



The State of New Hampshire
Department of Environmental Services



Robert R. Scott, Commissioner

January 10, 2023

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

RE: Z180 Transmission Line Rebuild
Campton and Holderness, NH

Permit: AoT-2282

Dear Applicant:

Based upon the plans and application, approved on January 10, 2023, we are hereby issuing RSA 485-A:17 Alteration of Terrain Permit AoT-2282. As part of the processing of this application, DES granted approval to waiving specific requirements of Env-Wq 1503.21(c)(2) and Env-Wq 1504.09, finding 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 “Z180 Structure Line Replacement Project”, including Map Sheets 1-6, dated January 2023 and Construction Requirement Notes, dated January 6, 2023 (Sheets C1.0 – C1.6, C2.0 – 2.3), and supporting documentation in the permit file are a part of this approval.
2. **This permit expires on January 10, 2028.** 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*.

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/2022-construction-general-permit-cgp>.

www.des.nh.gov

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

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: Campton Planning Board
Holderness Planning Board

ec: Vanasse Hangen Brustlin, Inc.

Z180 Electric Transmission Line Rebuild

Campton and Holderness, New
Hampshire

PREPARED FOR

EVERSOURCE

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

November 4, 2022

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Cover Letter



November 11, 2022

Ref: 52903.00

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

Re: Z180 Electric Transmission Line Rebuild
Campton and Holderness, NH

Dear Mr. Mauck,

On behalf of Public Service Company of New Hampshire d/b/a Eversource Energy (PSNH), VHB respectfully submits for your consideration the attached Alteration of Terrain Application for the proposed rebuild of the existing Z180 Electric Transmission Line. The Z180 line is a 115kV line that spans approximately 3.4 miles, originating at the Huckins Hill Substation in Holderness and culminating at the Beebe River Substation in Campton.

This line needs to be replaced due to the age and condition of the structures resulting from woodpecker damage, insect damage, and pole rot. The project involves the replacement of twenty nine (29) existing wood H-frame utility structures with new weathered steel H-frame structures, existing ceramic conductors with glass conductors, and existing copper static wire with optical grounding wire (OPGW) in accordance with current construction methods and materials. Additionally, nine (9) previously replaced steel structures along the transmission line will be accessed for reconductoring and OPGW installation. One (1) existing wood H-frame structure is proposed to be removed entirely from the line.

Installation of the new 1272 ACSS conductor on all structures will bring the line up to current design standards. The proposed OPGW installation will enable faster and more reliable communication between substations, allowing for increased visibility of the system, quicker response times for system issues, increased automation, reduced outages, and overall improved reliability across the electric system. The PSNH 115-kV transmission system is an integral part of the regional power system delivering electricity to customers throughout New England, and it is critical that the 115-kV system remain operational without interruption from preventable outages.

The total land disturbance for the project was calculated to be approximately 21.5 acres. The disturbance area includes the work pads, access roads, and the estimated limits of necessary grading. The largest work

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Engineers | Scientists | Planners | Designers

Z180 Alteration of Terrain Application
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pad to be established around proposed replacement structures will be limited to approximately 100'x100' in size.

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.

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

Sincerely,

A handwritten signature in black ink that reads "Mark Verostick".

Mark Verostick

Senior Project Engineer

Vanasse Hangen Brustlin, Inc.

cc: Kurt Nelson – PSNH
Sherrie Trefry - VHB

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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: PSNH d/b/a Eversource Energy		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: <input type="checkbox"/>			
Business Name: Vanasse Hangen Brustlin, Inc. (VHB)		Contact Name: Sherrie Trefry	
Email: strefry@vhb.com		Daytime Telephone: (603) 391-3951	
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: <input type="checkbox"/>			
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: <input type="checkbox"/>			
Engineering Firm: Vanasse Hangen Brustlin, Inc. (VHB)		Contact Name: Sherrie Trefry	
Email: strefry@vhb.com		Daytime Telephone: (603) 391-3951	
Address: 2 Bedford Farms Drive, Suite 200			
Town/City: Bedford		State: NH	Zip Code: 03110

6. PROJECT TYPE			
<input type="checkbox"/> Excavation Only	<input type="checkbox"/> Residential	<input type="checkbox"/> Commercial	<input type="checkbox"/> Golf Course
<input type="checkbox"/> Agricultural	<input type="checkbox"/> Land Conversion	<input checked="" type="checkbox"/> Other: Utility	
<input type="checkbox"/> School			
<input type="checkbox"/> Municipal			
7. PROJECT LOCATION INFORMATION			
Project Name: Z180 Electric Transmission Line Rebuild			
Street/Road Address: Existing Electric Transmission Line Right-of-Way (ROW)			
Town/City: Campton and Holderness, NH		County: Grafton	
Tax Map: N/A	Block: N/A	Lot Number: N/A	Unit: N/A
Location Coordinates: 43.781848°, -71.658355°		<input checked="" type="checkbox"/> Latitude/Longitude	<input type="checkbox"/> UTM <input type="checkbox"/> 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:	<input type="checkbox"/> Yes	<input type="checkbox"/> Withdrawal	<input type="checkbox"/> Discharge
	<input checked="" type="checkbox"/> No		
2. Man-made pond created by impounding a stream or wetland Purpose:	<input type="checkbox"/> Yes	<input type="checkbox"/> Withdrawal	<input type="checkbox"/> Discharge
	<input checked="" type="checkbox"/> No		
3. Unlined pond dug into the water table Purpose:	<input type="checkbox"/> Yes	<input type="checkbox"/> Withdrawal	<input type="checkbox"/> Discharge
	<input checked="" type="checkbox"/> No		
Post-development, will the proposed project discharge to:			
• A surface water impaired for phosphorus and/or nitrogen? <input checked="" type="checkbox"/> No <input type="checkbox"/> 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? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes - include information to demonstrate that project will not cause net increase in phosphorus and/or nitrogen			
• A lake or pond not covered previously? <input checked="" type="checkbox"/> No <input type="checkbox"/> 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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, specify the type of high load land use or activity: _____			
Is the project within a Water Supply Intake Protection Area (WSIPA)?		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Is the project within a Groundwater Protection Area (GPA)?		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Will the well setbacks identified in Env-Wq 1508.02 be met?		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> 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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
If yes: Cut volume: _____ cubic feet within the 100-year floodplain			
Fill volume: _____ cubic feet within the 100-year floodplain			
<input type="checkbox"/> Project IS within ¼ mile of a designated river		Name of River: _____	
<input checked="" type="checkbox"/> Project is NOT within ¼ mile of a designated river			
<input type="checkbox"/> Project IS within a Coastal/Great Bay Region community - include info required by Env-Wq 1503.08(l) if applicable			
<input checked="" type="checkbox"/> 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 3.4 mile long, existing electric transmission line (Z180) from the Huckins Hill Substation in Holderness to the Beebe River Substation in Campton. The Z180 line is a 115kV line that needs to be replaced due to the age and condition of the twenty nine (29) wood structures along the line resulting from woodpecker damage, insect damage, and pole rot. The project involves the replacement of existing wood H-frame poles with new weathered steel H-frame structures, existing ceramic conductors with glass conductors, and copper static wire with optical grounding wire (OPGW) in accordance with current construction methods and materials. One (1) existing wood H-frame structure is proposed to be removed entirely from the line.			
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: / / . **TBD**
 (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: / / . **TBD**
 (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

E. Total area of disturbance: 940,600 square feet

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 di minimis.

G. Total undisturbed cover: 2,245,522 square feet (= total right-of-way area between Lost Nation Substation and Paris Substation (3,186,122 SF) - area of disturbance (940,600SF))

H. Number of lots proposed: 0

I. Total length of roadway: 0 linear feet

J. Name(s) of receiving water(s): Beebe River

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	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/>	Permit number:
2. Wetlands Permit	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	Permit number:
3. Shoreland Permit	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/>	Permit number:
4. UIC Registration	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/>	Registration date:
5. Large/Small Community Well Approval	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/>	Approval letter date:
6. Large Groundwater Withdrawal Permit	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/>	Permit number:
7. Other:	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	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."
Beebe River: E. Coli

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

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.

- O. Will blasting of bedrock be required? Yes No If yes, estimated quantity of blast rock: _____ 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.

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

LOOSE:

- Signed application form: des.nh.gov/organization/divisions/water/aot/index.htm (with attached proof(s) of delivery)
- Check for the application fee: des.nh.gov/organization/divisions/water/aot/fees.htm
- Color copy of a USGS map with the property boundaries outlined (1" = 2,000' scale)
- 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:

- Copy of the signed application form & application checklist (des.nh.gov/organization/divisions/water/aot/index.htm)
- Copy of the check
- Copy of the USGS map with the property boundaries outlined (1" = 2,000' scale)
- Narrative of the project with a summary table of the peak discharge rate for the off-site discharge points
- Web GIS printout with the "Surface Water Impairments" layer turned on -
<http://www4.des.state.nh.us/onestopdatamapper/onestopmapper.aspx>
- Web GIS printouts with the AOT screening layers turned on -
<http://www4.des.state.nh.us/onestopdatamapper/onestopmapper.aspx>
- NHB letter using DataCheck Tool – www.nhdf.org/about-forests-and-lands/bureaus/natural-heritage-bureau/
- The Web Soil Survey Map with project's watershed outlined – websoilsurvey.nrcs.usda.gov
- Aerial photograph (1" = 2,000' scale with the site boundaries outlined)
- Photographs representative of the site
- N/A Groundwater Recharge Volume calculations (one worksheet for each permit application):
des.nh.gov/organization/divisions/water/aot/documents/bmp_worksh.xls
- N/A BMP worksheets (one worksheet for each treatment system):
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)
- 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*.
- N/A Infiltration Feasibility Report (example online) [Env-Wq 1503.08(f)(3)]
- 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:

- 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)
- N/A Pre & post-development drainage area plans on 34 - 36" by 22 - 24" white paper (see Application Checklist for details)


100-YEAR FLOODPLAIN REPORT:

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

ADDITIONAL INFORMATION RE: NUTRIENTS, CLIMATE

- N/A See Checklist for Details

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

Name (print or type): Sherrie Trell Title: Energy Market Lead
 PROPERTY OWNER  PROPERTY OWNER'S AGENT:
Signature: _____ Date: 11/10/22
Name (print or type): Kurt Nelson for Eversource Title: Sr. Land Use Licensing & 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.

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

N/A Detention basin with inverts noted on the outlet structure

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**

Please double-side 8 1/2" x 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)

NHDES-W-01-003

- 11" x 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.
- N/A 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.

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Application Fee Calculation & Copy of Check

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Project Z180 Line Structure Rebuild Project # 52903.00
 Location Holderness and Campton, New Hampshire
 Calculated by M. Verostick Date 11/9/2022
 Title NHDES Alteration of Terrain Permit Fee Calculation



Computations

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

Total Disturbance Area: 940,600 SF
21.59 AC

Fee Schedule:

<u>Area of Disturbance in square feet</u>	<u>Fee</u>
< 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 = \$13,125

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."

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375390
 CHECK DATE

November 9, 2022

Thirteen Thousand One Hundred Twenty Five and 00/100

AMOUNT

\$13,125.00

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

Michael J. ...
 AUTHORIZED SIGNATURE



⑈ 375390 ⑈ ⑆ 211070175 ⑆ 1130161371 ⑈

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

EMILY BUSINESS FORMS 800.392.6018 VISION

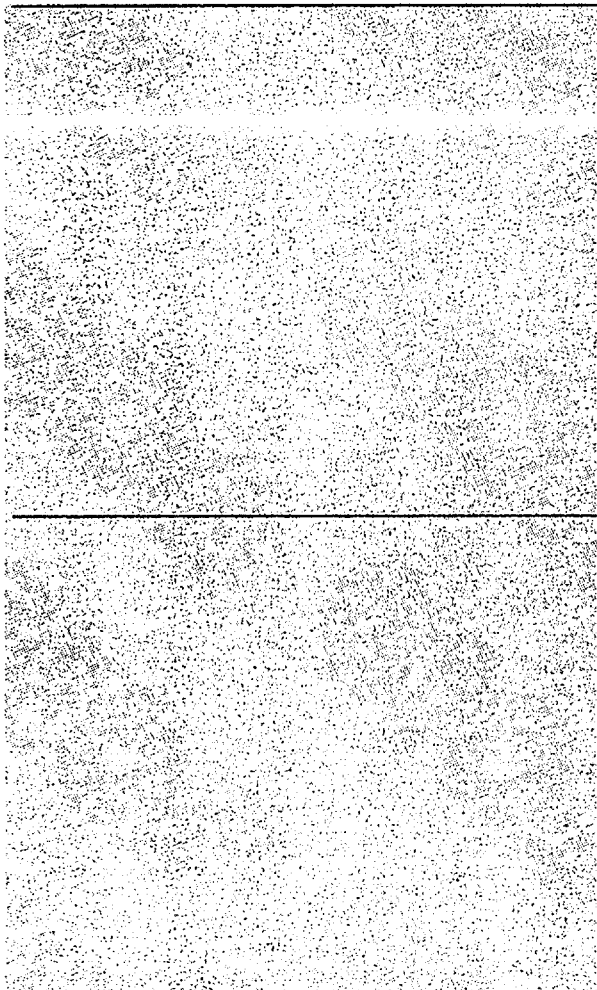
375390

Check Date: 11/9/2022

Invoice Number	Date	Voucher	Amount	Discounts	Previous Pay	Net Amount
Annette Snyder 11/8	11/7/2022	1439824	\$13,125.00			\$13,125.00
Treasurer State of New Hampshire		TOTAL	\$13,125.00			\$13,125.00
Citizens	91	0009232				

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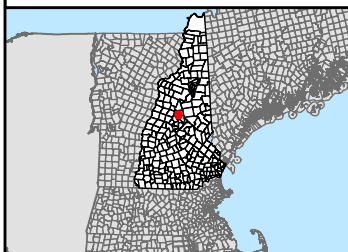
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USGS Site Location Map

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INDEX MAP

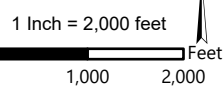


-  SUBSTATIONS
-  OVERHEAD EVERSOURCE LINE
-  MUNICIPAL BOUNDARY

EVERSOURCE
ENERGY

Z180 Line Rebuild Project
USGS Locus Map
Holderness and Campton, New Hampshire

Date: October 12, 2022



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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 full-line rebuild along the maintained Z180 Electric Transmission Line Right-of-Way (ROW) that ranges in width from approximately 150 to 200 feet. The Z180 is a 115kV line that spans approximately 3.4 miles, originating at the Huckins Hill Substation in Holderness and culminating at the Beebe River Substation in Campton (refer to the USGS Site Location Maps attached). The Z180 line consists of thirty seven (37) H-frame transmission line structures, twenty nine (29) of which are wooden. Nine (9) steel structures have been previously replaced along the transmission line as part of separate structure replacement projects. Previous disturbances along the ROW include clearing and construction of structures and associated ROW access trails. The ROW is comprised of emergent and scrub-shrub wetland, perennial streams, intermittent streams, and upland vegetation that is routinely maintained on a three to five-year cycle to achieve vertical clearance requirements between ground vegetation and overhead transmission lines. Additional periodic disturbances noted during field work include portions of residential properties and driveways which intersect the ROW, logging roads and associated activity, and active agricultural fields.

The ROW is comprised of PSNH owned-property or PSNH controlled easements on privately or publicly-held property. Land use adjacent to the ROW is primarily made up of rural residential and undeveloped forest with some logging activity present. The project is bisected by a portion of the Beebe River between existing Structures 315 and 316. The ROW is further intersected by public roadways and state routes, including Trapper Road, Pulsifer Road, Ken Mar Drive, NH Route 175, and Champagne Circle.

Natural Resource Review

According to the NHDES Wetlands Permit Planning Tool, one Priority Resource Area (PRA) identified as a wetland adjacent to a Tier 3 stream intersects the ROW corridor in Campton, immediately adjacent to the Beebe River. However, as the wetland is not within the vicinity of any proposed work locations, project activity is not expected to impact this resource. No other PRAs (sand dunes, prime wetlands and their buffers, or tidal waters or wetlands) intersect or abut the project ROW.

Additionally while the Beebe River intersects the project ROW, no proposed activity will occur within the 250' Protected Shoreland Zone and a NHDES Shoreland PBN Application will not be required. Utility

Statutory Permit by Notification (SPN) Applications will be filed (one per town – Holderness and Campton) with the NHDES Wetlands Bureau to cover temporary impacts resulting from work within jurisdictional wetlands as further described in detail below.

Delineated Natural Resources

Jurisdictional wetlands and surface waters along the full length of the Z180 ROW were originally delineated by GZA Wetland Scientists as part of this project in 2020. Natural resource delineations were 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. Field work 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).

The Z180 ROW has also been assessed for vernal pools during the previous GZA wetland delineations, but none were identified to be present as defined by the NHDES Administrative Rules Env-Wt 103.64 and 104.15. Vernal pool assessments were 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.

There are twelve (12) wetlands, six (6) perennial streams, and two (2) intermittent streams that directly intersect the proposed access trails and/or work pads associated with the proposed structure replacements. Delineated wetlands intersecting the proposed project area exhibit characteristics typically found within a cleared and periodically maintained electric utility ROW setting. The wetlands vary in size and consist of dense Palustrine Scrub-Shrub (PSS) and Palustrine Emergent (PEM) cover types. The hydroperiod within the PSS/PEM wetlands is generally saturated to seasonally flooded/saturated. In general, the perennial stream channels were more deeply incised and defined than the intermittent or ephemeral streams and contained flowing water at the time of observation.

Proposed Project Description

PSNH proposes to rebuild the existing Z180 115-kV Electric Transmission Line from the Huckins Hill Substation in Holderness to the Beebe River Substation in Campton through the replacement of 29 existing wood utility poles with new weathered steel structures and existing ceramic conductors with glass conductors. Existing copper static wire on all 37 steel structures will be replaced with optical grounding wire (OPGW) in accordance with current construction methods and materials. Additionally, the project involves the removal of one (1) existing wood utility from the transmission line entirely. The Z180 line spans approximately 3.4 miles. Of the 27 structures to be replaced, two (2) of the proposed structure replacements are located in Holderness, while twenty five (25) of the proposed structures, along with the structure to be removed, are located in Campton.

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 spring 2023 and continue through winter 2024. The existing wooden H-frame structures are proposed to be replaced with weathered steel H-frame structures to meet the current industry standard. Weathered steel structures 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, which will improve 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 50-100 feet from the existing structure footprint. Replacement structures will 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 fifteen (15) feet or less for all of the structures. The purpose of the height increase 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 incremental structure replacements that would necessitate repeated access and disturbance. Lastly, associated guy support wires and anchors will be replaced.

All of the proposed work will be contained within the existing cleared utility ROW. Some routine vegetation mowing, within the limits of the existing ROW, might be required along the proposed access roads and structural work pads to permit clear and safe crew access. 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.

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. Utility Statutory Permit by Notification (SPN) Applications will be filed with the NHDES Wetlands Bureau for the work within jurisdictional resource areas. 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.

Access

Access points to the project ROW originate from public roadways (Trapper Road, Pulsifer Road, Ken Mar Drive, and NH Route 175) that run parallel to, or perpendicularly intersect the ROW in various locations along the corridor. VHB is currently pursuing access approvals from the NH Department of Transportation and host municipalities as required for work directly off of these public roadways. 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. The preferred access routes which minimize impacts to natural resources to the extent practicable 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.

Timber mats will be used at unavoidable wetland and stream crossings and surrounding structure installations that are within or near natural resources. **Total ground disturbance was calculated at 940,600 square feet**, assuming 16-foot wide roads. Ground disturbance and grading within upland areas will be kept to a minimum during the structure replacements, and the largest work pad to be established around proposed replacement structures will be limited to an approximately 100'x100' in size.

Construction Methods and Best Management Practices

Ground-based crews will approach each structure targeted for replacement utilizing the proposed access as indicated on the plans provided in **Appendix B**. Where the proposed access or the 100'x100' structural work pads intersect wetlands and/or streams, timber mats (typically with dimensions of 16 feet wide by 4 feet long) will be installed in order to safely stage equipment and crews while minimizing soil disturbance and rutting within these resources. Some work pads may need to be two-tiered or off-set due to site topography or to avoid wetland impacts. Perennial and intermittent stream channels located along the project ROW that cannot be avoided will be spanned with timber mats from beyond their jurisdictional banks in order to avoid bank and bed impacts and allow flow to pass freely during construction.

Any construction laydown areas required for equipment and material staging while the replacement work is carried out will be situated in upland areas along the existing ROW corridor. These areas are typically confined to the structural work pads or upland areas along the existing ROW near primary access points from public roadways. 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 and work pads are established, the new steel poles will be installed either through direct embedment or constructed on a caisson foundation 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.

Prior to accessing the ROW with construction equipment, crews will install wildlife friendly erosion and sediment control barriers in accordance with permitting plans and details, New Hampshire Department of Environmental Services (NHDES) conditions, and the *Best Management Practices Manual for Utility Maintenance in and Adjacent to Wetlands and Waterbodies in New Hampshire* (or "Utility BMP Manual," March 2019), published by the New Hampshire Department of Natural and Cultural Resources (NHDNCR). Selected erosion and sediment control barriers may include silt sock, silt fence, and/or wood chip/compost berms/tubes. Additional Best Management Practices (BMPs) such as stabilized construction exits, water bars, and erosion control blankets will also be utilized along proposed access ways and adjacent to structure locations in order to manage stormwater run-off, reduce erosion and stabilized soils. During project construction, control of the spread of invasive plant species that are currently found within the project ROW will also be managed in accordance with NHDES permit conditions and the Utility BMP Manual.

Installed erosion controls and other installed utility BMPs will be inspected daily by the contractor crews and weekly by a qualified environmental monitor, hired by PSNH, to ensure proper functionality and maintenance. Erosion and sediment control barriers will not be removed until project work is complete, and all project areas are stabilized in accordance with NHDES guidance.

As soon as possible after the completion of the structure replacement work, timber matting and all construction debris will be removed from the project ROW and properly disposed of off-site. Stabilization and restoration of disturbed areas/exposed soils will be initiated as soon as possible once timber mats are pulled and structural work is completed. Due to the use of timber mats, it is anticipated that minimal restoration within the ROW will be required, and that natural vegetative re-colonization of impacted areas will occur during summer vegetative growth periods in 2024. VHB will visit the project ROW post-construction to assess conditions, provide guidance to work crews on restoration, and to determine whether or not additional promotion of vegetation (seeding) is required. If necessary, a NHDES approved upland and/or wetland seed mix will be applied to any areas where cover is slow to develop. Additionally, straw or weed-free hay will be applied in conjunction with seed. 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 reseeded would occur in those areas.

Refer to the plans provided in **Appendix B** for the location of existing wetlands and surface waters, utility structures, proposed access routes, construction work pads, laydown areas, and timber matting.

Floodplains and Floodways

The project ROW is intersected by FEMA mapped 1% Annual Chance Flood Hazard Zones (100-year floodplains) in two locations along the ROW corridor. The first location is associated with the Pemigewasset River in accordance with the effective Flood Insurance Rate Map (FIRM), Map No. 33009C0845E dated February 19, 2008. One structure and adjacent access is located within this annual flood hazard zone, however the amount of new fill associated with installation of the new structure is minimal and access to the structure will traverse temporary matting across wetland areas. Therefore, the project is not expected to cause or increase flooding.

The second location is associated with the Beebe River in accordance with the effective Flood Insurance Rate Map (FIRM), Map No. 33009C0835E dated February 19, 2008. No work is proposed to occur within this annual flood hazard zone; therefore no impacts are anticipated. Refer to the figure provided in **Appendix C** for a detailed FEMA map of the project area.

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Transmittal Documentation to Municipalities

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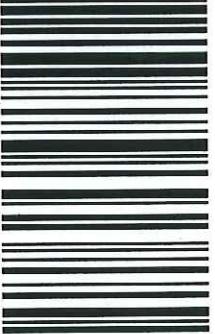
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Waiver Requests

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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: November 11, 2022

File Number (DES use): _____

Z180 Electric Transmission Line Rebuild
Name of Project

Holderness and Campton
Location of Project (town)

Grafton
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 03106
State Zip Code

2. Person Requesting Waiver(s)

VHB
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 03110
State Zip Code

3. Waiver Request(s)

Env-Wq 1504.09

Stormwater Drainage Report, Site Specific Soil Mapping and Plans

Rule

Brief Description of Rule

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 BMPs can be implemented. Given that the site has been 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 of the signer; and
- (2) The signer understands that any waiver granted based on false, incomplete, or misleading information shall be subject to revocation.



11/10/22

Kurt Nelson for Eversource

Signature (owner) and Date

Name (owner)



11/7/2022

Mark Verostick - VHB

Signature (person requesting waiver) and Date

Name (person requesting waiver)

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: November 11, 2022

File Number (DES use): _____

Z180 Electric Transmission Line Rebuild
Name of Project

Holderness and Campton
Location of Project (town)

Grafton
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) 634-3526
Telephone Number

13 Legends Drive
Mailing Address

Hooksett
City/Town

NH 03106
State Zip Code

2. Person Requesting Waiver(s)

VHB
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 03110
State Zip Code

3. Waiver Request(s)

Env-Wq 1503.21(c)(2)
Rule

Pertinent to deviations from approved plans
Brief Description of Rule

Explanation of Request: A waiver is requested from the requirements to prepare as-built drawings, stamped by a qualified engineer, and a detailed description of all deviations from the approved plans. The potential for various minor changes to access roads and work pad configuration are likely to be executed in the field by the civil crew during construction based on field conditions (e.g., slope, presence of ledge, previous disturbance, stonewalls, etc.) and needs of the line crew to allow for ease of access.

Permanent or Temporary: Permanent

Explanation of Alternative: As an alternative to submitting the plans and description required under 1503.21(c)(2), a plan reflecting the changes to access that have been made will be provided following the completion of the project. Changes to work pad configuration are generally within the 100' x 100' designated disturbance area and are, therefore, not included on the plans.

Compliance with Env-Wq 1509.04: 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. Changes to the access road and work pad configurations do not require an amended permit or a new permit and will still maintain compliance with Env-Wq 1507.02 relative to permanent methods of protecting water quality. Total project disturbance will not exceed the total disturbance calculations identified in the permit. Modifications have not and will not result in any changes to wetlands or protected shoreland impacts and will not decrease any buffers required by law or established by a permit or other approval.

4. Signature(s) Required

- (1) The information provided is true, complete, and not misleading to the knowledge and belief of the signer; and
- (2) The signer understands that any waiver granted based on false, incomplete, or misleading information shall be subject to revocation.



11/10/22

Kurt Nelson for Eversource

Signature (owner) and Date

Name (owner)



11/7/2022

Mark Verostick - VHB

Signature (person requesting waiver) and Date

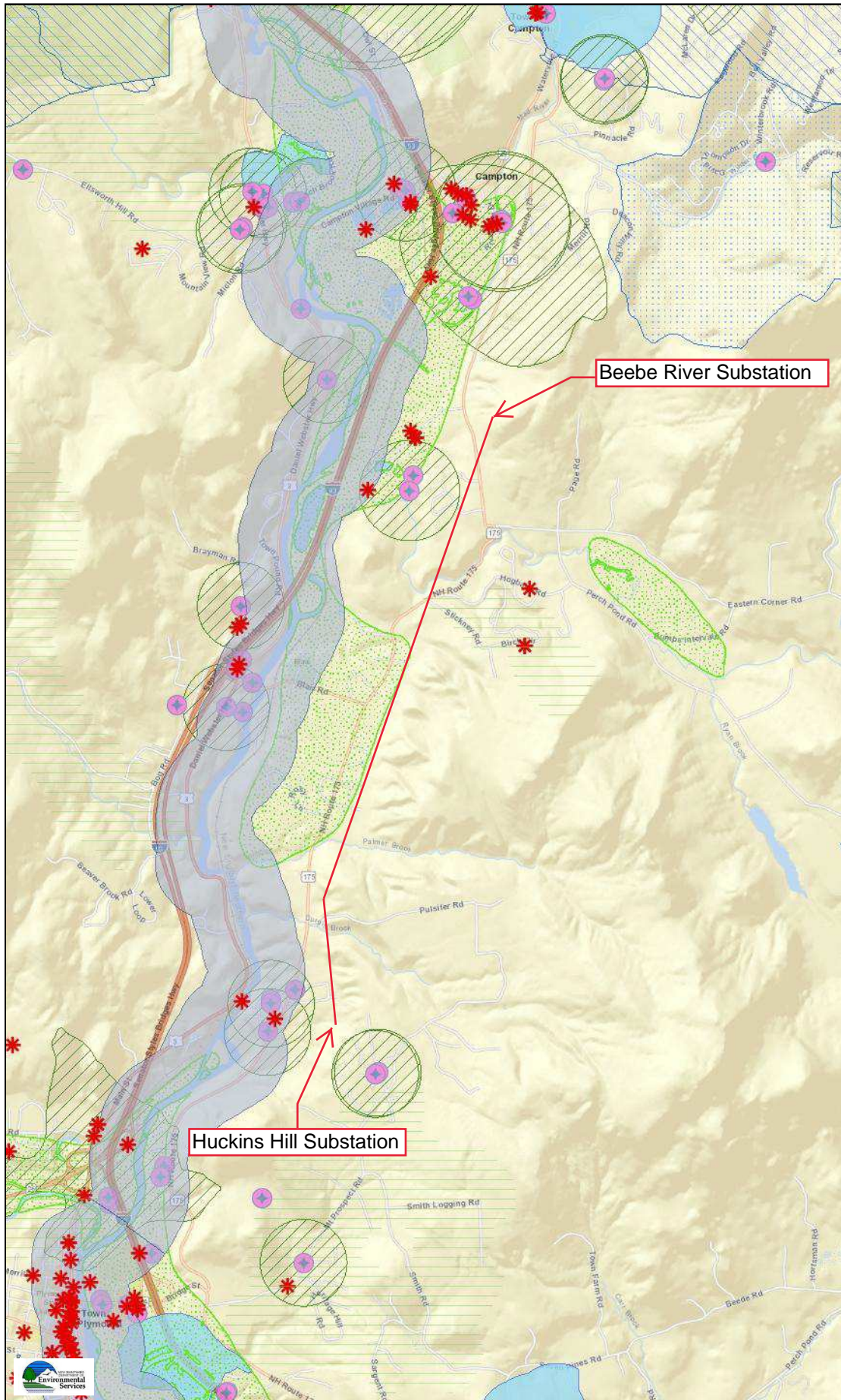
Name (person requesting waiver)

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 AoT Screening Layer - Z180 Line



Legend

- Surface Waters with Impairment 2016 with Quarter Mile Buffer
- Remediation Sites
- Coastal and Great Bay Regional Communities
- Designated Rivers Quarter Mile Buffer
- Public Water Supply Wells
- Groundwater Classification / GA1
- Groundwater Classification / GA2
- Water Supply Intake Protection Areas
- Wellhead Protection Areas
- Class A Lakes with a Quarter Buffer
- Class A - All Features
- All Lakes, with a Quarter Mile Buffer
- Outstanding Resource Water Watersheds
- Watersheds with Chloride Impairments 2016

Map Scale

1: 51,953

© NH DES, <http://des.nh.gov>

Map Generated: 11/2/2022




Notes



NHDES Web GIS Printout AoT Screening Layer - Z180 Line



Legend

-  Surface Waters with Impairment 2016 with Quarter Mile Buffer

Map Scale

1: 25,977

© NH DES, <http://des.nh.gov>

Map Generated: 11/7/2022



Notes

Memo

NH Natural
Heritage Bureau
NHB DataCh

Please note: portions of this document are confidential.

Maps and NHB record pages are confidential and should be redacted from public documents.

To: Andrew Mahoney, VHB
2 Bedford Farms Drive Suite 200
Bedford, NH 03103

From: NHB Review, NH Natural Heritage Bureau

Date: 7/7/2022 (valid until 07/07/2023)

Re: Review by NH Natural Heritage Bureau

Permits: NHDES - Utility Statutory Permit by Notification (SPN)

NHB ID: NHB22-2179 Town: Campton Location: Z180 Tra
Description: PSNH d/b/a Eversource Energy intends to conduct a full-line rebuild of the Z180 Transmission Line.
the replacement of 39 wooden utility pole structures with new weathered steel structures in accordance
and industry standards.

cc: NHFG Review

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

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

F&G: Please provide project timing to inform the review decision making process.

Vertebrate species

	State ¹	Federal	Notes
Sensitive species	E	T	Contact the NH Fish & Game Dept (see below).
Sensitive species	E	T	Contact the NH Fish & Game Dept (see below).
Wood Turtle (<i>Glyptemys insculpta</i>)	SC	--	Contact the NH Fish & Game Dept (see below).

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

For all animal reviews, refer to 'IMPORTANT: NHFG Consultation' section below.

Disclaimer: A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell us what we know.

Memo

NH Natural
NHB DataCheck

Please note: portions of this document are confidential.

Maps and NHB record pages are confidential and should be redacted from public documents.

based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, for certain species. An on-site survey would provide better information on what species and communities are indeed present.

IMPORTANT: NHFG Consultation

If this NHB Datacheck letter DOES NOT include ANY wildlife species records, then, based on the information submitted, no further Fish and Game Department pursuant to Fis 1004 is required.

If this NHB Datacheck letter includes a record for a threatened (T) or endangered (E) wildlife species, consultation with the New Hampshire Department under Fis 1004 may be required. To review the Fis 1000 rules (effective February 3, 2022), please go to <https://wildlife.state.nh.us/wildlife/environmental-review.html>. All requests for consultation and submittals should be sent via email to NHFGreview@wildlife.nh.gov or can be sent by mail, and **must include the NHB Datacheck results letter number and “Fis 1004” in the subject line.**

If the NHB DataCheck response letter does not include a threatened or endangered wildlife species but includes other wildlife species (e.g., Concern), consultation under Fis 1004 is not required; however, some species are protected under other state laws or rules, so coordination with Fish and Game is highly recommended or may be required for certain permits. While some permitting processes are exempt from required coordination (e.g., *statutory permit by notification*, *permit by rule*, *permit by notification*, *routine roadway registration*, *docking structure registration*, *authorization by rule*), coordination with NH Fish & Game may still be required under the rules governing those specific permitting processes. We recommend you contact the applicable permitting agency. For projects not requiring consultation under Fis 1004, but where additional coordination with Fish and Game is requested, please email: Kim Tuttle kim.tuttle@wildlife.nh.gov with a copy to NHFGreview@wildlife.nh.gov, and include the results letter number and “review request” in the email subject line.

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

From: [Wadiak, Kathleen](#)
To: [Kurt I. Nelson](#); [Sherrie Trefry](#)
Cc: [Winters, Melissa](#); [Andrew Mahoney](#); [Newell, Bradley D](#); [FGC, NHFG review](#); [Erasquin, Richard](#); [Mauck, Ridgely](#)
Subject: [External] NHFG Review NHB22-2179 Eversource Z-180 Line Rebuild Project in Holderness and Campton SPN Aot
Date: Wednesday, October 19, 2022 12:02:31 PM
Attachments: [image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)

Kurt,

NHFG has completed its review of the materials submitted by Eversource 8/16/22 for NHB22-2179. The proposed project is for the replacement of 29 utility structures and OPGW installation in Holderness and Campton.

Permit applications associated with this review:

- NHDES Statutory Permit by Notification
- NHDES Alteration of Terrain Permit

NHFG understands that this project will avoid impacts including matting placement to Durgin Brook, which has the potential to provide overwintering areas for wood turtles, from September 15 to May 15. If this changes, notify NHFG immediately for further coordination.

There is an increased likelihood to encounter wood turtles within 1000ft of the Beebe River and Durgin Brook. All personnel should be made aware of the sensitivity of these areas and should make efforts to minimize impacts.

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

New Hampshire Fish and Game Permit Conditions

- BMPs in the document titled "Z180 NHFG Correspondence Memo updated 10-18-22" submitted to NHFG 10/18/22 (attached) shall be adhered to at all times during this project.
- Wood turtles (state species of special concern) occur within the vicinity of the project area. All operators and personnel working on or entering the site shall be made aware of the potential presence of this species and shall be provided flyers that help to identify this species, along with NHFG contact information. See Plan Sheet [xxxxxx](#) *Include attached flyers to plan sheet set.*
- Turtles may be attracted to disturbed ground during nesting season. Wood turtle nesting season occurs approximately May 15th – July 15th. Nesting areas may include work pads and access roads that are not hard pack gravel and other sandy/gravel work areas. All turtle species nests are protected by NH laws. Be aware of the potential to encounter nesting wildlife in these areas.
- If a turtle nest is observed or suspected, or a turtle is exhibiting nesting behaviors, operators shall contact Melissa Winters (603-479-1129) or Josh Megyesy (978-578-0802) at NHFG immediately for further consultation. Turtle nests or turtles exhibiting nesting behavior shall not be disturbed.
- For structures within 1000ft of the Beebe River and Durgin Brook with work occurring May 15th – July 15th, all material shall be staged/placed within pre-established work pads which have been cleared for and isolated from turtle entry, and all work pads around structures shall be cleared and isolated from turtle entry with wildlife exclusion silt fence prior to work. These areas shall be cleared by a qualified biologist or herpetologist.
- Silt fence used for wildlife exclusion should fully enclose the work areas and should be buried to a depth no less than 6-8" and be 18" above grade with ground stakes on the active site side of the fence. Access gates shall be weighed down and lay flat on the ground to prevent wildlife entry. There should be no gaps between the gate and the silt fence or the gate and the ground.
- Any failings in silt fence for wildlife exclusion shall be reported to NHFG immediately.
- Matting shall not be placed at Durgin Brook from September 15th to May 15th.
- Sweeps of work areas and access routes shall be conducted immediately prior to start of work and equipment movement in order to minimize the potential of animals entering a work area between the sweep and activity.
- All work activities shall be restricted to the defined roads, construction areas, and staging areas, with no equipment or materials staged or stored outside of the defined areas as shown on plan sheets.
- Minimize work pad areas, including matting, to the greatest extent possible.
- All manufactured erosion and sediment control products, with the exception of turf reinforcement mats, utilized for, but not limited to, slope protection, runoff diversion, slope interruption, perimeter control, inlet protection, check dams, and sediment traps shall not contain plastic, or multifilament or monofilament polypropylene netting or mesh with an opening size of greater than 1/8 inches;
- All observations of threatened or endangered species on the project site shall be reported immediately to the NHFG nongame and endangered wildlife environmental review program by phone at 603-271-2461 and by email at NHFGreview@wildlife.nh.gov, with the email subject line containing the NHB DataCheck tool results letter assigned number, the project name, and the term Wildlife Species Observation;
- Photographs of the observed species and nearby elements of habitat or areas of land disturbance shall be provided to NHFG in digital format at the above email address for verification, as feasible;
- In the event a threatened or endangered species is observed on the project site during the term of the permit, the species shall not be disturbed, handled, or harmed in any way prior to consultation with NHFG and implementation of corrective actions recommended by NHFG.
 - Site operators shall be allowed to relocate wildlife encountered if discovered within the active work zone and if in direct harm from project activities. Wildlife shall be relocated in close proximity to the capture location but outside of the work zone and in the direction the individual was heading. NHFG shall be contacted immediately if this action occurs.
- The NHFG, including its employees and authorized agents, shall have access to the property during the term of the permit.

Additional Recommendations

The following voluntary conservation measures should be considered for bats:

- Avoid clearing suitable spring staging and fall swarming habitat within a 5-mile radius of known or assumed northern long-eared bat hibernacula during the staging and swarming seasons (April 1 to May 15 and August 15 to November 14, respectively).
- Conduct tree removal activities outside of the northern long-eared bat pup season (June 1 to July 31) and/or the active season (April 1 to October 31). This will minimize impacts to pups at roosts not yet identified.
- Manage forests to ensure a continual supply of snags and other suitable maternity roost trees.

NHFG has completed our review of materials submitted for consultation under FIS 1004. No further coordination with NHFG is requested, and the final recommendations have been transmitted to the applicable permitting agency. Questions or concerns on NHFG recommendations must follow FIS 1004.12. Note that NHFG recommendations may be withdrawn pursuant to FIS 1004.13.

Let me know if you have any questions.

Thank you,
Kat

Kat Wadiak
Wildlife Biologist
Nongame & Endangered Wildlife Program
NH Fish and Game
11 Hazen Drive
Concord, NH 03301
603-271-3017

As of February 3, 2022, New Hampshire Fish and Game requirements for environmental review consultation have changed. To review the new rules, please go to <https://www.wildlife.state.nh.us/wildlife/environmental-review.html>. All requests for consultation and submittals should be sent via email to NHFGreview@wildlife.nh.gov or can be sent by mail. **The NHB datacheck results letter number needs to be included in the email subject line.**

The requirements for consultation (Fis 1004) shall not apply to the following: statutory permit by notification, permit by rule, permit by notification, routine roadway registration, docking structure registration, or conditional authorization by rule. Review requests for these projects can be sent directly to kim.tuttle@wildlife.nh.gov.

From: Nelson, Kurt I <kurt.nelson@eversource.com>
Sent: Tuesday, October 18, 2022 4:07 PM
To: Wadiak, Kathleen <Kathleen.P.Wadiak@wildlife.nh.gov>; Sherrie Trefry <STrefry@VHB.com>
Cc: Winters, Melissa <Melissa.J.Winters@wildlife.nh.gov>; Andrew Mahoney <amahoney@vhb.com>; Newell, Bradley D <bradley.newell@eversource.com>; FGC: NHFG review <NHFGreview@wildlife.nh.gov>
Subject: RE: [External] RE: NHF&G FIS 1004 Consultation Request for Eversource Z-180 Line Rebuild Project in Holderness and Campton NHB22-2179

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

Hi Kat,

Please see the updated correspondence memo.

Thank you.

Kurt I. Nelson
Sr. Land Use Licensing & Permitting Specialist

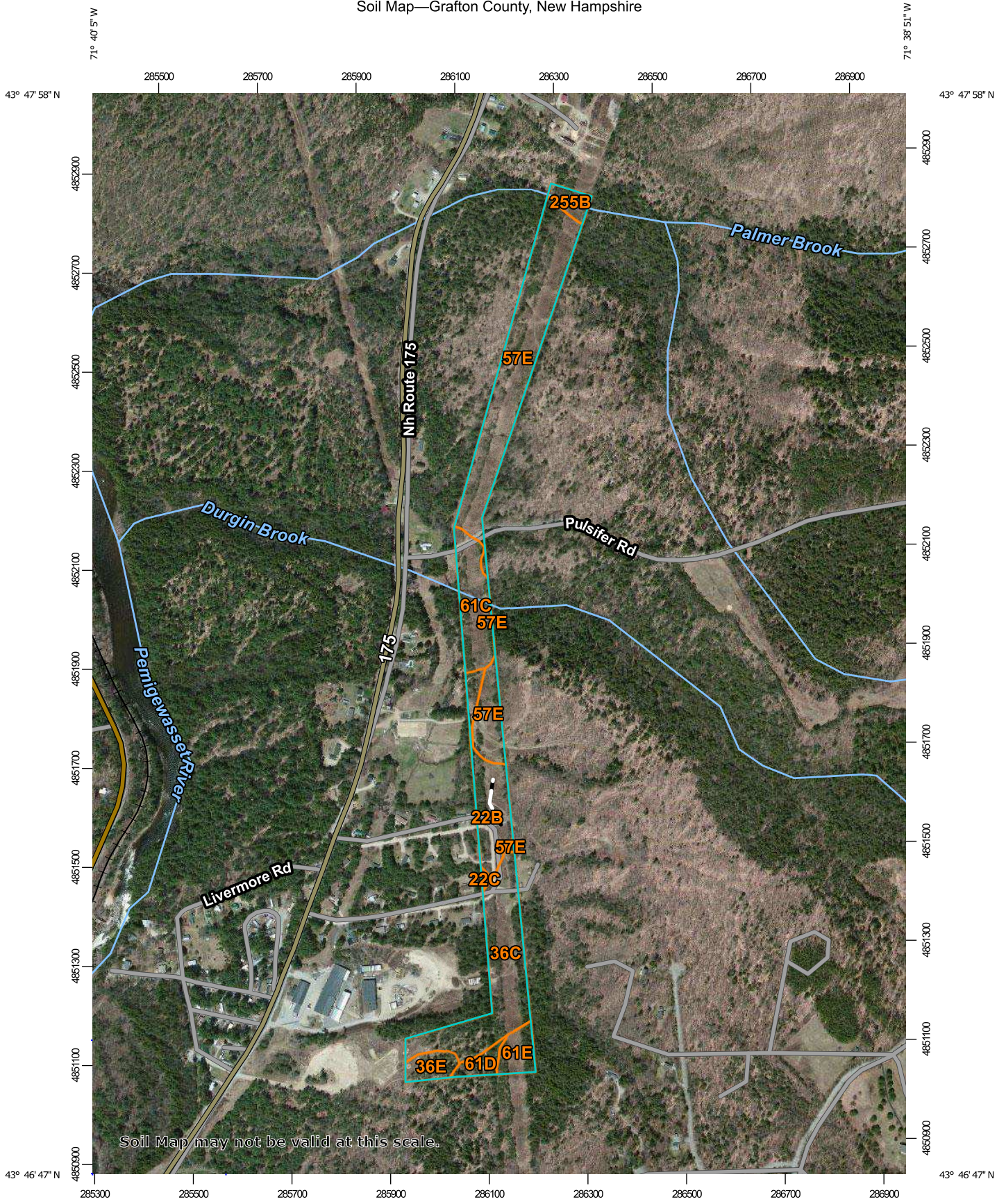
EVERSOURCE
ENERGY
13 Legends Drive
Hooksett, NH 03106
(603) 714-3031 (cell) (603) 634-3256 (office)
kurt.nelson@eversource.com

From: Wadiak, Kathleen <Kathleen.P.Wadiak@wildlife.nh.gov>
Sent: Tuesday, October 18, 2022 8:46 AM
To: Nelson, Kurt I <kurt.nelson@eversource.com>; Sherrie Trefry <STrefry@VHB.com>
Cc: Winters, Melissa <Melissa.J.Winters@wildlife.nh.gov>; Andrew Mahoney <amahoney@vhb.com>; Newell, Bradley D <bradley.newell@eversource.com>; FGC: NHFG review <NHFGreview@wildlife.nh.gov>
Subject: RE: [External] RE: NHF&G FIS 1004 Consultation Request for Eversource Z-180 Line Rebuild Project in Holderness and Campton NHB22-2179

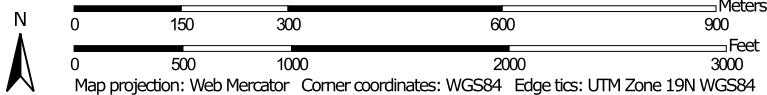
EVERSOURCE IT NOTICE – EXTERNAL EMAIL SENDER ** Don't be quick to click! ******

Do not click on links or attachments if sender is unknown or if the email is unexpected from someone you know, and never provide a user ID or password. Report suspicious emails by selecting 'Report Phish' or forwarding to SPAMFEEDBACK@EVERSOURCE.COM for analysis by our cyber security

Soil Map—Grafton County, New Hampshire




Map Scale: 1:10,600 if printed on A portrait (8.5" x 11") sheet.



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)


Soils

 Soil Map Unit Polygons


 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water


 Perennial Water

 Rock Outcrop


 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole


 Slide or Slip

 Sodic Spot


 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

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.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

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: Grafton County, New Hampshire

Survey Area Data: Version 26, Sep 9, 2022

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

Date(s) aerial images were photographed: Apr 8, 2011—May 1, 2011

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.

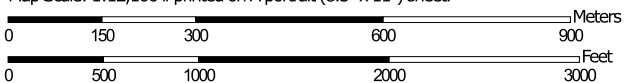
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
22B	Colton gravelly sandy loam, 3 to 8 percent slopes	4.2	12.0%
22C	Colton gravelly sandy loam, 8 to 15 percent slopes	0.1	0.3%
36C	Adams loamy sand, 8 to 15 percent slopes	8.7	24.4%
36E	Adams loamy sand, 15 to 60 percent slopes	1.3	3.8%
57E	Becket fine sandy loam, 25 to 35 percent slopes, very stony	13.7	38.6%
61C	Tunbridge-Lyman-Rock outcrop complex, 8 to 15 percent slopes	4.0	11.2%
61D	Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes	0.9	2.6%
61E	Tunbridge-Lyman-Rock outcrop complex, 25 to 60 percent slopes	1.5	4.3%
255B	Hermon and Monadnock soils, 0 to 8 percent slopes, very stony	1.0	2.7%
Totals for Area of Interest		35.4	100.0%

Soil Map—Grafton County, New Hampshire




Map Scale: 1:12,100 if printed on A portrait (8.5" x 11") sheet.



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 Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water


 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

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)

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

Soil Survey Area: Grafton County, New Hampshire

Survey Area Data: Version 26, Sep 9, 2022

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

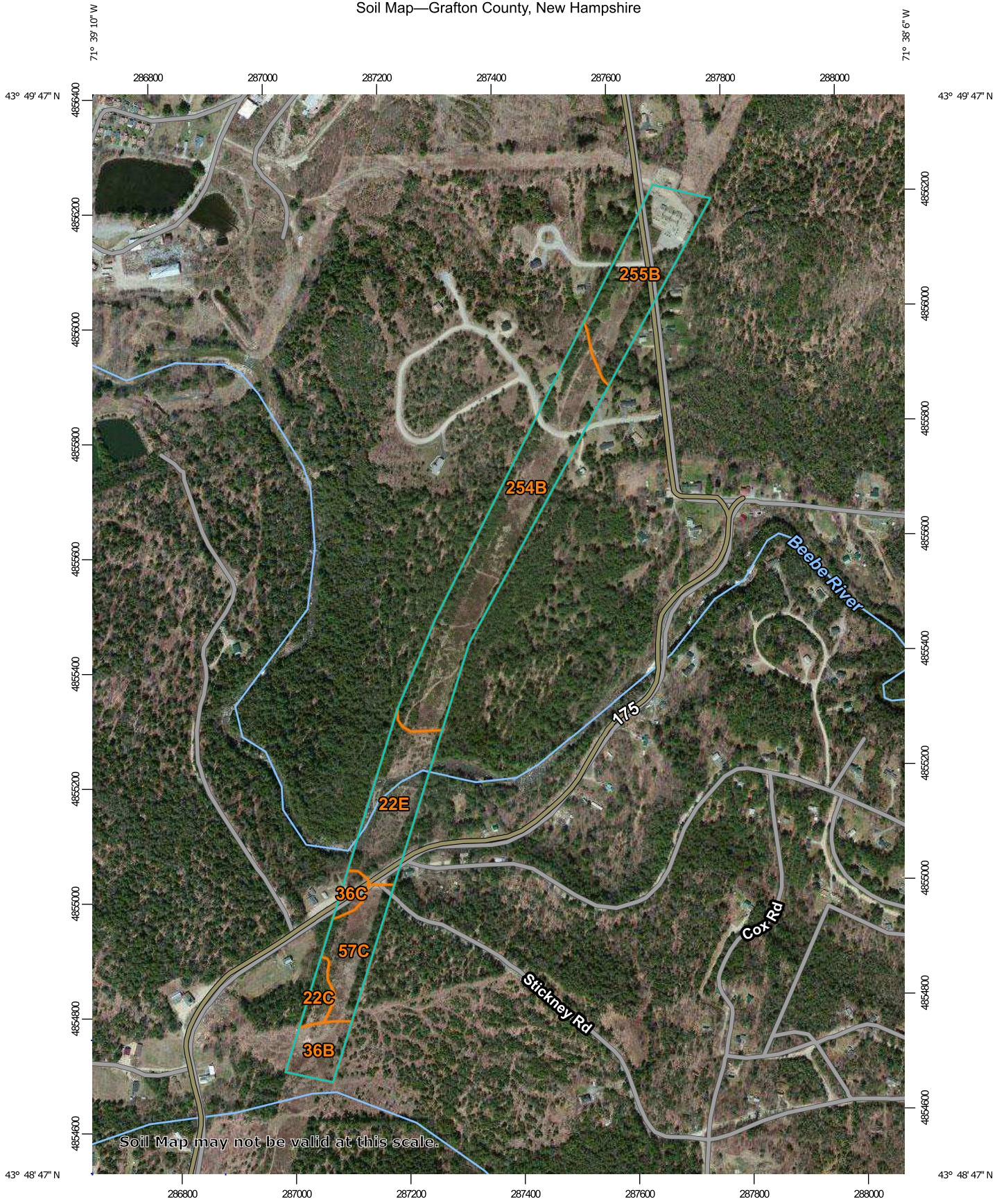
Date(s) aerial images were photographed: Apr 8, 2011—May 1, 2011

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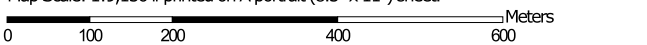
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
22C	Colton gravelly sandy loam, 8 to 15 percent slopes	3.6	10.0%
22E	Colton gravelly sandy loam, 15 to 60 percent slopes	0.2	0.7%
36B	Adams loamy sand, 3 to 8 percent slopes	16.4	45.5%
36C	Adams loamy sand, 8 to 15 percent slopes	1.9	5.3%
36E	Adams loamy sand, 15 to 60 percent slopes	3.2	8.9%
57C	Becket fine sandy loam, 8 to 15 percent slopes, very stony	0.6	1.6%
57E	Becket fine sandy loam, 25 to 35 percent slopes, very stony	0.5	1.3%
255B	Hermon and Monadnock soils, 0 to 8 percent slopes, very stony	7.7	21.3%
255D	Monadnock and Hermon soils, 15 to 25 percent slopes, very stony	2.0	5.4%
Totals for Area of Interest		36.0	100.0%

Soil Map—Grafton County, New Hampshire




Map Scale: 1:9,150 if printed on A portrait (8.5" x 11") sheet.



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

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

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.

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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.

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Soil Survey Area: Grafton County, New Hampshire

Survey Area Data: Version 26, Sep 9, 2022

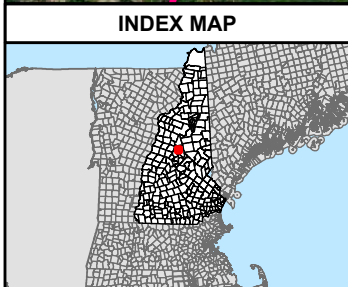
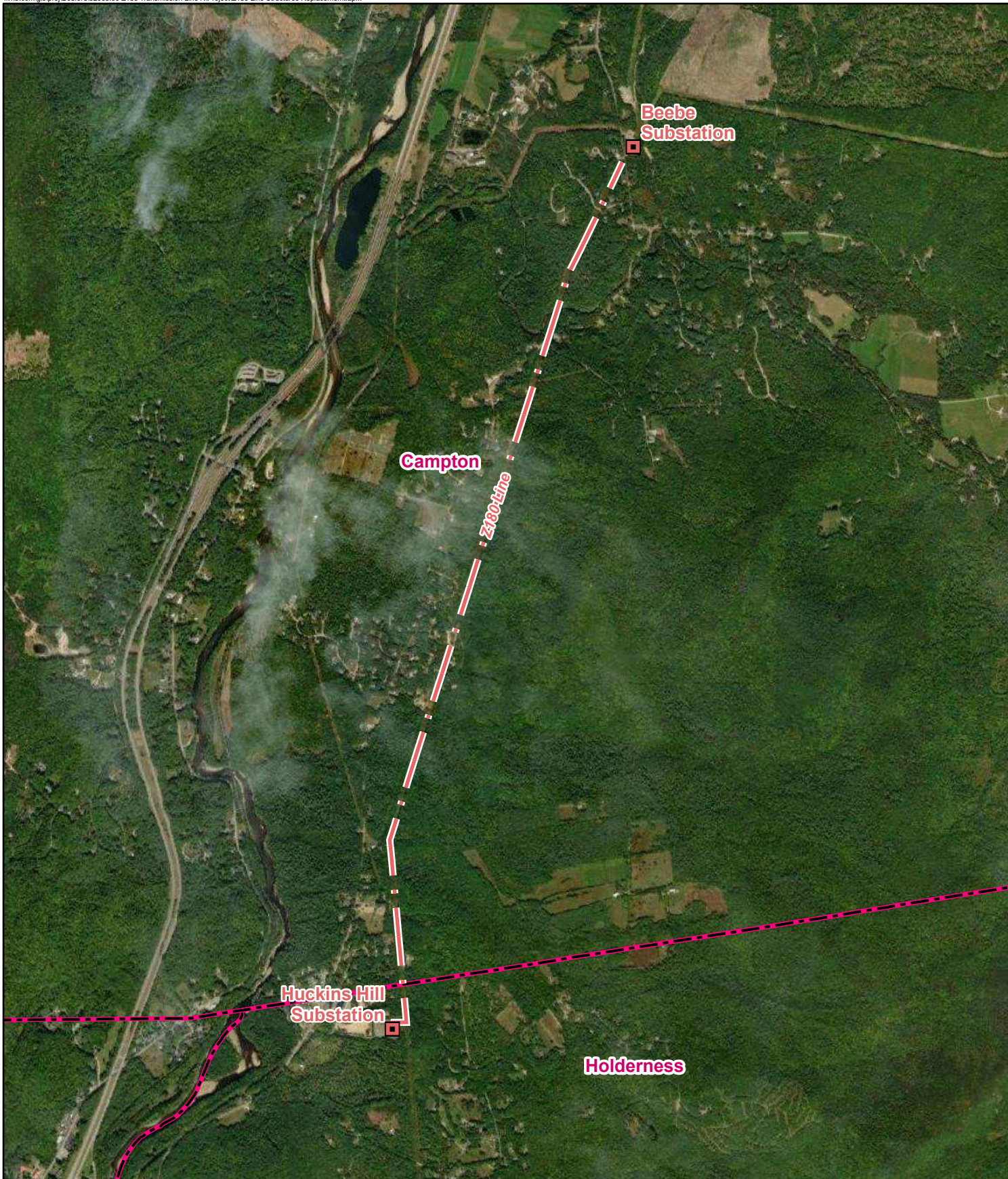
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 8, 2011—May 1, 2011

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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
22C	Colton gravelly sandy loam, 8 to 15 percent slopes	0.9	2.7%
22E	Colton gravelly sandy loam, 15 to 60 percent slopes	5.8	16.5%
36B	Adams loamy sand, 3 to 8 percent slopes	2.1	5.9%
36C	Adams loamy sand, 8 to 15 percent slopes	0.7	2.0%
57C	Becket fine sandy loam, 8 to 15 percent slopes, very stony	3.9	10.9%
254B	Hermon and Monadnock soils, 3 to 8 percent slopes	14.3	40.3%
255B	Hermon and Monadnock soils, 0 to 8 percent slopes, very stony	7.7	21.7%
Totals for Area of Interest		35.4	100.0%



■ SUBSTATIONS

— OVERHEAD EVERSOURCE LINE

▭ MUNICIPAL BOUNDARY

0 1,000 2,000 Feet

EVERSOURCE
ENERGY

Z180 Line Rebuild Project
Aerial Overview Map
Holderness and Campton, New Hampshire

Date: October 12, 2022

**Representative Site Photographs
Eversource Z180 Transmission Line Rebuild**



Photo 1: View north away from Huckins Hill Substation.

**Representative Site Photographs
Eversource Z180 Transmission Line Rebuild**



Photo 2: View north near Structure 285 looking down slope towards Structure 286.

Representative Site Photographs
Eversource Z180 Transmission Line Rebuild



Photo 3: View east of an intermittent stream crossing.

Representative Site Photographs
Eversource Z180 Transmission Line Rebuild



Photo 4: View east of Palmer Brook flowing across the right-of-way (ROW).

**Representative Site Photographs
Eversource Z180 Transmission Line Rebuild**



Photo 5: View west of the intersection of Ken Mar Drive and the ROW.

Representative Site Photographs
Eversource Z180 Transmission Line Rebuild



Photo 6: View north of the hilly terrain along the existing ROW.

**Representative Site Photographs
Eversource Z180 Transmission Line Rebuild**



Photo 7: View north along the western side of the existing ROW.

Representative Site Photographs
Eversource Z180 Transmission Line Rebuild



Photo 8: View west of sloped terrain up towards a structure.

Representative Site Photographs
Eversource Z180 Transmission Line Rebuild



Photo 9: View south of the existing ROW along the northern side of the Beebe River.

**Representative Site Photographs
Eversource Z180 Transmission Line Rebuild**



Photo 10: View south along the existing ROW.

**Representative Site Photographs
Eversource Z180 Transmission Line Rebuild**



Photo 11: View south along the existing ROW from Beebe River Substation.

Representative Site Photographs
Eversource Z180 Transmission Line Rebuild



Photo 12: View north at Beebe River Substation

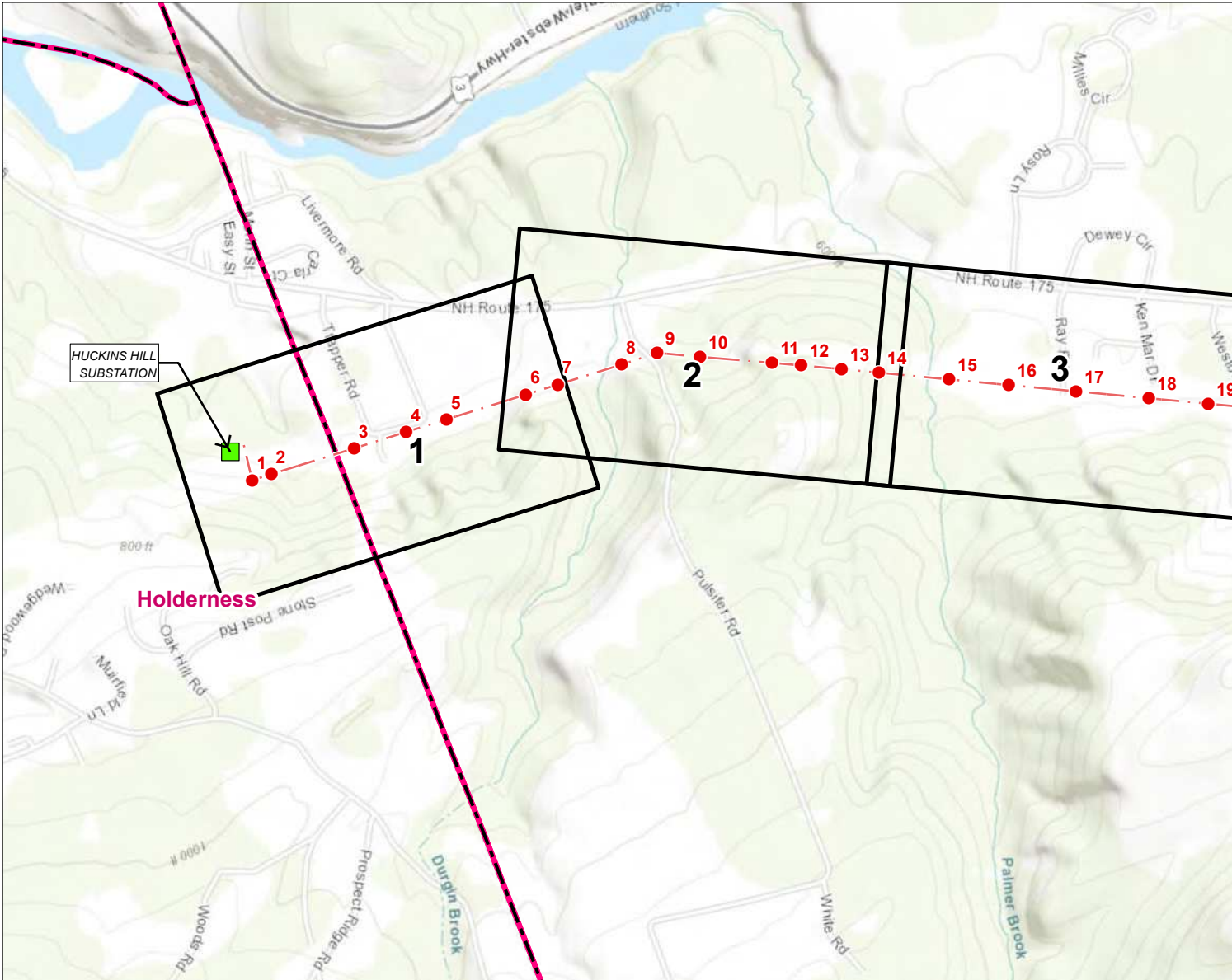
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Appendix B – Alteration of Terrain Permitting Plans

Z180 Line Structure

Holderness and Carroll
Environmental

Date: Jan



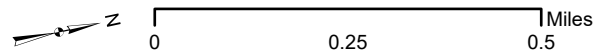
Legend

- Substation
- Proposed Structure
- Municipal Boundary
- Map Sheet
- Overhead Eversource Line

PREPARED FOR:

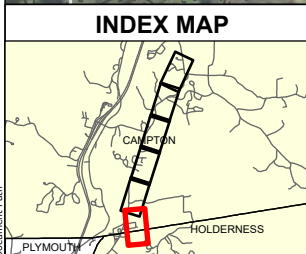


13 Legends Drive
Hooksett, NH 03106



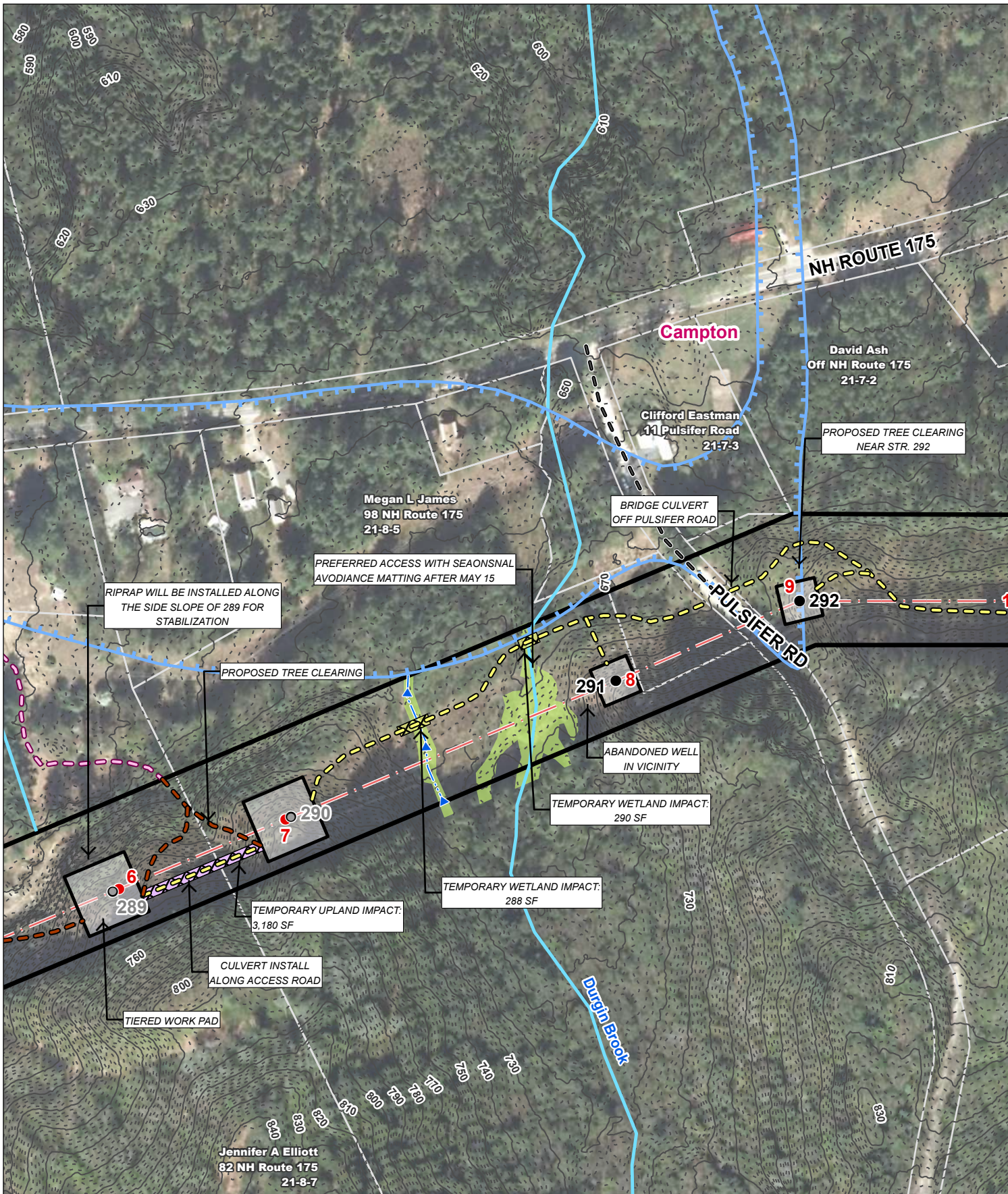
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● Existing Structure	○ Off-ROW Access Pending Rights	▨ Temporary Construction Matting	○ ○ ○ Stonewall
● Existing Structure to be Removed	○ Alternative Off-ROW Access	▨ Upland Construction Matting	- - - 2' Contour Line
● Proposed Structure	○ Access Road to be Improved	▨ WorkPad	- - - 10' Contour Line
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— Existing Access	— Watercourse (not delineated)		▨ Municipal Boundary
— Proposed Access	▨ Field Delineated Wetland		
— Alternative Access			

Document Path



RIPRAP WILL BE INSTALLED ALONG THE SIDE SLOPE OF 289 FOR STABILIZATION

PREFERRED ACCESS WITH SEASONAL AVOIDANCE MATTING AFTER MAY 15

PROPOSED TREE CLEARING

BRIDGE CULVERT OFF PULSIFER ROAD

PROPOSED TREE CLEARING NEAR STR. 292

TIERED WORK PAD

TEMPORARY UPLAND IMPACT: 3,180 SF

TEMPORARY WETLAND IMPACT: 290 SF

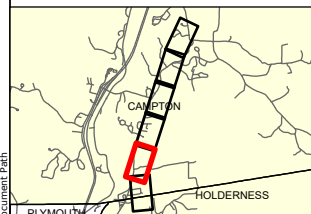
TEMPORARY WETLAND IMPACT: 288 SF

CULVERT INSTALL ALONG ACCESS ROAD

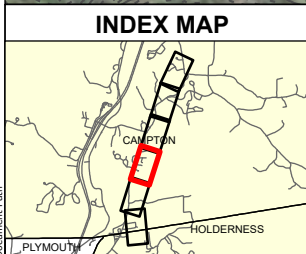
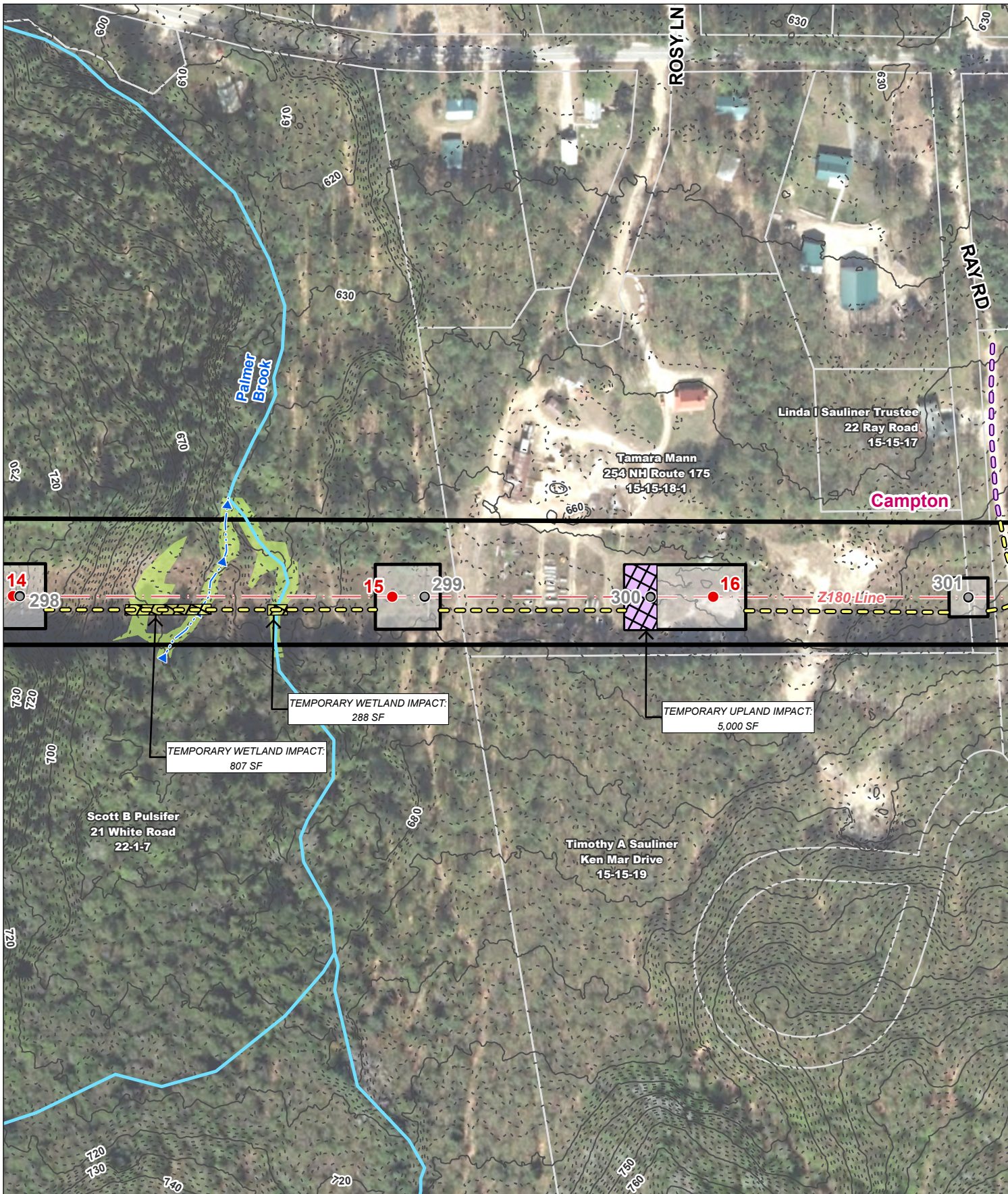
ABANDONED WELL IN VICINITY

Jennifer A Elliott
82 NH Route 175
21-8-7

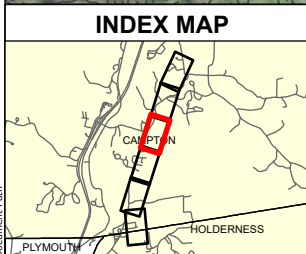
INDEX MAP



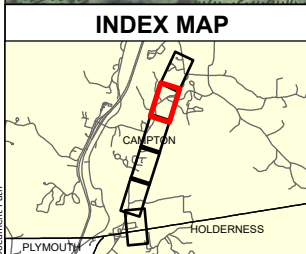
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▬ Proposed Access	▬ Field Delineated Wetland		
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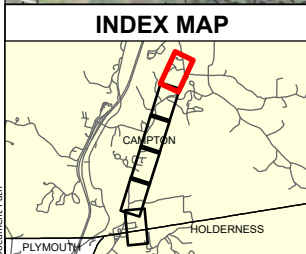


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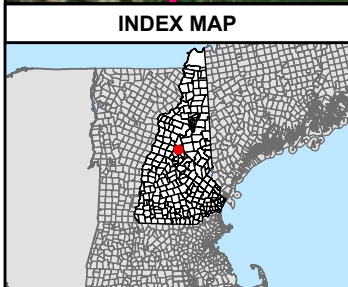
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Appendix C – FEMA Floodplain Map




-  SUBSTATIONS
-  OVERHEAD EVERSOURCE LINE
-  MUNICIPAL BOUNDARY
-  FEMA 100-YEAR FLOOD ZONE

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↑
0 1,000 2,000
Feet

EVERSOURCE
ENERGY

Z180 Line Rebuild Project
Floodplain Map
Holderness and Campton, New Hampshire

Date: October 12, 2022



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DATE August 15, 2022 updated October 18, 2022

TO: NH Fish & Game Department
NHFGreview@wildlife.nh.gov

FROM: Kurt Nelson
Eversource Energy

CC: Melissa Winters, NHF&G
Kathleen Wadiak, NHF&G
Michelle Ford, Eversource
Sherrie Trefry, VHB

SUBJECT: NH F&G Consultation Request
NHB ID: NHB22-2179
Z180 Transmission Line Rebuild

The following information is being provided on behalf of Public Service Company of New Hampshire dba Eversource Energy Services Company (herein Eversource) in accordance with "Part Fis 1004.03(c) Information Required for Consultation,":

(1) *A copy of the department of natural and cultural resources NHB DataCheck tool results letter.*

See Attachment A for copy of [NHB22-2179]

(2) – (4) *The applicant's full name, mailing address, telephone number and email:*

Eversource Energy
c/o Kurt Nelson
13 Legends Drive, Hooksett, NH 03106
603-634-3396
Kurt.nelson@eversource.com

(5) – (6) *Person who will respond to requests for information on behalf of the applicant:*

Kurt Nelson
13 Legends Drive, Hooksett, NH 03106
603-634-3396
Kurt.nelson@eversource.com

(7) *Description of the proposed action:*

Eversource has identified the need to replace this line due to the age and condition of the twenty nine (29) existing wooden electric transmission line structures resulting from woodpecker damage, insect damage, and pole rot. The existing wooden electric transmission structures will be replaced with new



weathered steel structures, ceramic conductors will be replaced with glass conductors, and optical ground wire (OPGW) will be installed in accordance with current construction methods and materials. Additionally, nine (9) steel structures exist on the line that will be accessed for OPGW installation and reconductoring but will not be replaced. Installation of the new 1272 ACSS conductor on all structures will bring the line up to current design standards

Two (2) structure replacements will occur in Holderness and twenty seven (27) structure replacements will occur in Campton. No vernal pools were found to occur within the ROW. Work areas at each structure will be approximately 100x100 feet centered on the structure to be replaced. All areas in wetlands will be temporarily timber matted and restored following construction activities; timber matting will be removed as soon as possible. Utility Maintenance BMPs will be followed. Oversight monitoring will be at least weekly.

Construction is scheduled to begin in February of 2023 and will extend for an estimated 6 months. Mapping depicting the project location is attached along with relevant .shp and .kmz files showing the work areas.

The NHB DataCheck (NHB22-2179) has identified the project is located within potential or known habitat for the following species:

- Sensitive Species
- Sensitive Species
- Wood Turtle (*Glyptemys insculpta*)

Eversource proposes the following conservation measures to avoid, minimize and/or mitigate potential harm to threatened and endangered species and habitat determined to be critical:

- All contractors will be trained by the project qualified herpetologist in the identification and response protocols for observation of Wood turtles.
- If work is to occur during the turtle nesting season, extending from approximately May 15th - July 15th, a biologist with turtle experience will be on site daily to check for protected turtles along the ROW in work areas before crews start work for the day.
- Before the start of construction and movement of equipment, searches and sweeps shall be conducted prior to mowing, matting, and/or gravel placement in order to minimize the chance of animals entering an area between the sweep and work.
- In the event a threatened or endangered species is observed on the project site during the term of the permit, the species shall not be disturbed, handled, or harmed in any way prior to consultation with NHFG and implementation of corrective actions recommended by NHFG.
- Site operators shall be allowed to relocate wildlife encountered if discovered within the active work zone and if in direct harm from project activities. Wildlife shall be relocated in close proximity to the capture location but outside of the work zone and in the direction the individual was heading. NHFG shall be contacted immediately if this action occurs.
- In accordance with Eversource's BMP manual for E&S controls, only biodegradable E&S controls (with the exception of silt fence which will be removed post-construction) will be utilized. No nylon, welded plastic or photodegradable E&S controls shall be permitted for use on the project.
- Sedimentation and erosion controls will be installed, monitored and maintained to protect adjacent upland and wetland areas from sedimentation and degradation; disturbed areas will be temporarily and permanently stabilized and seeded with a native seed mix.



- Bridge matting shall be installed with gaps which facilitate travel by turtles, snakes and other wildlife. Gaps should be created roughly every 30’.
- Signage to identify specific locations where there may be a higher likelihood for species to be present, such as wetland crossing areas will be utilized.

(8) Description of the project parcel by reference to street address and town, and, if available, a geographical information system defined project boundary.

The project includes managed right-of-way within the Z180 Transmission Line corridor in the Towns of Campton and Holderness. Project plans depicting the parcel boundaries and work areas are provided in Attachment C.

(9) A listing of any state or federal permits which have been applied for, have been granted, or which will be necessary for the proposed action to proceed.

The project is subject to the following permits:

- Statutory Permit by Notification (YET TO BE FILED)
- Alteration of Terrain Permit (YET TO BE FILED)

(10) The current condition of the action area prior to any proposed modifications, including a description of known or discernible actions within the preceding 24 months that have altered the site, including but not limited to, timber harvests, significant impact from storms, removal of gravel or stone, or addition or removal of structures;

Previous work on the Z180 Transmission Line resulted in nine (9) existing wooden structures along the having been replaced with new weathered steel structures. Areas of gravel access and work pads at some of these structure locations were still visible during site walks as vegetation continues to regrow.

(11) Any habitat features supporting or that could support threatened and endangered species that have been identified;

Wood Turtle (*Glyptemys insculpta*):

Wood turtles are primarily found near forested streams or rivers, an area in which they hibernate during the winter. During the spring and summer, they will leave the water and move to open grasslands and gravel shores for nesting and foraging. Within the project area, the Z180 Transmission Line traverses four intermittent streams, Durgin Brook, Palmer Brook, the Beebe River and various freshwater forested/shrub wetlands and emergent wetlands that can provide potential suitable habitat for turtle nesting. Additionally, the silver maple (*Acer saccharinum*) floodplain along the Pemigewasset River, located east of the project area, provides suitable overwinter habitat. However, there are also a number of steep slope areas throughout the project area where turtles are unlikely to traverse.

(12) A description of any conservation measures proposed by the applicant to avoid, minimize, or mitigate potential harm to threatened and endangered species and habitat determined to be critical, including but not limited to:

- All contractors will be trained by the project qualified herpetologist in the identification and response protocols for observation of Wood turtles.
- If work is to occur during the turtle nesting season, extending from approximately May 15th - July 15th, a biologist with turtle experience will be on site daily to check for protected turtles along the ROW in work areas before crews start work for the day.

- Before the start of construction and movement of equipment, searches and sweeps shall be conducted prior to mowing, matting, and/or gravel placement in order to minimize the chance of animals entering an area between the sweep and work.
- In the event a threatened or endangered species is observed on the project site during the term of the permit, the species shall not be disturbed, handled, or harmed in any way prior to consultation with NHFG and implementation of corrective actions recommended by NHFG.
- Site operators shall be allowed to relocate wildlife encountered if discovered within the active work zone and if in direct harm from project activities. Wildlife shall be relocated in close proximity to the capture location but outside of the work zone and in the direction the individual was heading. NHFG shall be contacted immediately if this action occurs.
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- Sedimentation and erosion controls will be installed, monitored and maintained to protect adjacent upland and wetland areas from sedimentation and degradation; disturbed areas will be temporarily and permanently stabilized and seeded with a native seed mix.
- Bridge matting shall be installed with gaps which facilitate travel by turtles, snakes and other wildlife. Gaps should be created roughly every 30'.
- Signage to identify specific locations where there may be a higher likelihood for species to be present, such as wetland crossing areas will be utilized.

Signatures and Certifications

- (1) The information contained in or otherwise submitted with the document is true, complete, and not misleading to the best of the signer's knowledge and belief; and
- (2) The signer understands that the submission of false, incomplete, or misleading information shall constitute grounds, pursuant to Fis 1004.13, for the department to:
 - a. Suspend consultation pending submission of true, complete, and not misleading information;
 - b. Terminate consultation
 - c. Withdraw any recommendations made to the referring state agency under this part; or
 - d. Report the suspension, termination, or withdrawal of recommendations, and the full circumstances of the submission, to the referring state agency for action in the pending or completed request for a permit or other action.



Applicant: _____

Date: October 18, 2022

Kurt Nelson, Eversource

Attachments:

- Attachment A: NHB DataCheck No. [NHB22-2179]
- Attachment B: USGS Location Map
- Attachment C: Project Plan

Attachment A: NHB DataCheck

Memo

Please note: portions of this document are confidential.
Maps and NHB record pages are confidential and should be redacted from public documents.

To: Andrew Mahoney, VHB
2 Bedford Farms Drive Suite 200
Bedford, NH 03103

From: NHB Review, NH Natural Heritage Bureau
Date: 7/7/2022 (valid until 07/07/2023)
Re: Review by NH Natural Heritage Bureau
Permits: NHDES - Utility Statutory Permit by Notification (SPN)

NHB ID: NHB22-2179 Town: Campton Location: Z180 Tra
Description: PSNH d/b/a Eversource Energy intends to conduct a full-line rebuild of the Z180 Transmission Line.
the replacement of 39 wooden utility pole structures with new weathered steel structures in accordanc
and industry standards.

cc: NHFG Review

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

Comments **NHB: No comments at this time.**
F&G: Please provide project timing to inform the review decision making process.

Vertebrate species	State ¹	Federal	Notes
Sensitive species	E	T	Contact the NH Fish & Game Dept (see below).
Sensitive species	E	T	Contact the NH Fish & Game Dept (see below).
Wood Turtle (<i>Glyptemys insculpta</i>)	SC	--	Contact the NH Fish & Game Dept (see below).

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

For all animal reviews, refer to 'IMPORTANT: NHFG Consultation' section below.

Disclaimer: A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only be used to support a finding of presence.

Memo

NH Natural
NHB DataCheck

Please note: portions of this document are confidential.

Maps and NHB record pages are confidential and should be redacted from public documents.

based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, and data may be incomplete for certain species. An on-site survey would provide better information on what species and communities are indeed present.

IMPORTANT: NHFG Consultation

If this NHB Datacheck letter DOES NOT include ANY wildlife species records, then, based on the information submitted, no further consultation with the New Hampshire Fish and Game Department pursuant to Fis 1004 is required.

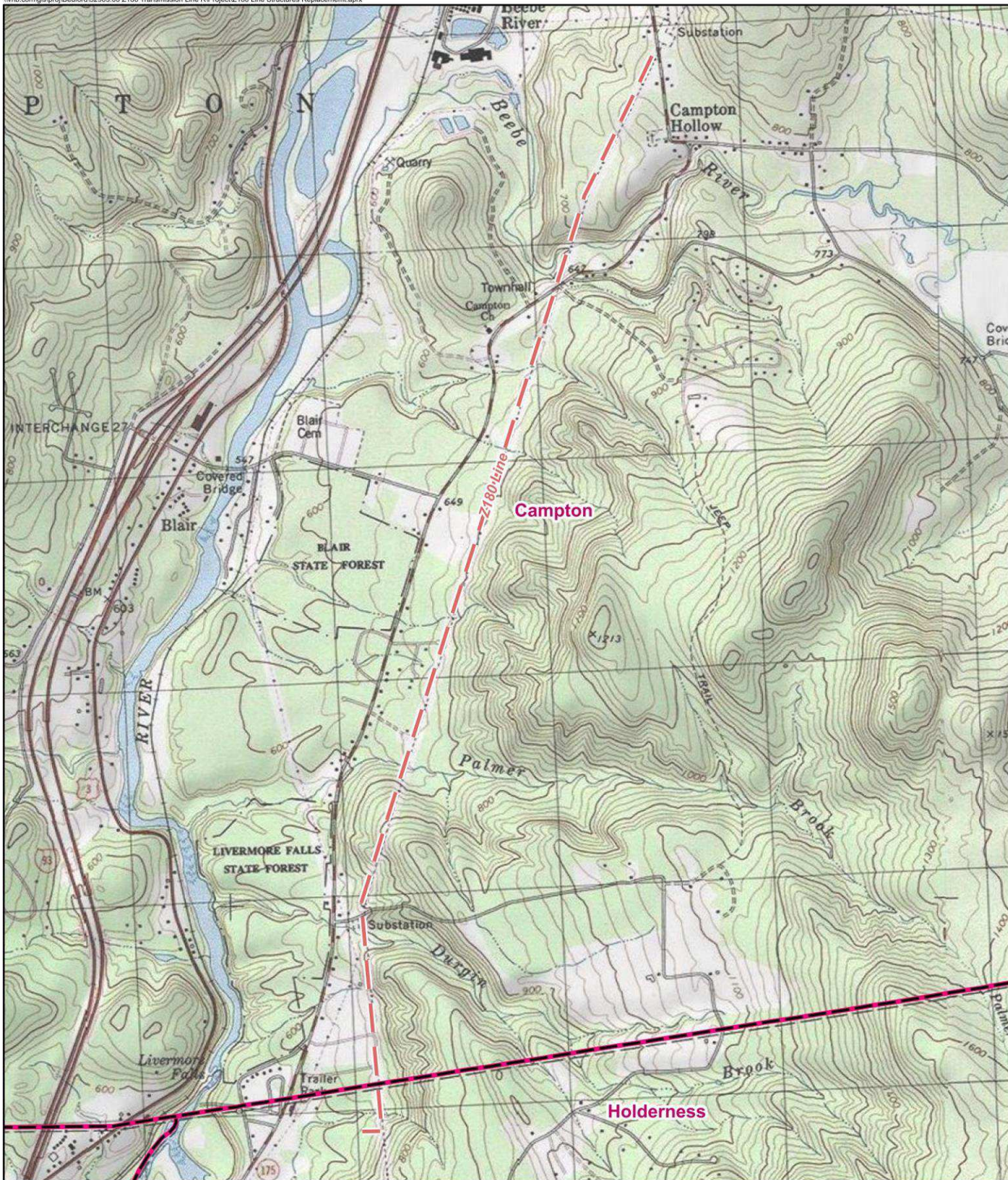
If this NHB Datacheck letter includes a record for a threatened (T) or endangered (E) wildlife species, consultation with the New Hampshire Fish and Game Department under Fis 1004 may be required. To review the Fis 1000 rules (effective February 3, 2022), please go to <https://wildlife.state.nh.us/wildlife/environmental-review.html>. All requests for consultation and submittals should be sent via email to NHFGreview@wildlife.nh.gov or can be sent by mail, and **must include the NHB Datacheck results letter number and “Fis 1004” in the subject line.**

If the NHB DataCheck response letter does not include a threatened or endangered wildlife species but includes other wildlife species (e.g., Concern), consultation under Fis 1004 is not required; however, some species are protected under other state laws or rules, so coordination with NH Fish & Game is highly recommended or may be required for certain permits. While some permitting processes are exempt from required coordination (e.g., *statutory permit by notification*, *permit by rule*, *permit by notification*, *routine roadway registration*, *docking structure registration*, *authorization by rule*), coordination with NH Fish & Game may still be required under the rules governing those specific permitting processes. We recommend you contact the applicable permitting agency. For projects not requiring consultation under Fis 1004, but where additional coordination with NH Fish and Game is requested, please email: Kim Tuttle kim.tuttle@wildlife.nh.gov with a copy to NHFGreview@wildlife.nh.gov, and include the results letter number and “review request” in the email subject line.

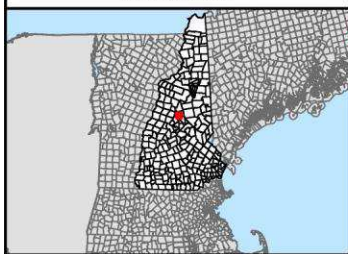
Contact NH Fish & Game at (603) 271-0467 with questions.

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Attachment B: USGS Location Map



INDEX MAP



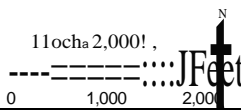
— OVERHEAD EVERSOURCE LINE

— MUNICIPAL BOUNDARY

EVERSOURCE
ENERGY

Z180 Line Structure Replacement Project
USGS Locus Map
Holderness and Campton, New Hampshire

Date: August 02, 2022



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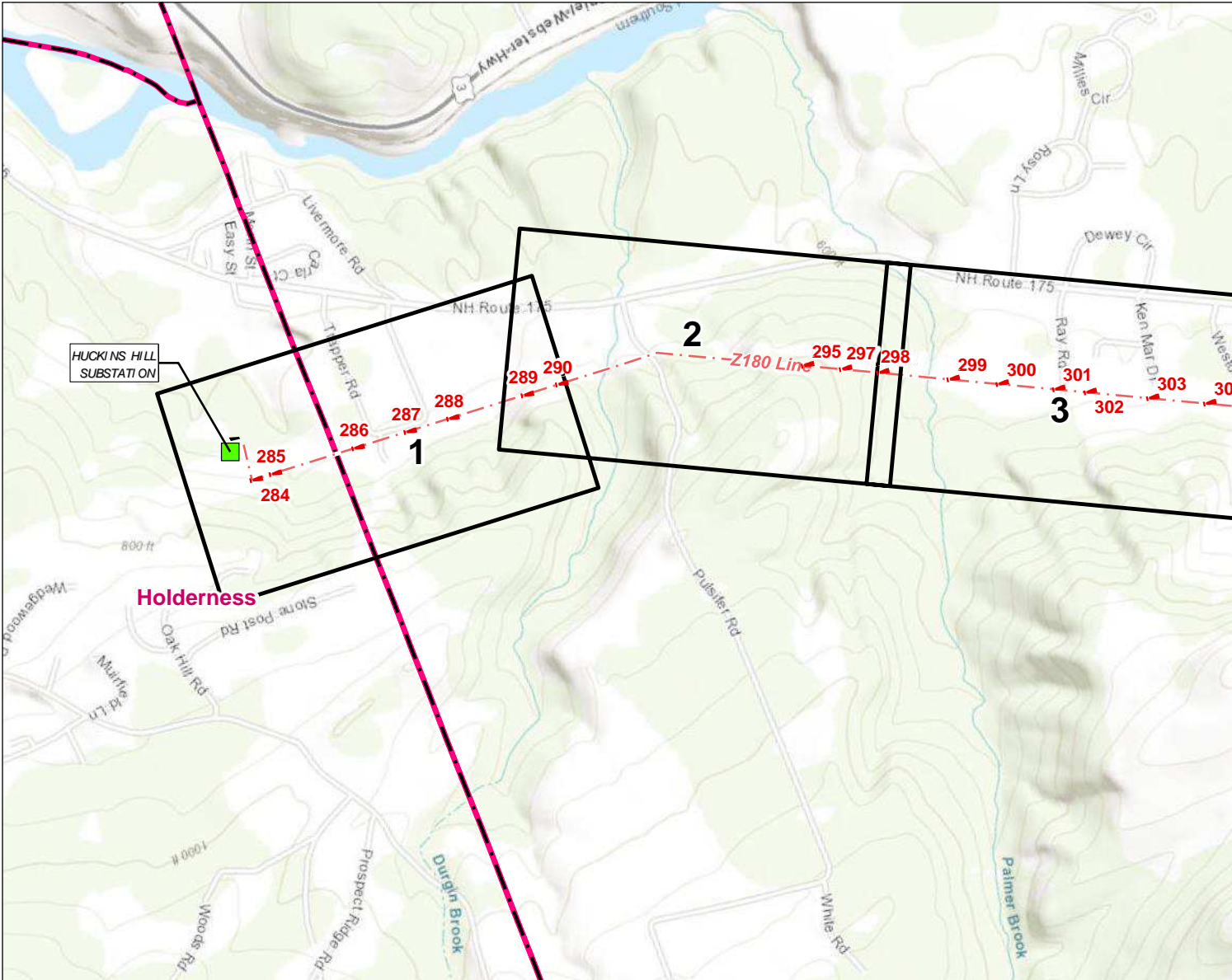
Attachment C: Project Plans

Z180 Line Structure






Holderness and Ca
Environmental

Draft

Date: Jul



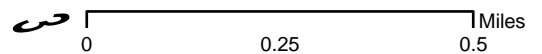
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-  Substation
-  Map Sheet
-  Proposed Structure
-  Municipal Boundary
-  Overhead Eversource Line

PREPARED FOR:

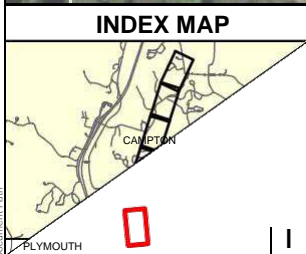


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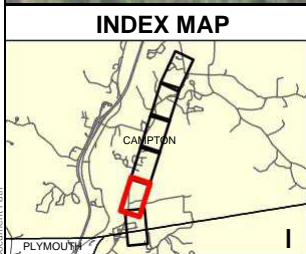
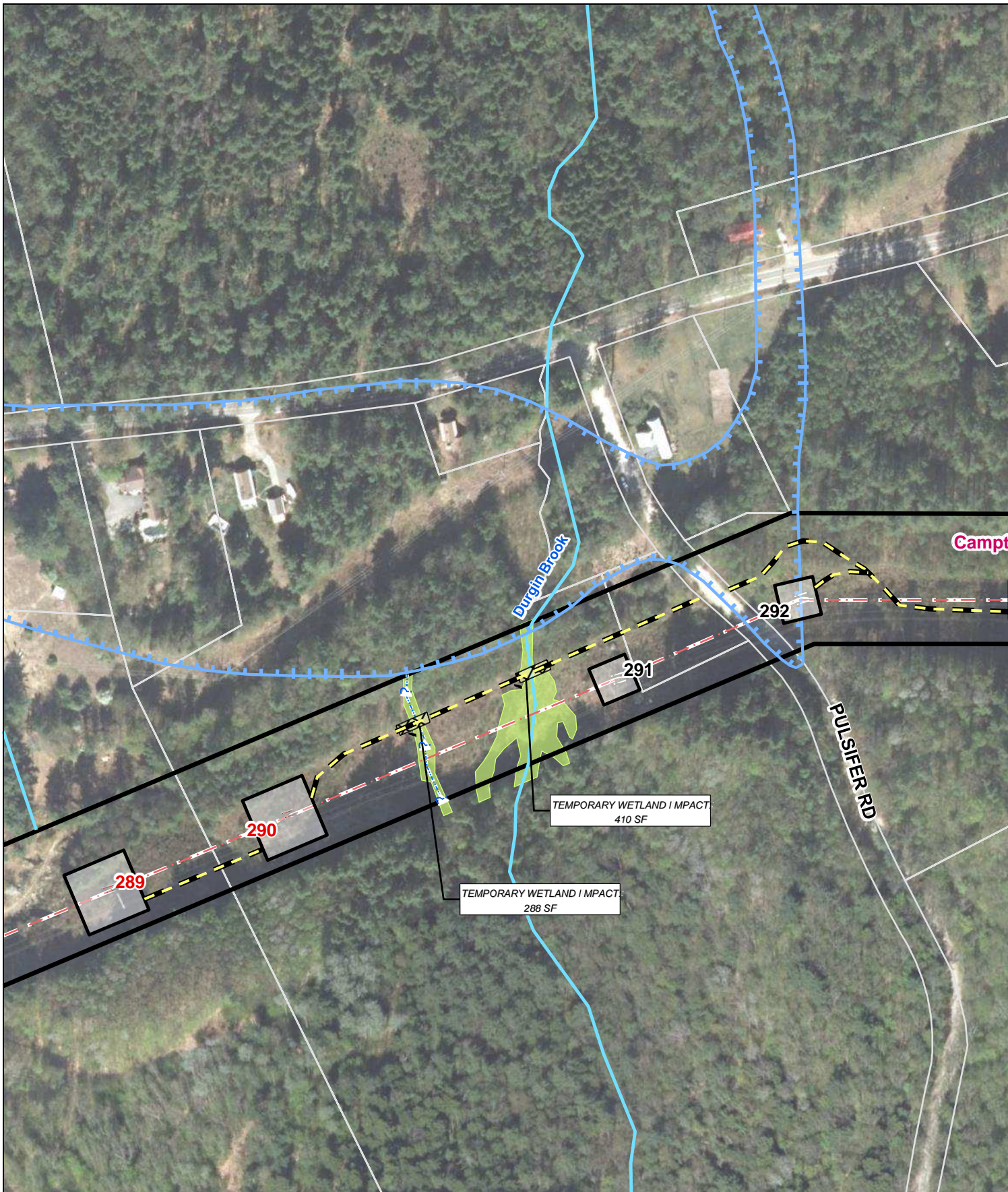


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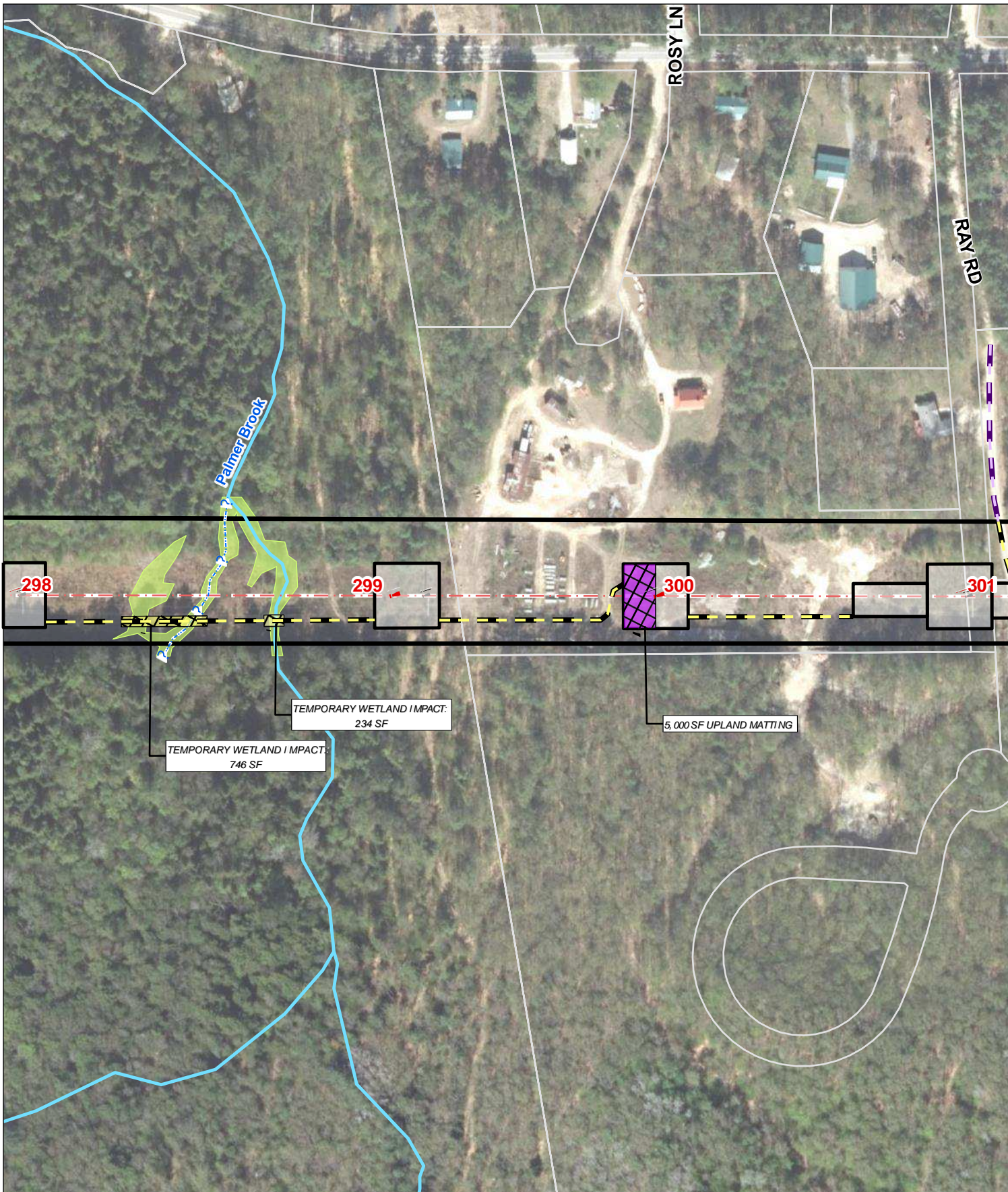


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Off-ROW Access Pending Rights			

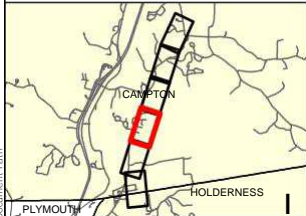


!	Existing Structure	—	Proposed Access		Temporary Construction Matting		Overhead Eversource Line
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	Off-ROW Access Pending Rights						

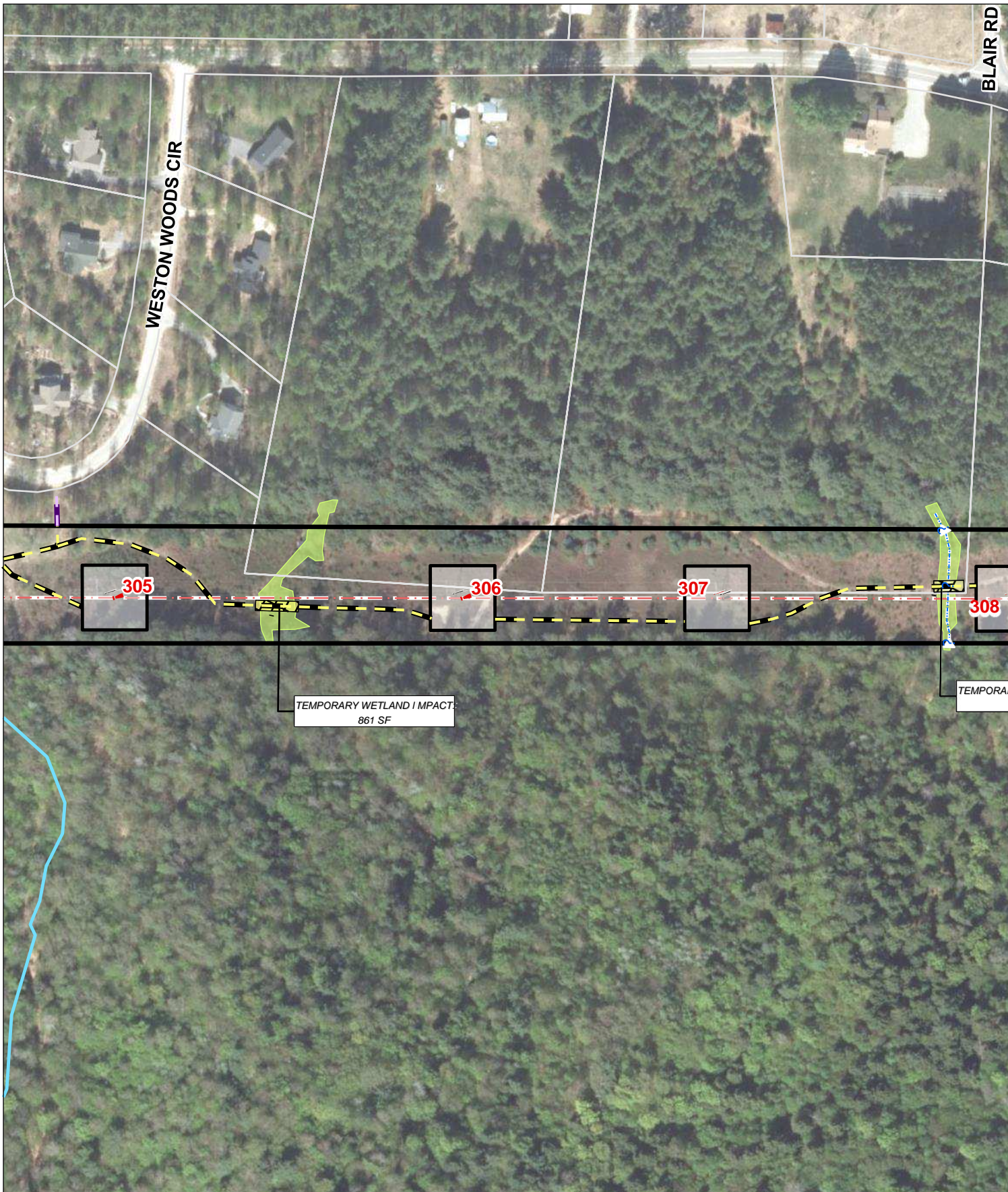
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INDEX MAP



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| — | Existing Access | — | Field Delineated Wetland | | | | |
| — | Off-ROW Access Pending Rights | | | | | | |



WESTON WOODS CIR

BLAIR RD

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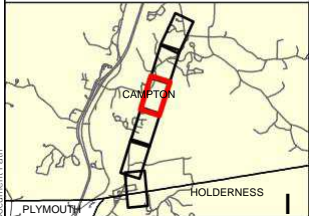
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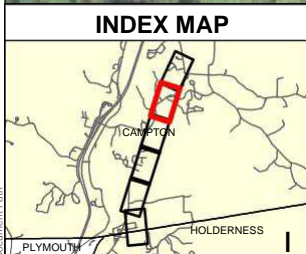
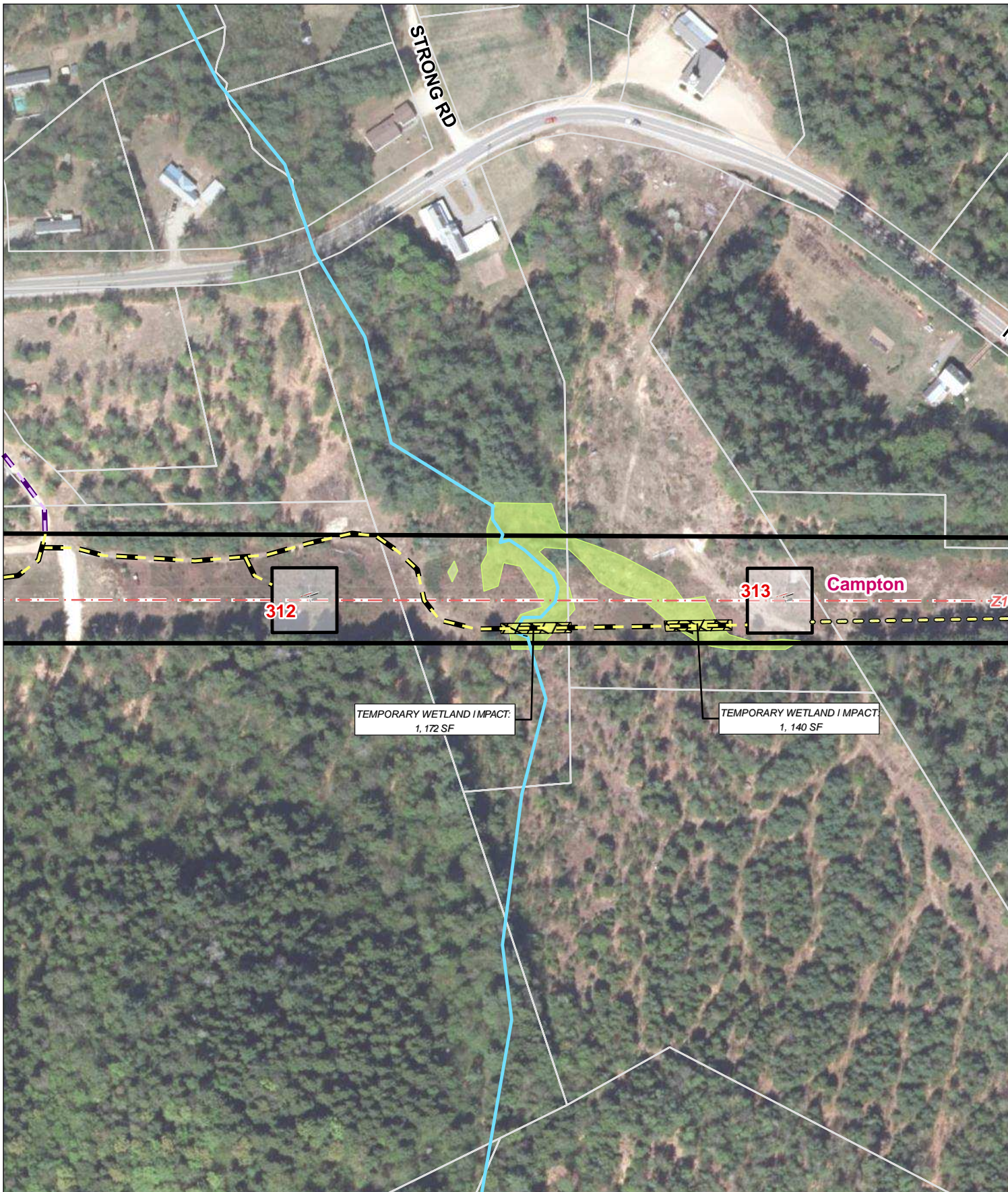
TEMPORARY WETLAND / IMPACT:
861 SF

TEMPORA

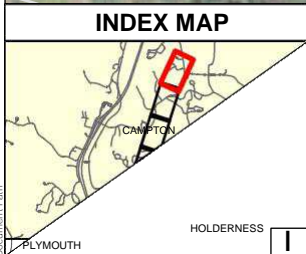
INDEX MAP



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Wetlands Adjacent to Tier 3 Streams | ▭ | NH Priority Resource Area Flood Plain
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| — | Existing Access | — | Field Delineated Wetland | | | | |
| — | Off-ROW Access Pending Rights | | | | | | |



!	Existing Structure	—	Proposed Access	▨	Temporary Construction Matting	▭	WorkPad
!	Existing Structure to be Removed	—	Access Road to be Improved	▨	Upland Construction Matting	▭	WorkPad
▭	Proposed Structure	?	Delineated Intermittent Watercourse	▭	WorkPad	▭	WorkPad
---	Overhead Eversource Line	?	Delineated Perennial Watercourse	▭	FEMA 100-Year Flood Zone	▭	FEMA 100-Year Flood Zone
—	Existing Right-of-Way (ROW)	—	Watercourse (not delineated)	▭	NH Priority Resource Area Flood Plain Wetlands Adjacent to Tier 3 Streams	▭	NH Priority Resource Area Flood Plain Wetlands Adjacent to Tier 3 Streams
—	Existing Access	—	Field Delineated Wetland				
—	Off-ROW Access Pending Rights						



! Existing Structure	Proposed Access	Temporary Construction Matting	Red dashed line
! Existing Structure to be Removed	Access Road to be Improved	Upland Construction Matting	Black dashed line
Proposed Structure	?-.- Delineated Intermittent Watercourse	WorkPad	Black solid line
--- Overhead Eversource Line	? Delineated Perennial Watercourse	FEMA 100-Year Flood Zone	Blue dashed line
— Existing Right-of-Way (ROW)	Watercourse (not delineated)	NH Priority Resource Area Flood Plain Wetlands Adjacent to Tier 3 Streams	Blue solid line
— Existing Access	Field Delineated Wetland		
— Off-ROW Access Pending Rights			

Document Path















Redaction Log

Total Number of Redactions in Document: 3

Redaction Reasons by Page

Page	Reason	Description	Occurrences
107	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
108	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
109	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

Redaction Log

Redaction Reasons by Exemption

Reason	Description	Pages (Count)
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.	107(1) 108(1) 109(1)