

V191 Line Structure Replacement Project
Bedford and Merrimack, New Hampshire

ALTERATION OF TERRAIN PERMIT

Eversource Energy
13 Legends Drive
Hooksett, New Hampshire

April 2022

Tighe&Bond

145034115A
April 11, 2022

Ridgley Mauck, P.E.
State of New Hampshire
Department of Environmental Services
Alteration of Terrain Bureau
29 Hazen Drive, PO Box 95
Concord, New Hampshire 03302-0095

Re: Alteration of Terrain Permit Application
Line V191 Structure Replacement Project
Bedford and Merrimack, New Hampshire

Dear Mr. Mauck:

On behalf of Eversource Energy Service Company, we are pleased to submit the following information relative to an Alteration of Terrain Application for the above referenced project:

- One (1) check made payable to Treasurer-State of NH in the amount of \$8,125.00;
- Alteration of Terrain Application and Checklist; and
- One (1) set of Site Plans dated March 31, 2022.

The proposed project is located on the Eversource Energy (Eversource) Line V191 Right-of-Way (ROW) in Bedford and Merrimack, New Hampshire. The transmission line runs along the Merrimack River from the Bedford Substation to the North Merrimack Substation. The ROW and access roads are surrounded by wooded areas, residential and commercial buildings, and bordered by the Springfield Terminal Railway, which lies between the ROW and the Merrimack River. The proposed project will consist of the replacement of fifty-one (51) structures, and the installation of one (1) new structure on the V191 Line. These old, wooden utility structures are to be replaced with new, steel structures due to their age and condition. In addition to the structure replacements, existing upland access roads and areas for the work pads will need to be regraded. Wetland and other sensitive areas are to be protected with timber matting along proposed access and surrounding the structures to be replaced.

Impacts to the existing terrain will result from the creation of approximately 100-foot by 100-foot work pads and 16-foot-wide access roads, totaling **560,498** square feet (SF) of disturbance. A total of 334,276 SF of these impacts will occur within the Protected Shoreland (250-foot Buffer) of the Merrimack River due to the replacement of forty-three (43) structures and the installation of one (1) new structure.



We trust the enclosed information addresses the requirements for the Alteration of Terrain application. If you have any questions or require any additional information, please feel free to contact us at (413) 875-1305 or at KLWilkins@tighebond.com.

Very truly yours,

TIGHE & BOND, INC.



Katherine Wilkins
Project Manager

Enclosures

Copy: Ashley Ruprecht (w/encl)

J:\E\E5034 Eversource L&P 2019\115A - V191 LWS Replacements\Permitting\AoT\V191 Aot Form and Attachments
2022.03.02\2-V191-AoT-Cover Letter.docx

Alteration of Terrain Permit Application Form and Checklist

Copy of Check

USGS Topographic Map

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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: Eversource Energy Service Company	Contact Name: Ashley Ruprecht
Email: Ashley.Ruprecht@Eversource.com	Daytime Telephone: 603-634-2992
Mailing Address: 13 Legends Drive	
Town/City: Hooksett	State: NH Zip Code: 03106

2. APPLICANT'S AGENT INFORMATION If none, check here:

Business Name: Tighe & Bond, Inc.	Contact Name: Kate Wilkins
Email: KLWilkins@tighebond.com	Daytime Telephone: 413-875-1305
Address: 53 Southampton Road	
Town/City: Westfield	State: MA Zip Code: 01085

3. PROPERTY OWNER INFORMATION (IF DIFFERENT FROM APPLICANT)

Applicant Name:	Contact Name:
Email:	Daytime Telephone:
Mailing Address:	
Town/City:	State: Zip Code:

4. PROPERTY OWNER'S AGENT INFORMATION If none, check here:

Business Name:	Contact Name:
Email:	Daytime Telephone:
Address:	
Town/City:	State: Zip Code:

5. CONSULTANT INFORMATION If none, check here:

Engineering Firm: Tighe & Bond, Inc.	Contact Name: Kate Wilkins
Email: KLWilkins@tighebond.com	Daytime Telephone: 413-875-1305
Address: 53 Southampton Road	
Town/City: Westfield	State: MA Zip Code: 01085

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: V191 Structure Replacement Project			
Street/Road Address: Existing Transmission Line Right-of-Way			
Town/City: Bedford and Merrimack		County: Hillsborough	
Tax Map: N/A	Block: N/A	Lot Number: N/A	Unit: N/A
Location Coordinates: 42°55'38.1"N 71°27'1		<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 type="checkbox"/> Yes	<input type="checkbox"/> No N/A
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: <u>0</u> cubic feet within the 100-year floodplain		Work within the 100-year floodplain will be performed to result in no net cut or fill	
Fill volume: <u>0</u> cubic feet within the 100-year floodplain			
<input checked="" type="checkbox"/> Project IS within ¼ mile of a designated river		Name of River: Merrimack River	
<input 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")			
Eversource Energy has determined that 51 wooden utility structures on the V191 Line in Bedford and Merrimack need to be replaced with steel structures due to their overall age and condition. These include Structures 1-54, except for Structures 17, 18, and 47. An additional structure (Structure 8.5) will also be added between existing Structures 8 and 9, for a total of 52 structure installations.			
9. IF APPLICABLE, DESCRIBE ANY WORK STARTED PRIOR TO RECEIVING PERMIT			
Some work may begin in areas that that are not under AOT or other regulatory agency. Eversource will not conduct work in any jurisdictional areas that require permitting until all permits have been obtained.			

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: 4/11/22
(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: 4/11/22
(Attach proof of delivery)

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

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

E. Total area of disturbance: 560,498 square feet **The area of disturbance was calculated based on the total length of access road x 16 feet typ. width plus the work pad areas**

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

G. Total undisturbed cover: 0 square feet

H. Number of lots proposed: N/A

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

J. Name(s) of receiving water(s): N/A

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 checked="" type="checkbox"/>	Permit number: 2022-0822 & TBD
3. Shoreland Permit	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input checked="" type="checkbox"/>	Permit number: TBD
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 attached

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." PATTEN BROOK: ALUMINUM, ECOLI; MERRIMACK RIVER: ALUMINUM, PHOSPHORUS, PH, ECOLI

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

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.

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

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

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

LOOSE:

- 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.nhdfi.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): **(See attached waiver request)**
des.nh.gov/organization/divisions/water/aot/documents/bmp_worksh.xls
- N/A BMP worksheets (one worksheet for each treatment system): **(See attached waiver request)**
des.nh.gov/organization/divisions/water/aot/documents/bmp_worksh.xls
- N/A Drainage analysis, stamped by a professional engineer (see Application Checklist for details) **(See attached waiver request)**
- N/A Riprap apron or other energy dissipation or stability calculations
- N/A Site Specific Soil Survey report, stamped and with a certification note prepared by the soil scientist that the survey was done in accordance with the Site Specific Soil Mapping standards, *Site-Specific Soil Mapping Standards for NH & VT, SSSNNE Special Publication No. 3*. **(See attached waiver request)**
- N/A Infiltration Feasibility Report (example online) [Env-Wq 1503.08(f)(3)] **(See attached waiver request)**
- N/A Registration and Notification Form for Storm Water Infiltration to Groundwater (UIC Registration-for underground systems only, including drywells and trenches):
http://des.nh.gov/organization/divisions/water/dwgb/dwssp/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) **(See attached waiver request)**
- N/A Pre & post-development drainage area plans on 34 - 36" by 22 - 24" white paper (see Application Checklist for details) **(See attached waiver request)**

100-YEAR FLOODPLAIN REPORT:

- All information required in Env-Wq 1503.09, submitted as a separate report. **The access work within the 100-year floodplain will be constructed to maintain the existing grade to result in no change in storage volume. Copies of the FEMA FIRM are included as an attachment.**

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.

12. REQUIRED SIGNATURES

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

By signing below, I certify that:

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

APPLICANT

APPLICANT'S AGENT:

Signature: Katherine Wilkins

Date: 4/7/2022

Name (print or type): Katherine Wilkins

Title: Project Manager

PROPERTY OWNER

PROPERTY OWNER'S AGENT:

Signature: Ashley Ruprecht

Date: 04/08/2022

Name (print or type): Ashley Ruprecht

Title: Specialist Licensing & Permitting

ATTACHMENT A: ALTERATION OF TERRAIN PERMIT APPLICATION CHECKLIST

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

DESIGN PLANS

- Plans printed on 34 - 36" by 22 - 24" white paper
- N/A PE stamp **Engineered design is limited to the electrical infrastructure and can be provided upon request**
- Wetland delineation
- Temporary erosion control measures
- N/A Treatment for all stormwater runoff from impervious surfaces such as roadways (including gravel roadways), parking areas, and non-residential roof runoff. Guidance on treatment BMPs can be found in Volume 2, Chapter 4 of the NH Stormwater Management Manual. **(See attached wavier request)**
- Pre-existing 2-foot contours
- N/A Proposed 2-foot contours
- N/A Drainage easements protecting the drainage/treatment structures
- Compliance with the Wetlands Bureau, RSA 482- A <http://des.nh.gov/organization/divisions/water/wetlands/index.htm>. Note that artificial detention in wetlands is not allowed.
- Compliance with the Comprehensive Shoreland Protection Act, RSA 483-B. <http://des.nh.gov/organization/divisions/water/wetlands/cspa>
- N/A Benches. Benching is needed if you have more than 20 feet change in elevation on a 2:1 slope, 30 feet change in elevation on a 3:1 slope, 40 feet change in elevation on a 4:1 slope.
- N/A Check to see if any proposed ponds need state Dam permits.
<http://des.nh.gov/organization/divisions/water/dam/documents/damdef.pdf>

DETAILS

- N/A Typical roadway x-section **Roadways are not proposed**
- N/A Detention basin with inverts noted on the outlet structure **Detention basins are not proposed**
- N/A Stone berm level spreader
- N/A Outlet protection – riprap aprons
- A general installation detail for an erosion control blanket
- Silt fences or mulch berm
- N/A Storm drain inlet protection. Note that since hay bales must be embedded 4 inches into the ground, they are not to be used on hard surfaces such as pavement.
- 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.

DRAINAGE ANALYSES N/A - See attached waiver request

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).

PRE- AND POST-DEVELOPMENT DRAINAGE AREA PLANS **N/A - 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.

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

NHDES-W-01-003

- 11" × 17" sheets suitable, as long as it is readable.
- Submit these plans separate from the drainage area plans.
- A north arrow.
- A scale.
- Name of the soil scientist who performed the survey and date the soil survey took place.
- 2-foot contours (5-foot contours if application is for a gravel pit) as well as other surveyed features.
- Delineation of the soil boundaries and wetland boundaries.
- Delineation of the subcatchment boundaries.
- Soil series symbols (e.g., 26).
- A key or legend which identifies each soil series symbol and its associated soil series name (e.g., 26 = Windsor).
- The hydrologic soil group color coding (A = Green, B = yellow, C= orange, D=red, Water=blue, & Impervious = gray).

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

- Drainage report is not needed if site does not have off-site flow.
- 5 foot contours allowed rather than 2 foot.
- No PE stamp needed on the plans.
- Add a note to the plans that the applicant must submit to the Department of Environmental Services a written update of the project and revised plans documenting the project status every five years from the date of the Alteration of Terrain permit.
- Add reclamation notes.

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

ADDITIONAL INFORMATION RE: NUTRIENTS, CLIMATE

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

005810 21370545: 0049979067

Verify check at <https://echecks.com/verify>

Memo

TD Bank, NA

Dollars

Eight thousand, one hundred twenty-five and 00/100

ORDER OF Treasurer, State of New Hampshire

PAY TO THE ORDER OF

\$ 8,125.00

Date 04/07/2022

Void after 90 days

5810

This is a Deluxe eCheck. The PAY TO...
ORDER OF line designates the Payee. For...
questions, call Deluxe Payment Exchange...
customer support at 877-333-6964. R...
3E1C-4ZDE

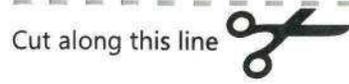
Official eCheck

Tighe & Bond, Inc.
53 Southampton Road
Westfield, MA 01085

EMERGENCY COPY

Check appears upside down intentionally

How to use this check



Need help? Visit [eChecks.com](https://echecks.com) or call 877-333-6964

Step 1 Print the check	Step 2 Validate it printed correctly	Step 3 Deposit like normal
<ul style="list-style-type: none"> ✓ Any printer works ✓ Black or color ink ✓ Basic white paper 	<ul style="list-style-type: none"> ✓ Correct if bank numbers are: <ul style="list-style-type: none"> Centered in white space Parallel to edge of the page Clearly printed in dark black ink ✗ Reprint if bank numbers are: <ul style="list-style-type: none"> Cut off, skewed, or off-center Smudged or wrinkled Too light to read 	<ol style="list-style-type: none"> 1. Cut on the dotted line above 2. Endorse the back 3. Deposit like normal: <ul style="list-style-type: none"> In-person at a bank or credit union Using an ATM Via smartphone mobile deposit With an office check scanner

Does your financial institution have questions about this check?

- This check was printed from an authorized check record. It is not a Check 21 Image Replacement Document.
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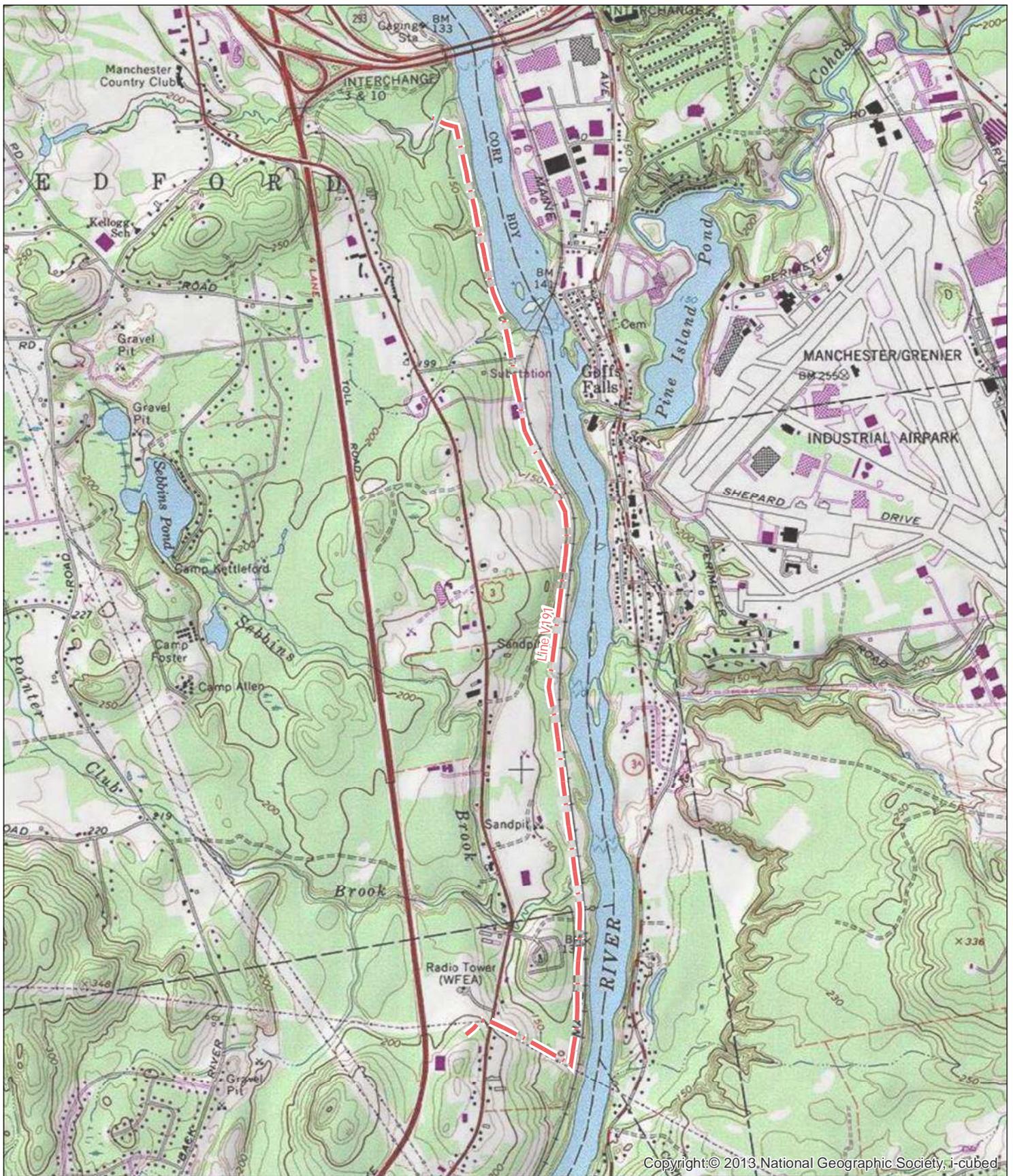
Questions? Visit [eChecks.com](https://echecks.com) or call 877-333-6964

For your records

Issued date: 04/07/2022
Check number: 5810
From: Tighe & Bond, Inc.
Amount: \$8125.00
Payable to: Treasurer, State of New H...
Delivery email: KLWilkins@tighebond.com
Memo: None
Documents: Yes - see Remittance below
Delivery message: Hi, attached is your Tighe & Bond electronic check. Any questions please email AP@tighebond.com.

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Legend

--- Overhead Eversource Line

1:24,000
1 inch = 2,000 feet

Based on USGS Topographic Map for Bedford, NH

0 1,000 2,000 Feet

EVERSOURCE

Figure 1 - Site Location
Line V191
Structure Replacement Project
Bedford and Merrimack, New Hampshire

March 2022

Tighe & Bond

3

Section 1

Project Background and Purpose

Eversource Energy has determined that 51 wooden utility structures on the V191 Line in Bedford and Merrimack need to be replaced with steel structures due to their overall age and condition. These include Structures 1-54, excluding Structures 17, 18, and 47. An additional structure (Structure 8.5) will also be added between existing Structures 8 and 9, for a total of 52 structure installations. The proposed structure installations are required to maintain the safety and reliability of the existing transmission system. All practicable alternatives to avoid or minimize impacts from this work have been assessed and incorporated into the project design.

As part of the work, the existing access roads will need to be regraded, as will areas for the work pads associated with the structure replacements. This regrading will only be completed within upland areas. Wetland portions of the access roads and work pads will be protected with timber matting, as will some uplands where the work is proposed along sensitive areas. Alteration of Terrain jurisdictional areas exclude areas that will be matted, and total **560,498** square feet/12.8 acres.

The following narrative describes existing conditions and proposed activities within these areas. Representative photographs of the project area are found in Appendix E and project plans are attached as Appendix G.

Section 2

Existing Conditions

2.1 Project Setting

The V191 transmission line runs parallel to the Merrimack River from the Bedford Substation, and extends approximately 2.3 miles southward, where it crosses into Merrimack. It continues along the river in Merrimack for approximately 0.5 miles before turning to the northwest, where it travels roughly 0.3 miles to the North Merrimack Substation. The Springfield Terminal Railway lies between the utility corridor and the river for most of this route. The topography is generally gently sloping, and, with the exception of the railway, the land between the V191 line and the Merrimack River is forested.

2.2 Surface Waters and Soils

The project parallels the Merrimack River, coming within 25 feet of it at one point, but does not directly impact it. Surface waters along the route include an existing culverted crossing at Stebbins Brook, north of Structure 16; an excavated pond north of Structure 29; an unnamed perennial stream crossing that will be spanned with timber mats between Structures 37 and 38; and an unnamed perennial stream crossing with an existing bridge between Structures 44 and 45.

Soils in the area mapped by the Natural Resources Conservation Service (NRCS, Appendix D) are predominantly classified as Hydrologic Soil Group (HSG) A. These are sandy glacial outwash soils dominated by the Windsor series, with some Hinkley (sand and gravel) soils near the northern end of the corridor. A small area of HSG B soils (Agawam series: sandy glacial outwash with loamy upper horizons) was mapped in the southern portion of the corridor between Structures 16 and 21, and two small areas of HSG C (Rippowam series: sandy loam over sandy alluvial soils) were mapped near Structures 6 and 9. A small complex of HSG B and HSG C/D (Chatfield-Hollis soils: loamy glacial till that is shallow to bedrock) was mapped between Structures 36 and 37. HSG classifications were based on *Ksat Values for New Hampshire Soils* (SSSNE Special Publication No. 5, 2009).

2.3 Merrimack River Corridor

2.3.1 FEMA 100-Year Floodplain

The project corridor parallels the Merrimack River along most of its length and is fed by a 3,200 square mile watershed as measured at a point near the southern portion of the project. Of the 52 structure installations, only the work pads for Structures 48 and 49 fall within the 100-year floodplain. No portion of the project will impact the banks of the river.

The 100-year floodplain is marked on all construction plans provided in Appendix G. Contractors working within these areas will be instructed to keep cutting and filling for the access roads and work pads as neutral as feasible so that there will be no net loss of floodplain storage.

2.3.2 Shoreland Protection

Thirty-four structures fall within the 250-foot Protected Shoreland of the Merrimack River (Structures 7-15, 23-38, 45-46, and 48-54). The closest work pad to the river will be 25 feet from it for work associated with Structure 46. Temporary impacts within the Protected Shoreland include:

- Waterfront Buffer (0-50 feet): 12,005 square feet
- Woodland Buffer (50-150 feet): 145,350 square feet
- Shoreland (150-250 feet): 334,276 square feet

A Shoreland Permit by Notification has been filed with NH Department of Environmental Services (DES) for this project.

2.3.3 Designated River Corridor

The Merrimack River is a Designated River from the Bedford/Merrimack town line, south to the Massachusetts border, and is protected under The Rivers Management & Protection Act (NH RSA 483:15 II.). The V191 project falls within ¼ mile of this portion of the river between Structures 4-19. Copies of the project plans that fall within the ¼ mile buffer have been provided to the Lower Merrimack River Local Advisory Committee for their review and comment as required under Env-Wq 1503.05(f).

2.4 Rare, Threatened, and Endangered (RTE) Species

A NH Natural Heritage Bureau (NHB) DataCheck review was conducted on January 30, 2022 and resulted in the following species identified as being on or near the project area:

Plant Species

- River birch (*Betula nigra*)
- Wild lupine (*Lupinus perennis* ssp. *perennis*)
- Wright's spikesedge (*Eleocharis diandra*)

Vertebrate Species

- Bald eagle (*Haliaeetus leucocephalus*)
- Eastern hognose snake (*Heterodon platirhinos*)
- Northern black racer (*Coluber constrictor constrictor*)
- Peregrine falcon (*Falco peregrinus anatum*)
- Spotted turtle (*Clemmys guttata*)
- Wood turtle (*Glyptemys insculpta*)

2.4.1 RTE Plant Species and Conservation Measures

Of the three state listed plant species identified in the NHB DataCheck, only the wild lupine is of concern within the V191 corridor. Potential habitat for the other two species is more closely associated with the banks and of the Merrimack River, making it unlikely that they would be impacted by the project. **NHB has no concerns regarding the project's potential to impact river birch or Wright's spikesedge as there will be no impacts along the water's edge** (email 3/2/2022). Correspondence with NHB is attached in Appendix C.

2.4.0.1 Wild Lupine

The wild lupine population is located along the access road and within the proposed work pad area for Structure 10. In 2011 the population was reported to consist of 22 plants with a Conservation Rank of "C", based on information provided with the NHB DataCheck results. The population was documented again in September 2018 by GZA. At that time, 15 stems were located, with five (5) stems north of Structure 10, and 10 stems were found to the south of the structure. GZA did not survey inside the fence of the storage facility to the west, where it is possible there may have been more plants. These observations indicate a fairly small, low-density population of the wild lupine, which reduces the likelihood that it is supporting Karner blue butterflies (*Lycaeides melissa samuelis*).

Work pads in this area will be 5,625 square feet (75 feet by 75 feet) rather than standard 10,000 square foot work pads used in the rest of the project, which will reduce impacts to vegetation.

Conservation measures specifically taken to protect the lupine population include:

- Plant surveys during the 2022 growing season
 - Locate and flag plants
- Minimize work pad to 75' x 75'
- Use of upland matting along the access road and work pad for Structure 10
 - Remove matting immediately upon the completion of work
- Use bridge matting to mat over and around identified plants as feasible
- If the population of plants is greater than feasible to utilize bridge matting, additional coordination with NHB is required.
- Ongoing weekly monitoring during construction to assure potential impact to the population is limited
- Monitoring to assure removal of work pads promptly upon completion of work
- Completion of a follow-up survey in late summer to assess and document potential impacts in late summer following removal of the matting. An NHB Rare Species Reporting Form will be completed as part of the survey.

2.4.2 RTE Vertebrate Species and Conservation Measures

Information on RTE species will be provided to contractors prior to the start of construction and will be reviewed and available each morning at the safety tailboard meetings. The information includes photos, identification information, and contact information if RTE species are observed. In the event a species is encountered, the contractors will stop work and report the findings to Eversource and NHF&G.

Correspondence with NHF&G and species-specific information that will be provided to contractors are attached in Appendix C. A summary of each of the BMPs proposed and conservation measures taken based on correspondence with NHFG is provided below.

2.4.0.2 Bald Eagle

Although a Bald Eagle nest was previously identified within 250 feet of the proposed project area, New Hampshire Fish & Game confirmed they do not expect impacts to the species in the area mapped (per correspondence on March 7, 2022 provided in Appendix

C). The last occurrence at this location was in 2006, and after that there has only been nest building.

2.4.0.3 Peregrine Falcon

During correspondence with NHB, provided in Appendix C, it was also determined impacts are not expected to peregrine falcon as the nest sites and fledging areas are far enough away from the work area.

2.4.0.4 Northern Black Racer

All observations of northern black racer snakes encountered from the end of September through the month of April will be immediately reported to the NHF&G Department (Melissa Doperalski 603-479-1129 (cell) or Brendan Clifford 603-271-0463/603-994-0855 (cell)) as this indicates a potential hibernaculum in the area. Attempts will be made to photograph this species if possible.

2.4.0.5 Eastern Hognose Snake

All observations of Eastern Hognose snake seen at any time must be immediately reported to the NHF&G Department (Melissa Doperalski (603-479-1129) or Josh Megyesy 978-578-0802 cell) for further instructions. Attempts will be made to photograph this species and send to NHF&G for verification.

2.4.0.6 Spotted Turtle, Wood Turtles, Blanding's Turtles

If spotted, wood, or Blanding's turtles are found laying eggs in a work area, please contact Melissa Doperalski (603-479-1129 cell) or Josh Megyesy (978-578-0802 cell) for further instructions.

We do not anticipate impacts to vernal pools, which provide a significant food supply to these and other species, from this work although matting will take place in several wetlands. We will review these resource areas, flag and avoid all impacts to identified vernal pools prior to work in these areas.

For species noted in Sections 2.4.0.4 to 2.4.0.6 we will also follow the general BMPs below:

1. Prior to daily construction activities, timber matting will be reviewed for snakes and turtles. Tighe & Bond will provide an environmental addendum to the daily tailboards by the contractors to include guidance on protocols for snakes and provide identification for **spotted turtle, wood turtle, Blanding's turtle and northern black racer snake**.
2. Observed snakes and turtles will be moved off of construction access roads to limit and prevent mortality to snakes and turtles during construction.
3. Erosion control matting, if utilized, will consist of jute matting. Matting with plastic mesh will be avoided to limit unintentional mortality to snakes.
4. At the conclusion of the project, a summary report of any rare species observations will be provided to the NHFG Nongame Program.
5. Impacts to vernal pools and potential vernal pools will be avoided.

Section 3

Project Description

The V191 project includes the replacement of 51 overhead electric utility structures and the addition of one structure, for a total of 52 structure installations. The entire project will result in 584,301 square feet of disturbance, including 23,803 square feet of disturbance associated with temporary construction matting. Areas subject to work pad grading and associated access road improvements total 560,498 square feet and are the areas subject to Alteration of Terrain Law and Rules (RSA 485-A:17, Env-Wq 1500). Representative photographs of the project area are provided in Appendix E.

3.1 Structure Replacements and Maintenance

The structure replacements will consist of the drilling of holes up to four feet in diameter and the installation of a caisson (metal culvert) into each hole approximately 15 to 20 feet (10% of structure height plus 2 feet) below the ground surface. The new poles will be placed into the caissons and backfilled with clean, suitable materials. Spoils generated from the drilling operations will be disposed in appropriate upland areas at least 100 feet away from wetland areas and then stabilized.

Concrete block anchors will be installed by excavating trenches to a sufficient depth, installing the anchors, and backfilling the trenches. Where block anchors are required within a wetland, hydric soils will be segregated upon excavation and replaced to maintain the hydric soil profile. Any additional spoils will be disposed in upland areas away from wetland areas. Disturbed areas will be seeded with a conservation seed mix and mulched with straw.

Once the new poles are installed, old poles will then be removed by cutting them to the ground surface. The old poles, cross-arms, wires, and accessory equipment will be removed and disposed off-site. The pole butts associated with the existing poles will only be removed if they impact the structural integrity of the new poles.

3.2 Access

Access road improvements are needed to provide reliable access for the proposed work as well as for future maintenance and emergency repairs. The access routes will follow existing entrances onto the ROW and have been sited to minimize ground disturbance. Improvements will include regrading as needed with up to a 16-foot-wide disturbance. Disturbance of wetlands and sensitive upland areas will be minimized through the use of wooden timber matting.

3.3 Work Pad Construction

The proposed project includes the construction of 100-foot by 100-foot gravel work pads to provide level and stable surfaces needed to facilitate the structure installations. Work pads in upland areas will be constructed of crushed stone, top-dressed with 1.5- to 3-inch diameter clean stone. Where work pads overlap with wetlands and other sensitive areas, they will utilize temporary construction matting, which will be removed upon completion of the work. Any areas of soil disturbance around the work pads will be stabilized with

seed and straw mulch. Matted upland work pads will be restored upon the removal of the timber mats, and exposed soils will be stabilized with seed and mulch.

3.4 Construction Sequence

Eversource would like to commence work as soon as possible. The work is proposed to begin in June of 2022, with any regulated work beginning following the receipt of all regulatory approvals. The following is a description of the anticipated construction sequence. The actual sequence and schedule will be determined by the selected contractor(s).

- Install sediment and erosion controls
- Upgrade access roads and build work pads, install construction mats where needed
- Conduct structure replacements
- Remove construction mats and stabilize/restore disturbed areas
- Stabilize exposed soils within the ROW
- Remove erosion and sedimentation controls following stabilization

3.5 Best Management Practices

Work will be performed utilizing the latest *Best Management Practices Manual for Utility Maintenance in and Adjacent to Wetlands and Waterbodies in New Hampshire* (NH DNCR 2019) to limit impacts to the environment. Where deemed necessary, perimeter protective measures consisting of silt fence, straw wattles, and or straw bales will be installed around the structure to minimize potential impacts to the nearby resource areas. Water bars will be installed in areas of road improvements and in areas with steep slopes as identified by the Contractor. Any areas of disturbed soil will be mulched with hay or straw as necessary following the completion of work. No equipment or material will be stored within wetland resource areas. Erosion controls will be implemented during construction, as noted on the project plans in Appendix G, to minimize the potential impacts during construction.

Once project work is complete, any disturbed upland areas will be restored and stabilized. Areas of exposed soils will be seeded and/or mulched appropriately.

Section 4

Regulatory Compliance

This section summarizes the project's relationship to and compliance with pertinent local, state and federal regulations.

On this project, the total impacts associated with improving the access roads and work pads totals: **560,498** square feet. Of this amount, 334,276 square feet is within the Protected Shoreland. Therefore, all of the project is subject to Alteration of Terrain Permitting based on Env-Wq 1502.58 (b)(2).

Copies of this Alteration of Terrain application have also been sent to the governing bodies of Bedford and Merrimack in compliance with Env-Wq 1503.05(e).

In addition to the Alteration Permit, the following permit applications, notifications, and agency reviews have been conducted:

- Permits
 - Protected Shoreland Permit by Notification
 - Utility Maintenance Statutory Permit by Notifications:
 - Bedford
 - Merrimack
 - 2022 EPA Construction General Permit
- Agency Reviews
 - NH Natural Heritage Bureau
 - NH Fish and Game
 - US Fish and Wildlife IPaC Review
 - NH Department of Historic Resources Request for Project Review
 - Lower Merrimack River Local Advisory Committee

Tighe&Bond

APPENDIX A

ALTERATION OF TERRAIN WAIVER REQUEST

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

Water Division/ Alteration of Terrain Bureau/Land Resources Management
 29 Hazen Drive, PO BOX 95
 Concord, New Hampshire 03302-0095

A. PROJECT INFORMATION

V191 Line Structure Replacement Project
 Project Name

Existing Line V191 Right-of-Way
 Street Address

Bedford and Merrimack
 City/Town

N/A
 Zip Code

N/A
 Assessors Map/Lot Number

B. PROPERTY OWNER INFORMATION

Ashley
 First Name

Ruprecht
 Last Name

Eversource Energy Service Company
 Organization

13 Legends Drive
 Street Address

Hooksett
 City/Town

NH
 State

03106
 Zip Code

Ashley.Ruprecht@Eversource.com
 Email

603-634-2992
 Telephone

C. PERSON REQUESTING THE WAIVER

Katy
 First Name

Wilkins
 Last Name

Tighe & Bond
 Organization

53 Southampton Road
 Street Address

Westfield
 City/Town

MA
 State

01085
 Zip Code

KLWilkins@tighebond.com
 Email

413-875-1305
 Telephone

D. WAIVER REQUESTS

Env-Wq 1503.12(d)

Measurement of Contiguous Area/10 Year Requirement

Waiver Requested From Rule

Name of Rule

Explanation of Request

A waiver is being requested from the requirement to include terrain disturbances that occurred: (1) within 10 years prior to the proposed project or (2) within 10 years after the project ends.

Waiver Timeline

Permanent

Alternative Proposed

Not Applicable

Compliance with Env-Wq 1509.04:

The reason the waiver is requested is because soil disturbances associated with small maintenance activities occur regularly along utility lines. These disturbances are restored and/or stabilized following construction following prescribed utility BMPs. These maintenance activities cannot be predicted into the future and it is an excessive burden to require a full Alteration of Terrain permit for smaller disturbances.

Env-Wq 1503.21 (d)(6) and (7)

Notification; Certifications/Relocation of a Parking Area

Waiver Requested From Rule

Name of Rule

Explanation of Request

A waiver is being requested from the requirement to apply for an amended or new permit if a roadway centerline or parking area has been relocated more than 20 feet from the originally approved location.

Waiver Timeline

Permanent

Alternative Proposed

Not Applicable

Compliance with Env-Wq 1509.04: Waiver Criteria

Contractors need to have flexibility in how they move large equipment across difficult terrain and complex site conditions, which can be hard for permitting specialists to predict. For example, a new beaver dam could require shifting an access road across the ROW to avoid a newly flooded area. Requiring an amendment for such adjustments would prove impractical and overly burdensome to complete construction within allotted time frames and scheduled power outages needed to maintain the reliable transmission of power to the public.

Env-Wq 1504.09

Waiver Requested From Rule

Stormwater Drainage Report; Drainage Area Plans; Hydrologic Soil Group Plans
Name of Rule

Explanation of Request

A waiver is being requested from the requirement to prepare a Stormwater Drainage Report; Drainage Area Plans; Hydrologic Soil Group Plans because no new impervious areas are proposed (except for the minimal footprint of the new transmission line structures) and therefore, stormwater detention and treatment practices are not proposed.

Waiver Timeline
Permanent

Alternative Proposed

Not Applicable

Compliance with Env-Wq 1509.04: Waiver Criteria

The proposed project involves the replacement of existing transmission line infrastructure. The proposed land disturbance is associated with ground improvements for vehicle access and work pads at structure replacement locations. This project is necessary to improve safety and reliability of the structures to provide electricity to local customers.

We do not anticipate the proposed structure replacement activities to significantly alter the drainage characteristics of the project area and therefore do not expect a stormwater drainage report or drainage areas plans to show significant difference between the existing and proposed conditions.

The soil series from NRCS web soil survey was mapped for the project to provide a general understanding of the soils within the project area. Given the soil type information collected, we do not believe hydrologic soil group plans are necessary or would provide added benefit. Best Management Practices will be utilized to protect wetlands and waters from erosion, sedimentation, or other environmental degradation.

E. SIGNATURES



Applicant/Owner: Ashley Ruprecht,
Public Service Company of New Hampshire d/b/a
Eversource Energy



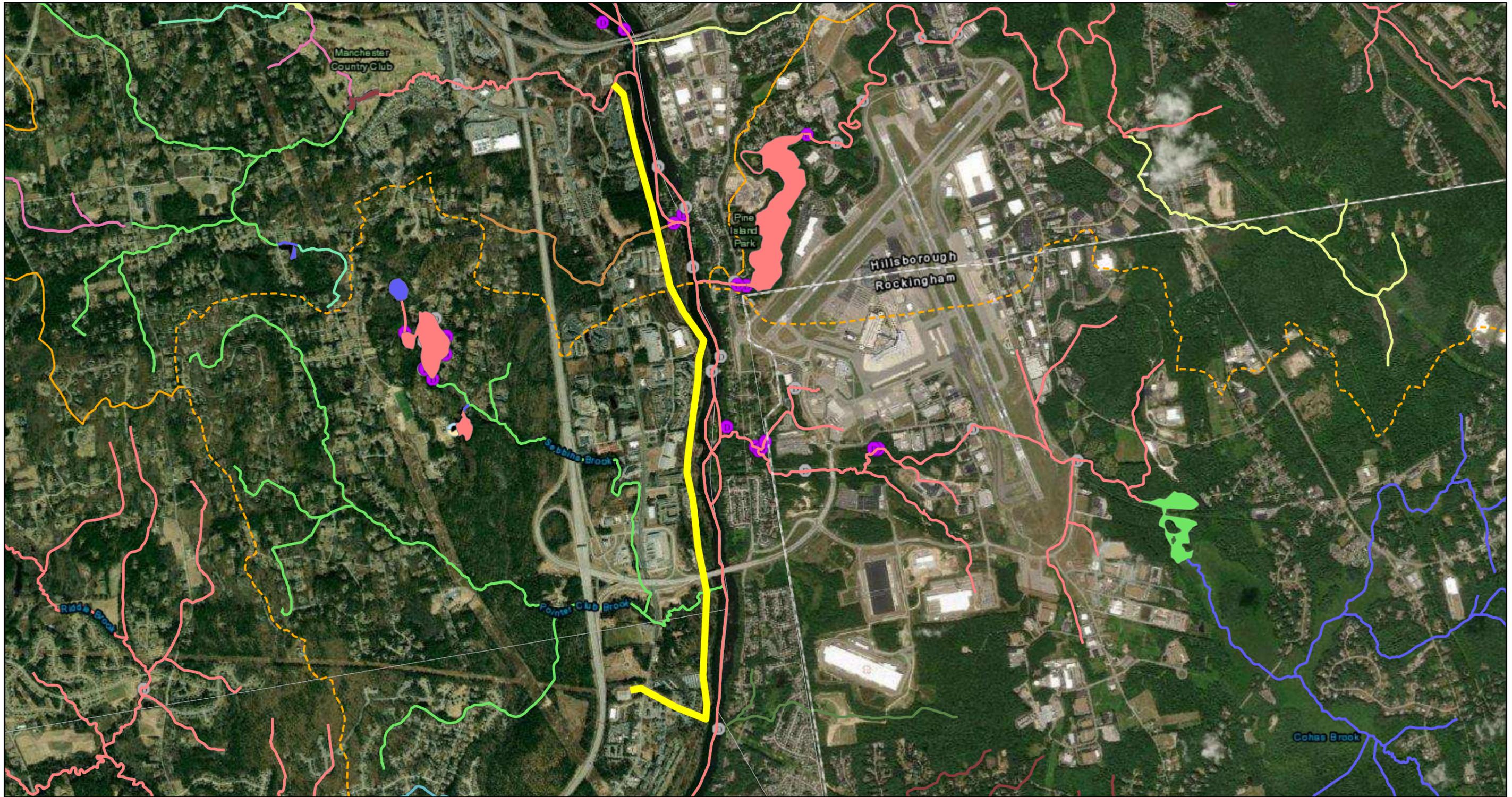
Person Requesting the Waiver: Kate Wilkins
Tighe & Bond

J:\E\E5034 Eversource L&P 2019\115A - V191 LWS Replacements\Permitting\AoT\Attachments\APP A-Waiver Request.docx

Tighe&Bond

APPENDIX B

Line V191 Impaired Surface Waters

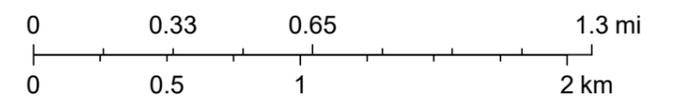


4/5/2022, 3:26:28 PM

1:36,112

- 2020/2022 Impaired Lakes, Impoundments, Estuaries & Ocean (except mercury for fish/shellfish consumption)
- 2020/2022 Impaired Rivers (except mercury for fish/shellfish consumption)
- Stations Used in 305(b)/303(d) Assessments
- Y
- N
- 2020/2022 Assessment Unit IDs (Beaches)
- 2020/2022 Assessment Unit IDs (Lakes, Impoundments, Estuaries & Ocean)
- 1
- 2

- 4
- 6
- 7
- 8
- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- Watersheds (12 Digit Hydrologic Units)
- Municipalities



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Tighe&Bond

APPENDIX C

Memo

NH Natural Heritage Bureau
NHB DataCheck Results Letter

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

To: Jeremy Degler, Tighe & Bond Inc.
177 Corporate Drive
Portsmouth, NH 03801

From: NHB Review, NH Natural Heritage Bureau

Date: 1/3/2022 (valid until 01/03/2023)

Re: Review by NH Natural Heritage Bureau

Permits: MUNICIPAL POR - Bedford, Merrimack, NHDES - Alteration of Terrain Permit, NHDES - Shoreland Standard Permit, NHDES - Utility Statutory Permit by Notification (SPN), USACE - General Permit

NHB ID: NHB21-3901

Town: Bedford, Merrimack

Location: Multiple Locations

Description: Eversource Energy is proposing to replace utility structures on the V191 Line in Bedford and Merrimack, New Hampshire.

cc: Kim Tuttle

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

Comments **NHB: Please provide project description and proposed timing. Provide an aerial plan showing proposed access routes, poles to be replaced, and erosion and sediment controls. A known Lupine record is present within the southern portion of the utility ROW. Will any impacts occur within the Merrimack River bed or bank?**
F&G: Please send aerials and description of poles to be replaced and how they will be accessed. Also, provide proposed job timing.

Plant species	State ¹	Federal	Notes
river birch (<i>Betula nigra</i>)	T	--	The population could be deleteriously affected by any project activities that alter the hydrology of its habitat, by increased sedimentation, and by increased nutrients/pollutants in stormwater runoff.
wild lupine (<i>Lupinus perennis ssp. perennis</i>)	T	--	
Wright's spikesedge (<i>Eleocharis diandra</i>)	E	--	Primarily vulnerable to changes to the hydrology of its wetland habitat, especially alterations that change water levels. It may also be susceptible to increased pollutants and nutrients carried in stormwater runoff.

Vertebrate species	State ¹	Federal	Notes
--------------------	--------------------	---------	-------

Memo

NH Natural Heritage Bureau
NHB DataCheck Results Letter

Please note: portions of this document are confidential.

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

Bald Eagle (<i>Haliaeetus leucocephalus</i>)	SC	--	Contact the NH Fish & Game Dept (see below).
Eastern Hognose Snake (<i>Heterodon platirhinos</i>)*	E	--	Contact the NH Fish & Game Dept (see below).
Northern Black Racer (<i>Coluber constrictor constrictor</i>)	T	--	Contact the NH Fish & Game Dept (see below).
Peregrine Falcon (<i>Falco peregrinus anatum</i>)	T	--	Contact the NH Fish & Game Dept (see below).
Spotted Turtle (<i>Clemmys guttata</i>)	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 Natural Heritage that has 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.

Contact for all animal reviews: Kim Tuttle, NH F&G, (603) 271-6544.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

CONFIDENTIAL DNCR

From: Tuttle, Kim <Kim.A.Tuttle@wildlife.nh.gov>
Sent: Monday, March 28, 2022 8:52 AM
To: Katy L. Wilkins; Julia Squillace
Cc: Ruprecht, Ashley C; Doperalski, Melissa; FGC: NHFG review
Subject: RE: NHB21-3901 utility structure replacement V191 Line in Bedford, Merrimack Utility Statutory Permit by Notification (SPN),

[Caution - External Sender]

Hi Katy,

MUNICIPAL POR - Bedford, Merrimack, NHDES - Alteration of Terrain Permit, NHDES - Shoreland Standard Permit, NHDES - Utility Statutory Permit by Notification (SPN), USACE - General Permit
Melissa Doperalski will close the loop on the AoT and Shoreland which falls under the consultation rules.

The only change would be to include Brendan's cell 603-944-0885 in addition to his office number for this BMP:

1. All observations of northern black racer snakes encountered from the end of September through the month of April will be immediately reported to the NHFG Department (Melissa Doperalski 603-479-1129 (cell) or Brendan Clifford 603-271-0463) as this indicates a potential hibernaculum in the area. We will attempt to photograph this species if possible.

Thanks,

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

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 [Proposed Rules | Legislative | New Hampshire Fish and Game Department \(state.nh.us\)](#). 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: Katy L. Wilkins <KLWilkins@tigheBond.com>
Sent: Thursday, March 24, 2022 4:00 PM
To: Tuttle, Kim <Kim.A.Tuttle@wildlife.nh.gov>; Julia Squillace <JSquillace@tighebond.com>

Cc: Ruprecht, Ashley C <ashley.ruprecht@eversource.com>

Subject: RE: NHB21-3901 utility structure replacement V191 Line in Bedford, Merrimack,

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

Good afternoon Kim,

Just checking in to see if you have had a chance to review the items below and are ok with the proposed BMP measures proposed for the project. I'm happy to talk more if you have any questions.

Thank you,

Katy Wilkins

Project Manager

Tighe&Bond

o. 413.875.1305 | m. 508.272.3172

53 Southampton Road, Westfield, MA 01301

w: tighebond.com | halvorsondesign.com



From: Katy L. Wilkins

Sent: Wednesday, March 16, 2022 3:04 PM

To: Tuttle, Kim <Kim.A.Tuttle@wildlife.nh.gov>; Julia Squillace <JSquillace@tighebond.com>

Cc: Ruprecht, Ashley C <ashley.ruprecht@eversource.com>

Subject: RE: NHB21-3901 utility structure replacement V191 Line in Bedford, Merrimack,

Good afternoon Kim,

Thank you again for all of the rare species information for this line work. Good to hear it is not anticipated that we will have impacts to bald eagles or peregrine falcons based on the locations of the nests to the project area.

We do not anticipate impacts to vernal pools from this work, though matting will take place in several wetlands. We will plan to review these resource areas, flag and avoid all impacts to identified vernal pools prior to work in these areas.

Below are the BMPs that are incorporated into our construction Note sheets and permits relative to the noted protected species and who our contacts are for each:

1. If spotted, wood, or Blanding's turtles are found laying eggs in a work area, please contact Melissa Doperalski (603-479-1129 cell) or Josh Megyesy (978-578-0802 cell) for further instructions.
2. All observations of Eastern Hognose snake seen at any time must be immediately reported to the NHFG Department (Melissa Doperalski or Josh Megyesy) for further instructions. Please attempt to photograph this species to send to us for verification.
3. All observations of northern black racer snakes encountered from the end of September through the month of April will be immediately reported to the NHFG Department (Melissa Doperalski 603-479-1129 (cell) or Brendan Clifford 603-271-0463) as this indicates a potential hibernaculum in the area. We will attempt to photograph this species if possible.

Those are the more species specific instructions and guidance we include, but we also include the following general BMPs:

1. Prior to daily construction activities, timber matting will be reviewed for snakes and turtles. GZA will provide an environmental addendum to the daily tailboards by the contractors to include guidance on protocols for snakes and provide identification for spotted turtle, wood turtle, Blanding's turtle and northern black racer snake.
2. Observed snakes and turtles will be moved off of construction access roads to limit and prevent mortality to snakes and turtles during construction.
3. Erosion control matting, if utilized, will consist of jute matting. Matting with plastic mesh will be avoided to limit unintentional mortality to snakes.
4. At the conclusion of the project, a summary report of any rare species observations will be provided to the NHFG Nongame Program.
5. Impacts to vernal pools and potential vernal pools will be avoided.

Please feel free to reach out if you need any additional information.

Thank you,

Katy Wilkins

Project Manager

Tighe&Bond

o. 413.875.1305 | m. 508.272.3172

53 Southampton Road, Westfield, MA 01301

w: tighebond.com | halvorsondesign.com



From: Tuttle, Kim <Kim.A.Tuttle@wildlife.nh.gov>

Sent: Monday, March 7, 2022 10:13 AM

To: Katy L. Wilkins <KLWilkins@tigheBond.com>; Julia Squillace <JSquillace@tighebond.com>

Subject: RE: NHB21-3901 utility structure replacement V191 Line in Bedford, Merrimack,

[Caution - External Sender]

Hello Katy and Julia,

Bald Eagle (*Haliaeetusleucocephalus*) SC --
Eastern Hognose Snake (*Heterodon platirhinos*)* E --
Northern Black Racer (*Coluber constrictor constrictor*)T --
Peregrine Falcon (*Falco peregrinus anatum*) T --
Spotted Turtle (*Clemmys guttata*) T --
Wood Turtle (*Glyptemysinsculpta*) SC

We do not expect impacts to bald eagle in the Bedford section. The information we have found makes it look unlikely; nothing since 2006, and then only nest building. We also do not expect impacts to peregrine falcon, as the nest site and fledging area are far enough away from the work. Please flag and avoid all impacts to vernal pools prior to work in the area as all the life stages of the amphibians that these habitats produce – eggs, larvae and adult frogs and salamanders – provide a significant food supply for wood and spotted turtle, as well as eastern hognose snake and northern black racer.

Please send over your BMPs for eastern hognose snake northern black racer, wood and spotted turtle so that we can check that the contact names and numbers are up to date as well as reporting protocol if any are seen or observed, alive or dead in the project area at any time. Let me know if you need any of the species flyers.

Thanks,

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

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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: Leonard Lord <LLord@TigheBond.com>
Sent: Thursday, March 3, 2022 12:45 PM
To: Tuttle, Kim <Kim.A.Tuttle@wildlife.nh.gov>
Cc: Katy L. Wilkins <KLWilkins@tigheBond.com>; Julia Squillace <JSquillace@tighebond.com>
Subject: RE: NHB21-3901 Eagle nest distance to proposed utility structure replacements

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

Kim- Please reply to Katy Wilkins and Julia Squillace as I will be retiring tomorrow.

Thanks!!

Leonard Lord, PhD, CSS, CWS

Senior Environmental Scientist

Tighe&Bond

o. 603.294.9224 | m. 603.312.0236

177 Corporate Drive, Portsmouth, NH 03801

w: tighebond.com | halvorsondesign.com



From: Tuttle, Kim <Kim.A.Tuttle@wildlife.nh.gov>
Sent: Thursday, March 3, 2022 11:45 AM
To: Leonard Lord <LLord@TigheBond.com>
Subject: RE: NHB21-3901 Eagle nest distance to proposed utility structure replacements

[Caution - External Sender]

Thanks- I'll need to check then if the eagles are nesting there this year- there sounds like there will be overlap.

From: Leonard Lord <LLord@TigheBond.com>

Sent: Thursday, March 3, 2022 11:28 AM

To: Tuttle, Kim <Kim.A.Tuttle@wildlife.nh.gov>; FGC: NHFG review <NHFGreview@wildlife.nh.gov>

Cc: Katy L. Wilkins <KLWilkins@tigheBond.com>; Julia Squillace <JSquillace@tighebond.com>; Houghton, Sandra <Sandra.D.Houghton@wildlife.nh.gov>

Subject: RE: NHB21-3901 Eagle nest distance to proposed utility structure replacements

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

Kim- I think our emails crossed paths in cyberspace. But just to be sure, the work will be mid-summer in this area. Thanks

Leonard Lord, PhD, CSS, CWS

Senior Environmental Scientist

Tighe&Bond

o. 603.294.9224 | m. 603.312.0236

177 Corporate Drive, Portsmouth, NH 03801

w: tighebond.com | halvorsondesign.com



From: Tuttle, Kim <Kim.A.Tuttle@wildlife.nh.gov>

Sent: Thursday, March 3, 2022 11:03 AM

To: Leonard Lord <LLord@TigheBond.com>; FGC: NHFG review <NHFGreview@wildlife.nh.gov>

Cc: Katy L. Wilkins <KLWilkins@tigheBond.com>; Julia Squillace <JSquillace@tighebond.com>; Houghton, Sandra <Sandra.D.Houghton@wildlife.nh.gov>

Subject: RE: NHB21-3901 Eagle nest distance to proposed utility structure replacements

[Caution - External Sender]

Hi Lenny-

Can you provide us with the approximate timing of work to be conducted in this area? If the work timing is outside of the eagle nesting season, it shouldn't be an issue. In the meantime, I'll try to find out if this particular nest is in use this season. Happy Retirement!

Kim

From: Leonard Lord <LLord@TigheBond.com>

Sent: Thursday, March 3, 2022 10:55 AM

To: Snyder, Kimberly <Kimberly.C.Snyder@wildlife.nh.gov>; FGC: NHFG review <NHFGreview@wildlife.nh.gov>

Cc: Katy L. Wilkins <KLWilkins@tigheBond.com>; Tuttle, Kim <Kim.A.Tuttle@wildlife.nh.gov>; Julia Squillace <JSquillace@tighebond.com>

Subject: RE: NHB21-3901 Eagle nest distance to proposed utility structure replacements

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Kim- the orange is the approximate location of the eagle nest taken from the NHB map and the red line is the V191 corridor. It looks to me like the nest would be >250' from the work, assuming the nest is along the edge of the river. Please "reply all" with any comments or suggested conservation measutes—Im retiring tomorrow and Katy Wilkins will be taking over for this project. Thanks!



Leonard Lord, PhD, CSS, CWS

Senior Environmental Scientist

Tighe&Bond

o. 603.294.9224 | m. 603.312.0236

177 Corporate Drive, Portsmouth, NH 03801

w: tighebond.com | halvorsondesign.com



From: Snyder, Kimberly <Kimberly.C.Snyder@wildlife.nh.gov>

Sent: Thursday, March 3, 2022 9:08 AM

To: Leonard Lord <LLord@TigheBond.com>; FGC: NHFG review <NHFGreview@wildlife.nh.gov>

Cc: Katy L. Wilkins <KLWilkins@tigheBond.com>; Tuttle, Kim <Kim.A.Tuttle@wildlife.nh.gov>

Subject: RE: NHB21-3901 Eagle nest distance to proposed utility structure replacements

[Caution - External Sender]

Hi Leonard,

Please provide us with a close-up Google Earth aerial of anything within 1000ft of the Bald Eagle location on the NHB letter showing the area where you would be working. Please also let us know the approximate timing of work to be conducted in same area.

Kim Snyder

From: Leonard Lord <LLord@TigheBond.com>
Sent: Wednesday, March 2, 2022 1:26 PM
To: FGC: NHFG review <NHFGreview@wildlife.nh.gov>
Cc: Katy L. Wilkins <KLWilkins@tigheBond.com>
Subject: NHB21-3901 Eagle nest distance to proposed utility structure replacements

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

Good afternoon-

Would it be possible to get shapefiles associated with the eagle nest near our proposed utility project along the Merrimack River. That way we can determine how close construction will be and can better determine what mitigation measures may be needed. Please "reply all" to this message.

Thanks-

Leonard Lord, PhD, CSS, CWS

Senior Environmental Scientist

Tighe&Bond

o. 603.294.9224 | m. 603.312.0236

177 Corporate Drive, Portsmouth, NH 03801

w: tighebond.com | halvorsondesign.com

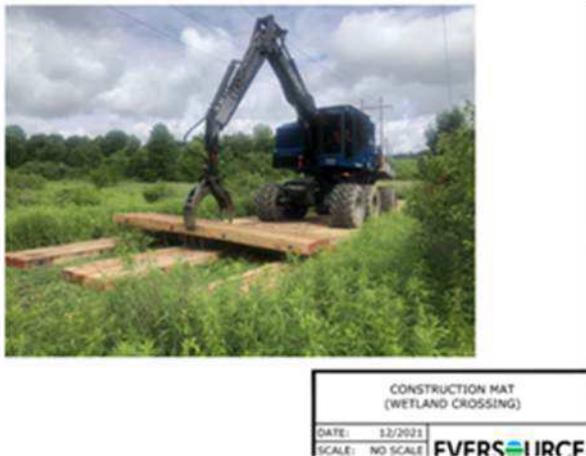


From: Katy L. Wilkins
Sent: Monday, March 28, 2022 3:38 PM
To: 'Bouchard, Jessica'
Cc: Julia Squillace; Ruprecht, Ashley C
Subject: RE: NHB21-3901 - Eversource Line V191 Bedford, Wild Lupine
Attachments: [LineV191_StructureReplacementProject_WetlandsMerrimack_STR 10.pdf](#)

Hi Jessica,

Thank you for your response and suggested BMP's. Given the construction schedule we cannot guarantee the work will take place late August/September. We plan to implement the proposed BMPs and particularly utilize the bridge matting (see photo below for what that generally looks like) and have incorporated the BMPs on the environmental mapping (see attached).

We have the locations general idea of the population from a survey a few years ago, but until we perform plant surveys we will not know the exact extent of the populations. Once we perform the plants surveys we can determine the best means of avoidance. If we deem bridge matting not feasible due to the size of the population (dense population that we cannot mat over with runners) we will coordinate with you prior to construction to discuss other means of mitigation.



Please let us know if you have any questions or suggestions relative to the proposed work plan.

Thank you,

Katy Wilkins

Project Manager

Tighe&Bond

o. 413.875.1305 | m. 508.272.3172

53 Southampton Road, Westfield, MA 01301
w: tighebond.com | halvorsondesign.com



From: Bouchard, Jessica <Jessica.R.Bouchard@dn-cr.nh.gov>
Sent: Thursday, March 17, 2022 4:14 PM
To: Katy L. Wilkins <KLWilkins@tigheBond.com>
Cc: Julia Squillace <JSquillace@tighebond.com>; Ruprecht, Ashley C <ashley.ruprecht@eversource.com>
Subject: RE: NHB21-3901 - Eversource Line V191 Bedford, Wild Lupine

[Caution - External Sender]

Hi Katy,

Thank you for reaching out. I had not yet gotten to respond to Leonard's last email, you did not miss any communications. We thank you for working to suggest BMPs to minimize impacts to Lupine in the work area at Structure 10.

If work in the location of the Lupine occurrence can be postponed until late August, then this would allow the plants to complete their perennial life cycle and produce and disperse their seed. In dry years Lupine can senesce as early as late August or September. Is the applicant able to wait until at least late August to perform work at this location? If not, then NHB recommends using bridge matting over the occurrence as you suggested. We would request to see plans showing this BMP as well.

We also recommend minimizing impacts to the occurrence by using the following BMPs:

1. Use upland matting along the access road and work pad, and removing the pad immediately upon completion of work;
2. Removing the upland matting for access as soon as work on Structures 9-7 is completed;
3. Use a 75' x 75' work pad as indicated;
4. Conduct a Lupine survey and flag out plants in an effort to avoid them to the greatest extent practicable;
5. Please use a reporting form found [here](#) when performing the survey and send to NHB so that we can update occurrence information in our database.

Thank you,

Jessica Bouchard (she/her/hers)
Environmental Reviewer / Ecological Information Specialist
New Hampshire Natural Heritage Bureau (NHB)
Division of Forests & Lands
NH Dept. of Natural & Cultural Resources
172 Pembroke Rd
Concord, NH 03301
(603) 271-2834 (office)

[NHB DataCheck Tool](#)

From: Leonard Lord <LLord@TigheBond.com>
Sent: Wednesday, March 2, 2022 5:39 PM
To: Bouchard, Jessica <Jessica.R.Bouchard@dn-cr.nh.gov>

Cc: Katy L. Wilkins <KLWilkins@tigheBond.com>; Julia Squillace <JSquillace@tighebond.com>

Subject: RE: NHB21-3901 - Eversource Line V191 Bedford, Wild Lupine

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Jessica-

Here are some responses to your questions:

1) The pole location will be as shown on the plans. The contractors can work with the pole at the edge of the work pad in cases like this where it is needed. The pole location will not be located in the current lupine occurrence and will be on the side of the fence closer to the storage facility as shown on the work plans. The work pad may shift closer to the storage area, but we are currently working with the property owner to determine this.

2) The limiting factor is a very steep ditch and slope up to the storage facility. Eversource will be working with the Storage Facility to determine the work pad area that is feasible since their fence will need to be temporarily removed and relocated. The work pad area needs to be a minimum of 75'x75' for a safe work space. The remaining work pads in the line will be 100'x100'. Eversource will be meeting with the Storage Area to determine if the work pad can be shifted further west, but due to the ditch and steep slope, our current understanding is that this work pad may need to impact the lupine area. The access going through the known lupine area shown is utilizing an existing trail and is required to access structures 9-7 as there is no alternative access to these poles.

3) Access through the storage facility is not practical due to the very steep slopes associated with the ravine and fill.

4) After further coordination discussions with the project team, the work at this location can be postponed until late summer. With that, we will plan to conduct a lupine survey of the area, which will include the area surveyed by GZA in 2018, which documented 5 plants north of Structure 10 and 10 plants south of it. Locations will be marked in the field so they can be avoided to the greatest extent practicable. Please let us know what the end date for the lupine growing season would be, and whether a technique such as bridge matting – utilizing matting to limit contact with the ground and bridge locations of these plants- is a suitable BMP.

Best--

Leonard Lord, PhD, CSS, CWS

Senior Environmental Scientist

Tighe&Bond

o. 603.294.9224 | m. 603.312.0236

177 Corporate Drive, Portsmouth, NH 03801

w: tighebond.com | halvorsondesign.com



From: Bouchard, Jessica <Jessica.R.Bouchard@dncr.nh.gov>
Sent: Wednesday, March 2, 2022 10:15 AM
To: Leonard Lord <LLord@TigheBond.com>
Cc: Jeremy Degler <JDegler@TigheBond.com>
Subject: RE: NHB21-3901 - Eversource Line V191 Bedford, Wild Lupine

[Caution - External Sender]

Leonard,

My apologies, I prematurely sent the last email.

One more question, can you verify that the proposed pole location will not occur within the Lupine occurrence? The plan you provided shows the existing and proposed pole on the storage facility side of the fence but the work pad is not centered around these poles.

Thanks,

Jessica Bouchard (she/her/hers)
Environmental Reviewer / Ecological Information Specialist
New Hampshire Natural Heritage Bureau (NHB)
Division of Forests & Lands
NH Dept. of Natural & Cultural Resources
172 Pembroke Rd
Concord, NH 03301
(603) 271-2834 (office)

[NHB DataCheck Tool](#)

From: DNCR: NHB Review
Sent: Wednesday, March 2, 2022 10:08 AM
To: Leonard Lord <LLord@TigheBond.com>
Cc: Jeremy Degler <JDegler@TigheBond.com>
Subject: RE: NHB21-3901 - Eversource Line V191 Bedford, Wild Lupine

Hi Leonard,

I have some questions regarding the potential for project modifications to occur that would result in minimizing impacts to the Lupine occurrence.

What is the primary limiting factor that creates the need to place the work pad at the eastern edge of the ROW?

Can the ground be leveled by the use of timber matting or another technique to create a safe, level access route and work pad to the west (outside) of the Lupine area which would reduce work directly in the occurrence area?

How does the storage facility limit the location that the work pad can be placed at? Has the potential for access to Structure 10 from the storage facility property been investigated?

You mentioned that work is scheduled to begin in late March and last up to four months. (March-July). This must be the entire duration of the project. Even if access can be re-routed and the work pad shifted, there is still work pad overlap with the Lupine occurrence. NHB will be recommending that work in the area of Structure 10 occurs prior to Lupine emergence, and I am investigating emergence time and will get back to you on this date. We would ask that the work pad and access that traverses the occurrence be removed by a specific date.

NHB has no concerns regarding the project's potential to impact river birch or Wright's spikesedge as there will be no impacts along the water's edge.

Thank you,

Jessica Bouchard (she/her/hers)
Environmental Reviewer / Ecological Information Specialist
New Hampshire Natural Heritage Bureau (NHB)
Division of Forests & Lands
NH Dept. of Natural & Cultural Resources
172 Pembroke Rd
Concord, NH 03301
(603) 271-2834 (office)

[NHB DataCheck Tool](#)

From: Leonard Lord <LLord@TigheBond.com>
Sent: Friday, February 25, 2022 1:26 PM
To: DNCR: NHB Review <nhbreview@dncr.nh.gov>
Cc: Jeremy Degler <JDegler@TigheBond.com>
Subject: RE: NHB21-3901 - Eversource Line V191 Bedford, Wild Lupine

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

Jessica-

Attached is a better view of the area in question. I am planning to send along a full plan set as requested, but how we handle Structure 10 affects multiple plan sets for multiple permits, so we would like to get as close as possible to a final plan before sending it along. Unfortunately the 75' x 75' work pad for the replacement of Structure 10 needs to be held at the eastern edge of the ROW due to steep slopes and the location of the storage facility along the western side. Work is scheduled to begin in late March and last up to four months. (March-July). Work in this area is 73' from the river. The closest point of the project to the river is 25'. The plans we send will include erosion controls. No work will be done

within the riverbed or along the river bank. In addition we are using 75'x75' work pads rather than the standard 100'x100' throughout the project.

Proposed conservation measures taken to protect the lupine population include using upland matting along the access road and work pad for Structure 10 and removing the work pads promptly upon completion of work. A follow-up survey will be done to assess and document potential impacts to the population approximately 30-60 days following removal of the matting. A NHB Rare Species Reporting Form will be completed as part of the survey.

Please let me know if this sounds reasonable as a start. I understand you may have other recommendations once you see the final plans.

Thanks!!
Lenny

Leonard Lord, PhD, CSS, CWS

Senior Environmental Scientist



o. 603.294.9224 | m. 603.312.0236

177 Corporate Drive, Portsmouth, NH 03801

w: tighebond.com | halvorsondesign.com



From: DNCR: NHB Review <nhbreview@dncr.nh.gov>
Sent: Friday, February 25, 2022 12:43 PM
To: Leonard Lord <LLord@TigheBond.com>
Cc: Jeremy Degler <JDegler@TigheBond.com>
Subject: RE: NHB21-3901 - Eversource Line V191 Bedford, Wild Lupine

[Caution - External Sender]

Hi Leonard,

A couple of things:

1. NHB comments in the Dataheck Letter haven't been addressed. Please provide a plan as indicated in the comment. Additionally, the ROW is very close to the Merrimack River. Please explain if any impacts will occur in the river's west bank.
2. The screenshot you provided is very small and can't be seen well enough. Please provide an attached document that can be scaled-up if needed.

3. Indicate the anticipated date that the matting is expected to be removed at the location where lupine is known to occur.

Thank you,

Jessica Bouchard (she/her/hers)
Environmental Reviewer / Ecological Information Specialist
New Hampshire Natural Heritage Bureau (NHB)
Division of Forests & Lands
NH Dept. of Natural & Cultural Resources
172 Pembroke Rd
Concord, NH 03301
(603) 271-2834 (office)

[NHB DataCheck Tool](#)

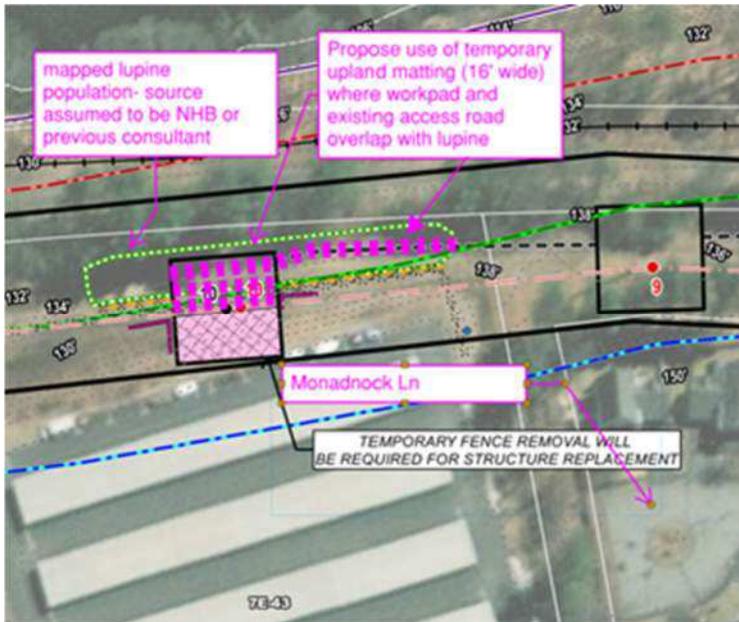
From: Leonard Lord <LLord@TigheBond.com>
Sent: Wednesday, February 23, 2022 8:22 AM
To: DNCR: NHB Review <nhbreview@dncr.nh.gov>
Cc: Jeremy Degler <JDegler@TigheBond.com>
Subject: NHB21-3901 - Eversource Line V191 Bedford, Wild Lupine

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

Good morning-

I am working with Eversource on permitting a utility structure replacement project along the Merrimack River in Bedford. We have a mapped lupine population along an existing dirt access road and in an area where the work pad needed for the structure replacement overlaps with a mapped lupine population (below). The location is near Monadnock Lane. I'm not sure if the mapping originally comes from NHB or another consultant, but it corresponds with the description given in the DataCheck results. Construction is scheduled to begin in March and proceed through April, with an outage scheduled in April. We are thinking of proposing the use of upland matting within the work areas to provide some protection to the lupine. Please let us know if this is an acceptable impact mitigation measure or if you have suggestions on other measures to incorporate.

Thanks-



Leonard Lord, PhD, CSS, CWS

Senior Environmental Scientist

Tighe&Bond

o. 603.294.9224 | m. 603.312.0236

177 Corporate Drive, Portsmouth, NH 03801

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SEEKING REPORTS OF RARE SNAKES



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

BLACK RACER (*state threatened*)



- Solid black with a white throat and chin
- Slender with glossy scales, 3-6 ft. long
- Hatchlings are very small and patterned

EASTERN HOGNOSE SNAKE (*state endangered*)



- Black, gray or patterned appearance
- Uprturned snout, 2-3 ft. long
- May spread neck out or hiss

Both Species Are Harmless!

Report sightings to RAARP@wildlife.nh.gov or 603-271-2461

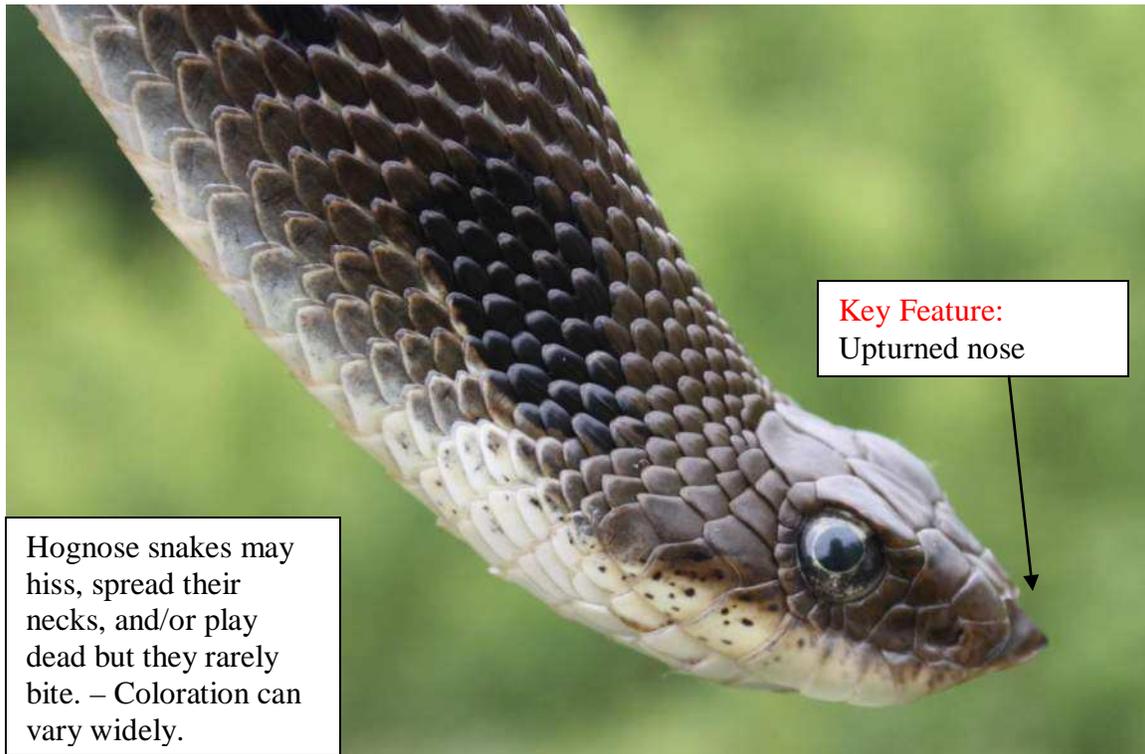
Please report promptly, noting specific location and date

Photographs strongly encouraged

Eastern Hognose Snake – NH State Endangered

Know your NH Snakes – This is a native harmless snake and should never be harassed or injured.

Penalties include fines up to \$2,000 and a year in jail (RSA 212-A)



Michael Marchand Photographs

Report all sightings of this snake to NHFG at 603-271-2461 or RAARP@wildlife.nh.gov - Photographs encouraged

For more information on New Hampshire's 11 native snakes, see <http://www.wildlife.state.nh.us/nongame/snakes.html>



PLEASE REPORT OBSERVATIONS OF RARE TURTLES

*The NH Fish & Game Department is requesting
observations of the following turtle species*



Blanding's turtle

(State Endangered)

Large, dark/black domed shell
with lighter speckles.

Distinct yellow throat/chin.

Aquatic but often moves on land.



Spotted turtle

(State Threatened)

Small, mostly aquatic with
black or dark brown with
yellow spots.

Fairly flat shell compared
to Blanding's turtle.

Spots vary in color and
number.

Report sightings immediately to NHFG Wildlife Division at 603-271-2461 (M-F 8-4) or to
NHFG Wildlife Biologist Melissa Doperalski 603-479-1129 (cell) anytime.

Please report promptly, noting specific location and date – Photographs strongly encouraged

Wood Turtle

(Glyptemys insculpta)

(New Hampshire Species of Special Concern)



Neck and forelimbs are orange.

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

Adults can be 5-8 inches long.



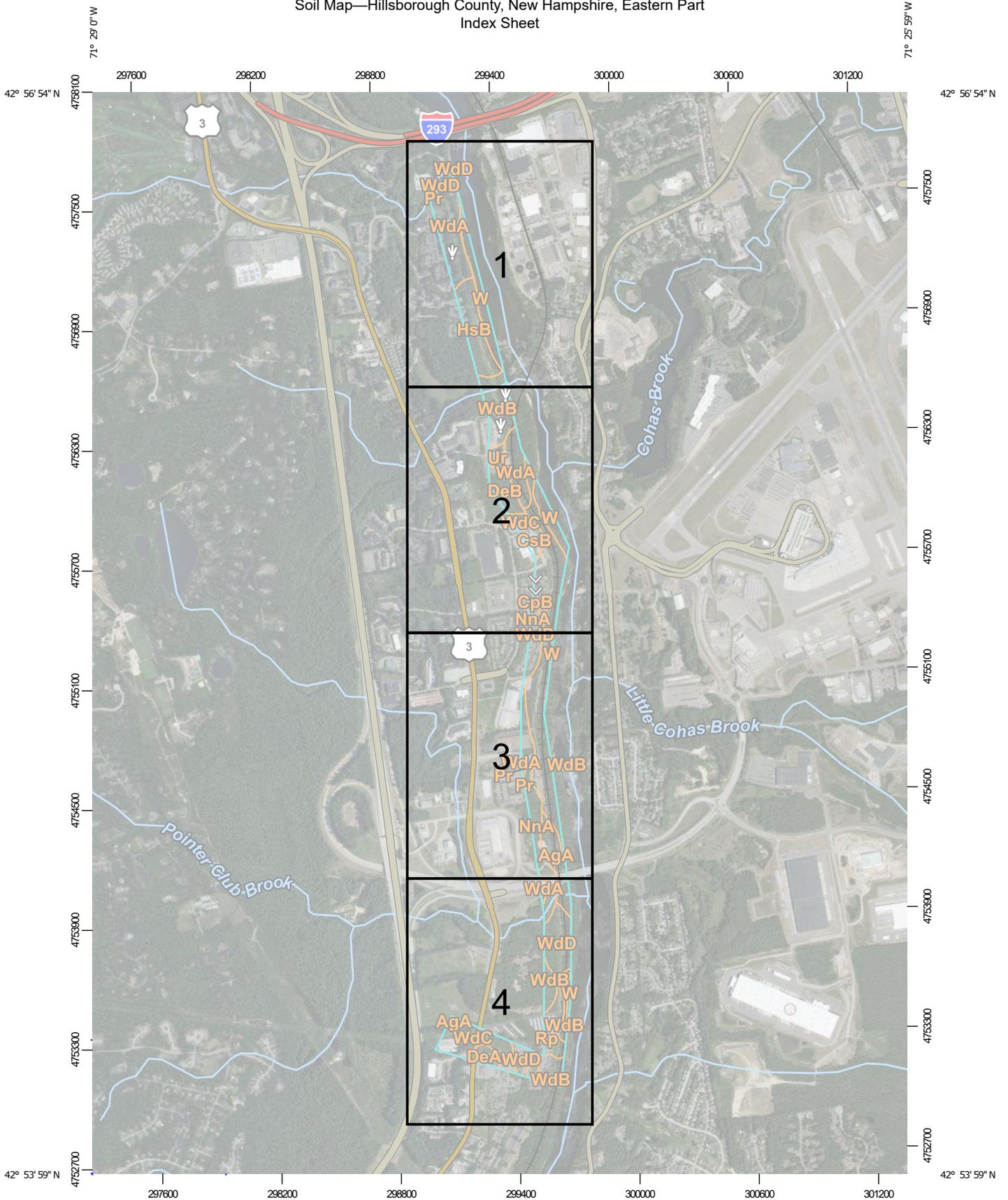
Please report sightings to NH Fish and Game at [RAARP wildlife.nh.gov](http://RAARP.wildlife.nh.gov) or at 603-271-2461. Photo documentation location and date time of observation is helpful.

NOTE It is illegal to remove a wood turtle from the wild (RSA 207:1 FIS 804.02).

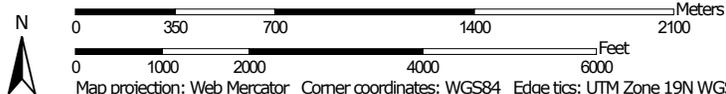
Tighe&Bond

APPENDIX D

Soil Map—Hillsborough County, New Hampshire, Eastern Part
Index Sheet



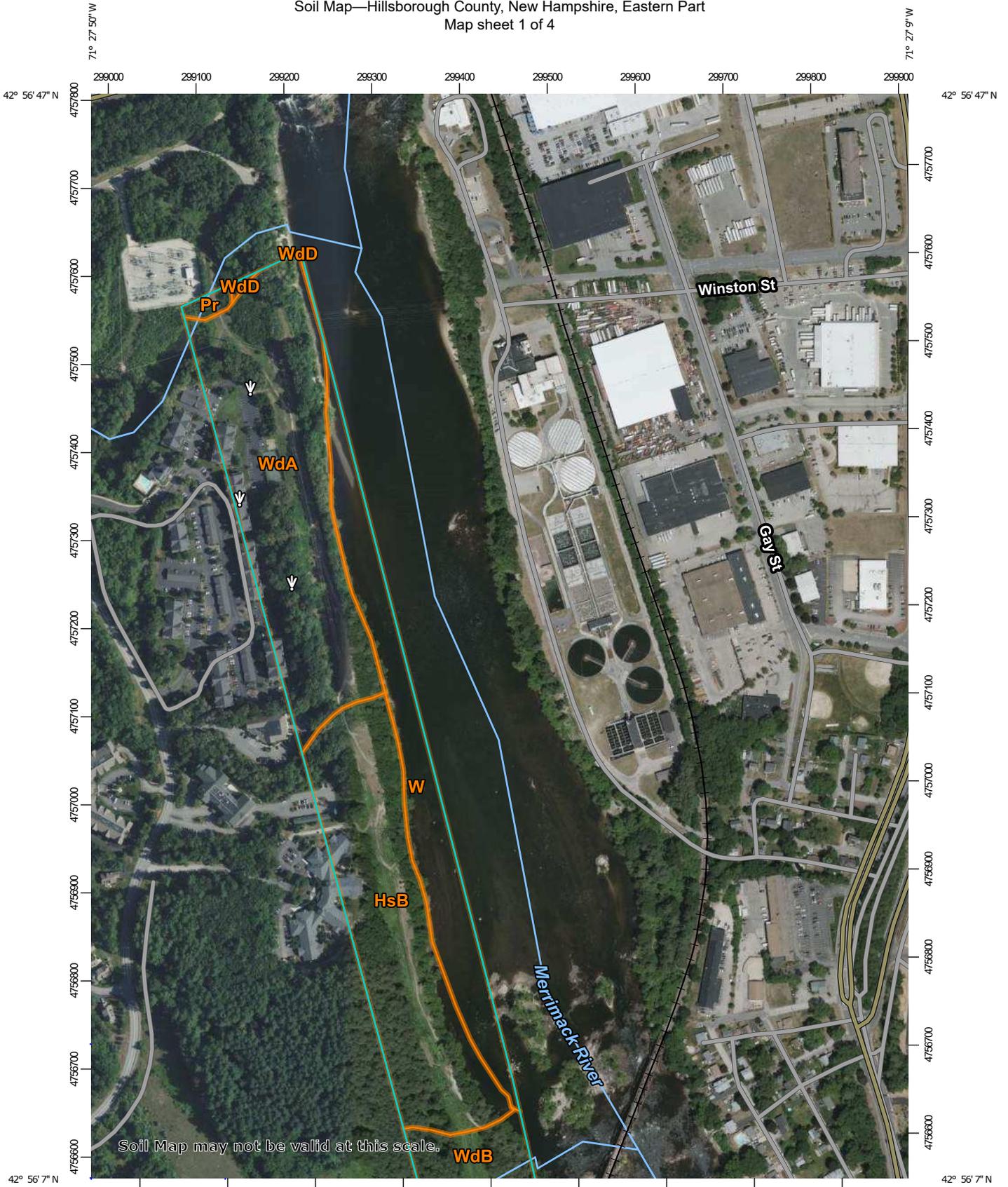
Map Scale: 1:26,400 if printed on A portrait (8.5" x 11") sheet.



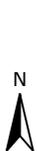
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84



Soil Map—Hillsborough County, New Hampshire, Eastern Part
Map sheet 1 of 4



Soil Map may not be valid at this scale.



Map Scale: 1:6,000 if printed on A portrait (8.5" x 11") sheet.

0 50 100 200 300 Meters

0 250 500 1000 1500 Feet

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

Joins sheet 2



Map Sheet Location

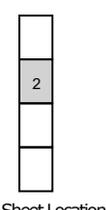
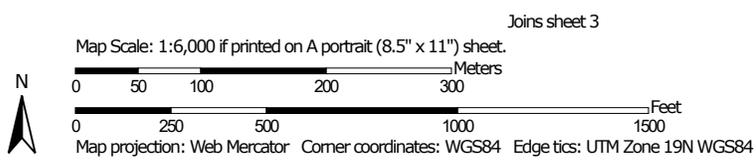
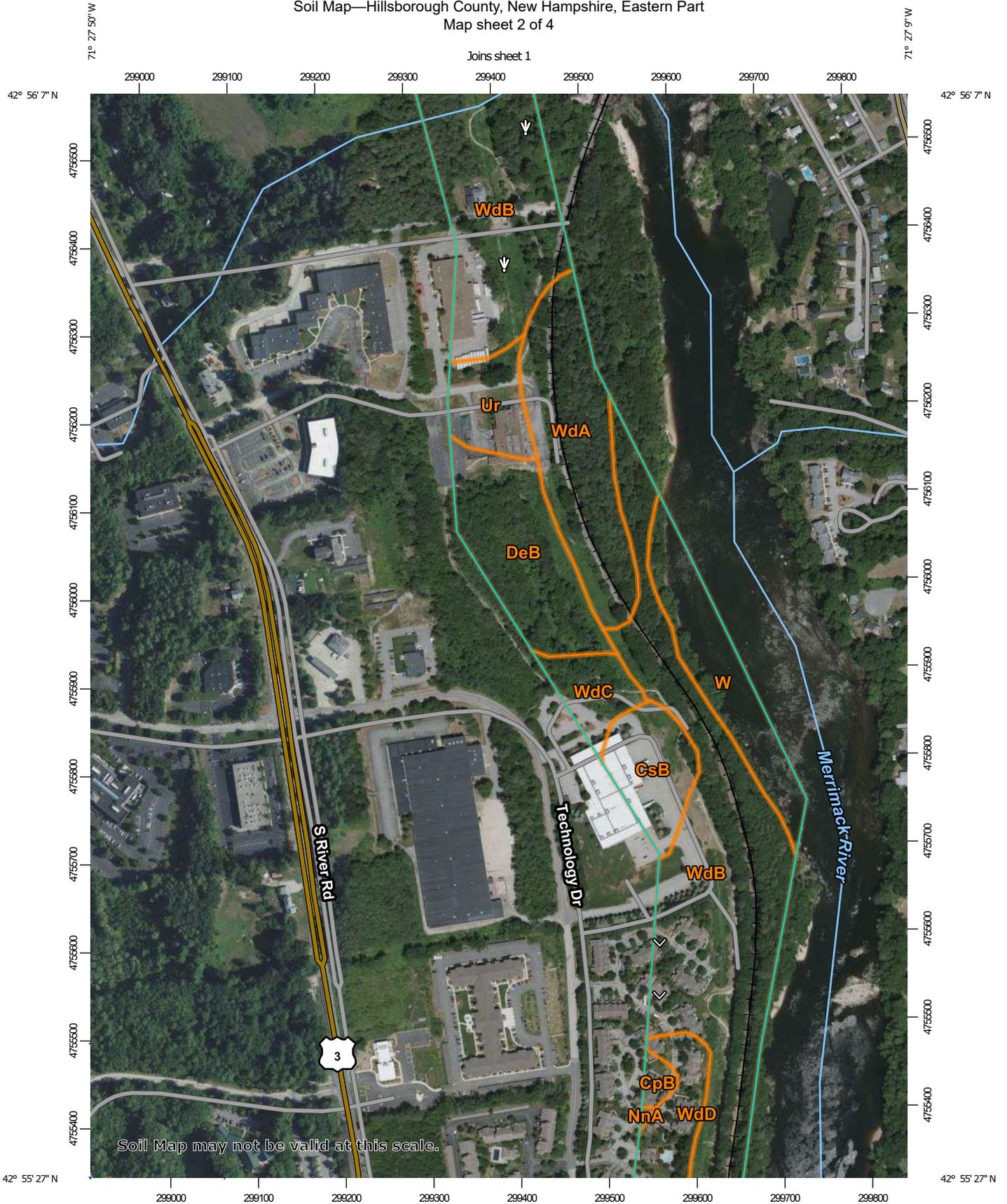


Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

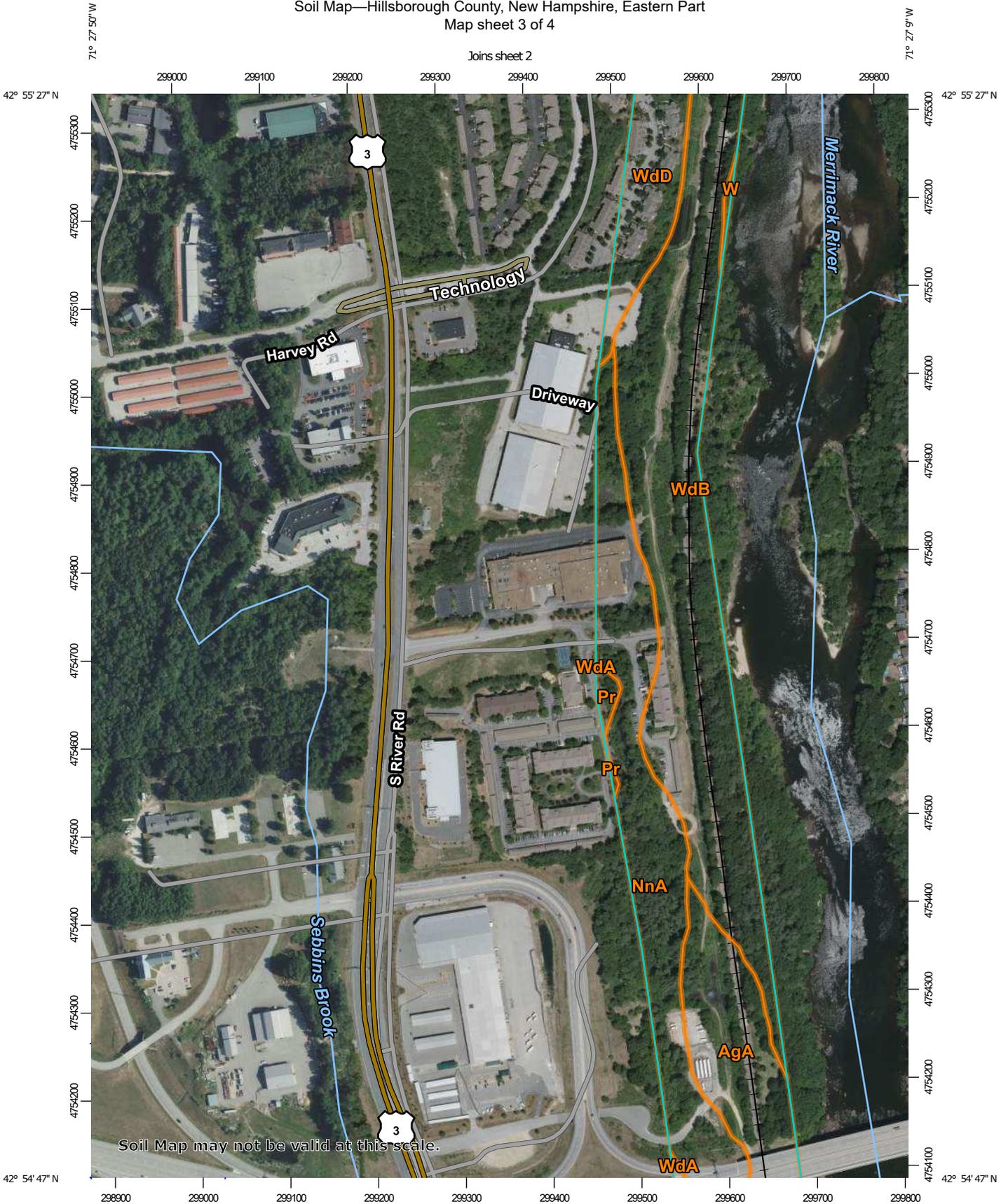
2/21/2022
Page 2 of 7

Soil Map—Hillsborough County, New Hampshire, Eastern Part
Map sheet 2 of 4



Soil Map—Hillsborough County, New Hampshire, Eastern Part
Map sheet 3 of 4

Joins sheet 2



71° 27' 50" W



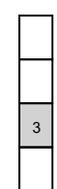
Map Scale: 1:6,000 if printed on A portrait (8.5" x 11") sheet.

0 50 100 200 300 Meters

0 250 500 1000 1500 Feet

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

Joins sheet 4



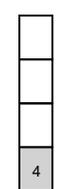
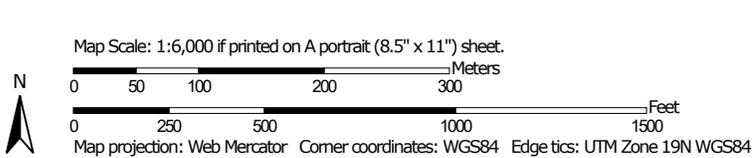
Map Sheet Location

Soil Map—Hillsborough County, New Hampshire, Eastern Part
Map sheet 4 of 4

Joins sheet 3



Soil Map may not be valid at this scale.



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 1:20,000.

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: Hillsborough County, New Hampshire, Eastern Part

Survey Area Data: Version 24, Aug 31, 2021

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—Aug 13, 2020

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
AgA	Agawam fine sandy loam, 0 to 3 percent slopes	9.0	4.9%
CpB	Chatfield-Hollis-Canton complex, 3 to 8 percent slopes	0.4	0.2%
CsB	Chatfield-Hollis complex, 3 to 8 percent slopes	3.0	1.6%
DeA	Deerfield loamy fine sand, 0 to 3 percent slopes	2.9	1.6%
DeB	Deerfield loamy fine sand, 3 to 8 percent slopes	5.9	3.2%
HsB	Hinckley loamy sand, 3 to 8 percent slopes	12.1	6.5%
NnA	Ninigret fine sandy loam, 0 to 3 percent slopes	13.9	7.5%
Pr	Pits, gravel	0.7	0.4%
Rp	Rippowam fine sandy loam	4.3	2.3%
Ur	Urban land	2.4	1.3%
W	Water (less than 40 acres)	13.2	7.1%
WdA	Windsor loamy sand, 0 to 3 percent slopes	23.2	12.5%
WdB	Windsor loamy sand, 3 to 8 percent slopes	57.0	30.8%
WdC	Windsor loamy sand, 8 to 15 percent slopes	14.0	7.6%
WdD	Windsor loamy sand, 15 to 35 percent slopes	22.8	12.4%
Totals for Area of Interest		184.8	100.0%

Tighe&Bond

APPENDIX E

Client: Eversource Energy Job Number: E-5034-115A

Line V191

Site: Bedford and Merrimack, New Hampshire

Photograph No.: 1	Date: 2/24/22	Direction Taken: Southeast
Description: View of Structure 37 and the adjacent wetland and stream, facing southeast (Bedford). The stream will be spanned using construction matting. The structure will be surrounded by a timber mat work pad.		

Photograph No.: 2	Date: 2/24/22	Direction Taken: Northeast
Description: View of Structure 35 and the access road, facing northeast (Bedford).		

Client: Eversource Energy Job Number: E-5034-115A
 Line V191
 Site: Bedford and Merrimack, New Hampshire

Photograph No.: 3	Date: 2/24/22	Direction Taken: Northwest
Description: View of Structure 38 and existing access, facing northwest (Bedford).		

Photograph No.: 4	Date: 2/24/22	Direction Taken: Northwest
Description: View of Structure 39 and existing access, facing northwest (Bedford).		

Client: Eversource Energy Job Number: E-5034-115A
Line V191
Site: Bedford and Merrimack, New Hampshire



Appendix D - Photographic Log

Client: Eversource Energy Job Number: E-5034-115A
Line V191
Site: Bedford and Merrimack, New Hampshire

Photograph No.: 7	Date: 2/24/22	Direction Taken: Northwest
Description: View of Structure 44 and existing access, facing northwest (Bedford).		
		

Photograph No.: 8	Date: 2/24/22	Direction Taken: Northwest
Description: View of Structure 45 adjacent to an existing bridge that spans a stream, facing northwest. Upland timber matting will be staged over the culvert (Bedford).		
		

Client: Eversource Energy Job Number: E-5034-115A
 Line V191
 Site: Bedford and Merrimack, New Hampshire

Photograph No.: 9	Date: 2/24/22	Direction Taken: Northwest
Description: View of Structure 48 and existing access, facing northwest. Part of the work pad surrounding this structure will fall into the 50-foot Waterfront Buffer to the Merrimack River to the east (Bedford).		

Photograph No.: 10	Date: 2/24/22	Direction Taken: Northwest
Description: View of Structure 49 and existing access, facing northwest. Part of the work pad surrounding this structure will fall into the 50-foot Waterfront Buffer to the Merrimack River to the east (Bedford).		

Appendix D - Photographic Log

Client: Eversource Energy Job Number: E-5034-115A
Line V191
Site: Bedford and Merrimack, New Hampshire

Photograph No.: 11	Date: 2/24/22	Direction Taken: Northwest
Description: View of Structure 50 and existing access, facing northwest (Bedford).		
		

Photograph No.: 12	Date: 2/24/22	Direction Taken: Southeast
Description: View of Structure 51, facing southeast. This structure is adjacent to a wetland on the east, indicated by the arrows (Bedford).		
		

Appendix D - Photographic Log

Client: Eversource Energy Job Number: E-5034-115A
Line V191
Site: Bedford and Merrimack, New Hampshire

Photograph No.: 13	Date: 2/24/22	Direction Taken: Northwest
Description: View of Structure 52 and existing access, facing northwest (Bedford).		
		

Photograph No.: 14	Date: 2/24/22	Direction Taken: Northwest
Description: View of Structure 53 and existing access, facing northwest. Part of the work pad surrounding this structure will fall into the 50-foot Waterfront Buffer to the Merrimack River to the east (Bedford).		
		

Client: Eversource Energy Job Number: E-5034-115A
 Line V191
 Site: Bedford and Merrimack, New Hampshire

Photograph No.: 15	Date: 2/24/22	Direction Taken: Southeast
Description: View of Structure 54 and existing access, facing southeast (Bedford).		

Photograph No.: 16	Date: 12/7/21	Direction Taken: Southeast
Description: View of Structure 5 and existing access, facing southeast. Temporary upland matting will be placed around the structure for work and access (Merrimack).		

Client: Eversource Energy Job Number: E-5034-115A
 Line V191
 Site: Bedford and Merrimack, New Hampshire

Photograph No.: 17	Date: 2/24/22	Direction Taken: South
Description: View of Structure 9 and existing access, facing south. This structure is adjacent to rail-road tracks to the east, as indicated by the arrow (Merrimack).		

Photograph No.: 18	Date: 2/24/22	Direction Taken: Northwest
Description: View of Structure 10, which is adjacent to a population of wild lupine (<i>Lupinus perennis</i>) to the east, facing northwest. Fence removal will be necessary for the replacement of this Structure (Merrimack).		

Client: Eversource Energy Job Number: E-5034-115A
 Line V191
 Site: Bedford and Merrimack, New Hampshire

Photograph No.: 19	Date: 12/7/21	Direction Taken: Northeast
Description: View of Structure 20 and existing access, facing northeast. This structure is within the boundaries of a wetland. Temporary wooden timber matting will be used over the wetland area for the replacement (Bedford).		

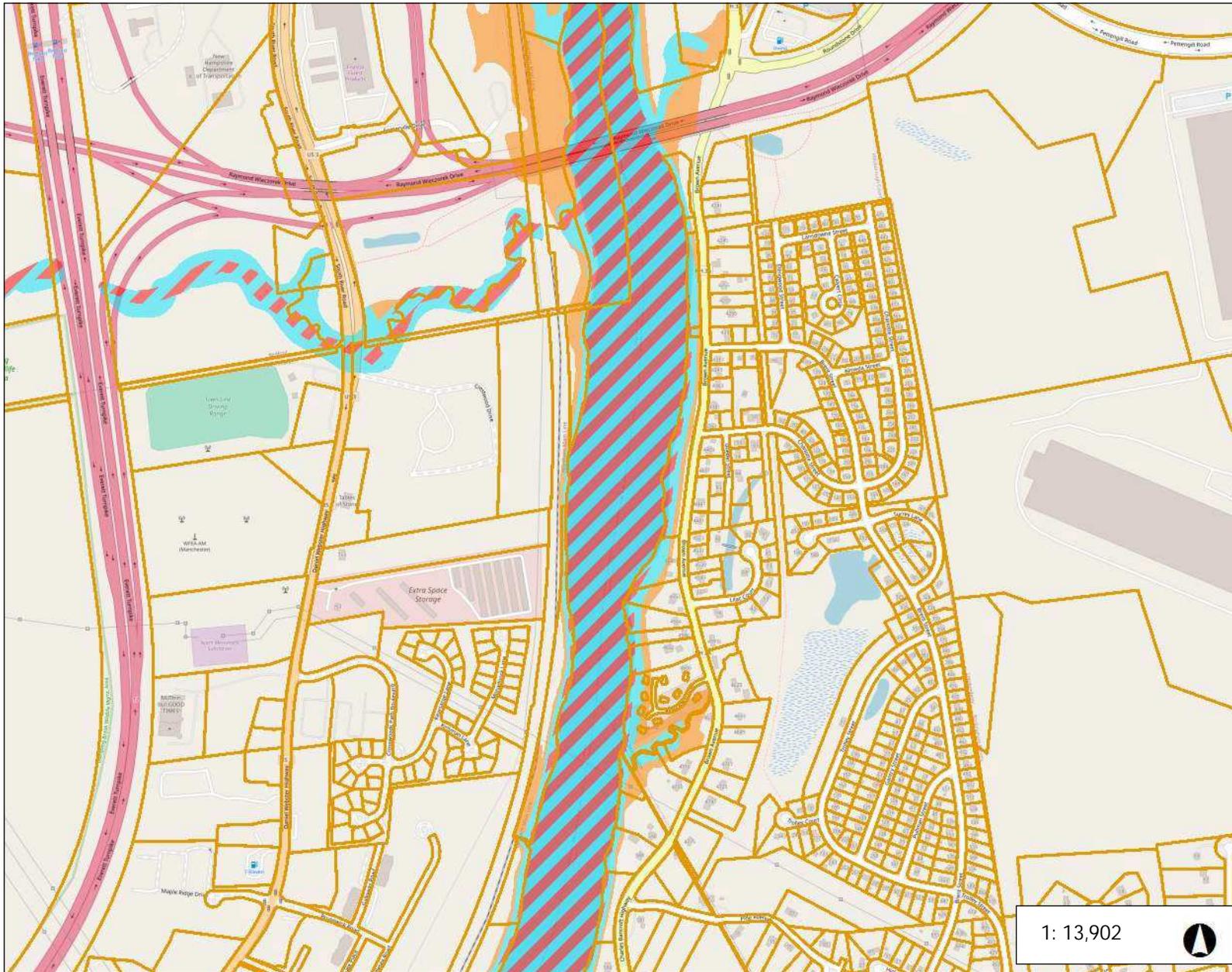
Photograph No.: 20	Date: 12/7/21	Direction Taken: Southeast
Description: View of Structure 7, which is adjacent to a wetland area to the west, facing southeast. Temporary wooden timber matting will be placed in the work pad area around this structure during replacement (Merrimack).		

Client: Eversource Energy Job Number: E-5034-115A
Line V191
Site: Bedford and Merrimack, New Hampshire

Photograph No.: 21	Date: 12/7/21	Direction Taken: North
Description: View of the existing access to Structure 27, facing north. Temporary wooden timber matting will be used to span this wetland area (Bedford).		
		

Tighe&Bond

APPENDIX F



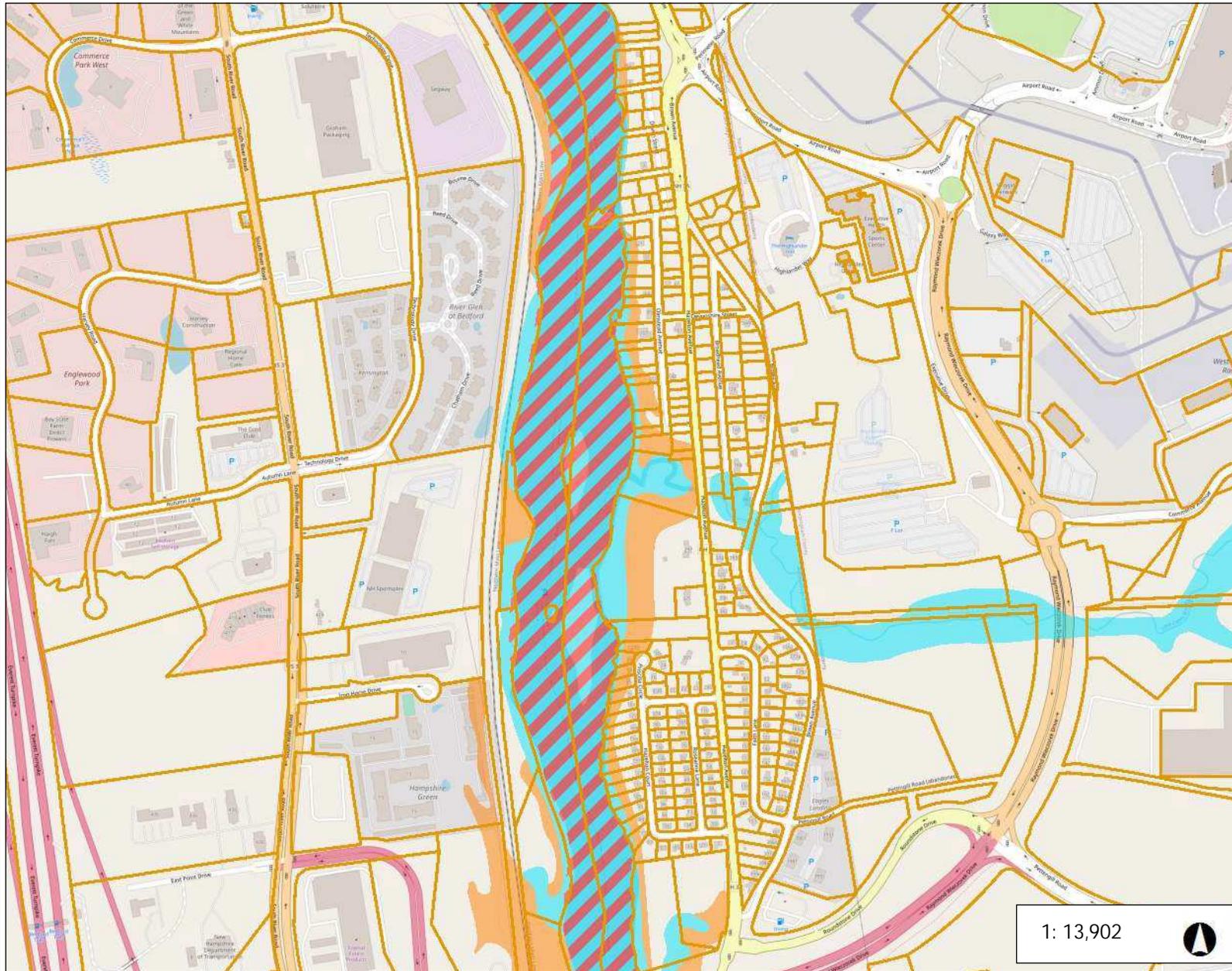
Legend

- Parcel Polygons**
 - Parcel Polygons
 - Attributes for Additional Lines
- Parcel Lines**
- FEMA Floodplains**
 - 1 pct. Annual Chance Flood Hazard
 - Floodway
 - 0.2 pct. Annual Chance Flood Hazard
 - Area of Undetermined Flood Hazard
 - Area Protected by Levee

1: 13,902

0.4 0 0.22 0.4 Miles

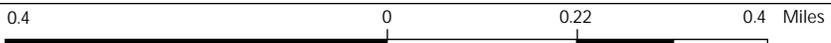
Notes
V191-Lower



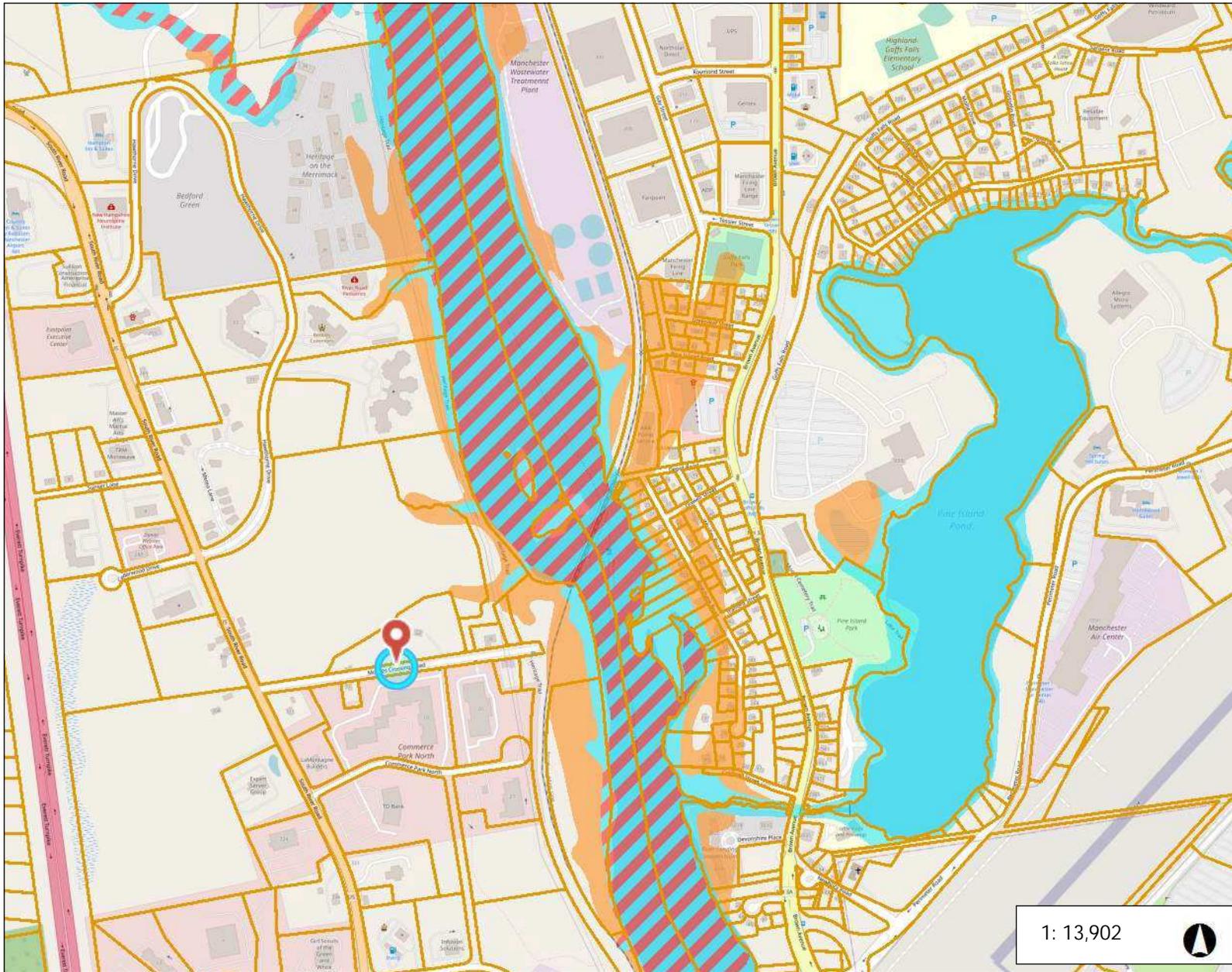
Legend

- Parcel Polygons**
 - Parcel Polygons
 - Attributes for Additional Lines
- Parcel Lines**
- FEMA Floodplains**
 - 1 pct. Annual Chance Flood Hazard
 - Floodway
 - 0.2 pct. Annual Chance Flood Hazard
 - Area of Undetermined Flood Hazard
 - Area Protected by Levee

1: 13,902 



Notes
V191-Mid



Legend

- Parcel Polygons**
 - Parcel Polygons
 - Attributes for Additional Lines
- Parcel Lines**
- FEMA Floodplains**
 - 1 pct. Annual Chance Flood Hazard
 - Floodway
 - 0.2 pct. Annual Chance Flood Hazard
 - Area of Undetermined Flood Hazard
 - Area Protected by Levee

1: 13,902



0.4 0 0.22 0.4 Miles

Notes

V191-UPR

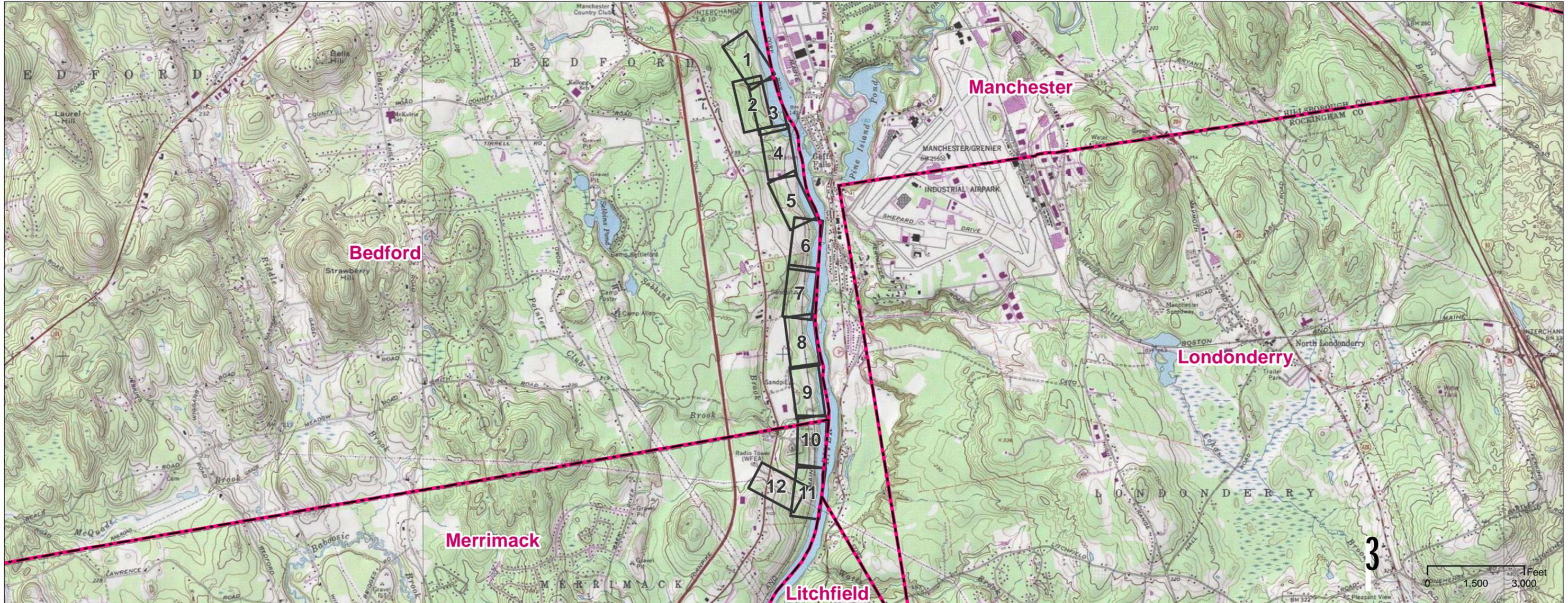
Tighe&Bond

APPENDIX G

Line V191 Structure Replacement Project

BEDFORD AND MERRIMACK, NEW HAMPSHIRE Environmental Resources Map

Date: April 07, 2022



PREPARED FOR:

EVERSOURCE

13 Legends Drive
Hooksett, NH 03106

Legend

-  Map Index
-  Municipal Boundary

INDEX OF FIGURES

Title Sheet / Index Map
Map Sheets 1-12

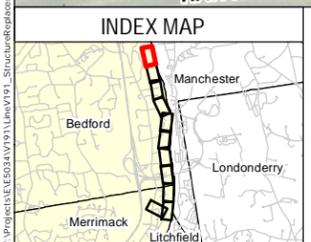
NO.	DATE	REVISIONS

PREPARED BY:

Tighe & Bond

53 Southampton Road
Westfield, MA 01085

TOTAL AOT IMPACTS:
560,498 SQ. FT.



- Legend**
- Proposed Structure
 - Existing Structure
 - Overhead Eversource Line
 - Railroad
 - Contour Line (2 Ft.)
 - Fence
 - Sediment Control Barrier
 - Existing Access
 - Proposed Access
 - Off-ROW Access Pending Rights
 - Ordinary High Water Mark (not delineated)
 - Watercourse (not delineated)
 - Field Delineated Wetland*
 - Parcel Boundary
 - Existing Right-of-Way
 - Rare Animal Species
 - Rare Plant Species
 - Municipal Boundary
 - Work Pad
 - Temporary Construction Matting
 - Temporary Upland Matting
 - Stonewall
 - 50' Waterfront Buffer
 - 150' Natural Woodland Buffer
 - 250' Protected Shoreland Zone
 - AOT Impact
 - FEMA 100-Year Flood Zone
 - Wellhead Protection Areas

Map Notes:
Data valid as of April 2022.
Data source: New Hampshire Geographically Referenced Analysis and Information Transfer System (GRANIT) and USFWS. Orthophotography courtesy of ESRI.
Contours downloaded from New Hampshire GRANIT
Parcels provided by New Hampshire GRANIT
Figure intended to be printed on 11x17
*Indicates datasets with a transparency setting of 30-70%
This mapping product has been created to comply with submittal requirements to obtain certain regulatory approvals and, as such, there is no reliance on the information contained herein for any other purpose.

1 inch = 100 feet

NO.	DATE	REVISIONS

EVERSOURCE

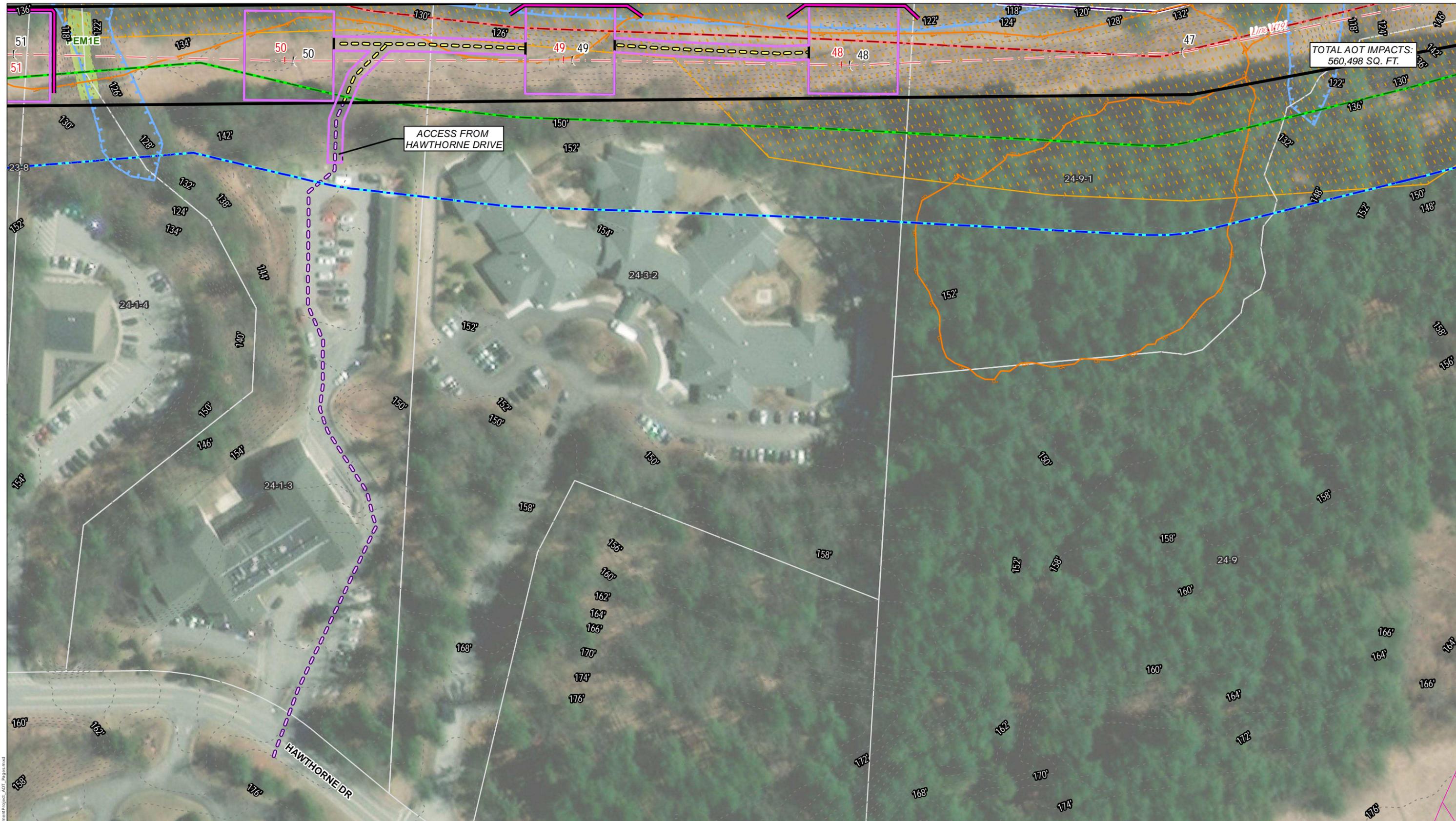
**Line V191
Structure Replacement Project**

Bedford, New Hampshire

Date: April 8, 2022

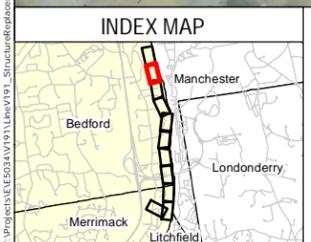
Map Sheet 1 of 12

Tighe & Bond



TOTAL AOT IMPACTS:
560,498 SQ. FT.

ACCESS FROM
HAWTHORNE DRIVE



Legend	
Proposed Structure	Proposed Access
Existing Structure	Off-ROW Access Pending Rights
Overhead Eversource Line	Trail
Railroad	Ordinary High Water Mark (not delineated)
Contour Line (2 Ft.)	Watercourse (not delineated)
Fence	Field Delineated Wetland*
Sediment Control Barrier	Parcel Boundary
Existing Access	Existing Right-of-Way
Rare Animal Species	Work Pad
Rare Plant Species	Temporary Construction Matting
Municipal Boundary	Temporary Upland Matting
Stonewall	Stonewall
50' Waterfront Buffer	50' Waterfront Buffer
150' Natural Woodland Buffer	150' Natural Woodland Buffer
250' Protected Shoreland Zone	250' Protected Shoreland Zone
AOT Impact	AOT Impact
FEMA 100-Year Flood Zone	FEMA 100-Year Flood Zone
Wellhead Protection Areas	Wellhead Protection Areas

Map Notes:
 Data valid as of April 2022.
 Data source: New Hampshire Geographically Referenced Analysis and Information Transfer System (GRANIT) and USFWS. Orthophotography courtesy of ESRI.
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1 inch = 100 feet

0 50 100 Feet

NO.	DATE	REVISIONS

EVERSOURCE

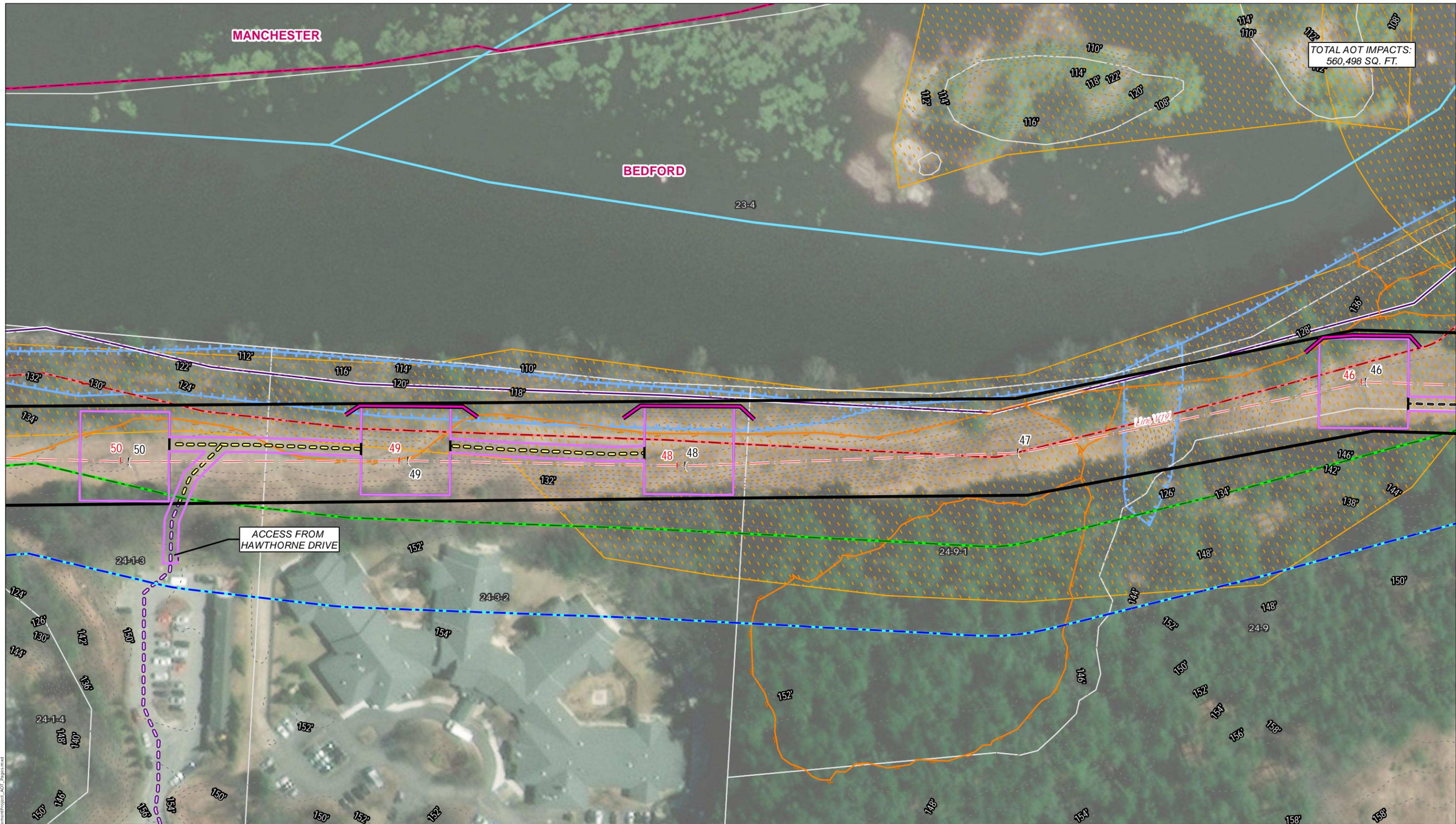
**Line V191
Structure Replacement Project**

Bedford, New Hampshire

Date: April 8, 2022

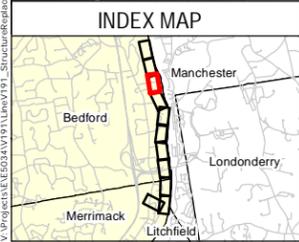
Map Sheet 2 of 12

Tighe & Bond



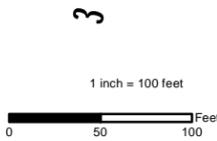
TOTAL AOT IMPACTS:
560,498 SQ. FT.

ACCESS FROM
HAWTHORNE DRIVE



- Legend**
- Proposed Structure
 - - - Existing Structure
 - Overhead Eversource Line
 - + Railroad
 - - - Contour Line (2 Ft.)
 - [-] Fence
 - Sediment Control Barrier
 - Existing Access
 - Proposed Access
 - - - Off-ROW Access Pending Rights
 - Trail
 - Ordinary High Water Mark (not delineated)
 - - - Watercourse (not delineated)
 - Field Delineated Wetland*
 - Parcel Boundary
 - Existing Right-of-Way
 - ▨ Rare Animal Species
 - ▨ Rare Plant Species
 - ▨ Municipal Boundary
 - ▨ Work Pad
 - ▨ Temporary Construction Matting
 - ▨ Temporary Upland Matting
 - (((Stonewall
 - 50' Waterfront Buffer
 - 150' Natural Woodland Buffer
 - 250' Protected Shoreland Zone
 - ▨ FEMA 100-Year Flood Zone
 - ▨ AOT Impact
 - ▨ Wellhead Protection Areas

Map Notes:
 Data valid as of April 2022.
 Data source: New Hampshire Geographically Referenced Analysis and Information Transfer System (GRANIT) and USFWS. Orthophotography courtesy of ESRI.
 Contours downloaded from New Hampshire GRANIT
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NO.	DATE	REVISIONS

EVERSOURCE

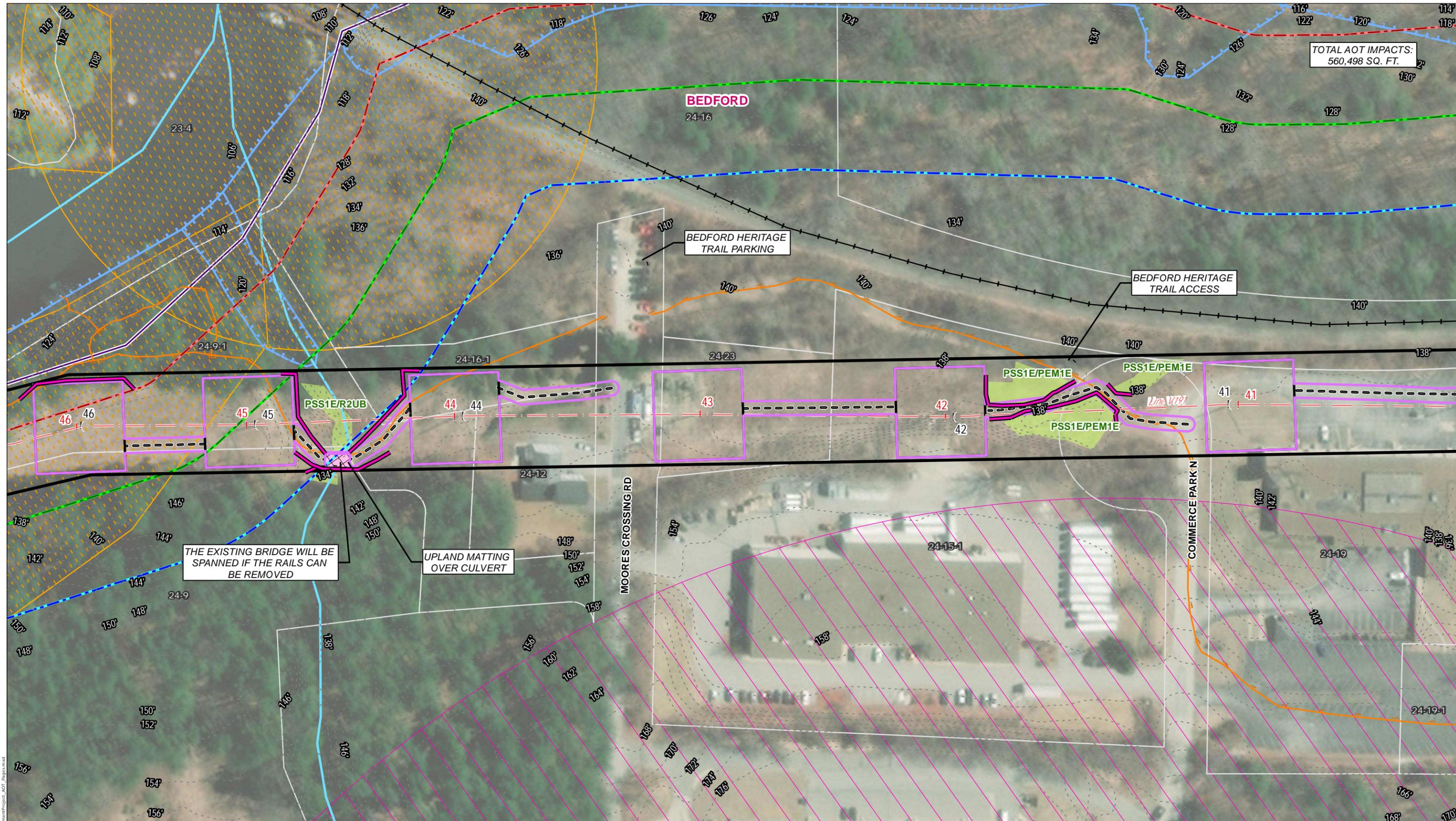
**Line V191
Structure Replacement Project**

Bedford, New Hampshire

Date: April 8, 2022

Map Sheet 3 of 12

Tighe & Bond



TOTAL AOT IMPACTS:
560,498 SQ. FT.

BEDFORD
24-16

BEDFORD HERITAGE
TRAIL PARKING

BEDFORD HERITAGE
TRAIL ACCESS

PSS1E/R2UB

PSS1E/PEM1E

PSS1E/PEM1E

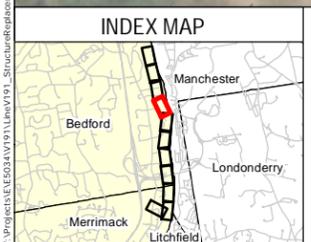
PSS1E/PEM1E

THE EXISTING BRIDGE WILL BE
SPANNED IF THE RAILS CAN BE
REMOVED

UPLAND MATTING
OVER CULVERT

MOORES CROSSING RD

COMMERCE PARK N



Legend

Proposed Structure	Proposed Access	Rare Animal Species	150' Natural Woodland Buffer
Existing Structure	Off-ROW Access Pending Rights	Rare Plant Species	250' Protected Shoreland Zone
Overhead Eversource Line	Trail	Municipal Boundary	AOT Impact
Railroad	Ordinary High Water Mark (not delineated)	Work Pad	FEMA 100-Year Flood Zone
Contour Line (2 Ft.)	Watercourse (not delineated)	Temporary Construction Matting	Wellhead Protection Areas
Fence	Field Delineated Wetland*	Temporary Upland Matting	
Sediment Control Barrier	Parcel Boundary	Stonewall	
Existing Access	Existing Right-of-Way	50' Waterfront Buffer	

Map Notes:
Data valid as of April 2022.
Data source: New Hampshire Geographically Referenced Analysis and Information Transfer System (GRANIT) and USFWS. Orthophotography courtesy of ESRI.
Contours downloaded from New Hampshire GRANIT
Parcels provided by New Hampshire GRANIT
Figure intended to be printed on 11x17
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1 inch = 100 feet

NO.	DATE	REVISIONS

EVERSOURCE

**Line V191
Structure Replacement Project**

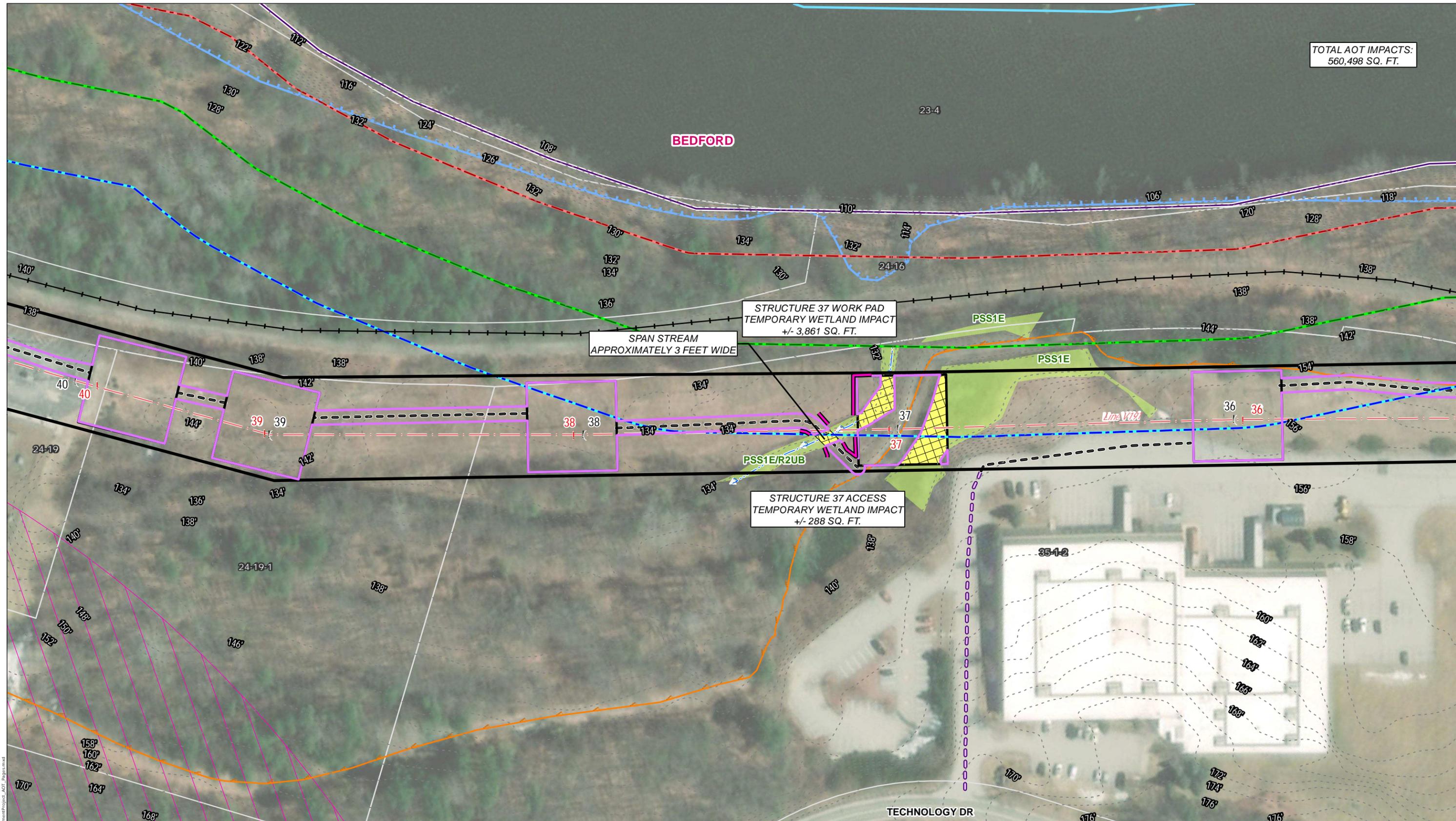
Bedford, New Hampshire

Date: April 8, 2022

Map Sheet 4 of 12

Tighe & Bond

TOTAL AOT IMPACTS:
560,498 SQ. FT.



Legend

Proposed Structure	Proposed Access	Rare Animal Species	150' Natural Woodland Buffer
Existing Structure	Off-ROW Access Pending Rights	Rare Plant Species	250' Protected Shoreland Zone
Overhead Eversource Line	Trail	Municipal Boundary	AOT Impact
Railroad	Ordinary High Water Mark (not delineated)	Work Pad	FEMA 100-Year Flood Zone
Contour Line (2 Ft.)	Watercourse (not delineated)	Temporary Construction Matting	Wellhead Protection Areas
Fence	Field Delineated Wetland*	Temporary Upland Matting	
Sediment Control Barrier	Parcel Boundary	Stonewall	
Existing Access	Existing Right-of-Way	50' Waterfront Buffer	

Map Notes:
 Data valid as of April 2022.
 Data source: New Hampshire Geographically Referenced Analysis and Information Transfer System (GRANIT) and USFWS. Orthophotography courtesy of ESRI.
 Contours downloaded from New Hampshire GRANIT
 Parcels provided by New Hampshire GRANIT
 Figure intended to be printed on 11x17
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 This mapping product has been created to comply with submittal requirements to obtain certain regulatory approvals and, as such, there is no reliance on the information contained herein for any other purpose.

1 inch = 100 feet

0 50 100 Feet

NO.	DATE	REVISIONS

EVERSOURCE

**Line V191
Structure Replacement Project**

Bedford, New Hampshire

Date: April 8, 2022

Map Sheet 5 of 12

Tighe & Bond

MANCHESTER

BEDFORD

TOTAL AOT IMPACTS:
560,498 SQ. FT.

UPLAND MATTING
OVER CULVERT

STRUCTURE 33 WORK PAD
TEMPORARY WETLAND IMPACT
+/- 1,028 SQ. FT.

PSS1E/PEM1Ex

PSS1E/PEM1E

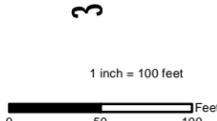
ACCESS FROM
TECHNOLOGY DRIVE

INDEX MAP

Legend

- Proposed Structure
- Existing Structure
- Overhead Eversource Line
- Railroad
- Contour Line (2 Ft.)
- Fence
- Sediment Control Barrier
- Existing Access
- Existing Right-of-Way
- Proposed Access
- Off-ROW Access Pending Rights
- Trail
- Ordinary High Water Mark (not delineated)
- Watercourse (not delineated)
- Field Delineated Wetland*
- Parcel Boundary
- Existing Right-of-Way
- Rare Animal Species
- Rare Plant Species
- Municipal Boundary
- Work Pad
- Temporary Construction Matting
- Temporary Upland Matting
- Stonewall
- 50' Waterfront Buffer
- 150' Natural Woodland Buffer
- 250' Protected Shoreland Zone
- AOT Impact
- FEMA 100-Year Flood Zone
- Wellhead Protection Areas

Map Notes:
Data valid as of April 2022.
Data source: New Hampshire Geographically
Referenced Analysis and Information Transfer System (GRANIT)
and USFWS. Orthophotography courtesy of ESRI.
Contours downloaded from New Hampshire GRANIT
Parcels provided by New Hampshire GRANIT
Figure intended to be printed on 11x17
*Indicates datasets with a transparency setting of 30-70%
This mapping product has been created to comply with
submittal requirements to obtain certain regulatory
approvals and, as such, there is no reliance on the
information contained herein for any other purpose.



EVERSOURCE

**Line V191
Structure Replacement Project**

Bedford, New Hampshire

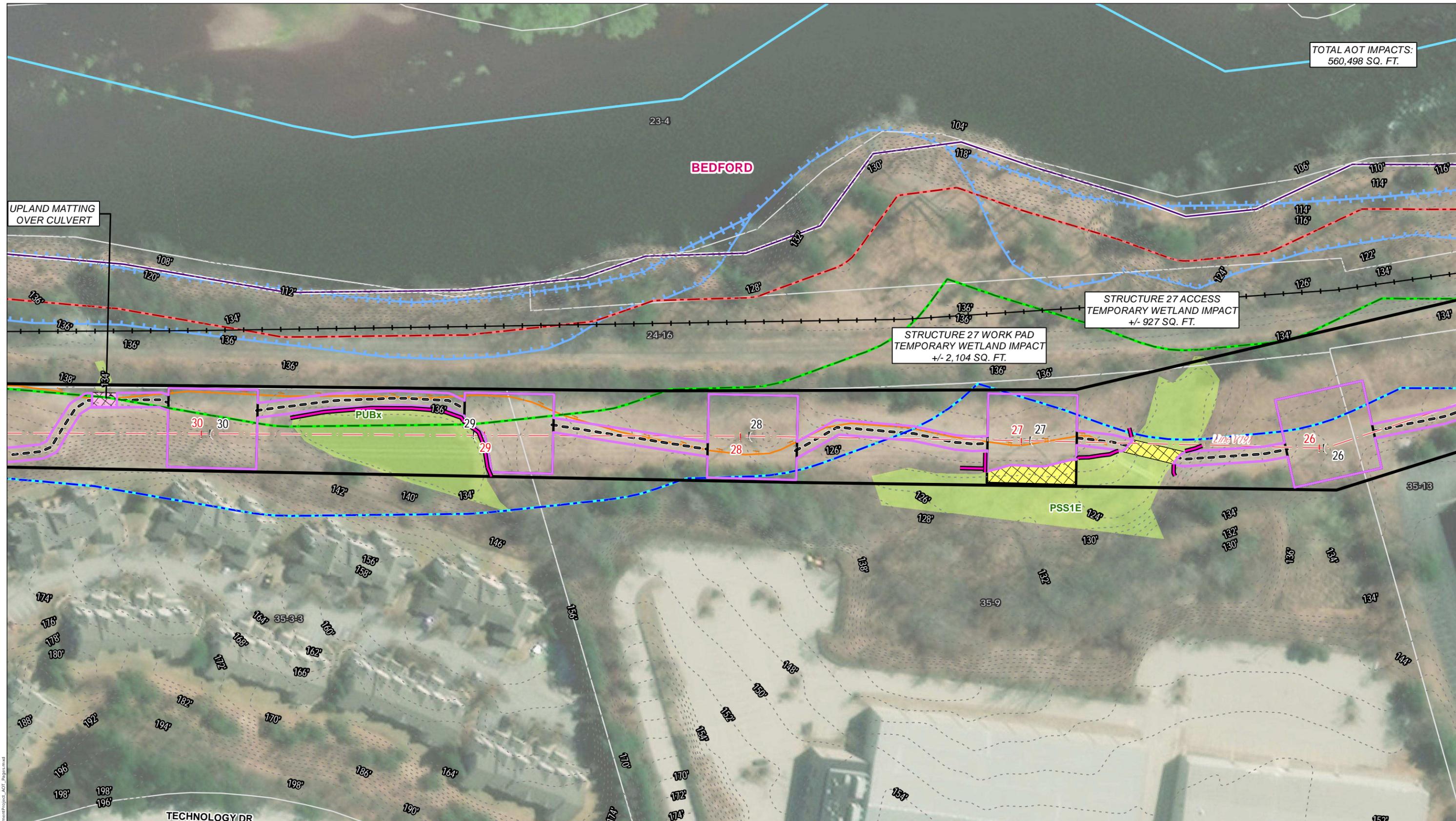
Date: April 8, 2022

Map Sheet 6 of 12

Tighe & Bond

NO.	DATE	REVISIONS

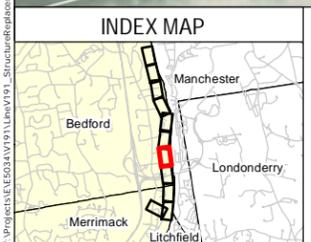
TOTAL AOT IMPACTS:
560,498 SQ. FT.



UPLAND MATTING
OVER CULVERT

STRUCTURE 27 WORK PAD
TEMPORARY WETLAND IMPACT
+/- 2,104 SQ. FT.

STRUCTURE 27 ACCESS
TEMPORARY WETLAND IMPACT
+/- 927 SQ. FT.



Legend

Proposed Structure	Proposed Access	Rare Animal Species	150' Natural Woodland Buffer
Existing Structure	Off-ROW Access Pending Rights	Rare Plant Species	250' Protected Shoreland Zone
Overhead Eversource Line	Trail	Municipal Boundary	AOT Impact
Railroad	Ordinary High Water Mark (not delineated)	Work Pad	FEMA 100-Year Flood Zone
Contour Line (2 Ft.)	Watercourse (not delineated)	Temporary Construction Matting	Wellhead Protection Areas
Fence	Field Delineated Wetland*	Temporary Upland Matting	
Sediment Control Barrier	Parcel Boundary	Stonewall	
Existing Access	Existing Right-of-Way	50' Waterfront Buffer	

Map Notes:
Data valid as of April 2022.
Data source: New Hampshire Geographically Referenced Analysis and Information Transfer System (GRANIT) and USFWS. Orthophotography courtesy of ESRI.
Contours downloaded from New Hampshire GRANIT
Parcels provided by New Hampshire GRANIT
Figure intended to be printed on 11x17
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1 inch = 100 feet

NO.	DATE	REVISIONS

EVERSOURCE

**Line V191
Structure Replacement Project**

Bedford, New Hampshire

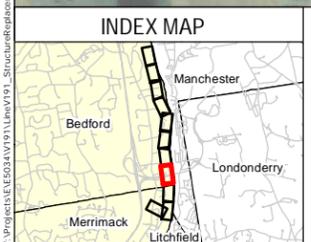
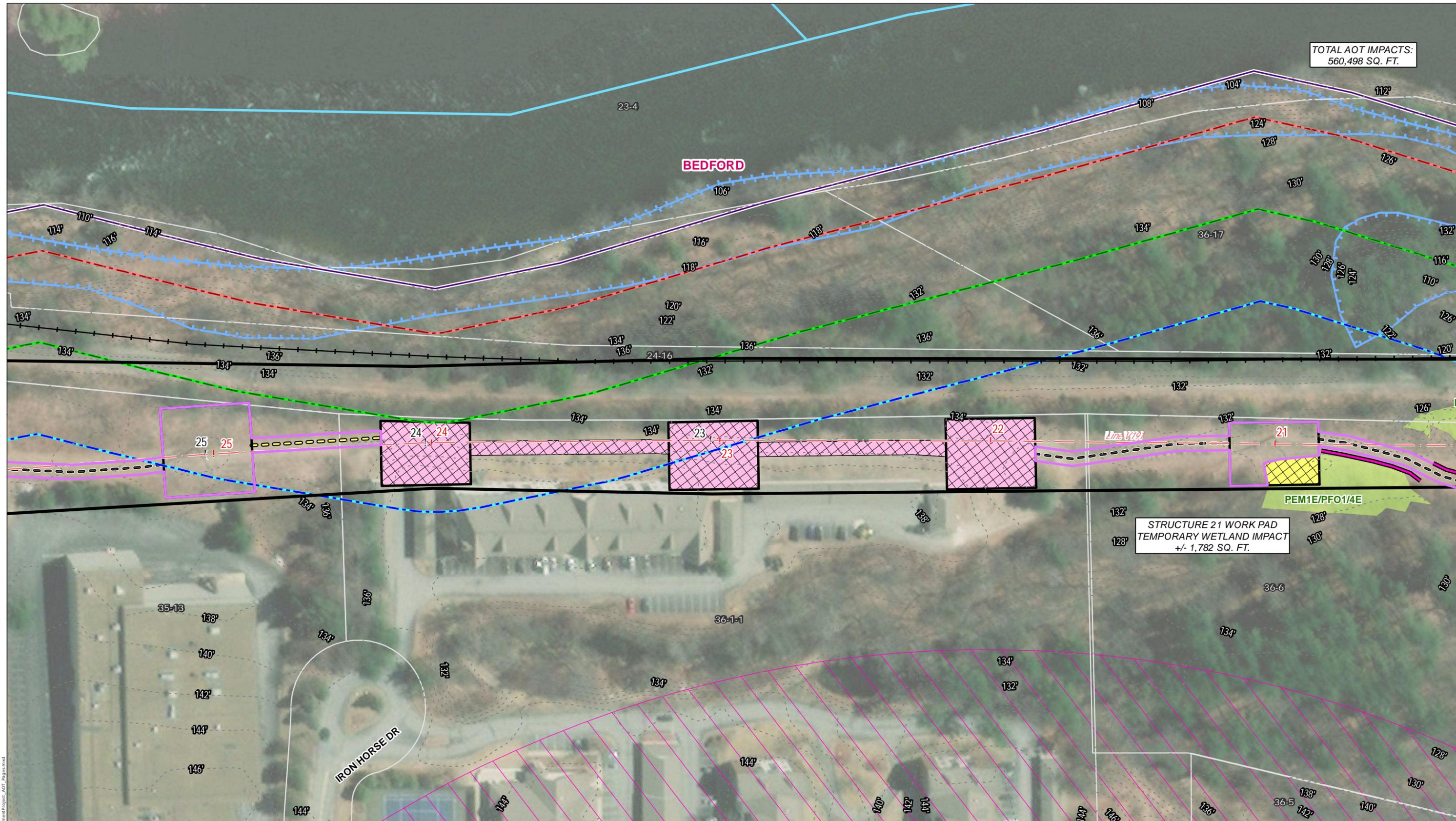
Date: April 8, 2022

Map Sheet 7 of 12

Tighe & Bond

V:\projects\NE\2024\191\LineV191_StructureReplacement\Project_AOT_2024.mxd

TOTAL AOT IMPACTS:
560,498 SQ. FT.



Legend

Proposed Structure	Proposed Access	Rare Animal Species	150' Natural Woodland Buffer
Existing Structure	Off-ROW Access Pending Rights	Rare Plant Species	250' Protected Shoreland Zone
Overhead Eversource Line	Trail	Municipal Boundary	AOT Impact
Railroad	Ordinary High Water Mark (not delineated)	Work Pad	FEMA 100-Year Flood Zone
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Existing Access	Existing Right-of-Way	50' Waterfront Buffer	

Map Notes:
Data valid as of April 2022.
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Scale: 1 inch = 100 feet
0 50 100 Feet

NO.	DATE	REVISIONS

EVERSOURCE

**Line V191
Structure Replacement Project**

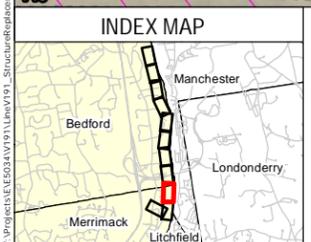
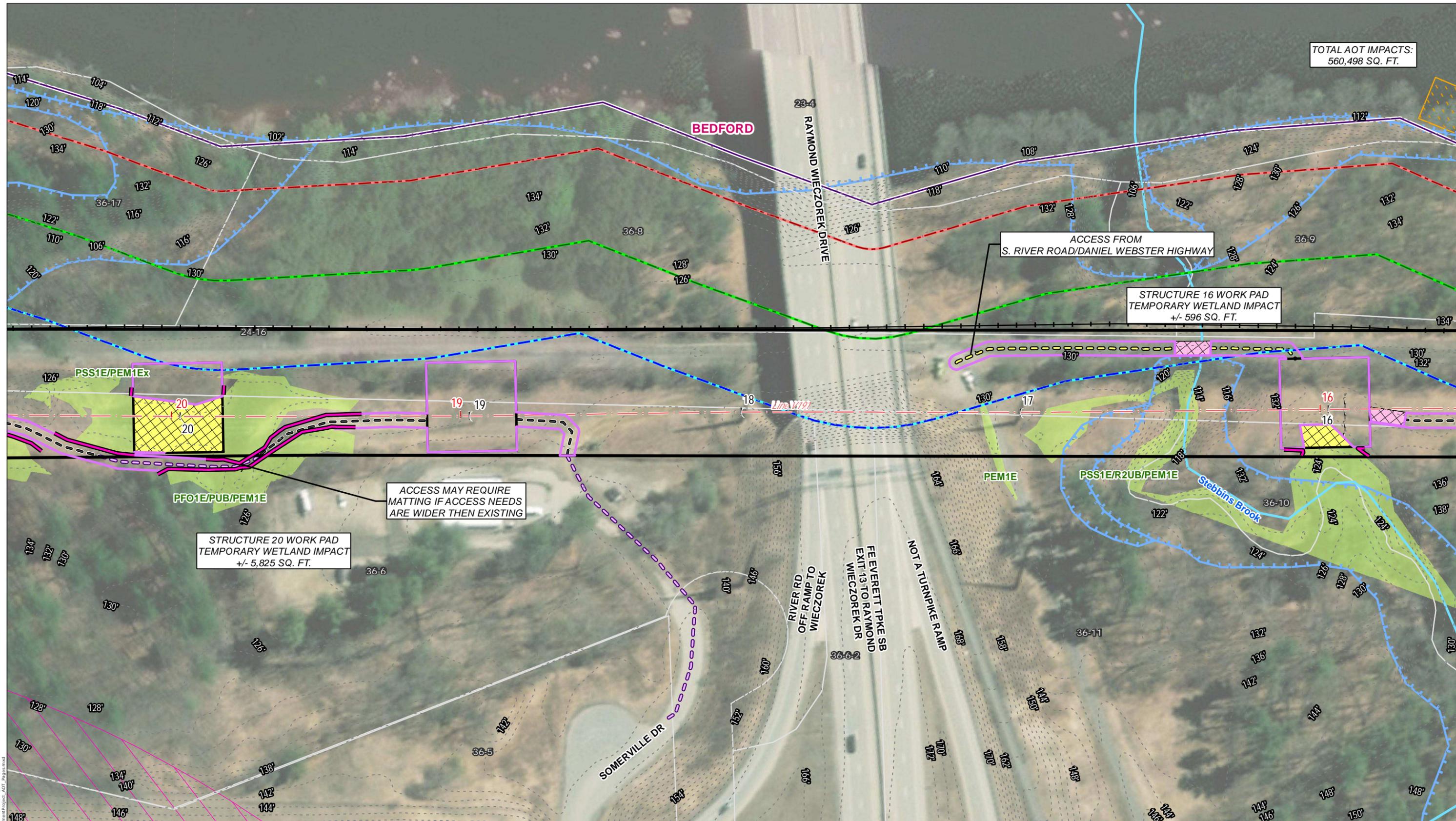
Bedford, New Hampshire

Date: April 8, 2022

Map Sheet 8 of 12

Tighe & Bond

TOTAL AOT IMPACTS:
560,498 SQ. FT.



Legend

Proposed Structure	Proposed Access	Rare Animal Species	150' Natural Woodland Buffer
Existing Structure	Off-ROW Access Pending Rights	Rare Plant Species	250' Protected Shoreland Zone
Overhead Eversource Line	Trail	Municipal Boundary	AOT Impact
Railroad	Ordinary High Water Mark (not delineated)	Work Pad	FEMA 100-Year Flood Zone
Contour Line (2 Ft.)	Watercourse (not delineated)	Temporary Construction Matting	Wellhead Protection Areas
Fence	Field Delineated Wetland*	Temporary Upland Matting	
Sediment Control Barrier	Parcel Boundary	Stonewall	
Existing Access	Existing Right-of-Way	50' Waterfront Buffer	

Map Notes:
Data valid as of April 2022.
Data source: New Hampshire Geographically Referenced Analysis and Information Transfer System (GRANIT) and USFWS. Orthophotography courtesy of ESRI.
Contours downloaded from New Hampshire GRANIT
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Figure intended to be printed on 11x17
*Indicates datasets with a transparency setting of 30-70%
1 inch = 100 feet
0 50 100 Feet

NO.	DATE	REVISIONS

EVERSOURCE

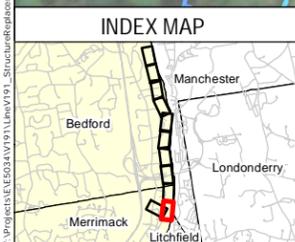
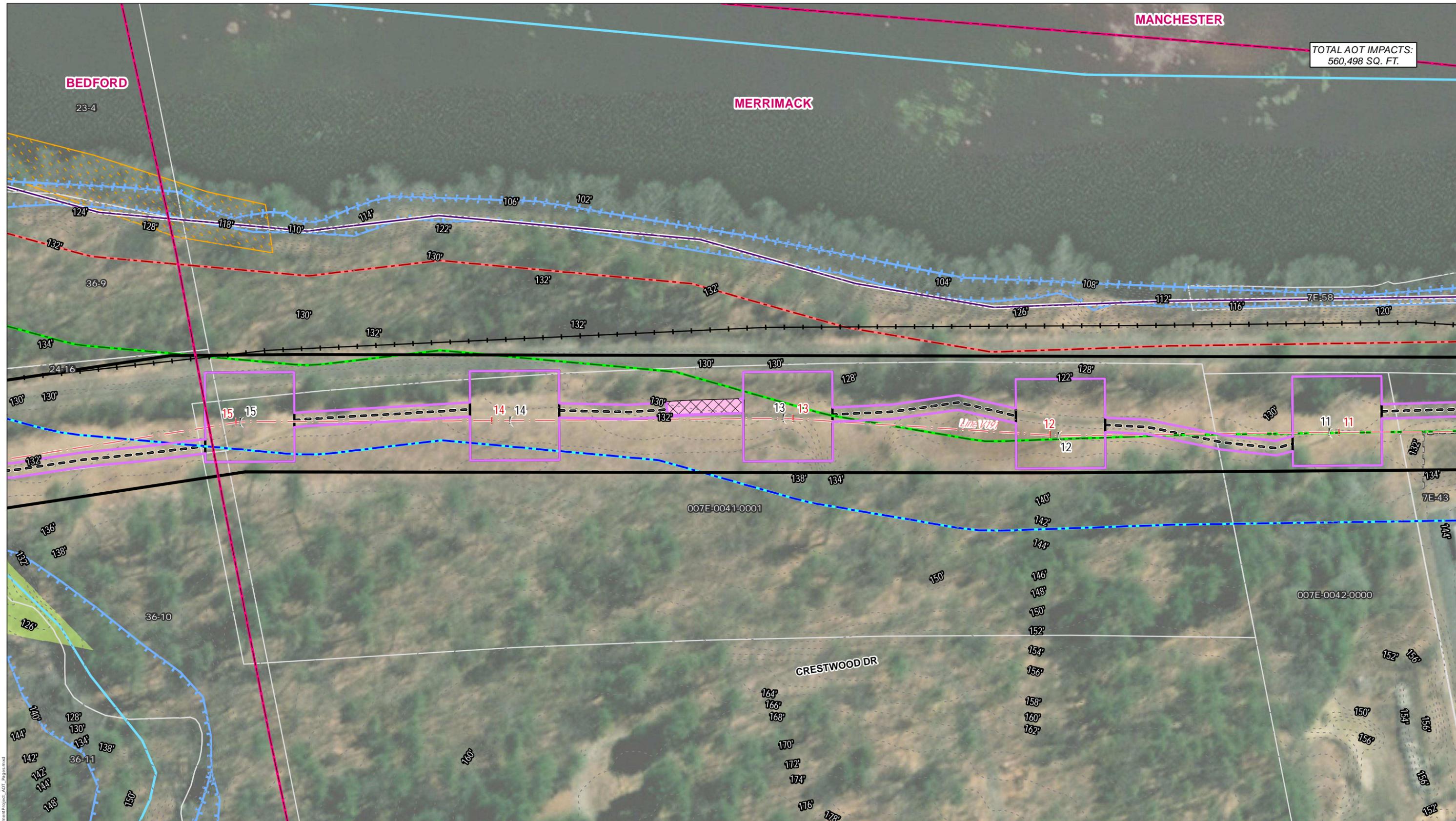
**Line V191
Structure Replacement Project**

Bedford, New Hampshire

Date: April 8, 2022

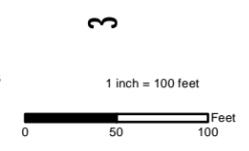
Map Sheet 9 of 12

Tighe & Bond



- Legend**
- Proposed Structure
 - Existing Structure
 - Overhead Eversource Line
 - Railroad
 - Contour Line (2 Ft.)
 - Fence
 - Sediment Control Barrier
 - Existing Access
 - Proposed Access
 - Off-ROW Access Pending Rights
 - Ordinary High Water Mark (not delineated)
 - Watercourse (not delineated)
 - Field Delineated Wetland*
 - Parcel Boundary
 - Existing Right-of-Way
 - Rare Animal Species
 - Rare Plant Species
 - Municipal Boundary
 - Work Pad
 - Temporary Construction Matting
 - Temporary Upland Matting
 - Stonewall
 - 50' Waterfront Buffer
 - 150' Natural Woodland Buffer
 - 250' Protected Shoreland Zone
 - AOT Impact
 - FEMA 100-Year Flood Zone
 - Wellhead Protection Areas

Map Notes:
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NO.	DATE	REVISIONS

EVERSOURCE

**Line V191
Structure Replacement Project**

Bedford/Merrimack, New Hampshire

Date: April 8, 2022

Map Sheet 10 of 12

Tighe & Bond

MANCHESTER

LITCHFIELD

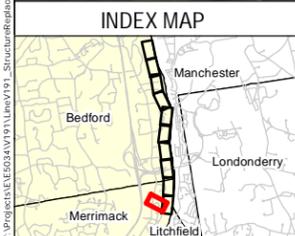
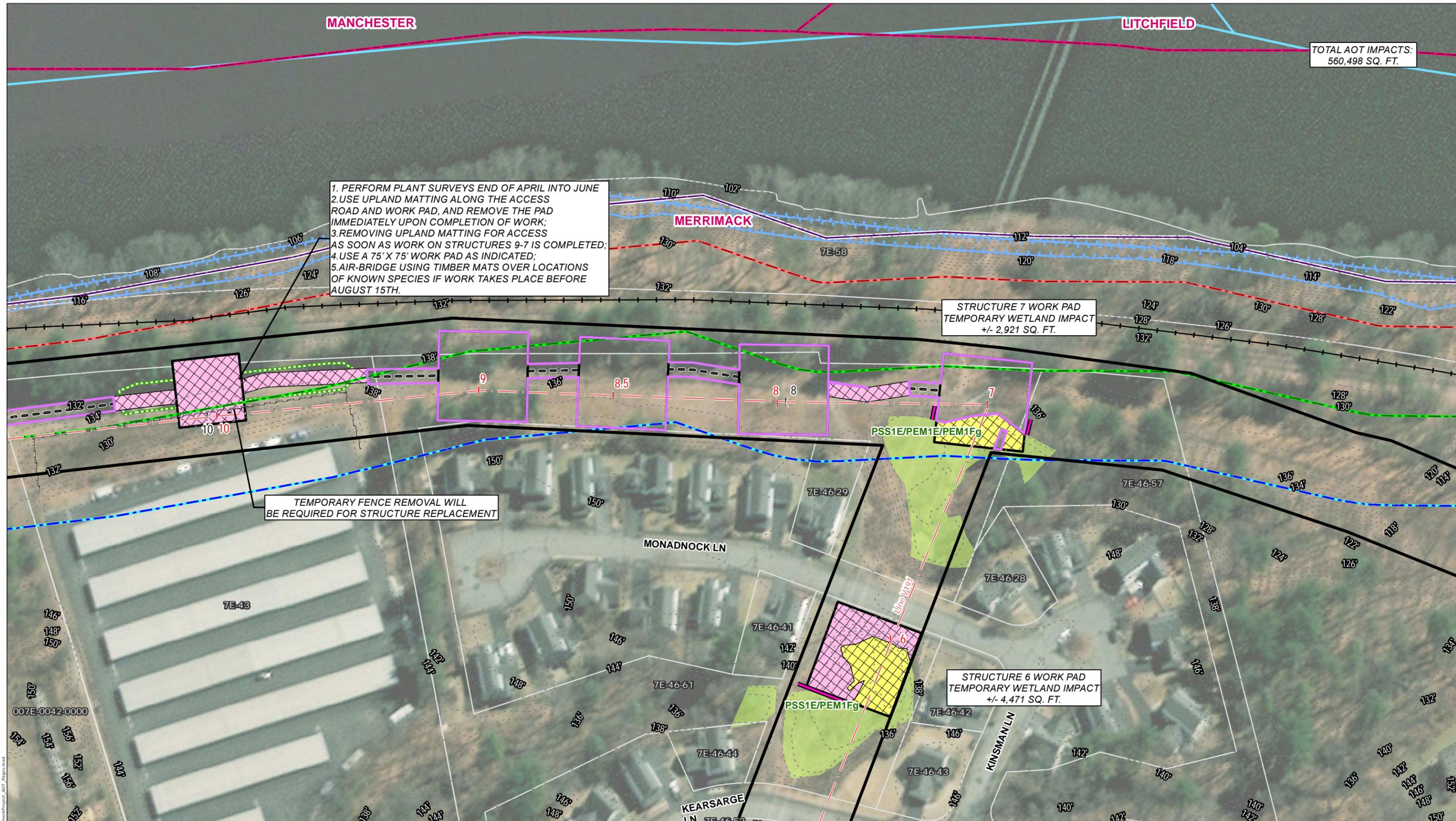
TOTAL AOT IMPACTS:
560,498 SQ. FT.

1. PERFORM PLANT SURVEYS END OF APRIL INTO JUNE
 2. USE UPLAND MATTING ALONG THE ACCESS ROAD AND WORK PAD, AND REMOVE THE PAD IMMEDIATELY UPON COMPLETION OF WORK;
 3. REMOVING UPLAND MATTING FOR ACCESS AS SOON AS WORK ON STRUCTURES 9-7 IS COMPLETED;
 4. USE A 75' X 75' WORK PAD AS INDICATED;
 5. AIR-BRIDGE USING TIMBER MATS OVER LOCATIONS OF KNOWN SPECIES IF WORK TAKES PLACE BEFORE AUGUST 15TH.

STRUCTURE 7 WORK PAD
 TEMPORARY WETLAND IMPACT
 +/- 2,921 SQ. FT.

TEMPORARY FENCE REMOVAL WILL
 BE REQUIRED FOR STRUCTURE REPLACEMENT

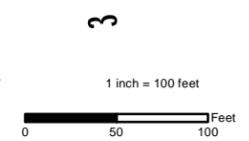
STRUCTURE 6 WORK PAD
 TEMPORARY WETLAND IMPACT
 +/- 4,471 SQ. FT.



Legend

Proposed Structure	Proposed Access	Rare Animal Species	150' Natural Woodland Buffer
Existing Structure	Off-ROW Access Pending Rights	Rare Plant Species	250' Protected Shoreland Zone
Overhead Eversource Line	Trail	Municipal Boundary	AOT Impact
Railroad	Ordinary High Water Mark (not delineated)	Work Pad	FEMA 100-Year Flood Zone
Contour Line (2 Ft.)	Watercourse (not delineated)	Temporary Construction Matting	Wellhead Protection Areas
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Sediment Control Barrier	Parcel Boundary	Stonewall	
Existing Access	Existing Right-of-Way	50' Waterfront Buffer	

Map Notes:
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NO.	DATE	REVISIONS

EVERSOURCE

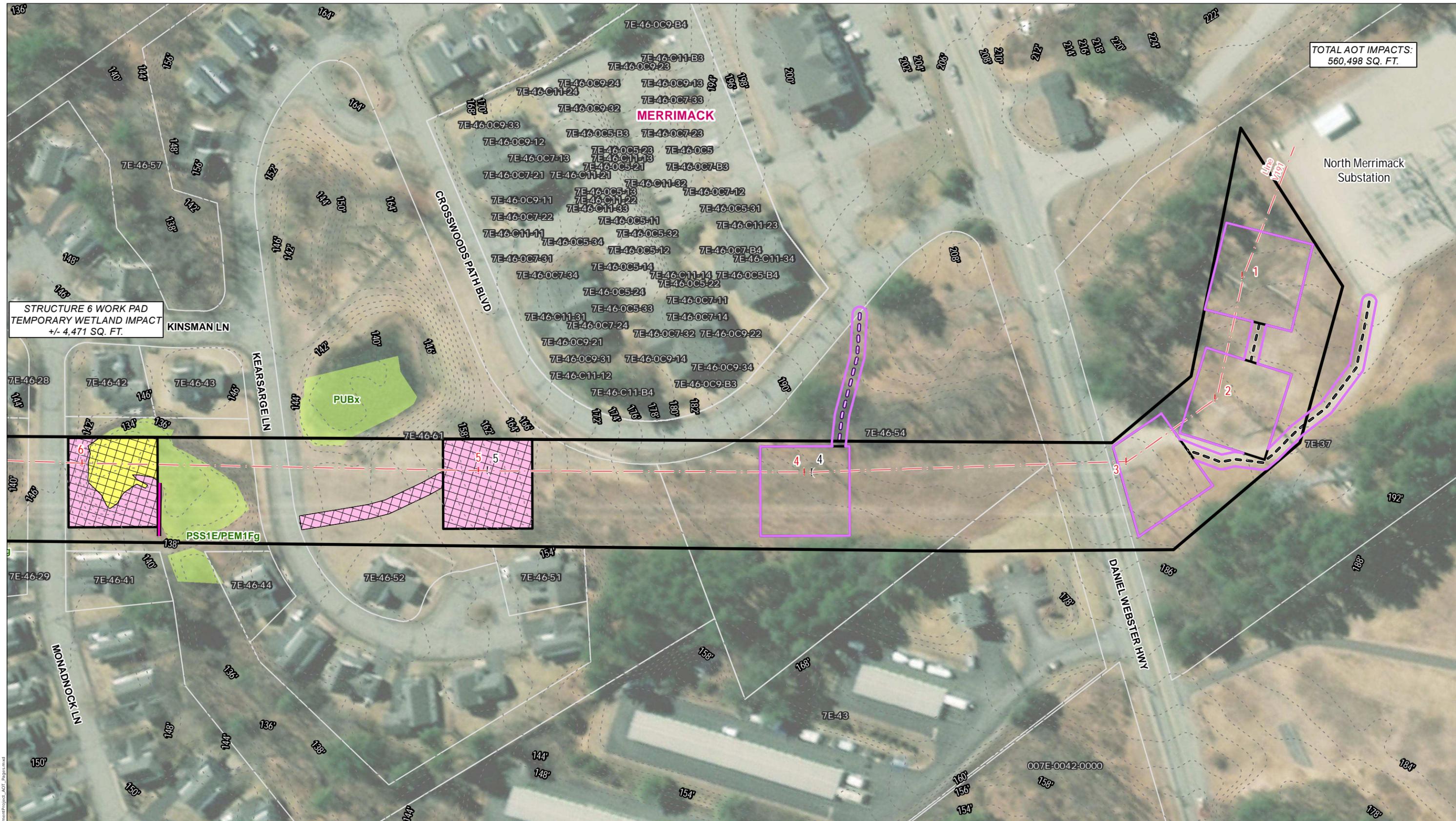
**Line V191
 Structure Replacement Project**

Merrimack, New Hampshire

Date: April 8, 2022

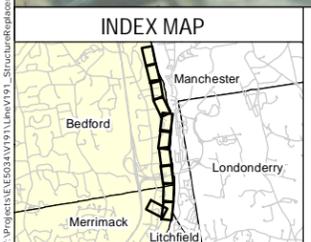
Map Sheet 11 of 12

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TOTAL AOT IMPACTS:
560,498 SQ. FT.

STRUCTURE 6 WORK PAD
TEMPORARY WETLAND IMPACT
+/- 4,471 SQ. FT.



Legend

Proposed Structure	Proposed Access	Rare Animal Species	150' Natural Woodland Buffer
Existing Structure	Off-ROW Access Pending Rights	Rare Plant Species	250' Protected Shoreland Zone
Overhead Eversource Line	Trail	Municipal Boundary	AOT Impact
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Map Notes:
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1 inch = 100 feet

NO.	DATE	REVISIONS

EVERSOURCE

**Line V191
Structure Replacement Project**

Merrimack, New Hampshire

Date: April 8, 2022

Map Sheet 12 of 12

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Redaction Log

Total Number of Redactions in Document: 13

Redaction Reasons by Page

Page	Reason	Description	Occurrences
45	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
46	CONFIDENTIAL DNCR	NH RSA 91-A:5, IV Confidential information. NH Department of Natural and Cultural Resources (DNCR) has asserted a claim of confidentiality. See also NH RSA 212-A, RSA 212-B, RSA 217-A, and/or RSA 227-C:11.	1
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48	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
49	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
50	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
51	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
52	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

Page	Reason	Description	Occurrences
53	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
54	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
55	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
56	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
57	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.	45(1) 46(1) 47(1) 48(1) 49(1) 50(1) 51(1) 52(1) 53(1) 54(1) 55(1) 56(1) 57(1)