The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner

September 3, 2021

Eversource Energy
Attn: Kurt Nelson
13 Legends Drive
Hooksett, New Hampshire 03106

RE: A111 Electric Transmission Line Rebuild **Permit: AoT-2006**
Franklin, Hill, and New Hampton, NH

Dear Applicant:

Based upon the plans and application, approved on September 3, 2021, we are hereby issuing RSA 485-A:17 Alteration of Terrain Permit AoT-2006. As part of the processing of this application, DES granted approval to waiving specific requirements of Env-Wq 1504.09, finding that the development of a stormwater drainage report, and associated drainage area plans and hydrologic soil group plans was not warranted given the scope of the project, its linear nature, and the relatively minor area of impervious surfaces constructed. It was further determined that granting the waivers would not have an adverse impact on the environment, public health, public safety, or abutting properties, and that granting the requests is consistent with the intent and purpose of the rules waived. Additional documentation relative to the waivers requested is contained within the file. This permit is subject to the following conditions:

PROJECT SPECIFIC CONDITIONS:

1. Plans by Vanasse Hangen Brustlin, Inc. entitled "A111 Structure Replacements", dated August 31, 2021, and supporting documentation in the permit file are a part of this approval.

2. **This permit expires on September 3, 2026.** No earth moving activities shall occur on the project after this expiration date unless the permit has been extended by the Department. If an extension is required, the request must be received by the department before the permit expires. The Amendment Request form is available at: https://www.des.nh.gov/land/land-development

3. The Permittee shall comply with all recommendations by the New Hampshire Fish and Game Department related to state or federally listed threatened or endangered species, as incorporated into the project plans as *New Hampshire Fish and Game AoT Permit Conditions Related to Threatened and Endangered Species* on Page C1.4.

GENERAL CONDITIONS:

1. Activities shall not cause or contribute to any violations of the surface water quality standards established in Administrative Rule Env-Wq 1700.

2. You must submit revised plans for permit amendment prior to any changes in construction details or sequences. You must notify the Department in writing within ten days of a change in ownership.

3. You must notify the Department in writing prior to the start of construction and upon completion of construction. Forms can be submitted electronically at: https://www.des.nh.gov/land/land-development . Paper forms are available at the referenced web address.

4. This permit does not relieve the applicant from the obligation to obtain other local, state or federal permits that may be required (e.g., from US EPA, US Army Corps of Engineers, etc.). Projects disturbing over 1 acre

may require a federal stormwater permit from EPA. Information regarding this permitting process can be obtained at: https://www.epa.gov/npdes/epas-2017-construction-general-permit-cgp-and-related-documents.

5. **Upon completion of construction, a written notice signed by the permit holder and a qualified engineer shall be submitted to the Department, in accordance with Env-Wq 1503.21(c)(1), stating that the project was completed in accordance with the approved plans and specifications**. If deviations were made, the permit holder shall review the requirements in Env-Wq 1503.21(c)(2).

6. No activity shall occur in wetland areas until the applicable permit is obtained from the Department. Issuance of this permit does not obligate the Department to approve a Wetlands Permit for this project

7. This project has been screened for potential impact to known occurrences of protected species and exemplary natural communities in the immediate area. Since many areas have never been surveyed, or only cursory surveys have been performed, unidentified sensitive species or communities may be present. This permit does not absolve the permittee from due diligence in regard to state, local or federal laws regarding such communities or species. This permit does not authorize in any way the take of threatened or endangered species, as defined by RSA 212-A:2, or of any protected species or exemplary natural communities, as defined in RSA 217-A:3

Sincerely,

Ridgely Mauck, P.E.
Alteration of Terrain Bureau

cc: Franklin Planning Board
Hill Planning Board
New Hampton Planning Board

ec: Vanasse Hangen Brustlin, Inc.
NH Fish & Game Department

Mark Verostick

From: Sherrie Trefry
Sent: Wednesday, September 1, 2021 12:37 PM
To: Mauck, Ridgely
Cc: Kurt I. Nelson; Doperalski, Melissa; Mark Verostick
Subject: RE: [External] RE: NHFG TEWHA Review: NHB20-2570, NHB20-2571 and NHB20-2573, A111 Rebuild Project, AoT 210601-080

Hi Ridge,
We have modified the specifications in the linked plan set to incorporate your comments below. Please let me know if you need anything else. Thanks, Sherrie

A111 Main Plans, AOT Plan Set.pdf

Sherrie Trefry
Energy Market Lead

P 603.391.3951
www.vhb.com

From: Mauck, Ridgely <Addison.R.Mauck@des.nh.gov>
Sent: Wednesday, September 1, 2021 9:46 AM
To: Sherrie Trefry <STrefry@VHB.com>
Cc: Kurt I. Nelson <kurt.nelson@eversource.com>; Doperalski, Melissa <Melissa.J.Doperalski@wildlife.nh.gov>
Subject: [External] RE: NHFG TEWHA Review: NHB20-2570, NHB20-2571 and NHB20-2573, A111 Rebuild Project, AoT 210601-080

Hi Sherrie,
A couple of last comments:

1. On plan sheet C2.0, note #1 for the *Siltsock – Erosion Control Barrier* detail needs to reference the SiltSoxx Natural Original or Natural Plus+. In addition, note #5 should be removed.
2. On plan sheet C2.3, product material limitations need to be specified for the erosion control blanket, or as a minimum repeat bullet #3 of NHFG AoT permit conditions shown on plan sheet C1.4

-Ridge

From: Sherrie Trefry <STrefry@VHB.com>
Sent: Tuesday, August 31, 2021 4:17 PM
To: Mauck, Ridgely <addison.r.mauck@des.nh.gov>
Cc: Kurt I. Nelson <kurt.nelson@eversource.com>; Doperalski, Melissa <Melissa.J.Doperalski@wildlife.nh.gov>; nhfgreview@widlife.nh.gov
Subject: NHFG TEWHA Review: NHB20-2570, NHB20-2571 and NHB20-2573, A111 Rebuild Project, AoT 210601-080

Good afternoon,
Please see the link below to the revised AOT permitting plan set that VHB prepared on behalf of PSNH in response to NHFG review and request. In addition to the permit conditions and species identification information added to the plan set, VHB has revised the plan set to include a number of access/work pad adjustments. These changes were made to

minimize wetland impacts in response to comments from the NHDES Wetlands Bureau during their review process and minimize land disturbance by securing alternative off-ROW access as PSNH has been continuing to work with landowners. If you require a breakdown of the changes, please let me know and we can compile a table for you.

A111 Main Plans, AOT Plan Set.pdf

Sincerely,

Sherrie Trefry
Energy Market Lead

2 Bedford Farms Drive
Suite 200
Bedford, NH 03110-6532
P 603.391.3951 **| M** 603.440.4193 **| F** 603.518.7495
strefry@vhb.com

Engineers | Scientists | Planners | Designers
www.vhb.com

From:	Nelson, Kurt I
To:	Doperalski, Melissa
Cc:	Mauck, Ridgely; FGC: NHFG review; Sherrie Trefry
Subject:	[External] RE: NHFG TEWHA Review: NHB20-2570, NHB20-2571 and NHB20-2573, A111 Rebuild Project, AoT 210601-080
Date:	Tuesday, August 31, 2021 7:53:57 AM

Thank you, for your review Melissa. We will forward you and Ridge the updated plan set shortly.

KURT I. NELSON
SR. LAND USE LICENSING & PERMITTING SPECIALIST

EVERSOURCE ENERGY

13 LEGENDS DRIVE
HOOKSETT, NH 03106
(603) 714-3031 (CELL) (603) 634-3256 (OFFICE)
KURT.NELSON@EVERSOURCE.COM

From: Doperalski, Melissa <Melissa.J.Doperalski@wildlife.nh.gov>
Sent: Tuesday, August 31, 2021 7:20 AM
To: Nelson, Kurt I <kurt.nelson@eversource.com>
Cc: Mauck, Ridgely <Addison.R.Mauck@des.nh.gov>; FGC: NHFG review <NHFGreview@wildlife.nh.gov>
Subject: NHFG TEWHA Review: NHB20-2570, NHB20-2571 and NHB20-2573, A111 Rebuild Project, AoT 210601-080

Kurt,
The New Hampshire Fish and Game has completed our review of the threatened and endangered wildlife and habitat assessment (TEWHA) report dated May 25, 2021 completed by Christopher Wagner of VHB for the proposed A111 rebuild of the existing A111 electric transmission line that begins in Franking and ends in New Hampton, NH. The Project will replace the existing structures and conductors and will install fiber optic cable, known as Optical Ground Wire (OPGW), along the length of the line, which runs approximately 10.6 miles from the Webster Substation in Franklin to the Pemigewasset Substation in New Hampton. The Project will be constructed entirely within the previously disturbed area of the existing transmission right-of-way (ROW).

The project includes 2.0 acres of temporary wetland disturbance and minor tree clearing in Franklin.

The TEWHA included the following conservation measures (**NHFG comments in bold)**:

- The Project has limited its wetland impacts to those that are unavoidable due to the placement of construction matting for the structure and line replacements.

Wherever possible, the Project is also avoiding all areas around identified vernal pools by establishing 50-foot buffers around them. Some temporary disturbance to vernal pools cannot be avoided in some locations because the Project needs to construct a crossing across the pool or the pool is adjacent to a structure that will be replaced. In these cases, every effort will be made to perform the work outside of the spring breeding season for obligate vernal pool species. **Attempts should be made to rectify impacts made to vernal pools as a result of project activities; e.g. removing ruts, minimizing vegetation and soil disturbance. NHFG recommends that for future maintenance work that low-growing vegetation be allowed to remain adjacent to and connecting vernal pool complexes and wooded landscapes to maintain viability of these features.**

- Areas disturbed during construction will be reseeded and stabilized.
- Erosion controls will be employed around all wetland areas adjacent to proposed work areas.
- Wildlife-friendly erosion controls, such as those made from woven organic materials or other biodegradable materials, rather than those that use welded plastic netting or polypropylene;
- If appropriate in sensitive areas, exclusion fencing or other physical barrier around the limit of work to prevent migration of animals into the active work zone;
- If any nesting activity is observed, identification and appropriate markings/signage around the areas to indicate to work crews that the areas should be avoided; and
- Photos and descriptions on the construction plans of any target species to raise awareness for construction crews and staff, and contact information for NHFG to enable immediate reporting of any observed threatened or endangered species.

NHFG agrees that brook floater (state-endangered), American eel (species of special concern) and common loon (state-threatened) are not likely to be impacted by proposed project activities. NHFG has not identified sensitive areas for exclosure.

Wood turtles (species of special concern and petitioned federally-listed species) may occur within the project area in areas near tributary crossings and near the river corridor (within 1000 feet). See brochure for management considerations for more information on wood turtle management and considerations at: http://www.northeastturtles.org/uploads/3/0/4/3/30433006/glin_brochure_9618.pdf. NHFG provides recommendations for this species below.

Based on the NHB datacheck results letter and the information provided in the assessment and associated plans. We request the following recommended permit conditions be incorporated into the sheet plans as written (updated highlighted text) and provide to NHDES and cc NHFG for final review.

New Hampshire Fish and Game AoT Permit Conditions Related to Threatened and Endangered Species:

- Wood turtles, a state species of special concern, are known within the project area. This species may utilize utility corridors as well as forested areas when near (within 1000 feet) tributaries and rivers. All site operators shall be made aware of their potential presence and be provided a flyer that includes identification and NHFG contact information. Turtles found within the active project area should be relocated immediately to the closest safe location in

the direction the turtle was moving – NHFG shall be contacted immediately if this occurs. Although unlikely in this habitat, if a turtle is observed nesting or suspected of nesting, the area shall be marked to avoid impacts, photos shall be taken and provided immediately to NHFG: Melissa Doperalski 603-479-1129 or Josh Megyesy at 978-578-0802. See plan sheets XXXX for species identification information.

- All site operators shall be provided with flyers that includes NHFG contact information and wood turtle species identification.
- All manufactured erosion and sediment control products, except for silt fence installed in accordance with Env-Wq 1506.04, utilized for, but not limited to, slope protection, runoff diversion, slope interruption, perimeter control, inlet protection, check dams, and sediment traps shall not contain welded plastic, plastic, or multi-filament or monofilament polypropylene netting or mesh. See Plan sheet(s) xxxx for specs.
- All observations of threatened or endangered species shall be reported immediately to the New Hampshire Fish and Game Department Nongame and Endangered Wildlife Environmental Review Program by phone at 603-271-2461 and by email at NHFGreview@wildlife.nh.gov. Email subject line: NHBXX-XXXX, PROJECT NAME, Wildlife Species Observation. Photographs shall be provided for verification as feasible.
- The New Hampshire Fish and Game Department shall have access to the project area during the term of the permit.

NHFG has completed its project review consistent with the requirements of RSA 212-A and Env-Wq 1503.19(h). No further coordination with NHFG is requested if the above recommended permit conditions are incorporated into the project plan set/project design, and there are no additional plan/design modifications.

Please let me know if you have any questions.

Thank you for your patience in our review,
Melissa

Melissa Doperalski

Certified Wildlife Biologist®
Nongame and Endangered Wildlife Program
New Hampshire Fish and Game Department
11 Hazen Drive
Concord, New Hampshire 03301
Melissa.doperalski@wildlife.nh.gov
Phone: 603-271-1738

http://www.wildlife.state.nh.us/nongame/index.html

Check out reptiles and amphibians of NH!
http://www.wildlife.state.nh.us/nongame/reptiles-amphibians.html

Report your sightings of reptiles and amphibians in 3 ways:
1) Email details of observation or completed form to RAARP@wildlife.nh.gov
2) Enter your observation online at http://nhwildlifesightings.unh.edu.
3) Mail your reporting slip http://www.wildlife.state.nh.us/nongame/documents/raarp-report-form.pdf

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A111 Electric Transmission Line Rebuild

Franklin, Hill and New Hampton, New Hampshire

PREPARED FOR

Public Service Company of NH (PSNH)
d/b/a Eversource Energy
c/o Kurt Nelson
13 Legends Drive
Hooksett, NH 03106
603.634.3256

PREPARED BY

2 Bedford Farms Drive
Suite 200
Bedford, NH 03110
603.391.3900

May 26, 2021

Table of Contents

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Cover Letter

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www.vhb.com

May 26, 2021

Ref: 52743.00

Mr. Ridgely Mauck
NHDES - Alteration of Terrain Bureau
29 Hazen Drive
Concord, NH 03302-0095

Re: A111 Electric Transmission Line Rebuild
Franklin, Hill and New Hampton, NH

Dear Mr. Mauck,

On behalf of Public Service Company of New Hampshire dba Eversource Energy (PSNH), Vanasse Hangen Brustlin, Inc. respectfully submits for your consideration, the attached Alteration of Terrain Application for the proposed rebuild of the existing A111 electric transmission line. The A111 line, built in 1951, is a 115kV line that is 10.6 miles long and starts at the Webster Substation in Franklin and passes through Hill and into the Pemigewasset Substation in New Hampton.

This line needs to be replaced due to the age and condition of the approximately 115 structures resulting from woodpecker damage, insect damage, and pole rot. The project involves the replacement of existing wood utility poles with new weathered steel structures, ceramic conductors with glass conductors, and copper static wire with optical grounding wire (OPGW) in accordance with current construction methods and materials. The proposed OPGW installation on this line improves communication along the electric grid.

The total land disturbance for the project was calculated to be approximately 50.3 acres. This was conservatively calculated based on the total length of access roads (not including contingency access) times a typical 16-foot width and the total area for pole construction work pads. Although some access roads may be adequate for construction vehicles, the total length was included in the event that additional gravel or stone material is needed to stabilize the surface.

In association with this application, the following documents are enclosed

- Unbound signed application form, application fee and color USGS maps.
- Alteration of Terrain Application Package.

Engineers | Scientists | Planners | Designers

2 Bedford Farms Drive
Suite 200
Bedford, New Hampshire 03110
P 603.391.3900
F 603.518.7495

Please feel free to contact me if there are any questions or comments regarding this project or the enclosed materials.

Sincerely,

Vanasse Hangen Brustlin, Inc.

Mark Verostick

Senior Project Engineer

cc: Kurt Nelson – PSNH
Sherrie Trefry - VHB

Application Form & Checklist

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ALTERATION OF TERRAIN PERMIT APPLICATION

Water Division/ Alteration of Terrain Bureau/ Land Resources Management
Check the Status of your Application: www.des.nh.gov/onestop

RSA/ Rule: RSA 485-A:17, Env-Wq 1500

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

1. APPLICANT INFORMATION (INTENDED PERMIT HOLDER)			
Applicant Name: Public Service Company of New Hampshire dba Eversource Energy (PSNH)		Contact Name: Kurt Nelson	
Email: kurt.nelson@eversource.com		Daytime Telephone: (603) 634-3256	
Mailing Address: 13 Legends Drive			
Town/City: Hooksett		State: NH	Zip Code: 03106
2. APPLICANT'S AGENT INFORMATION If none, check here: ☐			
Business Name: Vanasse Hangen Brustlin, Inc. (VHB)		Contact Name: Mark Verostick	
Email: mverostick@vhb.com		Daytime Telephone: (603) 391-3966	
Address: 2 Bedford Farms Drive; Suite 200			
Town/City: Bedford		State: NH	Zip Code: 03110
3. PROPERTY OWNER INFORMATION (IF DIFFERENT FROM APPLICANT)			
Applicant Name: Same		Contact Name:	
Email:		Daytime Telephone:	
Mailing Address:			
Town/City:		State:	Zip Code:
4. PROPERTY OWNER'S AGENT INFORMATION If none, check here: ☐			
Business Name: Same as Applicant's agent		Contact Name:	
Email:		Daytime Telephone:	
Address:			
Town/City:		State:	Zip Code:
5. CONSULTANT INFORMATION If none, check here: ☐			
Engineering Firm: Vanasse Hangen Brustlin, Inc. (VHB)		Contact Name: Mark Verostick	
Email: mverostick@vhb.com		Daytime Telephone: (603) 391-3966	
Address: 2 Bedford Farms Drive; Suite 200			
Town/City: Bedford		State: NH	Zip Code: 03110

6. PROJECT TYPE

☐ Excavation Only ☐ Residential ☐ Commercial ☐ Golf Course ☐ School ☐ Municipal
☐ Agricultural ☐ Land Conversion ☒ Other: Utility Replacement

7. PROJECT LOCATION INFORMATION

Project Name: A111 Electric Transmission Line Rebuild

Street/Road Address: Existing Electric Transmission Right-of-Way (ROW)

Town/City: Franklin, Hill and New Hampton, NH | County: Merrimack and Belknap

Tax Map: N/A | Block: N/A | Lot Number: N/A | Unit: N/A

Location Coordinates: South(Franklin): 43d 27' 23" N, 71d 40' 26" W North(NewHampton): 43d 35' 47" N, 71d 42' 34" W ☒ Latitude/Longitude ☐ UTM ☐ State Plane

Post-development, will the proposed project withdraw from or directly discharge to any of the following? If yes, identify the purpose.

1. Stream or Wetland Purpose:	☐ Yes ☒ No	☐ Withdrawal	☐ Discharge
2. Man-made pond created by impounding a stream or wetland Purpose:	☐ Yes ☒ No	☐ Withdrawal	☐ Discharge
3. Unlined pond dug into the water table Purpose:	☐ Yes ☒ No	☐ Withdrawal	☐ Discharge

Post-development, will the proposed project discharge to:

- A surface water impaired for phosphorus and/or nitrogen? ☒ No ☐ **Yes - include information to demonstrate that project will not cause net increase in phosphorus and/or nitrogen**
- A Class A surface water or Outstanding Resource Water? ☒ No ☐ **Yes - include information to demonstrate that project will not cause net increase in phosphorus and/or nitrogen**
- A lake or pond not covered previously? ☒ No ☐ **Yes - include information to demonstrate that project will not cause net increase in phosphorus in the lake or pond**

Is the project a High Load area? ☐ Yes ☒ No
If yes, specify the type of high load land use or activity: _____

Is the project within a Water Supply Intake Protection Area (WSIPA)? ☐ Yes ☒ No
Is the project within a Groundwater Protection Area (GPA)? ☐ Yes ☒ No
Will the well setbacks identified in Env-Wq 1508.02 be met? ☒ Yes ☐ No

Note: Guidance document titled "*Using NHDES's OneStop WebGIS to Locate Protection Areas*" is available online. For more details on the restrictions in these areas, read Chapter 3.1 in Volume 2 of the NH Stormwater Manual.

Is any part of the property within the 100-year floodplain? ☒ Yes ☐ No
If yes: Cut volume: 0 cubic feet within the 100-year floodplain
Fill volume: 0 cubic feet within the 100-year floodplain
Work within the 100-year flood plain will be performed to result in no net change in volume

☒ Project **IS** within **¼ mile of a designated river** Name of River: Pemigewasset River
☐ Project is **NOT** within ¼ mile of a designated river

☐ Project **IS** within **a Coastal/Great Bay Region community** - **include info required by Env-Wq 1503.08(l) if applicable**
☒ Project is **NOT** within a Coastal/Great Bay Region community

8. BRIEF PROJECT DESCRIPTION (PLEASE DO NOT REPLY "SEE ATTACHED")

The project proposes to rebuild an approximately 10.6 mile long, existing electric transmission line (A111) from the existing Webster Substation in Franklin, through a portion of Hill to the existing Pemigewasset Substation in New Hampton. The A111 line is a 115 kV line, built in 1951 that needs to be replaced due to the age and condition of approximately 115 wood structures. The project involves replacement of the existing wood utility poles with new weathered steel structures, ceramic conductors with glass conductors and copper static wire with optical grounding wire as well as improvements to existing equipment access.

9. IF APPLICABLE, DESCRIBE ANY WORK STARTED PRIOR TO RECEIVING PERMIT

Not Applicable

10. ADDITIONAL REQUIRED INFORMATION

A. Date a copy of the application was sent to the municipality as required by Env-Wq 1503.05(e)[1]: 5/26/2021.
(Attach proof of delivery)

B. Date a copy of the application was sent to the local river advisory committee if required by Env-Wq 1503.05(e)[2]: 5/26/2021.
(Attach proof of delivery)

C. Type of plan required: ☐ Land Conversion ☒ Detailed Development ☐ Excavation, Grading & Reclamation ☐ Steep Slope

D. Additional plans required: ☐ Stormwater Drainage & Hydrologic Soil Groups ☐ Source Control ☐ Chloride Management N/A See waiver request

E. Total area of disturbance: 2,190,665 square feet The disturbance area was calculated based on the total length of access road (not including the contingency access) x 16 feet typ. width plus the work pad areas

F. Additional impervious cover as a result of the project: 0* square feet (use the "-" symbol to indicate a net reduction in impervious coverage).
Total final impervious cover: 0* square feet
*Due to the linear nature of these types of utility replacement projects, the presence of existing, unquantified, gravel access roads and in association with the waiver request related to stormwater calculations impervious cover is considered to be de minimis.

G. Total undisturbed cover: 10,427,896 square feet (= total right-of-way area between Webster substation and Pemigewasset substation (12,618,561 SF) - area of disturbance (2,190,665 SF)

H. Number of lots proposed: N/A

I. Total length of roadway: N/A linear feet

J. Name(s) of receiving water(s): Pemigewasset River, Webster Lake

K. Identify all other NHDES permits required for the project, and for each indicate whether an application has been filed and is pending, or if the required approval has been issued provide the permit number, registration date, or approval letter number, as applicable.

Type of Approval	Application Filed?	Status	
		Pending	If Issued:
1. Water Supply Approval	☐ Yes ☐ No ☒ N/A	☐	Permit number:
2. Wetlands Permit	☒ Yes ☐ No ☐ N/A	☒	Permit number:
3. Shoreland Permit	☒ Yes ☐ No ☐ N/A	☒	Permit number:
4. UIC Registration	☐ Yes ☐ No ☒ N/A	☐	Registration date:
5. Large/Small Community Well Approval	☐ Yes ☐ No ☒ N/A	☐	Approval letter date:
6. Large Groundwater Withdrawal Permit	☐ Yes ☐ No ☒ N/A	☐	Permit number:
7. Other:	☐ Yes ☐ No	☐	Permit number:

L. List all species identified by the Natural Heritage Bureau as threatened or endangered or of concern: See NHB Letters included

M. Using NHDES's Web GIS OneStop program (www2.des.state.nh.us/gis/onestop/), with the Surface Water Impairment layer turned on, list the impairments identified for each receiving water. If no pollutants are listed, enter "N/A."
Webster Lake: E. coli, cyanobacteria hepatotoxic microcystins, dissolved oxygen saturation

N. Did the applicant/applicant's agent have a pre-application meeting with AOT staff? ☒ Yes ☐ No
If yes, name of staff member: Ridge Mauck, April 2, 2021

O. Will blasting of bedrock be required? ☒ Yes ☐ No If yes, estimated quantity of blast rock: <5,000 cubic yards
If yes, standard blasting BMP notes must be placed on the plans, available at:
http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/wd-10-12.pdf

NOTE: If greater than 5,000 cubic yards of blast rock will be generated, a groundwater monitoring program must be developed and submitted to NHDES. Contact AOT staff for additional detail.

[1] Env-Wq 1503.05(c)(6), requires proof that a completed application form, checklist, plans and specifications, and all other supporting materials have been sent or delivered to the governing body of each municipality in which the project is proposed.

[2] Env-Wq 1503.05(c)(6), requires proof that a completed application form, checklist, plans and specifications, and all other supporting materials have been sent or delivered to the Local River Advisory Committee, if the project is within ¼ mile of a designated river.

11. CHECK ALL APPLICATION ATTACHMENTS THAT APPLY (SUBMIT WITH APPLICATION IN ORDER LISTED)

LOOSE:

- [X] Signed application form: des.nh.gov/organization/divisions/water/aot/index.htm (with attached proof(s) of delivery)
- [X] Check for the application fee: des.nh.gov/organization/divisions/water/aot/fees.htm
- [X] Color copy of a USGS map with the property boundaries outlined (1" = 2,000' scale)
- [X] If Applicant is not the property owner, proof that the applicant will have a legal right to undertake the project on the property if a permit is issued to the applicant.

BIND IN A REPORT IN THE FOLLOWING ORDER:

- [X] Copy of the signed application form & application checklist (des.nh.gov/organization/divisions/water/aot/index.htm)
- [X] Copy of the check
- [X] Copy of the USGS map with the property boundaries outlined (1" = 2,000' scale)
- [X] Narrative of the project with a summary table of the peak discharge rate for the off-site discharge points
- [X] Web GIS printout with the "Surface Water Impairments" layer turned on - http://www4.des.state.nh.us/onestopdatamapper/onestopmapper.aspx
- [X] Web GIS printouts with the AOT screening layers turned on - http://www4.des.state.nh.us/onestopdatamapper/onestopmapper.aspx
- [X] NHB letter using DataCheck Tool – www.nhdfl.org/about-forests-and-lands/bureaus/natural-heritage-bureau/
- [X] The Web Soil Survey Map with project's watershed outlined – websoilsurvey.nrcs.usda.gov
- [X] Aerial photograph (1" = 2,000' scale with the site boundaries outlined)
- [X] Photographs representative of the site
- N/A [ ] Groundwater Recharge Volume calculations (one worksheet for each permit application): (see attached waiver request) des.nh.gov/organization/divisions/water/aot/documents/bmp_worksh.xls
- N/A [ ] BMP worksheets (one worksheet for each treatment system): (see attached waiver request) des.nh.gov/organization/divisions/water/aot/documents/bmp_worksh.xls
- N/A [ ] Drainage analysis, stamped by a professional engineer (see Application Checklist for details) (see attached waiver request)
- N/A [ ] Riprap apron or other energy dissipation or stability calculations
- N/A [ ] Site Specific Soil Survey report, stamped and with a certification note prepared by the soil scientist that the survey was done in accordance with the Site Specific Soil Mapping standards, *Site-Specific Soil Mapping Standards for NH & VT, SSSNNE Special Publication No. 3*. (see attached waiver request)
- N/A [ ] Infiltration Feasibility Report (example online) [Env-Wq 1503.08(f)(3)] (see attached waiver request)
- N/A [ ] Registration and Notification Form for Storm Water Infiltration to Groundwater (UIC Registration-for underground systems only, including drywells and trenches): (http://des.nh.gov/organization/divisions/water/dwgb/dwspp/gw_discharge)
- N/A [ ] Inspection and maintenance manual with, if applicable, long term maintenance agreements [Env-Wq 1503.08(g)]
- N/A [ ] Source control plan

PLANS:

- [X] One set of design plans on 34 - 36" by 22 - 24" white paper (see Application Checklist for details)
- N/A [ ] Pre & post-development color coded soil plans on 11" x 17" (see Application Checklist for details) (see attached waiver request)
- N/A [ ] Pre & post-development drainage area plans on 34 - 36" by 22 - 24" white paper (see Application Checklist for details) (see attached waiver request)

100-YEAR FLOODPLAIN REPORT:

- [X] All information required in Env-Wq 1503.09, submitted as a separate report.

The temporary access work within the 100-year floodplain will be restored to existing grades upon project completion to result in no change in storage volume. Copies of FEMA flood maps are included in Appendix C.

ADDITIONAL INFORMATION RE: NUTRIENTS, CLIMATE

- N/A [ ] See Checklist for Details

- [X] **REVIEW APPLICATION FOR COMPLETENESS & CONFIRM INFORMATION LISTED ON THE APPLICATION IS INCLUDED WITH SUBMITTAL.**

12. REQUIRED SIGNATURES

MJV By initialing here, I acknowledge that I am required by Env-Wq 1503.20(e) to submit a copy of all approved documents to the department in PDF format on a CD within one week after permit approval.

By signing below, I certify that:

- The information contained in or otherwise submitted with this application is true, complete, and not misleading to the best of my knowledge and belief;
- I understand that the submission of false, incomplete, or misleading information constitutes grounds for the department to deny the application, revoke any permit that is granted based on the information, and/or refer the matter to the board of professional engineers established by RSA 310-A:3 if I am a professional engineer; and
- I understand that I am subject to the penalties specified in New Hampshire law for falsification in official matters, currently RSA 641.

☐ **APPLICANT** ☒ **APPLICANT'S AGENT**:

Signature:  Date: 5/25/2021

Name (print or type): Mark Verostick Title: Senior Project Engineer

☒ PROPERTY OWNER ☐ PROPERTY OWNER'S AGENT:

Signature:  Date: 5/26/2021

Name (print or type): Kurt I. Nelson Title: Sr. Licensing and Permitting Specialist

ATTACHMENT A:
ALTERATION OF TERRAIN PERMIT APPLICATION CHECKLIST

Check the box to indicate the item has been provided or provide an explanation why the item does not apply.

DESIGN PLANS

☒ Plans printed on 34 - 36" by 22 - 24" white paper

N/A ☐ PE stamp Engineered design is limited to the electrical infrastructure and can be provided upon request.

☒ Wetland delineation

☒ Temporary erosion control measures

N/A ☐ Treatment for all stormwater runoff from impervious surfaces such as roadways (including gravel roadways), parking areas, and non-residential roof runoff. Guidance on treatment BMPs can be found in Volume 2, Chapter 4 of the NH Stormwater Management Manual. (see attached waiver request)

☒ Pre-existing 2-foot contours

N/A ☐ Proposed 2-foot contours

N/A ☐ Drainage easements protecting the drainage/treatment structures

☒ Compliance with the Wetlands Bureau, RSA 482- A http://des.nh.gov/organization/divisions/water/wetlands/index.htm. Note that artificial detention in wetlands is not allowed.

☒ Compliance with the Comprehensive Shoreland Protection Act, RSA 483-B. http://des.nh.gov/organization/divisions/water/wetlands/cspa

N/A ☐ Benches. Benching is needed if you have more than 20 feet change in elevation on a 2:1 slope, 30 feet change in elevation on a 3:1 slope, 40 feet change in elevation on a 4:1 slope.

N/A ☐ Check to see if any proposed ponds need state Dam permits. http://des.nh.gov/organization/divisions/water/dam/documents/damdef.pdf

DETAILS

N/A ☐ Typical roadway x-section Roadways are not proposed

N/A ☐ Detention basin with inverts noted on the outlet structure Detention basins are not proposed

N/A ☐ Stone berm level spreader

N/A ☐ Outlet protection – riprap aprons

☒ A general installation detail for an erosion control blanket

☒ Silt fences or mulch berm

N/A ☐ Storm drain inlet protection. Note that since hay bales must be embedded 4 inches into the ground, they are not to be used on hard surfaces such as pavement.

N/A ☐ Hay bale barriers

☒ Stone check dams

☒ Gravel construction exit

N/A ☐ Temporary sediment trap

N/A ☐ The treatment BMP's proposed

N/A ☐ Any innovative BMP's proposed

CONSTRUCTION SEQUENCE/EROSION CONTROL

☒ Note that the project is to be managed in a manner that meets the requirements and intent of RSA 430:53 and Chapter Agr 3800 relative to invasive species.

☒ Note that perimeter controls shall be installed prior to earth moving operations.

☒ Note that temporary water diversion (swales, basins, etc) must be used as necessary until areas are stabilized.

☒ Note that ponds and swales shall be installed early on in the construction sequence (before rough grading the site).

☒ Note that all ditches and swales shall be stabilized prior to directing runoff to them.

☒ Note that all roadways and parking lots shall be stabilized within 72 hours of achieving finished grade.

☒ Note that all cut and fill slopes shall be seeded/loamed within 72 hours of achieving finished grade

☒ Note that all erosion controls shall be inspected weekly AND after every half-inch of rainfall.

☒ Note the limits on the open area allowed, see Env-Wq 1505.02 for detailed information.

Example note: The smallest practical area shall be disturbed during construction, but in no case shall exceed 5 acres at any one time before disturbed areas are stabilized.

☒ Note the definition of the word "stable"

Example note: An area shall be considered stable if one of the following has occurred:

- Base course gravels have been installed in areas to be paved.
- A minimum of 85 percent vegetated growth has been established.
- A minimum of 3 inches of non-erosive material such stone or riprap has been installed.
- Or, erosion control blankets have been properly installed.

☒ Note the limit of time an area may be exposed
Example note: All areas shall be stabilized within 45 days of initial disturbance.

☒ Provide temporary and permanent seeding specifications. (Reed canary grass is listed in the Green Book; however, this is a problematic species according to the Wetlands Bureau and therefore should not be specified)

☒ Provide winter construction notes that meet or exceed our standards.

Standard Winter Notes:

- All proposed vegetated areas that do not exhibit a minimum of 85 percent vegetative growth by October 15, or which are disturbed after October 15, shall be stabilized by seeding and installing erosion control blankets on slopes greater than 3:1, and seeding and placing 3 to 4 tons of mulch per acre, secured with anchored netting, elsewhere. The installation of erosion control blankets or mulch and netting shall not occur over accumulated snow or on frozen ground and shall be completed in advance of thaw or spring melt events.
- All ditches or swales which do not exhibit a minimum of 85 percent vegetative growth by October 15, or which are disturbed after October 15, shall be stabilized temporarily with stone or erosion control blankets appropriate for the design flow conditions.
- After October 15, incomplete road or parking surfaces, where work has stopped for the winter season, shall be protected with a minimum of 3 inches of crushed gravel per NHDOT item 304.3.

N/A ☐ Note at the end of the construction sequence that "Lot disturbance, other than that shown on the approved plans, shall not commence until after the roadway has the base course to design elevation and the associated drainage is complete and stable." – This note is applicable to single/duplex family subdivisions, when lot development is not part of the permit.

N/A **DRAINAGE ANALYSES** (see attached waiver request)

Please double-side 8 ½" × 11" sheets where possible but, **do not** reduce the text such that more than one page fits on one side.

☐ PE stamp

☐ Rainfall amount obtained from the Northeast Regional Climate Center- http://precip.eas.cornell.edu/. Include extreme precipitation table as obtained from the above referenced website.

☐ Drainage analyses, in the following order:

- Pre-development analysis: Drainage diagram.
- Pre-development analysis: Area Listing and Soil Listing.
- Pre-development analysis: Node listing 1-year (if applicable), 2-year, 10-year and 50-year.
- Pre-development analysis: Full summary of the 10-year storm.
- Post-development analysis: Drainage diagram.
- Post-development analysis: Area Listing and Soil Listing.
- Post-development analysis: Node listing for the 2-year, 10-year and 50-year.
- Post-development analysis: Full summary of the 10-year storm.

☐ Review the Area Listing and Soil Listing reports

- Hydrologic soil groups (HSG) match the HSGs on the soil maps provided.
- There is the same or less HSG A soil area after development (check for each HSG).
- There is the same or less "woods" cover in the post-development.
- Undeveloped land was assumed to be in "good" condition.
- The amount of impervious cover in the analyses is correct.

Note: A good check is to subtract the total impervious area used in the pre analysis from the total impervious area used in the post-analysis. For residential projects without demolition occurring, a good check is to take this change in impervious area, subtract out the roadway and divide the remaining by the number of houses/units proposed. Do these numbers make sense?

☐ Check the storage input used to model the ponds.

☐ Check to see if the artificial berms pass the 50-year storm, i.e., make sure the constructed berms on ponds are not overtopped.

☐ Check the outlet structure proposed and make sure it matches that modeled.

☐ Check to see if the total areas in the pre and post analyses are same.

☐ Confirm the correct NRCS storm type was modeled (Coos, Carroll & Grafton counties are Type II, all others Type III).

.

N/A **PRE- AND POST-DEVELOPMENT DRAINAGE AREA PLANS** (see attached waiver request)

☐ Plans printed on 34 - 36" by 22 - 24" on white paper.

☐ Submit these plans separate from the soil plans.

☐ A north arrow.

☐ A scale.

☐ Labeled subcatchments, reaches and ponds.

☐ Tc lines.

☐ A clear delineation of the subcatchment boundaries.

☐ Roadway station numbers.

☐ Culverts and other conveyance structures.

N/A **PRE AND POST-DEVELOPMENT COLOR-CODED SOIL PLANS** (see attached waiver request)

☐ 11" × 17"sheets suitable, as long as it is readable.

☐ Submit these plans separate from the drainage area plans.

☐ A north arrow.

☐ A scale.

☐ Name of the soil scientist who performed the survey and date the soil survey took place.

☐ 2-foot contours (5-foot contours if application is for a gravel pit) as well as other surveyed features.

☐ Delineation of the soil boundaries and wetland boundaries.

☐ Delineation of the subcatchment boundaries.

☐ Soil series symbols (e.g., 26).

☐ A key or legend which identifies each soil series symbol and its associated soil series name (e.g., 26 = Windsor).

☐ The hydrologic soil group color coding (A = Green, B = yellow, C= orange, D=red, Water=blue, & Impervious = gray).

N/A **Please note that excavation projects (e.g., gravel pits) have similar requirements to that above, however the following are common exceptions/additions:**

☐ Drainage report is not needed if site does not have off-site flow.

☐ 5 foot contours allowed rather than 2 foot.

☐ No PE stamp needed on the plans.

☐ Add a note to the plans that the applicant must submit to the Department of Environmental Services a written update of the project and revised plans documenting the project status every five years from the date of the Alteration of Terrain permit.

☐ Add reclamation notes.

See NRCS publication titled: *Vegetating New Hampshire Sand and Gravel Pits* for a good resource, it is posted online at: http://des.nh.gov/organization/divisions/water/aot/categories/publications.

ADDITIONAL INFORMATION RE: NUTRIENTS, CLIMATE

N/A ☐ If project will discharge stormwater to a surface water impaired for phosphorus and/or nitrogen, include information to demonstrate that project will not cause net increase in phosphorus and/or nitrogen.

N/A ☐ If project will discharge stormwater to a Class A surface water or Outstanding Resource Water, include information to demonstrate that project will not cause net increase in phosphorus and/or nitrogen.

☐ If project will discharge stormwater to a lake or pond not covered previously, include information to demonstrate that project will not cause net increase in phosphorus in the lake or pond.

N/A ☐ If project is within a Coastal/Great Bay Region community, include info required by Env-Wq 1503.08(l) if applicable.

Application Fee Calculation & Copy of Check

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Project	**A111 Electric Rebuild**	Project #	**52743.00**
Location	**Franklin, Hill and New Hampton, New Hampshire**		
Calculated by	**M. VerosticK**	Date	**5/13/2021**
Title	**NHDES Alteration of Terrain Permit Fee Calculation**		

Computations

Make check payable to: "**Treasurer State of New Hampshire**"

Total Disturbance Area: 2,190,665 SF
50.29 AC

The disturbance area was calculated from GIS data based on a combination of typical 16 foot wide access roads and stone work pads shown on the attached plan set.

Fee Schedule:

Area of Disturbance in square feet	Fee
< 100,000	$500 + 0.005/SF
100,000 to 199,999	$3,125
200,000 to 299,999	$4,375
300,000 to 399,999	$5,625
400,000 to 499,999	$6,875
500,000 to 599,999	$8,125
600,000 to 699,999	$9,375
700,000 to 799,999	$10,625
800,000 to 899,999	$11,875
900,000 to 999,999	$13,125
1,000,000 to 1,099,999*	$14,375

*For each additional 100,000 SF, add $1,250 to the fee

Total Fee = $28,125

Alteration of Terrain
Permit Application Fee Schedule

The permit application fee is based upon the proposed area of disturbance, in square feet. The following tables illustrate the fee structure.

Fee schedule for projects not in the Protected Shoreland	
Area of disturbance in square feet (sf)	**Fee**
< 100,000	$500 + $0.005/sf
100,000 to 199,999	$3,125
200,000 to 299,999	$4,375
300,000 to 399,999	$5,625
400,000 to 499,999	$6,875
500,000 to 599,999	$8,125
600,000 to 699,999	$9,375
700,000 to 799,999	$10,625
800,000 to 899,999	$11,875
900,000 to 999,999	$13,125
1,000,000 to 1,099,999	$14,375
***For each additional 100,000 sf, add $1,250 to the fee.**	

Fee schedule for projects in the Protected Shoreland:	
Area of disturbance in square feet (sf)	**Fee**
< 50,000	$500 + $0.005/sf
50,000 to 199,999	$3,125
200,000 to 299,999	$4,375
300,000 to 399,999	$5,625
400,000 to 499,999	$6,875
500,000 to 599,999	$8,125
600,000 to 699,999	$9,375
700,000 to 799,999	$10,625
800,000 to 899,999	$11,875
900,000 to 999,999	$13,125
1,000,000 to 1,099,999	$14,375
*For each additional 100,000 sf, add $1,250 to the fee.	

Fee schedule for request to amend a permit that requires plan review
$500 + $0.10/square feet of disturbance

Please make checks payable to: "Treasurer State of New Hampshire."

VANASSE HANGEN BRUSTLIN, INC.
101 WALNUT STREET • PO BOX 9151
WATERTOWN, MASSACHUSETTS 02471

CITIZENS BANK
MASSACHUSETTS
5-7017/2110

366103
CHECK DATE

May 19, 2021

AMOUNT

Twenty Eight Thousand One Hundred Twenty Five and 00/100

$28,125.00

Treasurer State of New Hampshire
NHDES - Wetlands Bureau
29 Hazen Drive
P.O. Box 95
Concord, NH 03302-0095

AUTHORIZED SIGNATURE

Security Check features included. Details on back.

⑈366103⑈ ⑆211070175⑆ 113016137⑈

VANASSE HANGEN BRUSTLIN, INC.
101 WALNUT STREET • PO BOX 9151
WATERTOWN, MASSACHUSETTS 02471

EMILY BUSINESS FORMS 800.392.6018 VISION

366103

Check Date: 5/19/2021

Invoice Number	Date	Voucher	Amount	Discounts	Previous Pay	Net Amount
Annette Snyder 5/13	5/13/2021	1408724	$28,125.00			$28,125.00
Treasurer State of New Hampshire		TOTAL	$28,125.00			$28,125.00
Citizens	94	0009232				

USGS Site Location Maps

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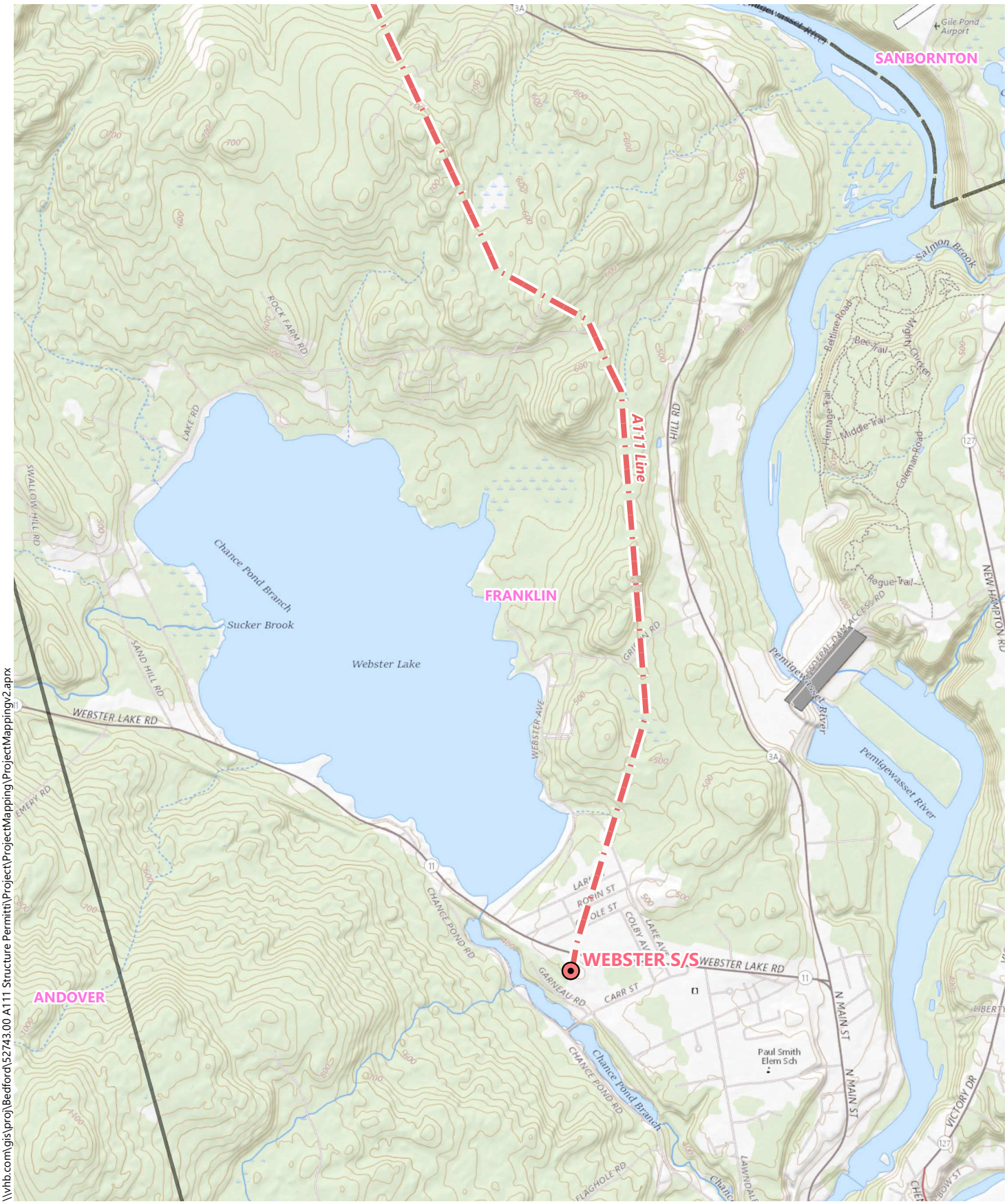
EVERSOURCE ENERGY

vhb

April 21, 2021



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0 1,000 2,000 4,000 Feet

Substations

Existing Overhead Line

Town Boundaries

A111 Rebuild Project | Franklin, New Hampshire

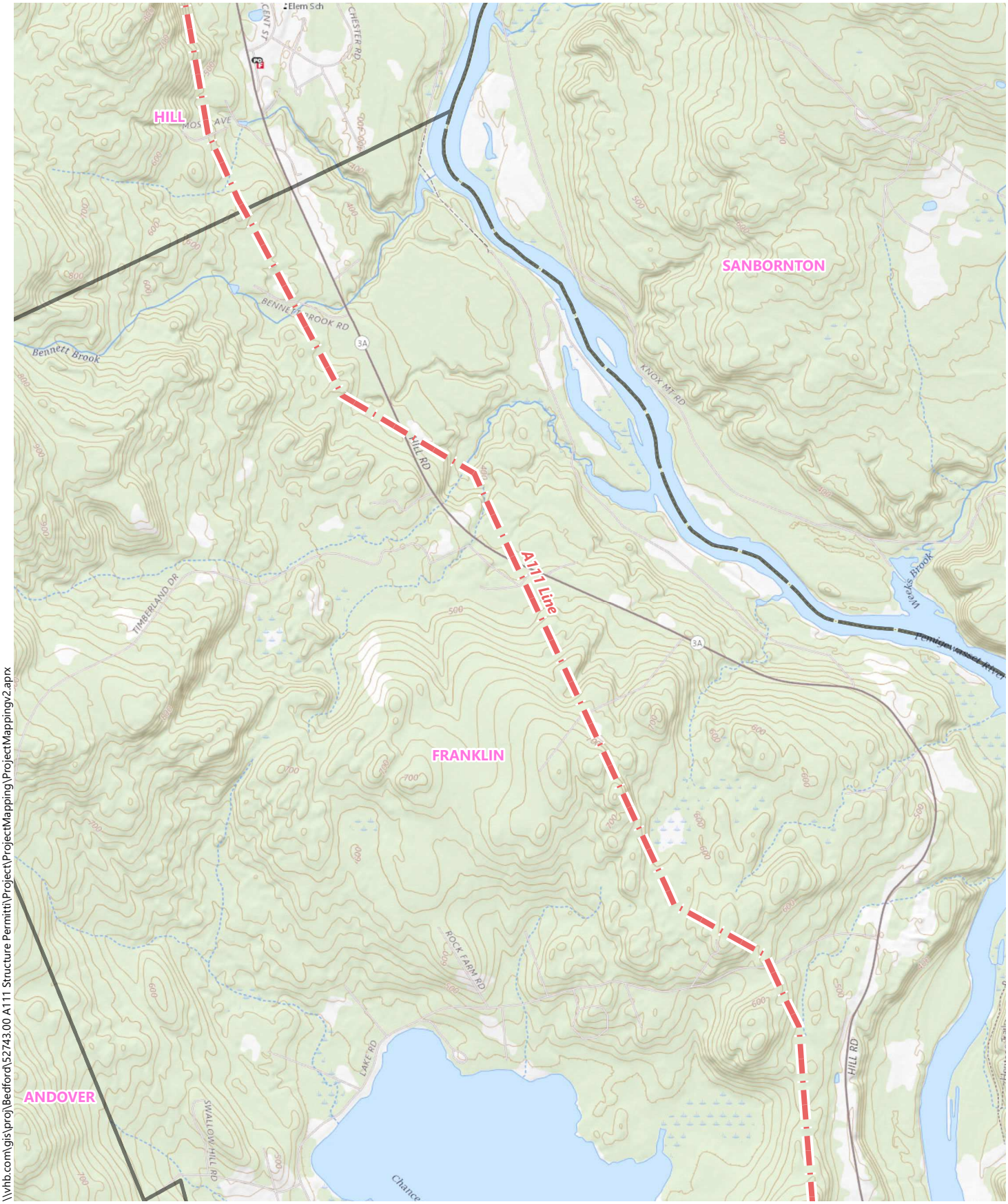
USGS Overview

Source: VHB, GRANIT, Eversource

EVERSOURCE ENERGY

vhb

April 21, 2021



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0 1,000 2,000 4,000 Feet

Substations

Existing Overhead Line

Town Boundaries

A111 Rebuild Project | Franklin, New Hampshire

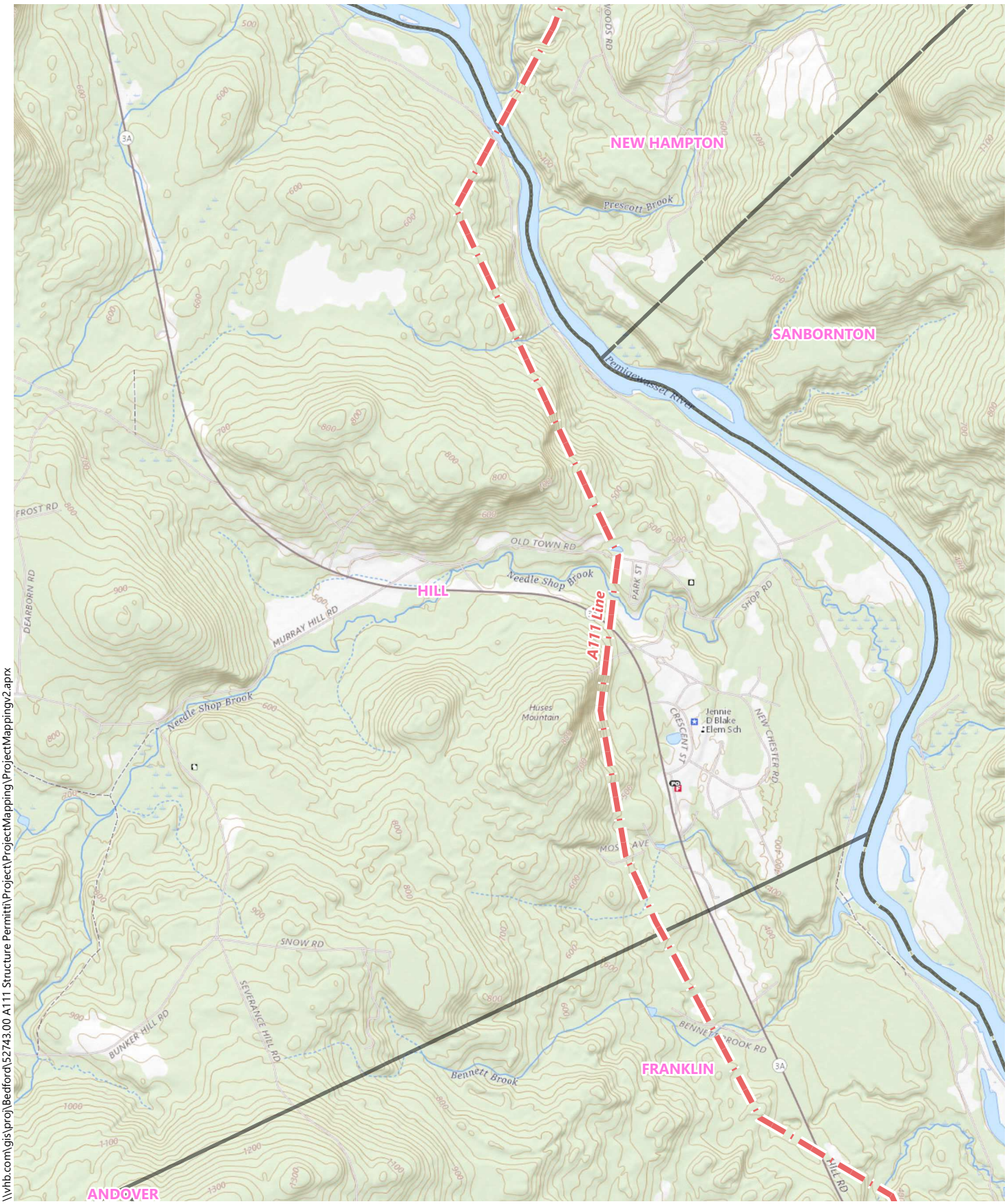
USGS Overview

Source: VHB, GRANIT, Eversource

EVERSOURCE ENERGY

vhb

April 21, 2021



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0 1,000 2,000 4,000 Feet

Substations

Existing Overhead Line

Town Boundaries

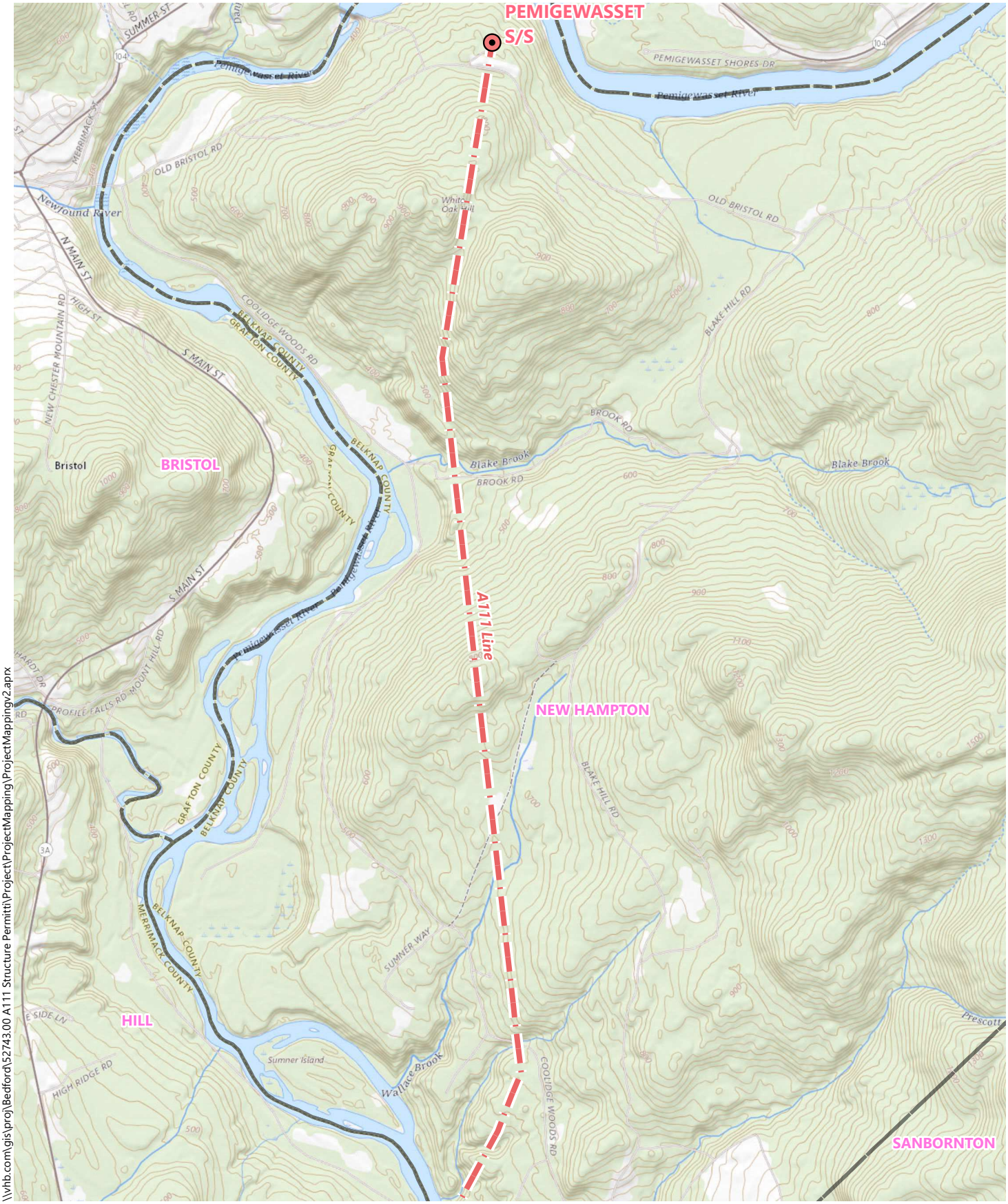
A111 Rebuild Project | Hill, New Hampshire

USGS Overview

Source: VHB, GRANIT, Eversource

EVERSOURCE ENERGY

vhb April 21, 2021



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0 1,000 2,000 4,000 Feet

Substations

Existing Overhead Line

Town Boundaries

A111 Rebuild Project | New Hampton, New Hampshire

USGS Overview

Source: VHB, GRANIT, Eversource

Project Narrative

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Project Narrative

On behalf of the Public Service Company of New Hampshire d/b/a Eversource Energy (PSNH), this Alteration of Terrain Permit Application was prepared by VHB pursuant to the New Hampshire Revised Statutes Annotated (RSA) Chapter 485-A:17, Terrain Alteration, and the Alteration of Terrain Bureau Code of Administrative Rules, Chapters Env-Wq 1500.

Site Description and Existing Conditions

The project involves a maintained electric transmission line corridor that ranges in width from approximately 150 to 225 feet and runs from Franklin, through Hill, and ends in New Hampton (refer to the USGS Site Location Maps enclosed). The alignment of the A111 Line within the ROW varies but is located approximately 75 feet away from the western ROW edge for most of the line, and approximately 63 feet away from the eastern ROW edge between the Webster Substation and Structure 9 in Franklin. This line contains 118 electric transmission line structures, three of which are weathered steel while the remainder are wooden. Portions of ROW contain distribution transmission lines that are not owned by Eversource, including the distribution line in Franklin that runs along the eastern ROW edge from the Webster Lake Road to Lakeshore Drive. There are also areas where remnants of the retired 66 kV line are present parallel to the A111 Line. The ROW is comprised of PSNH owned-property or PSNH controlled easements. The project ROW is bisected by the Pemigewasset River along the town line of Hill and New Hampton. The ROW is also intersected by public roadways and state routes, including Webster Lake Road, Oriole Street, Robin Street, Lark Street, Lake Avenue, Griffin Road, Lakeshore Drive, Timberland Drive, Hill Road, Bennett Brook Road, Moses Avenue (private), NH Route 3A, Old Town Road, Coolidge Woods Road, Cross Road, Brook Road, and Old Bristol Road. The ROW is comprised of dense emergent and scrub-shrub wetland and upland vegetation that is maintained (cut) on a three to five-year cycle to achieve vertical clearance requirements between ground vegetation and overhead transmission lines. The most recent vegetation maintenance occurred on this line in late 2020. Surrounding land use is largely forested with some residential properties.

Natural Resource Review

According to the NHDES Wetlands Permit Planning Tool, a Priority Resource Area (PRA) identified as a Peatland intersects the ROW corridor south of Griffin Road in Franklin, overlapping delineated wetland FW-36. Additionally, an unnamed stream bisects the ROW between the two intersections of Hill Road with the ROW in Franklin and is classified as a Floodplain Wetland Adjacent to a Tier 3 Stream approximately 230 feet outside of the project ROW, overlapping the boundaries of the existing National

Wetland Inventory (NWI) mapping within the Federal Emergency Management Agency (FEMA)-mapped 100-year Floodplain. This stream runs through delineated wetlands FW-12.1 and FW-12 within the FEMA Floodplain. Therefore, we consider these delineated wetlands within the ROW to be PRAs.

No other PRAs (sand dunes, prime wetlands and their buffers, tidal waters or wetlands, or documented occurrences of protected species or their habitat) intersect or abut the project ROW.

Portions of the ROW are also located within the Designated River Corridor of the Pemigewasset River and, therefore, this project requires coordination with the Pemigewasset River Local Advisory Committee. This includes the area from approximately proposed structure 69 in Hill to between proposed structures 83 and 84 in New Hampton, the area between proposed structures 101 and 102 in New Hampton to approximately proposed structure 106 in New Hampton, and the area between proposed structures 117 and 118 in New Hampton through the northern end of the ROW beyond the Pemigewasset Substation.

This project ROW in Franklin is located within a quarter mile of Webster Lake (NHLAK700010804-02-01) which is impaired for cyanobacteria hepatotoxic microcystins and dissolved oxygen saturation and Lake Avenue Tributary (NHRIV700010804-18) which is impaired for *Escherichia coli*. However, the proposed work is not expected to impact these resources since the work will be contained within the existing utility ROW (except for select off-ROW access if permissions are granted) and erosion controls will be utilized throughout construction.

Delineated Natural Resources

Jurisdictional wetlands and surface waters within the project site were delineated by GZA Wetland Scientists in August and September of 2020. The classifications of these previously delineated resources and a vernal pool assessment were conducted by VHB Wetland Scientists in April 2021 as part of this project. The wetland delineation was performed in accordance with the procedures and standards outlined in the *1987 Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region,* Version 2.0 (January 2012) using alpha-numerically coded pink flagging tape. Wetland delineation also relied upon the *Field Indicators for Identifying Hydric Soils in the United States,* Version 8.2, published by the Natural Resource Conservation Service and the *Field Indicators for Identifying Hydric Soils in New England,* Version 4.0, published by the New England Interstate Water Pollution Control Commission in April 2019. Dominant wetland vegetation was assessed using the *2018 National Wetland Plant List* published by the U.S. Army Corps of Engineers. Wetlands were classified using the USFWS methodology *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979, revised 1985). Lastly, a wetland functional assessment was performed in accordance with the *Corps Highway Methodology Workbook* dated 1993, together with the *Corps New England District Highway Method Workbook Supplement*, dated 1999. Lastly, vernal pools were determined and delineated throughout the site using alpha-numerically coded orange flagging tape based on the presence of primary and secondary vernal pool indicator species, as defined by the NHDES Administrative Rules Env-Wt 103.64 and 104.15, respectively. The assessment was conducted in accordance with the *Identification and Documentation of Vernal Pools in New Hampshire*, Third Edition (2016) published by the NH Fish and Game Department.

The site contains 83 wetlands (excluding the Pemigewasset River which is given wetland ID NHW-28), six vernal pools, and various perennial and intermittent stream crossings.

Proposed Project Description

PSNH proposes to rebuild the existing A111 115-kV Electric Transmission Line from the Webster Substation in Franklin, NH to the Pemigewasset Substation in New Hampton, NH through the replacement of 115 structures, addition of a new structure, installation of new conductors, and installation of fiber optic cable, known as Optical Grounding Wire (OPGW). The A111 Line was built in 1951 and is 10.6 miles long. 52 of the proposed structures replacements, along with the proposed new structure, are located in Franklin, 26 in Hill, and 37 in New Hampton.

The proposed project is part of PSNH's ongoing maintenance program conducted to ensure reliable electric service for their customers. The PSNH 115-kV transmission system is an integral part of the regional power system delivering electricity to customers throughout New England. It is critical that the 115-kV system remain operational without interruption from preventable outages.

Structure replacement work is planned to commence in mid-2021 and continue through 2022. The existing wooded H-frame structures are proposed to be replaced with weathered steel H-frame structures to meet the current industry standard. PSNH proposes to replace the wood structures with steel structures that are more resilient to insect and woodpecker damage and pole rot, can support the heavier OPGW, and can further withstand typical New Hampshire storms and severe weather events. The proposed OPGW installation on this line enables communication between PSNH substations. The communication between substations improves the reliability across the electric system through increased visibility of the system, quicker response time for system issues, automation, and reduced outage occurrences and durations. Most of the replacement structures will be installed within 10-15 feet of the existing structure footprints (back or forward on-line), however there are a few instances where structures would require replacement approximately 50 to 100 feet from the existing structure footprint. Replaced structures would be connected to the existing overhead circuit prior to the removal of the existing structures. The height of the new structures will be increased by less than twenty feet for most of the structures. The purpose of the height increases is to gain compliance with current regulatory standards, meet safety clearance requirements, accommodate the site topography, and minimize environmental impacts. Natural resource and property owner impacts have been minimized through the proposed rebuild of the entire line, as opposed to the structure replacement alternative that would necessitate additional future repairs and maintenance.

The proposed work will occur within the existing, cleared transmission rights-of-way (ROW) and no additional widening of the ROW is proposed, although less than two acres of tree clearing within the ROW is proposed in Franklin. Work crews will access structures targeted for replacement from existing public roadways that intersect the transmission line ROW and will travel within the limits of the existing cleared ROW corridor to reach the structures. Crews will follow existing established access trails within the ROW, where present, during the proposed maintenance work.

Timber matting will be utilized to cross wetlands and streams within the ROW to access the structures targeted for replacement and minimize soil disturbance by avoiding rutting. A Standard Dredge and Fill Wetlands Permit Application has also been filed with the NHDES Wetlands Bureau for the work within jurisdictional resource areas. Any construction laydown areas required for equipment and material staging during structure replacement will be situated in upland areas along the existing ROW corridor. Ground disturbance and grading will be kept to a minimum during the structure replacement and the largest work pad around structures proposed to be replaced will be limited to an approximate 100'x100'

construction work pad. An off-site marshalling yard in a previously disturbed or developed area is expected to be secured by the selected contractor. The yard will contain the field office and will be used for material storage and parking. The yard will be inspected by a qualified environmental scientist prior to use to ensure no impacts to natural resources are required.

Erosion controls will be inspected daily by the contractor crews and weekly by a qualified environmental monitor, hired by PSNH, to ensure that the controls are maintained and are properly functioning throughout the duration of the project. Matting and other construction debris will be removed from the site and properly disposed upon completion of the proposed work. Erosion controls will not be removed until project work is complete, and the project area is stabilized in accordance with NHDES guidance. Due to the use of timber mats, it is anticipated that minimal restoration within the ROW will be needed and that natural vegetative re-colonization of impacted areas will occur during summer vegetative growth periods. If necessary, an approved upland and/or wetland seed mix will be applied to any areas where cover is slow to develop, as outlined in NHDES guidance manuals. Additionally, straw or weed-free hay will be applied in conjunction with seed. All construction activities will follow the Best Management Practices Manual for Utility Maintenance in and Adjacent to Wetlands and Waterbodies in New Hampshire (BMP Manual) (March 2019), published by the New Hampshire Department of Natural and Cultural Resources.

Access

Proposed access routes to and within the existing ROW were selected over the course of several field visits by the PSNH Project Manager, Licensing and Permitting Specialist, Project Engineer, Construction Representatives, and Siting and Construction Services personnel. Improvements to existing ROW access roads will be required in upland areas to provide a safe and stable travel way during construction and for future maintenance and repair activities. Access points to the ROW originate from public roadways that run parallel to or perpendicularly intersect the ROW in various locations along the 10.6-mile corridor. VHB is pursuing access approvals from the NH Department of Transportation and host municipalities as may be required. Additional off-ROW access is being pursued by PSNH to minimize land disturbance and avoid wetlands where feasible.

Access points and exact access routes within the ROW were designed to avoid and minimize wetland, stream, and vernal pool crossings to the maximum extent practical. Wooden swamp mats (timber mats) will be used at unavoidable wetland, stream, and vernal pool crossings and surrounding new structure installations that are within or near natural resources.

Construction Methods and Best Management Practices

Minimal tree clearing (approximately 1.60 acres) is proposed within upland areas in the existing utility ROW in Franklin between Webster Lake Road and Lake Avenue prior to the mobilization of utility construction crews. Tree clearing impacts have been avoided within wetlands. The purpose of the clearing is to meet the standard vertical safety clearances from the transmission lines.

Upon completion of clearing activities and prior to accessing the ROW with construction equipment, crews will install erosion and sediment control barriers in accordance with the BMP manual. Selected BMPs may include straw wattles, silt fence, wood chip/compost berms/tubes, waterbars, stabilized construction exits, erosion control blankets and/or other approved BMPs.

Ground-based crews will approach each new structure location along the proposed A111 Line utilizing the proposed access as indicated on the plans provided in **Appendix B**. Construction timber mats, also called swamp mats, typically with dimensions of 16 feet wide by 4 feet long, will be used as necessary in areas where wetlands will be crossed to gain access to each structure location, depending on seasonal ground conditions. Smaller perennial or intermittent stream channels located along the ROW that cannot be avoided may be spanned with mats from beyond the jurisdictional banks.

Construction work pads (100'x100') comprised of temporary matting will be placed around structure replacement locations within wetland areas to accommodate necessary equipment. Some works pads need to be two-tiered or off-set due to adjacent steep topography (as with proposed Structures 14 and 29 in Franklin) and to avoid wetland impacts (as with proposed Structure 38 in Franklin). Additionally, pulling/tensioning platforms (ranging from 50'x100' to 75'x200' in size) will be staged at various locations along the ROW to accommodate conductor reel trailers, tensioner machines, and bucket trucks during the stringing of overhead transmission lines onto newly installed structures. Matting will be used where pulling/tensioner sites intersect wetland boundaries.

Once access is gained to each new structure location, poles will be installed either through direct embedment or constructed in caisson foundations that would be backfilled with gravel. Traditional auguring and installation procedures will be used. No structures are proposed to be installed within the bed and/or banks of any stream or river along the ROW. Additionally, no structures are proposed to be installed within areas identified as vernal pools. Contingent upon permit approval, work is proposed to commence in August 2021.

Construction laydown areas used to store structure and line components and equipment will be located in upland areas within the ROW outside of jurisdictional areas. During construction, control of the spread or introduction of invasive species will be managed in accordance with the BMP manual and the invasive species control plan indicated on the plans provided in **Appendix B**.

Matting and other construction debris will be removed upon completion of the proposed work. Stabilization of the surrounding area and restoration of disturbed areas will be completed as soon as possible. It is anticipated that minimal restoration will be needed and that natural re-colonization of wetlands within the ROW will occur during the next vegetative growth period. VHB will revisit the ROW during this time to assure restoration. In accordance with Env-Wt 307.12(f), if the temporarily impacted areas do not have at least 75% revegetation after two growing seasons, replanting or reseeding would occur in those areas.

Refer to the plans provided in **Appendix B** for the location of existing wetlands, surface waters, vernal pools, utility structures, proposed new structure and removal locations, proposed access routes, proposed pulling/tensioning sites, construction work pads and laydown areas, and temporary natural resource crossings.

Floodplains and Floodways

The project ROW is intersected by FEMA mapped 1% Annual Chance Flood Hazard Zones (100-year floodplains) in a few locations along the corridor associated with the Pemigewasset River in accordance with the effective Flood Insurance Rate Map (FIRM), Map No. 33013C0065E dated April 19, 2010 (refer to the figure provided in **Appendix C**). The southern portion of the project ROW also traverses through FEMA FIRM Maps 33013C0070E and 33013C0158E (both dated April 19, 2010), however, no Special Flood Hazard Areas intersect the ROW in those areas.

No digital or modernized FEMA data is available for New Hampton. Therefore, the FEMA 100-Year Floodplain lines in New Hampton were digitized on the **Wetland Permitting Plans** provided in **Appendix C** from the FEMA FIRM 01-17 (Community Number 330007B) dated April 2, 1986 and should be considered approximate.

There are two proposed structure replacements located within the 100-year floodplain in Franklin (proposed structure numbers 40 and 41) and two proposed structure replacements located within the 100-year floodplain in New Hampton (proposed structure numbers 104 and 105). Although no structure replacements in Hill are located within the 100-year floodplain of the Pemigewasset River, some access and work pads overlap the floodplain between proposed structure numbers 74 and 80 as the floodplain line overlaps the ROW intermittently in that area. The amount of new fill associated with installation of each new structure and improvement of access roads is minimal and access to these structures will traverse temporary matting across wetland areas. Therefore, the project is not expected to cause or increase flooding.

Transmittal Documentation to Municipalities and Local River Advisory Committee

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ANNETTE SNYDER

2 BEDFORD FARMS DRIVE
SUITE 200
BEDFORD, NH 03110
UNITED STATES US

SHIP DATE: 26MAY21
ACTWGT: 2.00 LB
CAD: 101975264/INET4340

BILL SENDER

TO KATIE GARGANO
CITY OF FRANKLIN
316 CENTRAL STREET
FRANKLIN CITY CLERK
FRANKLIN NH 03235

(603) 934-3900 REF: 52743.00
INV:
PO: DEPT:

56DJ3/71DC/FE4A

FedEx Express

E

J211321033101uv

FRI - 28 MAY 4:30P
** 2DAY **

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ACTWGT: 2.00 LB
CAD: 101975264/INET4340

BILL SENDER

TO SHELLY J. HENRY, TOWN CLERK
TOWN OF HILL
30 CRESCENT ST
SUITE 2
HILL NH 03243
(603) 934-3951 REF: 52743.00
INV:
PO: DEPT:

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BEDFORD, NH 03110
UNITED STATES US

SHIP DATE: 26MAY21
ACTWGT: 2.00 LB
CAD: 101975264/INET4340

BILL SENDER

TO REGINA M. ADAMS
TOWN OF NEW HAMPTON
6 PINNACLE HILL ROAD
TOWN CLERK
NEW HAMPTON NH 03256
(603) 744-8454 REF: 52743.00
INV:
PO: DEPT:

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ANNETTE SNYDER

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SUITE 200
BEDFORD, NH 03110
UNITED STATES US

SHIP DATE: 26MAY21
ACTWGT: 2.00 LB
CAD: 101975264/INET4340

BILL SENDER

TO **WILLIAM R. BOLTON, CHAIR**
PEMIGEWASSET RIVER LAC
167 RESERVOIR ROAD

PLYMOUTH NH 03264
(603) 279-8171
INV:
PO:

REF: 5274300
DEPT:

560J3/71DC/FE4A

FedEx Express

J211321033101uv

TRK# 7738 2851 1824
0201

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**** 2DAY ****

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NH-US **BTV**

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Pre-Application Meeting Minutes

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Meeting Notes

Place: On-line MS Teams Meeting

Date: April 2, 2021 Notes Taken by: Mark Verostick

Project #: 52743.00 Re: A111 Electric Transmission Line Rebuild

---

ATTENDEES

Ridge Mauck – NHDES AoT Bureau Kurt Nelson – Eversource Sherrie Trefry – VHB

An Alteration of Terrain Pre-application was held to discuss the proposed A111 Electric Transmission Line Rebuild between the Webster Substation in Franklin, NH and the Pemigewasset Substation in New Hampton.

Kurt Nelson gave an overview of the project need, location and general scope of work. The project will consist of rebuilding an approximately 10.6 mile overhead electric transmission line (A111) including replacement of the existing wood poles with steel structures due to the age and condition of the existing poles. In order to access the existing poles for replacement, existing gravel access roads within the Eversource right-of-way will be used wherever possible but there may be some off right-of-way access roads that will be pursued in order to avoid resource area impacts or avoid steep terrain and reduce the overall impacts of the work.

For permitting purposes this project will be similar to the MVRP project however it will occur in much steeper terrain so we wanted to know what the expectations will be for AoT requirements and engineering efforts.

Since the project is a linear utility replacement project, no hydrologic analysis or site specific soil survey will be required. We will need to include waiver requests for those items in the application.

Although the access roads in the upland areas will be permanent, as long as they are adequately stabilized, then conventional stormwater detention practices will not be required. We will need to look at specific areas of concern to see if something more substantial needs to be done for stormwater runoff control (e.g. plunge pool, etc.) When wetland crossings occur they will be done with temporary matting.

Ridge mentioned that AoT turnaround time is currently between 35 and 50 days but it is contingent upon NH Fish & Game's review of the Wildlife Habitat Assessment.

If there are any follow up questions we can reach out to Ridge.

2 Bedford Farms Drive
Suite 200
Bedford, NH 03110-6532
P 603.391.3900

Waiver Request

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ALTERATION OF TERRAIN WAIVER REQUEST FORM

R.S.A. 485-A:17
Department of Environmental Services - Water Division
29 Hazen Drive, PO Box 95
Concord, New Hampshire 03302-0095

Application Date: May 25, 2021 File Number (DES use): _____

A111 Electric Transmission Line Rebuild
Name of Project

Franklin, Hill and New Hampton
Location of Project (town)

Merrimack and Belknap
County

Utility Replacement
Project Type

1. Owner Information

Public Service Company of NH dba Eversource Energy
Name

kurt.nelson@eversource.com
Email address (optional)

Kurt Nelson
Contact Name

(603) 634-3256
Telephone Number

13 Legends Drive
Mailing Address

Hooksett
City/Town

NH
State

03106
Zip Code

2. Person Requesting Waiver(s)

Vanasse Hangen Brustlin, Inc
Name

mverostick@vhb.com
Email address (optional)

Mark Verostick
Contact Name

(603) 391-3966
Telephone Number

2 Bedford Farms Drive; Suite 200
Mailing Address

Bedford
City/Town

NH
State

03110
Zip Code

3. Waiver Request(s)

Rule	Brief Description of Rule
Env-Wq 1504.09	Stormwater Drainage Report, Site Specific Soil Mapping and Plans

Explanation of Request:	A waiver is requested from the requirements to prepare a Stormwater Drainage Report, Drainage Area Plans and Site Specific Soil Mapping as the project is a linear utility maintenance project and the disturbance areas are disconnected and are not concentrated to an individual site or watershed. The proposed project is primarily for the maintenance of an existing transmission line and there will be negligible new impervious area and therefore stormwater detention and treatment practices are not proposed.
Permanent or Temporary:	Permanent
Explanation of Alternative:	Not Applicable
Compliance with Env-Wq:	The proposed project involves the replacement of existing transmission line infrastructure. The land disturbance is associated with ground improvements for vehicle access and work pads at the structure replacement locations. Site specific soil mapping and drainage analysis calculations will provide no benefit to the public or the environment due to the disconnected nature of the work. NRCS web soil survey data will be used to provide a general understanding of the types of soils that may be encountered during construction activities so that the appropriate erosion control BMP's can be implemented. Given that the site is previously disturbed by the existing transmission line facilities and other land uses, the NRCS web soil survey data, topographic information and results of field analyses are anticipated to provide an adequate level of information necessary to construct the project without impacting water quality as compared to strict compliance with the rule.

4. Signature(s) Required

(1) The information provided is true, complete, and not misleading to the knowledge and belief or the signer; and

(2) The signer understands that any waiver granted based on false, incomplete, or misleading information shall be subject to revocation.

Signature (owner) and Date	Name (owner)
5/24/2021	Kurt Nelson - Eversource

Signature (person requesting waiver) and Date	Name (person requesting waiver)
5/21/2021	Mark Verostick - VHB

Appendix A – Support Data

- **Web GIS Printout with Water Impairments and AOT Screening Layers**
- **NHB Data Check Letters and Correspondence**
- **Web Soil Survey Maps**
- **Aerial Photograph**
- **Site Photographs**

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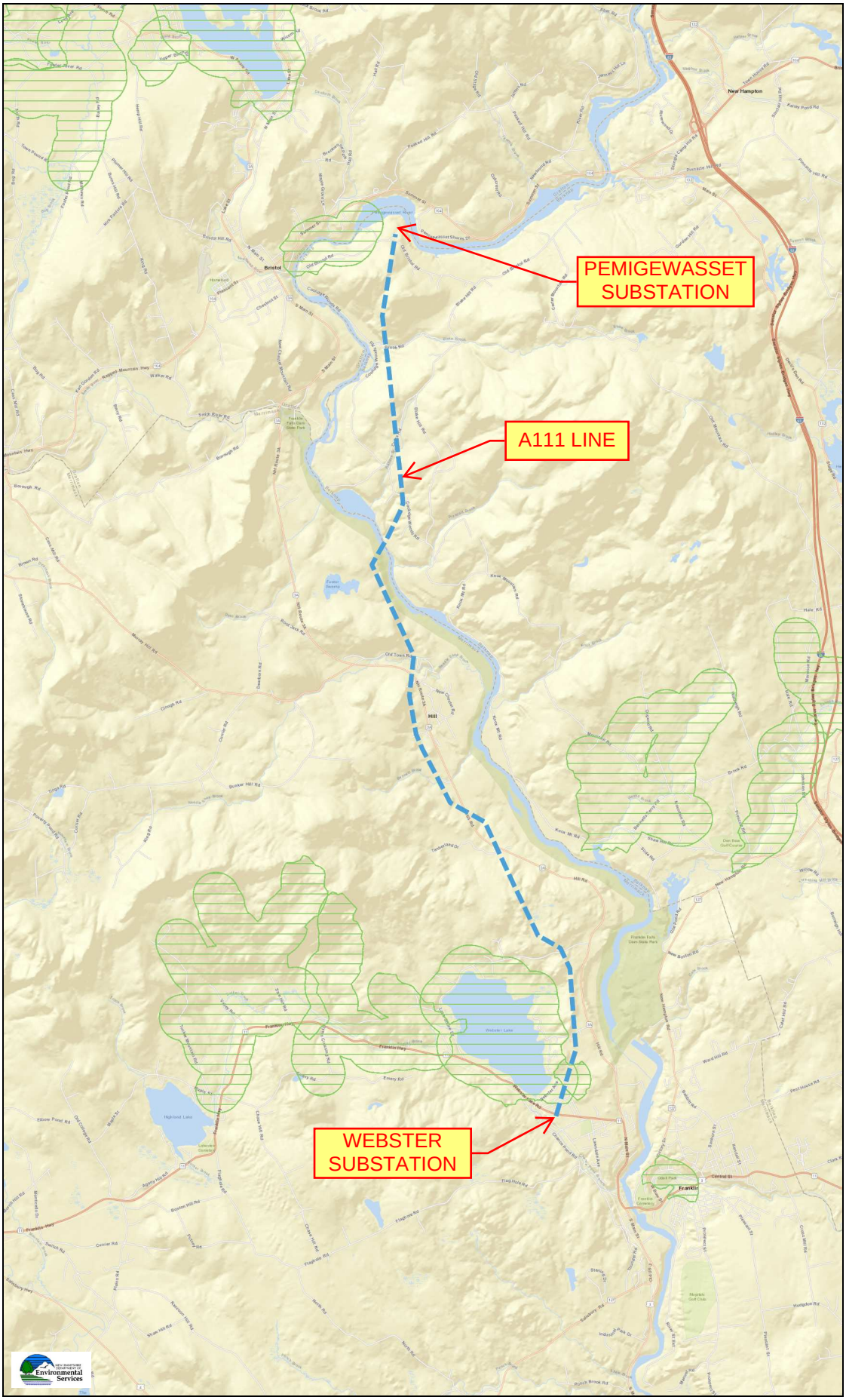
NHDES Web GIS Printout Surface Water Impairments A111 Line



Legend

Surface Waters with Impairn
2016 with Quarter Mile Buffe

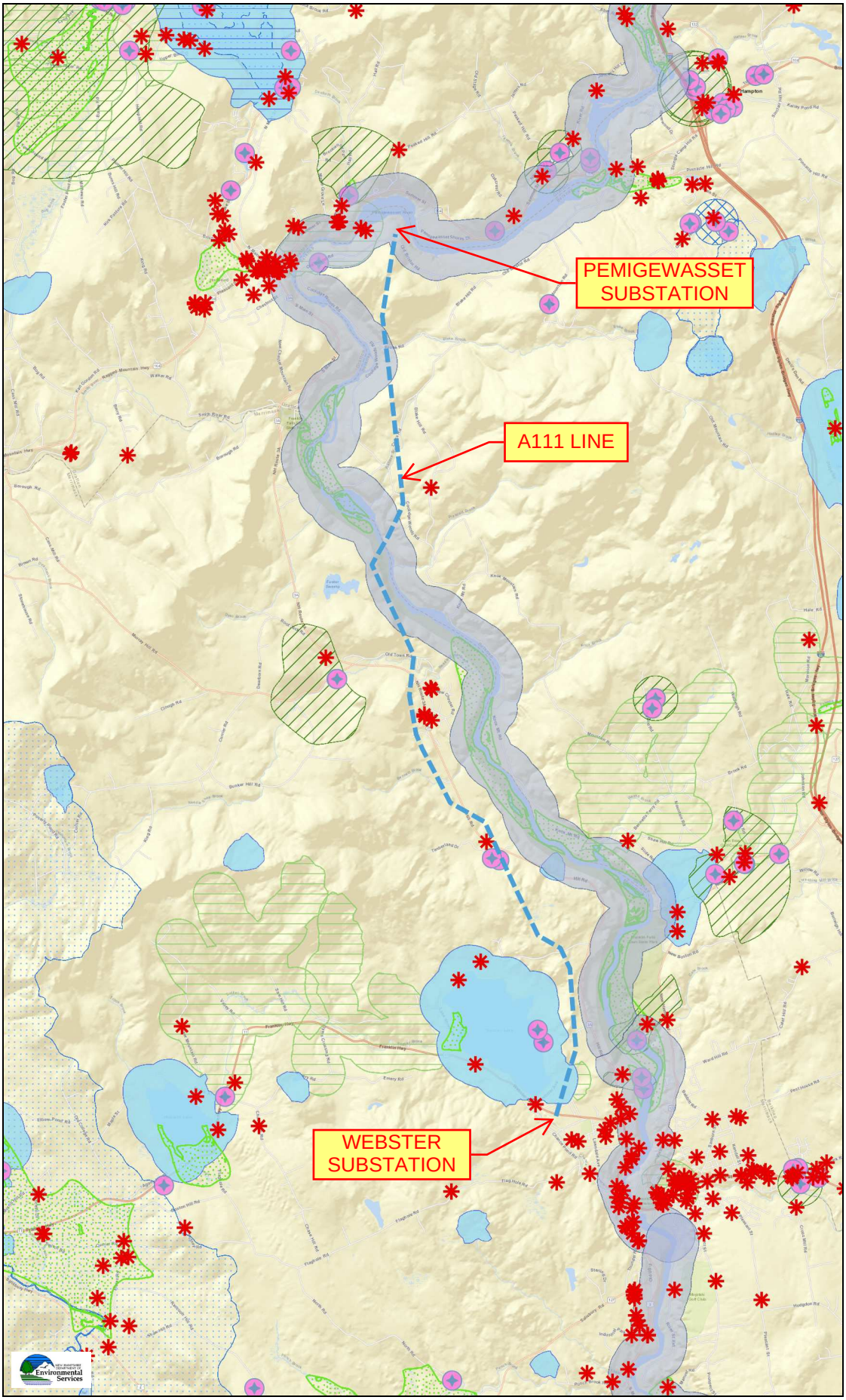
Map Scale

1: 100,000

Map Generated: 5/17/2021

Notes

NHDES Web GIS Printout AoT Screening Layers A111 Line



Legend

- Remediation Sites
- Coastal and Great Bay Regi Communities
- Designated Rivers Quarterm Buffer
- Public Water Supply Wells
- Groundwater Classification GA1
- Groundwater Classification GA2
- Water Supply Intake Protect Areas
- Wellhead Protection Areas
- Class A Lakes with a Quarte Buffer
- Class A - All Features
- All Lakes, with a Quarter Mil Buffer
- Outstanding Resource Wate Watersheds
- Surface Waters with Impairn 2016 with Quarter Mile Buffe
- Watersheds with Chloride Impairments 2016

Map Scale

1: 100,000

Map Generated: 5/17/2021

Notes

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Memorandum

To: Amy Lamb, NHB

Date: February 23, 2021
Project #: 52743.00

From: Sherrie Trefry, CSS
Nicole Martin, WSA

Re: A111 Transmission Line Rebuild
NHB20-2570, NHB20-2571, and NHB20-2573 Coordination

Introduction

Eversource proposes to rebuild their existing A111 electric transmission line that begins in Franklin and ends in New Hampton. Refer to the attached **Aerial Overview Figure**. Eversource has identified the need to replace the structures, conductor and install fiber optic cable, known as Optical Ground Wire (OPGW) along their existing A111 electric transmission line. The A111 line, built in 1951, is a 115kV line that is 10.6 miles long and starts at the Webster Substation in Franklin and passes through northern Franklin, Hill, and into the Pemigewasset Substation in New Hampton. This line needs to be rebuilt due to the poor condition of the approximately 120 structures resulting from woodpecker damage, insect damage, and pole rot. Eversource proposes to replace all the wood structures with steel structures that are more resilient to insect and woodpecker damage and pole rot, can support the heavier OPGW, and can further withstand typical New Hampshire storms and severe weather events. The proposed steel structures would have the same H-frame design as the existing wooden structures. The proposed OPGW installation on this line enables communication between Eversource substations. The communication between substations improves the reliability across the electric system through increased visibility of the system, quicker response time for system issues, automation, and reduced outage occurrences and durations. Natural resource and property owner impacts have been minimized through the proposed rebuild of the entire line, as opposed to the structure replacement alternative that would necessitate additional future repairs and maintenance. The proposed work will occur within the existing, cleared utility right-of-way (ROW) and no additional widening of the ROW is proposed, although minimal tree clearing is proposed within the ROW in Franklin. Eversource will be applying for a NH Department of Environmental Services Wetlands Dredge and Fill Permit and Alteration of Terrain permit. A copy of the wildlife habitat assessment will be provided to the Department, as required. Construction is anticipated to start by mid-2021 and continue through 2022.

NHB Results

A separate NH Natural Heritage Bureau (NHB) DataCheck Results Letter was produced for each of the three towns that the project ROW intersects. NHB20-2571 covers the northern portion of the project in New Hampton, NHB20-2570 covers the middle portion of the project in Hill, and NHB20-2573 covers the southern portion of the project in Franklin. All three NHB letters identify natural communities that require coordination with the NHB.

Based on data provided in the NHB DataCheck Results Letters, the following natural communities were identified as occurring within the vicinity of the project corridor: dry river bluff (Hill and New Hampton), herbaceous riverbank/floodplain (Hill and New Hampton), major river silver maple floodplain system (all three towns), silver maple – false nettle – sensitive fern floodplain forest (all three towns), and aquatic bed (Franklin). Refer to the attached **NHB DataCheck Results Letters**. The mapped natural community records do not intersect the project ROW, occur along the Pemigewasset River, and are not mapped along the portion of the river at the ROW crossing on the town line of Hill and New Hampton.

2 Bedford Farms Drive
Suite 200
Bedford, NH 03110-6532
P 603.391.3900

Memorandum

Best Management Practices

Per RSA 482-A:3, XV(a), all work will be conducted in accordance with the Best Management Practices Manual for Utility Maintenance in and Adjacent to Wetlands and Waterbodies in New Hampshire (March 2019), published by the New Hampshire Department of Natural and Cultural Resources. Temporary erosion controls (i.e., silt fence or silt sock) will be utilized during construction to prevent sediment-laden runoff from entering the surrounding habitat areas. The project will use wildlife friendly erosion controls made of woven organic material to decrease the risk of wildlife entanglement. Upon completion of the proposed work, the erosion control measures will be removed, and any areas of bare soil will be reseeded and stabilized.

VHB does not anticipate impacts to the identified natural communities based on the implementation of BMPs and the proximity of the project work to the resources. Please contact Nicole Martin (nmartin@vhb.com or 603-391-3889) or Sherrie Trefry (strefry@vhb.com or 603-391-3951) with any questions you may have while conducting your review.

Attachments: Figure 1 – Aerial Overview
NHB DataCheck Reports (NHB20-2570, NHB20-2571, and NHB20-2573)

2 Bedford Farms Drive
Suite 200
Bedford, NH 03110-6532
P 603.391.3900

Martin, Nicole

From: Lamb, Amy <Amy.E.Lamb@dncr.nh.gov>
Sent: Wednesday, February 24, 2021 11:20 AM
To: Martin, Nicole
Cc: Trefry, Sherrie
Subject: [External] RE: A111 Line Rebuild Project - NHB20-2570, NHB20-2571, & NHB20-2573 Consultation

Hello Nicole,

Thank you for providing this memo and clarifying that the work proposed under NHB20-2570, NHB20-2571, and NHB20-2573 is for a proposed rebuild of Eversource's existing A111 electric transmission line that begins in Franklin and ends in New Hampton. The proposed steel structures would have the same H-frame design as the existing wooden structures. The proposed work will occur within the existing, cleared utility right-of-way (ROW) and no additional widening of the ROW is proposed, although minimal tree clearing is proposed within the ROW in Franklin.

As noted in your memo, there are several exemplary natural communities documented in the vicinity of the project:

- Aquatic bed
- Dry river bluff
- Herbaceous riverbank/floodplain
- Major river silver maple floodplain system
- Silver maple - false nettle - sensitive fern floodplain forest

All of these natural communities are associated with the Pemigewasset River. There will be no impacts within or directly adjacent to these mapped exemplary natural communities, and BMPs will be in place through construction to prevent incidental impacts from erosion and sedimentation.

In areas where soil disturbance and reseeding will occur within 250' of the Pemigewasset River, NHB recommends using seed from native species if possible, or at least naturalized species, to help prevent the introduction of non-native and/or invasive species to the river corridor. Furthermore, NHB recommends taking extra precautions to reduce transport of invasive plant species material when working within 250' of the Pemigewasset River. NHB would like to review any seed mixes proposed for use within 250' of the Pemigewasset River.

Thank you for the opportunity to comment.

Best,
Amy

From: Martin, Nicole <nmartin@vhb.com>
Sent: Tuesday, February 23, 2021 12:38 PM
To: Lamb, Amy <Amy.E.Lamb@dncr.nh.gov>
Cc: Trefry, Sherrie <STrefry@VHB.com>
Subject: A111 Line Rebuild Project - NHB20-2570, NHB20-2571, & NHB20-2573 Consultation

Hello Amy,

Please refer to the attached T&E species coordination memo regarding Eversource's proposed A111 Transmission Line Rebuild Project. We would like to initiate consultation for the proposed project. As always, don't hesitate to call or email if you have any questions or require additional information.

Thank you,

Nicole Martin
Environmental Scientist

2 Bedford Farms Drive
Suite 200
Bedford, NH 03110-6532
P 603.391.3889 **| F** 603.518.7495
nmartin@vhb.com

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Explore trends and critical issues with our thought leaders.

Memorandum

To: Kim Tuttle, NHF&G

Date: February 23, 2021
Project #: 52743.00

From: Sherrie Trefry, CSS
Nicole Martin, WSA

Re: A111 Transmission Line Rebuild
NHB20-2570 and NHB20-2573 Coordination

Introduction

Eversource proposes to rebuild their existing A111 electric transmission line that begins in Franklin and ends in New Hampton. Refer to the attached **Aerial Overview Figure**. Eversource has identified the need to replace the structures, conductor and install fiber optic cable, known as Optical Ground Wire (OPGW) along their existing A111 electric transmission line. The A111 line, built in 1951, is a 115kV line that is 10.6 miles long and starts at the Webster Substation in Franklin and passes through northern Franklin, Hill, and into the Pemigewasset Substation in New Hampton. This line needs to be rebuilt due to the poor condition of the approximately 120 structures resulting from woodpecker damage, insect damage, and pole rot. Eversource proposes to replace all the wood structures with steel structures that are more resilient to insect and woodpecker damage and pole rot, can support the heavier OPGW, and can further withstand typical New Hampshire storms and severe weather events. The proposed steel structures would have the same H-frame design as the existing wooden structures. The proposed OPGW installation on this line enables communication between Eversource substations. The communication between substations improves the reliability across the electric system through increased visibility of the system, quicker response time for system issues, automation, and reduced outage occurrences and durations. Natural resource and property owner impacts have been minimized through the proposed rebuild of the entire line, as opposed to the structure replacement alternative that would necessitate additional future repairs and maintenance. The proposed work will occur within the existing, cleared utility right-of-way (ROW) and no additional widening of the ROW is proposed, although minimal tree clearing is proposed within the ROW in Franklin. Eversource will be applying for a NH Department of Environmental Services Wetlands Dredge and Fill Permit and Alteration of Terrain permit. A copy of the wildlife habitat assessment will be provided to the Department, as required. Construction is anticipated to start by mid-2021 and continue through 2022.

NHB Results

A separate NH Natural Heritage Bureau (NHB) DataCheck Results Letter was produced for each of the three towns that the project ROW intersects. NHB20-2571 covers the northern portion of the project in New Hampton, NHB20-2570 covers the middle portion of the project in Hill, and NHB20-2573 covers the southern portion of the project in Franklin. The report for New Hampton (NHB20-2571) is excluded from this coordination, as it did not identify any animal species.

Based on data provided in the NHB DataCheck Results Letters, the following animal species were identified as occurring within the vicinity of project corridor: wood turtle (*Glyptemys insculpta*) [special concern], American eel (*Anguilla rostrata*) [special concern], common loon (*Gavia immer*) [state threatened], and brook floater (*Alasmidonta varicosa*) [state endangered]. Refer to the attached **NHB DataCheck Results Letters**. All species were identified in Franklin, with the wood turtle occurring in both Franklin and Hill.

Although the mapped polygons for these species do not intersect the project ROW, the proximity of the ROW to the mapped occurrences and mobility of these animals necessitates appropriate project considerations. Since no in-water work is proposed, impacts to the brook floater and American eel are not expected. The overhead wires cross above the Pemigewasset River along the town line of Hill and New Hampton, however, no vehicular or other access crossing of this river is proposed as part of this project.

2 Bedford Farms Drive
Suite 200
Bedford, NH 03110-6532
P 603.391.3900

Memorandum

The common loon was identified in Franklin along Webster Lake. No impacts to this waterbody or the 250-Protected Shoreland buffers are proposed as part of this project. Given this species preference for large open waterbodies, we do not anticipate encountering it within the project ROW.

Best Management Practices

Per RSA 482-A:3, XV(a), all work will be conducted in accordance with the Best Management Practices Manual for Utility Maintenance in and Adjacent to Wetlands and Waterbodies in New Hampshire (March 2019), published by the New Hampshire Department of Natural and Cultural Resources. Temporary erosion controls (i.e., silt fence or silt sock) will be utilized during construction to prevent sediment-laden runoff from entering the surrounding habitat areas. The project will avoid the use of welded plastic or biodegradable plastic netting or thread in erosion control matting. Rather, erosion controls made of woven organic material such as natural fiber matting will be used to decrease the risk of wildlife entanglement. Upon completion of the proposed work, the erosion control measures will be removed, and any areas of bare soil will be reseeded and stabilized.

Additionally, the NHF&G "Seeking Reports of Rare Turtles" flyer (attached) will be provided to the contractors to assist with identification. Sweeps of the project area can be conducted each day prior to the start of construction to look for any turtles. If turtles are spotted during construction, activities would cease, and the sighting would be documented and reported to NHF&G if it is a species they are tracking. Activities would resume upon guidance from NHF&G or the environmental monitor, as applicable, regarding safe relocation the turtle (assuming it is not nesting). According to the current environmental project plans, no known or potentially suitable turtle nesting sites have been identified within the ROW.

VHB does not anticipate that the identified species will be negatively impacted by the proposed work, based on the implementation of the proposed BMPs developed for similar Eversource work. Please contact Nicole Martin (nmartin@vhb.com or 603-391-3889) or Sherrie Trefry (strefry@vhb.com or 603-391-3951) with any questions you may have while conducting your review.

Attachments: Figure 1 – Aerial Overview
NHB DataCheck Reports (NHB20-2570 and NHB20-2573)
NHF&G Turtle Flyer

2 Bedford Farms Drive
Suite 200
Bedford, NH 03110-6532
P 603.391.3900

SEEKING REPORTS OF RARE TURTLES

The NH Fish & Game Department is collecting observations of four turtle species:

Blanding's turtle (state endangered)

- Large, dark/black domed shell with lighter speckles
- Distinct yellow throat/chin
- Aquatic but often moves on land

Wood turtle (special concern)

- Sculpted, pyramidal brownish shell
- Orange around neck and limbs
- River/stream turtle spending many months on land

Eastern box turtle (state endangered)

- Small terrestrial turtle with highly domed shell
- Irregular yellow or orange markings over brown/black base

Spotted turtle (state threatened)

- Small, mostly aquatic with black or dark brown with yellow spots.
- Fairly flat shell compared to Blanding's turtle

Report sightings to RAARP@wildlife.nh.gov or 603-271-2461 ***Please report promptly, noting specific location and date – Photographs strongly encouraged***

Martin, Nicole

From: Tuttle, Kim <Kim.A.Tuttle@wildlife.nh.gov>
Sent: Tuesday, February 23, 2021 12:44 PM
To: Martin, Nicole
Cc: Trefry, Sherrie
Subject: [External] RE: A111 Line Rebuild Project - NHB20-2570 & NHB20-2573 NHF&G Consultation

Hello Nicole,

Please send over requests for review in separate emails for each NHB file number. You don't have to rewrite the narrative but we need to keep the files separate to be able to file and query responses in the NHB database check tool for DNCR, F&G and NHDES to be able to access.

Please inform NHFG reviewers if your project will require or may require an Alteration of Terrain Permit. Be advised that as of June 2, 2020, DES has adopted a new rule; Env-Wq 1503.19 intro and (h), pertaining to the criteria for issuance of AoT permits specific to RSA 212-A:9, III threatened and endangered wildlife species. The rule results in a change to what information on threatened and endangered wildlife species will need to be submitted in order for the AoT program to make a permit decision: In addition to a NHB datacheck results letter, the rule now also requires an assessment or survey of the project area for the presence of threatened and endangered rare wildlife species or their habitat. Surveys should address all wildlife species identified in the NHB datacheck results letter as well as species that may not yet have been recorded with NHB but may be present in the project area. This work needs to be completed by a qualified wildlife biologist and would need to be coordinated with NHFG.

Thanks,

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

From: Martin, Nicole <nmartin@vhb.com>
Sent: Tuesday, February 23, 2021 12:39 PM
To: Tuttle, Kim <Kim.A.Tuttle@wildlife.nh.gov>
Cc: Trefry, Sherrie <STrefry@VHB.com>
Subject: A111 Line Rebuild Project - NHB20-2570 & NHB20-2573 NHF&G Consultation

Hello Kim,

Please refer to the attached T&E species coordination memo regarding Eversource's proposed A111 Transmission Line Rebuild Project. We would like to initiate consultation for the proposed project. As always, don't hesitate to call or email if you have any questions or require additional information.

Thank you,

Nicole Martin
Environmental Scientist

2 Bedford Farms Drive
Suite 200
Bedford, NH 03110-6532
P 603.391.3889 **| F** 603.518.7495
nmartin@vhb.com

Engineers | Scientists | Planners | Designers
www.vhb.com

VHB Viewpoints
Explore trends and critical issues with our thought leaders.

From: Tuttle, Kim
To: Martin, Nicole
Cc: Trefry, Sherrie
Subject: [External] RE: A111 Line Rebuild Project - NHB20-2573 NHF&G Consultation
Date: Wednesday, February 24, 2021 8:55:25 AM
Attachments: image001.gif
Wood Turtle Flyer_2020.pdf

Hi Nicole,

Please add this wood turtle flyer in addition to the 'Seeking Reports of Rare Turtles' flyer to your BMPs and give to contractors and add 'no impact to vernal pools, including temporary impacts', to the wildlife assessment for the entire project. Vernal pools and a 50 ft. buffer should be flagged out prior to work. Be particularly careful within 50 ft. of vernal pools to avoid crushing amphibians and reptiles. This may help speed the AoT process up.

Thanks,

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

From: Martin, Nicole <nmartin@vhb.com>
Sent: Tuesday, February 23, 2021 12:56 PM
To: Tuttle, Kim <Kim.A.Tuttle@wildlife.nh.gov>
Cc: Trefry, Sherrie <STrefry@VHB.com>
Subject: A111 Line Rebuild Project - NHB20-2573 NHF&G Consultation

Hello Kim,

Please refer to the attached T&E species coordination memo regarding Eversource's proposed A111 Transmission Line Rebuild Project. We would like to initiate consultation for the proposed project, specific to NHB20-2573. As always, don't hesitate to call or email if you have any questions or require additional information.

Thank you,

Nicole Martin
Environmental Scientist

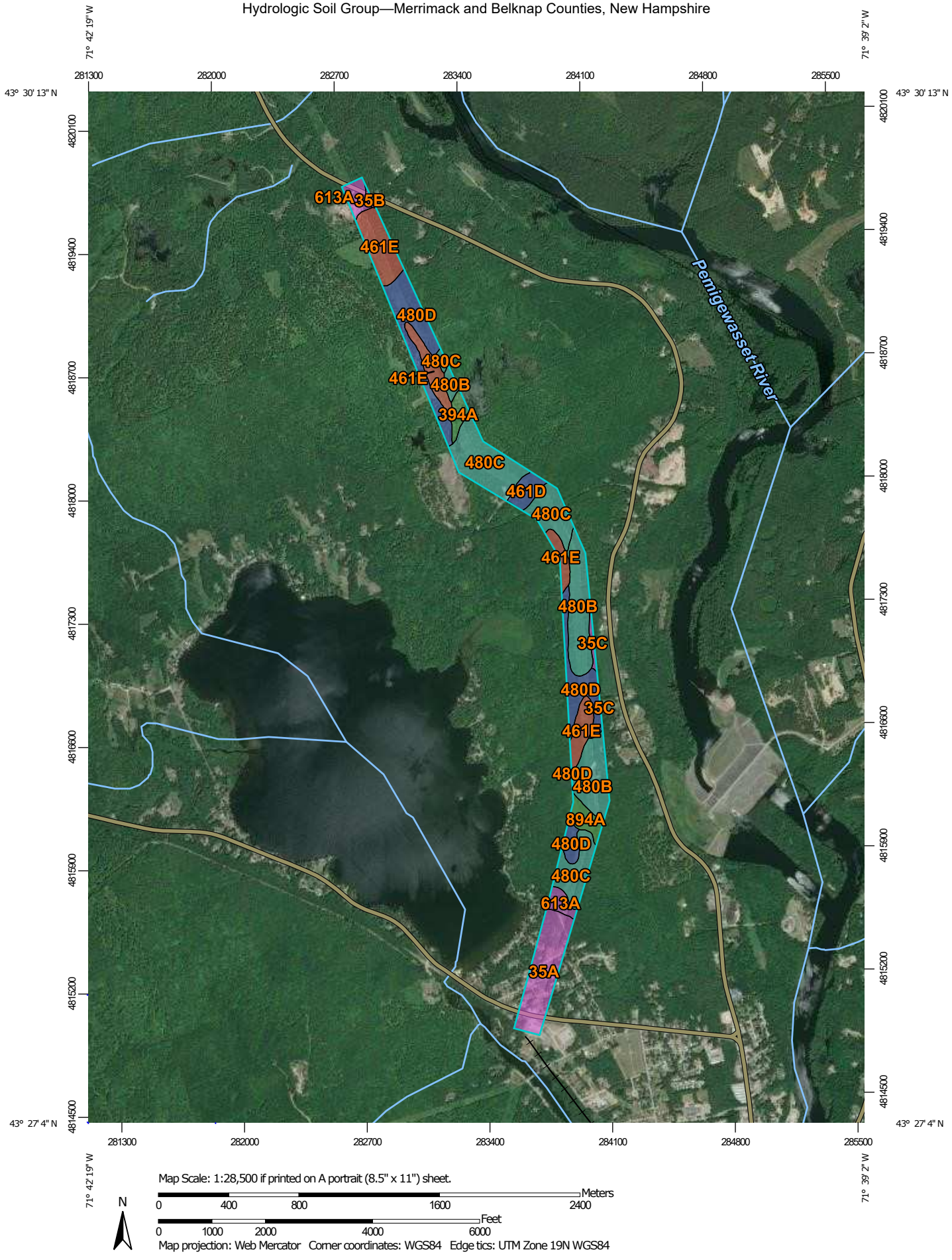
(Glyptemys insculpta)

(New Hampshire Species of Special Concern)

Neck and forelimbs are orange.

Characterized by its highly sculpted shell with each large scute taking on an irregular pyramidal shape.

Adults can be 5-8 inches long.



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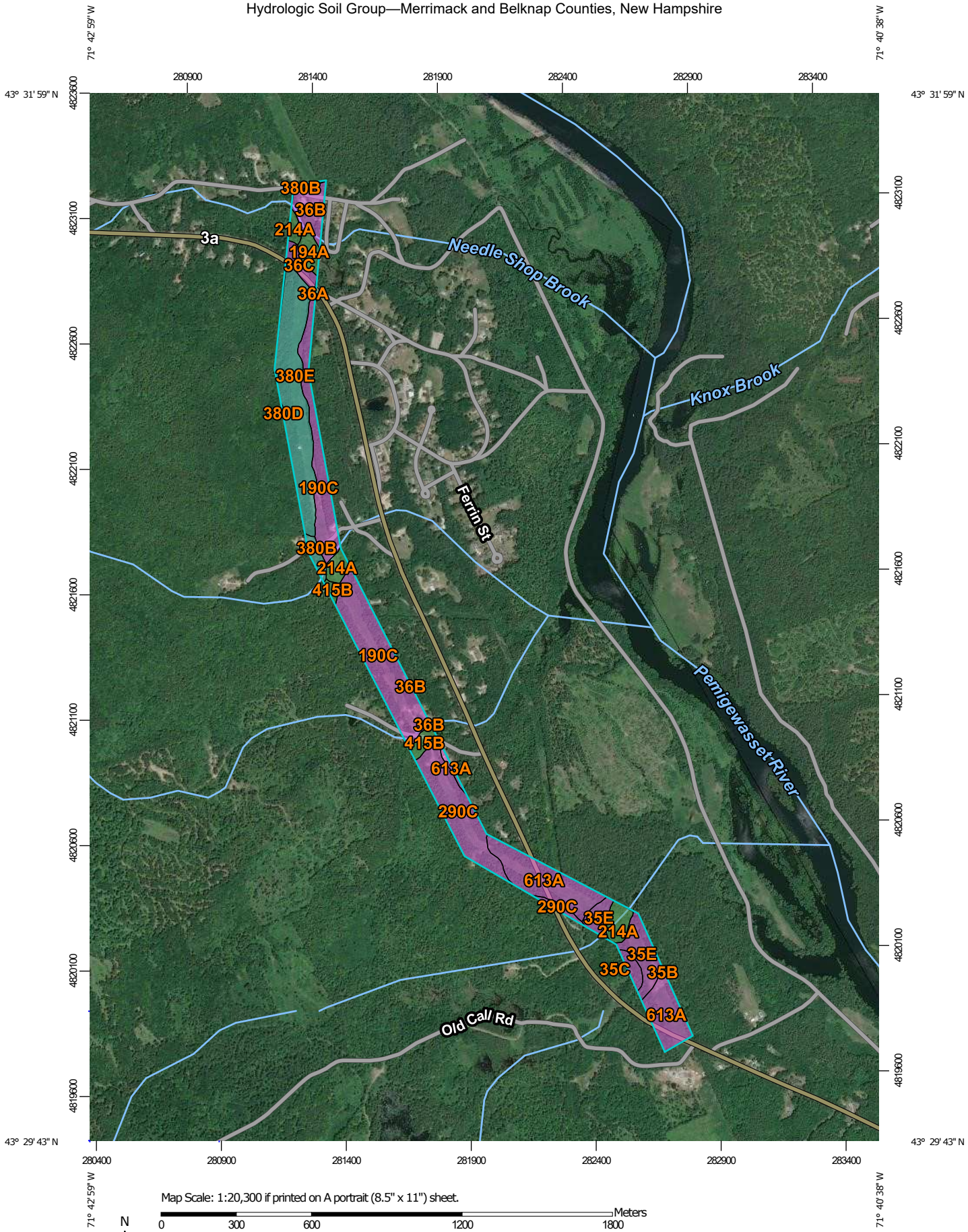
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
35A	Champlain loamy fine sand, 0 to 3 percent slopes	A	27.7	12.2%
35B	Champlain loamy fine sand, 3 to 8 percent slopes	A	0.7	0.3%
35C	Champlain loamy fine sand, 8 to 15 percent slopes	A	1.6	0.7%
394A	Chocorua mucky peat, 0 to 1 percent slopes	A/D	4.2	1.8%
461D	Woodstock-Millsite-Rock outcrop complex, 15 to 35 percent slopes	B	6.3	2.8%
461E	Woodstock-Millsite-Rock outcrop complex, 35 to 60 percent slopes	D	36.6	16.0%
480B	Millsite-Woodstock-Henniker complex, 3 to 8 percent slopes, very stony	C	41.7	18.3%
480C	Millsite-Woodstock-Henniker complex, 8 to 15 percent slopes, very stony	C	52.2	22.9%
480D	Millsite-Woodstock-Henniker complex, 15 to 25 percent slopes, very stony	B	41.7	18.3%
613A	Croghan loamy fine sand, 0 to 8 percent slopes, wooded	A	9.3	4.1%
894A	Meadowsedge peat, 0 to 1 percent slopes	A/D	6.1	2.7%
Totals for Area of Interest			**228.1**	**100.0%**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4820600
4820100
4819600
380B
36B
214A
3a
194A
36C
36A
Needle Shop Brook
380E
380D
Knox Brook
190C
Ferrin St
380B
214A
415B
190C
36B
36B
415B
613A
290C
Penigewasset River
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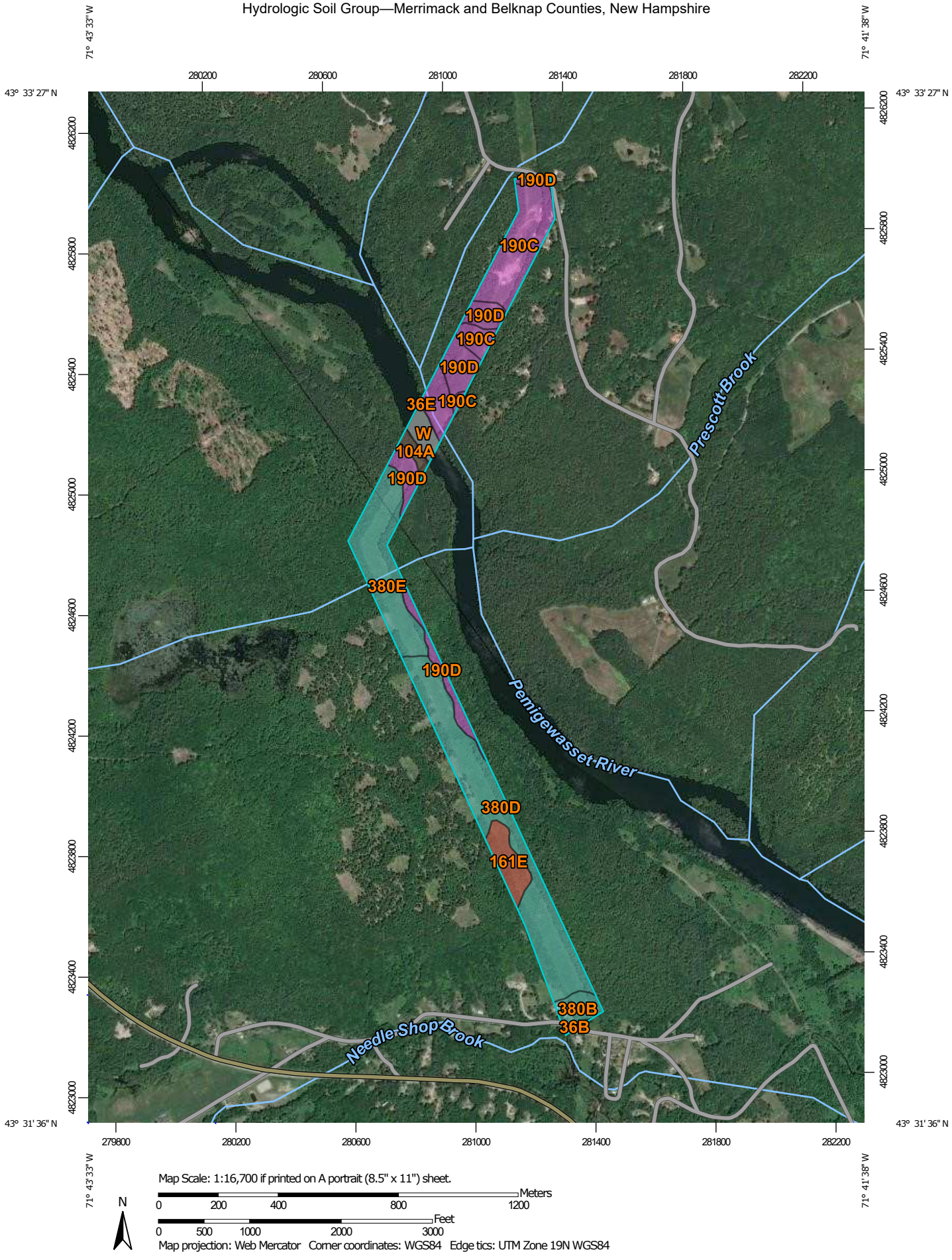
Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
35B	Champlain loamy fine sand, 3 to 8 percent slopes	A	0.1	0.1%
35C	Champlain loamy fine sand, 8 to 15 percent slopes	A	1.7	1.3%
35E	Champlain loamy fine sand, 15 to 60 percent slopes	A	9.1	7.1%
36A	Adams loamy sand, 0 to 3 percent slopes, wooded	A	0.2	0.2%
36B	Adams loamy sand, 3 to 8 percent slopes, wooded	A	5.4	4.3%
36C	Adams loamy sand, 8 to 15 percent slopes, wooded	A	2.3	1.8%
190C	Adams-Lyman complex, 8 to 15 percent slopes, rocky	A	32.5	25.5%
194A	Catden mucky peat, 0 to 1 percent slopes, ponded	A/D	2.6	2.1%
214A	Naumburg loamy sand, 0 to 5 percent slopes	A/D	6.4	5.0%
290C	Champlain-Woodstock complex, 8 to 15 percent slopes	A	15.9	12.5%
380B	Tunbridge-Lyman-Becket complex, 0 to 8 percent slopes, very stony	C	2.4	1.8%
380D	Tunbridge-Lyman-Becket complex, 15 to 25 percent slopes, very stony	C	0.1	0.1%
380E	Tunbridge-Lyman-Becket complex, 25 to 60 percent slopes, very stony	C	23.8	18.7%
415B	Moosilauke fine sandy loam, 3 to 8 percent slopes, very stony	A/D	2.8	2.2%
613A	Croghan loamy fine sand, 0 to 8 percent slopes, wooded	A	22.1	17.4%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Prescott Brook
Penigewasset River
Needle Shop Brook
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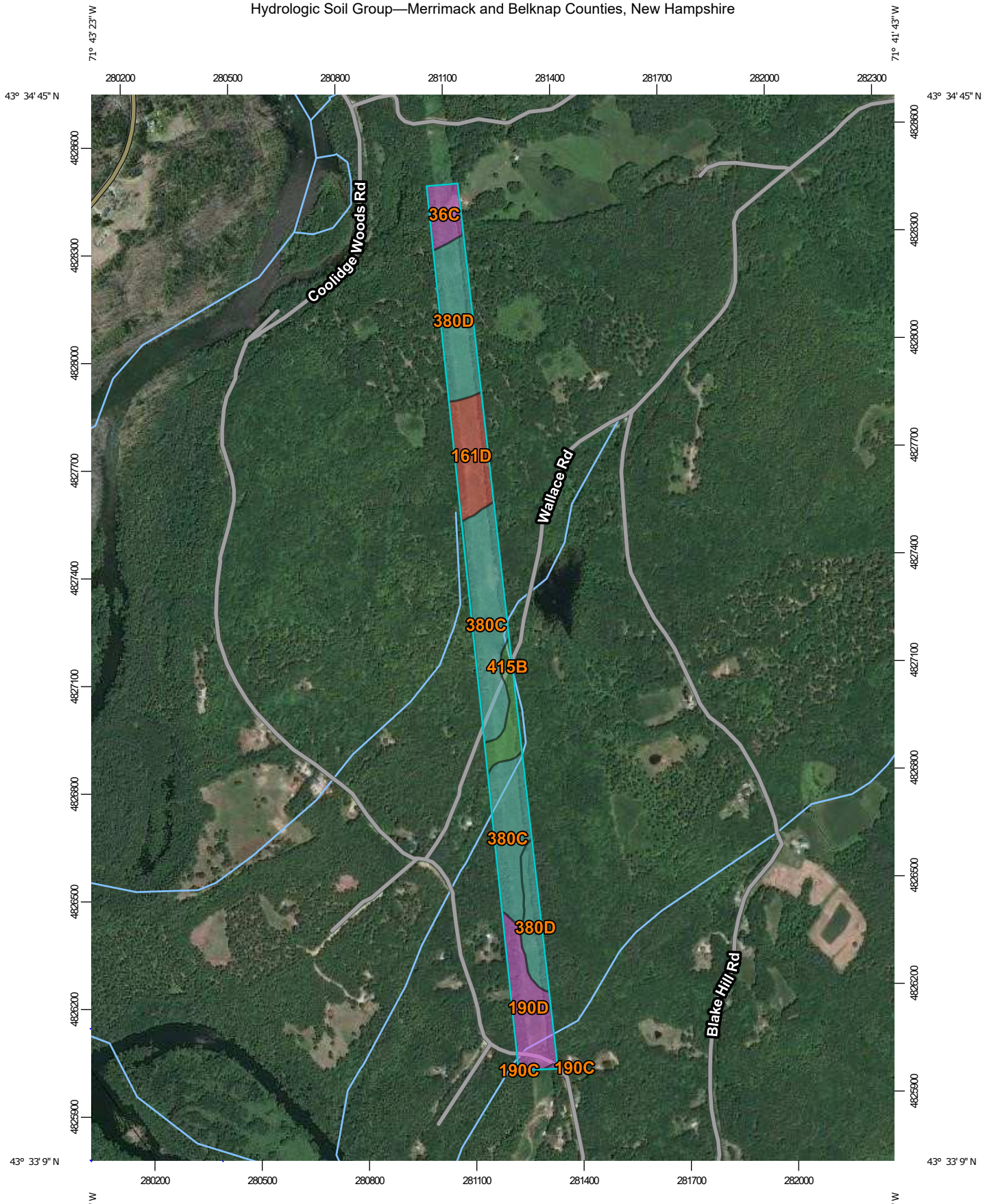
Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
36B	Adams loamy sand, 3 to 8 percent slopes, wooded	A	0.3	0.3%
36E	Adams loamy sand, 15 to 60 percent slopes, wooded	A	3.8	4.2%
104A	Podunk fine sandy loam, 0 to 3 percent slopes, frequently flooded	B/D	1.4	1.5%
161E	Lyman-Tunbridge-Rock outcrop complex, 35 to 60 percent slopes	D	4.9	5.3%
190C	Adams-Lyman complex, 8 to 15 percent slopes, rocky	A	15.7	17.3%
190D	Adams-Lyman complex, 15 to 35 percent slopes, very rocky	A	13.1	14.4%
380B	Tunbridge-Lyman-Becket complex, 0 to 8 percent slopes, very stony	C	3.2	3.5%
380D	Tunbridge-Lyman-Becket complex, 15 to 25 percent slopes, very stony	C	29.0	31.8%
380E	Tunbridge-Lyman-Becket complex, 25 to 60 percent slopes, very stony	C	17.0	18.7%
W	Water		2.6	2.9%
Totals for Area of Interest			**91.2**	**100.0%**



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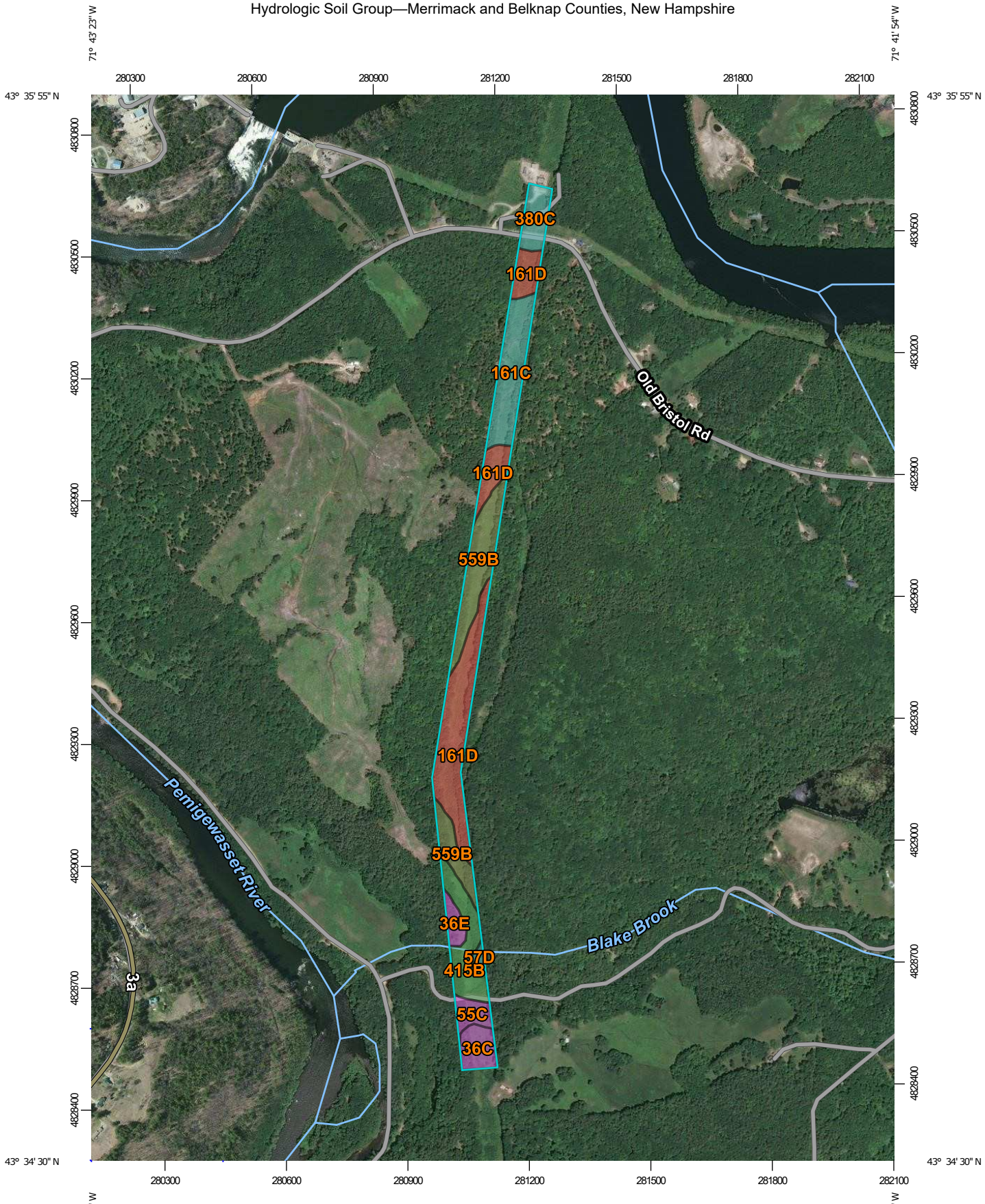
Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
36C	Adams loamy sand, 8 to 15 percent slopes, wooded	A	3.5	5.9%
161D	Lyman-Tunbridge-Rock outcrop complex, 15 to 35 percent slopes	D	7.5	12.3%
190C	Adams-Lyman complex, 8 to 15 percent slopes, rocky	A	0.1	0.1%
190D	Adams-Lyman complex, 15 to 35 percent slopes, very rocky	A	8.6	14.1%
380C	Tunbridge-Lyman-Becket complex, 8 to 15 percent slopes, very stony	C	22.9	37.9%
380D	Tunbridge-Lyman-Becket complex, 15 to 25 percent slopes, very stony	C	14.4	23.8%
415B	Moosilauke fine sandy loam, 3 to 8 percent slopes, very stony	A/D	3.5	5.8%
Totals for Area of Interest			**60.6**	**100.0%**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4829900
4829600
4829300
4829000
4828700
4828400
380C
161D
161C
161D
559B
161D
559B
36E
57D
415B
55C
36C
Old Bristol Rd
Pemigewasset River
Blake Brook
3a
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Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Merrimack and Belknap Counties, New Hampshire
Survey Area Data: Version 25, May 29, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 12, 2019—Aug 30, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
36C	Adams loamy sand, 8 to 15 percent slopes, wooded	A	2.2	5.8%
36E	Adams loamy sand, 15 to 60 percent slopes, wooded	A	1.1	3.0%
55C	Hermon sandy loam, 8 to 15 percent slopes, very stony	A	1.5	3.9%
57D	Becket fine sandy loam, 15 to 25 percent slopes, very stony	C	0.3	0.9%
161C	Tunbridge-Lyman-Rock outcrop complex, 8 to 15 percent slopes	C	5.7	15.2%
161D	Lyman-Tunbridge-Rock outcrop complex, 15 to 35 percent slopes	D	12.2	32.6%
380C	Tunbridge-Lyman-Becket complex, 8 to 15 percent slopes, very stony	C	2.3	6.3%
415B	Moosilauke fine sandy loam, 3 to 8 percent slopes, very stony	A/D	4.5	12.1%
559B	Skerry fine sandy loam, 0 to 8 percent slopes, very stony	C/D	7.6	20.2%
Totals for Area of Interest			**37.5**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

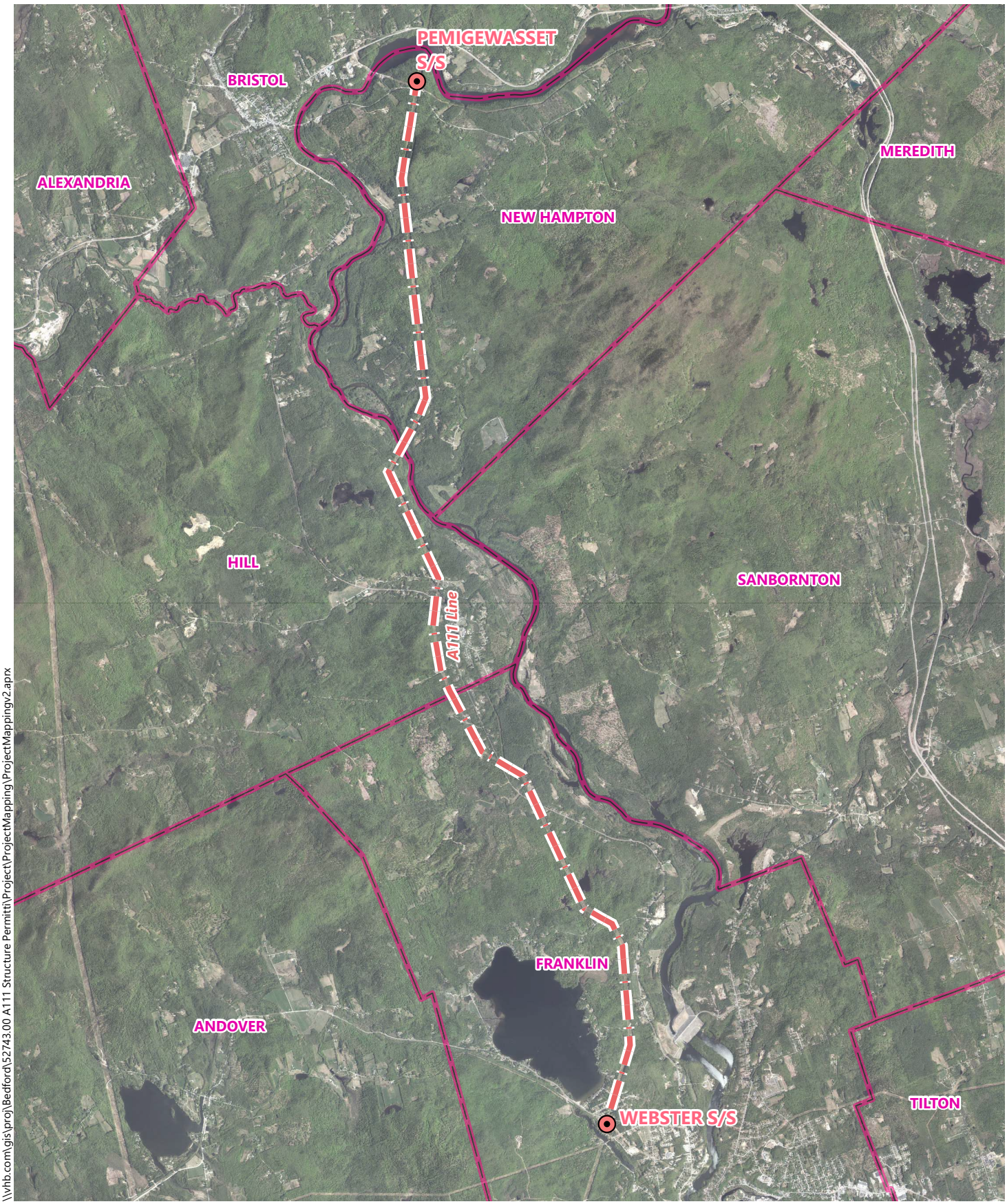
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



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0 3250 6500 13000 Feet

Substations

Existing Overhead Line

Town Boundaries

A111 Rebuild Project | Franklin - New Hampton, New Hampshire

Aerial Overview

Source: VHB, GRANIT, Eversource

Photo 1: View south of existing structure 83/proposed structure 84. 5/3/21

Photo 2: View north of existing structures 84 and 85. 5/3/21

Photo 3: View south of existing structure 82/proposed structure 83. 5/3/21

Photo 4: View south of existing structure 82 toward ex. structure 81 in the background. 5/3/21

Photo 5: View east of an existing gravel drive toward existing structure 81. 5/3/21

Photo 6: View north from existing structure 81. 5/3/21

Photo 7: View north of Wetland FW-36 toward existing structure 10. This wetland is classified as a peatland. 9/14/20.

Photo 8: View southeast of Wetland FW-36 toward existing structure 8. 9/14/20

Photo 9: View west of Wetland FW-36 near existing structure 9. 4/14/21

Photo 10: View north of Wetland FW-29 toward existing structure 21. 9/11/20

Photo 11: View northwest of Wetland FW-22 toward existing structure 28. 9/10/20

Photo 12: View northwest of Wetland FW-13 toward existing structure 38. 9/4/20

Photo 13: View northwest of Wetland FW-12 toward existing structure 41. 9/3/20

Photo 14: View northwest of Wetland FW-3 toward existing structure 49. 9/3/20

Photo 15: View northwest of Wetland HW-16 toward existing structure 53. 9/2/20

Photo 16: View northwest of Wetland HW-8 toward existing structure 71. 9/1/20

Photo 17: View southwest of Wetland HW-2 toward existing structure 77. 9/1/20

Photo 18: View west of Wetland NHW-26. 8/31/20

Photo 19: View north of Wetland NHW-18 toward existing structure 92. 8/27/20

Photo 20: View north of Wetland NHW-11 toward existing structure 102. 8/26/20

Photo 21: View south of Wetland NHW-2 toward structure 116. 8/25/20

Photo 22: View southwest of the eastern portion of Wetland NHW-1 toward structure 118. 8/25/20

Appendix B – Alteration of Terrain Permitting Plans

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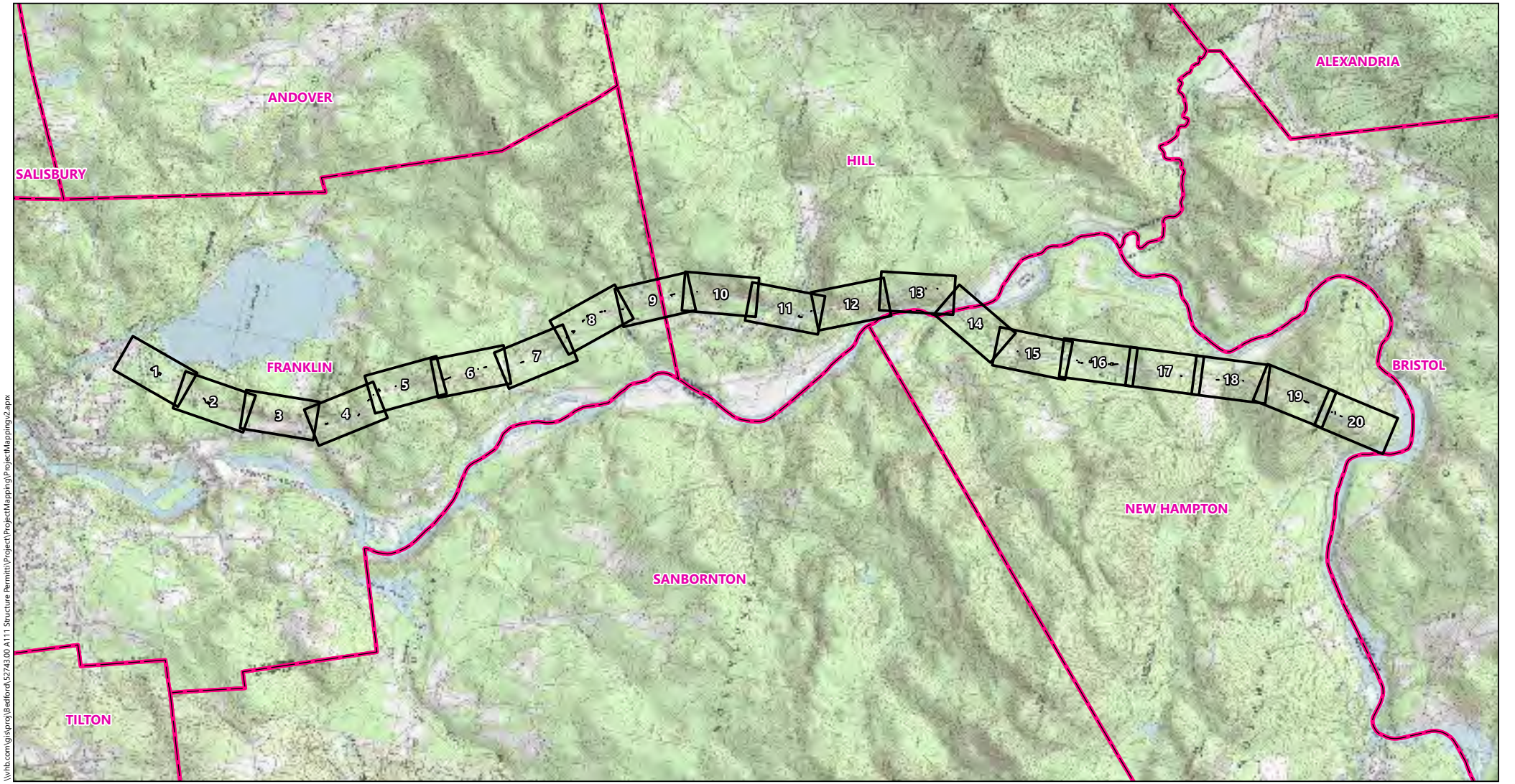
EVERSOURCE ENERGY

vhb May 25, 2021 | **FIGURE 1**



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0 2000 4000 8000 Feet

Page Index

Town Boundaries

A111 Structure Replacements | Franklin - New Hampton, NH

Alteration of Terrain Permitting Plans

Index Map

Source: VHB, GZA, Eversource, GRANIT

Construction Requirement Notes

Date Issued: May 26, 2021

General Notes:

1. This plan set is intended to show the proposed replacement of the A111 electric transmission line from the Webster Substation in Franklin, NH to the Pemigewasset Substation in New Hampton, NH.
2. Erosion control and temporary stormwater control measures shall comply with the New Hampshire Stormwater Manual Volume 3 – Erosion and Sediment Control During Construction December 2008 and the New Hampshire Department of Natural and Cultural Resources Best Management Practices Manual Utility Maintenance in and Adjacent to Wetlands and Waterbodies in New Hampshire, March 2019.
3. Wetlands were delineated and potential vernal pools were identified along the PSNH A111 ROW in the fall of 2020 by GZA. VHB Certified Wetlands Scientists reviewed and confirmed previously delineated wetlands and conducted vernal pool surveys in April of 2021.
4. Wetland delineations were performed to the standards in the Corps of Engineers Wetland Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0 (January 2012).
5. Elevations are based contours derived from NH GRANIT LIDAR (Coastal New Hampshire 2015)
6. Proposed construction limits of disturbance are approximate. Contractor is responsible for minimizing earth disturbance, as practicable.
7. The environmental controls shown on these plans may need to be supplemented due to season of work or work methods proposed. Refer to BMP manuals and additional guidance documents, as needed.
8. Erosion and sedimentation control measures shall be installed prior to start of work, shall be maintained, and shall remain in place during construction until all disturbed surfaces are stabilized. Following stabilization, erosion and sedimentation control measures shall be removed off-site and properly disposed.
9. Erosion and sedimentation controls shall be appropriate to the size and nature of the project and to the physical characteristics of the site, including slope, soil type, vegetative cover, and proximity to wetlands or surface waters. The type and installation method of erosion and sediment controls shall be in accordance with the BMP Manual for Utility Maintenance in and Adjacent to Wetlands and Waterbodies in New Hampshire ("BMP Manual") (NHDNCR, 2019).
10. Temporary stone construction entrances will be used at points of construction ingress/egress from public and private roadways.
11. The selected contractor is responsible for street sweeping at points of ingress/egress from public and private roadways.
12. Swamp matting shown on the plans represents the square footage and alignment of matting which is required and has been approved by the regulators. Additional layers of mats may be required at certain locations. Any increase in the number, change in alignment, or decision not to use swamp mats must be approved by the Permittee or an authorized representative of the Permittee(s) and, as appropriate, regulators.
13. Any excavated material shall be placed outside of jurisdictional areas or removed from the site.
14. If dewatering is required, dewatering basins shall be placed in uplands areas and discharge water into upland areas.
15. Areas of soil disturbance shall be stabilized following construction in accordance with the BMP Manual.
16. For work within the 100-year floodplain, there shall be no net additional fill placed, existing surface grades shall be restored upon completion of work.

Construction Sequence

1. Prior to construction crew mobilization, wetland limits will be flagged with pink neon vinyl ribbons and vernal pool limits will be flagged with orange neon vinyl ribbons tied to vegetation and visible to the crews.
2. Proposed pole locations will be staked in the field with numbered grade stakes.
3. Crews will be provided with approved plans depicting work areas and required matting and erosion controls to be used to avoid and minimize jurisdictional impacts.
4. Civil crews will mobilize to the project vicinity. It is anticipated that the Contractor will secure a marshalling yard outside of the ROW in a previously disturbed or developed area that will be used for delivery of materials, field office and parking.
5. Crews will establish construction track pads, where appropriate, as access is established from public roads into the ROW. Traffic control will be implemented, as required, by DOT or local access approvals.
6. Erosion and sediment control BMPs will be installed prior to land disturbing activities.
7. Civil crews will begin removing topsoil and establishing gravel access roads along designated routes.
8. Timber matting will be laid down across wetland crossings and around existing pole locations that are in or adjacent to wetlands.
9. Once access is established, line crews will mobilize to start drilling activities associated with pole replacements and temporary poles.
10. New steel poles and temporary poles will be installed. Existing conductors and static wire will be transferred to new steel poles until all new steel poles are installed.
11. New conductor and optical grounding wire will replace existing conductor and static wire. Temporary poles will be removed.
12. Old poles, conductor, insulators, and any other type of construction debris will be removed from the site and properly disposed.
13. Work pad restoration will begin following line construction completion. Work pads will be covered with topsoil, seeded, and mulched.
14. Timber matting will be removed from wetland areas. Care should be taken to remove any pieces of matting that break off during mat removal.
15. If required, wetland areas will be smoothed, seeded with an appropriate wetland seed mix, and mulched to ensure revegetation.
16. Access roads will be pulled back from wetland areas by a minimum of 10-15 feet.
17. Civil crews should ensure that appropriate water diversion BMPs implemented for the access roads are functioning prior to demobilizing from the ROW.
18. Sediment and erosion controls should remain in place until areas are stabilized and then be removed and properly disposed. If sediment and erosion controls can fully decompose, then erosion controls can remain in place after demobilization.
19. Wetland areas will be assessed by a qualified environmental monitor to ensure wetland vegetation is re-established within impacted areas prior to releasing the contractor.

Invasive Species Control Plan

1. Workers who will be operating equipment in areas that may contain invasive plant species will be trained in the identification and modes of dispersal and spread of common, highly-prolific terrestrial invasive plant species that are commonly found within the utility ROW.
2. In locations where invasive infestations exist, the contractor shall minimize contact with invasive species by choosing access routes and staging areas that are outside areas of infestation to the greatest extent practicable.
3. The contractor will be responsible for certifying that all equipment on the project is clean of invasive species prior to arriving onsite. The contractor will also be responsible for cleaning equipment as it is moved within the project to reduce the risk of spreading invasive plant seeds and fragments.
4. Clean vehicles, equipment, materials, gear, footwear or clothing of all visible soil and plant material on site in the infested area, or as near as practical to the infested area, prior to leaving the project site.
5. Cleaning methods can include:
    a. Use a brush, broom or hand tools to manually clean.
    b. Clean debris off equipment such as construction matting by shaking or dropping mats in a controlled manner to dislodge attached soil and debris.
    c. Compressed air.
    d. Using low-or high-pressure wash stations provided containment is in compliance with wastewater discharge regulations.
6. Do not decontaminate equipment next to streams or water bodies that could potentially transport seeds or propagules.
7. Decontaminate equipment and materials that may be contaminated by aquatic plant materials adjacent to the surface water they were exposed to prior to use in another surface water body.
8. Do not transport water withdrawn from a surface water body and discharge it to another water body.
9. Stabilize disturbed soils as soon as possible by seeding and/or using mulch, straw or gravel that is free of invasive plant material.
10. Where possible, when excavating soils, top layers of soil containing plant material and roots should be segregated from sub soils and left on site.
11. Do not transport fill and material containing invasive plant material onto a project site.
12. If fill and materials containing invasive species must be transported off site, cover soil and other material containing invasive plant material during transport and do not reuse. Stockpile or dispose of these materials in such a manner that would not promote the spread of invasive plants.

Erosion Control

1. The project shall be managed in a manner that meets the requirements and intent of RSA 430:53 and chapter AGR 3800 relative to invasive species.

2. Prior to starting any earth moving operations, the contractor shall notify appropriate agencies and shall install erosion control measures as shown on the plans, as field and as identified in federal, state, and local approval documents pertaining to this project and as field conditions dictate.

3. Temporary water diversion (swales, basins, etc.) must be used as necessary until areas are stabilized.

4. Diversion swales and other temporary BMP's shall be installed early on in the construction sequence (before rough grading.

5. Contractor shall inspect and maintain erosion control measures, and remove sediment therefrom on a weekly basis and within twelve hours after each storm event (0.5" of rainfall or greater) and dispose of sediments in an upland area such that they do not encumber other drainage structures and protected areas.

6. Contractor shall be fully responsible to control construction such that sedimentation shall not affect regulatory protected areas, whether such sedimentation is caused by water, wind, or direct deposit.

7. Contractor shall perform construction sequencing such that earth materials are exposed for a minimum of time before they are covered, seeded, or otherwise stabilized to prevent erosion.

8. Areas remaining unstabilized for a period of more than 45 days shall be temporarily seeded and mulched. straw mulch shall be applied at a minimum rate of 1-1/2 tons/acre.

9. Permanent seeding shall occur between April 1 and June 1, and/or between August 15 and October 15. All seeding from September 15 on shall be straw mulched.

10. Dust shall be controlled through the use of water.

11. Soils to be stockpiled for a period of more than 45 days shall be temporarily seeded and mulched. Contractor shall install silt fencing along downhill side of stockpiles.

12. Contractor shall provide temporary sedimentation basins to control sedimentation and stormwater runoff during the construction period. The contractor shall submit proposed basin locations, designs, etc. to the Engineer for review prior to construction. Temporary sedimentation basins shall meet NHDES requirements.

13. Contractor shall provide necessary erosion control measures to ensure that surface water run-off from unstabilized areas does not carry silt, sediment, and other debris outside of the limits of work.

14. An area shall be considered stable if one of the following has occurred:

A. Base course gravels have been installed in areas to be paved;

B. A minimum of 85% vegetated growth has been established;

C. A minimum of 3-inches of non-erosive material, such as stone or riprap, has been installed;

D. Erosion control blankets have been properly installed.

15. The smallest practical area shall be disturbed during construction and shall be in conformance with the requirements of Env-Wq 1505.03 for Maximum Open Area Allowed.

16. All ditches, swales, and drainage basins shall be stabilized prior to directing runoff to them.

17. All roadways shall be stabilized within 72 hours of achieving finished grade.

18. All cut and fill slopes shall be loamed and seeded within 72 hours of achieving finished grade.

19. All permanent and temporary seeding shall be as follows (unless otherwise noted):

Permanent Seeding	Proportion	Germination (min.)	Purity (min.)
Lawns:			
Creeping Red Fescue	50%	85%	95%
Kentucky Bluegrass	40%	85%	90%
Manhattan Perennial Rye	10%	90%	95%

Temporary Seeding*	% Weight	Germination (min.)
Winter Rye	80% min.	85%
Red Fescue (creeping)	4% min.	80%
Perennial Rye Grass	3% min.	90%
Red Clover	3% min.	90%
Other Crop Grass	0.5% max.	
Noxious Weed Seed	0.5% max.	
Inert Matter	1.0% max.	

* Temporary seed for lawns shall only be planted when permanent grasses cannot be planted due to the growing season.

20. No-mow planting mix (for areas indicated on the plan or as directed) the no-mow planting mix" shall be the "New England Conservation Wildlife Mix" as manufactured by New England Wetland Plants, Inc.

21. Erosion control blankets shall be installed on all disturbed slopes that are steeper than 3-ft horizontal and 1-ft vertical (3:1). erosion control blankets shall be north American Green SC150BN, or approved equivalent.

Winter construction

1. All proposed vegetated areas which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be stabilized. Stabilization methods shall include seeding and installing erosion control blankets on slopes greater than 3:1 and seeding and placing 3 to 4 tons of mulch per acre, secured with anchored netting, elsewhere. the installation of erosion control blankets or mulch and netting shall not occur over accumulated snow or frozen ground and shall be completed in advance of thaw or spring melt events.

2. All ditches or swales which do not exhibit a minimum of 85% vegetative growth by October 15th, or which are disturbed after October 15th, shall be temporarily stabilized with stone or erosion control blankets appropriate for the design flow conditions.

3. After October 15th, incomplete access road or work area surfaces, where work has stopped for the winter season, shall be protected with a minimum of 3 inches of crushed gravel (NHDOT 304.3).

Rock Blasting:

Best management practices for blasting: All activities related to blasting shall adhere to the following best management practices (bmps) to prevent contamination of groundwater including preparing, reviewing and following an approved blasting plan; proper drilling, explosive handing and loading procedures; observing the entire blasting procedures; evaluating blasting performance; and handling and storage of blasted rock.

1. Loading practices: the following blast hole loading practices to minimize environmental effects shall be followed:

A. Drilling logs shall be maintained by the driller and communicated directly to the blaster. The logs shall indicate depths and lengths of voids, cavities, and fault zones or other weak zones encountered as well as groundwater conditions.

B. Explosive products shall be managed on-site so that they are either used in the borehole, returned to the delivery vehicle, or placed in secure containers for off-site disposal.

C. Spillage around the borehole shall either be placed in the borehole or cleaned up and returned to an appropriate vehicle for handling or placement in secured containers for off-site disposal.

D. Loaded explosives shall be detonated as soon as possible and shall not be left in the blastholes overnight, unless weather or other safety concerns reasonably dictate that detonation should be postponed.

E. Loading equipment shall be cleaned in an area where wastewater can be properly contained and handled in a manner that prevents release of contaminants to the environment.

F. Explosives shall be loaded to maintain good continuity in the column load to promote complete detonation. Industry accepted loading practices for priming, stemming, decking and column rise need to be attended to.

2. Explosive selection: The following bmps shall be followed to reduce the potential for groundwater contamination when explosives are used:

A. Explosive products shall be selected that are appropriate for site conditions and safe blast execution.

B. Explosive products shall be selected that have the appropriate water resistance for the site conditions present to minimize the potential for hazardous effect of the product upon groundwater.

3. Prevention of misfires: Appropriate practices shall be developed and implemented to prevent misfires.

4. Muck pile management: Muck piles (the blasted pieces of rock) and rock piles shall be managed in a manner to reduce the potential for contamination by implementing the following measures:

A. Remove the muck pile from the blast area as soon as reasonably possible.

B. Manage the interaction of blasted rock piles and stormwater to prevent contamination of water supply wells or surface water.

5. Spill prevention measures and spill mitigation: Spill prevention and spill mitigation measures shall be implemented to prevent the release of fuel and other related substances to the environment. the measures shall include at a minimum:

A. The fuel storage requirements shall include:

1. Storage of regulated substances on an impervious surface.

2. Secure storage areas against unauthorized entry.

3. Label regulated containers clearly and visibly.

4. Inspect storage areas weekly.

5. Cover regulated containers in outside storage areas.

6. Wherever possible, keep regulated containers that are stored outside more than 50 feet from surface water and storm drains, 75 feet from private wells, and 400 feet from public wells.

7. Secondary containment is required for containers containing regulated substances stored outside, except for on premise use heating fuel tanks, or aboveground or underground storage tanks otherwise regulated.

B. The fuel handling requirements shall include:

1. Except when in use, keep containers containing regulated substances closed and sealed.

2. Place drip pans under spigots, valves, and pumps.

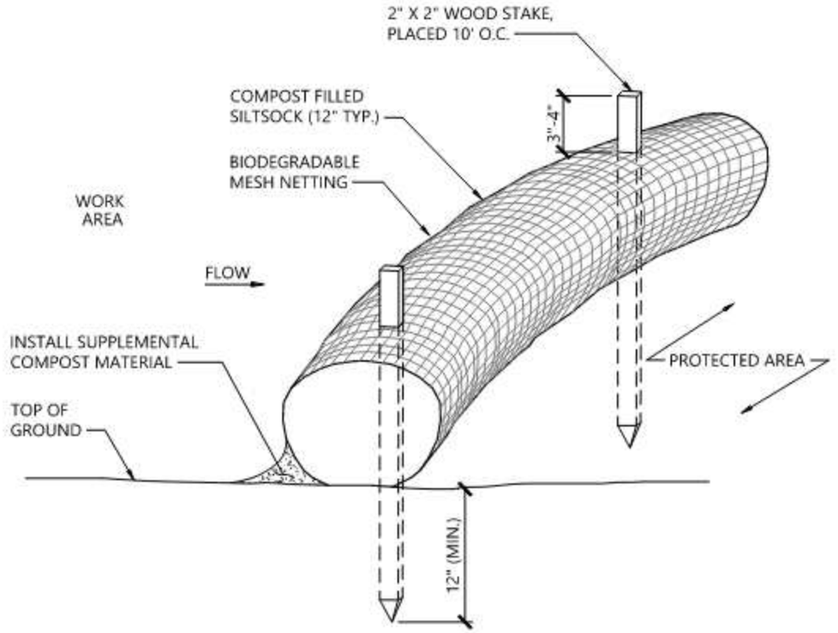
3. Have spill control and containment equipment readily available in all work areas.

4. Use funnels and drip pans when transferring regulated substances.

5. Perform transfers of regulated substances over an impervious surface.

C. The training of on-site employees and the on-site posting of release response information describing what to do in the event of a spill of regulated substances.

D. Fueling and maintenance of excavation, earthmoving and other construction related equipment will comply with the regulations of the New Hampshire Department of Environmental Services (see WD-DWGB-22-6 best management practices for fueling and maintenance of excavation and earthmoving equipment).



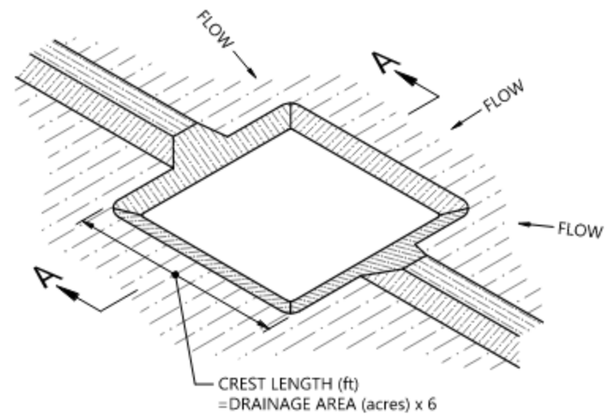
NOTES

1. SILTSOCK SHALL BE FILTREXX SILTSOXX, OR APPROVED EQUAL.
2. SILTSOCKS SHALL OVERLAP A MINIMUM OF 12 INCHES.
3. SILTSOCK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS, AND REPAIR OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED.
4. COMPOST MATERIAL SHALL BE DISPERSED ON SITE, AS DETERMINED BY THE ENGINEER.
5. IF NON BIODEGRADABLE NETTING IS USED THE NETTING SHALL BE COLLECTED AND DISPOSED OF OFFSITE.

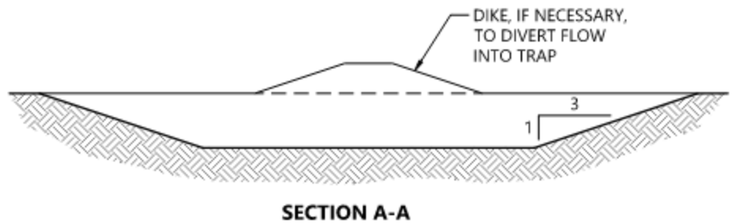
Siltsock - Erosion Control Barrier

1/16

N.T.S. Source: VHB REV LD_658



ISOMETRIC VIEW



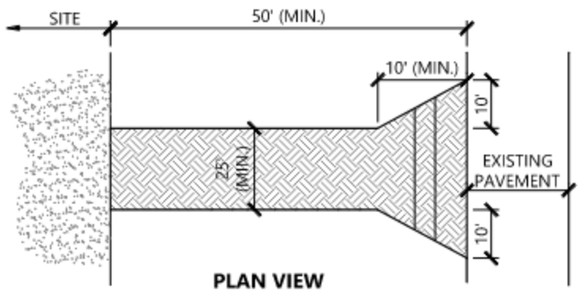
SECTION A-A

NOTES

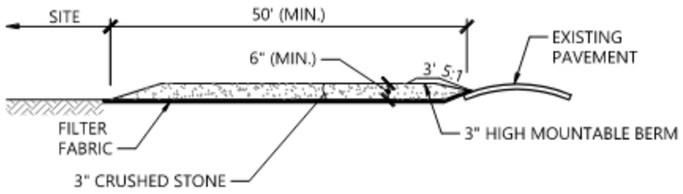
1. THE TRAP SHALL BE INSTALLED AS CLOSE TO THE DISTURBED AREA OR SOURCE OF SEDIMENT AS POSSIBLE .
2. THE MAXIMUM CONTRIBUTING DRAINAGE AREA TO THE TRAP SHALL BE LESS THAN 5 ACRES.
3. THE MINIMUM VOLUME OF THE TRAP SHALL BE 3,600 CUBIC FEET OF STORAGE FOR EACH ACRE OF DRAINAGE AREA.
4. THE SIDE SLOPES OF THE TRAP SHALL BE 3:1 OR FLATTER, AND SHALL BE STABILIZED IMMEDIATELY AFTER THEIR CONSTRUCTION.
5. THE OUTLET OF THE TRAP SHALL BE A MINIMUM OF ONE FOOT BELOW THE CREST OF THE TRAP AND SHALL DISCHARGE TO A STABILIZED AREA.
6. THE TRAP SHALL BE CLEANED WHEN 50 PERCENT OF THE ORIGINAL VOLUME IS FILLED.
7. THE MATERIALS REMOVED FROM THE TRAP SHALL BE PROPERLY DISPOSED OF AND STABILIZED.

Temporary Sediment Trap

N.T.S. Source: NH Stormwater Manual



PLAN VIEW



CROSS-SECTION

NOTES

1. EXIT WIDTH SHALL BE A TWENTY-FIVE (25) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
2. THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. BERM SHALL BE PERMITTED. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AS NEEDED.
3. STABILIZED CONSTRUCTION EXIT SHALL BE REMOVED PRIOR TO FINAL FINISH MATERIALS BEING INSTALLED.

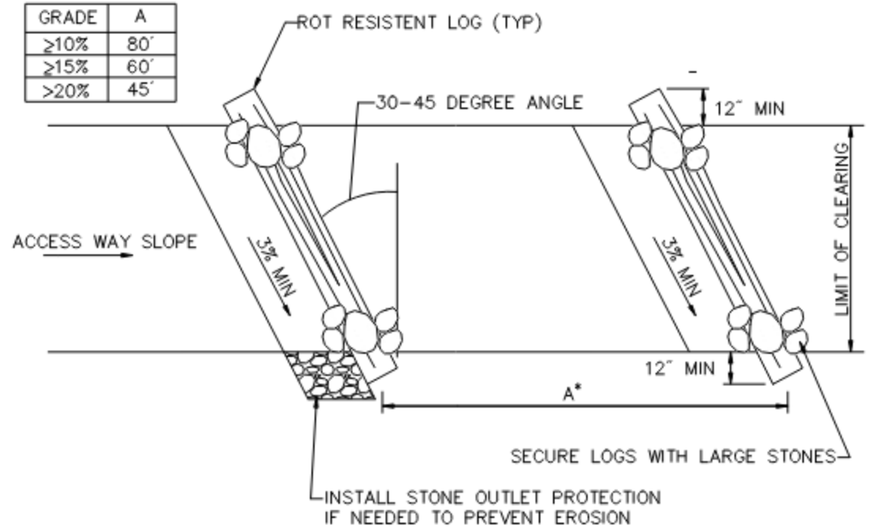
Stabilized Construction Exit

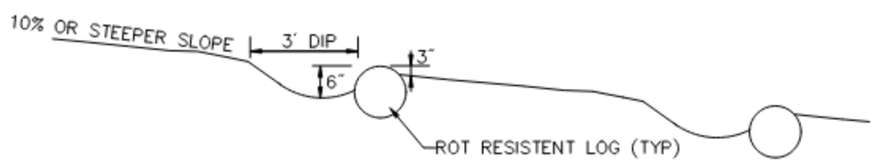
5/17

N.T.S. Source: VHB LD 682-NH

RECOMMENDED MINIMUM SPACING FOR WATERBARS

GRADE	A
≥10%	80'
≥15%	60'
>20%	45'





Notes:

1. WATERBARS SHOULD BE INSTALLED IN SECTIONS WITH SLOPES GREATER THAN OR EQUAL TO 10%.
2. WATERBARS SHALL BE CONSTRUCTED WITH 10" DIAMETER MINIMUM PEELED LOGS, HELD IN PLACE WITH LARGE STONES. APPROPRIATE SPECIES INCLUDE SPRUCE, HEMLOCK, BEECH, AND OAK.
3. CONTRACTOR TO OBSERVE THE CLEARINGS DURING A RAINSTORM TO DETERMINE IF ADDITIONAL WATERBARS OR ADJUSTMENTS TO WATERBARS ARE NEEDED.
4. WATERBAR DESIGN AND SPACING PROVIDED FOR GUIDANCE TO CONTROL EROSION ALONG CROSS-COUNTRY CLEARINGS. THE CONTRACTOR SHALL DETERMINE IF OTHER APPROPRIATE MEASURES ARE REQUIRED TO CONTROL RUNOFF AND EROSION IN CLEARING AREAS.
5. FOR WIDER LIMITS OF CLEARING MULTIPLE LOG LENGTHS MAY BE REQUIRED. ANCHOR ALL LOG ENDS WITH LARGE STONES AS SHOWN.

Waterbars - For Utility Access Areas

N.T.S.

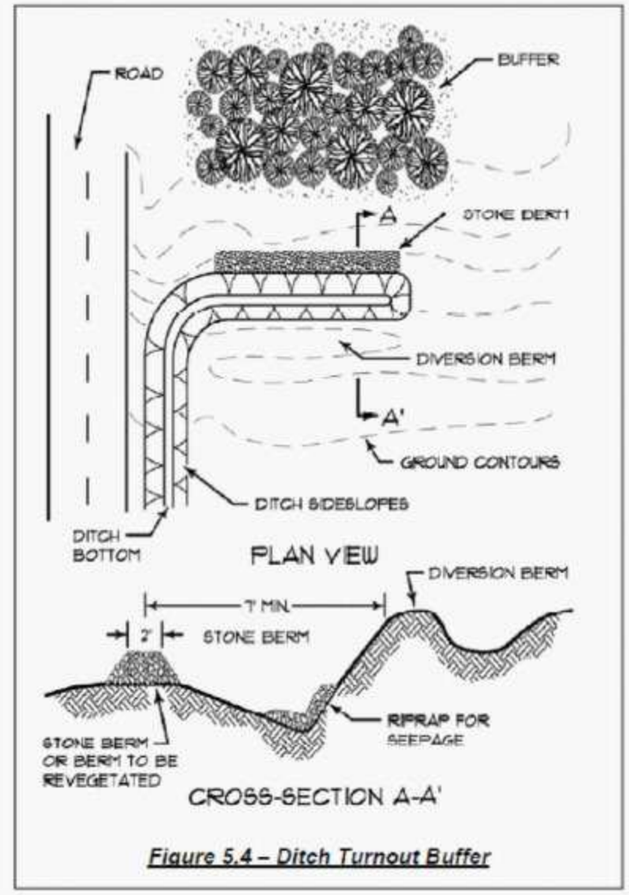
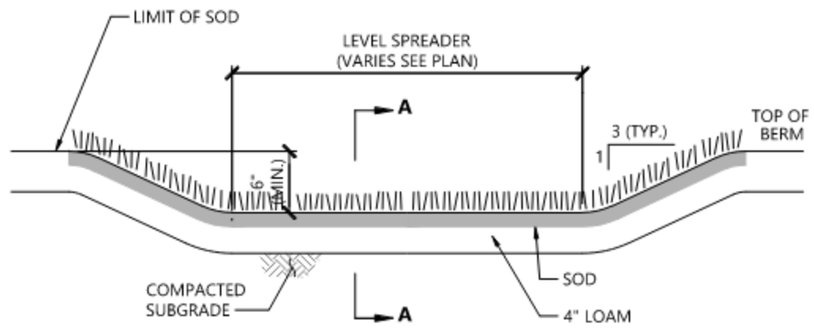


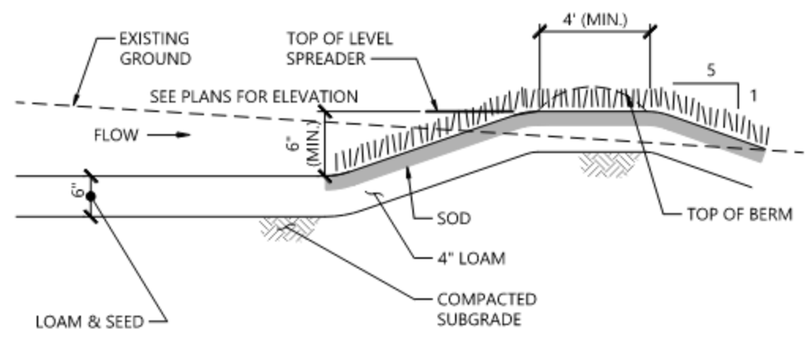
Figure 5.4 – Ditch Turnout Buffer

- *Stone Berm Specifications:* The stone berm to which the ditch turn-out delivers the runoff must be at least 20 feet in length and must be constructed along the contour. It must be at least one- foot high and two feet across the top with 2:1 side slopes.
- *Stone Size*: The stone must be coarse enough that it will not clog with sediment. Stone for stone bermed level lip spreaders must consist of sound durable rock that will not disintegrate by exposure to water or weather. Fieldstone, rough quarried stone, blasted ledge rock or tailings may be used. The rock must be well graded with a median size of approximately 3 inches and a maximum size of 6 inches. See Table 5.4 above.

Ditch Turnout

N.T.S. Source: MDEP





SECTION A-A

Level Spreader Detail

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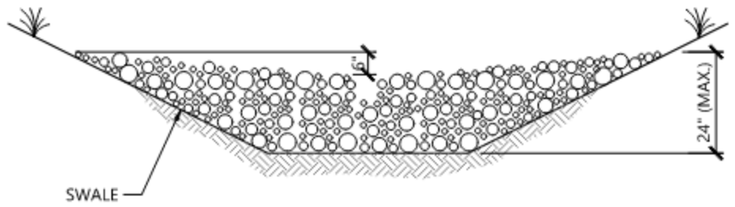
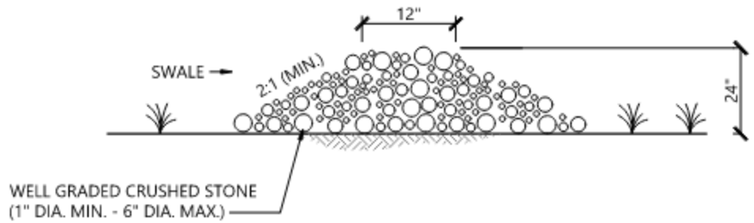
N.T.S. Source: VHB LD 172



ELEVATION



CROSS-SECTION

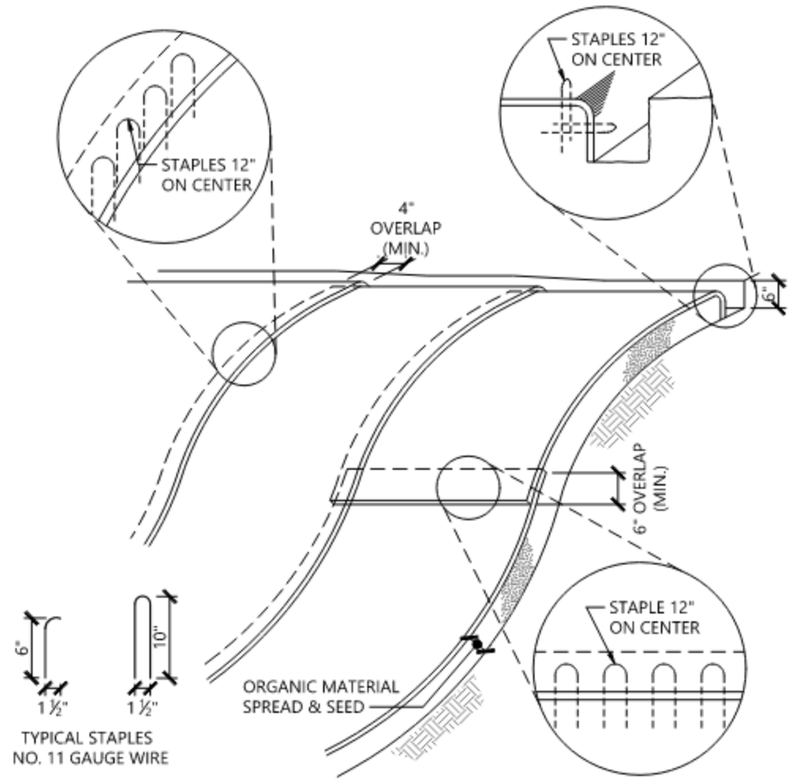
NOTES

1. TOP OF DOWNGRADIENT CHECKDAM AND BOTTOM OF UPGRADIENT CHECKDAM TO BE SET AT THE SAME ELEVATION.

2. STONE CHECKDAMS MAY BE REMOVED WHEN 90% OF THE VEGETATIVE COVER IS ESTABLISHED.

Temporary Stone Checkdam

N.T.S. Source: VHB REV



NOTES

1. BEGIN AT THE TOP OF BLANKET INSTALLATION AREA BY ANCHORING BLANKET IN A 6" DEEP TRENCH BACKFILL AND COMPACT TRENCH AFTER STAPLING.

2. ROLL THE BLANKET DOWN THE SWALE IN THE DIRECTION OF THE WATER FLOW.

3. THE EDGES OF BLANKETS MUST BE STAPLED WITH APPROX. 4 INCH OVERLAP WHERE 2 OR MORE STRIP WIDTHS ARE REQUIRED.

4. WHEN BLANKETS MUST BE SPLICED DOWN THE SWALE, PLACE UPPER BLANKET END OVER LOWER END WITH 6 INCH (MIN.) OVERLAP AND STAPLE BOTH TOGETHER.

5. METHOD OF INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS.

6. EROSION CONTROL BLANKETS SHALL BE USED IN ALL AREAS WHERE SLOPES EXCEED 3:1.

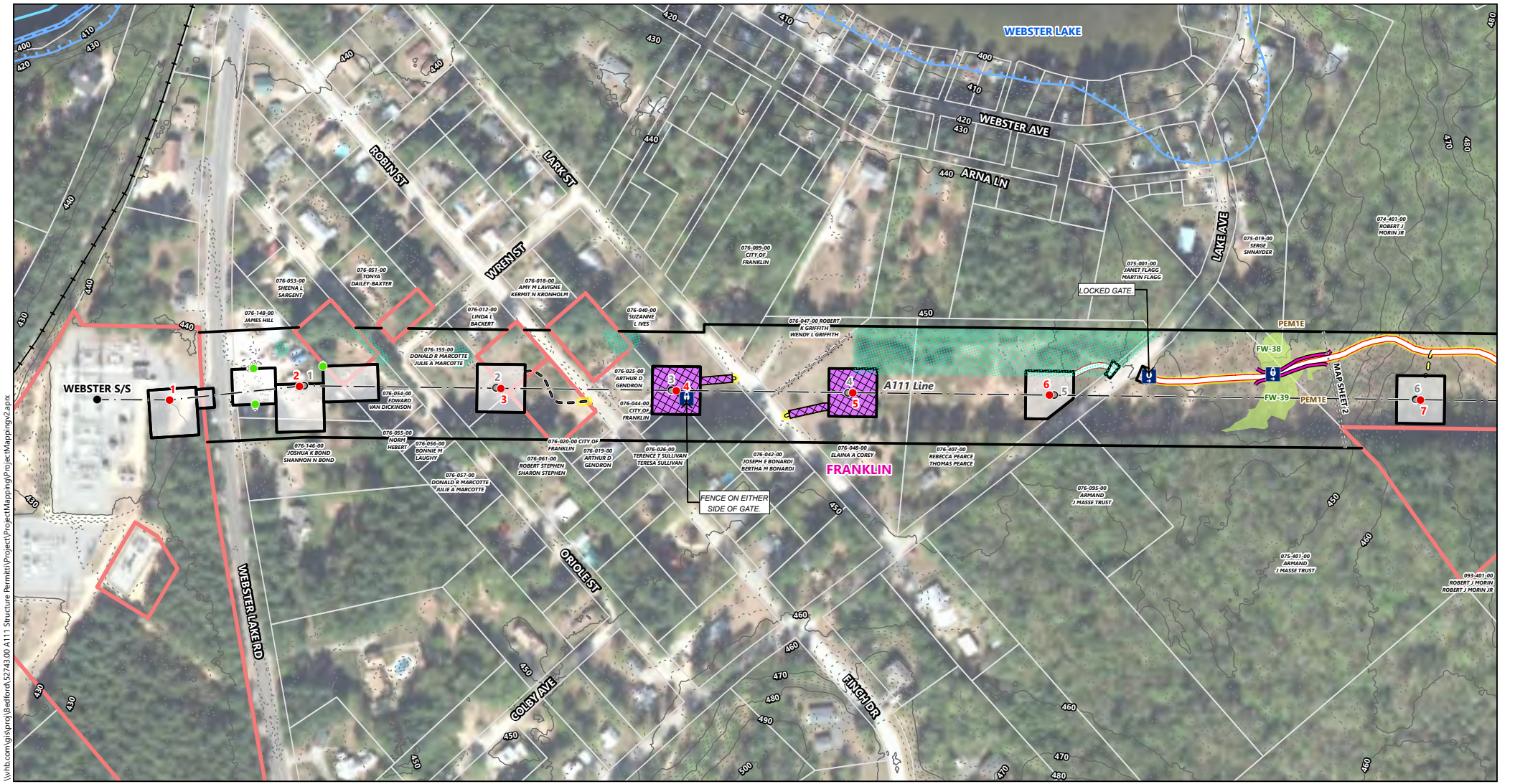
Erosion Control Blanket Slope Installation

1/16

N.T.S. Source: VHB REV LD_680

EVERSOURCE ENERGY

vhb May 25, 2021 | **FIGURE 1**



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0 100 200 400 Feet

- Proposed Structure
- Existing Structure
- Existing Structure to be Removed
- Existing Stucture to be Replaced
- Temporary Structure
- Anchor
- Existing Overhead Eversource Line
- Approximate Existing Right-of-Way (ROW)
- Existing Access (All Necessary Rights In Place)
- Proposed Access (All Necessary Rights In Place)
- Proposed Alternate Access (Where New Rights Will Be Obtained)
- Contingency Access
- Access Road to be Improved
- Access Roads >15% Slope
- Erosion Control Barrier
- Temporary Construction Matting
- Temporary Upland Matting
- Construction Tracking Pad
- Stone Work Pad
- Tree Clearing Area
- Shoreland Reference Line
- 50-ft Waterfront Buffer
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A111 Structure Replacements

Franklin - New Hampton, NH

Alteration of Terrain Permitting Plans

Page 1 of 20

Source: VHB, GZA, Eversource, GRANIT

EVERSOURCE ENERGY

vhb May 25, 2021 | **FIGURE 1**

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Franklin - New Hampton, NH

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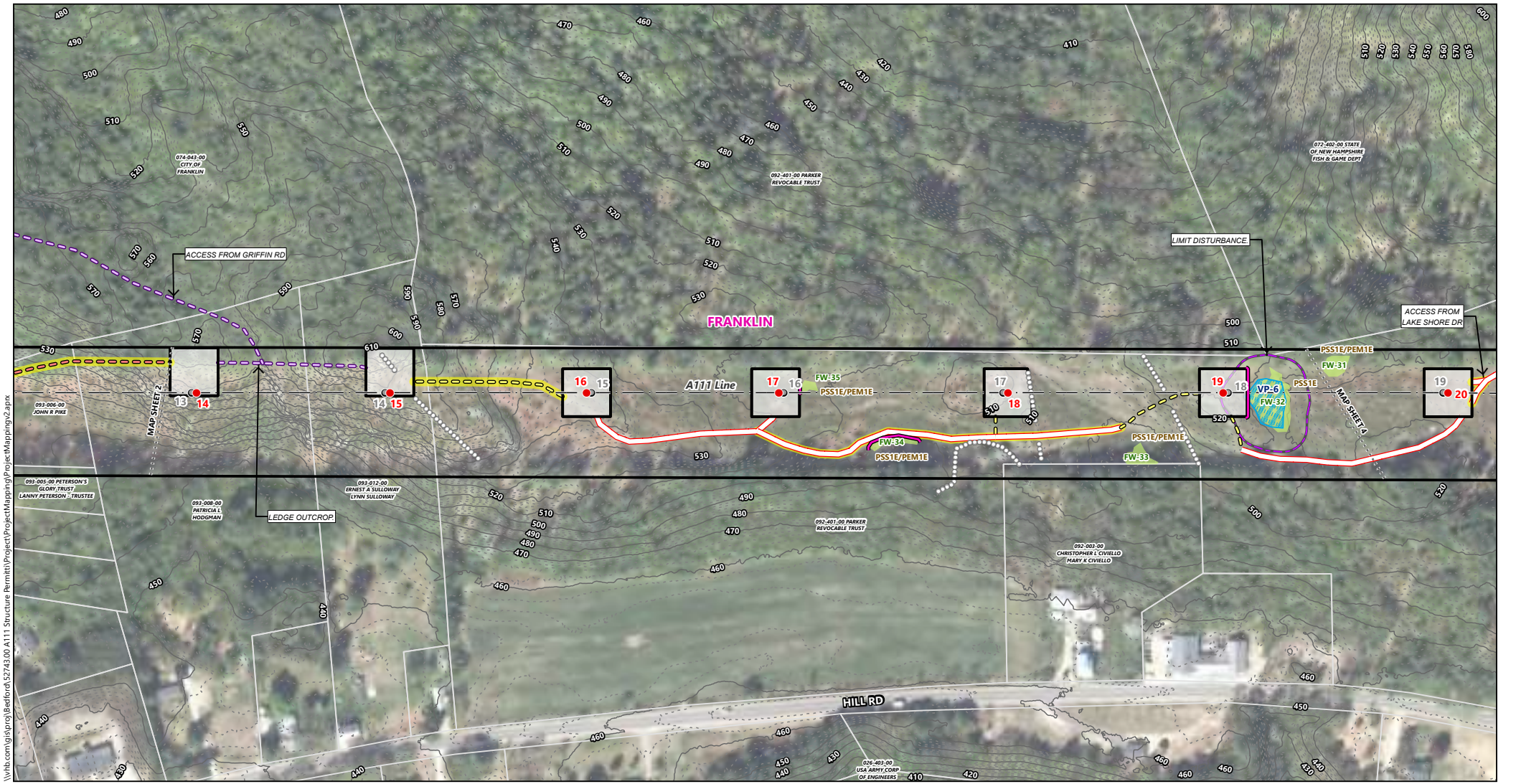

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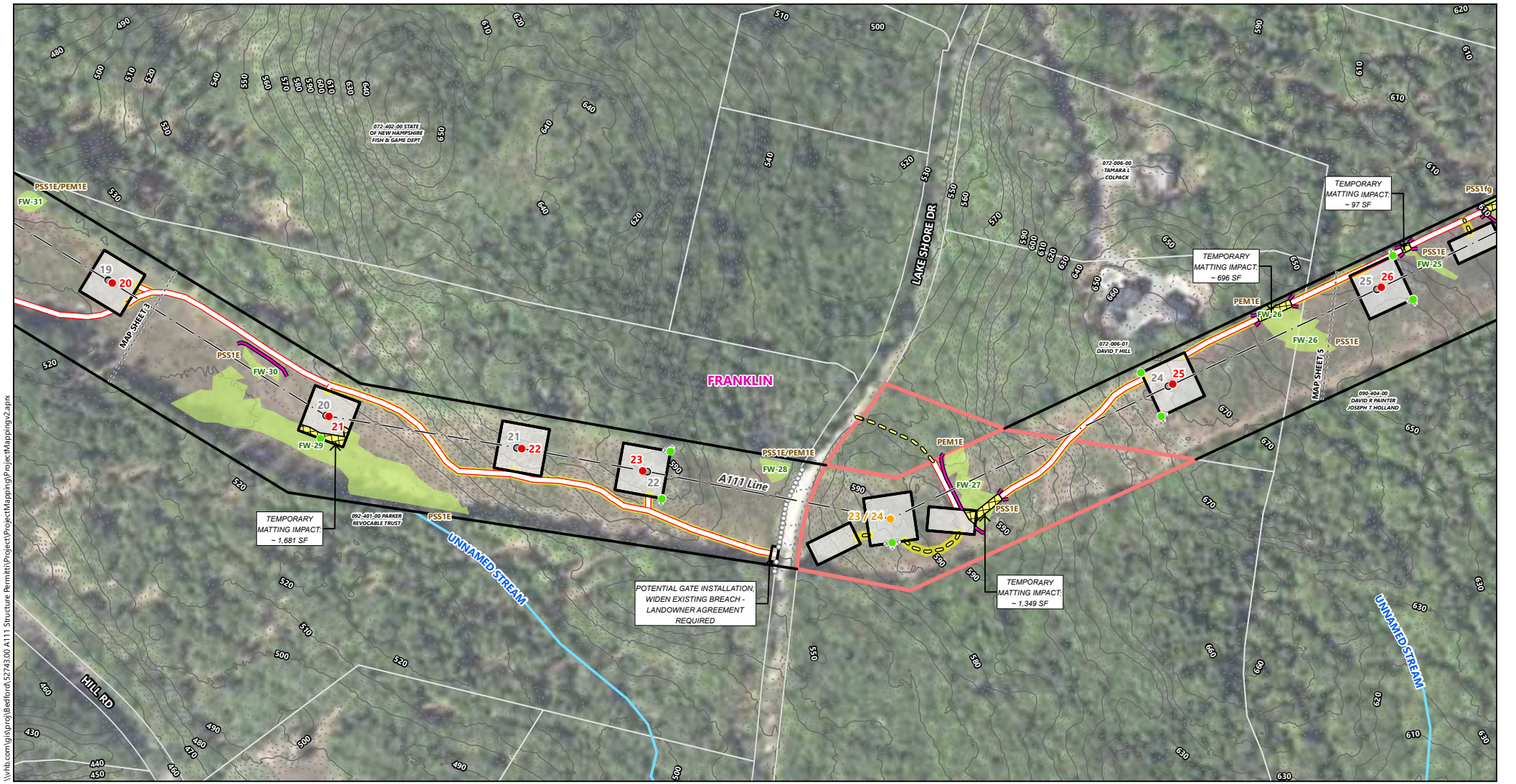

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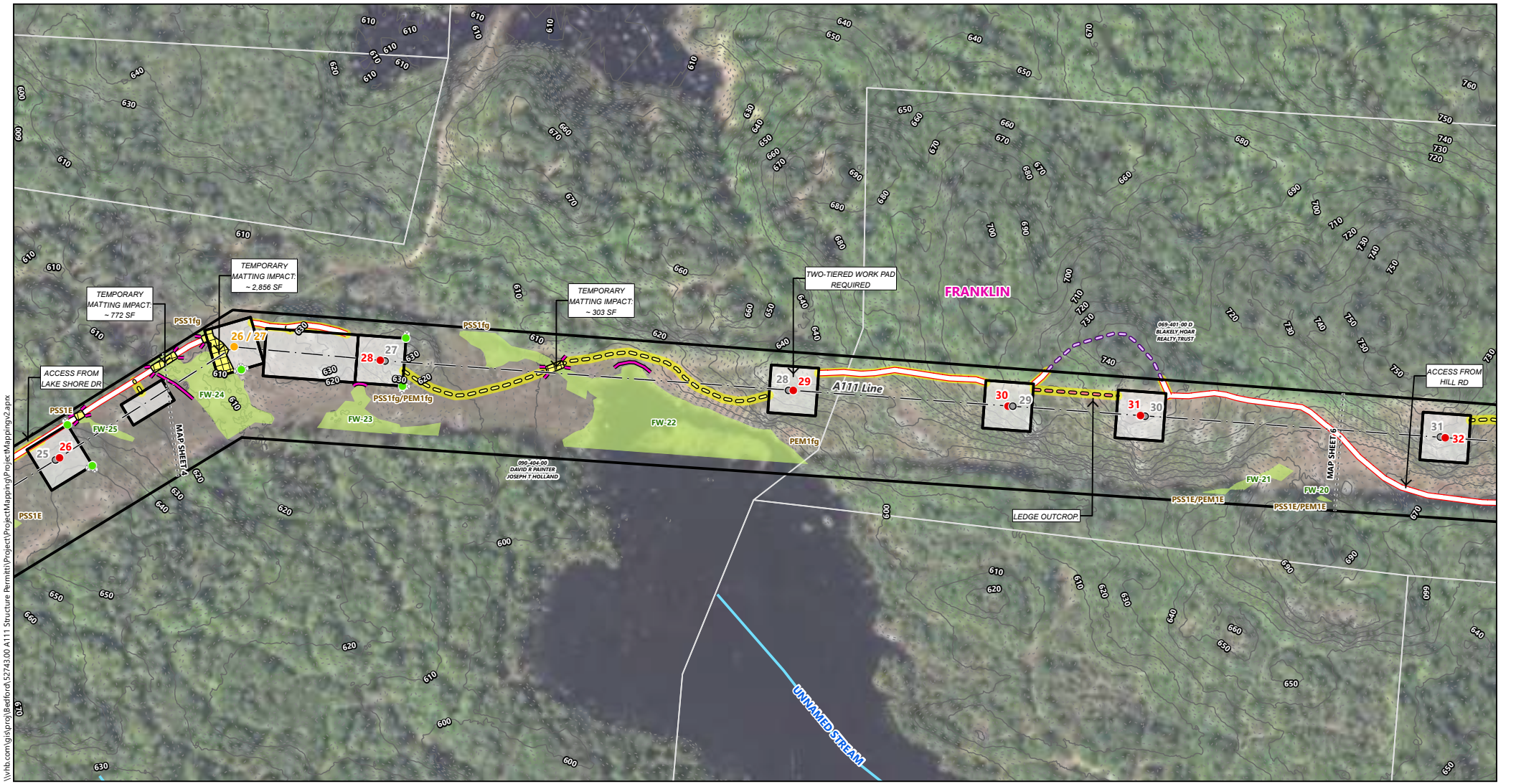

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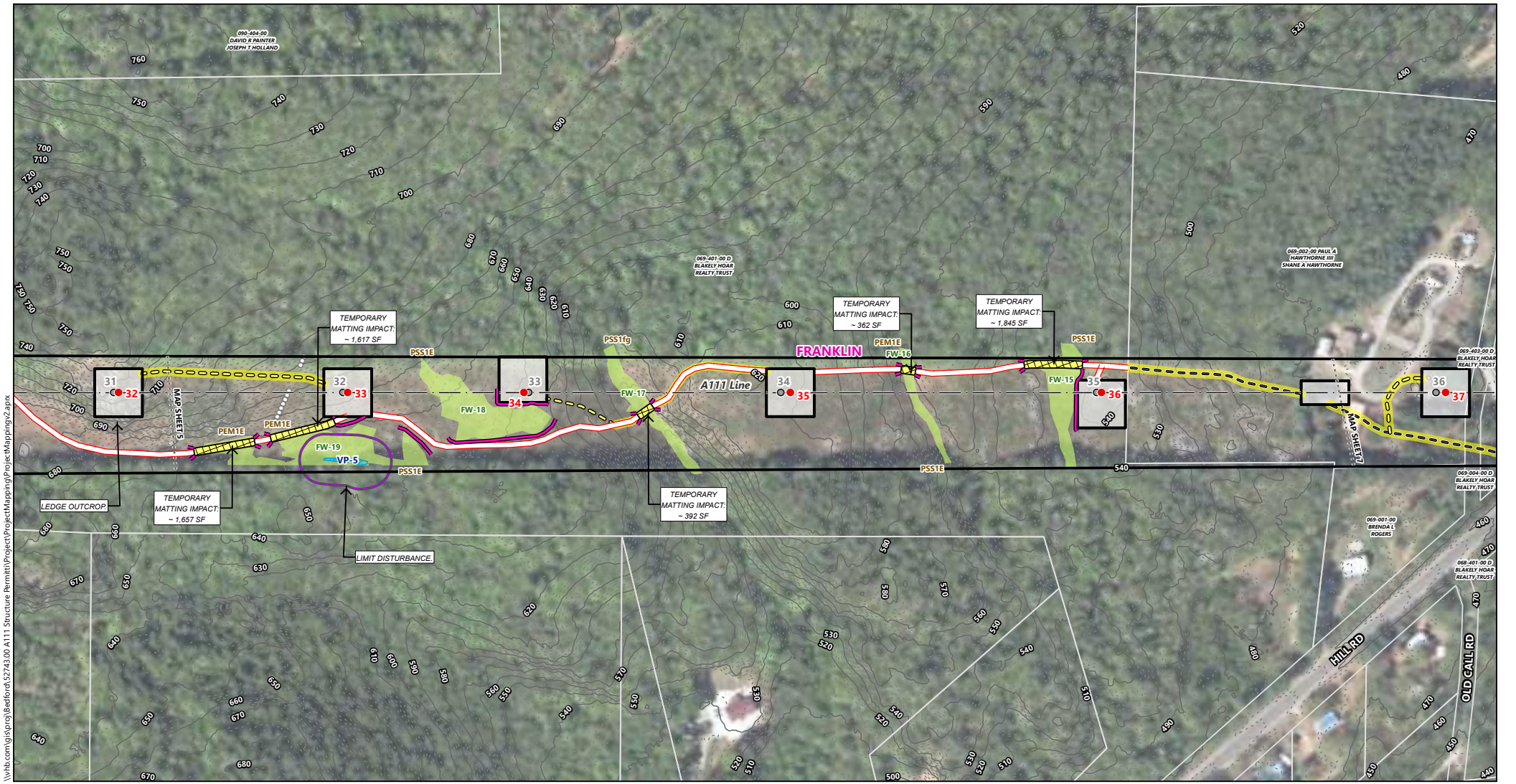

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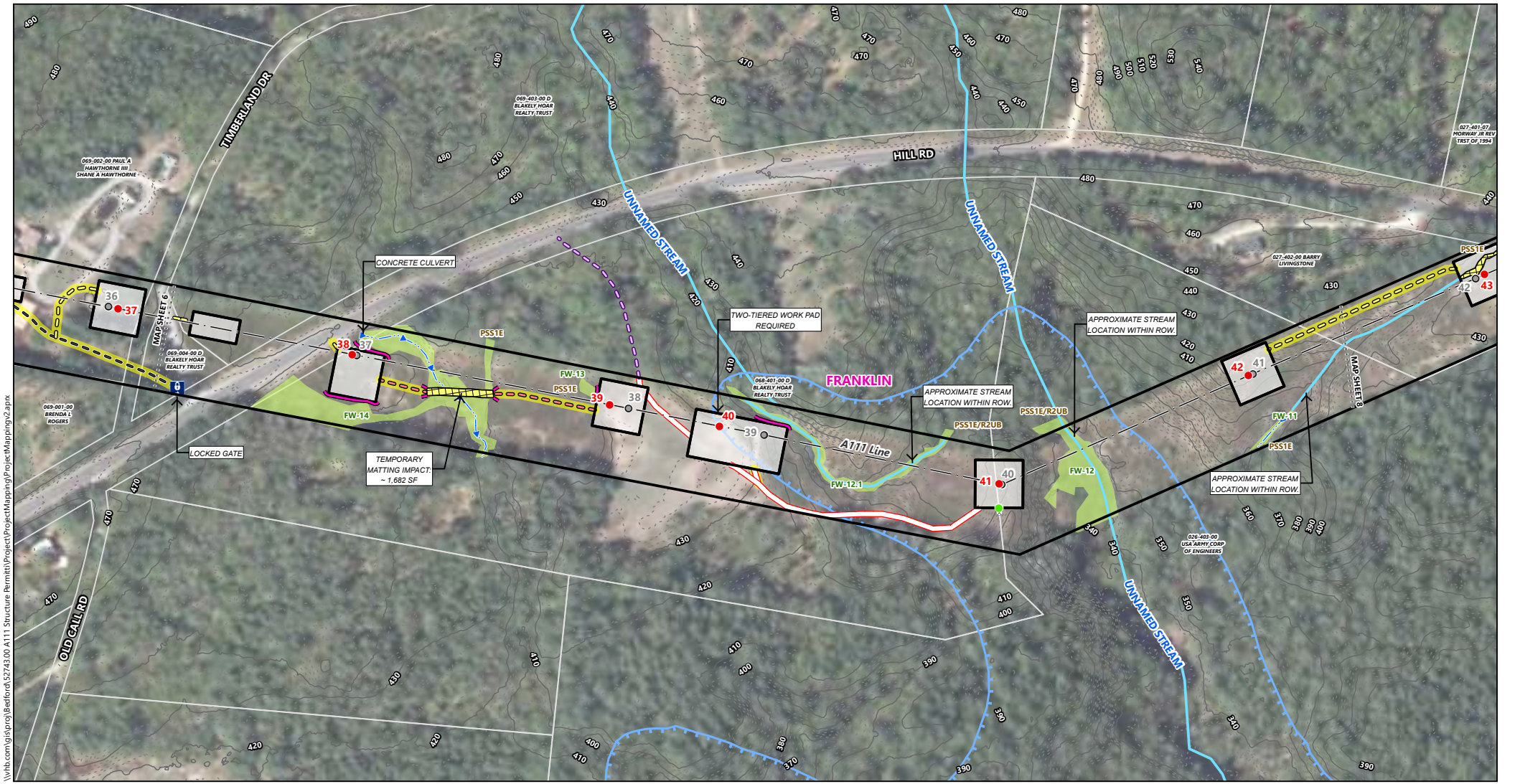

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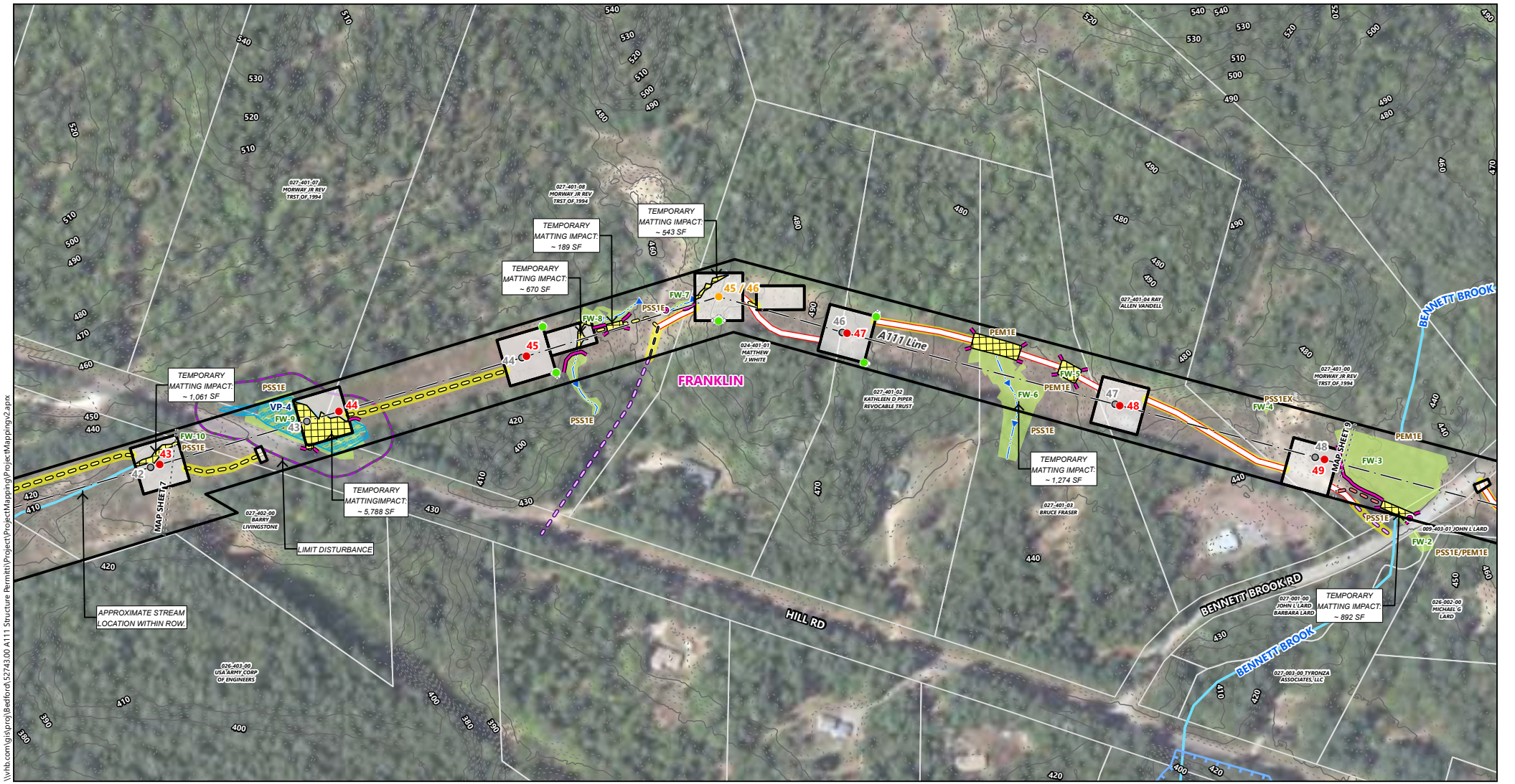

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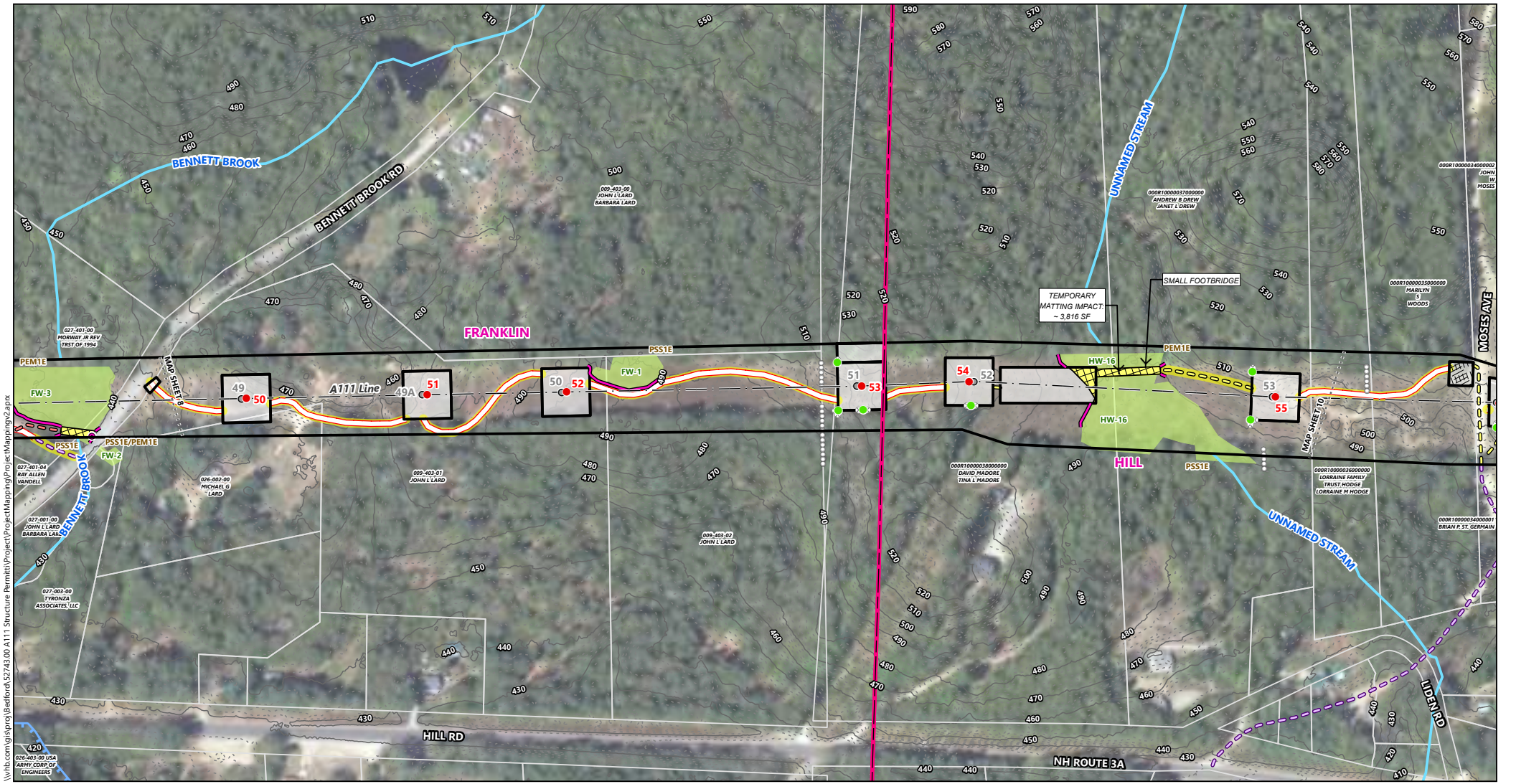

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Franklin - New Hampton, NH

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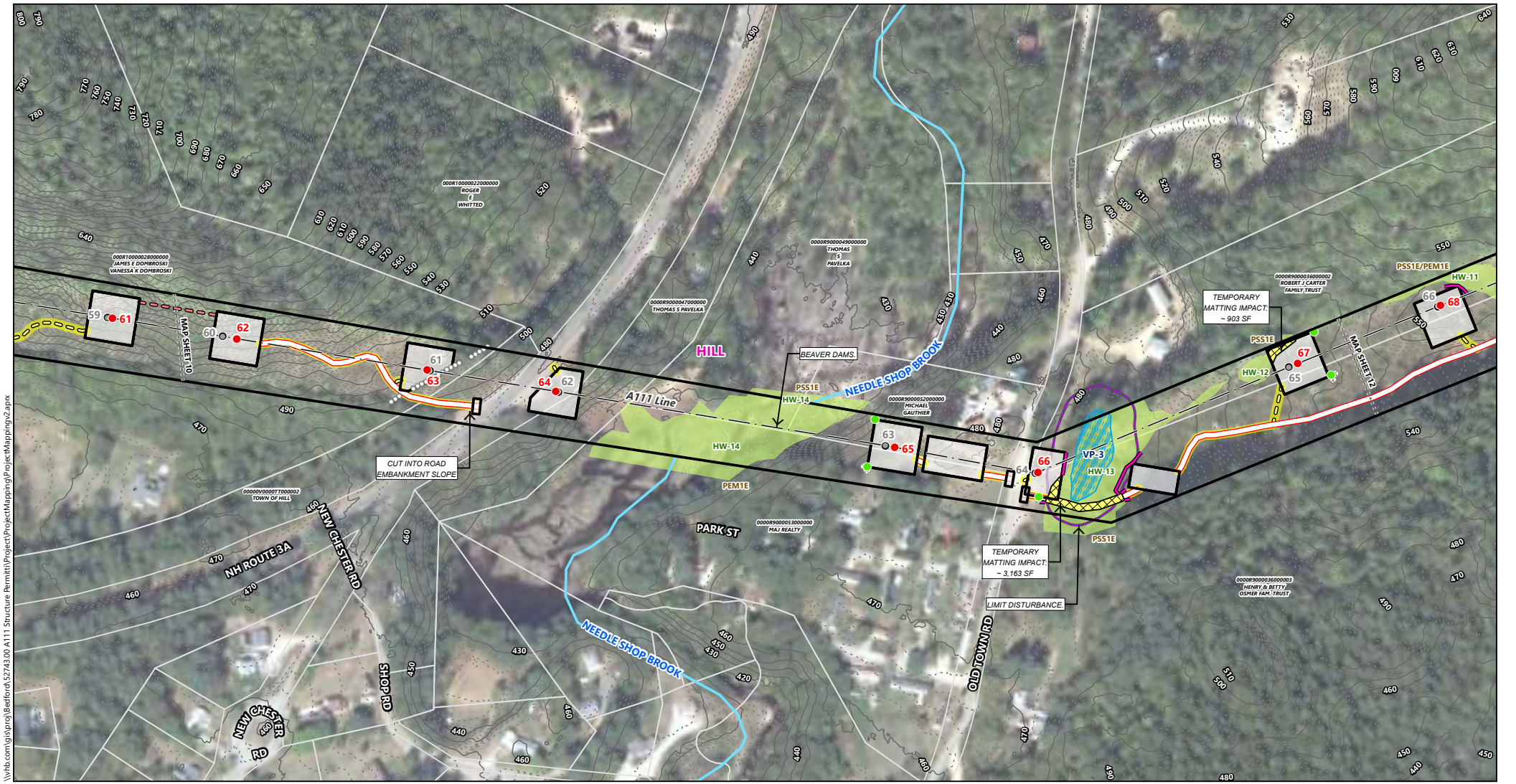

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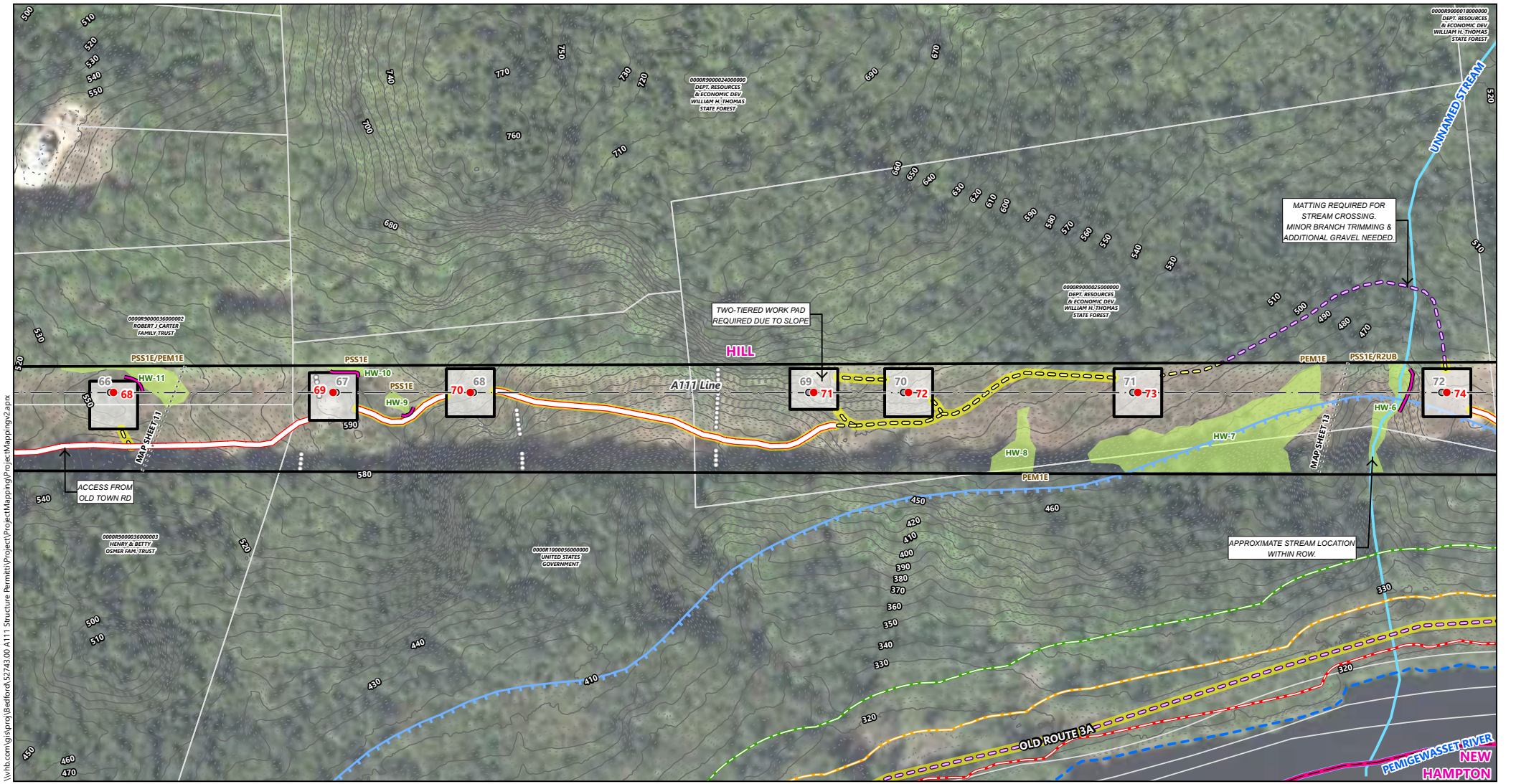

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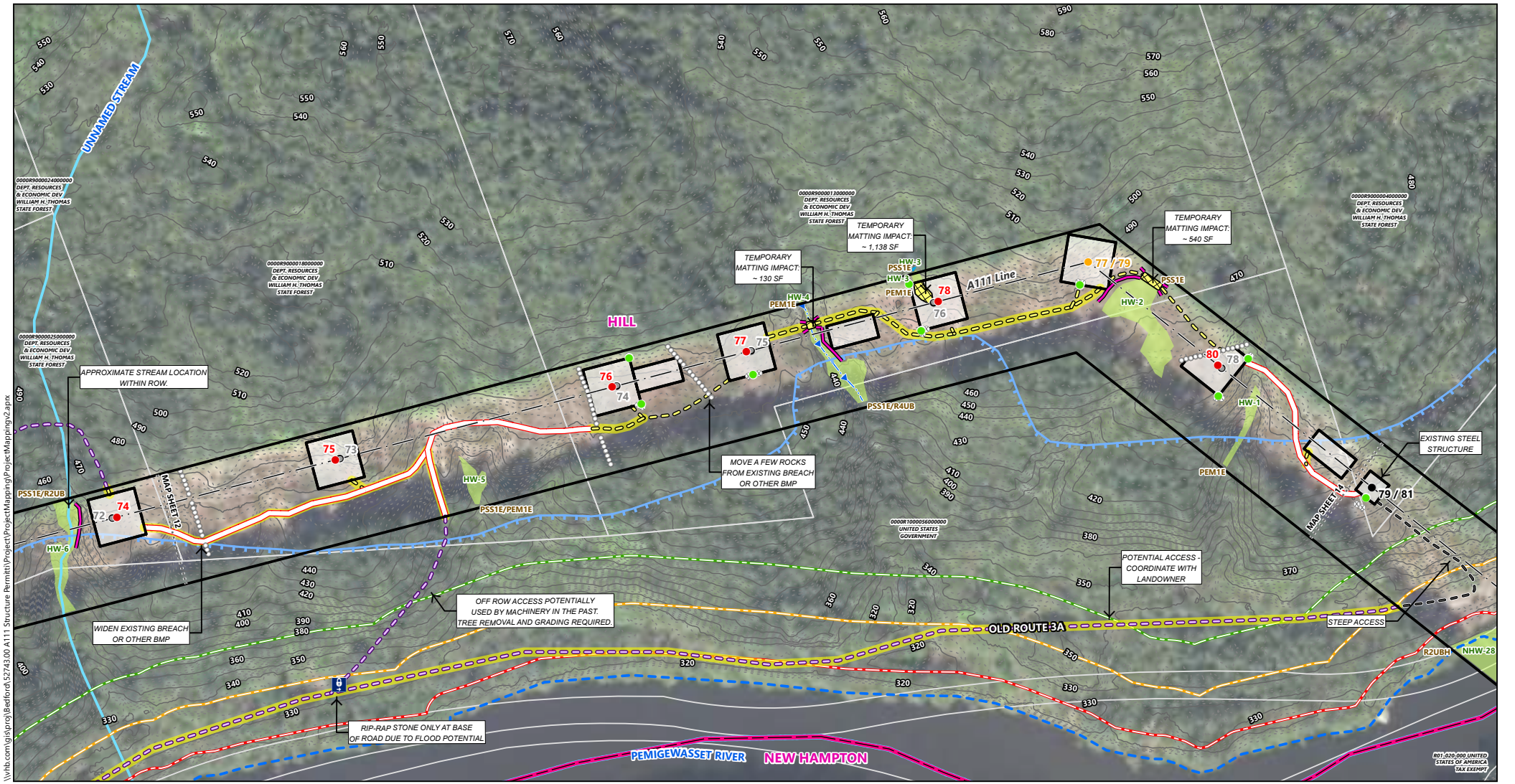

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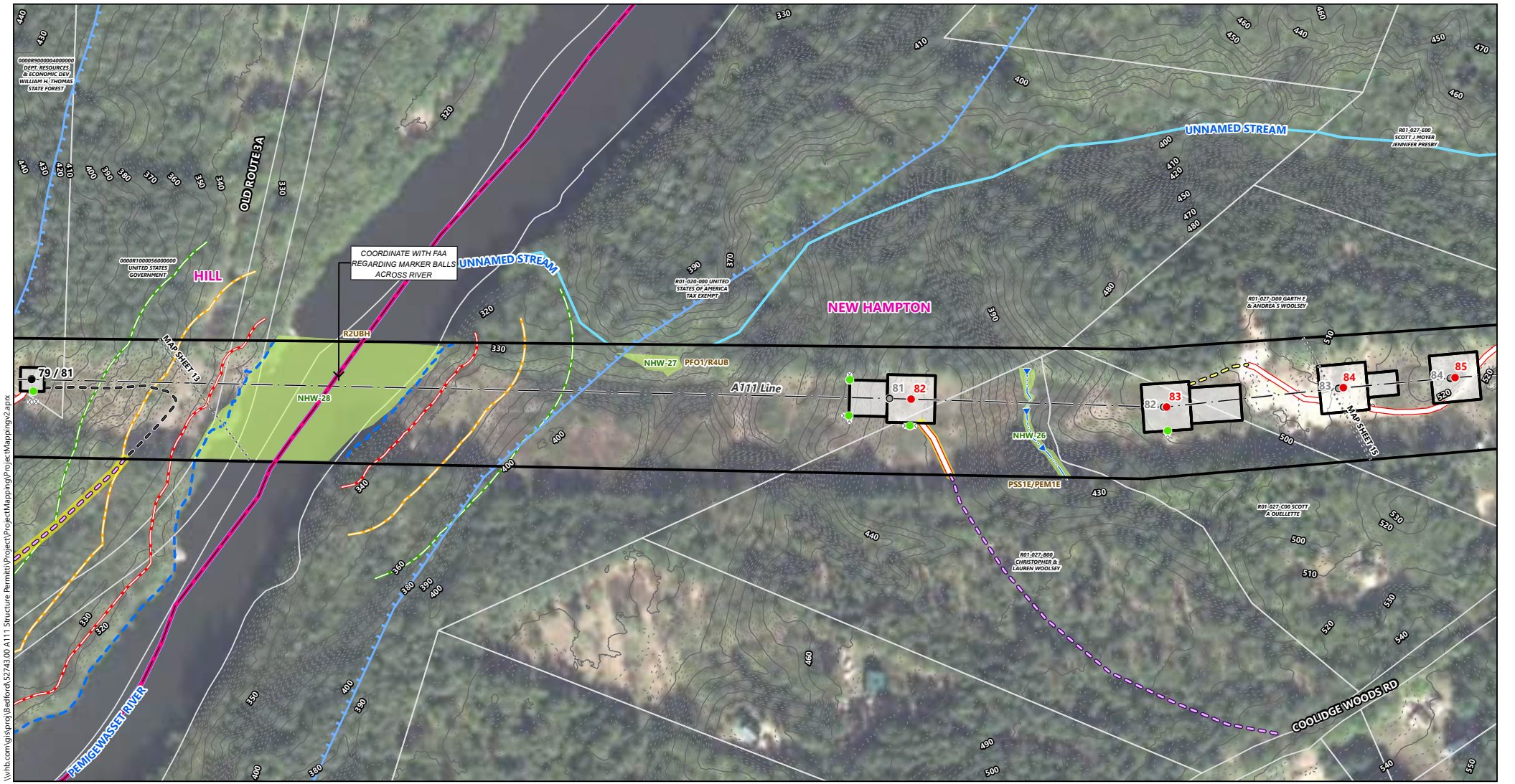

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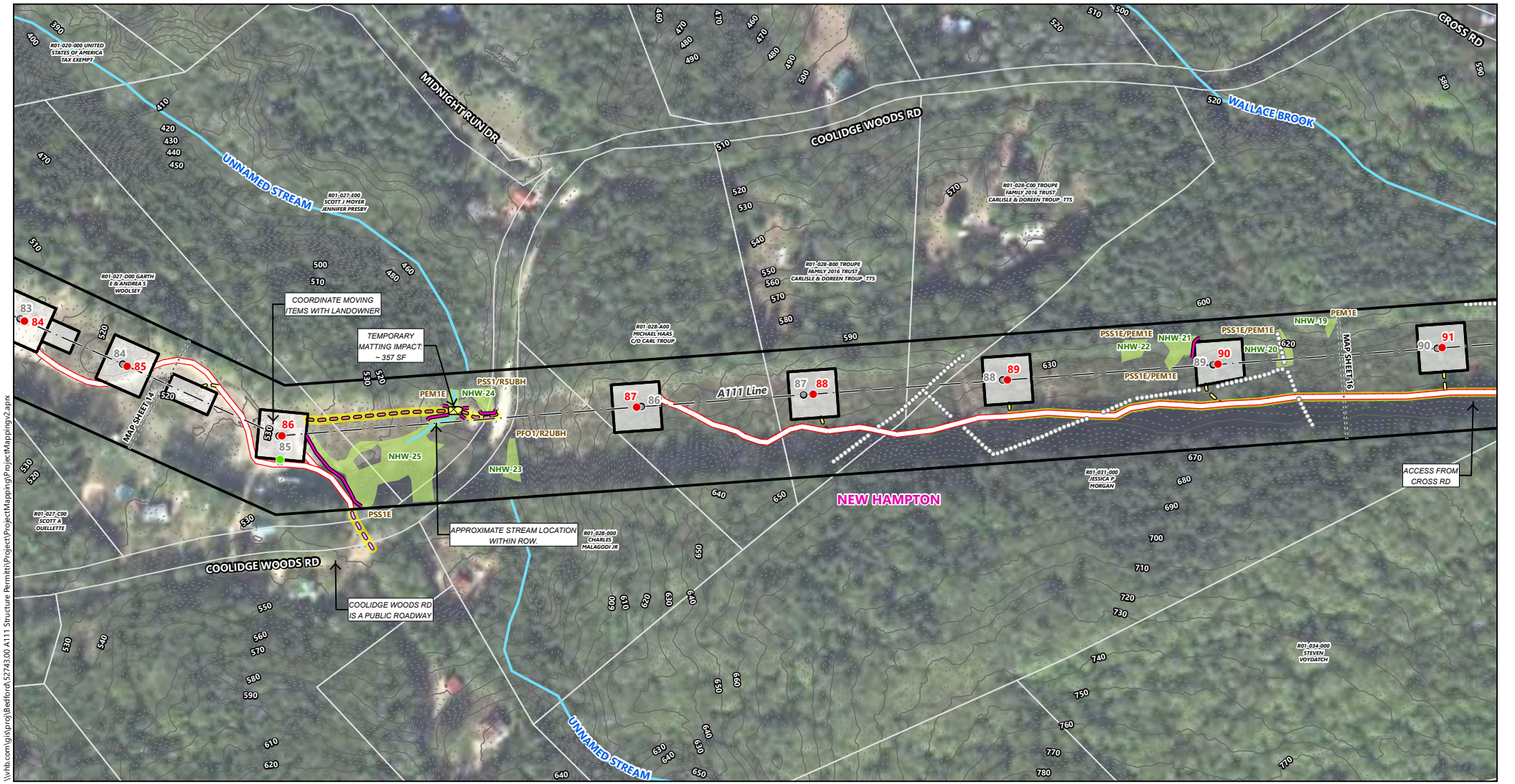

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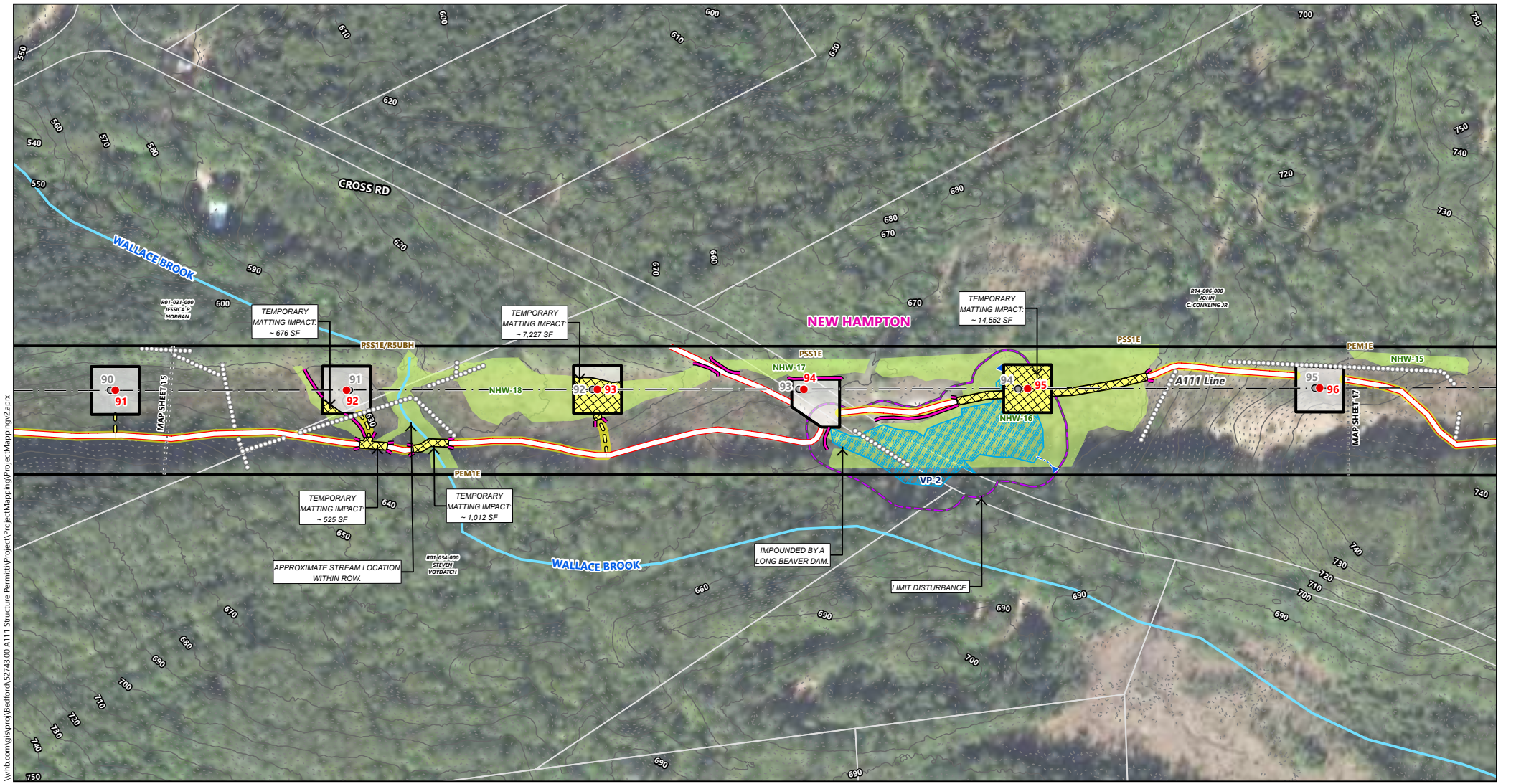
- Fence
- Stonewall
- 2' Contour
- 10' Contour
- Railroad
- Map Sheet Matchline
- Parcel Boundary
- Eversource Owned Property
- Town Boundaries

A111 Structure Replacements

Franklin - New Hampton, NH

Alteration of Terrain Permitting Plans

Source: VHB, GZA, Eversource, GRANIT



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0 100 200 400 Feet

- Proposed Structure
- Existing Structure
- Existing Structure to be Removed
- Existing Stucture to be Replaced
- Temporary Structure
- Anchor
- Existing Overhead Eversource Line
- Approximate Existing Right-of-Way (ROW)
- Existing Access (All Necessary Rights In Place)
- Proposed Access (All Necessary Rights In Place)
- Proposed Alternate Access (Where New Rights Will Be Obtained)
- Contingency Access
- Access Road to be Improved
- Access Roads >15% Slope
- Erosion Control Barrier
- Temporary Construction Matting
- Temporary Upland Matting
- Construction Tracking Pad
- Stone Work Pad
- Tree Clearing Area
- Shoreland Reference Line
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- 150-ft Woodland Buffer
- 250-ft Shoreland Zone
- Watercourse (Not Delineated)
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A111 Structure Replacements

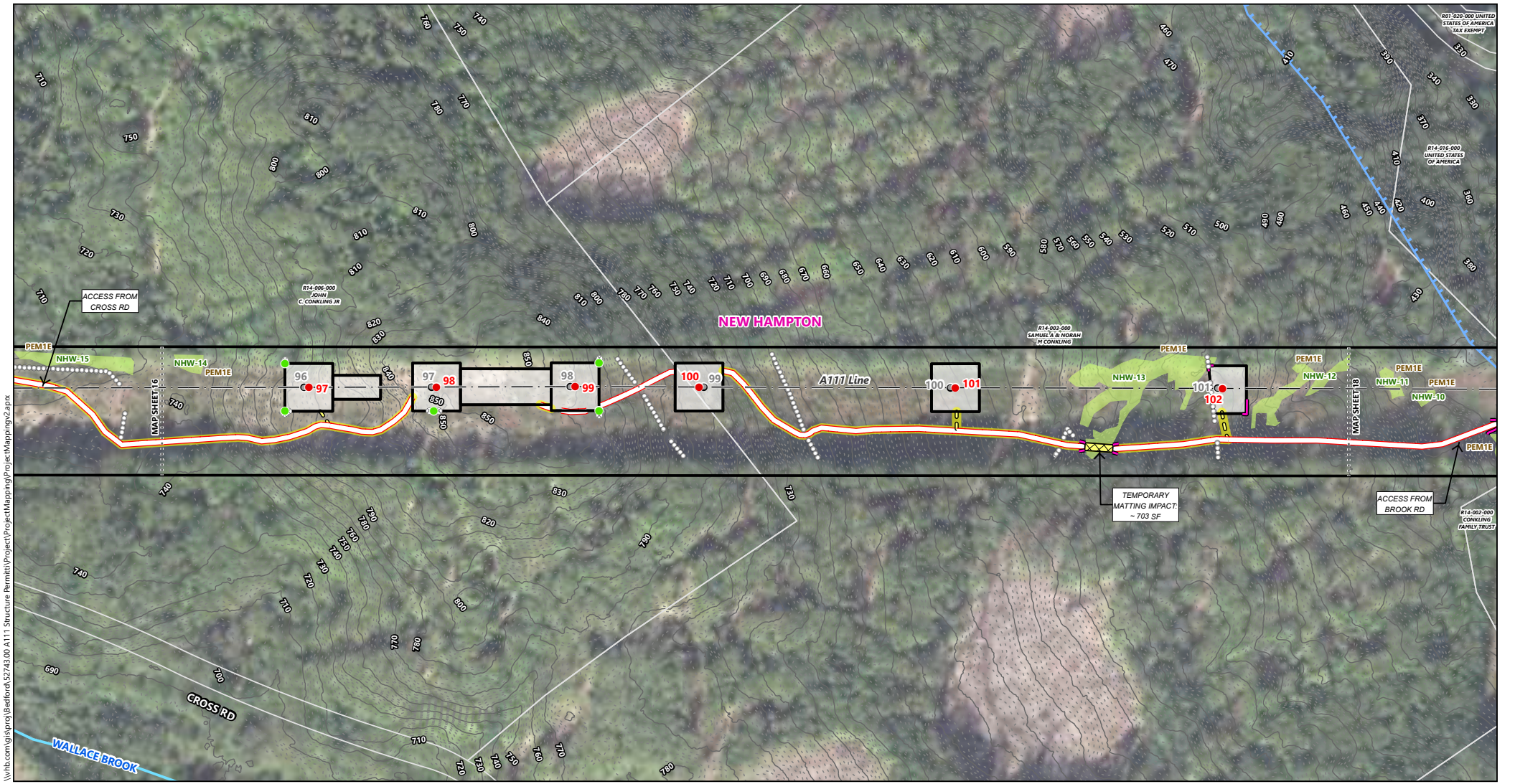
Franklin - New Hampton, NH

Alteration of Terrain Permitting Plans

Source: VHB, GZA, Eversource, GRANIT

EVERSOURCE ENERGY

vhb May 25, 2021 | **FIGURE 1**



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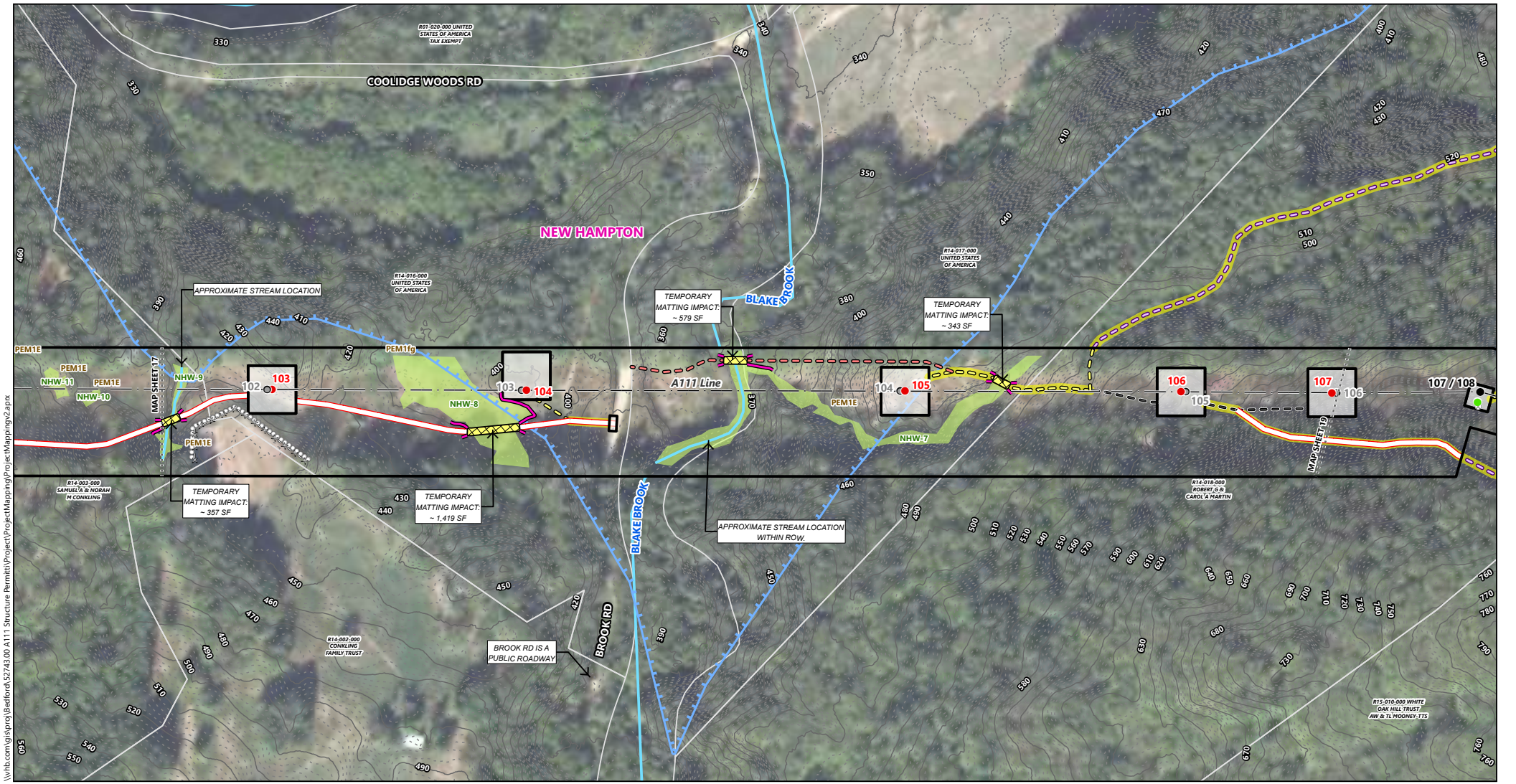
A111 Structure Replacements

Franklin - New Hampton, NH

Alteration of Terrain Permitting Plans

Source: VHB, GZA, Eversource, GRANIT



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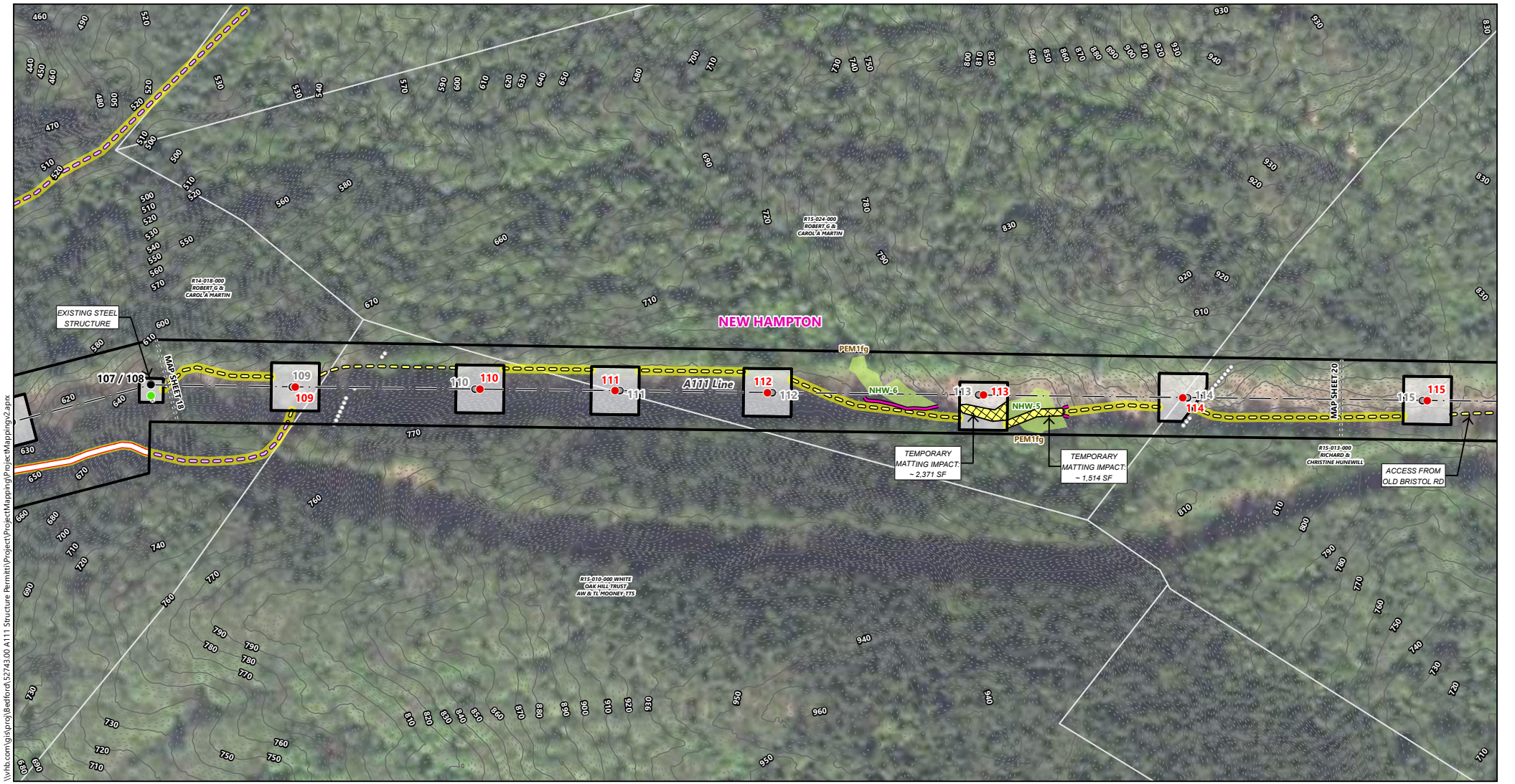
A111 Structure Replacements

Franklin - New Hampton, NH

Alteration of Terrain Permitting Plans

Source: VHB, GZA, Eversource, GRANIT



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0 100 200 400 Feet

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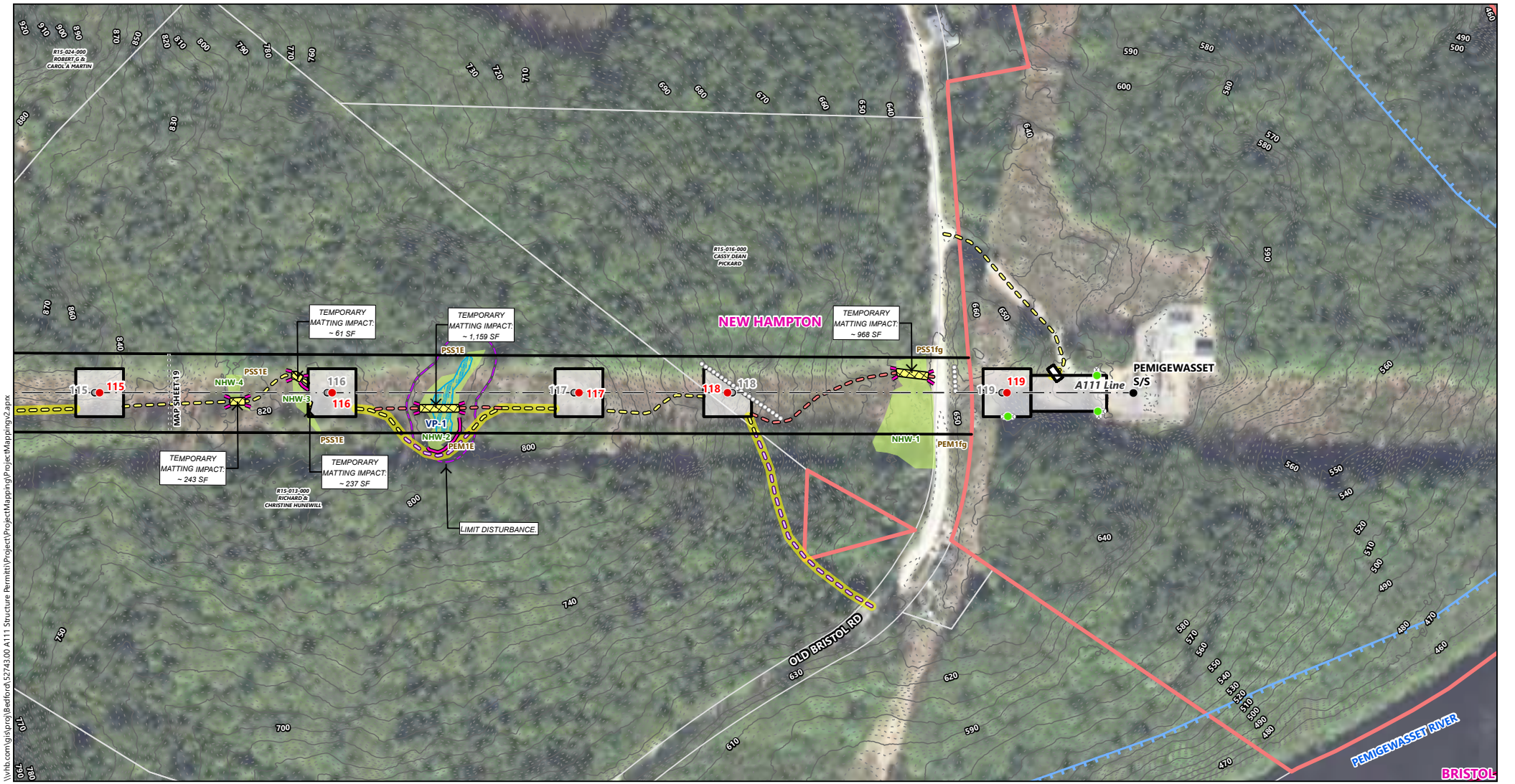
A111 Structure Replacements

Franklin - New Hampton, NH

Alteration of Terrain Permitting Plans

Source: VHB, GZA, Eversource, GRANIT



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0 100 200 400 Feet

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A111 Structure Replacements

Franklin - New Hampton, NH

Alteration of Terrain Permitting Plans

Source: VHB, GZA, Eversource, GRANIT

Appendix C – FEMA Floodplain Map

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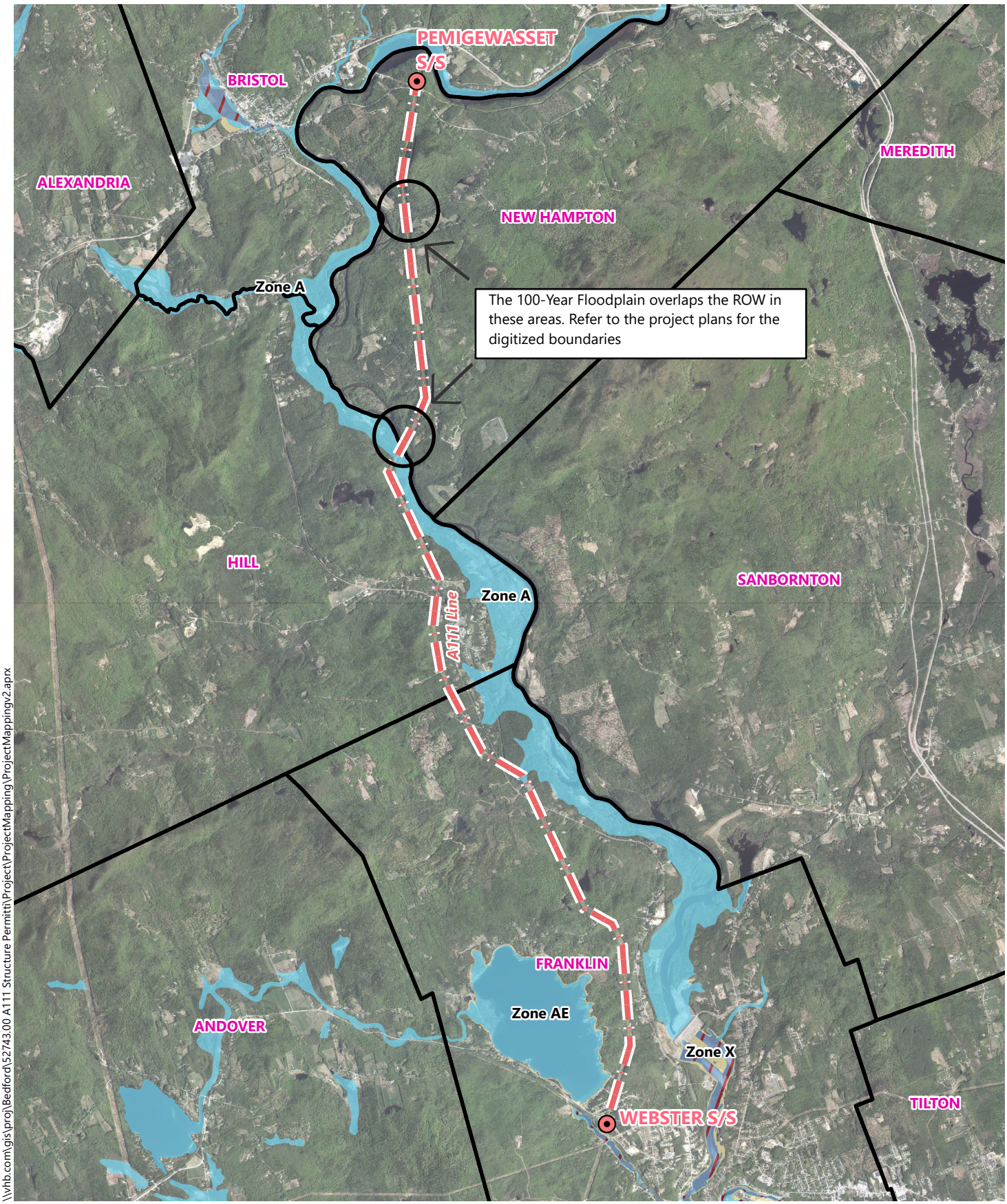
EVERSOURCE ENERGY

vhb

April 21, 2021



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0 3250 6500 13000 Feet

Substations
Existing Overhead Line
Town Boundaries

0.2% Annual Chance Flood Hazard
Flood Zone AE
Regulatory Floodway

No digital or modernized FEMA data available for New Hampton. Therefore, the FEMA 100-Year Floodplain lines in New Hampton were digitized on the project plans from the FEMA Flood Insurance Rate Map 01-17 (Community Number 330007B) dated April 2, 1986 and should be considered approximate.

A111 Rebuild Project | Franklin - New Hampton, New Hampshire

Floodplain Map

Source: VHB, GRANIT, Eversource

Appendix D – Wildlife Habitat Assessment

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TABLE OF CONTENTS

PHASE I THREATENED AND ENDANGERED WILDLIFE AND HABITAT ASSESSMENT
A111 REBUILD PROJECT, FRANKLIN TO NEW HAMPTON, NH
NHB FILE ID: NHB20-2570, NHB20-2571, NHB20-2573

PART 1: SUMMARY AND FINDINGS

Christopher Wagner, PWS	NHB20-2570, NHB20-2571, NHB20-2573
VHB	A111 Rebuild Project
101 Walnut Street, Watertown, MA 02472	Franklin to New Hampton, NH
cwagner@vhb.com	Eversource
617-607-2653	AOT APPLICATION #: *TBD*

PROPOSED PROJECT:
The Applicant, Eversource, Inc., will rebuild their existing A111 electric transmission line (the Project) that begins in Franklin and ends in New Hampton, NH (the Site). The Project will replace the existing structures and conductors and will install fiber optic cable, known as Optical Ground Wire (OPGW), along the length of the line, which runs approximately 10.6 miles from the Webster Substation in Franklin to the Pemigewasset Substation in New Hampton. The Project will be constructed entirely within the previously disturbed area of the existing transmission right-of-way (ROW), which was recently cleared for routine maintenance. The Site consists almost entirely of this maintained area, which periodically develops into areas of scrub-shrub habitat during the time in between maintenance activities. The areas outside the Site typically consist of mature woodlands. The Project is seeking an Alteration of Terrain (AoT) permit and will temporarily impact approximately 2.0 acres of wetlands out of the approximately 48-acre total proposed disturbance. Minor tree clearing is proposed in Franklin.

PHASE I Threatened and Endangered Wildlife and Habitat Assessment Findings:
Check one

- ☐ No threatened and endangered wildlife and habitat present, no threatened or endangered wildlife, habitat, or wildlife corridors likely to be impacted by project activities.
- ☐ Threatened and endangered wildlife and habitat present; HOWEVER, NO threatened or endangered wildlife, habitat, or wildlife corridors likely to be impacted by project activities. No conservation measures are proposed.
- ☒ Threatened and endangered wildlife and habitat present or wildlife corridors present. Proposed actions have the potential for impacts. Conservation measures incorporated into the proposed project or project design.

THREATENED AND ENDANGERED WILDLIFE AND HABITAT:

- NHB Datacheck Results Letters (File IDs: NHB20-2570, NHB20-2571, NHB20-2573) issued 9/8/20 collectively identified the following rare species and exemplary natural communities within or near the Site:
  Rare Species: brook floater (*Alasmidonta varicosa*), American eel (*Anguilla rostrata*), common loon (*Gavia immer*), wood turtle (*Gleptemys insculpata*);
  Natural communities: dry river bluff, herbaceous riverbank/floodplain, major river silver maple floodplain system, silver maple – false nettle – sensitive fern floodplain forest, aquatic bed.
  Because the NHB datacheck results letter includes wildlife species, the Site is presumed to contain threatened and endangered wildlife or habitat.
- Based on desktop review of the Wildlife Action Plan (WAP), most of the proposed Project area and surrounding area are mapped as hemlock-hardwood-pine, with a few sections mapped as Appalachian oak-pine and a small area of peatland/marsh and shrub wetland. Six vernal pools

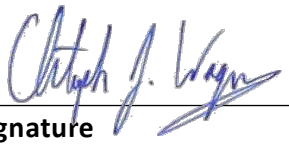
were documented along the ROW and their boundaries were delineated. Overall, the Site may provide limited periodic habitat for wood turtle in a few riverine areas; other species identified in the NHB Datacheck letters are likely not supported. None of the exemplary natural communities identified in the NHB Datacheck letters are represented within the Site. Although the Site has been recently cleared, as the vegetation grows back it will provide scrub-shrub habitat and a migration corridor for birds and other animals that prefer this type of habitat. No known hibernacula or roost trees are located within ½ mile of the Project.

PROPOSED CONSERVATION MEASURES:
The Project has been designed to avoid and minimize impacts to wetland resources and to the surrounding landscape, particularly in sensitive areas, to the extent practicable. Proposed measures to limit impacts to wildlife that may utilize the Site include temporary erosion controls (i.e., silt fence or silt sock) to prevent sediment-laden runoff from entering the surrounding habitat areas, wildlife friendly erosion controls made of woven organic material to decrease the risk of wildlife entanglement, and seeding of any temporarily disturbed areas upon completion of the proposed work.

Printed name, date and signature of Individual that conducted the Phase I Threatened and Endangered Wildlife and Habitat Assessment. ***Note: By signing this document, the qualified wildlife biologist (Env. Wq. 1503.19(h)) is assuming responsibility for the wildlife assessment. Credentials need to be included in Part 4: Appendices.***

Christopher J. Wagner — **Name – printed**

5/25/21 — **Date**



Signature

Check Applicable Requested Action

☐ **Request for NHFG Concurrence with Findings in compliance with Env. Wq. 1503.19(h)(1)a**

☒ **Request for NHFG Concurrence with Findings and Proposed Conservation Measures in compliance with Env. Wq. 1503.19(h)(1)b***

☐ **Requests further coordination with NHFG to discuss proposed conservation measures and/or, potential focused survey needs (Phase II)***

***New Hampshire Fish and Game's review and recommendations are based on the information provided in this assessment. Changes to project scope may affect NHFG and/or NHDES determination on potential impacts and whether conservation measures and project design modifications proposed are still applicable or sufficient.**

Other:

PART 2: NHB Datacheck Results Letter, Figures,Site Photographs

Include in order presented below:

NHB Datacheck Results Letter (NOTE information in this letter is CONFIDENTIAL and would need to be redacted if document is shared). Letter must be valid (within one year of printed date).
Figures (note: project site boundary should be identical to one provided for NHB datacheck):*

- *Aerial Figure*
- *Topographic Figure*
- *Habitat Features Figure (highlight habitat features; e.g. vernal pools, wetlands, roost trees)*
- *NH Wildlife Action Plan - Land Cover Figure*
- *NH Wildlife Action Plan - Habitat Rankings and Conservation Parcels Figure*

Site photographs with photograph location plan

**Note- GIS and maps used may have limitations that should be considered or noted when interpreting for the purposes of this assessment. It is encouraged to review background creation information for maps/GIS data used (metadata) and note limitations for map interpretation as applicable.*

**Project site plan pages with pertinent information should be included in Part 4: Appendices. It is requested that large, detailed documents also be provided in hard copy.*

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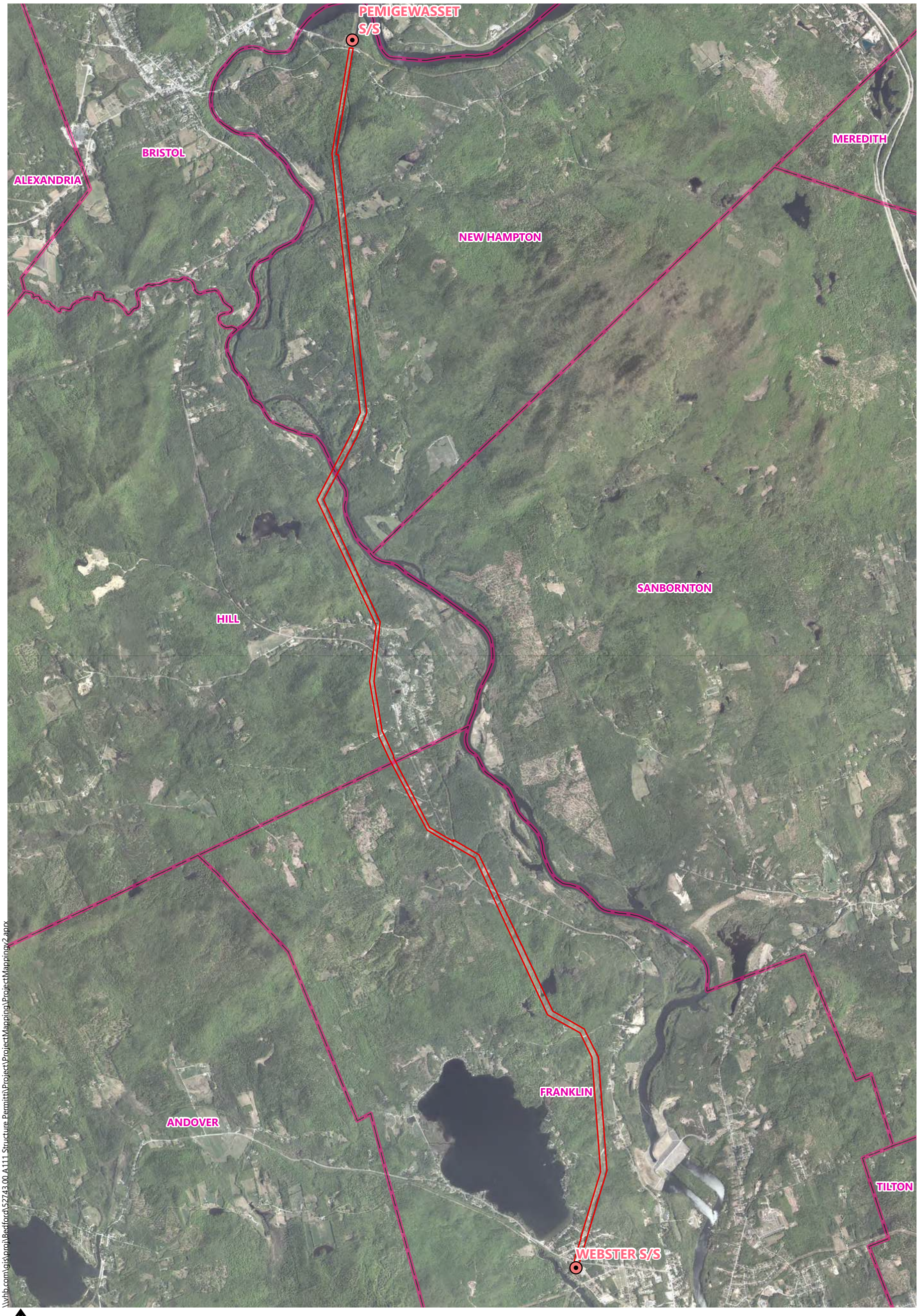
EVERSOURCE ENERGY

vhb May 19, 2021 | **FIGURE 1**



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0 1250 2500 5000 Feet

Substations

Site Location

Town Boundaries

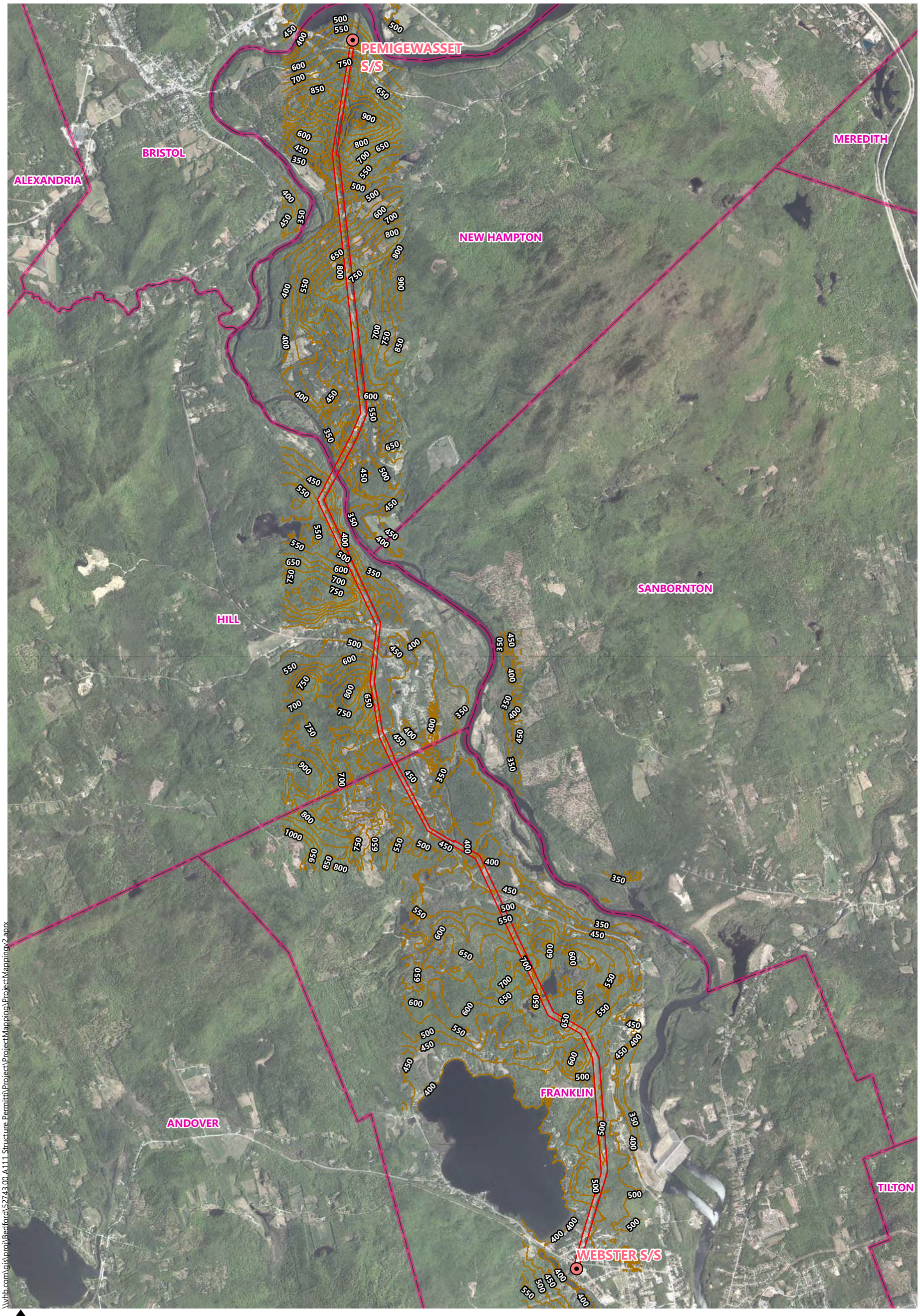
A111 Rebuild Project | Franklin - New Hampton, NH

Aerial Map

Source: VHB, GZA, Eversource, GRANIT

EVERSOURCE ENERGY

vhb May 19, 2021 | **FIGURE 2**



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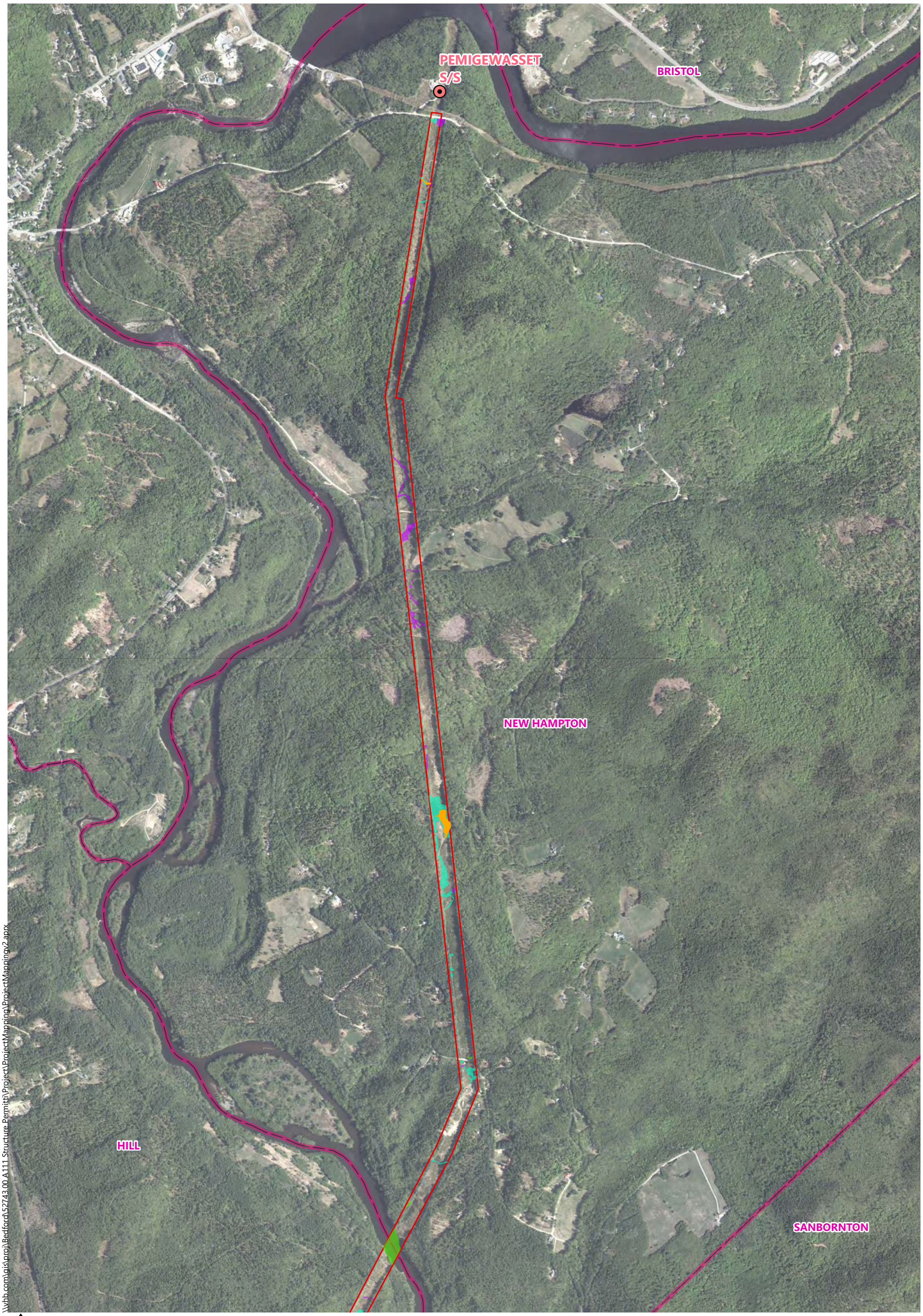
A111 Rebuild Project | Franklin - New Hampton, NH

Topographic Map

Source: VHB, GZA, Eversource, GRANIT



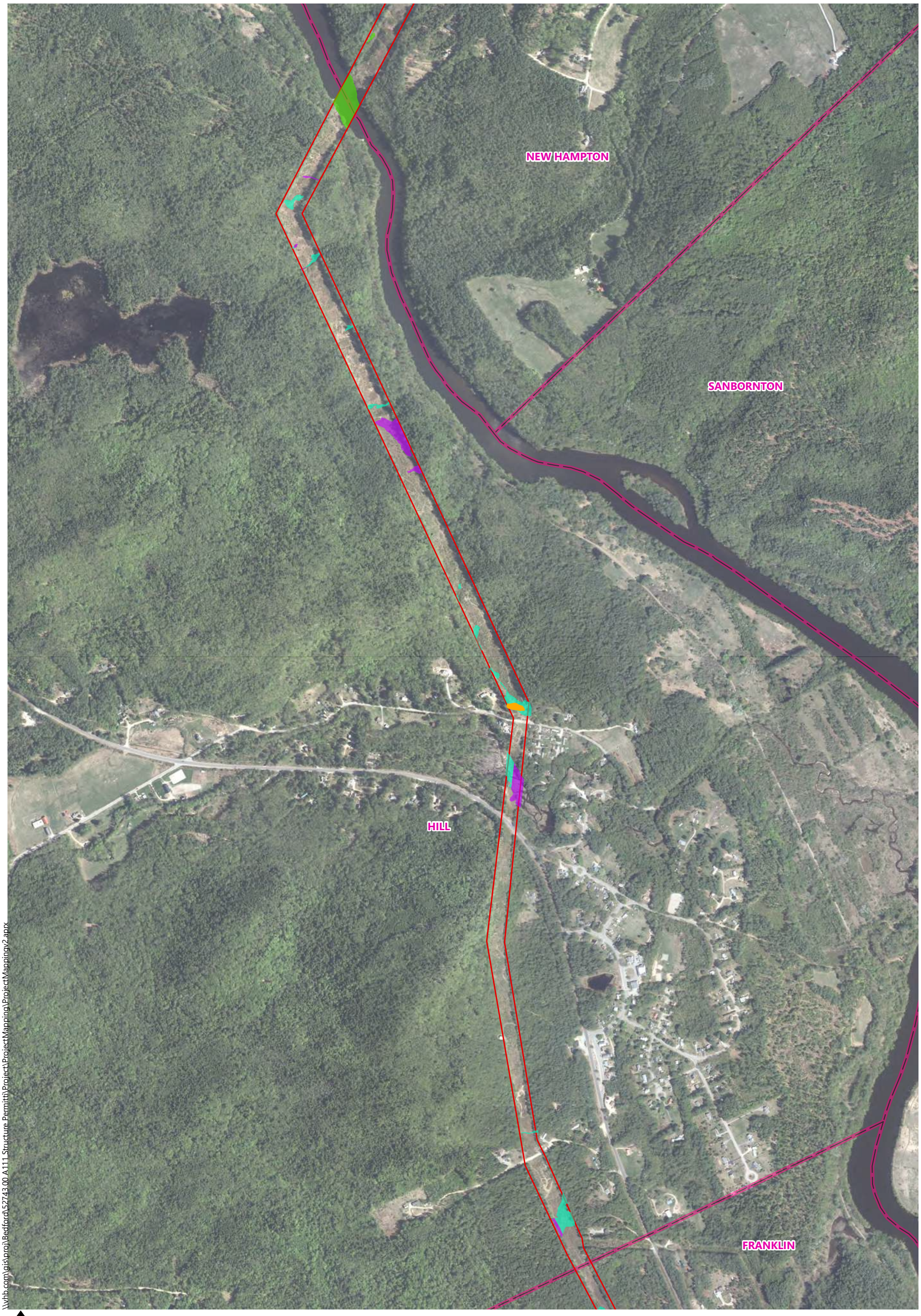
0 500 1000 2000 Feet

- Substations
- Site Location
- Town Boundaries
- Delineated Vernal Pool (VHB)
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

A111 Rebuild Project | New Hampton, NH

Habitat Features Map

Source: VHB, GZA, Eversource, GRANIT



0 335 670 1340 Feet

- Substations
- Site Location
- Town Boundaries
- Delineated Vernal Pool (VHB)
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

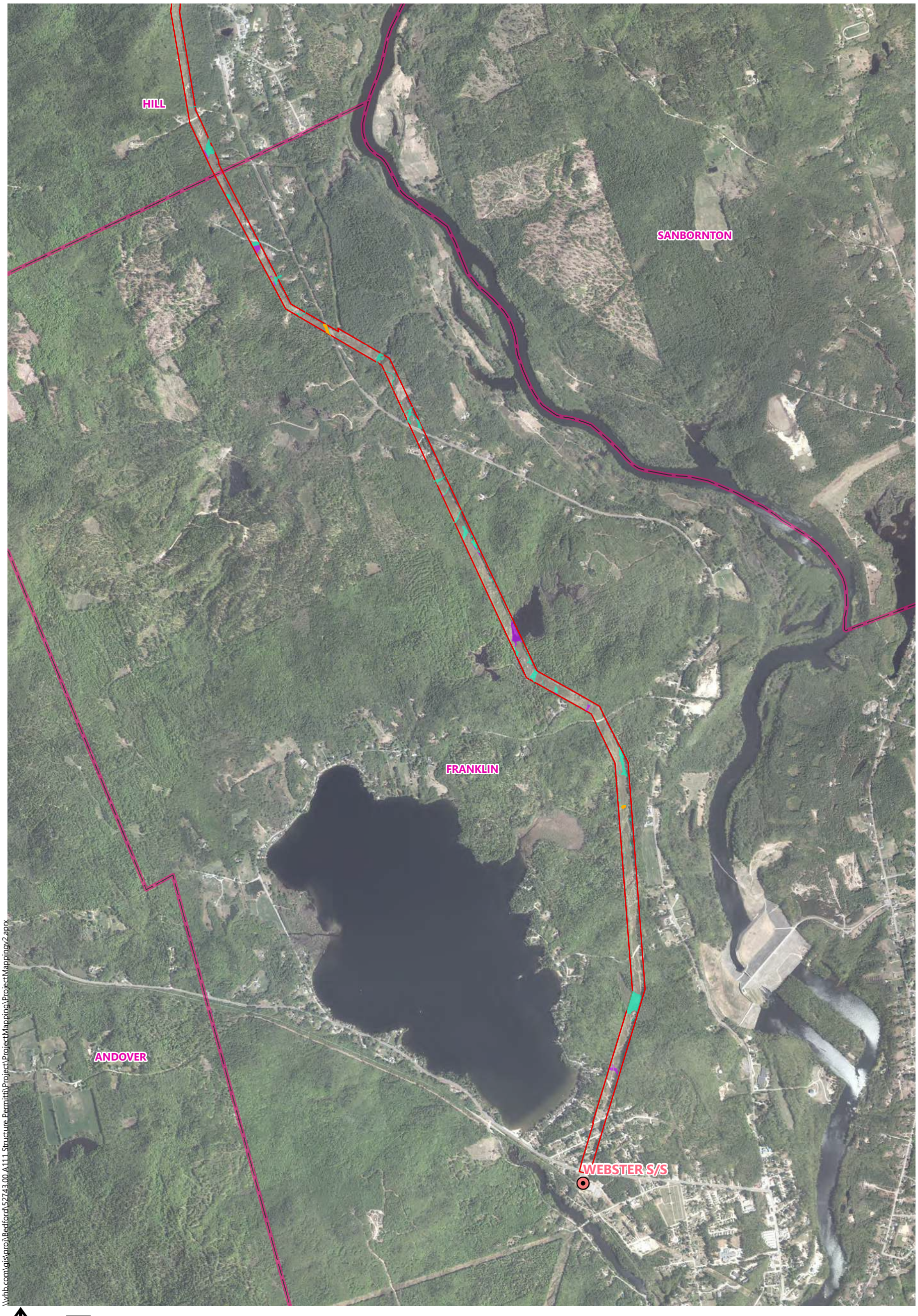
A111 Rebuild Project | Hill, NH

Habitat Features Map

Source: VHB, GZA, Eversource, GRANIT

EVERSOURCE ENERGY

vhb May 19, 2021 | **FIGURE 3C**

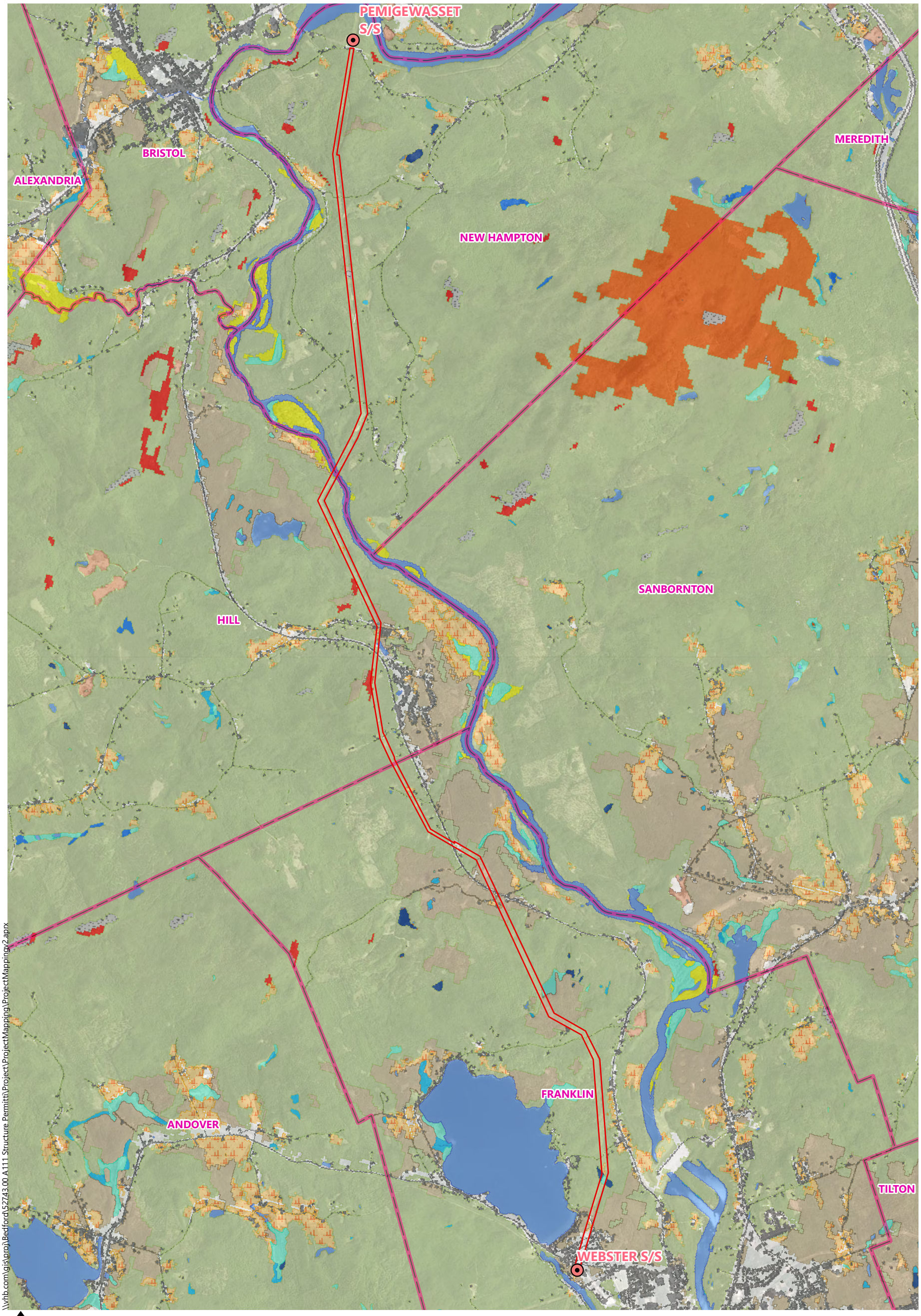


A111 Rebuild Project | Franklin, NH

Habitat Features Map

- Substations
- Site Location
- Town Boundaries
- Delineated Vernal Pool (VHB)
- Emergent Wetland
- Forested Wetland
- Scrub/Shrub Wetland

Source: VHB, GZA, Eversource, GRANIT

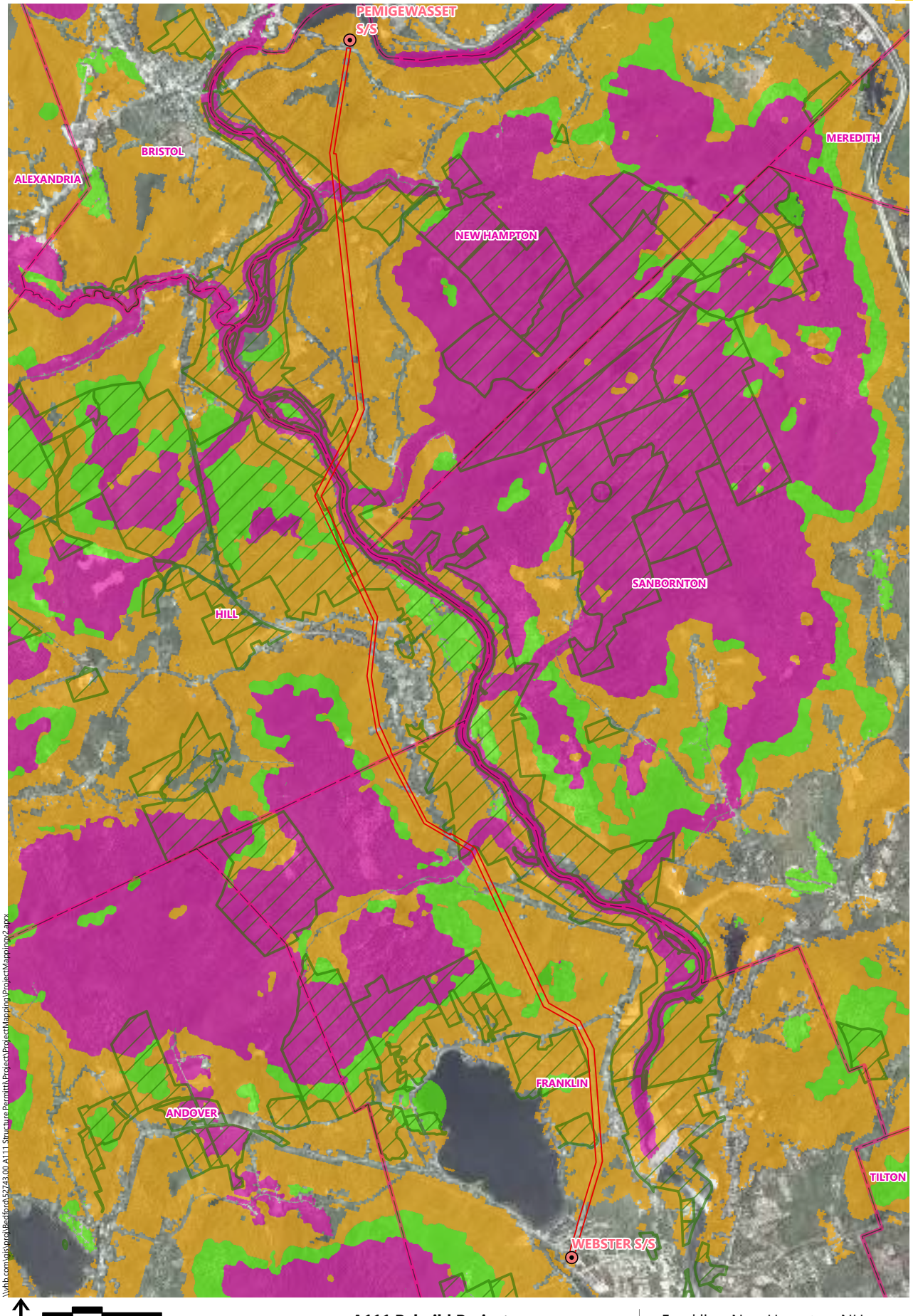


A111 Rebuild Project

Franklin - New Hampton, NH

NH WAP
Land Cover

Source: VHB, GZA, Eversource, GRANIT



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0 1250 2500 5000 Feet

- Substations
- Site Location
- Town Boundaries
- Conservation Lands
- 1 Highest Ranked Habitat in New Hampshire
- 2 Highest Ranked Habitat in Biological Region
- 3 Supporting Landscapes

A111 Rebuild Project

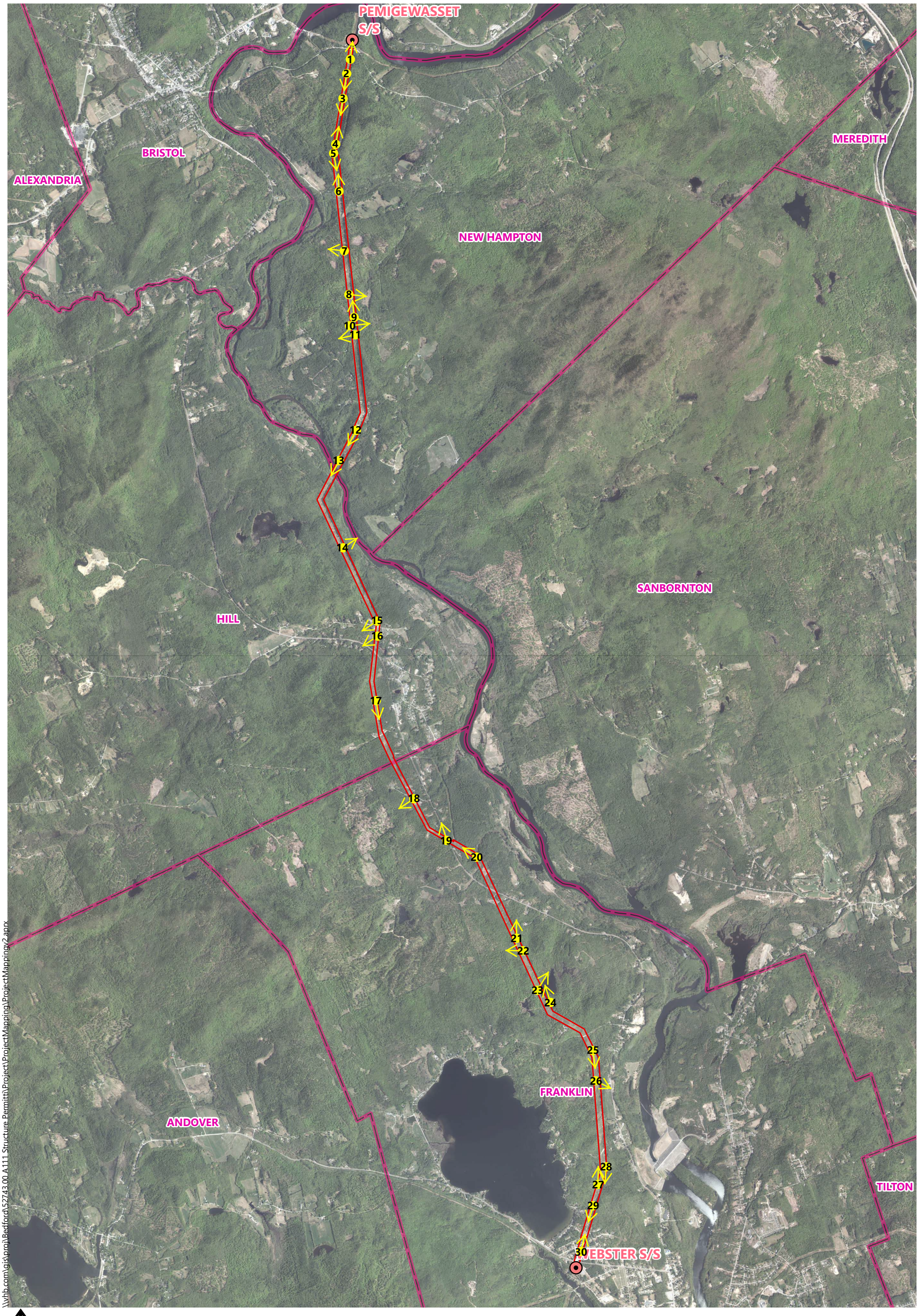
Franklin - New Hampton, NH

NH WAP - Habitat Rankings and Conservation Parcels

Source: VHB, GZA, Eversource, GRANIT

EVERSOURCE ENERGY

vhb May 19, 2021 | **FIGURE 1**



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0 1250 2500 5000 Feet

Substations
Site Location
Town Boundaries

A111 Rebuild Project | Franklin - New Hampton, NH

Photo Location Map

Source: VHB, GZA, Eversource, GRANIT

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 1

Date: 4/14/21

Description:

South of Old Bristol Rd. in New Hampton, looking north.

Typical cleared ROW conditions at the northern end of the Site. Low existing vegetation cleared from edge to edge of the ROW. Old Bristol Road and Pemigewasset Substation are visible in the background.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 2

Date: 4/14/21

Description:

South of Old Bristol Rd. in New Hampton, looking south.

View of one portion of vernal pool VP1, which extends off the ROW.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 3 **Date:** 4/14/21

Description:

South of Old Bristol Rd. in New Hampton, looking south.

Typical cleared ROW conditions.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 4 **Date:** 4/14/21

Description:

North of Brook Rd. in New Hampton, looking north.

View of ROW and steep terrain around Angle structure (Str 107) where the ROW widens to approximately 200'.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 5 **Date:** 4/14/21

Description:

North of Brook Rd. in New Hampton, looking south.

Typical cleared ROW conditions and rolling terrain characteristic of much of the Site.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 6 **Date:** 4/14/21

Description:

Just north of Brook Rd. in New Hampton, looking north.

A stream (Blake Brook) flows across the ROW from east to west. Vegetation on the south side of the stream has been cleared.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 7 **Date:** 4/14/21

Description:

South of Brook Rd. in New Hampton, looking west.

Small ledge exposure and rock pile conditions observed scattered along the length of the Site.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 8 **Date:** 4/14/21

Description:

North of Cross Rd. in New Hampton, looking east.

Typical field stone wall encountered sporadically along the length of the Site.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 9 **Date:** 4/14/21

Description:

Cross Rd. in New Hampton, looking north.

Beaver impoundment and vernal pool VP2 formed partially in flooded dirt roadway of Cross Rd. Palustrine scrub-shrub habitat in portions of impoundment and standing dead snags visible.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 10 **Date:** 4/14/21

Description:

Cross Rd. in New Hampton, looking east.

Beaver impoundment along south side of Cross Road.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 11 **Date:** 4/20/21

Description:

South of Cross Rd. in New Hampton, looking west.

A stream (Wallace Brook) flows from east to west across the ROW. Vegetation is typically not cleared around streams to the same extent as the rest of the Site.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 12 **Date:** 4/20/21

Description:

South of Coolidge Woods Rd. in New Hampton, looking southwest.

Rolling terrain and pronounced slopes along the Pemigewasset River corridor.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 13 **Date:** 4/20/21

Description:

Northeastern side of the Pemigewasset River in New Hampton, looking southwest into Hill.

Vegetation is cleared close to the edge of the river, with few trees within the ROW. No riffle and pool complexes or other river morphology is present within the ROW.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 14 **Date:** 4/20/21

Description:

North of Old Town Rd. in Hill, looking northeast.

Stream with steep banks flowing across the ROW from southwest to northeast.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 15 **Date:** 4/20/21

Description:

Just north of Old Town Rd. in Hill, looking southwest.

View of vernal pool VP3, which extends across most of the ROW.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 16 **Date:** 4/20/21

Description:

In between Old Town Rd. and Rte. 3A in Hill, looking southwest.

A stream (Needle Shop Brook) has been altered by repeated beaver activity.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 17 **Date:** 4/20/21

Description:

North of Moses Ave. in Hill, looking south.

Typical cleared ROW conditions. Disturbed sandy areas created by off-road vehicle use are visible in the background.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 18 **Date:** 4/27/21

Description:

Just South of Bennett Brook Rd. in Franklin, looking southwest.

Unmowed areas adjacent to Bennett Brook stream corridor, forming a palustrine scrub-shrub habitat.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 19 **Date:** 4/27/21

Description:

Just southwest of Rte. 3A (Hill Rd.) in Hill, looking northwest.

View of vernal pool VP4, which extends across the entire ROW.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 20 **Date:** 4/27/21

Description:

Southeast of Rte. 3A (Hill Rd.) in Hill, looking northwest.

Steep terrain above an unmowed section of ROW around an unnamed stream.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 21 **Date:** 4/27/21

Description:

South of Rte. 3A (Hill Rd.) in Franklin, lookin north.

View of vernal pool VP5, which is limited to a small area on the eastern side of the ROW.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 22 **Date:** 4/27/21

Description:

South of Rte. 3A (Hill Rd.) in Franklin, lookin west.

One of several ledge outcroppings present along the length of the Site.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 23 **Date:** 4/27/21

Description:

North of Lake Shore Dr. in Franklin, looking northeast.

Large open water pond that extends partially into the ROW. Standing dead snags visible in the water.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 24 **Date:** 4/27/21

Description:

North of Lake Shore Dr. in Franklin, looking northeast.

Large open water pond

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 25 **Date:** 4/27/21

Description:

South of Lake Shore Dr. in Franklin, looking south.

Typical maintained ROW conditions.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource

Site Location: A111 ROW, Franklin to New Hampton, NH

Project No: 52743.00

Photo No.: 26 **Date:** 4/27/21

Description:

South of Lake Shore Dr. in Franklin, looking southeast.

View of vernal pool VP6.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource | **Site Location:** A111 ROW, Franklin to New Hampton, NH | **Project No**: 52743.00

Photo No.: 27 | **Date:** 4/27/21

Description:

South of Griffin Rd. in Franklin, looking north.

View of peatland/bog area that extends across ROW. Like other wetland areas on the Site this area is not maintained as frequently and contains a scrub-shrub community on raised hummocks in some portions.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource | **Site Location:** A111 ROW, Franklin to New Hampton, NH | **Project No**: 52743.00

Photo No.: 28 | **Date:** 4/27/21

Description:

South of Griffin Rd. in Franklin, looking north.

View of peatland/bog area that extends across ROW. Some areas are dominated by sphagnum moss and surface water.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource | **Site Location:** A111 ROW, Franklin to New Hampton, NH | **Project No**: 52743.00

Photo No.: 29 | **Date:** 4/27/21

Description:

North of Lake Ave. in Franklin, looking south.

Typical maintained ROW, with more developed residential area in the background.

vhb Engineers | Scientists | Planners | Designers

Photographic Log

Client Name: Eversource | **Site Location:** A111 ROW, Franklin to New Hampton, NH | **Project No**: 52743.00

Photo No.: 30 | **Date:** 4/27/21

Description:

North of Webster Lake Rd. in Franklin, looking north.

Typical ROW conditions in developed residential area near southern terminus at the Webster Substation.

PROPOSED PROJECT:

The Project will reconstruct the existing A111 electric transmission line that begins in Franklin and ends in New Hampton, NH. Eversource has identified the need to replace and upgrade the existing structures and conductor and will install fiber optic cable, known as Optical Ground Wire (OPGW), along the existing transmission line. The A111 line, built in 1951, is a 10.6-mile long 115kV line that starts at the Webster Substation in Franklin and passes through northern Franklin, Hill, and into the Pemigewasset Substation in New Hampton. The line contains 118 wood structures, most of which are in poor condition from woodpecker damage, insect damage, and pole rot. Eversource proposes to replace 115 of the wood structures with steel structures that are more resistant to insect and woodpecker damage and pole rot, can support the heavier OPGW, and can further withstand typical New Hampshire storms and severe weather events. Three structures on the line are already steel. The proposed steel structures would have the same H-frame design as the existing wood structures. The proposed OPGW installation on this line will enable communication between Eversource substations, improving the reliability across the electric system through increased visibility of the system, quicker response time for system issues, automation, and reduced outage occurrences and durations. Natural resource and property owner impacts have been minimized through the proposed rebuild of the entire line, as opposed to the structure replacement alternative that would necessitate additional future repairs and maintenance. The proposed work will occur within the existing, cleared utility right-of-way (ROW) and no widening of the ROW is proposed, although minimal tree clearing is proposed within the ROW in Franklin.

PROJECT SITE AND SURROUNDING LAND USE DESCRIPTION:

The Site includes the ROW associated with the A111 transmission line. For most of its length, the cleared area of the ROW is approximately 200 feet wide, with some portions in New Hampton approximately 100 feet wide and a portion in Hill approximately 125 feet wide. The Site consists of the utility line structures and transmission conductors, access roads, and gates, with the Pemigewasset and Webster substations at either end. The Site is predominantly located in rural areas, with only a short stretch of the southernmost portion in Franklin just north of the Webster substation located in a more residential area. The ROW crosses the Pemigewasset River and several other smaller streams and wetland areas, and passes approximately 550 feet (0.1 miles) east of Webster Lake at its closest point. Except for the southernmost portion, the Site is generally bounded on both sides by mature wooded areas, broken occasionally by rural, mainly dirt roads with single-family houses. Route 3A, a 2-lane collector, is the largest road along the ROW, crossing it three times. A portion of the Site passes through the William H. Thomas State Forest in Hill. Much of the area east of the Site is an area of almost no development stretching over four miles east to the Route 93 corridor. Figure 1 shows an aerial image of the Site and surrounding area.

The Site itself has recently been cleared from edge to edge of the ROW for routine periodic maintenance. The recent maintenance extends for the entire length of the ROW that comprises the Site. Most areas, excepting some scrub-shrub wetland areas, have been uniformly clear cut to within a foot of ground level and the material disposed of, leaving the areas open and exposed. In between the periodic maintenance, the vegetation grows to form a dense low scrub-shrub community. Despite the approximate 10.6-mile length of the Site, the vegetation within the portion of the ROW that comprises the Site is remarkably consistent. Regrowth is evident in all recently cleared areas along the ROW and the vegetation consists mainly of a dry upland community interspersed with stream and wetland crossings across the ROW. Dominant upland species include shrubs and mowed trees such as lowbush blueberry (*Vaccinium angustifolium*), American beech (*Fagus grandifolia*), raspberry (*Rubus* sp.),

steeplebush (*Spiraea tomentosa*), red maple (*Acer rubrum*), eastern hemlock (*Tsuga canadensis*), staghorn sumac (*Rhus typhina*), black cherry (*Prunus serotina*), white pine (*Pinus strobus*), bracken fern (*Pteridium aquilinum*), ground pine (*Lycopodium obscurum*), American wintergreen (*Gaultheria procumbens*), mullein (*Verbascum thapsus*), yarrow (*Achillea millefolium*), and other common herbaceous plants of dry fields. Many shrubs have formed a multistem base in response to the periodic maintenance. The areas on either side of the ROW typically consist of a mature upland wooded forest consisting of eastern hemlock, white pine, red maple, gray birch (*Betula populifolia*), American beech, bracken fern, northern red oak (*Quercus rubra*), black birch (*Betula lenta*), and bracken fern.

The Site crosses several streams and wetlands; with the exception of the Pemigewasset River, most streams are small tributaries less than 3 feet wide situated in channels with pronounced slopes crossing the ROW. Some of the areas of vegetated wetlands on the Site are associated with these streams, while others are formed from groundwater breakouts that form hillside seeps or perched wetlands. Much like the upland areas of the Site, the wetlands are generally consistent along the length of the Site. Dominant wetland species include red maple, speckled alder (*Alnus incana*), silky dogwood (*Cornus amomum*), winterberry (*Ilex verticillata*), glossy buckthorn (*Rhamnus frangula*), meadowsweet (*Spiraea alba*), steeplebush, sheep laurel (*Kalmia angustifolia*), sensitive fern (*Onoclea sensibilis*), cinnamon fern (*Osmunda cinnamomea*), reed canary grass (*Phalaris arundinacea*), and sphagnum moss (*Sphagnum* spp.). The Site also contains six vernal pools, discussed in more detail below. Delineated wetland resource areas and vernal pools are shown in Figure 3.

Topography of the Site is generally fairly hilly and is characterized by pronounced slopes in between hills with elevations of a few hundred to several hundred feet. Elevations along the ROW range from approximately 350 feet to 800 feet in a few locations. Figure 2 shows the general topography of the Site. Soils along much of the ROW are comprised of variations of Lyman-Turnbridge-rock outcrop complex or Turnbridge-Lyman-Becket complex, often with steep (15 to 35 percent) slopes. Rocky outcroppings and areas of ledge are present throughout the ROW.

Notable Areas and Features

While the majority of the Site consists of the upland and wetland conditions described above, several areas have different characteristics and are discussed in more detail below.

Vernal Pools

The Site contains six active vernal pools in depressions and wetland crossings along the ROW. The vernal pools were identified during the field investigations for this wildlife habitat analysis. Pools range in size and composition. A few are small, shallow (max depth: six inches to one foot) ephemeral areas with relatively short hydroperiods that may not have breeding success in years with insufficient hydrology, while others are larger, much deeper depressions (max depth: three to four feet) with a much greater volume of water and a longer hydroperiod. Breeding activity in pools was observed and documented; all documented pools contained egg masses of wood frog (*Lithobates sylvaticus*) and/or spotted salamander (*Ambystoma maculatum*), both obligate vernal pool amphibians.

Beaver Impoundment

A large beaver impoundment is present within the ROW along Cross Road, a little-used dirt road that services a few single-family residences off Blake Hill Road in New Hampton. Cross Road within the ROW is completely flooded from the impoundment, which has been constructed along approximately 200 feet of the downgradient edge of the road above Wallace Brook. The impoundment is over 100 feet by 300 feet in size, with a max depth of three to four feet and a broad supporting area consisting of open water and palustrine scrub-shrub habitat dominated by speckled alder and winterberry. Several

standing dead snags are also present in the impoundment. A local resident reported that the impoundment has been in place for at least 15 years. The beaver impoundment contains one of the vernal pools identified on the Site

Pemigewasset River
The Site crosses the Pemigewasset River where it forms part of the border between the towns of New Hampton and Hill. The river in this location is approximately 300 feet wide and has a uniform, laminar flow with no riffle/pool complexes, rapids, or other areas of turbulence. The ROW is maintained essentially to the water's edge; the banks of the river are vegetated mainly with low shrubs and a few trees. Dominant species include silky dogwood, red maple, and white pine. The banks are at an approximately 1:1 slope for approximately 30 to 40 feet above the water, with no sandy areas or large cutbanks. Due to the lack of trees within the ROW, there are few overhanging perching locations above the water.

Open Water Pond
A large open water pond is present on the east side of the ROW north of Lake Shore Drive in Franklin. The pond is approximately 550 feet by 650 feet, with a floating mat of vegetation close to shore in the ROW and a few standing dead snags. A pole with an osprey platform has been constructed within the ROW adjacent to the pond; the platform appears to have been constructed relatively recently and is currently unoccupied with no visible sign of previous use.

Peatland/Bog
A low lying bog area is present within the ROW south of Griffin Road in Franklin. The bog is saturated to the surface with several flooded areas and a dense mat of sphagnum moss with shrub hummocks throughout. A layer of peat and partially decayed plant material approximately one foot thick lies over a layer of well-decomposed organic mucky material with little mineral soil component and a sulfitic odor. Dominant species include steeplebush, winterberry, red maple, highbush blueberry (*Vaccinium corymbosum*), sheep laurel, bristly dewberry (*Rubus hispidus*), cinnamon fern, and woolgrass (*Scirpus cyperinus*).

The New Hampshire Department of Fish and Game has prepared a Wildlife Action Plan (WAP) to identify areas of conservation need and to guide activities to minimize impacts to rare and endangered species. GIS datalayers are available that show cover types and designated important wildlife areas. Figures 4 and 5 show the WAP layers for the Site. Land cover types are shown in Figure 4. The WAP has mapped nearly the entire ROW that comprises the site as hemlock-hardwood-pine forest, with a few small areas mapped as Appalachian oak-pine and one small area mapped as peatland/marsh and shrub wetland in the location of the bog discussed above. While the forested designations are generally correct for the surrounding area and landscape, the area within the ROW is a shrub community created by the periodic maintenance of the Site. Habitat rankings are shown in Figure 5. The WAP has mapped the majority of the Site as "supporting landscape," with a few of the stream crossings (including the Pemigewasset River) mapped as "highest ranked habitat in New Hampshire." The Site crosses a number of conservation land parcels; the largest of these are associated with the Pemigewasset River and the William H. Thomas State Forest in Hill. Conservation lands are shown in Figure 5.

THREATENED AND ENDANGERED WILDLIFE AND HABITAT EVALUATION:
The New Hampshire Natural Heritage Bureau (NHB) maintains a database of documented rare species populations and observations for the state. For any applicant seeking an AoT permit, coordination with the NHB is required. The NHB provided the Applicant with rare species listings for the Site and the

surrounding area on September 8, 2020 (NHB File IDs: NHB20-2571 (New Hampton), NHB20-2570 (Hill), NHB20-2573 (Franklin)). The NHB Datacheck letters collectively identified the following rare species and exemplary natural communities within or near the Site:
Rare Species: brook floater (*Alasmidonta varicosa*), American eel (*Anguilla rostrata*), common loon (*Gavia immer*), wood turtle (*Gleptemys insculpata*);
Natural communities: dry river bluff, herbaceous riverbank/floodplain, major river silver maple floodplain system, silver maple – false nettle – sensitive fern floodplain forest, aquatic bed.

None of the rare species or natural communities identified above were observed on the Site; all are observations recorded elsewhere in the region. The brook floater and American eel were observed in waterways southeast of the southern terminus of the Site in Franklin, while the common loon was observed in Webster Lake west of the Site, also in Franklin. A wood turtle was observed west of the Site in Hill. The natural communities are mainly scattered along the Pemigewasset river corridor and are primarily areas of a silver maple floodplain system. In accordance with the AoT rules and NHB guidance, the Site was assessed for its ability to provide important habitat for rare species.

The Site was first assessed based on a review of available information including NH GRANIT datalayers, aerial imagery, and a conceptual design plan of the Project provided by the Applicant. VHB staff then performed a walkover of the proposed Project location and the surrounding area on April 14, April 20, and April 27, 2021. Weather during the site investigations was generally sunny with temperatures ranging from the low 60s to the low 70s (˚F). The Site was assessed by walking a meandering longitudinal transect down the length of the ROW, with any areas of varying terrain, cover type change, or notable physical features receiving additional observation. Due to the recent vegetation maintenance, visibility was good across the entire ROW in all but a few locations.

No rare, threatened, or endangered species were observed using the Site during the field investigations. As discussed above, the Site receives periodic maintenance, which by its nature disturbs the entirety of the ROW. The ROW has a cyclical development of the vegetation community, which will develop into a dense shrub habitat over a number of years in between periods of maintenance. At present, vegetation is very low and the area does not provide a meaningful migration corridor. Given time, as the vegetation fills in, the Site provides this function on an increased basis until the next maintenance period.

Some individual habitat features are present at sporadic intervals along the ROW. These features include portions of old fieldstone walls, rock piles, a few small log piles, and rocky outcroppings. These features provide denning and cover opportunities to a variety of wildlife. Other features include standing dead snags, which were observed in the beaver impoundment in New Hampton and in the open water pond in Franklin. The ROW crossing at the Pemigewasset River contains few perching locations due to the lack of mature trees within the ROW and few opportunities for interaction with the banks and surrounding habitat due to the steepness of the terrain in this area. Very limited open sandy areas suitable for turtle nesting habitat were observed on the Site. Most open areas were the result of disturbance either from maintenance activities or off-road vehicle use of the ROW.

Most wildlife identified during the course of the field investigations were animals using the adjacent wooded areas on either side of the ROW, or animals that had left some sign (e.g., tracks or scat) while crossing the ROW. Wildlife observed or identified via call, track, scat, or other signs on the day of the site investigation include black-capped chickadee (*Poecile atricapillus*), blue jay (*Cyanocitta cristata*), tufted titmouse (*Baeolophus bicolor*), song sparrow (*Melospiza melodia*), red-tailed hawk (*Buteo jamaicensis*), American crow (*Corvus brachyrhynchos*), turkey vulture (*Cathartes aura*), Canada goose (*Branta canadensis*), ruffed grouse (*Bonasa umbellus*), turkey (*Meleagris gallopavo*), mourning dove

(*Zenaida macroura*), hermit thrush (*Catharus guttatus*), downy woodpecker (*Picoides pubescens*), white-tailed deer (*Odocoileus virginianus*), beaver (*Castor canadensis*), eastern gray squirrel (*Sciurus carolinensis*), and eastern chipmunk (*Tamias striatus*).

Habitat Assessment: Previously Documented Species and Habitats

The Site is unlikely to provide habitat for any of the previously documented species associated with the NHB Datacheck letters. The typical stream crossings on the Site do not provide the appropriate flow regime or stream size for the brook floater or American eel. While the recorded wood turtle encounter was approximately 0.2 miles west of the ROW according to the Hill NHB Datacheck letter, the Site does not currently have much dense shrub thicket habitat utilized by this species. To the extent that such areas do currently exist on the Site, however, they generally occur along stream corridors in areas that have not been cleared. However these corridors are generally quite small and do not currently have any supporting upland habitat adjacent to them within the ROW. The common loon sighting occurred on Lake Webster west of the ROW. While common loons could conceivably use the open pond on the east side of the ROW in Franklin, the area is likely too small to attract this species. The Site generally does not form part of large mosaics of cover types, and lack of diversity in Site's habitat combined with the periodic mowing reduces its capacity to provide good habitat for the species identified in the NHB Datacheck letters.

Habitat Assessment: Other Species

The Site is nearly devoid of open, sandy areas that would provide suitable nesting habitat for turtle species that may be present in the area; as discussed previously, open areas are generally anthropogenic in nature and are not associated with other areas of suitable turtle habitat.

The low, relatively sparse vegetation and mostly open conditions of the previously cleared revegetating areas may provide suitable habitat for raptor species such as hawks or American kestrel (*Falco sparverius*). As the corridor regrows, feeding opportunities for raptors within the ROW will decrease. The flowering herbaceous plants such as goldenrods in the cleared areas likely provide some habitat for pollinating insects; due to the relatively low species diversity and lack of many flowering plants these areas likely do not provide important habitat for many pollinators such as honeybees and several bumble bee species of concern (*Bombus* spp.). Likewise, the low growth, lack of dense thickets or shrubby areas, and general xeric nature of these areas of the Site likely preclude use by species that utilize denser shrublands or early successional forests with in a more mesic environment such as brown thrasher (Toxostoma rufum), eastern towhee (*Pipilo erythrophthalmus*), American woodcock (*Scolopax minor*), and New England cottontail (*Sylvilagus transitionalis*). As the Site regrows, habitat for these species will increase, and the Site will again provide a migration corridor for those species that thrive in these conditions.

The Project area does not constitute an important landscape-wide habitat connection or migration corridor. As described previously, much of the Site is adjacent to a large areas of undeveloped land that can support larger animals with large land requirements such as moose, deer, bear, fisher, coyote, and foxes. Smaller animals may have greater difficulty crossing the ROW due to its existing wide open nature. Larger animals and/or forest edge species may use the Site to move north-south along the ROW.

POTENTIAL IMPACTS AND PROPOSED CONSERVATION MEASURES:

An important general guiding principle in designing a given project around sensitive natural resources is Avoid, Minimize, Mitigate. Projects should seek to avoid impacts to resources wherever possible. Where impacts are unavoidable, projects should minimize those impacts to the extent practicable. Finally, where impacts occur, projects should mitigate for those impacts with the goal of providing a net benefit to the resource or resources in question, or at least no net loss of function within the resource. Project

design should consider proximity to resources, the nature and scale of any work that may impact resources, and any measures that may enhance or complement the resources.

The Project has been designed in a manner that considers and makes use of the general principle of Avoid, Minimize, Mitigate. The Project has limited its wetland impacts to those that are unavoidable due to the placement of construction matting for the structure and line replacements. Wherever possible, the Project is also avoiding all areas around identified vernal pools by establishing 50-foot buffers around them. Temporary disturbance to vernal pools cannot be avoided in some locations because the Project needs to construct a crossing across the pool or the pool is adjacent to a structure that will be replaced. In these cases, every effort will be made to perform the work outside of the spring breeding season for obligate vernal pool species. The disturbed, recently cleared nature of the Site precludes its use by many species. Areas disturbed during construction will be reseeded and stabilized. Erosion controls will be employed around all wetland areas adjacent to proposed work areas.

Additional Measures and Practices
While this report does not prescribe specific means and methods of construction, following are some additional best practices that may be considered for the Project:

- Wildlife-friendly erosion controls, such as those made from woven organic materials or other biodegradable materials, rather than those that use welded plastic netting or polypropylene;
- If appropriate in sensitive areas, exclusion fencing or other physical barrier around the limit of work to prevent migration of animals into the active work zone;
- If any nesting activity is observed, identification and appropriate markings/signage around the areas to indicate to work crews that the areas should be avoided; and
- Photos and descriptions on the construction plans of any target species to raise awareness for construction crews and staff, and contact information for NHFG to enable immediate reporting of any observed threatened or endangered species.

CONCLUSION:
The Site was investigated on April 14, April 20, and April 27, 2021 to document existing conditions and assess the Site's capacity to provide habitat for rare, threatened, or endangered species. There were no direct observations or evidence of use of the Site by threatened or endangered species. The overall potential for impacts to threatened and/or endangered species on the Site from the Project is low. The wetland impacts proposed by the Project are limited to those from wood construction matting and are typically located around existing structures or at wetland crossings within the ROW. Due to the recent vegetation management on the Site, habitat within the ROW is suitable habitat for raptor species, but presently limited for use by species that utilize denser shrublands or early successional forests such as wood turtle, brown thrasher, eastern towhee, American woodcock, and New England cottontail. As the Site regrows, habitat for these species will increase, and the Site will again provide a migration corridor for those species that thrive in these conditions. In our best professional judgment, the Project therefore meets the standards set forth in the New Hampshire state rules. Specifically, the Project will not jeopardize the continued existence of state- or federally-listed threatened or endangered species or result in the destruction or modification of habitat of such species which is determined by the executive director of the New Hampshire Fish and Game Department to be critical.

PART 4: Appendices

Additional documentation includes:

- Alteration of Terrain Permitting Plans

- Christopher Wagner resume

Resources used in the development of this assessment include NH GRANITVIEW and the NH Wildlife Action Plan.

Christopher J. Wagner, PWS

Senior Biologist

Chris is a Senior Biologist who provides a wide variety of environmental biology services to assist with compliance with state and federal regulations. He performs wetland delineations, plant and wildlife habitat surveys, permitting services, and project coordination for a broad array of public and private clients.

16 years of professional experience

Education

MA, Biology, Boston University, 1998

BA, Biology, Boston University, 1995

Registrations/Certifications

Professional Wetland Scientist, 2013–Present

OSHA 40-Hour Hazwoper Certificate (HAZWOPER)

Affiliations/Memberships

Association of Massachusetts Wetland Scientists, 2012–Present

Massachusetts Association of Conservation Commissions, 2012–Present

New Hampshire Association of Natural Resource Scientists, 2012–Present

Society of Wetland Scientists, 2013–Present

Vernal Pool and Wildlife Habitat Assessments, South Coast Rail Corridor, MA

For a project to extend public transportation rail service from Boston to New Bedford for the Massachusetts Bay Transportation Authority (MBTA), Chris led a multi-year study to provide surveys of several dozen certified and potential vernal pools in several municipalities along the rail corridor. Chris helped train staff to survey pools and led multiple teams to perform extensive field surveys to identify, characterize, and document activity in pools along the corridor. Chris also oversaw the production of vernal pool reports which were provided to the Massachusetts Natural Heritage and Endangered Species Program (NHESP) and other permitting agencies as part of the overall permitting process. Chris provided a variety of additional consulting services for the project, including wildlife habitat assessments at key locations along the corridor.

Box Turtle Monitoring and Telemetry, Kingston to Carver, MA

For a planned utility upgrade and maintenance project, Chris helped perform monitoring and radio-frequency (RF) telemetry of eastern box turtle (*Terrapene carolina*) to determine their population size and use of the utility right-of-way. The project involved obtaining a collection permit from the NHESP and several months of weekly monitoring with multiple field teams. All turtles were documented, and adult turtles were fitted with RF transmitters and their movements periodically tracked to better understand their use of the site. The data will be used to help plan project operations to avoid active areas and nesting sites.

Rare Species Surveys, Nantucket, MA

As part of a series of projects to develop and expand a multiuse path network on Nantucket, Chris performed wetland delineations and rare species surveys as part of the permitting process under the Massachusetts Wetland Protection Act (WPA) and the Massachusetts Endangered Species Act (MESA). He worked with state agencies, municipal offices, and local residents to develop proper mitigation and planting plans for the projects, which have helped bring critically-needed safe bicycle and pedestrian access to several popular beach and public use areas on the island. The projects included surveys and habitat characterization for both animals (northern harrier, *Circus hudsonius*; barrens dagger moth, *Acronicta albarufa*) and plants (Nantucket shadbush, *Amelanchier nantucketensis*; New England blazing star, *Liatris novae-angliae*) along the proposed project corridors.

Christopher J. Wagner, PWS
Senior Biologist

Vernal Pool Surveys, Eversource A101/B202 Line, Various Locations, NH

Chris performed extensive vernal pool surveys along the Eversource A101/B202 transmission line in several municipalities in southern and central New Hampshire. Chris led teams of multiple staff members to perform vernal pool surveys along the transmission corridor and document the findings. Chris also helped train staff in vernal pool survey techniques and identification.

Rare Species Oversight, Utility Infrastructure, Various Locations, MA

Chris worked with a project management team from Eversource to provide rare species monitoring, site reporting, and contractor training on a series of utility line and substation expansion projects spanning multiple municipalities in Massachusetts. Chris provided turtle sweeps on several of these projects and helped design the training materials used to train the staff in correct protocols. Chris also provided guidance to the Eversource team for their planning and site assessment initiatives and interacted with the NHESP to provide reports and status updates on all projects. Most studies targeted the eastern box turtle (*Terrapene carolina*), with additional surveys for wood turtle (*Gleptemys insculpata*) and blue-spotted salamander (*Ambystoma laterale*).

Wildlife Habitat Assessment, Billerica, MA

Chris performed wetland delineations and extensive permitting for the LynnWay auto auction facility in Billerica so that they could expand their operation. He worked with federal, state, and local agencies on a permitting resolution for the proposed work, which involved filling wetland resource areas. In addition to obtaining multiple environmental permits for the project, Chris helped design a robust wetland replication area that incorporated features to provide important vernal pool habitat.

Rare Species Surveys, Bourne, MA

Chris provided rare species oversight and site monitoring for site work at the Otis Air Force Base in Bourne, MA. Chris helped monitor the site for eastern box turtle (*Terrapene carolina*) during clearing and site construction activities on the base.

Selected Projects Involving Wildlife and/or Rare Species Surveys

- Dartmouth, MA: northern harrier (*Circus hudsonius*) – visual ID, site surveys
- Nantucket, MA: Nantucket shadbush (*Amelanchier nantucketensis*), New England blazing star (*Liatris novae-angliae*), lion's foot (*Nabalus serpentarius*), and eastern silvery aster (*Symphyotrichum concolor*) – site surveys
- Nantucket, MA: barrens dagger moth (*Acronicta albarufa*) – habitat assessment
- Hadley, MA: Green dragon (*Arisaema dracontium*) – site survey
- Bourne, Plymouth, Wareham, MA: eastern box turtle (*Terrapene carolina*) – site surveys
- Berlin, MA: Hessel's hairstreak (*Callophrys hesseli*) – site survey
- Falmouth, MA: eastern box turtle (*Terrapene carolina*) – site surveys
- Weston, MA: Blanding's turtle (*Emydoidea blandingii*) – site surveys, trapping
- Douglas, MA: eastern whip-poor-will (*Antrostomus vociferus*) – habitat assessment
- Uxbridge, MA: eastern box turtle (*Terrapene carolina*) – site survey
- Sudbury, MA: blue-spotted salamander (*Ambystoma laterale*) – site surveys
- Easton, MA: Blanding's turtle (*Emydoidea blandingii*), gypsywort (*Lycopus rubellus*) – site surveys

Redaction Log

Total Number of Redactions in Document: 32

Redaction Reasons by Page

Page	Reason	Description	Occurrences
67	CONFIDENTIAL DNCR	NH RSA 91-A:5, IV Confidential information. NH Department of Natural and Cultural Resources (DNCR) has asserted a claim of confidentiality. See also NH RSA 212-A, RSA 212-B, RSA 217-A, and/or RSA 227-C:11.	1
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Redaction Reasons by Exemption

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