control and water quality attenuation prior to discharge into the broader watershed.

5.0 AVOIDANCE & MINIMIZATION

The project design was developed in accordance with the requirements of the New Hampshire Department of Environmental Services to avoid and minimize impacts to wetlands and surface waters to the maximum extent practicable. In accordance with Env-Wt 302.04, the applicant demonstrated that impacts have been avoided where practicable, unavoidable impacts have been minimized, and this alternative represents the least environmentally damaging practicable alternative (see below for justification).

6.0 PROJECT CONSTRAINTS ANALYSIS

Avoidance of all wetland impacts was evaluated, but determined to be unpracticable due to the following site constraints:

Septic & Soil Suitability Limitations:

Detailed soil investigations conducted across the site indicate that well-drained upland soils suitable for on-site wastewater disposal are limited in extent and location. Much of the site is characterized by shallow seasonal high-water table (SHWT) or somewhat poorly drained soils. The Town of Stratham requires a minimum of eighteen (18) inches of natural, permeable soil above the SHWT beneath both the primary sewage disposal area and the required reserve area. In addition, State of New Hampshire requirements establish a minimum separation distance of twenty-four (24) inches to the SHWT for subsurface wastewater disposal systems. Compliance with these requirements is mandatory and further constrains the location of viable septic system areas on-site. Test pit data by Gove Environmental Services (TP-1 through TP-12) confirm that areas failing to meet the 18" separation requirement are confined to the existing field, north of wetland C (attached GES test pit data and locations). Test pit data by Hurley Environmental (TP-7, TP-8, TP-11, TP-12, TP-13, and TP-21) shown on plan sheet C2 confirm that areas meeting the 18-inch separation requirement are confined to south of Wetland C, which necessitates the proposed crossing locations.

To meet these regulatory requirements while minimizing overall site disturbance, a shared septic system was utilized. This approach consolidates wastewater infrastructure within the only areas containing suitable soils, reduces the need for multiple marginal or noncompliant systems, and minimizes overall land disturbance relative to dispersed individual systems. Due to the limited and spatially separated distribution of suitable soils meeting both Town and State separation requirements, the proposed development areas cannot be fully co-located with compliant septic system locations. As a result, the three wetland crossings associated with Wetland C are required to provide access between buildable areas and the shared septic system location. These crossings allow the project to maintain compliance with applicable separation requirements while avoiding placement of septic systems in unsuitable or noncompliant soils. Avoidance of these crossings was evaluated but determined to be not practicable, as it would require either locating septic systems in areas that do not meet Town and State regulatory requirements, or substantially increasing environmental disturbance to create alternative compliant locations. Therefore, the proposed impacts to Wetland C are unavoidable and have

been minimized to the maximum extent practicable, consistent with the permitting criteria of the New Hampshire Department of Environmental Services.

Resource Distribution

The distribution and configuration of wetlands and surface waters across the site represent a primary constraint to complete avoidance of aquatic resource impacts. Wetlands and streams are not confined to a single portion of the site, but instead form a continuous and interconnected network that influences site access, layout, and infrastructure placement.

Wetland C and its associated intermittent stream system extend across the central portion of the site, physically separating upland areas suitable for development from those containing soils suitable for septic system installation. This creates a condition where hydrologically constrained areas and buildable uplands are spatially segregated, limiting opportunities to co-locate development and wastewater infrastructure.

The broader wetland system, including Wetlands A, B, D, and E, as well as the Mill Brook corridor, forms a connected mosaic of natural and constructed features that further reduces the availability of large, contiguous upland areas free of environmental constraints.

Due to this distribution:

- Avoidance of all wetland and stream crossings would preclude reasonable site access and infrastructure connectivity.
- Relocating development to avoid one resource area would shift impacts to other wetland systems or require greater overall disturbance.
- The number and location of crossings are largely dictated by the physical separation of constrained and developable areas.

Based on the combined soil, regulatory, and resource distribution constraints, a range of development and infrastructure layout alternatives was evaluated to determine whether wetland and stream impacts could be fully avoided or further reduced. These alternatives included reconfiguration of building locations, relocation of wastewater disposal areas, and modification or elimination of proposed crossings. However, due to the limited availability of suitable soils, the physical separation between buildable uplands and compliant septic areas, and the interconnected distribution of wetlands and surface waters across the site, complete avoidance of impacts was determined to be not practicable. The following analysis summarizes the alternatives considered and demonstrates that the proposed design represents the least environmentally damaging practicable alternative by minimizing the number, extent, and location of impacts while maintaining compliance with applicable local and state requirements.

7.0 ALTERNATIVE ANALYSIS

A range of practicable alternatives was evaluated to avoid or further minimize impacts to wetlands and surface waters, including alternative site layouts, septic system locations, and access configurations. Each alternative was assessed based on its ability to meet project purpose and need, comply with local and state regulatory requirements, and reduce environmental impacts.

Alternative 1: No-Impact / Avoidance Alternative

An alternative avoiding all wetland and stream impacts by limiting development to upland areas was evaluated. This approach was determined to be not practicable because it would preclude access to areas containing suitable soils for septic system installation, resulting in noncompliance with required separation distances to the seasonal high water table. As such, this alternative would not meet the basic project purpose of creating buildable lots with compliant wastewater disposal.

Alternative 2: Relocate Septic Systems

Relocation of septic systems to avoid crossings at Wetland C was considered. However, soil investigations confirm that areas outside the proposed septic locations do not meet the minimum separation requirements established by the Town of Stratham and the New Hampshire Department of Environmental Services. Implementing this alternative would require placement of systems in noncompliant soils or extensive site disturbance to create marginally suitable areas, resulting in greater overall environmental impact. Therefore, this alternative was determined to be not practicable.

Alternative 3: Dispersed Individual Septic Systems

The use of individual septic systems for each lot, rather than a shared system, was evaluated as a means to reduce the need for crossings. This alternative was determined to be less environmentally protective, as it would expand the overall disturbance footprint, require utilization of marginal soils in multiple locations, and increase impacts to wetland buffers and adjacent resource areas. In comparison, the proposed shared system consolidates infrastructure within the only suitable soils and minimizes total site disturbance.

Alternative 4: Reduce or Eliminate Crossings

Site layout modifications to reduce or eliminate the number of crossings at Wetland C were evaluated. Due to the spatial distribution of wetlands and upland areas, as well as the separation between buildable areas and compliant septic locations, reducing the number of crossings would either limit access to otherwise developable portions of the site or shift impacts to higher-value resources, including the Mill Brook corridor and Wetland B. The proposed design represents the minimum number of crossings necessary to achieve site access and regulatory compliance.

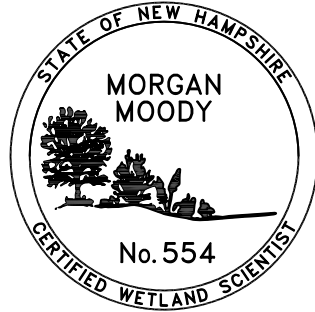
Alternative 5: Alternative Crossing Locations

Shifting crossing locations to other areas of the site was also considered. Alternative locations would result in impacts to higher-value wetlands or perennial stream systems, or would increase the overall length and extent of impacts. The proposed crossings are located within Wetland C, a moderate-value system, and are positioned to minimize crossing length and associated

disturbance. As such, alternative crossing locations were determined to be more environmentally damaging.

This concludes the wetland functional assessment, comparative wetland analysis, and project constraints and alternative analyses for this site. If you have any questions or concerns, please feel free to contact me at (603) 436-3557.

Sincerely,



Morgan Moody, CWS
James Verra & Associates, Inc.

Enc. Functional Assessment Forms
GES Test Pit Data & Locations

Wetland Function-Value Evaluation Form

Total area of wetland 5,700+/- Human made? UNK Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Residential / Agricultural Distance to nearest roadway or other development 0 ft

Dominant wetland systems present R4SB3,4/PSS/EM1E Contiguous undeveloped buffer zone present No

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Lower

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. A

Latitude 43.017604° N Longitude 70.894136° W

Prepared by: MM Date 4/2/2026

Wetland Impact:
Type Fill Area 700 SF

Evaluation based on:
Office Yes Field Yes

Corps manual wetland delineation
completed? Y^x N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
 Groundwater Recharge/Discharge	Y	2,3,4,6,7,15	X	Intermittent stream associated with Mill Brook
 Floodflow Alteration	N			Portion of wetland at impact area does not store floodwater.
 Fish and Shellfish Habitat	N			Culvert restricts access, wetland is relatively small, no fisheries nearby
 Sediment/Toxicant Retention	Y	6,9,10,14		Intermittent stream associated with Mill Brook, but lacks deep water & dense vegetation
 Nutrient Removal	Y	4,5,7,9,10,12,14	X	Removal of Agricultural and stormwater runoff from Winnicutt and nearby livestock
 Production Export	Y	1,3,10		Export by way of intermittent stream, but episodic and lacks permanent water
 Sediment/Shoreline Stabilization	N	1,2,3,4,5,7		Sources from livestock upslope, lack of distinct bank, dense veg, and permanent surface water
 Wildlife Habitat	Y	6,17,19		Small wetland surrounded by development, lack of diversity common habitat for generalist species
 Recreation	N			Private Property
 Educational/Scientific Value	N			Private Property
 Uniqueness/Heritage	N			Private Property
 Visual Quality/Aesthetics	N			Private Property
ES Endangered Species Habitat	N	See DCT26-0300		See DCT26-0300
Other				

Notes:

* Refer to backup list of numbered considerations.

Wetland Function-Value Evaluation Form

Total area of wetland 20ac +/- Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? Yes

Adjacent land use Residential / Agricultural Distance to nearest roadway or other development 0 ft

Dominant wetland systems present R2UB1,2H/PFO/SS1E Contiguous undeveloped buffer zone present Yes

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Lower

How many tributaries contribute to the wetland? 2 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. B

Latitude 43.015931° N Longitude 70.903701° W

Prepared by: MM Date 4/2/2026

Wetland Impact:
Type None Area N/A

Evaluation based on:
Office Yes Field Yes

Corps manual wetland delineation
completed? Y x N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
 Groundwater Recharge/Discharge	Y	2,3,4,6,7,15	X	Mill Brook is a lower perennial stream with evidence of variable water level
 Floodflow Alteration	Y	3,5,6,7,8,9,10,13,14	X	Mill Brook is a lower perennial stream with areas that can provided high surface water detention
 Fish and Shellfish Habitat	N	1,2,4,8,17		No deep water to sustain fish habitat
 Sediment/Toxicant Retention	Y	1,2,4,5,6,8,9,10,14,16	X	Mill Brook consists of lower, broader areas of dense vegetation
 Nutrient Removal	Y	4,7,8,9,10,12,14	X	Mill Brook consists of lower, broader areas of dense vegetation
 Production Export	Y	1,2,3,4,5,7,10,12,13	X	Limited storage, but periodic flooding or high flows may carry excess organic matter, detritus, or nutrients downstream
 Sediment/Shoreline Stabilization	Y	1,2,3,4,5,7,14,		No distinct bank or dense vegetation in most areas
 Wildlife Habitat	Y	1,5,6,7,8,10,14,16,17,18,19,20,21	X	large wetland complex with various wetland systems present, 1 vernal pool
 Recreation		N/A		Private Property
 Educational/Scientific Value		N/A		Private Property
 Uniqueness/Heritage		N/A		Private Property
 Visual Quality/Aesthetics		N/A		Private Property
ES Endangered Species Habitat	Y	See DCT26-0300		See DCT26-0300
Other				

Notes:

* Refer to backup list of numbered considerations.

Wetland Function-Value Evaluation Form

Total area of wetland 7.4ac +/- Human made? No Is wetland part of a wildlife corridor? Yes or a "habitat island"? Yes

Adjacent land use Residential / Agricultural Distance to nearest roadway or other development 0 ft

Dominant wetland systems present R4SB3,4/PSS/EM1E Contiguous undeveloped buffer zone present Yes

Is the wetland a separate hydraulic system? No If not, where does the wetland lie in the drainage basin? Lower

How many tributaries contribute to the wetland? 1 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. C

Latitude 43.014417° N Longitude 70.899527° W

Prepared by: MM Date 4/2/2026

Wetland Impact:
Type Fill Area 7,270 SF

Evaluation based on:
Office Yes Field Yes

Corps manual wetland delineation
completed? Y^x N

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
 Groundwater Recharge/Discharge	Y	2,4,5,7,15	X	Intermittent stream associated with Mill Brook, periodic flooding limited to seasonal depressions
 Floodflow Alteration	Y	3,5,8,13		Brief retention time limited to seasonal depression area (east side of wetland), episodic and lacks permanent water/dense veg. Narrow wetland border along intermittent stream
 Fish and Shellfish Habitat	N	1,4		No deep water to sustain fish habitat
 Sediment/Toxicant Retention	Y	8,9,10,14		Brief retention time limited to eastern portion of wetland, but episodic with minor trapping due to limited dense veg and narrow wetland border.
 Nutrient Removal	Y	4,7,8,9,10,12,14	X	Brief retention time, but transformation occurs during wetting/drying cycles, exporting nutrients to Mill Brook
 Production Export	Y	1,2,3,4,5,10,12,13	X	Vernal pools limited to seasonal depression upstream (east corner of wetland) ~150' away from proposed wetland impact
 Sediment/Shoreline Stabilization	Y	1,2,3,5,7		Distinct bank in limited areas, narrow wetland edge, lack of dense vegetation. Localized areas for sediment deposition
 Wildlife Habitat	Y	5,6,7,8,10,16,17,19	X	Vernal pools limited to seasonal depression upstream (east corner of wetland) ~150' away from proposed wetland impact, Upland inclusion areas
 Recreation	N			Private Property
 Educational/Scientific Value	N			Private Property
 Uniqueness/Heritage	N			Private Property
 Visual Quality/Aesthetics	N			Private Property
ES Endangered Species Habitat	N	See DCT26-0300		See DCT26-0300
Other				

Notes:

*** Refer to backup list of numbered considerations.**

Wetland Function-Value Evaluation Form

Total area of wetland 4,217 SF Human made? Yes Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Residential / Agricultural Distance to nearest roadway or other development 0 ft

Dominant wetland systems present PEM1Eh 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? _____ Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. D

Latitude 43.015637° N Longitude 70.896877° W

Prepared by: MM Date 4/2/2026

Wetland Impact:
Type Fill Area 35 SF

Evaluation based on:
Office Yes Field Yes

Corps manual wetland delineation
completed? Y X N _____

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
 Groundwater Recharge/Discharge	N	4		Hydrologic connection to groundwater is minimal
 Floodflow Alteration	N			No surface/deep water, not associated with stream, disturbed
 Fish and Shellfish Habitat	N	N/A		No surface/deep water, not associated with stream, disturbed
 Sediment/Toxicant Retention	Y	1,2,10,17	X	Acts as buffer between two ponds, receives some agriculture runoff before reaching downstream pond. Reduces nutrient loading to the pond, helping prevent eutrophication. Narrow emergent wetland limited by flow velocity
 Nutrient Removal	Y			Acts as transportation channel from Wetland E to Wetland C, but limited by seasonal drying
 Production Export	N			narrow and small, isolated emergent wetland with limited diversity
 Sediment/Shoreline Stabilization	N	N/A		No shoreline present
 Wildlife Habitat	N			Disturbed, adjacent residential house, lack of food sources, limited diversity
 Recreation	N			Private Property
 Educational/Scientific Value	N			Private Property
 Uniqueness/Heritage	N			Private Property
 Visual Quality/Aesthetics	N			Private Property
ES Endangered Species Habitat	N	See DCT26-0300		See DCT26-0300
Other				

Notes:

* Refer to backup list of numbered considerations.

Wetland Function-Value Evaluation Form

Total area of wetland 45,000 SF Human made? Unk Is wetland part of a wildlife corridor? No or a "habitat island"? No

Adjacent land use Residential / Agricultural Distance to nearest roadway or other development 0 ft

Dominant wetland systems present PUBHh/EM1Eh 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? 0 Wildlife & vegetation diversity/abundance (see attached list)

Wetland I.D. E

Latitude 43.016209° N Longitude 70.895660° W

Prepared by: MM Date 4/2/2026

Wetland Impact:
Type None Area N/A

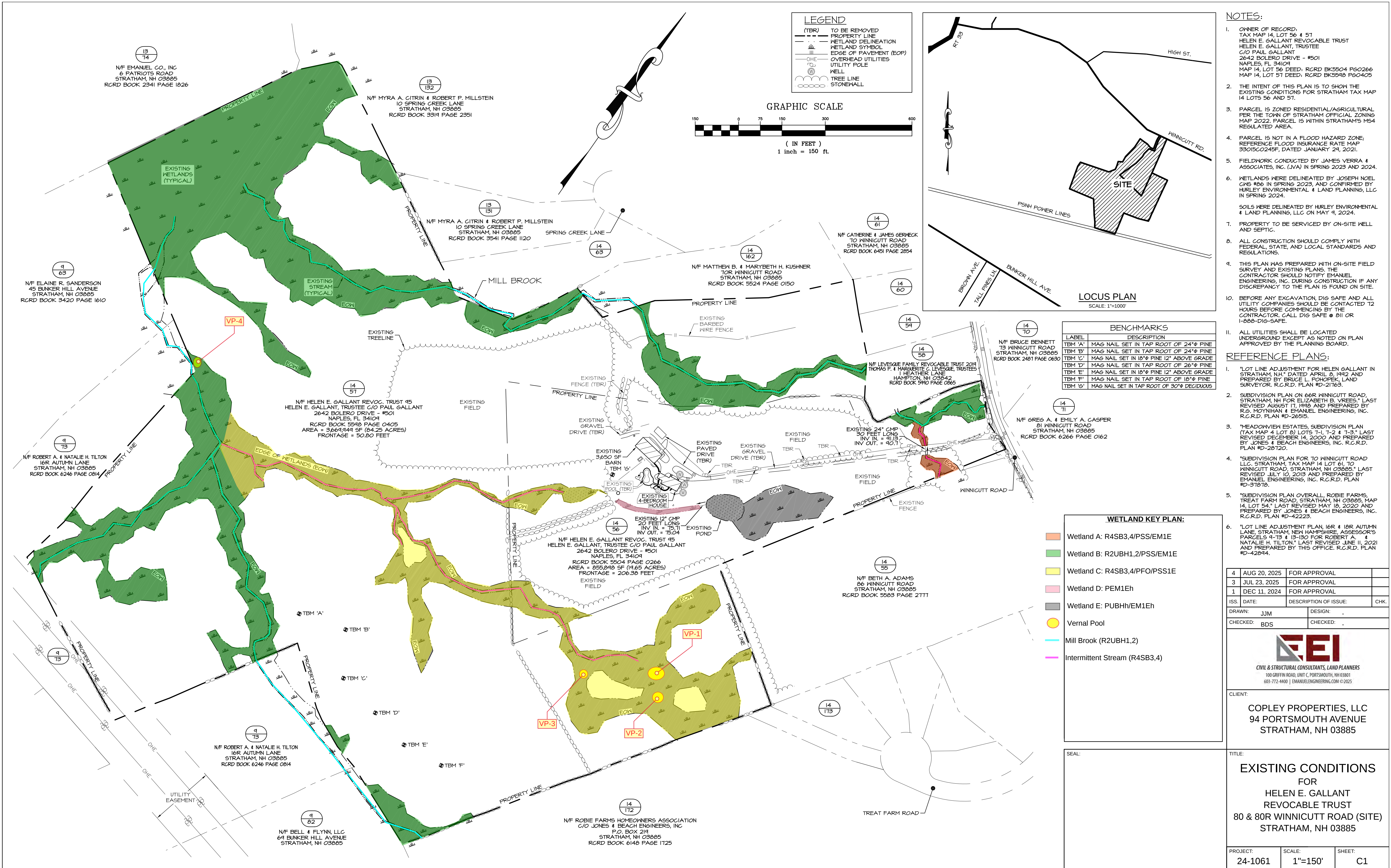
Evaluation based on:
Office Yes Field Yes

Corps manual wetland delineation
completed? Y x N _____

Function/Value	Suitability Y / N	Rationale (Reference #)*	Principal Function(s)/Value(s)	Comments
 Groundwater Recharge/Discharge	Y	4,5,8,10		Permanent water, provides some recharge, but located in low-permeability soils based on surrounding test pit data; minimal infiltration
 Floodflow Alteration	Y	1,3,4,5,6,7,8,9,11	X	Acts as a basin to store storm water runoff, helps attenuate peak flows
 Fish and Shellfish Habitat	N	1		Unknown if there are fish in this pond, but >10' in depth), but lacks woody debris, complex substrate variation and refuge areas, not associated with watercourse
 Sediment/Toxicant Retention	Y	1,2,3,5	X	Functions as a settling basin for eroded soils from agricultural fields; retains particle-bound nutrients, pesticides, and contaminants
 Nutrient Removal	Y	2,4,5		Standing water, but not associated with stream and lacks dense vegetation
 Production Export	Y	1,14		Temporarily effective sink that can become episodic sources, but limited transport frequency due to blocked culvert.
 Sediment/Shoreline Stabilization	N	2,3,4,16		Limited natural bank stabilization (manicured lawn) 16-agriculture pond
 Wildlife Habitat	Y	5,7,8		May suppose fish, but lacks overall habitat diversity and vegetation
 Recreation	N			Private Property
 Educational/Scientific Value	N			Private Property
 Uniqueness/Heritage	N			Private Property
 Visual Quality/Aesthetics	N			Private Property
ES Endangered Species Habitat	N	See DCT26-0300		See DCT26-0300
Other				

Notes:

* Refer to backup list of numbered considerations.



Attachment 11

Vernal Pool Report



VERNAL POOL SURVEY REPORT
80 & 80R Winnicutt Road
Stratham, NH
April 7, 2026

1.0 INTRODUCTION

This report presents the results of a vernal pool survey conducted by James Verra & Associates, Inc. (JVA) in support of a proposed cluster subdivision on behalf of Copley Properties, LLC. The subject property is located on Winnicutt Road in Stratham (Tax Map 14, Lots 56 and 57) and encompasses approximately 103.9 acres. Field investigations and analysis for the current report were completed by JVA during the 2026 amphibian breeding season. This report also incorporates findings from a prior vernal pool survey conducted in 2023 by Joseph Noel, CWS #086.

The sections that follow summarize the site setting and existing conditions, outline the survey methodology, and provide detailed descriptions of the vernal pools identified during the investigation. A sketch showing the approximate locations of the documented vernal pools is included at the end of this report, along with corresponding data forms and representative photographs.

2.0 SITE DESCRIPTION

The survey area is situated east of Route 108 (Portsmouth Avenue), south of Winnicutt Road, west of I-95, and north of Bunker Hill Avenue. A perennial stream, Mill Brook, originates near Winnicutt Road, flows along the northern property boundary, and continues off-site to the northwest. Several intermittent streams are distributed throughout the property and generally flow west-southwest into Mill Brook. These channels are bordered by interconnected forested and scrub-shrub wetlands. Surrounding upland areas are characterized by Appalachian oak-pine forest, with dominant species including American hemlock, red oak, white pine, and various dogwoods. A substantial portion of the site also consists of previously maintained agricultural grassland. The survey methodology and results are presented in the following section.

3.0 METHODOLOGY

The New Hampshire Department of Environmental Services defines vernal pools under Env-Wt 104.44 as:

...a surface water or wetland, including an area intentionally created for purposes of compensatory mitigation, that provides breeding habitat for amphibians and invertebrates that have adapted to the unique environments provided by such pools and that:

(a) Is not the result of on-going anthropogenic activities that are not intended to provide compensatory mitigation, including but not limited to:

- (1) Gravel pit operations in a pit that has been mined at least every other year; and*
- (2) Logging and agricultural operations conducted in accordance with all applicable New Hampshire statutes and rules; and*

(b) Typically has the following characteristics:

- (1) Cycles annually from flooded to dry conditions, although the hydroperiod, size, and shape of the pool might vary from year to year;*
- (2) Forms in a shallow depression or basin;*
- (3) Has no permanently flowing outlet;*
- (4) Holds water for at least 2 continuous months following spring ice-out;*
- (5) Lacks a viable fish population; and*
- (6) Supports one or more primary vernal pool indicators, or 3 or more secondary vernal pool indicators.*

Potential vernal pools within the survey area were initially identified through review of aerial imagery and topographic mapping and were subsequently plotted for field verification. Field investigations were conducted over two site visits on March 30, 2026, and April 6, 2026. During these visits, the pre-identified areas were evaluated, and additional portions of the property were surveyed to identify any other potential vernal pools.

Egg mass surveys were performed by visually inspecting pools from the perimeter and, where necessary, by wading into the pools. Polarized glasses were used to improve visibility beneath the water surface. Species identification was based on the professional expertise of the field biologist, supplemented by reference materials including “Identification and Documentation of Vernal Pools in New Hampshire”¹ and “A Field Guide to Animals of Vernal Pools”.² Observations of adult amphibians and other vernal pool indicator species were recorded when present.

Additional characteristics relevant to vernal pool function were documented, including ponding depth, canopy cover, surrounding upland habitat, and the presence of potential predator species. Photographs were taken at each location. All data collected during the survey were compiled using the New Hampshire Vernal Pool Documentation Forms, which are included in this report.

4.0 RESULTS

A total of four (4) vernal pools were identified in the survey area. The following sections provide a brief description of each pool.

¹ Marchand, M. 2016. *Identifying and Documenting Vernal Pools in New Hampshire*. Third Edition: Published by New Hampshire Fish and Game Department – Nongame and Endangered Wildlife Program.

² Kenney, L.P. and M.R. Burne. 2000. *A Field Guide to Animals of Vernal Pools*. Massachusetts Division of Fisheries and Wildlife and the Vernal Pool Association, Reading, MA.

Pool #1

Vernal pool one is a natural depression occurring in a larger scrub shrub, forested wetland complex. At maximum it is one foot in depth, approximately 365 square feet (SF) with cinnamon fern and highbush blueberry on hummocks in the center of the pool. Tree canopy consists of red maple and American hemlock with white pine in the surround habitat. Submerged logs, branches and shrubs provide attachment points. The substrate is predominantly leaf litter and muck. No salamander or wood frog egg masses were observed for primary indicators. Secondary indicators such as fingernail clam shells, caddisfly larvae, and diving beetles were observed visually and through dip netting. During the 2023 survey, wood frog egg masses were observed (see attached report).

Pool #2

Vernal pool two is a natural depression occurring in a larger scrub shrub, forested wetland complex <100ft from vernal pool one and approximately 500 SF in size. Similar characteristics as pool one with hydrology, canopy, and substrate. Although larger with less attachment points for egg masses, three wood frog egg masses were observed. No secondary indicator was observed and no evidence of disturbance in or around the pool.

Pool #3

Natural depression with 200ft of pools one and two with an upland area situated between the three pools. At maximum 6 inches deep and approximately 200 SF. This tiny pocket is mostly shaded by the large red maple-hemlock canopy with leaf litter and muck as the primary pool substrate. Although small in size, the pool has many attachment points allowing for egg masses but none were observed during these visits. A small cluster of spermatophores were seen though, indicator there may be eggs soon. During the 2023 survey, wood frog egg masses were observed (see attached report).

Pool #4

Natural depression occurring in a larger floodplain again to Mill Brook with a maximum depth of one foot and approximately 120 SF in size. This small nook is mainly shade by the red maple tree with larger American hemlock and white pine in the surrounding upland. The substrate in this pool differed from the others, with the addition of sand likely due to sediment movement from flooding event by way of Mill Brook. Majority of the surrounding habitat is mature forest, emergent/scrub-shrub wetland, and open water (Mill Brook). Two spotted salamander egg masses were observed attached to grass twigs and sedge grass. No disturbance has occurred within 100ft of the pool.

Pool ID	Max Depth	Wood Frog Egg Masses	Spotted Salamander Egg Masses	Secondary Indicators Observed	Description/Notes
1	1'	-	-	finger nail clam shells caddisfly larvae diving beetles	<200' from pool 2 & 3
2	1'	3	-	-	<200' from pool 1 & 3
3	6"	-	-	-	Spermatophores present <200' from pool 1 & 2
4	1'	-	2	-	Floodplain pool (Mill Brook)

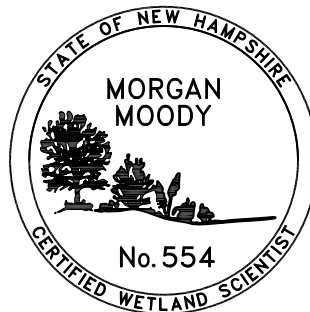
Table 1. Vernal Pool Survey Summary

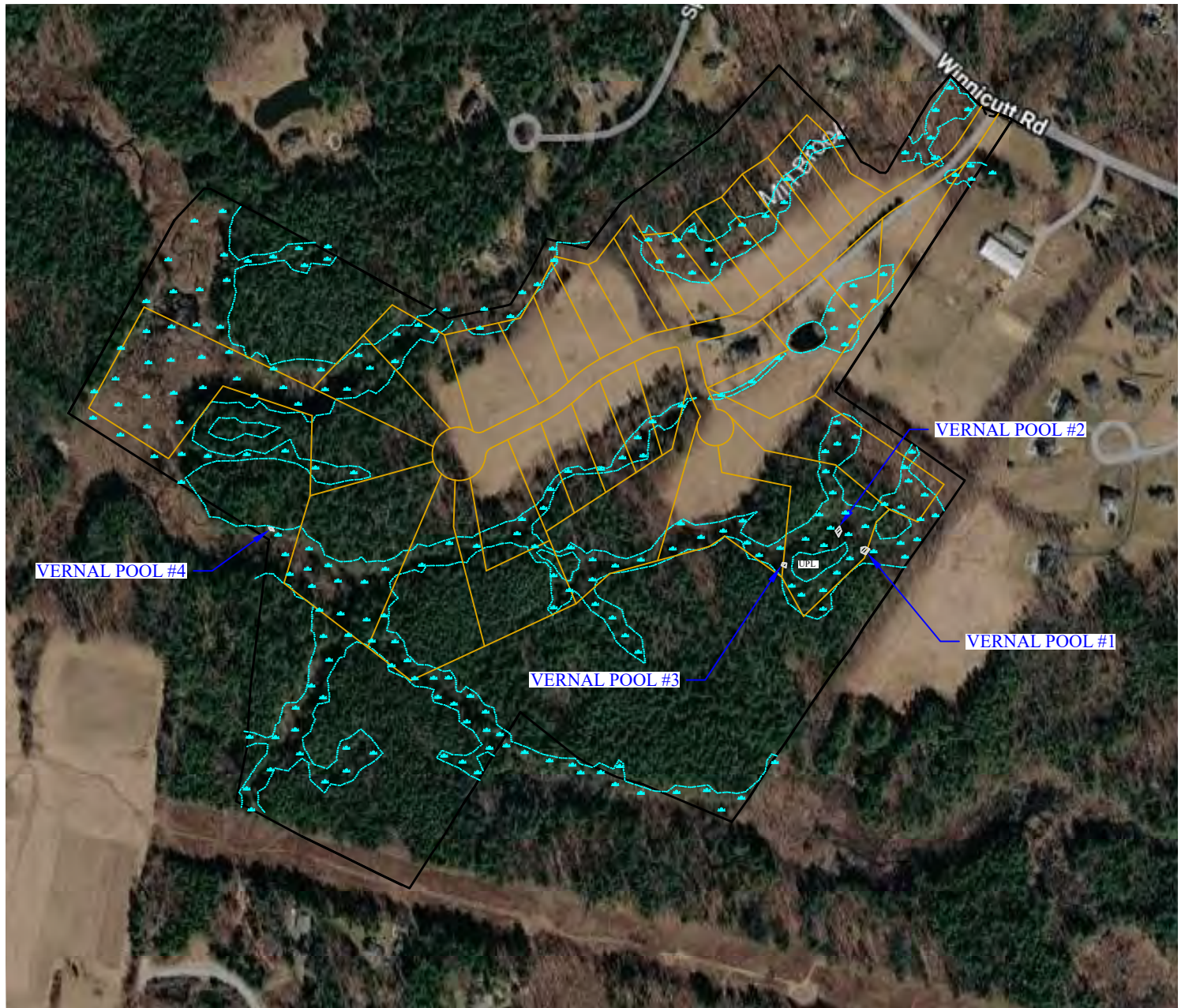
5.0 CONCLUSION

All four documented vernal pools occur as natural depressions within a largely intact scrub-shrub and forested wetland complex and collectively provide suitable amphibian breeding habitat supported by hydrology, canopy cover, and organic substrates. Pools #1 and #3 lacked primary indicators during the current survey but exhibited secondary indicators and/or recent reproductive evidence (e.g., spermatophores), with both pools previously supporting wood frog egg masses in 2023, indicating continued functional breeding habitat. Pool #2 supported three wood frog egg masses, confirming active breeding, while Pool #4 supported two spotted salamander egg masses and is influenced by adjacent floodplain dynamics associated with Mill Brook, as reflected by sand deposition within the substrate. No significant disturbance was observed in or around any of the pools, and the proximity of Pools #1–#3, separated by small upland areas, suggests a connected habitat complex that enhances amphibian use. Overall, the presence of primary and secondary indicators, combined with prior documented breeding activity, supports the conclusion that these features function as vernal pools and contribute to local amphibian breeding and habitat connectivity.

If you have any questions or concerns regarding this report, please contact me at 603-766-4466.

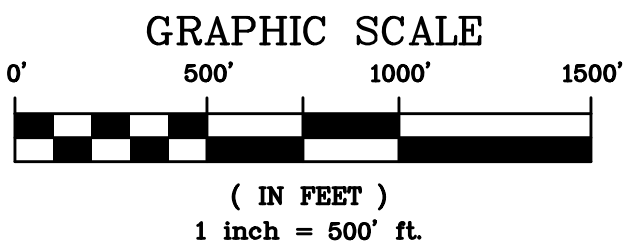
Morgan Moody
NH Certified Wetland Scientist #554





LEGEND:

-  WETLAND
-  WETLAND LINE
-  APPROXIMATE PROPERTY LINE
-  PROPOSED SUBDIVISION CONCEPT
-  VERNAL POOL



VERNAL POOL LOCATIONS
OPEN SPACE CLUSTER SUBDIVISION
COPELY PROPERTIES

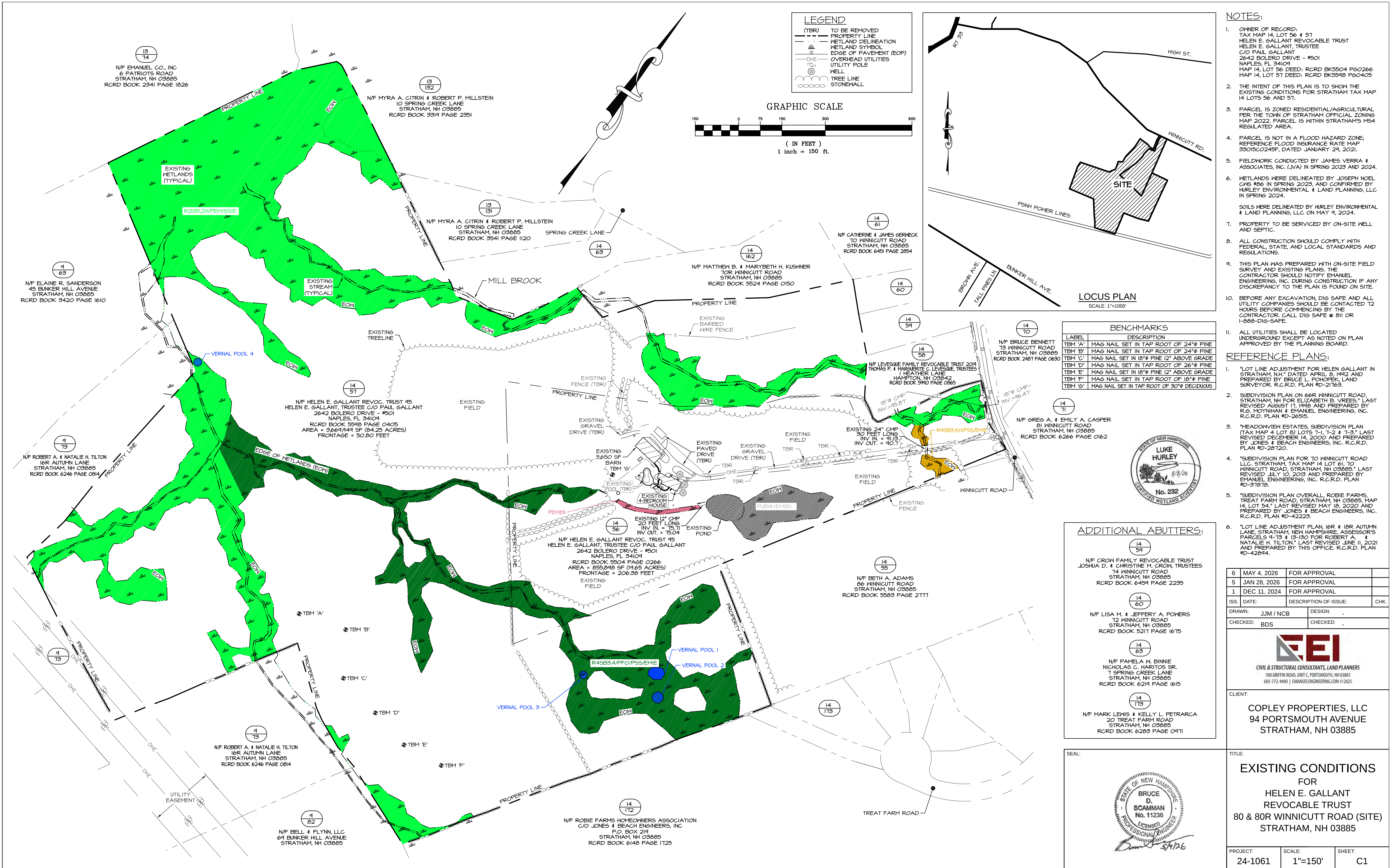
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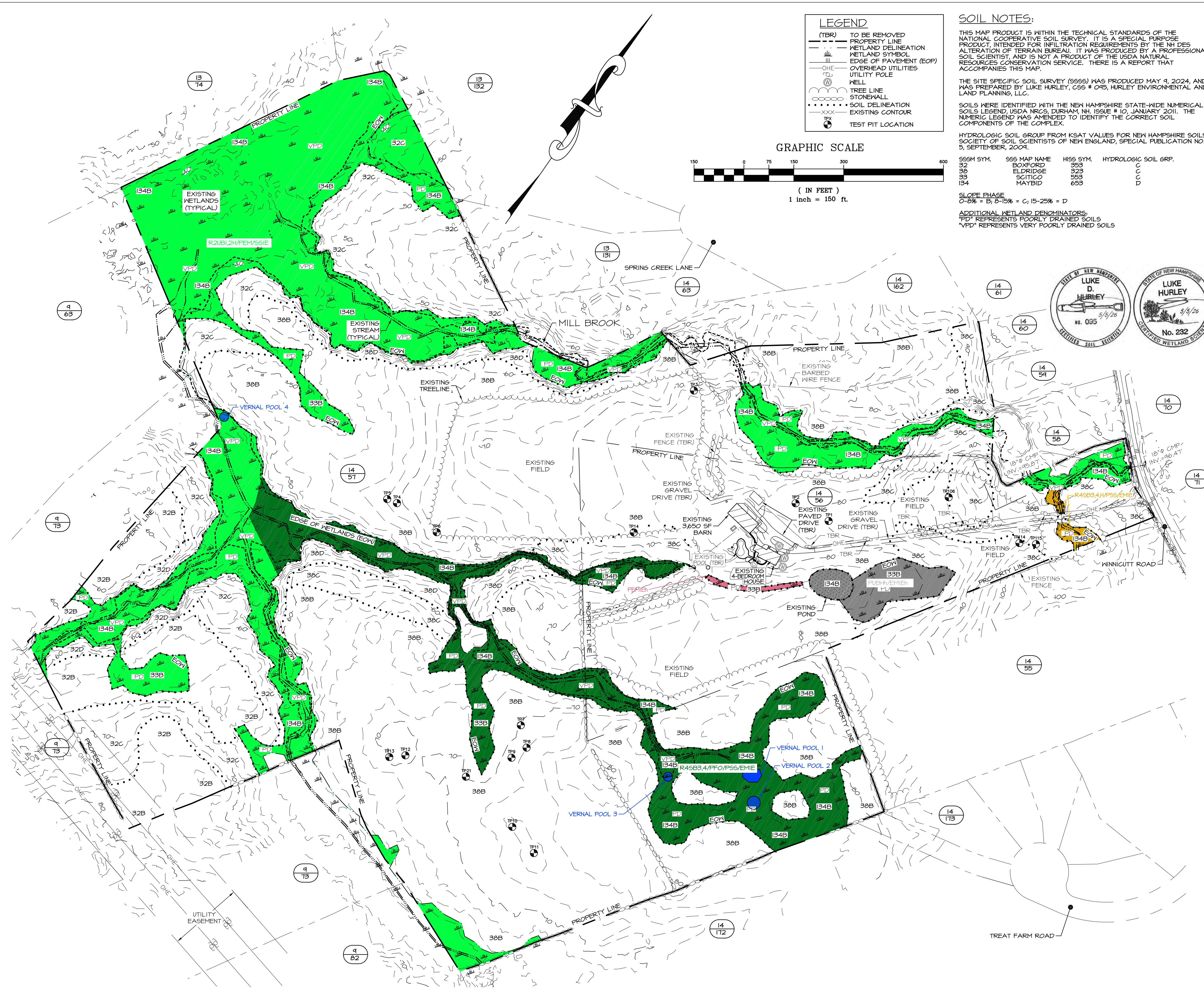
DATE: 4/10/2026
JOB: 24-2033

SCALE: 1" = 500'
DWN BY: MM

Attachment 12

Project Plans





SOIL NOTES:

THIS MAP PRODUCT IS WITHIN THE TECHNICAL STANDARDS OF THE NATIONAL COOPERATIVE SOIL SURVEY. IT IS A SPECIAL PURPOSE PRODUCT, INTENDED FOR INFILTRATION REQUIREMENTS BY THE NH DES ALTERATION OF TERRAIN BUREAU. IT WAS PRODUCED BY A PROFESSIONAL SOIL SCIENTIST, AND IS NOT A PRODUCT OF THE USDA NATURAL RESOURCES CONSERVATION SERVICE. THERE IS A REPORT THAT ACCOMPANIES THIS MAP.

THE SITE SPECIFIC SOIL SURVEY (5666) WAS PRODUCED MAY 9, 2024, AND WAS PREPARED BY LUKE HURLEY, CSS # 045, HURLEY ENVIRONMENTAL AND LAND PLANNING, LLC.

SOILS WERE IDENTIFIED WITH THE NEW HAMPSHIRE STATE-WIDE NUMERICAL SOILS LEGEND, USDA NRCS, DURHAM, NH, ISSUE # 10, JANUARY 2011. THE NUMERIC LEGEND WAS AMENDED TO IDENTIFY THE CORRECT SOIL COMPONENTS OF THE COMPLEX.

HYDROLOGIC SOIL GROUP FROM KSAT VALUES FOR NEW HAMPSHIRE SOILS, SOCIETY OF SOIL SCIENTISTS OF NEW ENGLAND, SPECIAL PUBLICATION NO. 5, SEPTEMBER, 2004.

SSGM SYM.	SSG MAP NAME	HSS SYM.	HYDROLOGIC SOIL GRP.
32	BOXFORD	353	C
33	ELDRIDGE	323	C
34	SCITIGO	353	C
35	MAYBID	653	D

SLOPE PHASE
0-8% = B, 8-15% = C, 15-25% = D

ADDITIONAL WETLAND DENOMINATORS:
"PD" REPRESENTS POORLY DRAINED SOILS
"VPD" REPRESENTS VERY POORLY DRAINED SOILS

TEST PITS:

TEST PITS #1-14 WERE PERFORMED ON MAY 9, 2024 BY LUKE HURLEY OF HURLEY ENVIRONMENTAL AND LAND PLANNING, LLC, AND WITNESSED BY MIKE CUOMO OF R.C.D. AND BRUCE SCAMMAN OF EMANUEL ENGINEERING, INC.

TEST PIT #1
ESHNT 26", OBSERVED WATER NONE, NO REFUSAL
0-12" 10YR3/3, FSL, GR, FR
12-24" 10YR4/4, FSL, GR, FR
24-60" 2.5Y5/3, SL, BLKY, FI REDOX 15%

TEST PIT #2
ESHNT 26", OBSERVED WATER NONE, NO REFUSAL
0-12" 10YR3/3, FSL, GR, FR
12-24" 10YR4/4, FSL, GR, FR
24-60" 2.5Y5/3, SL, BLKY, FI REDOX 15%

TEST PIT #3
ESHNT 24", OBSERVED WATER NONE, NO REFUSAL
0-8" 10YR3/3, FSL, GR, FR
8-12" 10YR4/4, FSL, GR, FR
12-24" 10YR4/4, FSL, GR, FR
24-60" 2.5Y5/4, SAND/ROCK, BLKY, FI REDOX 15%

TEST PIT #4
ESHNT 34", OBSERVED WATER NONE, NO REFUSAL
0-8" 10YR3/3, FSL, GR, FR
8-20" 10YR4/4, FSL, GR, FR
20-34" 2.5Y4/4, LS, GR, FR
34-64" 2.5Y5/3, SL, BLKY, FI REDOX 15%

TEST PIT #5
ESHNT 26", OBSERVED WATER NONE, NO REFUSAL
0-8" 10YR3/3, FSL, GR, FR
8-12" 10YR4/4, FSL, GR, FR
12-24" 2.5Y5/4, LS, GR, FR
24-60" 2.5Y5/3, S, OM, FR REDOX 15%

TEST PIT #6
ESHNT 17", OBSERVED WATER NONE, NO REFUSAL
0-5" 10YR3/3, FSL, GR, FR
5-17" 10YR4/3, FSL, GR, FR
17-60" 2.5Y5/3, SL, BLKY, FI REDOX 20%

TEST PIT #7
ESHNT 24", OBSERVED WATER 46", NO REFUSAL
0-6" 10YR3/3, FSL, GR, FR
6-12" 10YR4/3, FSL, GR, FR
12-24" 2.5Y4/4, VFS, GR, FR
24-66" 2.5Y5/3, SL, BLKY, FI REDOX 20%

TEST PIT #8
ESHNT 27", OBSERVED WATER NONE, NO REFUSAL
0-4" 10YR3/3, FSL, GR, FR
4-14" 10YR4/3, FSL, GR, FR
14-20" 10YR4/3, FSL, GR, FR
20-36" 2.5Y4/3, SL, BLKY, FI REDOX 20%

TEST PIT #9
ESHNT 20", OBSERVED WATER SEEP 36", NO REFUSAL
0-4" 10YR3/3, FSL, GR, FR
4-12" 10YR4/3, FSL, GR, FR
12-20" 10YR4/3, FSL, GR, FR
20-36" 2.5Y4/4, FS, GR, FR
36-60" 2.5Y5/3, SL, GR, FR REDOX 20%

TEST PIT #10
ESHNT 18", OBSERVED WATER NONE, NO REFUSAL
0-4" 10YR3/3, FSL, GR, FR
4-18" 10YR4/3, FSL, GR, FR
18-30" 2.5Y5/4, SL, BLKY, FI REDOX 20%

TEST PIT #11
ESHNT 31", OBSERVED WATER NONE, NO REFUSAL
0-4" 10YR3/3, FSL, GR, FR
4-8" 10YR4/3, FSL, GR, FR
8-31" 2.5Y5/4, SL, BLKY, FI REDOX 20%

TEST PIT #12
ESHNT 32", OBSERVED WATER NONE, NO REFUSAL
0-4" 10YR3/3, FSL, GR, FR
4-16" 10YR4/3, FSL, GR, FR
16-32" 2.5Y5/4, FSL, BLKY, FI REDOX 20%

TEST PIT #13
ESHNT 25", OBSERVED WATER NONE, NO REFUSAL
0-4" 10YR3/3, FSL, GR, FR
4-25" 10YR4/3, FSL, GR, FR
25-60" 2.5Y5/3, SIGL, BLKY, FI REDOX 20%

TEST PIT #14
ESHNT 15", OBSERVED WATER NONE, NO REFUSAL
0-4" 10YR3/3, FSL, GR, FR
4-8" 10YR4/3, FSL, GR, FR
8-15" 2.5Y5/3, FSL, GR, FR
15-60" 2.5Y5/3, SIGL, BLKY, FI REDOX 20%

TEST PITS #106, 114, AND 115 WERE PERFORMED ON JANUARY 4, 2024 BY WAYNE MORRILL OF JONES & BEACH ENGINEERS, INC. 55D #1358, AND WITNESSED BY MIKE CUOMO OF R.C.D.

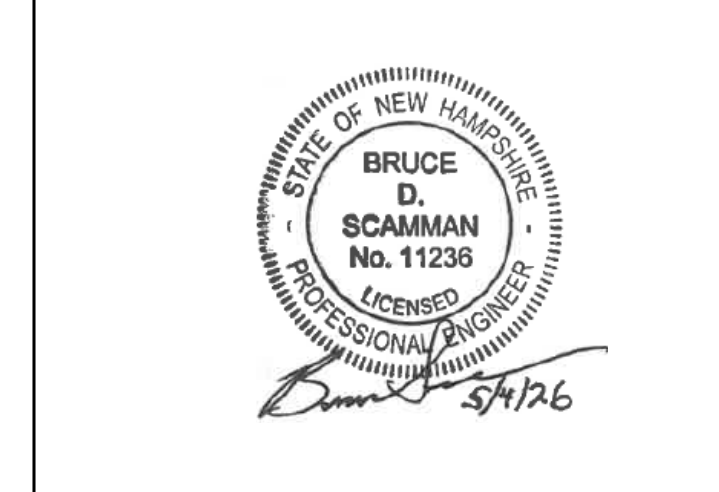
TEST PIT #106
ESHNT 25", OBSERVED WATER NONE, NO REFUSAL
0-7" 10P 5/0L, FSL, GR, FR
7-10" 2.5Y 5/4, FSL, GR, FR
10-10" 2.5Y5/5, FSL, MASSIVE, FIRM

TEST PIT #114
ESHNT 18", OBSERVED WATER NONE, NO REFUSAL
0-8" 10YR3/3, FSL, GR, FR
8-18" 10YR5/6, FSL, BLOCKY, FR
18-28" 2.5Y5/4, FSL, BLOCKY, FR
28-64" 5Y5/6, STONY FSL, BLOCKY, FIRM

TEST PIT #115
ESHNT 18", OBSERVED WATER NONE, NO REFUSAL
0-8" 10YR3/4, FSL, GR, FR
8-18" 10YR4/3, FSL, BLOCKY, FR
18-66" 2.5Y5/3, FSL, STONY, FIRM

TEST PIT #115
ESHNT 18", OBSERVED WATER NONE, NO REFUSAL
0-8" 10YR3/4, FSL, GR, FR
8-18" 10YR4/3, FSL, BLOCKY, FR
18-66" 2.5Y5/3, FSL, STONY, FIRM

SEAL:



NOTES:

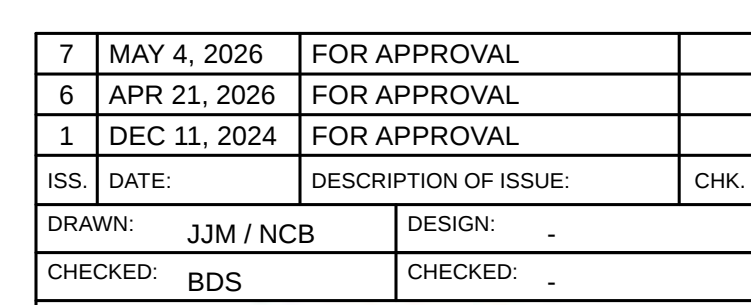
- OWNER OF RECORD:
TAX MAP 14, LOT 56 & 57
HELEN E. GALLANT REVOCABLE TRUST
HELEN E. GALLANT, TRUSTEE
C/O PAUL GALLANT
2642 BOLERO DRIVE - #501
NAPLES, FL 34109
MAP 14, LOT 56 DEED: RCRD BK5504 P60266
MAP 14, LOT 57 DEED: RCRD BK5504 P60405
- THE INTENT OF THIS PLAN IS TO SHOW THE EXISTING SOILS & TOPOGRAPHY FOR STRATHAM TAX MAP 14 LOTS 56 AND 57.
- PARCEL IS ZONED RESIDENTIAL/AGRICULTURAL PER THE TOWN OF STRATHAM OFFICIAL ZONING MAP 2022. PARCEL IS WITHIN STRATHAM'S M54 REGULATED AREA.
- PARCEL IS NOT IN A FLOOD HAZARD ZONE; REFERENCE FLOOD INSURANCE RATE MAP 33015C0245F, DATED JANUARY 24, 2021.
- FIELDWORK CONDUCTED BY JAMES VERRA & ASSOCIATES, INC. (JVA) IN SPRING 2023 AND 2024.
- WETLANDS WERE DELINEATED BY JOSEPH NOEL CWS #86 IN SPRING 2023, AND CONFIRMED BY HURLEY ENVIRONMENTAL & LAND PLANNING, LLC IN SPRING 2024.

SOILS WERE DELINEATED BY HURLEY ENVIRONMENTAL & LAND PLANNING, LLC ON MAY 9, 2024.

- PROPERTY TO BE SERVICED BY ON-SITE WELL AND SEPTIC.
- ALL CONSTRUCTION SHOULD COMPLY WITH FEDERAL, STATE, AND LOCAL STANDARDS AND REGULATIONS.
- THIS PLAN WAS PREPARED WITH ON-SITE FIELD SURVEY AND EXISTING PLANS. THE CONTRACTOR SHOULD NOTIFY EMANUEL ENGINEERING, INC. DURING CONSTRUCTION IF ANY DISCREPANCY TO THE PLAN IS FOUND ON SITE.
- BEFORE ANY EXCAVATION, DIG SAFE AND ALL UTILITY COMPANIES SHOULD BE CONTACTED 72 HOURS BEFORE COMMENCING BY THE CONTRACTOR. CALL DIG SAFE @ 811 OR 1-888-DIG-SAFE.
- ALL UTILITIES SHALL BE LOCATED UNDERGROUND EXCEPT AS NOTED ON PLAN APPROVED BY THE PLANNING BOARD.

- REFERENCE PLANS:
- "LOT LINE ADJUSTMENT FOR HELEN GALLANT IN STRATHAM, NH," DATED APRIL 8, 1942 AND PREPARED BY BRUCE L. PHOPEK, LAND SURVEYOR, R.C.R.D. PLAN #D-21763.
 - SUBDIVISION PLAN ON 66R WINNICUTT ROAD, STRATHAM, NH FOR ELIZABETH B. VREES, "LAST REVISED AUGUST 17, 1988 AND PREPARED BY R.G. MOYNIHAN & EMANUEL ENGINEERING, INC. R.C.R.D. PLAN #D-26515.
 - "MEADOWVIEW ESTATES, SUBDIVISION PLAN (TAX MAP 4 LOT 8) LOTS 1-1, T-2 & 1-3," LAST REVISED DECEMBER 14, 2020 AND PREPARED BY JONES & BEACH ENGINEERS, INC. R.C.R.D. PLAN #D-28120.
 - "SUBDIVISION PLAN FOR 70 WINNICUTT ROAD LLC, STRATHAM, TAX MAP 14 LOT 61, TO WINNICUTT ROAD, STRATHAM, NH 03885," LAST REVISED JULY 10, 2018 AND PREPARED BY EMANUEL ENGINEERING, INC. R.C.R.D. PLAN #D-31818.
 - "SUBDIVISION PLAN OVERALL, ROBIE FARMS, TREAT FARM ROAD, STRATHAM, NH 03885, MAP 14, LOT 54," LAST REVISED MAY 18, 2020 AND PREPARED BY JONES & BEACH ENGINEERS, INC. R.C.R.D. PLAN #D-42223.
 - "LOT LINE ADJUSTMENT PLAN, 16R & 18R AUTUMN LANE, STRATHAM, NEW HAMPSHIRE, ASSESSOR'S PARCELS 9-73 & 13-130 FOR ROBERT A. & NATALIE H. TILTON," LAST REVISED JUNE 11, 2021 AND PREPARED BY THIS OFFICE, R.C.R.D. PLAN #D-42844.

7	MAY 4, 2026	FOR APPROVAL	
6	APR 21, 2026	FOR APPROVAL	
1	DEC 11, 2024	FOR APPROVAL	
ISS. DATE:	DESCRIPTION OF ISSUE:		CHK.
DRAWN:	JJM / NCB	DESIGN:	-
CHECKED:	BDS	CHECKED:	-



CLIENT:

COPLEY PROPERTIES, LLC
94 PORTSMOUTH AVENUE
STRATHAM, NH 03885

PROJECT:	SCALE:	SHEET:
24-1061	1"=150'	C2

PROPOSED WETLAND IMPACT AREAS							
		TEMPORARY IMPACT			PERMANENT IMPACT		
AREA LABEL	WETLAND CLASSIFICATION	STREAM IMPACT (LINEAR FEET)	AREA (SQUARE FEET)	AREA (ACRES)	STREAM IMPACT (LINEAR FEET)	AREA (SQUARE FEET)	AREA (ACRES)
A	R4SB3.4	2	15	0.000	7	25	0.001
B	PEMIE	N/A	60	0.001	N/A	140	0.003
	R4SB3.4	2	15	0.000	28	145	0.003
	PEMIE	N/A	85	0.002	N/A	220	0.005
C	PEMIE	N/A	20	0.000	N/A	15	0.000
D	PEMIE	N/A	225	0.005	N/A	370	0.008
E	R4SB3.4	8	40	0.001	80	370	0.008
F	PFOIE	N/A	815	0.018	N/A	3,465	0.080
	R4SB3.4	6	25	0.001	10	40	0.001
	PFOIE	N/A	125	0.003	N/A	190	0.004
G	R4SB3.4	4	55	0.001	27	155	0.004
	PFOIE	N/A	330	0.008	N/A	1,055	0.024
TOTAL	R4SB3.4	27	150	0.003	147	735	0.017
	PEMIE	N/A	340	0.008	N/A	745	0.017
	PFOIE	N/A	1,270	0.029	N/A	4,710	0.108
TOTAL (ALL)		27	1,810	0.042	147	6,190	0.142

NO DISTURBANCE
WETLAND BUFFER.
REFER TO STRATHAM ZONING
ORDINANCE SECTION XI:
WETLANDS CONSERVATION
DISTRICT FOR LIMITATIONS

- NOTES:
- SIGN TO BE BY NUTRON OSM OUTDOOR SIGNS & MARKERS OR EQUAL (WWW.NUTRONOSM.COM)
 - SIGN SPECIFICATIONS:
 - 0.63 X 5' X 7'
 - ENAMELED ALUMINUM
 - SCREEN PRINTED, OVEN CURED
 - 2 CENTER HOLES
 - 4 RADIUS CORNERS

WETLAND BOUNDARY MARKER DETAIL
N.T.S.

GRAPHIC SCALE

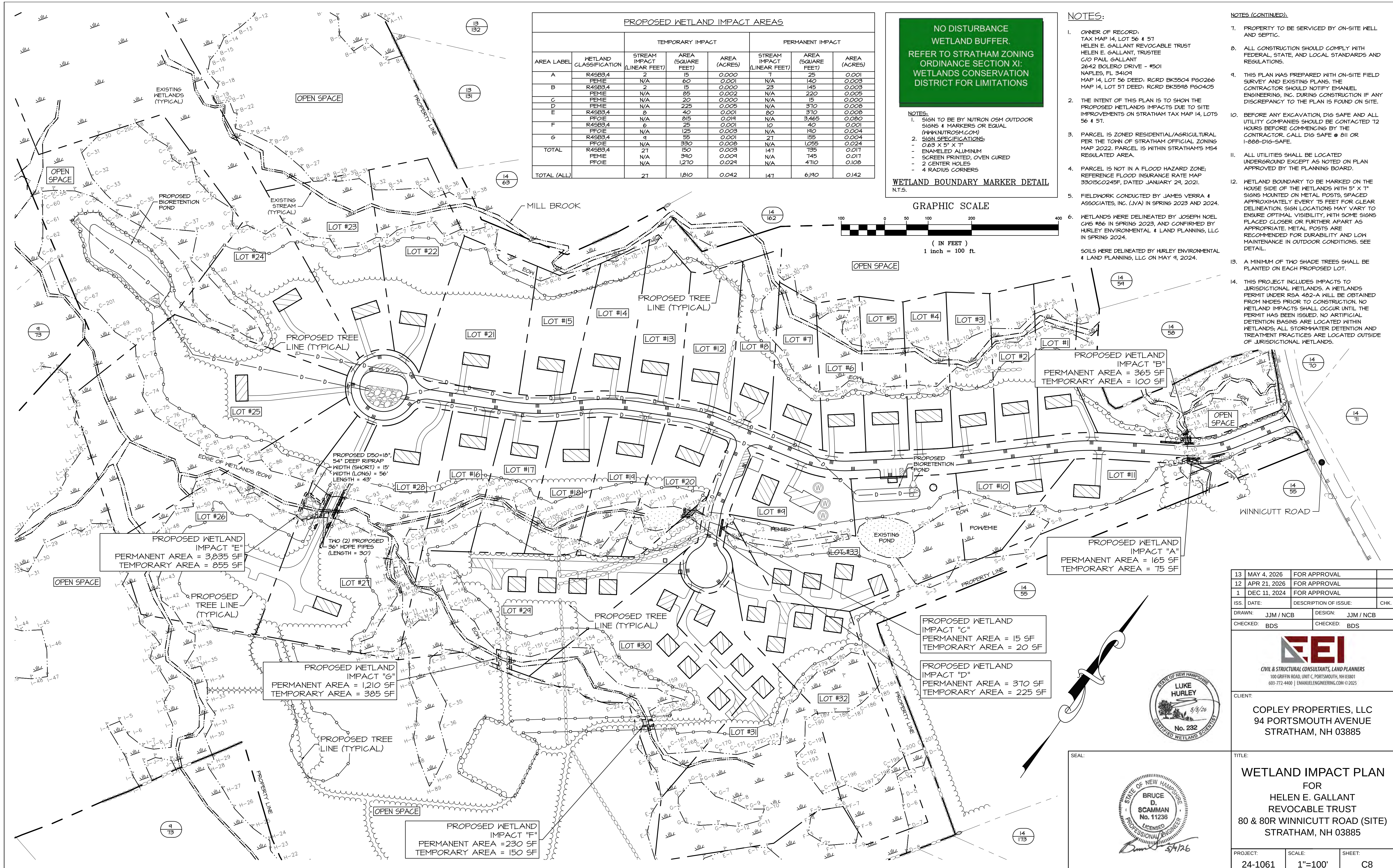
(IN FEET)
1 inch = 100 ft.

NOTES:

- OWNER OF RECORD:
TAX MAP 14, LOT 56 & 57
HELEN E. GALLANT REVOCABLE TRUST
C/O PAUL GALLANT
2642 BOLERO DRIVE - #501
NAFLES, FL 34109
MAP 14, LOT 56 DEED: RCRD BK5504 PG0266
MAP 14, LOT 57 DEED: RCRD BK5518 PG0405
 - THE INTENT OF THIS PLAN IS TO SHOW THE PROPOSED WETLANDS IMPACTS DUE TO SITE IMPROVEMENTS ON STRATHAM TAX MAP 14, LOTS 56 & 57.
 - PARCEL IS ZONED RESIDENTIAL/AGRICULTURAL PER THE TOWN OF STRATHAM OFFICIAL ZONING MAP 2022. PARCEL IS WITHIN STRATHAM'S M54 REGULATED AREA.
 - PARCEL IS NOT IN A FLOOD HAZARD ZONE; REFERENCE FLOOD INSURANCE RATE MAP 33015C0245F, DATED JANUARY 21, 2021.
 - FIELDWORK CONDUCTED BY JAMES VERRA & ASSOCIATES, INC. (JVA) IN SPRING 2023 AND 2024.
 - WETLANDS WERE DELINEATED BY JOSEPH NOEL GAG #86 IN SPRING 2023, AND CONFIRMED BY HURLEY ENVIRONMENTAL & LAND PLANNING, LLC IN SPRING 2024.
- SOILS WERE DELINEATED BY HURLEY ENVIRONMENTAL & LAND PLANNING, LLC ON MAY 9, 2024.

NOTES (CONTINUED):

- PROPERTY TO BE SERVICED BY ON-SITE WELL AND SEPTIC.
- ALL CONSTRUCTION SHOULD COMPLY WITH FEDERAL, STATE, AND LOCAL STANDARDS AND REGULATIONS.
- THIS PLAN WAS PREPARED WITH ON-SITE FIELD SURVEY AND EXISTING PLANS. THE CONTRACTOR SHOULD NOTIFY EMANUEL ENGINEERING, INC. DURING CONSTRUCTION IF ANY DISCREPANCY TO THE PLAN IS FOUND ON SITE.
- BEFORE ANY EXCAVATION, DIG SAFE AND ALL UTILITY COMPANIES SHOULD BE CONTACTED 72 HOURS BEFORE COMMENCING BY THE CONTRACTOR. CALL DIG SAFE @ 811 OR 1-888-DIG-SAFE.
- ALL UTILITIES SHALL BE LOCATED UNDERGROUND EXCEPT AS NOTED ON PLAN APPROVED BY THE PLANNING BOARD.
- WETLAND BOUNDARY TO BE MARKED ON THE HOUSE SIDE OF THE WETLANDS WITH 5' X 7' SIGNS MOUNTED ON METAL POSTS, SPACED APPROXIMATELY EVERY 75 FEET FOR CLEAR DELINEATION. SIGN LOCATIONS MAY VARY TO ENSURE OPTIMAL VISIBILITY, WITH SOME SIGNS PLACED CLOSER OR FURTHER APART AS APPROPRIATE. METAL POSTS ARE RECOMMENDED FOR DURABILITY AND LOW MAINTENANCE IN OUTDOOR CONDITIONS. SEE DETAIL.
- A MINIMUM OF TWO SHADE TREES SHALL BE PLANTED ON EACH PROPOSED LOT.
- THIS PROJECT INCLUDES IMPACTS TO JURISDICTIONAL WETLANDS. A WETLANDS PERMIT UNDER RSA 482-A WILL BE OBTAINED FROM NHDES PRIOR TO CONSTRUCTION. NO WETLAND IMPACTS SHALL OCCUR UNTIL THE PERMIT HAS BEEN ISSUED. NO ARTIFICIAL DETENTION BASINS ARE LOCATED WITHIN WETLANDS; ALL STORMWATER DETENTION AND TREATMENT PRACTICES ARE LOCATED OUTSIDE OF JURISDICTIONAL WETLANDS.



13	MAY 4, 2026	FOR APPROVAL	
12	APR 21, 2026	FOR APPROVAL	
1	DEC 11, 2024	FOR APPROVAL	
ISS. DATE:	DESCRIPTION OF ISSUE:		CHK.
DRAWN:	JJM / NCB	DESIGN:	JJM / NCB
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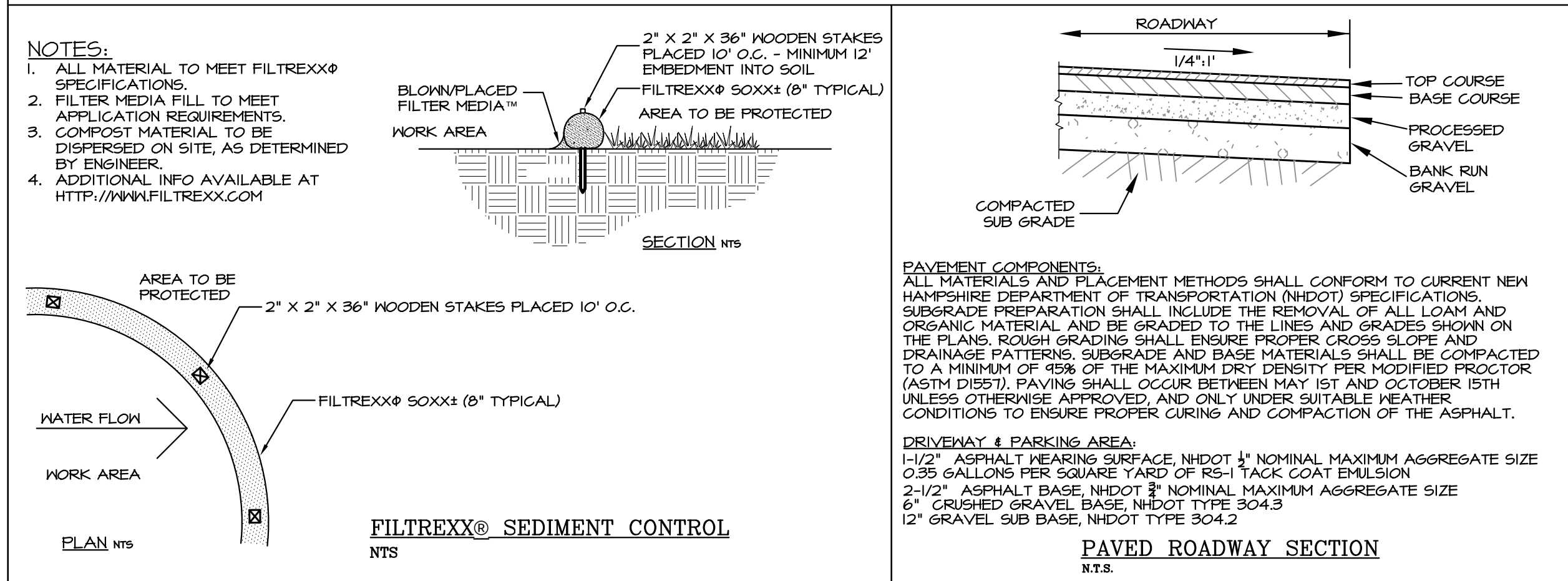
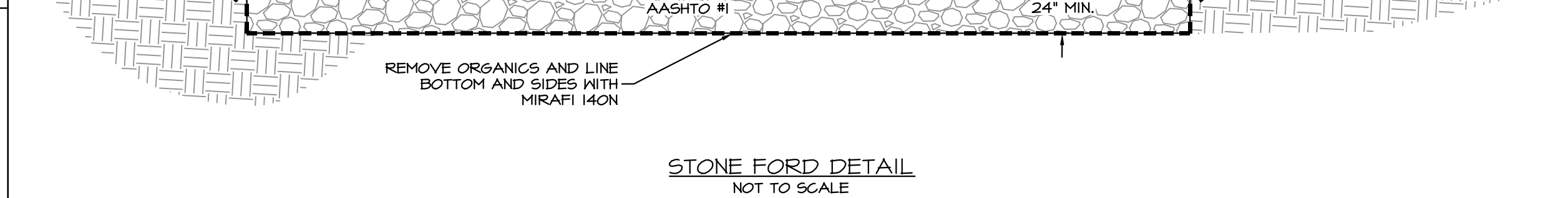
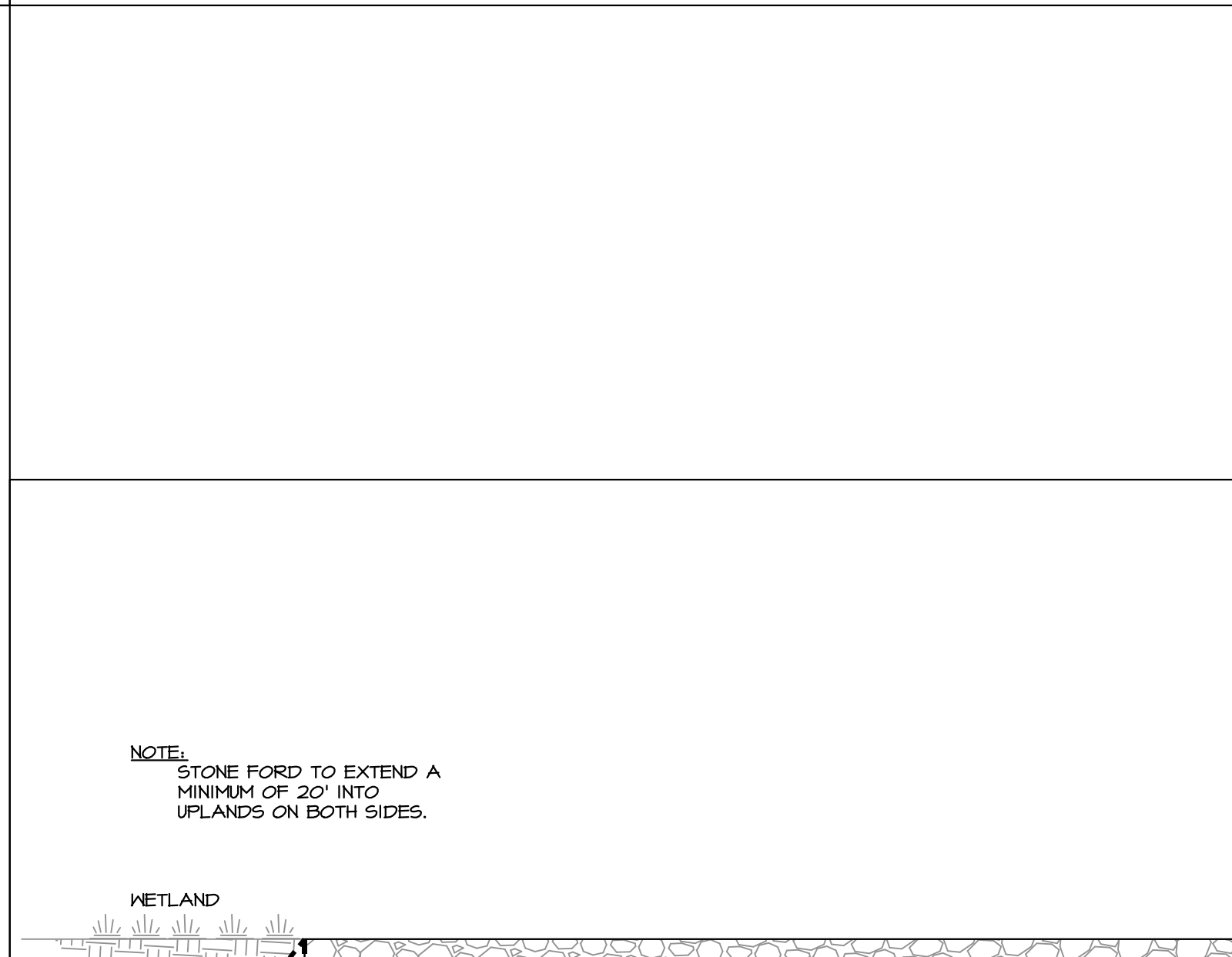
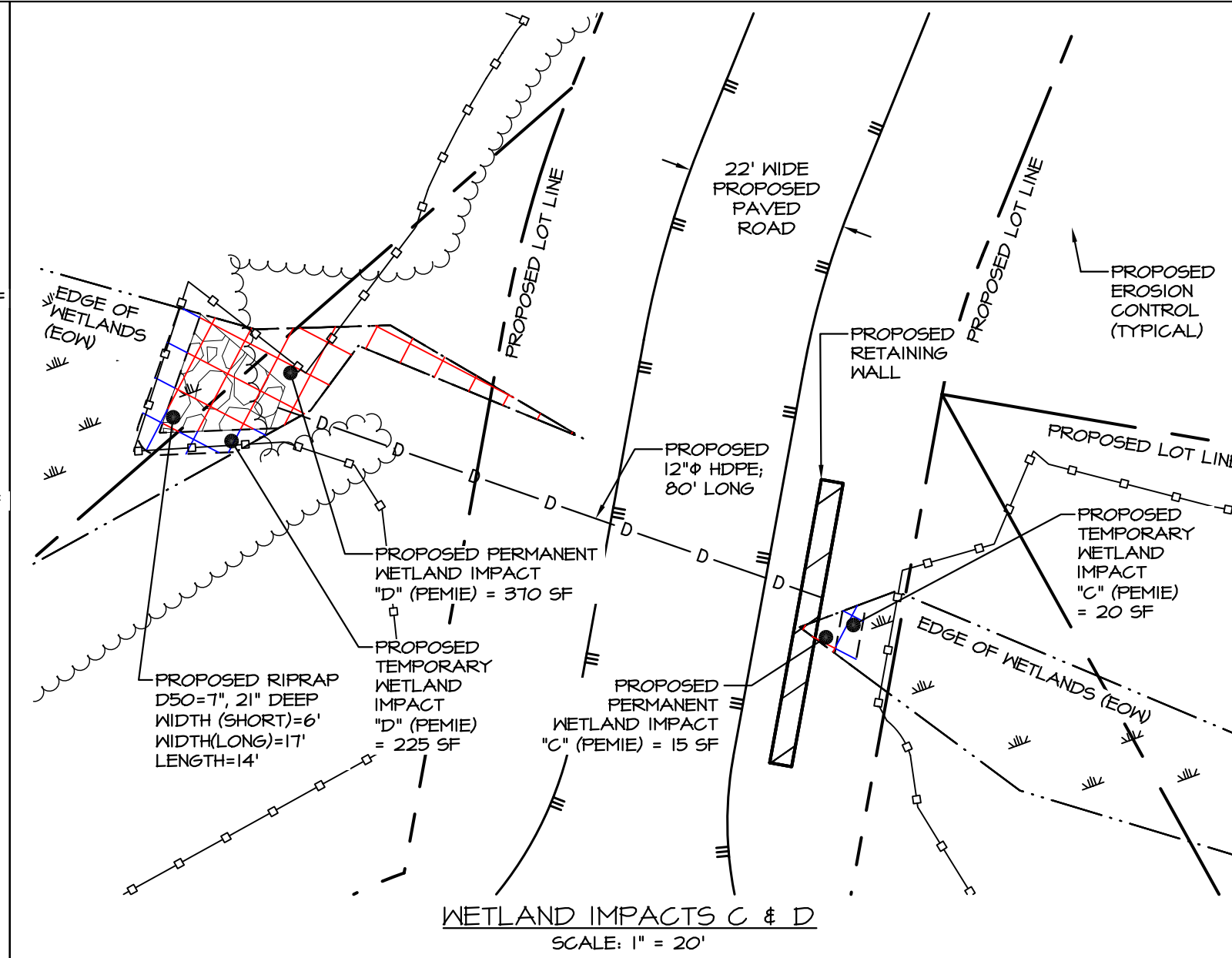
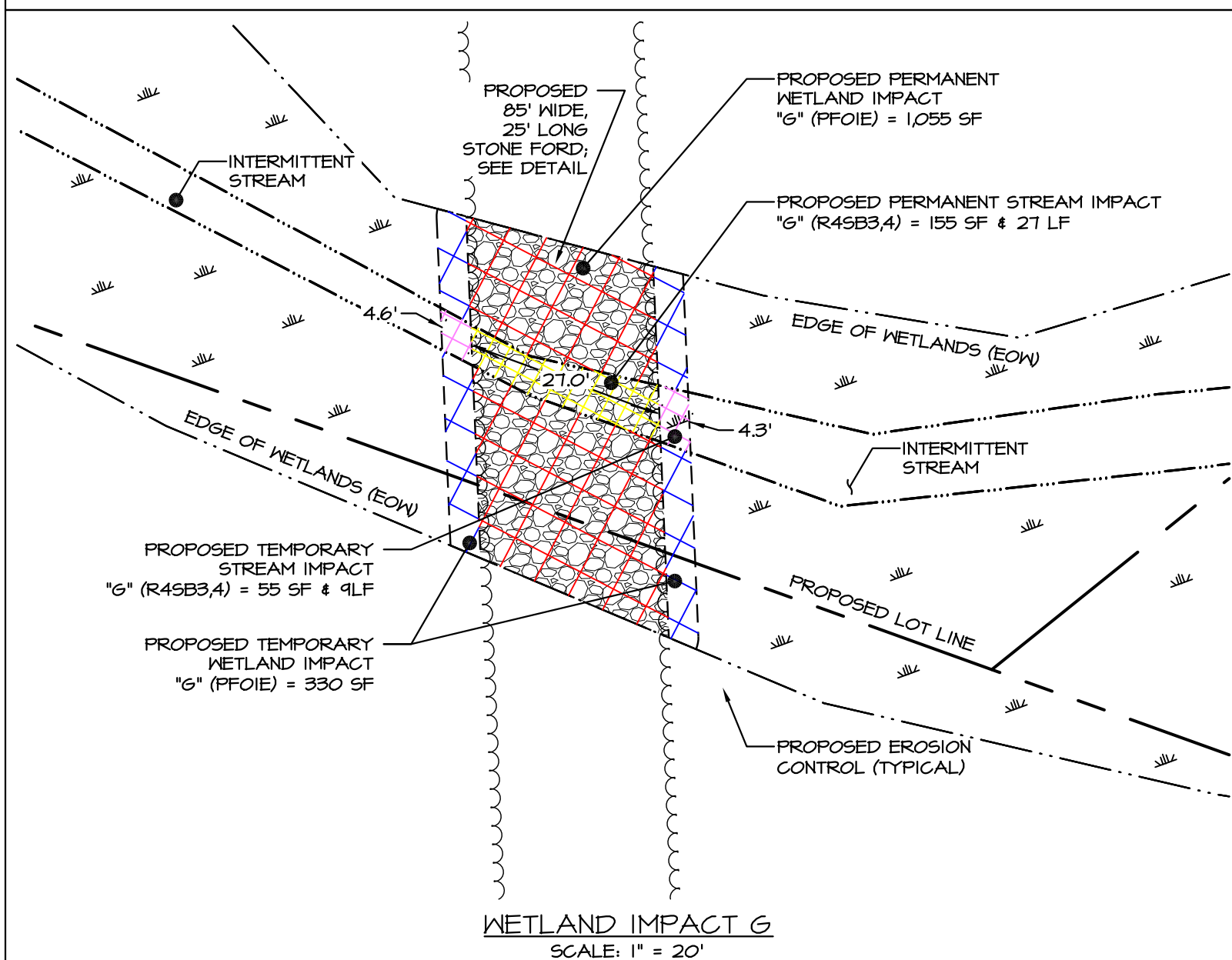
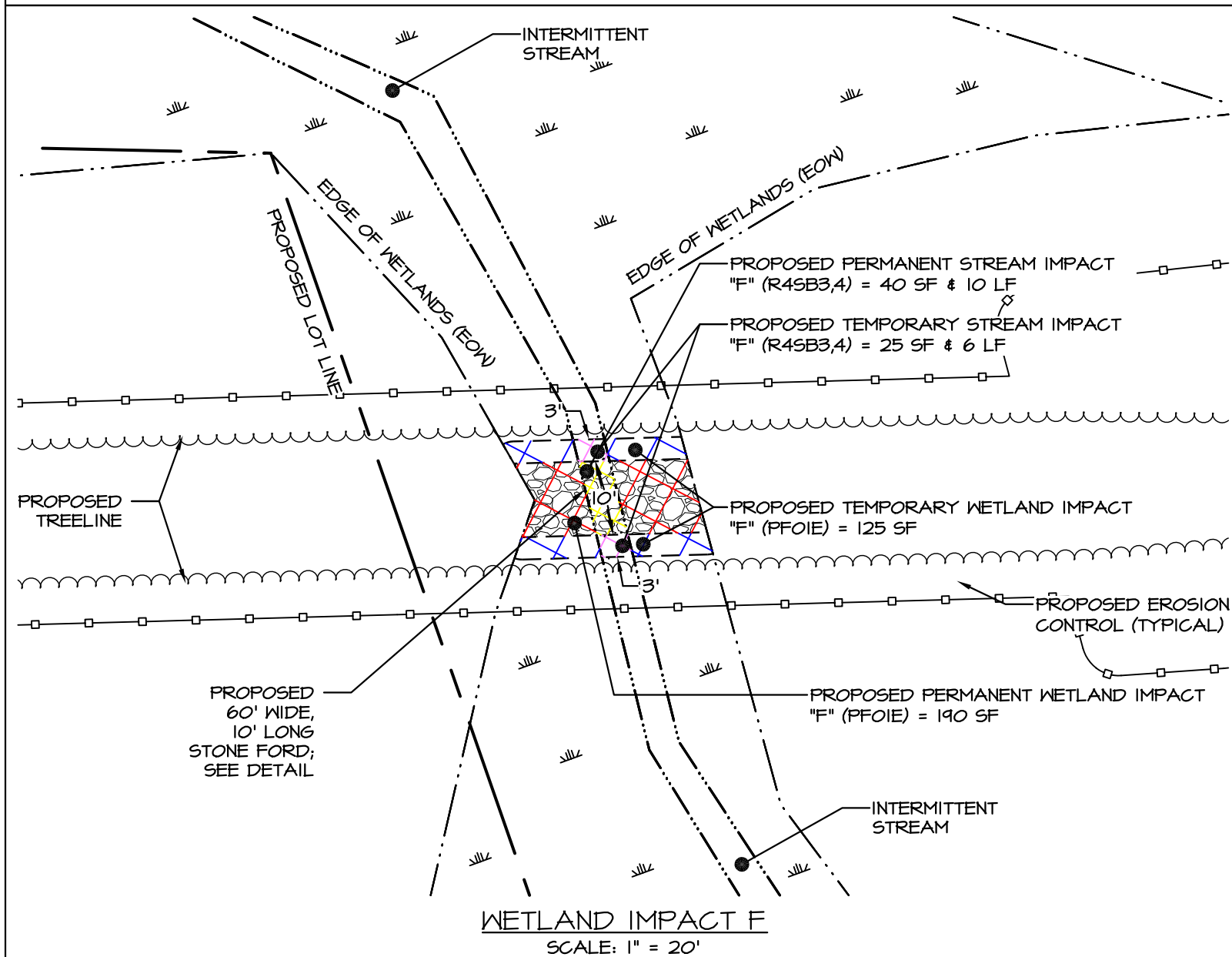
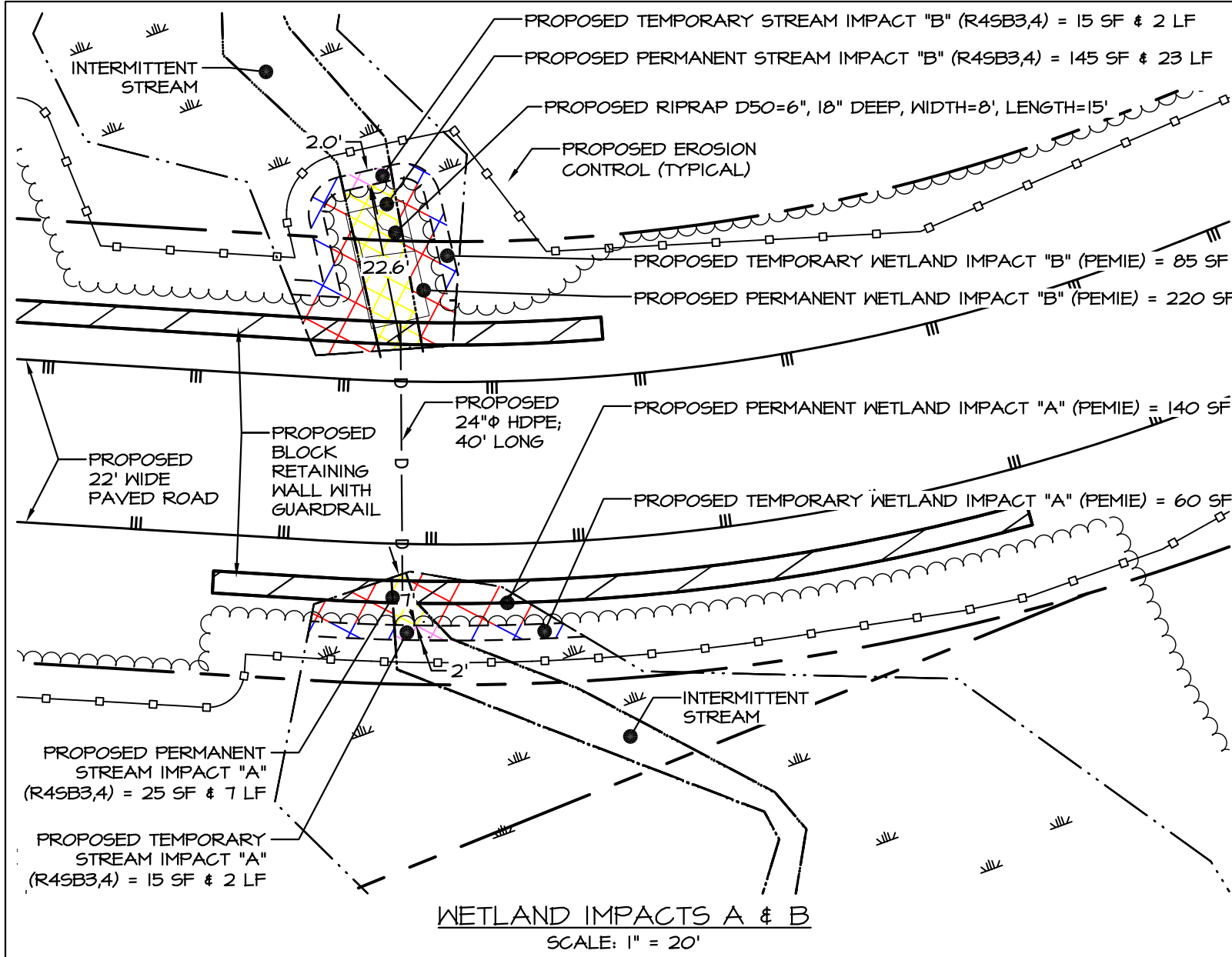


CIVIL & STRUCTURAL CONSULTANTS, LAND PLANNERS
100 GRIFFIN ROAD, UNIT C, PORTSMOUTH, NH 03801
603-772-4400 | EMANUELENGINEERING.COM © 2025

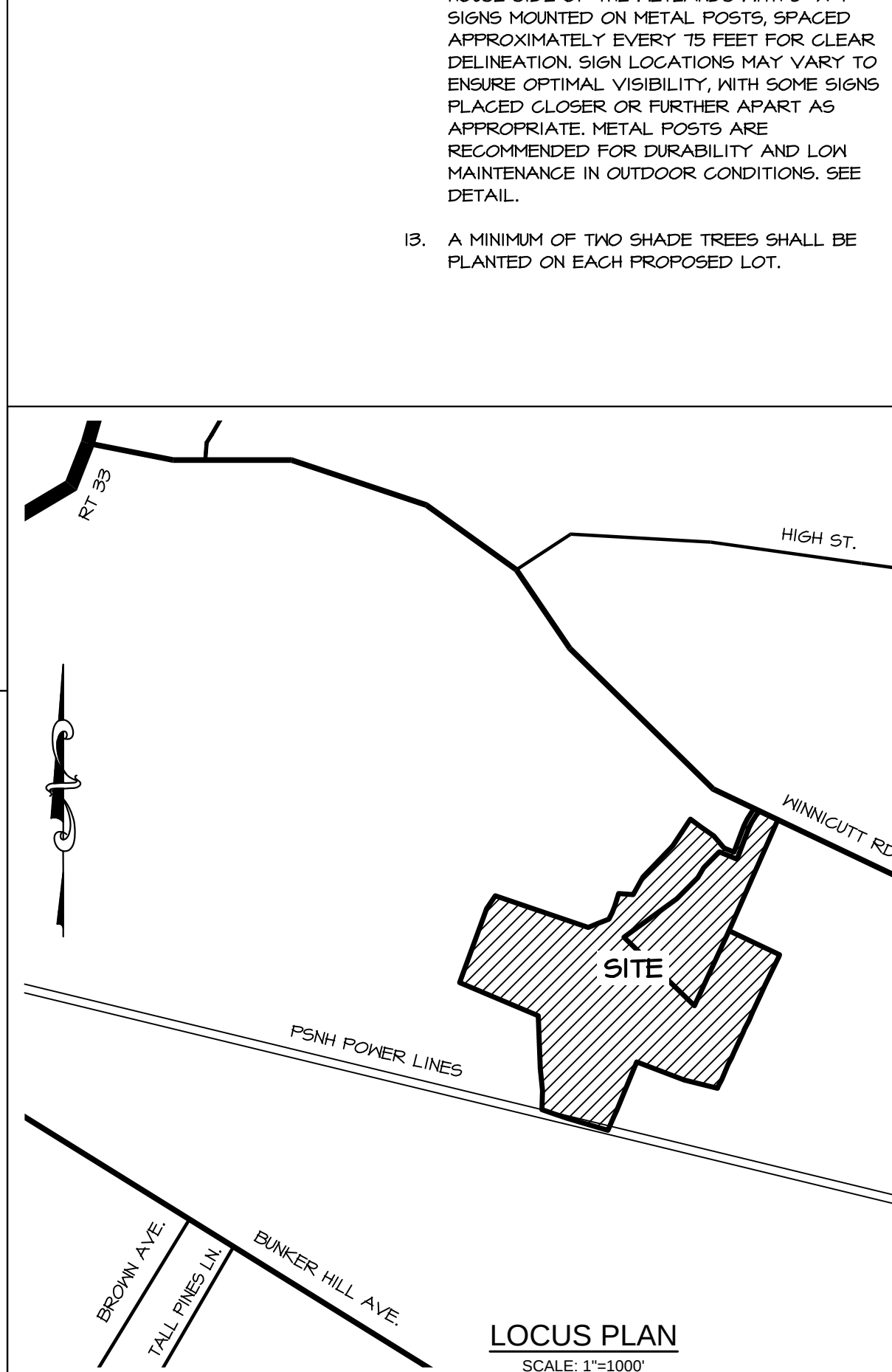
CLIENT:
COPLEY PROPERTIES, LLC
94 PORTSMOUTH AVENUE
STRATHAM, NH 03885

TITLE:
WETLAND IMPACT PLAN
FOR
HELEN E. GALLANT
REVOCABLE TRUST
80 & 80R WINNICUTT ROAD (SITE)
STRATHAM, NH 03885

PROJECT: 24-1061
SCALE: 1"=100'
SHEET: C8



- NOTES:
- OWNER OF RECORD: TAX MAP 14, LOT 56 & 57 HELEN E. GALLANT REVOCABLE TRUST C/O PAUL GALLANT 2642 BOLERO DRIVE - #501 NAPLES, FL 34109 MAP 14, LOT 56 DEED: RCRD BK5504 PGS266 MAP 14, LOT 57 DEED: RCRD BK5548 PGS405
 - THE INTENT OF THIS PLAN IS TO SHOW THE PROPOSED WETLANDS IMPACTS DUE TO SITE IMPROVEMENTS ON STRATHAM TAX MAP 14, LOTS 56 & 57.
 - PARCEL IS ZONED RESIDENTIAL/AGRICULTURAL PER THE TOWN OF STRATHAM OFFICIAL ZONING MAP 2022. PARCEL IS WITHIN STRATHAM'S M54 REGULATED AREA.
 - PARCEL IS NOT IN A FLOOD HAZARD ZONE; REFERENCE FLOOD INSURANCE RATE MAP 33015C0245F, DATED JANUARY 21, 2021.
 - FIELDWORK CONDUCTED BY JAMES VERRA & ASSOCIATES, INC. (JVA) IN SPRING 2023 AND 2024.
 - WETLANDS WERE DELINEATED BY JOSEPH NOEL GNS #86 IN SPRING 2023, AND CONFIRMED BY HURLEY ENVIRONMENTAL & LAND PLANNING, LLC IN SPRING 2024.
 - SOILS WERE DELINEATED BY HURLEY ENVIRONMENTAL & LAND PLANNING, LLC ON MAY 1, 2024.
 - PROPERTY TO BE SERVICED BY ON-SITE WELL AND SEPTIC.
 - ALL CONSTRUCTION SHOULD COMPLY WITH FEDERAL, STATE, AND LOCAL STANDARDS AND REGULATIONS.
 - THIS PLAN WAS PREPARED WITH ON-SITE FIELD SURVEY AND EXISTING PLANS. THE CONTRACTOR SHOULD NOTIFY EMANUEL ENGINEERING, INC. DURING CONSTRUCTION IF ANY DISCREPANCY TO THE PLAN IS FOUND ON SITE.
 - BEFORE ANY EXCAVATION, DIG SAFE AND ALL UTILITY COMPANIES SHOULD BE CONTACTED 72 HOURS BEFORE COMMENCING BY THE CONTRACTOR. CALL DIG SAFE @ 811 OR 1-800-DIG-SAFE.
 - ALL UTILITIES SHALL BE LOCATED UNDERGROUND EXCEPT AS NOTED ON PLAN APPROVED BY THE PLANNING BOARD.
 - WETLAND BOUNDARY TO BE MARKED ON THE HOUSE SIDE OF THE WETLANDS WITH 5' X 1" SIGNS MOUNTED ON METAL POSTS, SPACED APPROXIMATELY EVERY 75 FEET FOR CLEAR DELINEATION. SIGN LOCATIONS MAY VARY TO ENSURE OPTIMAL VISIBILITY, WITH SOME SIGNS PLACED CLOSER OR FURTHER APART AS APPROPRIATE. METAL POSTS ARE RECOMMENDED FOR DURABILITY AND LOW MAINTENANCE IN OUTDOOR CONDITIONS. SEE DETAIL.
 - A MINIMUM OF TWO SHADE TREES SHALL BE PLANTED ON EACH PROPOSED LOT.



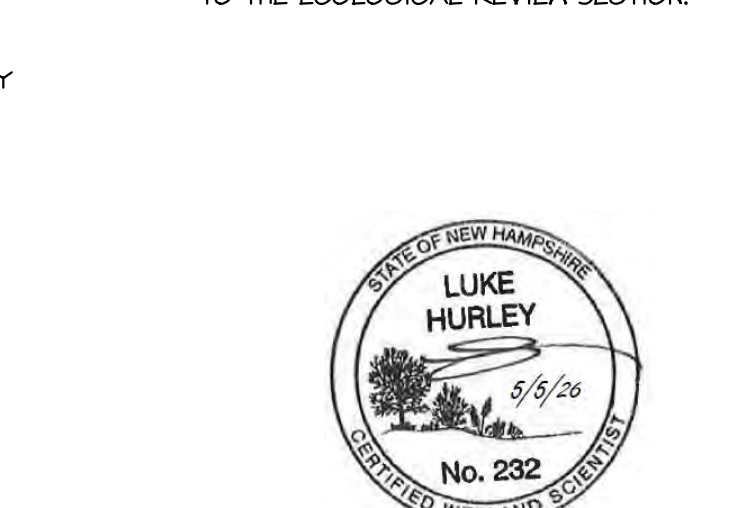
NOTES (CONTINUED):

- THIS PROJECT INCLUDES IMPACTS TO JURISDICTIONAL WETLANDS. A WETLANDS PERMIT UNDER RSA 482-A WILL BE OBTAINED FROM NHDES PRIOR TO CONSTRUCTION. NO WETLAND IMPACTS SHALL OCCUR UNTIL THE PERMIT HAS BEEN ISSUED. NO ARTIFICIAL DETENTION BASINS ARE LOCATED WITHIN WETLANDS; ALL STORMWATER DETENTION AND TREATMENT PRACTICES ARE LOCATED OUTSIDE OF JURISDICTIONAL WETLANDS.

ECOLOGICAL REVIEW RECOMMENDED CONSERVATION MEASURES:

THE FOLLOWING CONSERVATION MEASURES ARE RECOMMENDED BY THE ECOLOGICAL REVIEW SECTION TO COMPLY WITH RSA 211-A AND ARE NOT REQUIRED FOR NHDES PERMITTING. GREATER FRINGED-GENTIAN (GENTIANOPSIS CRINITA) MAY OCCUR ON SITE HOWEVER IT IS NOT EXPECTED TO OCCUR IN ANY WETLANDS PROPOSED TO BE IMPACTED AND CONSERVATION MEASURES FOR PLANTS ARE NOT REQUIRED FOR ALTERATION OF TERRAIN PERMITTING.

- GREATER FRINGED-GENTIAN MAY BE PRESENT IN ANY OPEN FIELD AREAS THAT ARE MOIST/SEEPY, ALONG THE EDGE OF ANY WETLANDS IN THE FIELD, AND ALONG SLOPES AND DITCHES IN THE FIELD. IF THE FIELD IS ROUTINELY MOVED LATE IN THE SUMMER INTO EARLY FALL (APPROXIMATELY BETWEEN AUGUST AND OCTOBER) HOWEVER, THIS PLANT IS UNLIKELY TO OCCUR ON SITE BECAUSE IT WOULD BE UNABLE TO FLOWER AND SPREAD SEED.
A. IF SUITABLE HABITAT FOR GREATER FRINGED-GENTIAN IS PROPOSED TO BE IMPACTED AND IS NOT REGULARLY MOVED BETWEEN AUGUST AND OCTOBER, SURVEYS ARE RECOMMENDED. SURVEYS SHOULD OCCUR BETWEEN EARLY SEPTEMBER AND MID-OCTOBER AND IF OBSERVED A RARE PLANT REPORTING FORM SHOULD BE COMPLETED AND SENT TO THE ECOLOGICAL REVIEW SECTION.



SEAL:		
1	MAY 4, 2026	FOR APPROVAL
ISS. DATE:	DESCRIPTION OF ISSUE:	CHK.
DRAWN:	JJM / NCB	DESIGN: JJM / NCB
CHECKED:	BDS	CHECKED: BDS
CLIENT:		
COPLEY PROPERTIES, LLC 94 PORTSMOUTH AVENUE STRATHAM, NH 03885		
TITLE:		
WETLAND IMPACT PLAN FOR HELEN E. GALLANT REVOCABLE TRUST 80 & 80R WINNICUTT ROAD (SITE) STRATHAM, NH 03885		
PROJECT:	SCALE:	SHEET:
24-1061	AS NOTED	C8.1