

#### Via Certified Mail

October 14, 2015

Pemigewasset River Local Advisory Committee Max Stamp, Chair 2110 Summer St. Bristol, NH 03222

Re: Shoreland Permit Application - The Northern Pass Project

Dear Mr. Stamp:

Enclosed please find a copy of the Shoreland Permit Application package that will be filed with the NH Department of Environmental Services (DES) and New Hampshire Site Evaluation Committee for the Northern Pass Project. The project includes work in or around rivers, lakes, streams ponds, etc. Under state law, it is a requirement to provide the municipalities and Local River Advisory Committees having jurisdiction over these waterbodies with a copy of the shoreland application by Certified mail, for review and comment. Please find attached a copy of the application, which proposes work within the protected shoreland of a public water or Designated River in your regulatory area.

Sincerely,

Lee Carbonneau

Normandeau Associates, Inc.

Lee E. Calonnean

As agent for Northern Pass Transmission, LLC.



#### Via Certified Mail

October 14, 2015

Town of Woodstock 165 Lost River Rd. Woodstock, NH 03262

#### Re: Shoreland Permit Application - The Northern Pass Project

Dear Sir or Madam:

Enclosed please find a copy of the Shoreland Permit Application package that will be filed with the NH Department of Environmental Services (DES) and New Hampshire Site Evaluation Committee for the Northern Pass Project. The project includes work in or around rivers, lakes, streams ponds, etc. Under state law, it is a requirement to provide the municipalities and Local River Advisory Committees having jurisdiction over these waterbodies with a copy of the shoreland application by Certified mail, for review and comment. Please find attached a copy of the application, which proposes work within the protected shoreland of a public water or Designated River in your regulatory area.

Sincerely,

Lee Carbonneau

Normandeau Associates, Inc.

Lee E. Calonnean

As agent for Northern Pass Transmission, LLC.

# Shoreland Permit Application Northern Pass Pemigewasset River, Woodstock, NH

#### **Prepared for**

Northern Pass Transmission, LLC and Public Service Company of New Hampshire d/b/a Eversource Energy Energy Park 780 Commercial Street Manchester, NH 03101

October 2015

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#### DISCLOSURE STATEMENT

The data contained in all pages of this document have been submitted in confidence and contain trade secrets and/or privileged or confidential information, and such data shall be used or disclosed only for evaluation purposes, provided that if a contract is awarded to this proposer as a result of or in connection with the submission of this proposal, the client shall have the right to use or disclose the data herein to the extent provided in the contract. This document includes data that shall not be disclosed outside of the purposes of this submittal and shall not be duplicated, used, or disclosed—in whole or in part—for any purpose other than for evaluation purposes.

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# Pemigewasset River



NHDES-W-06-037

# **SHORELAND PERMIT**

## SHORELAND PERMIT APPLICATION

Water Division/ Shoreland Program Land Resources Management

Check the status of your application: <a href="http://des.nh.gov/onestop">http://des.nh.gov/onestop</a>

RSA/Rule: RSA 483-B, Env-Wq 1400

|                |                       |                    | File Number: |
|----------------|-----------------------|--------------------|--------------|
| Administrative | Administrative<br>Use | / torrilliotrativo | Check No.    |
| Use<br>Only    | Only                  | Use<br><b>Only</b> | Amount:      |
|                |                       |                    | Initials:    |

This is an application for a permit to excavate, fill or construct new structures within the protected shoreland as regulated under RSA 483-B. For a complete list of activities that do not require a shoreland permit, view the shoreland program <u>frequently asked questions</u> (FAQ's)

Please type or print clearly. **Please note:** Application packages missing required elements will be returned to the applicant in their entirety, including the fee. Land Resources Management will include a letter identifying the missing elements and describing how to resubmit the application package to DES. Application packages that are accepted will proceed to technical review to ensure the applicant has fulfilled all requirements as specified by statute or rules. For more information visit the <a href="New Land Resources Management Application Return Process">New Land Resources Management Application Return Process</a> site located on the Shoreland Program Page.

| 1. PROPERTY OWNER  |  |                |                |  |  |  |
|--|--|----------------|----------------|--|--|--|
| LAST NAME, FIRST NAME, M.I.: Public Service Co. of NH d/b/a Eversource Energy (PSNH), c/o Kevin McCune, Supervisor, Environmental Affairs Licensing and Permitting |  |                |                |  |  |  |
| ADDRESS: 780 Commercial Street   | DRESS: 780 Commercial Street  TOWN/CITY: Manchester STATE: NH ZIPCODE: 03101 |                |                |  |  |  |
| PHONE: 603-669-4000  | EMAIL: Kevin.mccune@eve  | rsource.com    |                |  |  |  |
| 2. PROJECT LOCATION  |  |                |                |  |  |  |
| ADDRESS: Multiple  | TOWN/CITY: Woodstock   | STATE: NH      | ZIPCODE: 03293 |  |  |  |
| WATERBODY NAME: Pemigewasset River   | TAX MAP: Multiple  | LOT NUMBER: Mu | ıltiple        |  |  |  |
| 3. CONTRACTOR OR AGENT   |  |                |                |  |  |  |
| LAST NAME, FIRST NAME, M.I: Carbonnneau, Lee E.  |  |                |                |  |  |  |
| ADDRESS: 25 Nashua Rd  | TOWN/CITY: Bedford   | STATE: NH      | ZIPCODE: 03110 |  |  |  |
| PHONE: 603-637-1150  | EMAIL: lcarbonneau@norma   | andeau.com     |                |  |  |  |
| 4. CRITERIA  |  |                |                |  |  |  |
| Please check at least one of the following below:  |  |                |                |  |  |  |
| ☐ This shoreland permit application requires neither a proposal to make the property more nearly conforming nor a request for a waiver of a minimum standards.     |  |                |                |  |  |  |
| ☐ This shoreland permit application includes a proposal to make the structures and/ or the property more nearly conforming in accordance with RSA 483-B:11         |  |                |                |  |  |  |
| ☐ This shoreland permit application includes a request for a waiver of the following minimum standard(s)   |  |                |                |  |  |  |

| 5. PROJECT DESCRIPTION  |
|---|
| Total Square feet of impact 38,789 Total square feet of new impervious area 0   |
| Provide a complete description of the proposed project. A new high voltage transmission line will be constructed in an existing road ROW. The Woodstock Project area includes four Shoreland locations along the Pemigewasset River. Work in the Shoreland includes the underground installation of transmission cable, as shown in the project plans. To place the line, the shoulder of NH Route 3, will be trenched, the line will be placed and backfilled to restore these work areas after construction. In addition, no tree clearing is planned within the existing road ROW. |
| 6. PERMIT APPLICATIONS SUBMITTED  |
| Please indicate if applications for any of the permits listed below have been submitted or will need to be submitted:   |
|   |
|   |
| 7. REFERENCE LINE ELEVATION (REQUIRED FOR LAKES, PONDS, AND ARTIFICIAL IMPOUNDMENTS)  |
| Reference line elevations for most lakes, ponds and artificial impoundments greater than 10 acres in size are listed in the Consolidated List of Waterbodies Subject to the Shoreland Water Quality Protection Act. Please see RSA 483-B:4, xvii for the definition of reference line.  |
| The reference line for this waterbody is: N/A Feet  |
| 8. SHORELAND FRONTAGE Shoreland frontage is the actual frontage along the waterfront measured at the reference line.  |
| The shoreland frontage on this lot is : N/A Linear Feet  ☑ N/A – No Direct frontage on this lot   |
| 9. APPLICATION FEE  |
| A non-refundable permit application fee of \$100 plus \$0.10 per total square foot of is required at the time the application is submitted. Fees are capped at \$750 for projects impacting less than 10,000 sq ft, \$1,875 for projects impacting between 10,000 and less than 25,000 sq ft, and \$3,750 for projects impacting 25,000 sq ft and greater. Please note that your application will not be considered complete if it does not include the appropriate fee. <b>Please make checks payable to the Treasurer, State of NH.</b>   |
| 10. CALCULATING THE TOTAL IMPACT AREA AND PERMIT APPLICATION FEE  |
| Total impact area is calculated by determining the sum of all areas disturbed by regrading, excavation, filling, construction, and structure removal. Impacts often include, but are not limited to: constructing new driveways, constructing new structures, areas disturbed when installing a new septic system or foundation, creating temporary access roads for the purpose of installing a well and regrading associated with landscaping activities.   |
| Total Area Impacted within 250 Of the Reference Line. = 38,789 (A) Square Feet  |
| Multiply the total Impact Area By 10¢ and add \$100.00. [ (A) X .10 + \$100.00 ] = \$ Exempt per 483-B:5-b III Permit Fee   |
| 11. REQUIRED CERTIFICATIONS   |
| By initialing within the blank before each of the following statements, and signing below, you are certifying that: to the best of my knowledge, the information provided is true, complete and not misleading.   |
| X I understand that any permit or waiver granted based on false, incomplete, or misleading information shall be subject to revocation.  |
| X I am aware that obtaining a shoreland permit will not exempt the work I am proposing from other state, local or federal approvals.  |
| X I have notified the municipality or municipalities in which the proposed impacts are located and provided them with a complete copy of the application and all supporting materials on/_/ via certified mail.   |
| This project is within ¼ mi of a <u>designated river</u> (river name: Pemigewasset River) and I have notified the <u>Local River Management Advisory Committee</u> by providing them with a copy of the complete application, including all supporting materials, via certified mail on day: 16 month: 10 year: 2015 and I have included a copy of the certified mail receipt in the application submittal  |

| (RSA <b>48</b>  | (RSA <b>482-A:3,i(d)(2))</b>                 |  |       |  |  |  |  |
|---|--|--|-------|--|--|--|--|
| ☐ This projec   | et is <b>not</b> within ¼ mi of a designated | river  |       |  |  |  |  |
| N/A I have notified all abutters of the proposed impacts via certified mail as required by RSA 483-B:5-b, iv-a. (see definition of "abutter" on page (6). <b>Exempt per RSA-483-B:5-b, IV (A)</b> |  |  |       |  |  |  |  |
| 12. SIGNATURES (Both must sign per Env-Wq 1406.08)  |  |  |       |  |  |  |  |
| OWNER NAME  | See attached signature page                  | PRINT NAME LEGIBLY: Kevin McCune, PSNH d/b/a Eversource Energy   | DATE: |  |  |  |  |
| APPLICANT NAME  | See attached signature page                  | PRINT NAME LEGIBLY: Kevin McCune, PSNH d/b/a Eversource Energy Northern Pass LLC, c/o Robert P. Clarke, Project Director | DATE: |  |  |  |  |

Please mail this application and all other attachments to the Department of Environmental Services Wetlands Bureau, PO Box 95, Concord NH 03302-0095. Missing information will delay processing of your application and may result in denial of a Shoreland Permit.

#### SHORELAND APPLICATION WORKSHEET

This form <u>must</u> be submitted to the Department of Environmental Services Wetlands Bureau accompanied with a Shoreland Permit Application. <u>Instructions for completing this form</u> are available on the shoreland program web page.

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

| CALCULATING THE IMPERVIOUS AREA WITHIN 250 FEET OF THE REFERENCE LINE                       |   |                                  |                                   |  |  |  |
|---|---|----------------------------------|-----------------------------------|--|--|--|
|   | STRUCTURE<br>DESCRIPTION                  | PRE-CONSTRUCTION IMPERVIOUS AREA | POST-CONSTRUCTION IMPERVIOUS AREA |  |  |  |
| PRIMARY STRUCTURE   |   |                                  |                                   |  |  |  |
| Include all <u>attached</u> decks and porches.  |   | <u><b>0</b></u> FT <sup>2</sup>  | <u><b>0</b></u> FT <sup>2</sup>   |  |  |  |
| ACCESSORY STRUCTURES  | Roadway trenching                         | 156,850 FT <sup>2</sup>          | 156,850 FT <sup>2</sup>           |  |  |  |
| All other impervious surfaces excluding lawn furniture, well heads, and fences.             |   | FT <sup>2</sup>                  | FT <sup>2</sup>                   |  |  |  |
| Common accessory structures   |   | FT <sup>2</sup>                  | FT <sup>2</sup>                   |  |  |  |
| include, but are not limited to:<br>driveways, walkways, patios<br>and sheds.               |   | FT <sup>2</sup>                  | FT <sup>2</sup>                   |  |  |  |
| and Sheus.  |   | FT <sup>2</sup>                  | FT <sup>2</sup>                   |  |  |  |
|   |   | FT <sup>2</sup>                  | FT <sup>2</sup>                   |  |  |  |
|   | TOTAL: (A) <u>156,850</u> FT <sup>2</sup> |                                  |                                   |  |  |  |
| Area of the lot located within 250  | (C) <u>624,820</u> FT <sup>2</sup>        |                                  |                                   |  |  |  |
| Percentage of lot covered by pre line:[divide (a) by (c) x 100]                             | (D) <u>25.10</u> %                        |                                  |                                   |  |  |  |
| Percentage of lot to be covered reference line upon completion of [divide (b) by (c) x 100] | (E) <u>25.10</u> %                        |                                  |                                   |  |  |  |

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

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

## **IMPERVIOUS AREA THRESHOLDS**

| DETERMINING IF A STORMWATER MANAGEMENT PLAN IS REQUIRED  |
|--|
| ∑ This project does not require a stormwater management plan because the proposed post-<br>construction impervious area (Calculation E) is less than or equal to 20%.  |
| <ul> <li>☐ This project requires a stormwater management plan because the proposed post-construction impervious area (Calculation E) is greater than 20%, but not greater than 30%.</li> <li>See details on the Checklist of Required Items on page 6</li> </ul>                                     |
| This project requires a stormwater management plan designed and certified by a professional engineer because the post-construction impervious area (Calculation E) is greater than 30%; and All waterfront buffer grid segment must meet at least the minimum required tree and sapling point score. |
| See details on the Checklist of Required Items on page 6   |

## **UNALTERED STATE REQUIREMENT**

| CALCULATING THE AREA TO REMAIN IN AN UNALTERED STATE   |                           |  |  |  |
|--|---------------------------|--|--|--|
| Total area of the lot between 50 ft and 150 ft of the reference line within which the vegetation currently exists in an unaltered state <sup>3</sup> (see definition below). If this area is completely altered, place a zero on line (F) and (I) and proceed to (J).                            | (F) <u>0</u>              |  |  |  |
| Total area of the lot between 50 ft and 150 ft from the reference line   | (G)                       |  |  |  |
| At least 25 percent of the vegetation within area <b>(G)</b> must remain in an unaltered state. [.25 x G]  | (H)                       |  |  |  |
| Place the smaller of line <b>(F)</b> and calculation <b>(H)</b> on this line. In order to remain compliant with RSA 483-B:9, V(b), this is the minimum area that must remain in an unaltered state between 50 ft and 150 ft from the reference line. This area must be represented on all plans. | (I) <u>0</u>              |  |  |  |
| Name of person who prepared this worksheet:  | (J) <u>Tracy Coolidge</u> |  |  |  |

<sup>&</sup>lt;sup>3</sup> "Unaltered State" means native vegetation allowed to grow without cutting, limbing, trimming, pruning, mowing, or other similar activities except as needed for renewal or to maintain or improve plant health.

| Name and date of the plan this worksheet is based upon: | (K) NH DES Shoreland Permit Application Plans Pemigewasset River Woodstock, NH 9/8/2015 |
|---|---|
| SIGNATURE:  | DATE: 10/13/2015  |

#### \*Unaltered State-

Vegetation in a public utility right-of-way must be maintained/ mowed regularly for safety and operational purposes. There will always be little or no land in an unaltered state within a transmission ROW, and therefore no calculations for this metric were performed. Furthermore, RSA 483-B:9 IV-b. states "Public utility lines and associated structures and facilities, public roads, and public water access facilities including boat ramps shall be permitted by the commissioner as necessary and consistent with the purposes of this chapter and other state law." In addition, RSA 483-B:2 XVI provides for economic development in proximity to waters.

# Block 12. Signatories for NH Department of Environmental Services Shoreland Permit Applications

#### **Applicant**

1. Eversource Energy Service Corporation, as duly authorized agent for

Northern Pass Transmission LLC

Robert P. Clarke

Director, Transmission Business Operations

780 North Commercial Street

Manchester, NH 03101

Tel: 781-441-8057

Robert.Clarke@eversource.com

By Robert P. Clarke, duly authorized

#### Owner and Applicant

2. Eversource Energy Service Corporation, as duly authorized agent for Public Service Company of New Hampshire d/b/a Eversource Energy

Kevin F. McCune

Supervisor, Environmental Affairs Licensing and Permitting

780 North Commercial Street

Manchester, NH 03101

Phone: 339-987-7020

Kevin.mccune@eversource.com

By Kevin F. McCune, duly authorized

# 2.0 Copy of Check for Application Fee

N/A, per RSA 483-B:5-b-III. Construction of public roads, public utility lines and associated structures and facilities, and public water access facilities shall be exempt from the permitting fees of paragraph I and the abutter notification requirements of paragraph IV-a.

### 3.0 Project Specific Work within the Protected Shoreland

The Northern Pass project area extends from the international border of Canada and the United States in Pittsburg, New Hampshire to Londonderry, New Hampshire. The Project will require work within the 250 foot protected shoreland of multiple waterbodies. This application includes information related to the work within an existing road ROW that intersects the protected shoreland of the Pemigewasset River in Woodstock, NH at four locations.

The Project seeks to take advantage of existing transmission and road ROW in order to minimize environmental and other impacts of the Project. The underground transmission line will be located on the shoulder of NH Route 3 and should not require limbing or trimming of vegetation for installation as this area is already a maintained ROW.

Underground cables will be installed using a combination of construction techniques including direct bury of the cable, installation of the cable in a duct bank, or the use of trenchless technology (directional boring and jack and bore). These techniques result in cables being buried at different depths. Direct-buried cable is installed approximately four feet below grade. The depth of duct banks varies, but these will have at least 2.5 feet of cover. Cables installed via jack and bore will be approximately 10 to 15 feet below grade. Directional boring sections will be installed at a maximum depth of approximately 65 feet below grade, and will be used primarily for crossing under large perennial streams and rivers. Exact depths may be adjusted during final design. Jack and bore and directional bore require installation pits for construction. Direct bury and duct bank installations require permanent splice boxes or vaults spaced approximately every 1,800 feet to allow for maintenance.

One Splice box will be installed along segments of the underground line in these areas to allow for repair and replacement as necessary over time to maintain integrity of the line. Erosion control will be installed along of the shore of the Pemigewasset River to prevent impacts. The NH Natural Heritage Bureau identified two element occurrences within a half mile of the Protected Shoreland of the Pemigewasset River in Woodstock, NH. NHB identified the S3 state ranked high-gradient rocky riverbank natural community and the S1S3 *Cicindela ancocisconensis* (a Tiger Beetle).

#### 3.1 Pemigewasset River Shoreland Site 1

The Pemigewasset River is part of the UG1 underground line of the Project. The Pemigewasset River within this shoreland buffer is classified as a fifth order river (R3UB1) with an unconsolidated bottom composed of cobble-gravel. The River varies in width along the underground corridor and at this location is approximately 60 feet in width.

The land in vicinity of the river at this site is NH Route 3, owned by the State of New Hampshire Department of Transportation, and the surrounding area is part of downtown Woodstock. The land in the vicinity of the underground line work includes residential and commercial properties bordering Route 3. An underground cable will be installed within 250 feet of the River and will be set in place by trenching within the town as shown in the project plans (Appendix A). Erosion control will be installed along the shoreline to prevent impacts as

Northern Pass 10

needed. For all work within the Shoreland Buffer, tree stumps will be left in place except where structure excavation is needed, and shrub and herbaceous vegetation will be left undisturbed wherever possible.

| Pemigewasset<br>River Shoreland<br>Site 1 | 0'-50' Waterfront<br>Buffer | 50'-150' Natural<br>Woodland Buffer | 150'-<br>250'Shoreland<br>Buffer | Total Impacts at<br>Shoreland<br>Crossing |
|---|-----------------------------|-------------------------------------|----------------------------------|---|
| Temporary                                 | 0 sq. ft.                   | 0 sq. ft.                           | 7,099 sq. ft.                    | 7,099 sq. ft.                             |
| Impacts                                   |                             |                                     | Trenching                        | Trenching                                 |
| Permanent                                 | 0 sq. ft.                   | 0 sq. ft.                           | 0 sq. ft.                        | 0 sq. ft.                                 |
| Impacts                                   |                             |                                     |                                  |   |
| <b>Pre-Construction</b>                   | 0 sq. ft.                   | 3,305 sq. ft. Route                 | 33,997 sq. ft. Route             | 37,302 sq. ft. Route                      |
| Impervious                                |                             | 3                                   | 3                                | 3   |
| Surface Area                              |                             |                                     |                                  |   |
| Post-Construction                         | 0 sq. ft.                   | 3,305 sq. ft. Route                 | 33,997 sq. ft. Route             | 37,302 sq. ft. Route                      |
| Impervious                                |                             | 3                                   | 3                                | 3   |
| Surface Area                              |                             |                                     |                                  |   |

#### 3.2 Pemigewasset River Shoreland Site 2

The Pemigewasset River is part of the UG1 underground line of the Project. The Pemigewasset River within this shoreland buffer is classified as a fifth order river (R3UB1) with an unconsolidated bottom composed of cobble-gravel. The River varies in width along the underground corridor and at this location is approximately 375 feet in width.

The land in vicinity of the river at this Shoreland site is NH Route 3 and is owned by the State of New Hampshire Department of Transportation. The land in the vicinity of the underground line work includes residential and commercial properties bordering Route 3. An underground cable will be installed within 250 feet of the River and will be set in place by trenching or directionally drilling under water bodies as needed within the town. One area in Woodstock will require the engineers to directionally drill under the Pemigewasset within the Shoreland Buffer as shown in the project plans (Appendix A). Erosion control will be installed along the shoreline to prevent impacts as needed. For all work within the Shoreland Buffer, tree stumps will be left in place except where structure excavation is needed, and shrub and herbaceous vegetation will be left undisturbed wherever possible.

| Pemigewasset<br>River Shoreland<br>Site 2 | 0′-50′ Waterfront<br>Buffer | 50'-150' Natural<br>Woodland Buffer | 150'-<br>250'Shoreland<br>Buffer | Total Impacts at<br>Shoreland<br>Crossing |
|---|-----------------------------|-------------------------------------|----------------------------------|---|
| Temporary                                 | 0 sq. ft.                   | 7,674 sq. ft.                       | 4,447 sq. ft.                    | 12,121 sq. ft.                            |
| Impacts                                   |                             | trenching                           | trenching, drilling              | trenching, drilling                       |
| Permanent                                 | 0 sq. ft.                   | 0 sq. ft.                           | 0 sq. ft.                        | 0 sq. ft.                                 |
| Impacts                                   |                             |                                     |                                  |   |
| <b>Pre-Construction</b>                   | 84 sq. ft.                  | 41,965 sq. ft.                      | 19,923 sq. ft.                   | 61,972 sq. ft.                            |
| Impervious                                |                             |                                     |                                  |   |
| Surface Area                              |                             |                                     |                                  |   |
| <b>Post-Construction</b>                  | 84 sq. ft.                  | 41,965 sq. ft.                      | 19,923 sq. ft.                   | 61,972 sq. ft.                            |
| Impervious                                |                             |                                     |                                  |   |
| Surface Area                              |                             |                                     |                                  |   |

#### 3.3 Pemigewasset River Shoreland Site 3

The Pemigewasset River is part of the UG1 underground line of the Project. The Pemigewasset River within this shoreland buffer is classified as a fifth order river (R3UB1) with an unconsolidated bottom composed of cobble-gravel. The River varies in width along the underground corridor and at this location is approximately 225 feet in width.

The land in vicinity of the river at this Shoreland site is NH Route 3 and is owned by the State of New Hampshire Department of Transportation. The land in the vicinity of the underground line work includes residential and commercial properties bordering Route 3. An underground cable will be installed within 250 feet of the River and will be set in place by trenching within the town as shown in the project plans (Attachment A). Erosion control will be installed along the shoreline to prevent impacts as needed. For all work within the Shoreland Buffer, tree stumps will be left in place except where structure excavation is needed, and shrub and herbaceous vegetation will be left undisturbed wherever possible.

| Pemigewasset<br>River Shoreland<br>Site 3 | 0'-50' Waterfront<br>Buffer | 50'-150' Natural<br>Woodland Buffer | 150'-<br>250'Shoreland<br>Buffer | Total Impacts at<br>Shoreland<br>Crossing |
|---|-----------------------------|-------------------------------------|----------------------------------|---|
| Temporary                                 | 0 sq. ft.                   | 0 sq. ft.                           | 3,282 sq. ft.                    | 3,282 sq. ft.                             |
| Impacts                                   |                             |                                     | trenching                        | trenching                                 |
| Permanent                                 | 0 sq. ft.                   | 0 sq. ft.                           | 0 sq. ft.                        | 0 sq. ft.                                 |
| Impacts                                   |                             |                                     |                                  |   |
| Pre-Construction                          | 0 sq. ft.                   | 0 sq. ft.                           | 10,697 sq. ft.                   | 10,697 sq. ft.                            |
| Impervious                                |                             |                                     |                                  |   |
| Surface Area                              |                             |                                     |                                  |   |
| Post-Construction                         | 0 sq. ft.                   | 0 sq. ft.                           | 10,697 sq. ft.                   | 10,697 sq. ft.                            |
| Impervious                                |                             |                                     |                                  |   |
| Surface Area                              |                             |                                     |                                  |   |

#### 3.4 Pemigewasset River Shoreland Site 4

The Pemigewasset River is part of the UG1 underground line of the Project. The Pemigewasset River within this Shoreland buffer is classified as a fifth order river (R3UB1) with an unconsolidated bottom composed of cobble-gravel. The River varies in width along the underground corridor and at this location is approximately 195 feet in width.

The land in vicinity of the river at this Shoreland site is NH Route 3 and is owned by the State of New Hampshire Department of Transportation. The land in the vicinity of the underground line work includes residential and commercial properties bordering Route 3. An underground cable will be installed within 250 feet of the River and will be set in place by trenching within the town as shown in the project plans (Attachment A). Erosion control will be installed along the shoreline to prevent impacts as needed. For all work within the Shoreland Buffer, tree stumps will be left in place except where structure excavation is needed, and shrub and herbaceous vegetation will be left undisturbed wherever possible.

| Pemigewasset<br>River Shoreland<br>Site 4 | 0'-50' Waterfront<br>Buffer | 50'-150' Natural<br>Woodland Buffer | 150'-<br>250'Shoreland<br>Buffer | Total Impacts at<br>Shoreland<br>Crossing |
|---|-----------------------------|-------------------------------------|----------------------------------|---|
| Temporary                                 | 0 sq. ft.                   | 0 sq. ft.                           | 5,750 sq. ft.                    | 5,750 sq. ft.                             |
| Impacts                                   |                             |                                     | trenching                        | trenching                                 |
| Permanent                                 | 0 sq. ft.                   | 0 sq. ft.                           | 0 sq. ft.                        | 0 sq. ft.                                 |
| Impacts                                   |                             |                                     |                                  |   |
| <b>Pre-Construction</b>                   | 0 sq. ft.                   | 0 sq. ft.                           | 24,466 sq. ft.                   | 24,466 sq. ft.                            |
| Impervious                                |                             |                                     |                                  |   |
| Surface Area                              |                             |                                     |                                  |   |
| <b>Post-Construction</b>                  | 0 sq. ft.                   | 0 sq. ft.                           | 24,466 sq. ft.                   | 24,466 sq. ft.                            |
| Impervious                                |                             |                                     |                                  |   |
| Surface Area                              |                             |                                     |                                  |   |

#### 3.5 Pemigewasset River Shoreland Site 5

The Pemigewasset River is part of the UG1 underground line of the Project. The Pemigewasset River within this Shoreland buffer is classified as a fifth order river (R3UB1) with an unconsolidated bottom composed of cobble-gravel. The River varies in width along the underground corridor and at this location is approximately 195 feet in width.

The land in vicinity of the river at this Shoreland site is NH Route 3 and is owned by the State of New Hampshire Department of Transportation. The land in the vicinity of the underground line work includes residential and commercial properties bordering Route 3. An underground cable will be installed within 250 feet of the River and will be set in place by trenching within the town as shown in the project plans (Sheet xx, Attachment A). Erosion control will be installed along the shoreline to prevent impacts as needed. For all work within the Shoreland Buffer, tree stumps will be left in place except where structure excavation is needed, and shrub and herbaceous vegetation will be left undisturbed wherever possible.

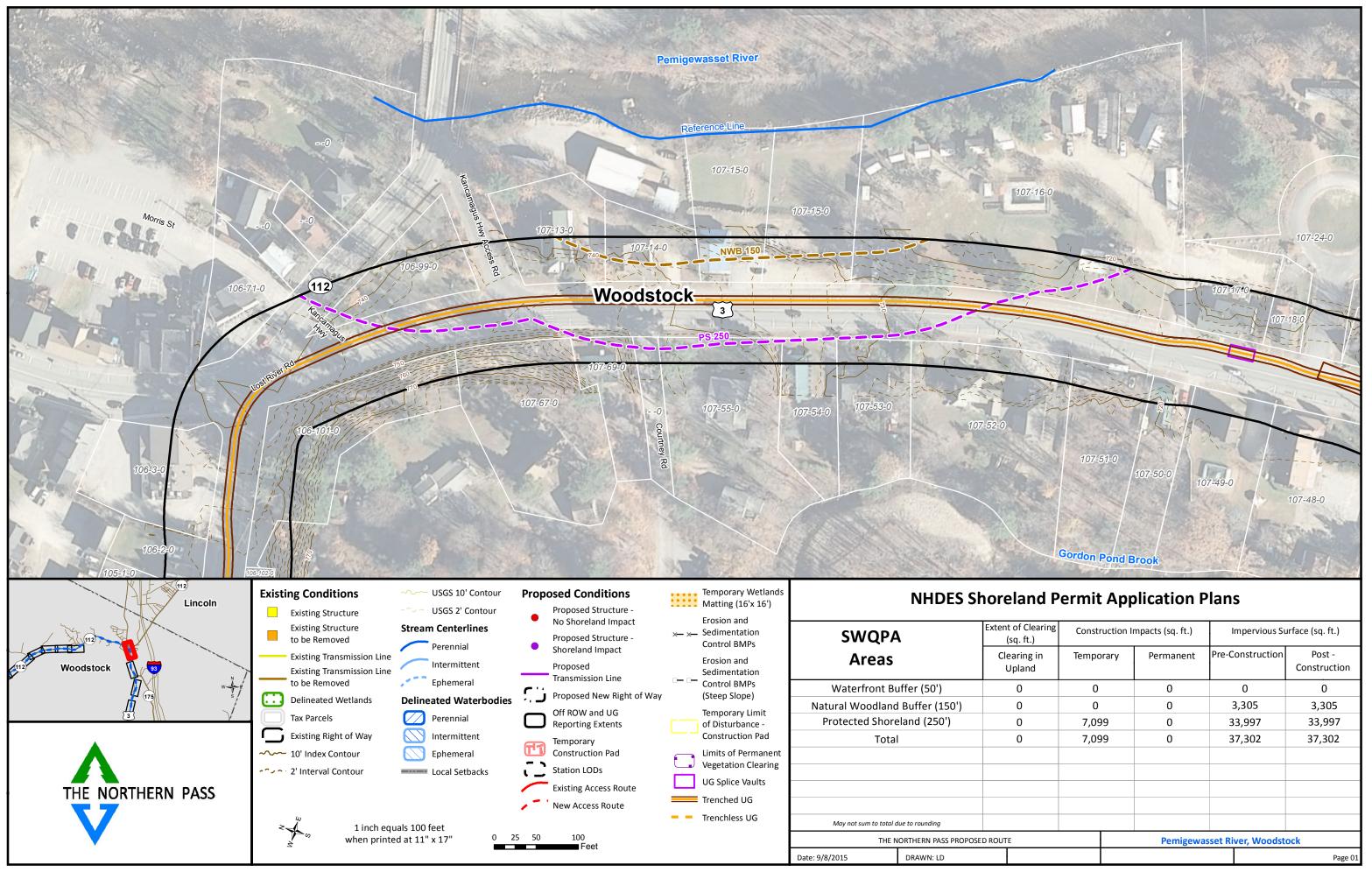
| Pemigewasset<br>River Shoreland<br>Site 4 | 0'-50' Waterfront<br>Buffer | 50'-150' Natural<br>Woodland Buffer | 150'-<br>250'Shoreland<br>Buffer | Total Impacts at<br>Shoreland<br>Crossing |
|---|-----------------------------|-------------------------------------|----------------------------------|---|
| Temporary                                 | 0 sq. ft.                   | 0 sq. ft.                           | 10,537 sq. ft.                   | 10,537 sq. ft.                            |
| Impacts                                   |                             |                                     | trenching                        | trenching                                 |
| Permanent                                 | 0 sq. ft.                   | 0 sq. ft.                           | 0 sq. ft.                        | 0 sq. ft.                                 |
| Impacts                                   |                             |                                     |                                  |   |
| <b>Pre-Construction</b>                   | 0 sq. ft.                   | 0 sq. ft.                           | 22,413 sq. ft.                   | 22,413 sq. ft.                            |
| Impervious                                |                             |                                     |                                  |   |
| Surface Area                              |                             |                                     |                                  |   |
| Post-Construction                         | 0 sq. ft.                   | 0 sq. ft.                           | 22,413 sq. ft.                   | 22,413 sq. ft.                            |
| Impervious                                |                             |                                     |                                  |   |
| Surface Area                              |                             |                                     |                                  |   |

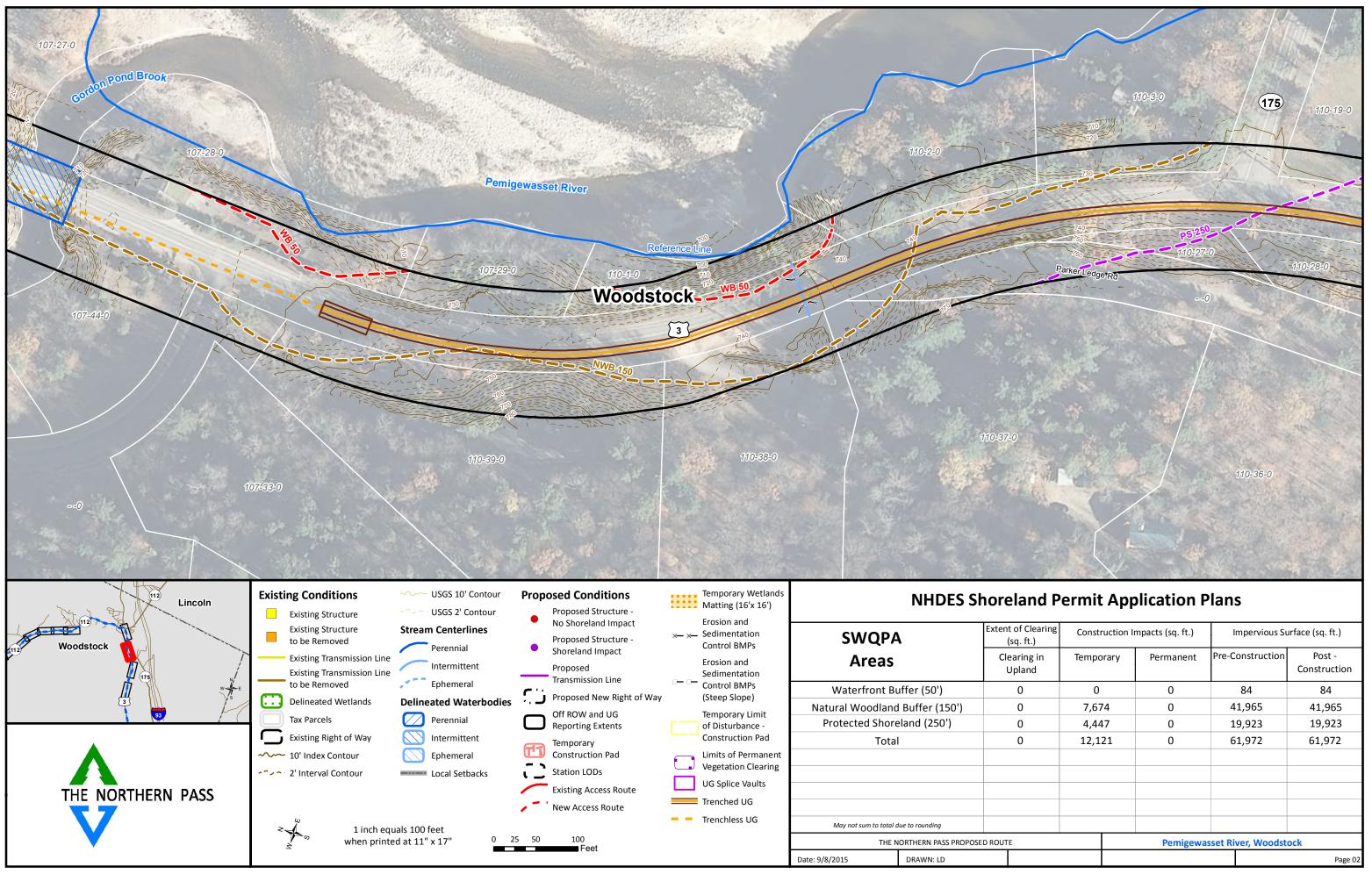
#### 3.6 Pemigewasset River Shoreland Summary

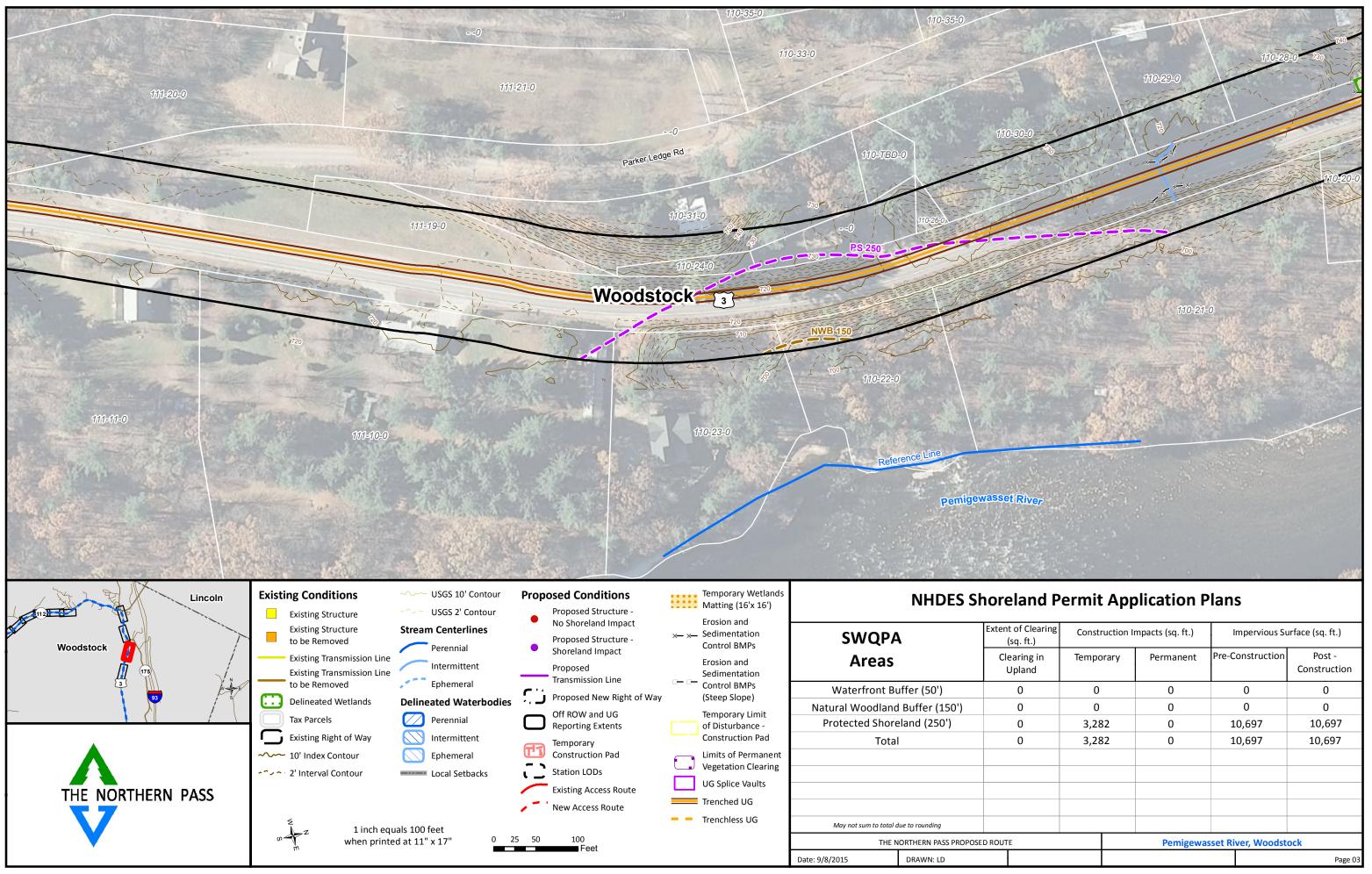
The land in vicinity of the river is NH Route 3 and is owned by the State of New Hampshire Department of Transportation. The land in the vicinity of the underground line work includes residential and commercial properties bordering Route 3. An underground cable will be installed within 250 feet of the River and will be set in place by trenching or directionally drilling under water bodies as needed within the town. One area in Woodstock will require the engineers to directionally drill under the Pemigewasset within the Shoreland Buffer (Sheet 33) as shown in the project plans (Attachment A). Erosion control will be installed along the shoreline to prevent impacts as needed. For all work within the Shoreland Buffer, tree stumps will be left in place except where structure excavation is needed, and shrub and herbaceous vegetation will be left undisturbed wherever possible.

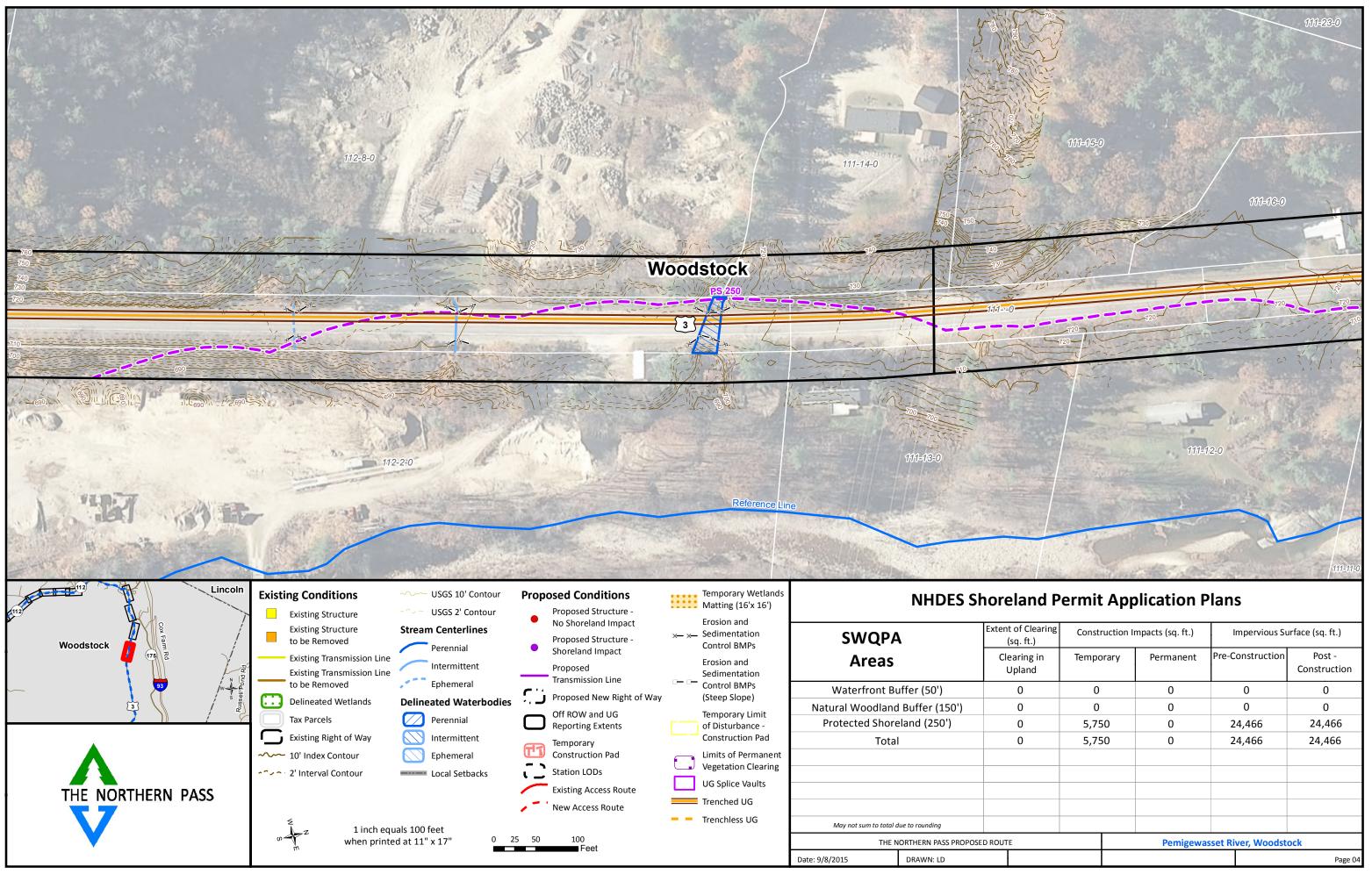
| Pemigewasset<br>River Shoreland<br>Summary | 0'-50' Waterfront<br>Buffer | 50'-150' Natural<br>Woodland Buffer | 150'-<br>250'Shoreland<br>Buffer | Total Impacts at<br>Shoreland<br>Crossing |
|--|-----------------------------|-------------------------------------|----------------------------------|---|
| Temporary                                  | 0 sq. ft.                   | 7,674 sq. ft.                       | 31,115 sq. ft.                   | 38,789 sq. ft.                            |
| Impacts                                    |                             | trenching                           | trenching                        | trenching                                 |
| Permanent                                  | 0 sq. ft.                   | 0 sq. ft.                           | 0 sq. ft.                        | 0 sq. ft.                                 |
| Impacts                                    |                             |                                     |                                  |   |
| <b>Pre-Construction</b>                    | 84 sq. ft.                  | 45,270 sq. ft.                      | 111,496 sq. ft.                  | 156,850 sq. ft.                           |
| Impervious                                 |                             |                                     |                                  |   |
| Surface Area                               |                             |                                     |                                  |   |
| <b>Post-Construction</b>                   | 84 sq. ft.                  | 45,270 sq. ft.                      | 111,496 sq. ft.                  | 156,850 sq. ft.                           |
| Impervious                                 |                             |                                     |                                  |   |
| Surface Area                               |                             |                                     |                                  |   |

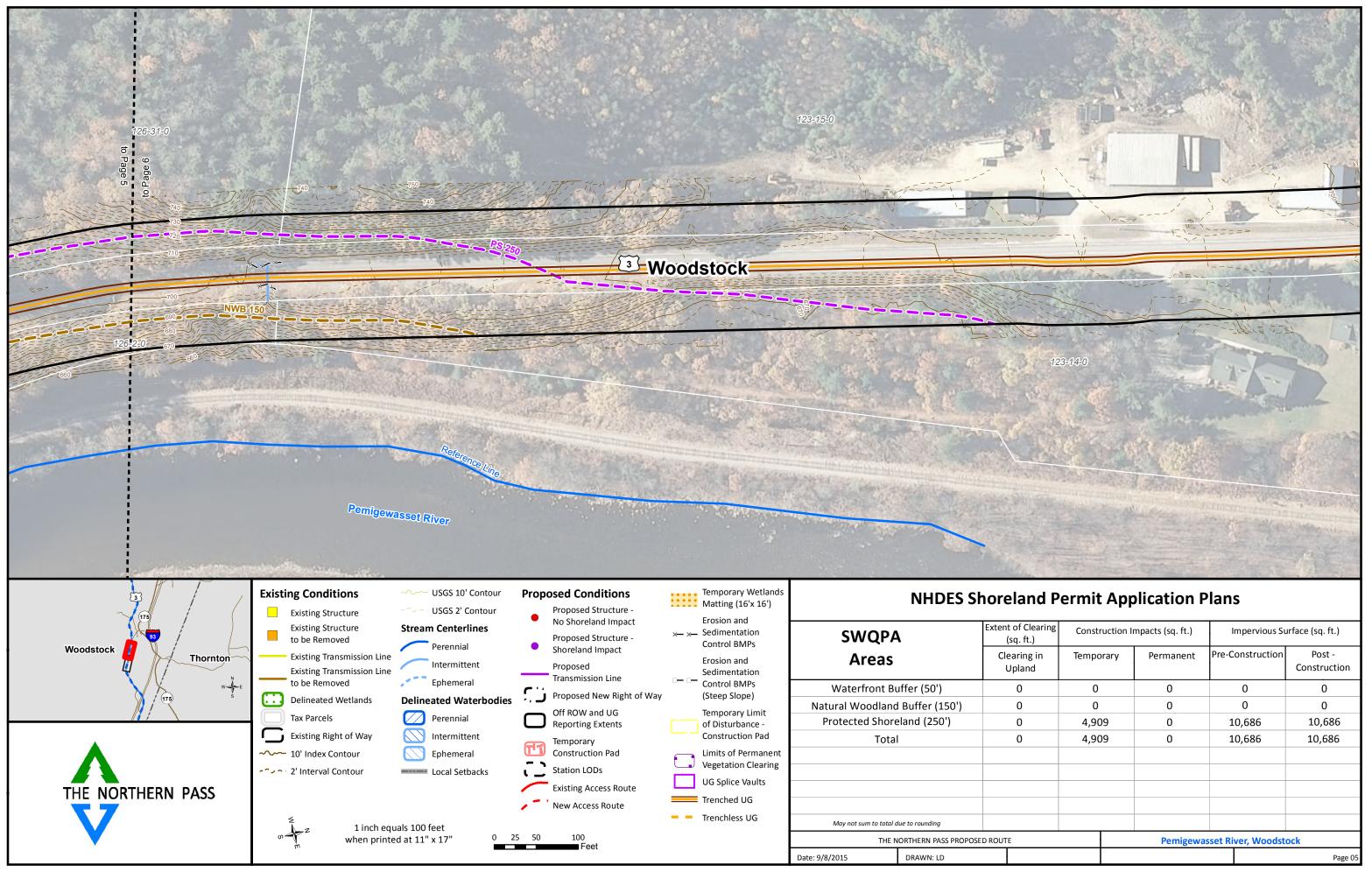
# Appendix A Plan Set

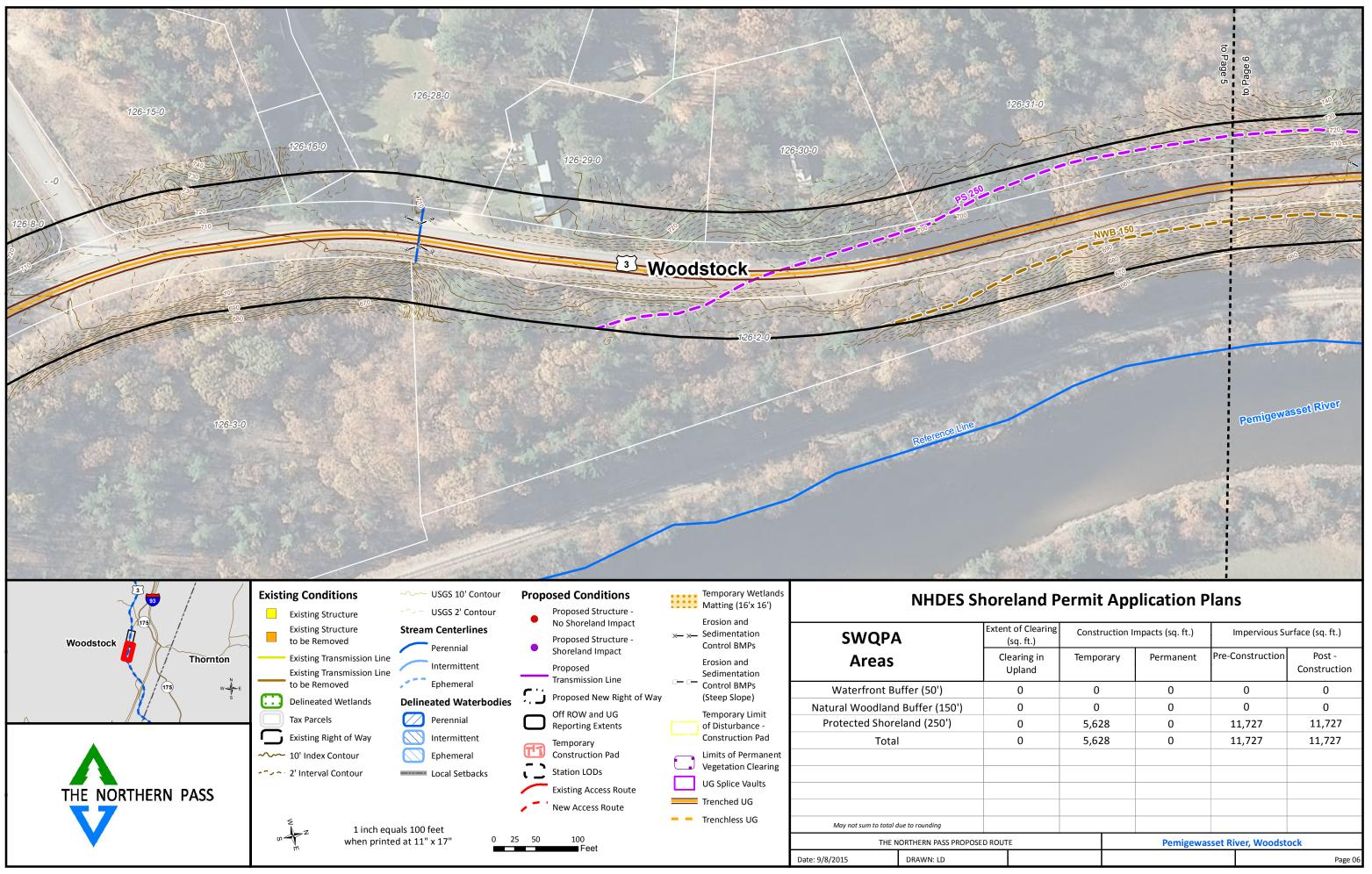








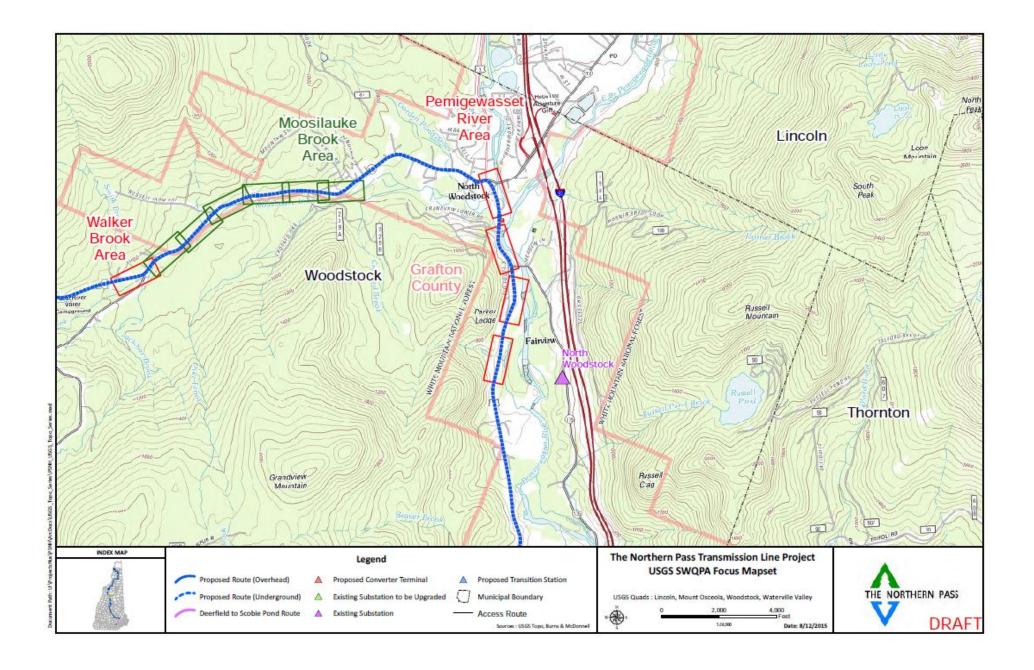


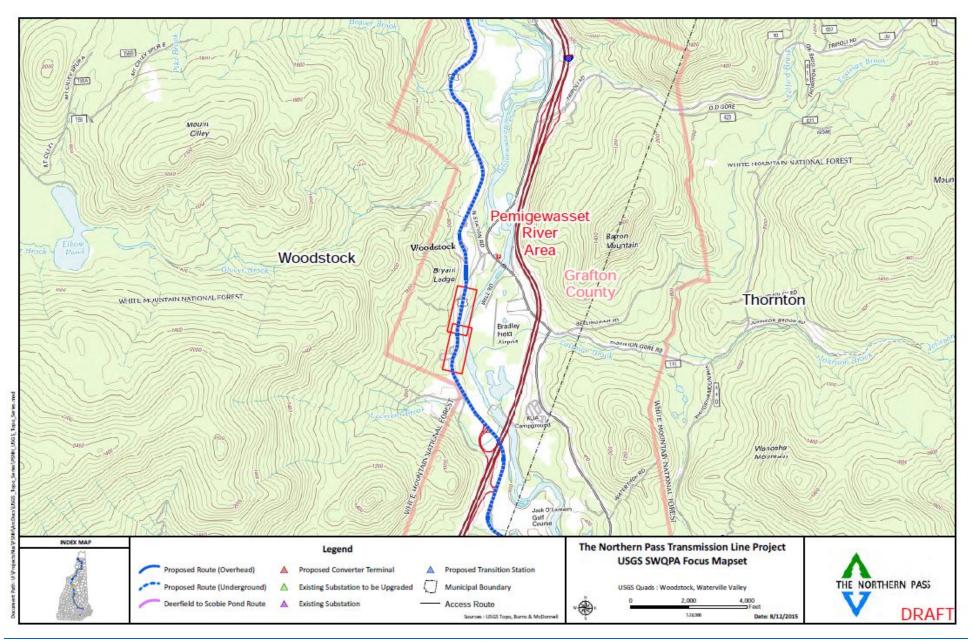


# Appendix B Property Deeds

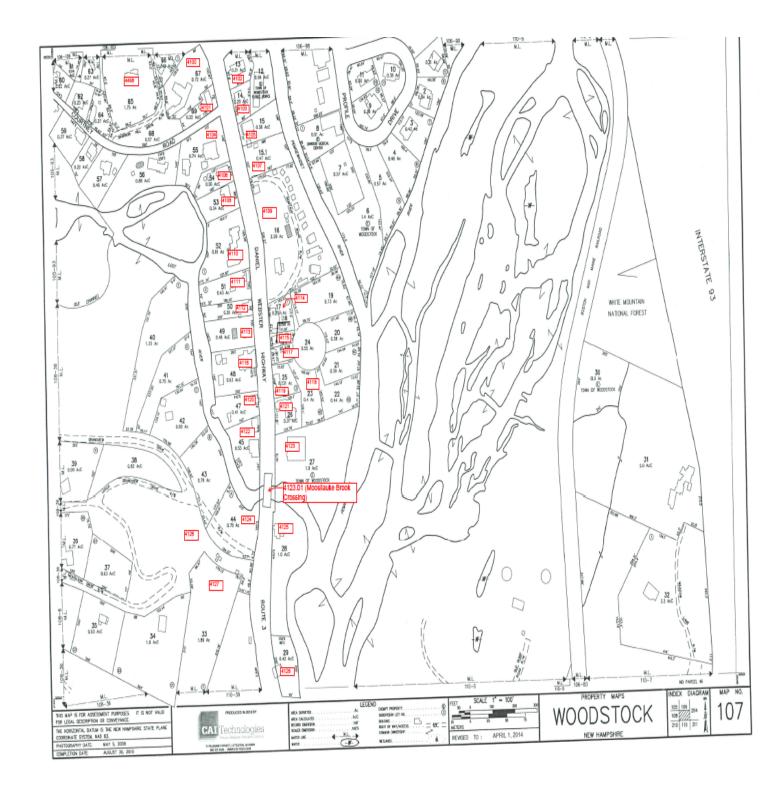
Per recommendation of the NH Department of Environmental Services Shoreland Bureau, legal documents associated with easements and other property rights, including deeds, are being submitted separately via CD to NHDES. NPT will install underground transmission facilities pursuant to authority provided under RSA 231:160, et seq. for use of public highways for various utility purposes.

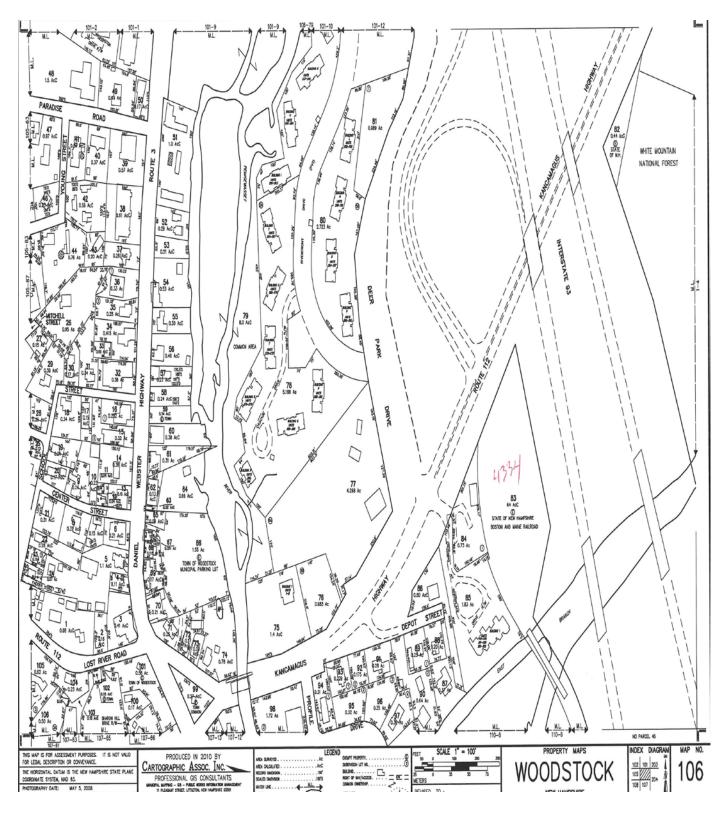
# Appendix C USGS Locus Maps

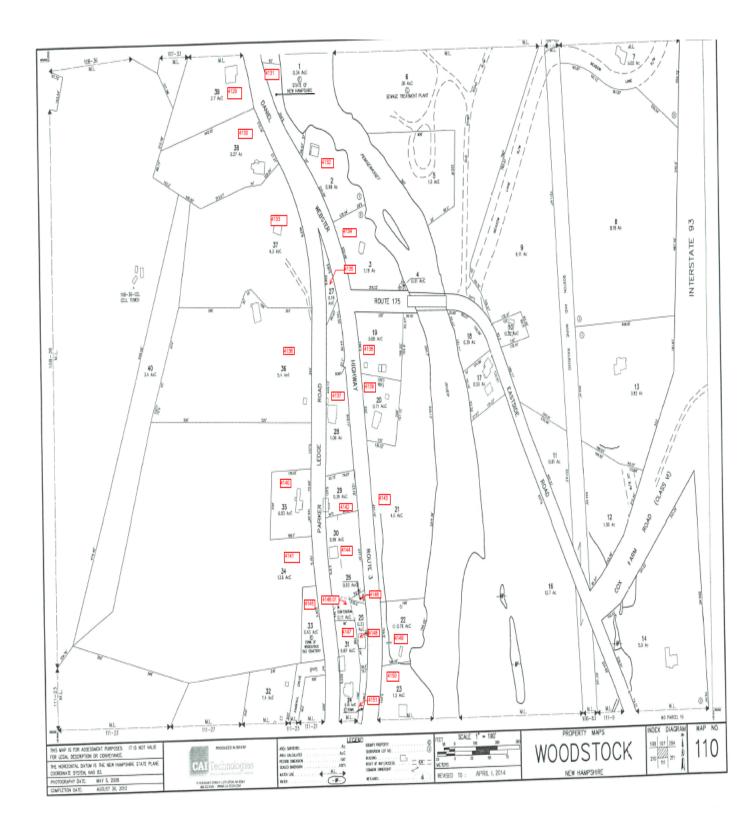


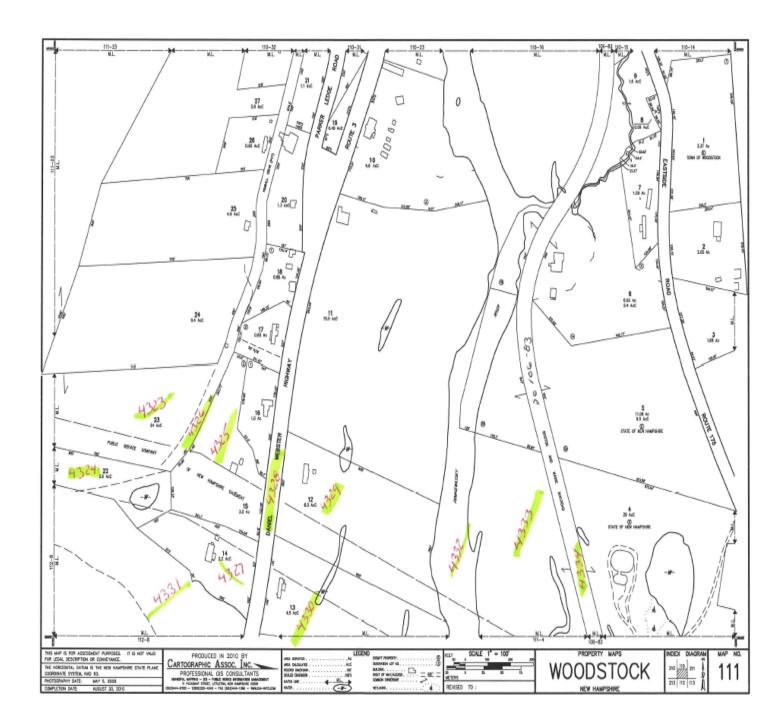


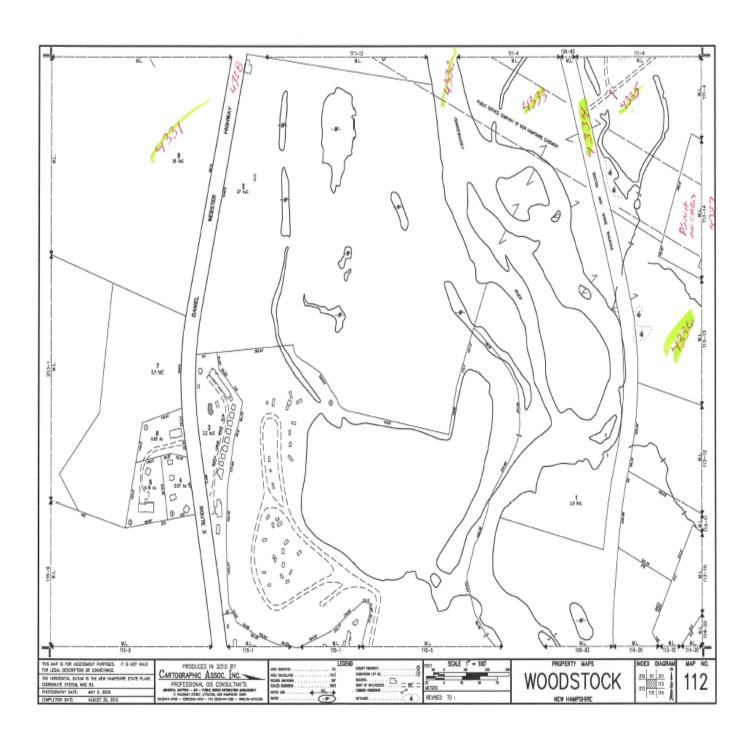
# Appendix D NH Tax Maps

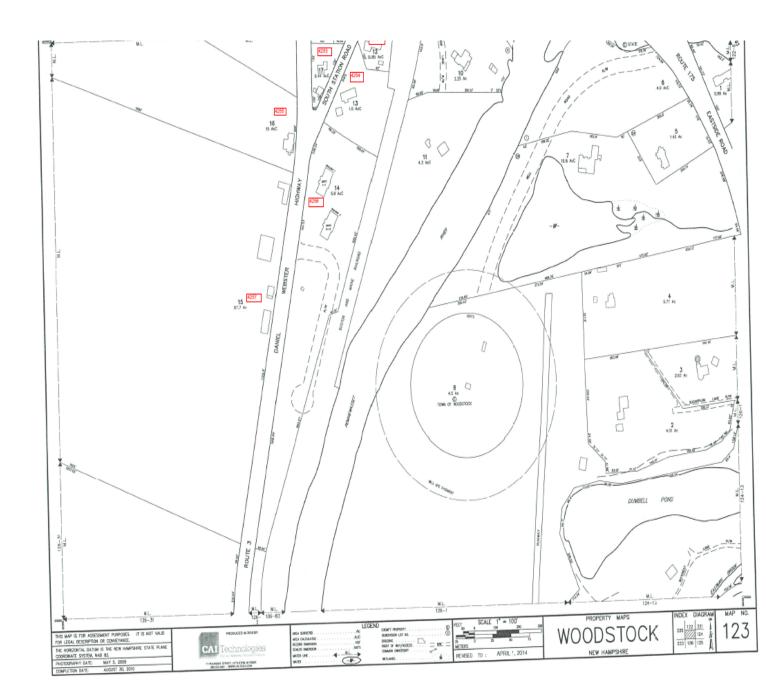


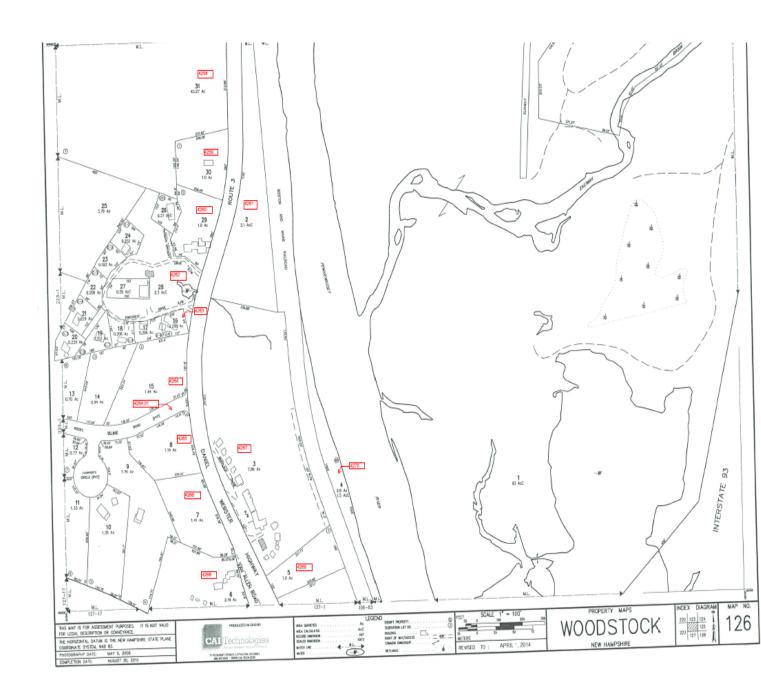












# Appendix E Representative Photos



Photo 1. The NPT line follows Route 112 and intersects the protected Shoreland Buffer of the Pemigewasset River in Woodstock, NH as part of the Underground Line (UG1). The underground cable will trenched in this portion of the Protected Shoreland within the Road ROW. Photo 1 shows Route 3 as shown on page 1 of the Project Plan Set (Appendix A) facing south and shows the church on Parcel 107-13-0.



Photo 2. The NPT line follows Route 3 and intersects the protected Shoreland Buffer of the Pemigewasset River in Woodstock, NH as part of the Underground Line (UG1). The underground cable will be directionally-drilled within the Protected Shoreland. Photo 2 shows Route 3 as shown on page 4 of the Project Plan Set (Appendix A) facing south and shows the house on Parcel 112-2-0.



Photo 3. The NPT line follows Route 112 and intersects the protected Shoreland Buffer of the Pemigewasset River in Woodstock, NH as part of the Underground Line (UG1). The underground cable will be directionally-drilled within the Protected Shoreland. Photo shows Route 3 as shown on 5 of the Project Plan Set (Appendix A) facing south and shows the structure on Parcel 123-15-0.

Appendix F NHB Report and Correspondence



#### NEW HAMPSHIRE NATURAL HERITAGE BUREAU

DRED - DIVISION OF FORESTS & LANDS
PO BOX | 856 -- | 72 PEMBROKE ROAD, CONCORD, NH 03302-| 856
(603) 27| -22| 4

To: William McCloy, Normandeau Associates, Inc.

From: Melissa Coppola, Environmental Information Specialist

Date: March 30, 2015

Subject: Northern Pass Database Request (NHB15-0611)

This memo is to confirm that Normandeau Associates have coordinated with the NH Natural Heritage Bureau (NHB) regarding information on known locations of rare species and exemplary natural communities for the Northern Pass project.

Due to the size and scope of the project, NHB is not providing a typical NHB review memo for permitting. Instead, this memo summarizes information provided by NHB to date, and notes that specific recommendations should be developed after project plans are close to being finalized:

- Normandeau was provided with digital data for the project under a data-sharing agreement dated 1/16/15 (397 digital NHB records). This is the sixth data-sharing agreement Normandeau has requested for this project: others were provided in 2010, 2011, 2012, 2013, and 2014 for project planning and ecological impact studies. NHB has also reviewed work plans associated with plant and community survey methodology on several occasions, including a meeting on 6/18/10.
- At the request of NHB, Normandeau consultants have conducted rare plant and natural community surveys within the proposed project area. If the project area extends to new locations, or new concerns are identified, additional surveys may be requested.
- As the project progresses and impacts areas are further clarified, Normandeau should set up a meeting with NHB staff to discuss avoiding and minimizing impacts to rare plant species and exemplary natural communities.



### New Hampshire Natural Heritage Bureau

DRED - Division of Forests & Lands 172 Pembroke Road, Concord, NH 03301 (603) 271-2214

To: Lee Carbonneau, Normandeau Associates, Inc.

From: Amy Lamb, Ecological Information Specialist

Date: October 5, 2015

Subject: Northern Pass Pre-Application Meeting Summary (NHB15-0611)

On March 30, 2015, Melissa Coppola issued a NH Natural Heritage Bureau (NHB) memo (NHB15-0611) to Normandeau Associates, Inc. that listed Threatened and Endangered species populations that will potentially be impacted by the proposed Northern Pass project. Since that date, NHB and Normandeau have met on several occasions to discuss project impacts, avoidance and minimization measures, route changes, and the remaining survey work to be completed.

This memo summarizes the most recent pre-application meeting, which took place on October 1, 2015. This meeting was held in order to review current rare plant and natural community information, refine avoidance and minimization measures, and determine additional steps to be taken in preparation for permit application submittal at the end of October, 2015.

The meeting resulted in the following determinations regarding data and documentation:

- NHB last provided digital data to Normandeau in February of 2015, and will
  continue to provide any new data (i.e., new plant surveys within the project area)
  as they become available.
- Normandeau will provide the final reports on Vegetation and Threatened and Endangered species to NHB upon completion.
- Normandeau will provide NHB a table summarizing the anticipated impacts to all rare plants and exemplary natural communities within the selected corridor. This table will distinguish between the different types of impacts and their resulting (long-term) effects on rare plants and exemplary natural communities.

- Any reports that are filed as publicly available information will not contain specific locations of rare plants; this information will be restricted to an appendix and treated as confidential, and will be removed from publicly available reports.
- The rare plant avoidance and minimization measures that the applicant has
  proposed were developed in consultation with NHB. NHB will provide additional
  species-specific avoidance and minimization guidance during the permit review
  period. This will consist of a table with prioritized actions for each species.
- As any new areas for access, staging, etc. become known, Normandesu (or any subsequent contractor) will conduct rare plant surveys in the areas and provide the results to NHB.
- Normandeau identified Lee Carbonneau as the point person for future Natural Heritage communications, and the NHB point person will be Amy Lamb.

The meeting also resulted in the determination of several measures to avoid and minimize impacts to Natural Heritage resources during construction:

- Meetings will be held among contractors, environmental monitors, and inspectors, prior to contractors working in or near areas where listed plants are located, that will include making contractors aware of sensitive areas and the appropriate best management practices for each area.
- Plans that are provided to contractors will contain a color-coded bar indicating the extent of a sensitive area; no further information will be revealed on such plans.
- Normandeau (or any subsequent contractor) will have "Sensitive Area" signs installed around rare plant populations and exemplary natural communities to alert work crews to their presence.
- It was agreed that it is critical that environmental monitors have the power and authority to stop work immediately if they become aware that any action will violate agreed-upon BMPs.
- NHB will make a recommendation to NHDES regarding qualifications of Environmental Monitors, to be included as a permit condition.

NHB and Normandesu will continue to communicate as the project progresses, in particular as any route changes or new impacts to rare plants become known.

Northern Pass has coordinated with the NH Natural Heritage Bureau (NH NHB) since 2010 to obtain information on known locations of rare species and exemplary natural communities within a half mile of the Northern Pass Project. Normandeau Associates was provided with a digital data set for known locations. Based on the information provided by NHNHB and additional desktop research, Normandeau Associates prepared and implemented a work plan for field surveys for rare plant and natural community surveys. This work plan was approved by the NH NHB.

Within a half mile of the protected Shoreland of the Pemigewasset River in Woodstock, NH there are two element occurrences identified by NHB. NHB identified two elemental occurrences within the vicinity of Moosilauke Brook in Woodstock, NH. NHB identified the S3 state ranked high-gradient rocky riverbank natural community and the S1S3 *Cicindela ancocisconensis* (a Tiger Beetle).

- NHB identified two element occurrences within the vicinity of the Pemigewasset River at the first shoreland buffer in Woodstock, NH. NHB identified the S3 state ranked high-gradient rocky riverbank natural community and the S1S3 *Cicindela ancocisconensis* (a Tiger Beetle) (Sheet xx, Attachment A).
- NHB identified the same two element occurrences within the vicinity of the Pemigewasset River at the second shoreland buffer in Woodstock, NH. NHB identified the S3 state ranked high-gradient rocky riverbank natural community and the S1S3 *Cicindela ancocisconensis* (a Tiger Beetle) (Sheet xx, Attachment A).
- NHB identified the same one element occurrence within a half mile of the third shoreland site in Woodstock, NH. NHB identified the S1S3 *Cicindela ancocisconensis* (a Tiger Beetle) (Sheet xx, Attachment A).
- No NHB element occurrences are present within a half mile of the fourth shoreland buffer impact (Sheet xx, Attachment A).

## Appendix G Certified Mail Notifications and Receipts

N/A for abutters (Waiver for public utility lines exempt per RSA-483-B:5-b, IV (A))

#### Via Certified Mail

October 14, 2015

Town of Woodstock 165 Lost River Rd. Woodstock, NH 03262

#### Re: Shoreland Permit Application – The Northern Pass Project

Dear Sir or Madam:

Enclosed please find a copy of the Shoreland Permit Application package that will be filed with the NH Department of Environmental Services (DES) and New Hampshire Site Evaluation Committee for the Northern Pass Project. The project includes work in or around rivers, lakes, streams ponds, etc. Under state law, it is a requirement to provide the municipalities and Local River Advisory Committees having jurisdiction over these waterbodies with a copy of the shoreland application by Certified mail, for review and comment. Please find attached a copy of the application, which proposes work within the protected shoreland of a public water or Designated River in your regulatory area.

Sincerely,

Lee Carbonneau

Normandeau Associates, Inc.

Leo E Calbonnean

As agent for Northern Pass Transmission, LLC.

#### Via Certified Mail

October 14, 2015

Pemigewasset River Local Advisory Committee Max Stamp, Chair 2110 Summer St. Bristol, NH 03222

#### Re: Shoreland Permit Application - The Northern Pass Project

Dear Mr. Stamp:

Enclosed please find a copy of the Shoreland Permit Application package that will be filed with the NH Department of Environmental Services (DES) and New Hampshire Site Evaluation Committee for the Northern Pass Project. The project includes work in or around rivers, lakes, streams ponds, etc. Under state law, it is a requirement to provide the municipalities and Local River Advisory Committees having jurisdiction over these waterbodies with a copy of the shoreland application by Certified mail, for review and comment. Please find attached a copy of the application, which proposes work within the protected shoreland of a public water or Designated River in your regulatory area.

Sincerely,

Lee Carbonneau

Normandeau Associates, Inc.

Lee E. Calonnear

As agent for Northern Pass Transmission, LLC.