NOTICE OF INTENT

Sudbury-Hudson Transmission Reliability and Mass Central Rail Trail Project

Sudbury, Massachusetts

PREPARED FOR

NSTAR Electric Company
d/b/a Eversource Energy
247 Station Drive
Westwood, Massachusetts 02090

Massachusetts Department of
Conservation and Recreation
251 Causeway Street, 9th Floor
Boston, MA 02114

PREPARED BY

101 Walnut Street
PO Box 9151
Watertown, MA 02471
617.924.1770

MARCH 2020

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NOI Application

- Massachusetts Wetlands Protection Act Form 3
- Copy of Filing Checks

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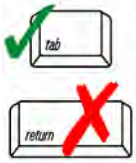
Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
MassDEP File Number
Document Transaction Number
Sudbury
City/Town

Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Note:
Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

A. General Information

1. Project Location (**Note:** electronic filers will click on button to locate project site):

183 Boston Post Road (Sudbury Substation) — a. Street Address
Sudbury — b. City/Town
01776 — c. Zip Code

Latitude and Longitude:
42.360010 — d. Latitude
-71.397331 — e. Longitude

Book 7734/Page 426 — f. Assessors Map/Plat Number
K10-0014 — g. Parcel /Lot Number

2. Applicant:

Multiple applicants - see attached page — a. First Name
b. Last Name
c. Organization
d. Street Address
e. City/Town
f. State
g. Zip Code
h. Phone Number
i. Fax Number
j. Email Address

3. Property owner (required if different from applicant): ☐ Check if more than one owner

a. First Name
b. Last Name
Massachusetts Bay Transportation Authority — c. Organization
10 Park Plaza — d. Street Address
Boston — e. City/Town
MA — f. State
02116 — g. Zip Code
h. Phone Number
i. Fax Number
j. Email address

4. Representative (if any):

Katie Kinsella / Gene Crouch — a. First Name
b. Last Name
VHB — c. Company
2 Washington Square, Suite 219 — d. Street Address
Worcester — e. City/Town
MA — f. State
01604 — g. Zip Code
617-924-1770 — h. Phone Number
i. Fax Number
kkinsella@vhb.com / gcrouch@vhb.com — j. Email address

5. Total WPA Fee Paid (from NOI Wetland Fee Transmittal Form):

$750.00 — a. Total Fee Paid
$362.50 — b. State Fee Paid
$387.50 — c. City/Town Fee Paid

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A. General Information (continued)

6. General Project Description:

The Project involves construction of a new 115kV underground electrical transmission line and a paved DCR MCRT bike path. The Project will be constructed from the existing Sudbury Substation and will continue along the inactive MBTA ROW until it reaches the Sudbury/Hudson town line. For addditional details regarding the Project description, please see the narrative submitted with the NOI.

7a. Project Type Checklist: (Limited Project Types see Section A. 7b.)

1. ☐ Single Family Home
2. ☐ Residential Subdivision
3. ☐ Commercial/Industrial
4. ☐ Dock/Pier
5. ☒ Utilities
6. ☐ Coastal engineering Structure
7. ☐ Agriculture (e.g., cranberries, forestry)
8. ☐ Transportation
9. ☒ Other

7b. Is any portion of the proposed activity eligible to be treated as a limited project (including Ecological Restoration Limited Project) subject to 310 CMR 10.24 (coastal) or 310 CMR 10.53 (inland)?

1. ☒ Yes ☐ No

If yes, describe which limited project applies to this project. (See 310 CMR 10.24 and 10.53 for a complete list and description of limited project types)

The underground transmission line and the DCR bike path qualify as a "limited project" per 310 CMR 10.53(3)(d) and 10.53(6), respectively.

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

Middlesex County: N/A - ROW
a. County

b. Certificate # (if registered land)

c. Book

d. Page Number

B. Buffer Zone & Resource Area Impacts (temporary & permanent)

1. ☐ Buffer Zone Only – Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area.
2. ☒ Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.3, Coastal Resource Areas).

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

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B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☒ Bank	0 permanent; 246 temporary (1. linear feet)	(2. linear feet)
b. ☒ Bordering Vegetated Wetland	89 permanent; 524 temp. (1. square feet)	784 (2. square feet)
c. ☒ Land Under Waterbodies and Waterways	0 permanent; 1,146 temp. (1. square feet) 0 (3. cubic yards dredged)	0 (2. square feet)

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. ☒ Bordering Land Subject to Flooding	2,686 perm.; 7,749 temp. (1. square feet) -78.46 (net gain of storage) (3. cubic feet of flood storage lost)	(2. square feet) (4. cubic feet replaced)
e. ☐ Isolated Land Subject to Flooding	(1. square feet) (2. cubic feet of flood storage lost)	(3. cubic feet replaced)
f. ☒ Riverfront Area	Hop Brook, Dudley Brook (1. Name of Waterway (if available) - **specify coastal or inland**)	

2. Width of Riverfront Area (check one):

☐ 25 ft. - Designated Densely Developed Areas only

☐ 100 ft. - New agricultural projects only

☒ 200 ft. - All other projects

3. Total area of Riverfront Area on the site of the proposed project: 457,504 square feet

4. Proposed alteration of the Riverfront Area:

a. total square feet	b. square feet within 100 ft.	c. square feet between 100 ft. and 200 ft.
61003 perm.; 95463 temp.	49741 perm.; 79520 temp.	11262 perm.; 15943 temp.

5. Has an alternatives analysis been done and is it attached to this NOI? ☒ Yes ☐ No

6. Was the lot where the activity is proposed created prior to August 1, 1996? ☒ Yes ☐ No

3. ☐ Coastal Resource Areas: (See 310 CMR 10.25-10.35)

Note: for coastal riverfront areas, please complete **Section B.2.f**. above.

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B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. ☐ Land Under the Ocean	1. square feet 2. cubic yards dredged	
c. ☐ Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. ☐ Coastal Beaches	1. square feet	2. cubic yards beach nourishment
e. ☐ Coastal Dunes	1. square feet	2. cubic yards dune nourishment

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
f. ☐ Coastal Banks	1. linear feet	
g. ☐ Rocky Intertidal Shores	1. square feet	
h. ☐ Salt Marshes	1. square feet	2. sq ft restoration, rehab., creation
i. ☐ Land Under Salt Ponds	1. square feet 2. cubic yards dredged	
j. ☐ Land Containing Shellfish	1. square feet	
k. ☐ Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above 1. cubic yards dredged	
l. ☐ Land Subject to Coastal Storm Flowage	1. square feet	

4. ☐ Restoration/Enhancement

If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please enter the additional amount here.

a. square feet of BVW

b. square feet of Salt Marsh

5. ☒ Project Involves Stream Crossings

0
a. number of new stream crossings

2 - Bridge 127 (reconstruction), Bridge 128 (rehabilitation)

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C. Other Applicable Standards and Requirements

☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section C and complete Appendix A: Ecological Restoration Limited Project Checklists – Required Actions (310 CMR 10.11).

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

1. Is any portion of the proposed project located in **Estimated Habitat of Rare Wildlife** as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program (NHESP)? To view habitat maps, see the *Massachusetts Natural Heritage Atlas* or go to http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm.

   a. ☒ Yes ☐ No

   If yes, include proof of mailing or hand delivery of NOI to:

   Natural Heritage and Endangered Species Program
   Division of Fisheries and Wildlife
   1 Rabbit Hill Road
   Westborough, MA 01581

   8/1/2017
   b. Date of map

   If *yes*, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.c, and include requested materials with this Notice of Intent (NOI); *OR* complete Section C.2.f, if applicable. *If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below).*

   c. Submit Supplemental Information for Endangered Species Review*

      1. ☐ Percentage/acreage of property to be altered:

         (a) within wetland Resource Area _____ percentage/acreage

         (b) outside Resource Area _____ percentage/acreage

      2. ☐ Assessor's Map or right-of-way plan of site

2. ☒ Project plans for entire project site, including wetland resource areas and areas outside of wetlands jurisdiction, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work **

   (a) ☐ Project description (including description of impacts outside of wetland resource area & buffer zone)

   (b) ☐ Photographs representative of the site

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/). Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

** MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.

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C. Other Applicable Standards and Requirements (cont'd)

(c) ☐ MESA filing fee (fee information available at http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/mesa/mesa_fee_schedule.htm). Make check payable to "Commonwealth of Massachusetts - NHESP" and ***mail to NHESP*** at above address

*Projects altering **10 or more acres** of land, also submit:*

(d) ☐ Vegetation cover type map of site

(e) ☐ Project plans showing Priority & Estimated Habitat boundaries

(f) OR Check One of the Following

1. ☐ Project is exempt from MESA review.
Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/mesa/mesa_exemptions.htm; the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)

2. ☐ Separate MESA review ongoing. a. NHESP Tracking # b. Date submitted to NHESP

3. ☒ Separate MESA review completed.
Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.

3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?

a. ☒ Not applicable – project is in inland resource area only b. ☐ Yes ☐ No

If yes, include proof of mailing, hand delivery, or electronic delivery of NOI to either:

South Shore - Cohasset to Rhode Island border, and the Cape & Islands:

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
1213 Purchase Street – 3rd Floor
New Bedford, MA 02740-6694
Email: DMF.EnvReview-South@state.ma.us

North Shore - Hull to New Hampshire border:

Division of Marine Fisheries -
North Shore Office
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930
Email: DMF.EnvReview-North@state.ma.us

Also if yes, the project may require a Chapter 91 license. For coastal towns in the Northeast Region, please contact MassDEP's Boston Office. For coastal towns in the Southeast Region, please contact MassDEP's Southeast Regional Office.

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C. Other Applicable Standards and Requirements (cont'd)

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

4. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?

   a. ☐ Yes ☒ No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.

   b. ACEC

5. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?

   a. ☐ Yes ☒ No

6. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?

   a. ☐ Yes ☒ No

7. Is this project subject to provisions of the MassDEP Stormwater Management Standards?

   a. ☒ Yes. Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:

      1. ☐ Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol. 2, Chapter 3)

      2. ☐ A portion of the site constitutes redevelopment

      3. ☒ Proprietary BMPs are included in the Stormwater Management System.

   b. ☐ No. Check why the project is exempt:

      1. ☐ Single-family house

      2. ☐ Emergency road repair

      3. ☐ Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

D. Additional Information

☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section D and complete Appendix A: Ecological Restoration Notice of Intent – Minimum Required Documents (310 CMR 10.12).

Applicants must include the following with this Notice of Intent (NOI). See instructions for details.

Online Users: Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department.

1. ☒ USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)

2. ☒ Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.

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D. Additional Information (cont'd)

3. ☒ Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.

4. ☒ List the titles and dates for all plans and other materials submitted with this NOI.

See attached
a. Plan Title

b. Prepared By

c. Signed and Stamped by

d. Final Revision Date

e. Scale

f. Additional Plan or Document Title

g. Date

5. ☐ If there is more than one property owner, please attach a list of these property owners not listed on this form.

6. ☐ Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed.

7. ☐ Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed.

8. ☒ Attach NOI Wetland Fee Transmittal Form

9. ☒ Attach Stormwater Report, if needed.

E. Fees

1. ☐ Fee Exempt: No filing fee shall be assessed for projects of any city, town, county, or district of the Commonwealth, federally recognized Indian tribe housing authority, municipal housing authority, or the Massachusetts Bay Transportation Authority.

Applicants must submit the following information (in addition to pages 1 and 2 of the NOI Wetland Fee Transmittal Form) to confirm fee payment:

356373
2. Municipal Check Number

1/96/20
3. Check date

355484
4. State Check Number

12/17/19
5. Check date

VHB
6. Payor name on check: First Name

7. Payor name on check: Last Name

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F. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made by Certificate of Mailing or in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

1. Signature of Applicant	2. Date: 3/6/20
3. Signature of Property Owner (if different)	4. Date
5. Signature of Representative (if any)	6. Date

For Conservation Commission:
Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

For MassDEP:
One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a **copy** of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

Other:
If the applicant has checked the “yes” box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.

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1. Signature of Applicant

2. Date

3. Signature of Property Owner (if different)

4. Date 4/11/19

5. Signature of Representative (if any)

6. Date

For Conservation Commission:
Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

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I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made by Certificate of Mailing or in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

1. Signature of Applicant: Holly Palmgren, MBTA — 2. Date: 12/18/19

3. Signature of Property Owner (if different) — 4. Date

5. Signature of Representative (if any) — 6. Date

For Conservation Commission:
Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

For MassDEP:
One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a **copy** of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

Other:
If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.

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NOI Wetland Fee Transmittal Form

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Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.

A. Applicant Information

1. Location of Project:

183 Boston Post Road (Sudbury Substation)	Sudbury
a. Street Address	b. City/Town
c. Check number	d. Fee amount

2. Applicant Mailing Address:

See attached		
a. First Name	b. Last Name	
c. Organization		
d. Mailing Address		
e. City/Town	f. State	g. Zip Code
h. Phone Number	i. Fax Number	j. Email Address

3. Property Owner (if different):

a. First Name	b. Last Name	
Massachusetts Bay Transportation Authority		
c. Organization		
10 Park Plaza		
d. Mailing Address		
Boston	MA	02116
e. City/Town	f. State	g. Zip Code
h. Phone Number	i. Fax Number	j. Email Address

B. Fees

To calculate filing fees, refer to the category fee list and examples in the instructions for filling out WPA Form 3 (Notice of Intent).

Fee should be calculated using the following process & worksheet. ***Please see Instructions before filling out worksheet.***

Step 1/Type of Activity: Describe each type of activity that will occur in wetland resource area and buffer zone.

Step 2/Number of Activities: Identify the number of each type of activity.

Step 3/Individual Activity Fee: Identify each activity fee from the six project categories listed in the instructions.

Step 4/Subtotal Activity Fee: Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

Step 5/Total Project Fee: Determine the total project fee by adding the subtotal amounts from Step 4.

Step 6/Fee Payments: To calculate the state share of the fee, divide the total fee in half and subtract $12.50. To calculate the city/town share of the fee, divide the total fee in half and add $12.50.

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B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Category 2e	1	500	750

Step 5/Total Project Fee:

Step 6/Fee Payments:

Total Project Fee:	$750 a. Total Fee from Step 5
State share of filing Fee:	$362.50 b. 1/2 Total Fee **less $**12.50
City/Town share of filling Fee:	$387.50 c. 1/2 Total Fee **plus** $12.50

C. Submittal Requirements

a.) Complete pages 1 and 2 and send with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts.

Department of Environmental Protection
Box 4062
Boston, MA 02211

b.) **To the Conservation Commission:** Send the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and the city/town fee payment.

To MassDEP Regional Office (see Instructions): Send a copy of the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)

WPA Form 3 – Notice of Intent Additional Page

A. General Information

2. Applicant:

Denise	Bartone	
a. First Name	b. Last Name	
NSTAR Electric Company d/b/a Eversource Energy		
c. Organization		
247 Station Drive, SE270		
d. Street Address		
Westwood	MA	02090
e. City/Town	f. State	g. Zip Code
781-441-8174		Denise.bartone@eversource.com
h. Phone Number	i. Fax Number	j. Email Address

Applicant:

Priscilla	Geigis	
a. First Name	b. Last Name	
Department of Conservation and Recreation		
c. Organization		
251 Causeway Street, Suite 600		
d. Street Address		
Boston	MA	02114
e. City/Town	f. State	g. Zip Code
617-626-1250		Priscilla.Geigis@massmail.state.ma.us
h. Phone Number	i. Fax Number	j. Email Address

D. Additional Information

Sudbury-Hudson Transmission Reliability Project Sudbury Notice of Intent Plans
a. Plan Title

VHB	Margot E. Schoenfelder, Mark A. Costa, Shanta B. Keller
b. Prepared by	c. Signed and Stamped by
March 2020	1"=20'
d. Final Revision Date	e. Scale

Mass Central Rail Trail in the Town of Hudson, Stow, Marlborough & Sudbury:
Sudbury Notice of Intent Submission
a. Plan Title

VHB	Tracie Lenhardt
b. Prepared by	c. Signed and Stamped by
Jan 2020	1"=20'
d. Final Revision Date	e. Scale

Abutter Notifications

- Abutter Notification Letter
- Certified Abutters List

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Ref: 12970.00

Notification to Abutters under the Wetlands Protection Act

Pursuant to the requirements of the Massachusetts Wetlands Protection Act (MGL Chapter 131, Section 40), you are hereby notified of the following:

The co-applicants, NSTAR Electric Company d/b/a Eversource Energy ("Eversource") and the Massachusetts Department of Conservation and Recreation ("DCR") have filed a Notice of Intent ("NOI") with the Sudbury Conservation Commission seeking approval for construction of the Sudbury-Hudson Transmission Reliability Project and the Mass Central Rail Trail ("the Project"). The Project involves construction of a new 115-kV underground transmission line and a multi-use path within an existing inactive railroad right-of-way.

Information regarding this NOI can be obtained by calling the Sudbury Conservation Commission at (978) 440-5471 between 8:00 AM and 3:30 PM, Monday through Friday. You can also call Katie Kinsella at (617) 607-2157 between 8:00 AM and 4:00 PM, Monday through Friday, with questions or to arrange to view the NOI.

Copies of the NOI can be obtained from the Sudbury Conservation Commission or Katie Kinsella by calling the numbers above. You may be charged for a copy of the NOI.

The Sudbury Conservation Commission will hold a public hearing on the NOI. Notice of the public hearing including the date, time and place, will be published in a local newspaper at least five (5) business days in advance and will be posted in Town Hall at least 48 hours in advance. You can also call the Sudbury Conservation Commission at the number listed above to determine the date, time, and place of the hearing.

Information on this NOI and the Wetlands Protection Act can also be obtained by calling the Northeast Regional Office of the Massachusetts Department of Environmental Protection at (978) 694-3200.

Engineers | Scientists | Planners | Designers

101 Walnut Street
PO Box 9151
Watertown, Massachusetts 02471
P 617.924.1770
F 617.924.2286

Parcel ID	Location	Owner	Owner Line 2	Mailing Address	Mailing City	Mailing State	Mailing Zip
H03-5000	RAILWAY	MASS BAY TRANSPORTATION		10 PARK PLAZA	BOSTON	MA	02116
H04-0009	325 DUTTON	TOWN OF SUD	CONSERVATIO	278 OLD SUDBURY ROAD	SUDBURY	MA	01776
J04-0011	290 DUTTON	BISSON PAUL E & DOROTHY A		290 DUTTON RD	SUDBURY	MA	01776
J04-0107	249 DUTTON	MCMAHON JOHN		249 DUTTON RD	SUDBURY	MA	01776
J04-0712	318 DUTTON	ZIFFER RANDALL E & LYNNE		318 DUTTON RD	SUDBURY	MA	01776
J04-0721	33 BULKLEY	LIGHT BRIAN & RHONDA J		33 BULKLEY RD	SUDBURY	MA	01776
J04-0722	45 AMANDA	PARWANI HARISH MOHAN & V		45 AMANDA RD	SUDBURY	MA	01776
J04-0723	49 AMANDA	SCONYERS JOSEPH B & SHAI		49 AMANDA RD	SUDBURY	MA	01776
J04-0724	55 AMANDA	WILNER HOWA	TRUSTEES OF	55 AMANDA RD	SUDBURY	MA	01776
J05-0001	222 PEAKHAI	HUDSON GILBERT L & MEGHA		222 PEAKHAM RD	SUDBURY	MA	01776
J05-0002	230 PEAKHAI	FENDELL SHEI	MARIA A	230 PEAKHAM RD	SUDBURY	MA	01776
J05-0003	242 PEAKHAI	JOHNSON ETH	H TRS, ETHEL	242 PEAKHAM RD	SUDBURY	MA	01776
J05-0008	237 PEAKHAI	GUSKI MICHAEL E & HELENE		237 PEAKHAM RD	SUDBURY	MA	01776
J05-0101	80 JARMAN	BLANCHETTE CHRISTOPHER		80 JARMAN RD	SUDBURY	MA	01776
J05-0217	45 WHISPERI	KOMMIT KATHY		45 WHISPERING PINE RD	SUDBURY	MA	01776
J05-0330	229 PEAKHAI	ARTHUR DOUGLAS R & JOYC		229 PEAKHAM RD	SUDBURY	MA	01776
J05-0354	22 COLBURN	TU TYSON		22 COLBURN CIR	SUDBURY	MA	01776
J05-0355	12 COLBURN	CROTEAU MAI	CROTEAU LIN	12 COLBURN CIR	SUDBURY	MA	01776
J05-0356	6 COLBURN	GENEROSO JO	TRUSTEES OF	6 COLBURN CIR	SUDBURY	MA	01776
J05-0357	71 ROBERT E	BASKARACA SEMA & CENK		71 ROBERT BEST RD	SUDBURY	MA	01776
J05-0358	79 ROBERT E	BILLIG RICHAR	THERESA C0-T	79 ROBERT BEST RD	SUDBURY	MA	01776
J05-0379	123 AUSTIN	PLATH JAMES T & BETHANY E		123 AUSTIN RD	SUDBURY	MA	01776
J05-0380	115 AUSTIN	GIBBS DAVID D		115 AUSTIN RD	SUDBURY	MA	01776
J05-0381	109 AUSTIN	DENSEL CHRIS	DENSEL WILLI	109 AUSTIN RD	SUDBURY	MA	01776
J05-0382	101 AUSTIN	ZIMMER CHARLES C & GLADY		101 AUSTIN RD	SUDBURY	MA	01776
J05-0383	95 AUSTIN R	THOLANDER J	JEANINE	95 AUSTIN RD	SUDBURY	MA	01776
J05-0384	89 AUSTIN R	HARDING MICHAEL R & KARA		89 AUSTIN RD	SUDBURY	MA	01776
J05-0385	81 AUSTIN R	JOST ALAN C & DIANE A		81 AUSTIN RD	SUDBURY	MA	01776
J05-0386	15 BULKLEY	RESNIC DAVID J & AMY Z		15 BULKLEY RD	SUDBURY	MA	01776
J05-0387	19 BULKLEY	CHEN BENJAMIN J & REBECC		19 BULKLEY ROAD	SUDBURY	MA	01776
J05-0720	25 BULKLEY	HELON CHRISTOPHER & MAR		25 BULKLEY RD	SUDBURY	MA	01776
J05-5000	RAILWAY	EOT	MASS BAY TRA	10 PARK PLAZA	BOSTON	MA	02116
J06-0016	124 HORSE P	SHEA JOSEPH	DOLORES	124 HORSE POND RD	SUDBURY	MA	01776
J06-0102	72 JARMAN	KAHLER ROYCE C & SHIRLEY		72 JARMAN RD	SUDBURY	MA	01776
J06-0103	66 JARMAN	EWART CHRIS	LORA KELLY A	66 JARMAN RD	SUDBURY	MA	01776
J06-0104	60 JARMAN	CRUZ RAPHAE	YEATON ERIC	60 JARMAN ROAD	SUDBURY	MA	01776
J06-0105	54 JARMAN	SCHOLTEN JA	LEPAK AMY E	54 JARMAN RD	SUDBURY	MA	01776
J06-0106	48 JARMAN	SAVOY ROBERT P & JO ANN		48 JARMAN RD	SUDBURY	MA	01776
J06-0107	42 JARMAN	CASS PAUL N & VALERIE R		42 JARMAN RD	SUDBURY	MA	01776
J06-0108	36 JARMAN	HAMILTON CHRISTOPHER & L		36 JARMAN RD	SUDBURY	MA	01776
J06-0109	30 JARMAN	YE XIUZI & YU RUISHENG		30 JARMAN RD	SUDBURY	MA	01776
J06-0110	24 JARMAN	PAPPAS NICHOLAS & CHRIST		24 JARMAN RD	SUDBURY	MA	01776
J06-0111	18 JARMAN	ROSEN THERESA M		18 JARMAN RD	SUDBURY	MA	01776
J06-0112	12 JARMAN	MEIDELL PHILIP & TATIANA		12 JARMAN RD	SUDBURY	MA	01776

J06-0113	111 HORSE F	MURPHY MATTHEW D & FELIC		111 HORSE POND RD	SUDBURY	MA	01776
J06-0216	40 WHISPER	PHILLIPS RAYMOND JOHN		40 WHISPERING PINE RD	SUDBURY	MA	01776
J06-0309	47 STONEBR	BERRY MATTH	SANTANGELO	47 STONEBROOK RD	SUDBURY	MA	01776
J06-0310	41 STONEBR	SAGE CYRILLE	SCHEFFER DE	41 STONEBROOK RD	SUDBURY	MA	01776
J06-0311	33 STONEBR	INGHAM JAMES P		33 STONEBROOK RD	SUDBURY	MA	01776
J06-0312	29 STONEBR	ADMV MANAGEMENT LLC		29 STONEBROOK RD	SUDBURY	MA	01776
J06-0313	21 STONEBR	JENDRZEJEWS	SHETH SAMIR/	21 STONEBROOK RD	SUDBURY	MA	01776
J06-0314	15 STONEBR	CARTY DANIEL E & FALLON M		15 STONEBROOK RD	SUDBURY	MA	01776
J06-0315	9 STONEBRO	MOHANTY SANJIB K & IPSITA		9 STONEBROOK RD	SUDBURY	MA	01776
J06-0316	3 STONEBRO	ROGERS ARLIN B & KATHLEE		3 STONEBROOK RD	SUDBURY	MA	01776
J06-0500	TALL PINE D	TOWN OF SUD	TREASURER	278 OLD SUDBURY RD	SUDBURY	MA	01776
J06-0504	25 BRIDLE PA	MACARTHUR GORDON R & L		25 BRIDLE PATH	SUDBURY	MA	01776
J06-0505	35 BRIDLE PA	HART JON L		35 BRIDLE PATH	SUDBURY	MA	01776
J06-0506	100 HORSE F	CHABAD CENTER OF SUDBUF		100 HORSE POND RD	SUDBURY	MA	01776
J07-0100	TRAILSIDE C	TOWN OF SUD	TREASURER	278 OLD SUDBURY RD	Sudbury	MA	01776
J07-0106	41 BRIDLE PA	BRUNO JOHN F & REBECCA B		41 BRIDLE PATH	SUDBURY	MA	01776
J07-0107	49 BRIDLE PA	HODEL JOHN F		49 BRIDLE PATH	SUDBURY	MA	01776
J07-0108	57 BRIDLE PA	SPEROU JOHN	SPEROU REAL	57 BRIDLE PATH	SUDBURY	MA	01776
J07-0109	3 TRAILSIDE	DEITEL HARVEY M & BARBAR		3 TRAILSIDE CIRCLE	SUDBURY	MA	01776
J07-0110	11 TRAILSIDE	YANZHEN JENNY & CAO YON		11 TRAILSIDE CIR	SUDBURY	MA	01776
J07-0111	17 TRAILSIDE	CRANE ROBERT		17 TRAILSIDE CIRCLE	SUDBURY	MA	01776
K06-0600	BOSTON POS	STONE ANNE T	THE STONE FA	554 BOSTON POST RD	SUDBURY	MA	)1776
K07-0016	UNION AVE	CAVICCHIO PA	P.N.J. 1995 RE/	110 CODJER LN	SUDBURY	MA	01776
K07-0017	33 UNION AV	CHISWICK PAR	C/O PARIS TRU	490-B BOSTON POST RD STE	SUDBURY	MA	01776
K07-0021	536 BOSTON	BPR DEVELOP	C/O NATIONAL	2310 WASHINGTON ST	NEWTON LOW	MA	02462
K07-0022	526 BOSTON	BPR DEVELOP	C/O NATIONAL	2310 WASHINGTON ST	NEWTON LOW	MA	02462
K07-0023	203 BAY DR \	SUDBURY AVA	C/O AVALON C	600 ATLANTIC AVE 20TH FLO	BOSTON	MA	02210
K07-0024	22 FARMSTE	PULTE HOMES OF NEW ENGL		115 FLANDERS RD SUITE 200	WESTBOROUG	MA	01581
K07-0024-0-0012	2 FARMSTEA	TICHNOR GEO	GORDON JUDI	2 FARMSTEAD LN	SUDBURY	MA	01776
K07-0024-0-0024	4 FARMSTEA	PULTE HOME OF NEW ENGLA		115 FLANDERS RD SUITE 200	WESTBOROUG	MA	01581
K07-0024-0-0036	6 FARMSTEA	BALL JUDITH E	COSTA MANUE	6 FARMSTEAD LN	SUDBURY	MA	01776
K07-0024-0-0048	8 FARMSTEA	DONOVAN DOI	TRUSTEE OF T	8 FARMSTEAD LN	SUDBURY	MA	01776
K07-0024-0-0059	10 FARMSTE	CASSARINO LINDA F		10 FARMSTEAD LN	SUDBURY	MA	01776
K07-0024-0-0060	12 FARMSTE	SILVERMAN K	TRUSTEE SILV	12 FARMSTEAD LN	SUDBURY	MA	01776
K07-0024-0-0113	3 FARMSTEA	VON PETERFF	TRUSTEE OF A	3 FARMSTEAD LN	SUDBURY	MA	01776
K07-0024-0-0125	5 FARMSTEA	FONTE COLAF	ANGELO COLA	28 EDMANDS RD # 20	FRAMINGHAM	MA	01701
K07-0024-0-0137	7 FARMSTEA	PARKHILL CRA	HANDLEY JUD	7 FARMSTEAD LN	SUDBURY	MA	01776
K07-0024-0-0149	9 FARMSTEA	SINGH NEENA		9 FARMSTEAD LN	SUDBURY	MA	01776
K07-0024-0-0151	11 FARMSTE	DEMARINES VI	MILLER MELIN	11 FARMSTEAD LN	SUDBURY	MA	01776
K07-0024-0-0163	13 FARMSTE	MOORE SUSAN J		13 FARMSTEAD LN	SUDBURY	MA	01776
K07-0024-0-0175	15 FARMSTE	RYAN THOMAS K & LISA A		15 FARMSTEAD LN	SUDBURY	MA	01776
K07-0024-0-0187	17 FARMSTE	DEMARINES VICTOR M & LIND		17 FARMSTEAD LN	SUDBURY	MA	01776
K07-0025	1 FARMSTEA	SUDBURY SEN	C/O NATIONAL	2310 WASHINGTON ST	NEWTON LOW	MA	02462
K07-0026	0 BOSTON PO	TOWN OF SUD	C/O BOARD OF	278 OLD SUDBURY RD	SUDBURY	MA	01776
K07-0027	0 ROADWAY	BPR DEVELOF	C/O NATIONAL	2310 WASHINGTON ST	NEWTON LOW	MA	02462
K07-5000	RAILWAY	MASS BAY TRANSPORTATION		10 PARK PLAZA	BOSTON	MA	02116

K08-0020-0-101	35 MAPLE AV	LIEBERMAN BARBARA J		35 MAPLE AVE	SUDBURY	MA	01776
K08-0020-0-102	35 MAPLE AV	RAPA DENNIS	GILLESPIE JOA	35 MAPLE AVE	SUDBURY	MA	01776
K08-0020-0-103	35 MAPLE AV	WADSWORTH PAMELA R & CH		35 MAPLE AVE	SUDBURY	MA	01776
K08-0020-0-201	35 MAPLE AV	LAMKIN ROBERT B & JOAN R		35 MAPLE AVE	SUDBURY	MA	01776
K08-0020-0-202	35 MAPLE AV	BURKLEY ELAI	TRUSTEE OF M	35 MAPLE AVE	SUDBURY	MA	01776
K08-0020-0-203	35 MAPLE AV	PARRISH R WA	TRUSTEES OF	35 MAPLE AVE	SUDBURY	MA	01776
K08-0020-0-301	35 MAPLE AV	TABLOSKI THEODORE F & PA		35 MAPLE AVE UNIT 301	SUDBURY	MA	01776
K08-0020-0-302	35 MAPLE AV	BRADY CORNELIUS W & MAR		35 MAPLE AVE UNIT 302	SUDBURY	MA	01776
K08-0020-0-303	35 MAPLE AV	VANWOERKOM	MOORE BARBA	46 CONCORD RD	WESTON	MA	02493
K08-0020-0-401	35 MAPLE AV	REED JOHN J	TRUSTEE OF T	35 MAPLE AVE	SUDBURY	MA	01776
K08-0020-0-402	35 MAPLE AV	KATZ PHILIP		35 MAPLE AVE	SUDBURY	MA	01776
K08-0020-0-501	35 MAPLE AV	REVIS SUSAN M & ANTONY		35 MAPLE AVE UNIT 501	SUDBURY	MA	01776
K08-0020-0-502	35 MAPLE AV	SYNNOTT MARK B & CHERYL		35 MAPLE AVE UNIT 502	SUDBURY	MA	01776
K08-0020-0-503	35 MAPLE AV	DROPKIN GOLDIE		35 MAPLE AVE UNIT 503	SUDBURY	MA	01776
K08-0020-0-601	35 MAPLE AV	PERLMAN NOAH & LAUREN		35 MAPLE AVE	SUDBURY	MA	01776
K08-0020-0-602	35 MAPLE AV	GOODMAN LEON & LEONA		35 MAPLE AVE	SUDBURY	MA	01776
K08-0020-0-701	35 MAPLE AV	AARONSON BURTON C & MAX		35 MAPLE AVE	SUDBURY	MA	01776
K08-0020-0-702	35 MAPLE AV	CONLIN JEFFREY L		35 MAPLE AVE	SUDBURY	MA	01776
K08-0020-0-703	35 MAPLE AV	VARGO MARK W & KAREN M		35 MAPLE AVE	SUDBURY	MA	01776
K08-0020-0-801	35 MAPLE AV	LUBAR EDWAR	MAPLE AVENU	35 MAPLE AVE UNIT 801	SUDBURY	MA	01776
K08-0020-0-802	35 MAPLE AV	NORINA BOYLE		35 MAPLE AVE UNIT 802	SUDBURY	MA	01776
K08-0020-0-901	35 MAPLE AV	HULIHAN MAILE		35 MAPLE AVE	SUDBURY	MA	01776
K08-0020-0-902	35 MAPLE AV	FLORU DAN & MARIETTA		35 MAPLE AVE	SUDBURY	MA	01776
K08-0021	28 MAPLE AV	VELLOM DANIEL C		28 MAPLE AVE	SUDBURY	MA	01776
K08-0022	22 MAPLE AV	LI WENJUN & LU LU		22 MAPLE AVE	SUDBURY	MA	01776
K08-0023	14 MAPLE AV	BROSNAN JOHN & MIKAYLA		14 MAPLE AVE	SUDBURY	MA	01776
K08-0024	10 MAPLE AV	GOODRICH PETER M & RACH		10 MAPLE AVE	SUDBURY	MA	01776
K08-0025	4 MAPLE AVE	4 MAPLE LLC		10 MAPLE AVE	SUDBURY	MA	01776
K08-0026	365 BOSTON	GOLDBERG KE	C/O INTRUM C	180 WELLS AVENUE STE 100	NEWTON	MA	02459
K08-0029	BOSTON PO	SUDBURY VALLEY TRUSTEES		18 WOLBACH RD	SUDBURY	MA	01776
K08-0037	378 BOSTON	SCRIVANOS C	SUD REALTY T	3 PLUFF AVENUE	NORTH READI	MA	01864
K08-0038	0 STATION R	UNION AVENUE REALTY, LLC		46 UNION AV	SUDBURY	MA	01776
K08-0039	34 STATION	MUTUAL REALTY TRUST OF S		34 AUTUMN ST	SUDBURY	MA	01776
K08-0040	40 STATION	STATION RD AUTO BODY & G		38-40 STATION RD	SUDBURY	MA	01776
K08-0041	46 UNION AV	UNION AVENUE REALTY LLC		46 UNION AVE	SUDBURY	MA	01776
K08-0053	39 UNION AV	CHISWICK PAR	C/O PARIS TRU	490-B BOSTON POST RD STE	SUDBURY	MA	01776
K08-0054	37 UNION AV	MASS BAY TRA	C/O SAXONVIL	P.O.BOX 2375	HAMPTON	NH	03843
K08-0055	UNION AVE	MCCARTHY LA	CAS TRUST	578 BOSTON POST RD	SUDBURY	MA	01776
K08-0056	27 UNION AV	MCNAMARA R	THE ROBMAR	28 UNION AVE	SUDBURY	MA	01776
K08-0057	UNION AVE	CHISWICK PAR	C/O PARIS TRU	490-B BOSTON POST RD STE	SUDBURY	MA	01776
K08-0073	0 UNION AVE	CHISWICK PAR	C/O PARIS TRU	490-B BOSTON POST RD STE	SUDBURY	MA	01776
K08-0074	28 UNION AV	MCNAMARA ROBERT W TRS		P O BOX 833	SUDBURY	MA	01776
K08-0082	394 BOSTON	CHEN LI-YUN Y	CHENS FAMILY	394 BOSTON POST RD	SUDBURY	MA	01776
K08-0084	OFF BOSTON	TOWN OF SUD	TREASURER	278 OLD SUDBURY RD	Sudbury	MA	01776
K08-5000	RAILWAY	MASS BAY TRANSPORTATION		10 PARK PLAZA	BOSTON	MA	02116
K08-5100	RAILWAY	EOT	MASS BAY TRA	10 PARK PLAZA	BOSTON	MA	02116

K08-5200		RAILWAY	CSX	500 WATER ST C910	JACKSONVILLE	FL	32202
K09-0056	333	BOSTON	SPACECRAFT LLC	51 RIVER STREET	WELLESLEY H	MA	02481
K09-0057-0-11A	329	BOSTON	CONVENIENT HOMECARE SE	689 MAIN ST	WALTHAM	MA	02451
K09-0057-0-11B	329	BOSTON	SHANNON PRODUCTS CORP	329 BOSTON POST RD, UNIT 2	SUDBURY	MA	01776
K09-0057-0-11C	329	BOSTON	CTA REAL ESTATE HOLDINGS	327 F BOSTON POST RD	SUDBURY	MA	01776
K09-0057-0-11D	329	BOSTON	CTA REAL ESTATE HOLDINGS	327 F BOSTON POST RD	SUDBURY	MA	01776
K09-0057-0-1A	327	BOSTON	SPENCER THOMAS W JR	327A BOSTON POST RD	SUDBURY	MA	01776
K09-0057-0-1B	327	BOSTON	PEDO REALTY LLC	45 MEADOWBROOK CIR	SUDBURY	MA	01776
K09-0057-0-1C	327	BOSTON	STRAUS MERRIL & ELLEN	327 BOSTON POST RD SUITE	SUDBURY	MA	01776
K09-0057-0-1D	327	BOSTON	YAFFE PETER CAROL S TRS	327 BOSTON POST RD	SUDBURY	MA	01776
K09-0057-0-1E	327	BOSTON	JAFAROV VUGAR	18 PINEWOOD AVE	SUDBURY	MA	01776
K09-0057-0-1F	327	BOSTON	CTA REAL ESTATE HOLDINGS	327 F BOSTON POST RD	SUDBURY	MA	01776
K09-0059-0-1	321	BOSTON	THOMPSON ROBERT J	5 APPLESEED DR	WESTBOROUG	MA	01581
K09-0059-0-15	325	BOSTON	O`CONNOR REALTY GROUP L	325 BOSTON POST RD UNIT 1	SUDBURY	MA	01776
K09-0059-0-1A	323	BOSTON	SALVIA PETER M & SUSAN W	45 BISHOP LANE	SUDBURY	MA	01776
K09-0059-0-1B	323	BOSTON	SALVIA PETER M & SUSAN W	45 BISHOP LANE	SUDBURY	MA	01776
K09-0059-0-1C	323	BOSTON	GERBE THOMAS	323 BOSTON POST RD UNIT 1	SUDBURY	MA	01776
K09-0059-0-2	321	BOSTON	CHALAH ANAS & CARLA	6 BIGELOW DR	SUDBURY	MA	01776
K09-0059-0-25	325	BOSTON	POST ROAD PROPERTIES LL	26 SPRING ST	SUDBURY	MA	01776
K09-0059-0-2A	321	BOSTON	ANDERSON R RMA REALTY T	321 BOSTON POST RD	SUDBURY	MA	01776
K09-0059-0-2A	323	BOSTON	STONE LAURA & RICHARD	323 2A BOSTON POST RD	SUDBURY	MA	01776
K09-0059-0-2B	321	BOSTON	ANDERSON R RMA REALTY T	321 BOSTON POST RD	SUDBURY	MA	01776
K09-0059-0-2B	323	BOSTON	HELWIG MARK W & RUTHIE	18 NADINE RD	FRAMINGHAM	MA	01701
K09-0059-0-2C	323	BOSTON	HELWIG MARK W & RUTHIE	18 NADINE RD	FRAMINGHAM	MA	01701
K09-0059-0-2D	323	BOSTON	HELWIG MARK W & RUTHIE	18 NADINE RD	FRAMINGHAM	MA	01701
K09-0059-0-35	325	BOSTON	ARCH PROPERTY GROUP LL	3 BROOKSIDE FARM LN	SUDBURY	MA	01776
K09-0059-0-3A	321	BOSTON	POYDAR HENR IVY REALTY TR	76 BIRCHWOOD LN	LINCOLN	MA	01773
K09-0059-0-3A	323	BOSTON	323 BOSTON POST ROAD REA	323 BOSTON POST RD STE 3A	SUDBURY	MA	01776
K09-0059-0-3B	321	BOSTON	POYDAR HENR IVY REALTY TR	76 BIRCHWOOD LN	LINCOLN	MA	01773
K09-0059-0-3B	323	BOSTON	323 BOSTON POST ROAD REA	323 BOSTON POST RD STE 3A	SUDBURY	MA	01776
K09-0059-0-3C	321	BOSTON	PEDULLA BAR TRUSTEE OF T	321 BOSTON POST RD UNIT 3	SUDBURY	MA	01776
K09-0059-0-3C	323	BOSTON	LOPILATO PAU LAFRATTA PHI	323 BOSTON POST RD UNIT 3	SUDBURY	MA	01776
K09-0059-0-3D	321	BOSTON	PRCC LLC	321 BOSTON POST RD UNIT 3	SUDBURY	MA	01776
K09-0059-0-3D	323	BOSTON	LOPILATO PAU LAFRATTA PHI	323 BOSTON POST RD UNIT 3	SUDBURY	MA	01776
K09-0059-0-45	325	BOSTON	MCGLYNN PARTNERS LLC	325 BOSTON POST ROAD	SUDBURY	MA	01776
K09-0059-0-4A	321	BOSTON	RPG PROPERTIES LLC	321 BOSTON POST RD	SUDBURY	MA	01776
K09-0059-0-4A	323	BOSTON	RONG QING DU	323 BOSTON POST RD 4A	SUDBURY	MA	01776
K09-0059-0-4B	321	BOSTON	RPG PROPERTIES LLC	321 BOSTON POST RD	SUDBURY	MA	01776
K09-0059-0-4B	323	BOSTON	RONG QING DU	323 BOSTON POST RD 4A	SUDBURY	MA	01776
K09-0059-0-4C	321	BOSTON	NICKERSON G B JR & DAVID A	321 BOSTON POST RD SUITE	SUDBURY	MA	01776
K09-0059-0-4C	323	BOSTON	SUITE 4C LLC	323 BOSTON POST RD 4C	SUDBURY	MA	01776
K09-0061	303	BOSTON	ARNHEIM DAVID L & MERRILL	303 BOSTON POST RD	SUDBURY	MA	01776
K09-0063		BOSTON PO	ARCURI JOSEPH & ANNETTE	271 BOSTON POST RD	SUDBURY	MA	01776
K09-0065	275	BOSTON	BAZILE CASTERA	275 BOSTON POST RD	SUDBURY	MA	01776
K09-0066	271	BOSTON	ARCURI JOSEPH & ANNETTE	271 BOSTON POST RD	SUDBURY	MA	01776
K09-0067		BOSTON PO	MASS BAY TRANSPORTATION	10 PARK PLACE	BOSTON	MA	02110

K09-0069	MAPLE AVE	MASS BAY TRANSPORTATION		50 HIGH ST	BOSTON	MA	02110
K09-0071	50 MAPLE AV	LEIBOWITZ HENRY & PEPPI J		50 MAPLE AVE	SUDBURY	MA	01776
K09-0072	44 MAPLE AV	AINSWORTH MARY JANE		44 MAPLE AVE	SUDBURY	MA	01776
K09-0073	34 MAPLE AV	COXALL HAROLD		15 PINE ST	WELLESLEY	MA	02481
K09-0081	0 BOSTON P	TOWN OF SUD	CONSERVATIO	278 OLD SUDBURY RD	SUDBURY	MA	01776
K10-0003	267 LANDHA	SAFAR GASTON		132 NEWBURY ST	BOSTON	MA	02116
K10-0004	LANDHAM R	SAFAR GASTON		132 NEWBURY ST	BOSTON	MA	02116
K10-0005	271 LANDHA	HAN XU		271 LANDHAM ROAD	SUDBURY	MA	01776
K10-0006	277 LANDHA	TRANTER EDWARD J & KRIST		277 LANDHAM RD	SUDBURY	MA	01776
K10-0007-0-1A	215 A BOSTON	EMMA LOU LLC		1 GLEN PINES WAY	MILLIS	MA	02054
K10-0007-0-1B	215 B BOSTON	HOWARD FARM LLC		6 HOWARD FARM RD	SHARON	MA	02067
K10-0007-0-1C	215 C BOSTON	ORR CHARLES	SPEER REALT	215 BOSTON POST RD	SUDBURY	MA	01776
K10-0007-0-2B	215 B BOSTON	MICHELS KARL	TRUSTEES MI	215 BOSTON POST RD	SUDBURY	MA	01776
K10-0007-0-2C	215 C BOSTON	ORR CHARLES	SPEER REALT	215 BOSTON POST RD	SUDBURY	MA	01776
K10-0008	209 BOSTON	PEARLMAN AL	DELTA LAND T	172 BISHOPS FOREST DR	WALTHAM	MA	02173
K10-0009	227 BOSTON	CONGREGATION B`NAI TORA		PO BOX 273	SUDBURY	MA	01776
K10-0012	189 BOSTON	CCC POST RO	C/O THE COOL	189 BOSTON POST RD	SUDBURY	MA	01776
K10-0014	183 BOSTON	NSTAR ELECT	PROPERTY TA	P.O. BOX 270	HARTFORD	CT	06141
K10-0015	256 LANDHA	UNITED STATES OF AMERICA		260 LANDHAM RD	SUDBURY	MA	01776
K10-0038	BOSTON PO	ARCURI JOSEPH & ANNETTE		271 BOSTON POST RD	SUDBURY	MA	01776
K10-0040	225 BOSTON	CONGREGATION B`NAI TORA		PO BOX 273	SUDBURY	MA	01776
K10-0041	LANDHAM R	TOWN OF SUD	CONSERVATIO	278 OLD SUDBURY ROAD	SUDBURY	MA	01776
K10-0081	187 BOSTON	CCC POST RO	LIMITED PART	34 WASHINGTON ST	BRIGHTON	MA	02135
K10-0101	272 LANDHA	BLAIR CHADW	CHADWICK BL	272 LANDHAM RD	SUDBURY	MA	01776
K11-0402	163 BOSTON	NSTAR ELECT	PROPERTY TA	P.O. BOX 270	HARTFORD	CT	06141
K11-0501	BOSTON PO	BUDDY DOG HUMANE SOCIE		151 BOSTON POST RD	SUDBURY	MA	01776
K11-5000	RAILWAY	MASS BAY TRANSPORTATION		10 PARK PLAZA	BOSTON	MA	02116

1

Introduction

On behalf of the co-applicants, the Massachusetts Department of Conservation and Recreation ("DCR") and NSTAR Electric Company d/b/a Eversource Energy ("Eversource"), VHB is submitting this Notice of Intent ("NOI") pursuant to the Massachusetts Wetlands Protection Act (M.G.L. Chapter 131, Section 40[1]) ("MWPA" or the "Act") and its implementing regulations (310 CMR 10.00[2]) ("the MWPA Regulations"), and the Sudbury Wetlands Administration Bylaw[3] ("the Bylaw") and the Sudbury Wetlands Administration Bylaw Regulations[4] ("Bylaw Regulations"), for the construction of a portion of the Massachusetts Central Rail Trail ("MCRT") and installation of a portion of an underground electric transmission line within an inactive Massachusetts Bay Transportation Authority ("MBTA") railroad right-of-way ("ROW") within the limits of the Town of Sudbury, Massachusetts.

As proposed herein, "the Project" includes completion of a portion of the regional MCRT and construction of a portion of a new 115-kilovolt ("kV") underground electric transmission line ("the underground transmission line" or commonly referred to as "the Sudbury-Hudson Transmission Line Project"). This Project is the direct result of a collaborative project-planning process among DCR, Eversource, and the MBTA. This coordinated effort combines two compatible uses within a single existing and under-utilized transportation corridor, with a proposed phased construction sequence to minimize cost, the overall construction schedule, and potential impacts to wetland resource areas.

Throughout the design phase of the Project, Eversource and DCR have coordinated closely and have jointly met with local municipalities as well as state regulatory agencies such as Massachusetts Department of Environmental Protection ("MassDEP") Wetlands Division, MassDEP Waterways (Chapter 91) Division, and the Natural Heritage & Endangered Species Program ("NHESP") to discuss the details for the proposed MCRT and the underground transmission line. DCR and Eversource have developed a Memorandum of Understanding

[1] Massachusetts Wetlands Protection Act (M.G.L. c. 131 §40). https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXIX/Chapter131/Section40

[2] Massachusetts Wetlands Protection Act Regulations (310 CMR 10.00). https://www.mass.gov/files/documents/2016/08/vy/310cmr10a.pdf

[3] Article XXII Wetlands Administration Bylaw. https://s3-us-west-2.amazonaws.com/cdn.sudbury.ma.us/wp-content/uploads/sites/273/2015/01/ARTICLE-XXII-WETLANDS-ADMINISTRATION.pdf?version=7c07334911d90a7ef9dce506686542d9

[4] Sudbury Wetlands Administration Bylaw Regulations. https://s3-us-west-2.amazonaws.com/cdn.sudbury.ma.us/wp-content/uploads/sites/272/2017/10/Wetlands-Bylaw-Regulation-Amendment-170925.pdf?version=18d2af56918f837c61fd50801a467313

("MOU") to memorialize agreements to design, permit, construct, operate, and maintain the Project, and have made a concerted effort to design the Project to avoid and minimize impacts to wetland resource areas. This joint application by Eversource and DCR will allow the Sudbury Conservation Commission to evaluate and condition the proposed work activities accordingly.

The Project will serve the dual purpose of increasing the reliability of the regional electric transmission system and advancing state-wide multi-use trail network initiatives. The underground electric transmission component of the Project will resolve thermal overloads and low voltage conditions and will support the increased demand for electricity within this portion of the transmission system.

In Massachusetts, regional trails are an important priority for increasing the number of commuters who bike and walk to work and for providing recreational opportunities. The MCRT is one of these regional commuter trails that is American Disabilities Act ("ADA") compliant and accessible by people of all abilities. When completed, the MCRT will connect over 20 communities and provide over 100 miles of interconnected walking and biking trails. DCR has included the construction of the Sudbury to Hudson portion of the MCRT in a long-range capital planning request for Fiscal Year 2021. The Massachusetts Department of Transportation ("MassDOT") Project Review Committee has also approved the MCRT for design as MassDOT Project #608995. DCR constructed the Weston to Wayland portion of the MCRT, which was completed in fall 2019.

Proposed Project Overview

As shown in Figures 1 and 2 in Attachment A, the Project in Sudbury is approximately 4.3 miles long and is located entirely within the MBTA ROW from the Hudson/Sudbury municipal border to the Sudbury Substation off Route 20. The "Project Locus" related to this Project is the entire width of the MBTA ROW within Sudbury, an approximately 150-foot-long portion of the Eversource driveway to the Sudbury Substation, and the Sudbury Substation. The "Project Site" is the limit of work for the Project.

The Project will be constructed in a two-phased approach described in more detail in Section 3 of this NOI filing. Phase 1 of the Project will be under the control and responsibility of Eversource and will include all major earthwork, bridge rehabilitation (Bridge 128) and bridge reconstruction (Bridge 127), and the installation of the underground transmission line (see plans provided in Attachment B). Phase 2 of the Project will be under the control and responsibility of DCR and will include installation of facilities for road crossings, paving the MCRT, and final restoration of the work zone (see plans in Attachment C).

Summary of Wetland Resource Area Impacts in Sudbury

A summary of the wetland resource area impacts is provided in Table 1.

Table 1 Wetland Resource Area Impact Summary within the Project Site in Sudbury

Wetland Resource Area	Permanent Disturbance[1] Square Feet (Acres)	Temporary Disturbance[2] Square Feet (Acres)	Total Disturbance Square Feet (Acres)	Wetland Resource Area on Project Locus[3] Square Feet (Acres)	Comments
MWPA/Sudbury Bylaw Jurisdiction					
Bordering Vegetated Wetland	89 (0.002)	524 (0.012)	613 (0.014)	131,436 (3.02)	BVW impacts at Bridge 127, culvert 127A, and Wetland 4. All areas of temporary disturbance will be revegetated with native species. The 89 square feet of permanent BVW loss (4 square feet at Wetland 18 and 85 square feet at Wetland 4) will be replicated on the Project Site.
MWPA Riverfront Area[4]	61,003 (1.4)	95,463 (2.2)	156,466 (3.6)	457,504 (10.5)	Activities proposed within the MWPA RFA of three waterbodies. All disturbed areas outside of the 61,003 square feet of the proposed MCRT paved surface are to be revegetated with native species.
Bordering Land Subject to Flooding	2,686 (0.06)	7,749 (0.2)	10,435 (0.2)	172,294 (4.0)	All disturbed areas outside of the 2,686 square feet of proposed MCRT paved surface are to be revegetated with native species. The Project will result in a net gain of 78.46 cubic yards of flood storage in BLSF.
Land Under Water Bodies and Waterways	0	1,146 (0.03)	1,146 (0.03)	92,342 (2.1)	All LUWW impacts are temporary and are associated with the placement of the crane mats at Bridge 127. All areas of disturbance will be restored.
Bank (linear feet)	0	246 (0.005)	246 (0.006)	7,379 (0.17)	All Bank impacts are temporary and are associated with placement of the crane mats at Bridge 127. All areas of disturbance will be restored.

Wetland Resource Area	Permanent Disturbance[1] Square Feet (Acres)	Temporary Disturbance[2] Square Feet (Acres)	Total Disturbance Square Feet (Acres)	Wetland Resource Area on Project Locus[3] Square Feet (Acres)	Comments
MWPA Buffer Zone[5]	123,686 (2.8)	196,884 (4.5)	320,570 (7.4)	985,096 (19.7)	All disturbed areas outside of the 123,686 square feet of the proposed MCRT paved surface are to be revegetated with native species.
Federal Section 401 and 404/Sudbury Bylaw Jurisdiction					
Isolated Vegetated Wetland	303 (0.007)	0	303 (0.007)	303 (0.007)	One IVW will be filled; loss of IVW will be replicated within the Project Locus.
Sudbury Bylaw Jurisdiction Only					
Adjacent Upland Resource Area	94,645 (2.2)	153,519 (3.5)	248,164 (5.7)	853,305 (19.6)	All disturbed areas outside of the 94,645 square feet of the proposed MCRT paved surface are to be revegetated with native species.
Vernal Pool Buffer	33,139 (0.8)	49,553 (1.1)	82,692 (1.9)	254,887 (5.8)	All disturbed areas outside of the 33,139 square feet of the proposed MCRT paved surface are to be revegetated with native species.
Bylaw Riverfront Area[6]	31,789 (0.7)	46,707 (1.1)	78,496 (1.8)	253,630 (5.8)	All disturbed areas outside of the 31,789 square feet of the proposed MCRT paved surface are to be revegetated with native species.

Source: VHB

1. The permanent disturbance for RFA, BLSF, AURA, and Vernal Pool Buffers is limited to the impervious surface proposed for the MCRT.
2. The temporary disturbance for RFA, BLSF, AURA, and Vernal Pool Buffers includes all areas of disturbance outside of the limits of the impervious surface associated with the MCRT. All temporarily disturbed areas will be revegetated with native species.
3. The "Project Locus" includes the entire approximately 82-foot width of the MBTA ROW, the portion of the Eversource Substation access driveway, and the Sudbury Substation.
4. The MWPA RFA that is under MWPA/Sudbury jurisdiction is for state perennial streams only.
5. MWPA Buffer Zone includes all areas considered AURA under the Sudbury Bylaw as well as portions of Vernal Pool Buffers where the Vernal Pool is within BVW.
6. The Bylaw RFA that is under Sudbury jurisdiction only are the streams that are defined as perennial under the Bylaw Regulations, but do not qualify as perennial according to the MWPA and MWPA Regulations.

The Project fully complies with all applicable MWPA and Sudbury Bylaw related performance standards for their respective resource areas, including Buffer Zones to state wetland resource areas, Bordering Vegetated Wetland ("BVW"), Bordering Land Subject to Flooding ("BLSF"), Land Under Water Bodies and Waterways ("LUWW"), Bank, Riverfront Area ("RFA") and local Adjacent Upland Resource Area ("AURA").

In addition to fully complying with the performance standards, both components of the Project qualify for "limited project" status under the MWPA Regulations. The transmission line component qualifies under 310 CMR 10.53(3)(d) for the "construction, reconstruction, operation, and maintenance of underground or overhead public utilities," and the majority of the bike path component, which is within MWPA RFA but outside of other MWPA resource areas, qualifies under 310 CMR 10.53(6) for the "construction, rehabilitation, and maintenance of footpaths, bike paths, and other pedestrian or non-motorized vehicle access to or along riverfront areas but outside other resource areas, provided that adverse impacts from the work are minimized and that the design specifications are commensurate with the projected use and are compatible with the character of the riverfront area" (see Section 5.1.1). Three sections of the MCRT alignment are not eligible for limited project status because they are within MWPA RFA that overlaps with BLSF. However, as discussed in detail in Section 5.1.8, these three sections fully comply with all applicable performance standards for both RFA and BLSF.

The Project also fully complies with all applicable performance standards under the Section 401 Water Quality Certification regulations and proposes to replace the loss of vegetated wetlands (bordering and isolated) at a ratio of 2:1 (see Sections 5.1.5 and 5.4, and Attachment D).

The following sections of this NOI provide detailed information regarding existing conditions within the Project Site (Section 2.0), present details regarding the proposed work activities (Section 3.0), provide an overview of the avoidance and minimization strategies implemented relative to wetland resource areas (Section 4.0), and present a detailed summary of compliance with applicable performance standards and proposed mitigation measures (Section 5.0).

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2

Existing Conditions

As shown in Figures 1 and 2 in Attachment A, the Project in Sudbury is approximately 4.3 miles long and is located entirely within the MBTA ROW from the Hudson/Sudbury municipal border to the Sudbury Substation off Route 20. The MBTA ROW width is variable but is approximately 82 feet wide in most locations and travels past residential areas, commercial developments, wooded areas, and roadways.

The "Project Locus" includes the entire approximately 82-foot width of the MBTA ROW, an approximately 150-foot-long portion of the Eversource driveway to the Sudbury Substation, and the Sudbury Substation. The Project Site generally ranges from 18 feet to 50 feet wide within resource areas, except at manhole locations, the proposed replication area, and at the Boston Post Road crossing where the limit of work widens for replacement of the sidewalk.

Within the proposed limits of work associated with the Project, the MBTA ROW is previously developed consistent with its former use as a railroad right-of-way. In its present condition, the track structure occupies a footprint that is approximately 11 feet wide throughout the entire Project Locus. In addition, in most areas within the proposed limits of work where wetland resource areas are crossed by the Project some type of path also exists alongside the track structure and stone ballast footprint. In some areas these paths are narrow and appear to be used predominantly by walkers, and in other areas they appear to be used by mountain bikers and all-terrain vehicle users. In other segments, such as the portion of the Project located between the Sudbury/Marlborough/Hudson town lines and Dutton Road, there are wider and well-defined pathways that have limited or no vegetation, are apparently heavily used by hikers and individuals walking dogs and riding horses, and appear to also be used by mountain bikers, snowmobile users, and all-terrain vehicle users.

Photographs of the existing conditions are provided in Attachment E.

2.1 Overview of Wetland Resource Areas Within the Project Locus

The following freshwater wetland resource areas are present within or proximate to the Project Locus: Bank, LUWW, BVW, BLSF, and RFA. All wetland resource areas were delineated following the methodologies that are described in 310 CMR 10.55, the MassDEP 1995

manual,[5] and are consistent with the US Army Corps of Engineers ("USACE") 1987 Manual[6] and its Northcentral and Northeast Regional Supplement.[7] Wetland resource areas outside of the Project Locus were not field delineated due to property access restrictions and were digitized using available MassDEP Geographic Information Systems ("GIS") data and ortho-imagery. The imagery used was from spring 2011 and 2012 and is prior to leaf-out, which permits a more accurate interpretation of field conditions.

All wetland resource areas within the Project Locus were reviewed and approved as part of the Abbreviated Notice of Resource Area Delineation ("ANRAD") process with the Sudbury Conservation Commission in 2018 through the Order of Resource Area Delineation ("ORAD") issued on August 27, 2018 (see Attachment F). The ORAD included BVW, Bank, LUWW, BLSF (in accordance with Sudbury Wetlands Bylaw Definition), RFA (as determined by the Sudbury Wetlands Bylaw Perennial stream and mean annual high water definition), and vernal pools (in accordance with Sudbury Wetland Bylaw definition). During the ANRAD review process, the BLSF boundary was established in the field by ground survey by using the 100-year floodplain (i.e., BLSF) base flood elevation.

Note that under the MWPA, Hop Brook and Dudley Brook are considered perennial and have an associated RFA designated as "WPA RA" on the plans. Under the Sudbury Bylaw, all remaining streams on the Project Locus are defined to be perennial; the RFAs associated with these streams are jurisdictional under the Bylaw Regulations only and are designated as "SUD RA" on the plans.

In addition, the Sudbury Bylaw regulates activities within the AURA, which generally consists of land within 100 feet of wetland resource areas and land within 200 feet from the top of bank of perennial streams and rivers. The AURA for vernal pools (referenced herein as "Vernal Pool Buffer") extends 100 feet from the mean annual high-water line defining the depression (this is denoted on the plans as "100VPBZ"). There are also isolated wetlands on the Project Locus that are subject to local and federal jurisdiction.

2.2 Mapped Soils within the Project Locus in Sudbury

According to the Natural Resources Conservation Service Web Soil Survey, [8] there are several different soil series mapped within the Project Locus in Sudbury (see Figure 3 in Attachment A and Table 2 below). However, because the previous use of the MBTA ROW

[5] MassDEP Division of Wetlands and Waterways. Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act. March 1995. https://www.mass.gov/files/documents/2016/08/pn/bvwmanua.pdf

[6] U.S. Army Corps of Engineers. Corps of Engineers Wetlands Delineation Manual. January 1987. https://usace.contentdm.oclc.org/digital/collection/p266001coll1/id/4530

[7] U.S. Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Northcentral and Northeast Region (Version 2.0). January 2012. https://usace.contentdm.oclc.org/utils/getfile/collection/p266001coll1/id/7640

[8] U.S. Department of Agriculture Natural Resources Conservation Service – Web Soil Survey. https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm?TARGET_APP=Web_Soil_Survey_application_u1wl5v13de1ikaypfk14ngvp

was a railroad, the soils have been disturbed and/or filled. This was confirmed during the advancement of geotechnical borings throughout the MBTA ROW, which identified that fill material is present in subsurface soils ranging up to 12 feet below surface grade.

Table 2 NRCS Mapped Soil Types within the Project Locus in Sudbury

Map Unit Name/Soil Series	Map Unit Symbol	Hydric	Hydrologic Soil Group	Drainage Class
Scarboro mucky fine sandy loam, 0-3% slopes	6A	Yes	A/D	Very poorly drained
Freetown muck, 0-1% slopes	52A	Yes	B/D	Very poorly drained
Freetown muck, ponded, 0-1% slopes	53A	Yes	B/D	Very poorly drained
Charlton-Hollis-Rock outcrop complex, 3-8% slopes	103B	No	A	Well drained
Hollis-Rock outcrop-Charlton complex, 15-25% slopes	104D	No	D	Well drained
Hinckley loamy sand, 3-8% slopes	253B	No	A	Excessively drained
Hinckley loamy sand, 8-15% slopes	253C	No	A	Excessively drained
Hinckley loamy sand, 15-255% slopes	253D	No	A	Excessively drained
Windsor loamy sand, 0-3% slopes	255A	No	A	Excessively drained
Windsor loamy sand, 3-8% slopes	255B	No	A	Excessively drained
Deerfield loamy sand, 3-8% slopes	256B	No	B	Moderately well drained
Carver loamy coarse sand, 3-8% slopes	259B	No	A	Excessively drained
Montauk fine sandy loam, 8-15% slopes, extremely stony	302C	No	C	Well drained
Udorthents-Urban land complex	656	No	N/A	N/A

Source: NRCS Web Soil Survey

2.3 Protected Sensitive Habitats

The following sections provide an overview of sensitive habitats that fall under jurisdiction of either the MWPA or the Massachusetts Endangered Species Act and include Estimated/Protected Habitat for State-Listed species, Outstanding Resource Waters, Areas of Critical Environmental Concern, and Coldwater Fisheries.

2.3.1 Estimated/Priority Habitat for State Listed Species

Based on the most recently published edition of the Massachusetts Natural Heritage Atlas (14th edition, effective August 1, 2017), a portion of the Project Locus within the MBTA ROW east of White Pond Road in Hudson to just west of the Hop Brook Bridge 128 crossing in Sudbury is within Priority and Estimated Habitat of rare species, PH1440/EH1040 (see Figure 4 in Attachment A). Within Sudbury, the Priority and Estimated Habitat ends at the Hudson/Sudbury town line. Based on the August 4, 2017, response letter from Massachusetts Division of Fisheries and Wildlife ("MassWildlife") Natural Heritage and Endangered Species Program ("NHESP"), there are four state-listed species of special concern within PH1440/EH1040 (see Table 3 and Attachment G).

Table 3 State-Listed Protected Species

Scientific name	Common Name	State Status
Terrapene carolina	Eastern Box Turtle	Special Concern
Caprimulgus vociferus	Eastern Whip-poor-will	Special Concern
Catocala herodias gerhardi	Gerhard's Underwing Moth	Special Concern
Metarranthis pilosaria	Coastal Swamp Metarranthis Moth	Special Concern

Source: NHESP

2.3.2 Coldwater Fishery Resources

Coldwater Fishery Resources ("CFRs") are identified as Critical Areas in the MWPA (310 CMR 10.04) and are regulated under the Massachusetts Surface Water Quality Standards (314 CMR 4.00[9]). Based on the latest mapping of CFRs by MassWildlife, Hop Brook is classified as a CFR[10], though MassDEP has identified Hop Brook as an impaired water body and the Surface Water Quality Standards classify it as a Class B Warm Water Fishery due to maximum mean monthly temperatures that generally exceed 68 degrees Fahrenheit during the summer months.

In addition to Hop Brook, under the Bylaw, CFRs also include the tributaries and spring-fed seeps that drain into said CFR.

There are therefore six additional streams that are not identified as CFRs by MassWildlife, but are considered CFRs under the Sudbury Bylaw:

1. Intermittent stream at Station 527+30, which drains into Dudley Brook
2. Dudley Brook at Station 539+40, which drains into Hop Brook
3. Intermittent stream at Station 561+82, which drains into Dudley Brook
4. Intermittent stream at 593+18, which drains into Landham Brook (which is mapped as a CFR by MassWildlife)
5. Intermittent tributary to Hop Brook that runs parallel to the Project Site near Station Road
6. Tributary to Wash Brook at Station 747+39 (Wash Brook drains into Hop Brook)

2.3.3 Areas of Critical Environmental Concern

Based on a review of available MassGIS data, no portion of the Project Site is located within an Area of Critical Environmental Concern[11] ("ACEC").

[9] Massachusetts Surface Water Quality Standards (314 CMR 4.00). https://www.mass.gov/files/documents/2016/11/nv/314cmr04.pdf

[10] MassWildlife Coldwater Fisheries Resource List. https://mass-eoeea.maps.arcgis.com/apps/webappviewer/index.html?id=56ddeb43ffc642feb3117ce7ebd1aa43

[11] MassGIS OLIVER – Areas of Critical Environmental Concern Data Layer. http://maps.massgis.state.ma.us/map_ol/oliver.php

2.3.4 Outstanding Resource Waters and Vernal Pools

Outstanding Resource Waters ("ORWs") are defined in 314 CMR 4.00 as Class A Public Water Supplies and their tributaries, wetlands bordering Class A ORWs, active and inactive reservoirs approved by the MassDEP Drinking Water Program after December 29, 2006, and other waters as determined by MassDEP based on their outstanding socio-economic, recreational, ecological and/or aesthetic values. Vernal pools certified by MassWildlife are designated as Class B ORWs, and wetlands bordering Class B, SB, or SA ORWs are also designated as ORWs. As such, one certified vernal pool within the Project Locus in Sudbury is considered an ORW.

In addition, 12 "certifiable" vernal pools and 7 presumed vernal pools that are on or adjacent to the Project Locus were delineated in the ORAD under the local bylaw.

2.4 Public Water Supply Resources

Public water supply resources are addressed here because Bank, BVW, LUWW, and RFA are presumed to contribute to the protection of private or public water supplies. Available MassGIS data was reviewed to identify Wellhead Protection Areas ("WPAs") and public water supply wells within the vicinity of the Project. There is one Zone II WPA that overlays a portion of the Project Locus within the MBTA ROW. Zone II WPAs are those portions of an aquifer that contribute to the recharge of an existing public water supply well or wellfield. There are no public water supply wells or Zone I areas within or immediately surrounding any portion of the Project Locus (see Figure 5 in Attachment A). Based on correspondence with Sudbury's Director of Public Health, there are no drinking water wells in the vicinity of the Project Locus. Per this response, data was gathered from the Board of Health, Water District, and DEP records and these records confirm that only irrigation wells are located in the vicinity of the Project Locus in Sudbury.

As described further in Sections 5.1.4 through 5.1.6, 5.2.2, and 5.2.5, the Project will comply with all applicable requirements under the Sudbury Bylaw and Bylaw Regulations, and with all applicable performance standards for Bank, BVW, LUWW, and RFA under the MWPA in order to protect ground water and surface water quality and quantity.

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3

Proposed Work

The Project will be constructed in a two-phased approach as described in detail below. Phase 1 of the Project will be under the control and responsibility of Eversource and will include all major earthwork, bridge reconstruction, construction of the wetland replication area, and the installation of the underground transmission line and stormwater management features. Phase 2 of the Project will be under the control and responsibility of DCR and will include installation of facilities at road crossings, paving the MCRT and final restoration. During both phases, Best Management Practices ("BMPs") will be employed to minimize impacts, and environmental monitors will be present throughout to confirm that all activities are being conducted in accordance with applicable permit conditions.

The general construction sequencing associated with each phase is as follows:

Phase 1 Construction Activities (some components listed may be conducted simultaneously)

- Development of Storm Water Pollution and Prevention Plan ("SWPPP")
- Identification of contractor access and laydown areas, to be located outside of wetland jurisdictional areas
- Vegetation removal within the limit of work (no stumping)
- Installation of erosion and sediment controls with on-going monitoring and maintenance during Phase 1
- Installation of new equipment at Sudbury Substation
- Rail and tie removal
- Grading to create construction platform
- Installation of stormwater management features
- Construction of wetland replication area
- Construction of bridges and other crossings
- Installation of manholes and duct bank
- Installation of electrical and signal conduit for MCRT at road crossings
- Final grading of the gravel base for MCRT
- Cable pulling, splicing, testing, and commissioning
- Loaming and seeding of disturbed areas

Phase 2 Construction Activities (some components listed may be conducted simultaneously)

- Development of Storm Water Pollution and Prevention Plan ("SWPPP")
- Installation of posts and mast arms at road crossings
- Monitoring and maintenance of all erosion and sediment controls for Phase 2
- Grading and compacting gravel base
- Placement of intermediate and surface course of pavement for MCRT and turn outs
- Installation of imprinted resin median and detectable warning panels at road crossings
- Installation of fencing, benches, and bike racks
- Installation of woody vegetation plantings
- Loaming and seeding along shoulders, side slopes, and any other disturbed areas
- Installation of roadway and trail markings and signs
- Removal of erosion controls by hand and reseeding of footprint once vegetated areas are established and any other applicable permit conditions achieved
- Development of as-builts for all Phase 2 activities

The following sections provide detailed descriptions of the proposed work activities associated with each of the two phases of the Project.

3.1 Proposed Phase 1 Construction Activities

Construction of Phase 1 of the Project will generally require a 22-foot-wide construction platform along the MBTA ROW to create a flat and stable work area for construction of the Project (see Figure 6 in Attachment A). The 22-foot width is the minimum width that will provide for two-way construction vehicle traffic, allowing multiple crews to work concurrently within the same section of the MBTA ROW, maximizing construction efficiency and reducing construction duration and impacts to abutting residents. This also allows sufficient space for construction vehicles to be safely staged and to travel alongside the excavated and shored trench and allows for easier access and egress of emergency vehicles in the event of an incident that would require first responders to be deployed to the construction area.

There is one location where the construction platform will be reduced to 20 feet wide and several locations where it will be reduced to 18 feet wide in order to balance minimization of impacts to resource areas with safety and efficiency of construction. The proposed limit of work is limited to the maximum extent possible within resource areas to meet existing grade, satisfy DCR design criteria, and accommodate stormwater management features.

The construction platform within the MBTA ROW will generally consist of the following:

- A 14-foot-wide, 8-inch-deep gravel base;
- A four-foot-wide duct bank trench (offset from the 14-foot gravel base by one-foot in most locations);

- Three feet of additional construction area to facilitate installation of the duct bank; and
- Manhole installation areas (requiring additional workspace outlined below).

At each proposed manhole location, to accommodate installation, the limits of clearing will be temporarily expanded to an approximate width of 40 feet, for a length of 50 feet. Following construction, these areas will be allowed to grow back to a final maintained width of 19 feet. Each manhole is approximately eight feet wide by eight feet high and 24 feet long. Due to their size, most of the manholes will be located partially underneath the MCRT with the manhole covers in the shoulder adjacent to the MCRT. The manhole depth will vary by location, with the base measuring approximately 12 to 15 feet below the proposed final grade of the MCRT. Manholes will be spaced approximately every 1,500 to 1,800 feet, and the spacing has been optimized to avoid wetland resource areas where feasible. At each transmission line manhole location, a separate precast communication handhole measuring four feet by four feet by four feet will be installed on the opposite side of the MCRT.

Plans for this portion of the work are provided in Attachment B.

3.1.1 Vegetation Removal

The Project requires removal of existing vegetation, including trees, saplings, shrubs, and herbaceous vegetation within the limits of work. Prior to the start of construction, the proposed limits of work will be delineated with survey grade equipment and staked, and only the trees that require removal will be visibly marked. In addition, prior to vegetation removal, the boundaries of wetlands will be clearly marked to prevent unauthorized encroachment.

Any limbs that overhang the limits of work and need to be trimmed for construction vehicle access and operations will be selectively cut. Affected limbs will be cut in a manner that will maintain the health of the trees. The design has minimized tree removal to the extent practicable by locating the construction platform along the existing rail bed. However, where tree removal is necessary, it will consist of cutting trunks as close to the ground as possible and leaving the stumps and roots in place. Tree trunks and large limbs will be cut, and smaller limbs and brush will be chipped for removal from the Project Locus.

Typical equipment used to clear vegetation includes tree shears, brush mowing units, a skidder bucket and/or manual climbers, a forwarder or tree dump truck, and a chipper with a winch. Hand cutting using chainsaws and brush saws will be used as necessary in sensitive areas.

3.1.2 Best Management Practices

To minimize impacts during construction, the construction crews will implement a variety of BMPs based on Eversource's BMP manual (see Attachment H), which include, but are not limited to, the following:

- **Erosion and Sediment Controls** are installed between construction areas and resource areas such as wetlands. They are designed to prevent and minimize the transport of sediment carried by stormwater into resource areas down-gradient. In many situations they also mark the limit of work. The proposed erosion and sediment controls for the Project include "syncopated" silt fence (installed in a specific layout that permits wildlife movement, to be used within Estimated/Priority Habitat and within 450 feet of vernal pools), silt fence and compost filter tubes. The proposed location for each type of erosion and sediment control barrier is indicated on the NOI plans found in Attachments B and C. Please note that hay will not be used. Other types of erosion and sediment controls that might be used during construction include:
  - **Jute Mesh Erosion Control Blankets** are used to temporarily stabilize disturbed soils on steep slopes and promote rapid growth of vegetation for permanent stabilization, thus preventing erosion.
  - **Hydro Seeding** is another form of erosion prevention and is used to promote rapid stabilization of disturbed soils (including slopes) and rapid growth of vegetation. In practice, fiber mulch suspended in water along with plant seeds and tackifiers are sprayed on disturbed areas covering the entirety of the disturbed area. The fiber mulch adheres to the ground surface forming a thin mat that stabilizes the soil surface, retains moisture, and helps to promote rapid germination of plant seeds.
  - **Turbidity Controls** are typically used in conjunction with other BMPs when work occurs either in or immediately adjacent to areas that are inundated by water such as at bridges. Depending on the water depth at the time of construction, they may consist of a geotextile fabric suspended from flotation booms and weighted at the bottom (turbidity curtains) or staked tall silt fence.
- **Construction Signage** is typically used throughout the Project Locus alerting contractors of sensitive areas (including wetlands, rare species, vernal pools, tree protection, cultural resource areas, and time of year restrictions), approved access locations, and locations where access is prohibited.
- **Dewatering** is required when it is necessary to remove water from an excavation during construction. The need for dewatering is driven by field conditions and depends on the location of excavation, the time of year, and current and recent weather conditions (e.g., rain events). If dewatering is required based on field conditions, efforts will be made to locate the discharge either in the construction trench or in uplands at least 100 feet from wetlands. A soil and groundwater management plan will be developed that includes procedures for the management of any dewatering. The contractor will follow all guidelines in the soil and groundwater management plan and Eversource's BMP manual (see Attachment H for dewatering BMPs). Several methods can be used to temporarily divert and dewater from work areas, including:
  - **Overland flow** may be used when there is no potential for discharged water to flow overland into wetlands or waterbodies. The water flows overland without any filtering to well-drained, vegetated upland areas and naturally infiltrates into the soil.

  - **Frac tanks** are prefabricated and self-contained units that contain a series of baffles that allow fine materials to settle out of the water column.
  - **Filter bags and straw bale containment areas** may be used when there is a potential for discharged water to flow overland into wetlands or waterbodies. These containment areas will be located in well-vegetated areas outside of wetlands and more than 100 feet from a waterbody or stream bank.
  - **Discharge hose filter socks** may be used when there isn't enough space to construct sediment basins or enough suitable uplands for overland flow and infiltration. Filter "socks" or bags may be attached to the end for the discharge hose of the pump and used for dewatering. Additional measures such as straw bales may be installed around the filter device for added protection.
- **Construction mats** are primarily used to minimize soil disturbance for access, bridges, and work platforms for construction equipment in wetland or soft soils. Currently, the only location where construction mats are proposed are at both Hop Brook crossings for the bridge reconstruction (Bridge 127) and rehabilitation (Bridge 128). The mats will be thoroughly cleaned and will be free of vegetation before and after use on the Project, and Eversource maintains standards that contractors must abide by.
- **Only native indigenous plantings and seed mixes** will be used to revegetate and restore disturbed areas within the Project Site, and, if possible, will be obtained from a local nursery. If used, straw mulch will be spread over the seed mix in place of hay to prevent the spread of invasive plant species seed stock, retain moisture and encourage growth. The restored areas will be monitored annually by DCR for invasive species colonization.
- **All imported soil shall be certified as clean and free of invasive species** by the site contractor.
- **Construction Entrance Track Pads** are installed at construction entrances to prevent construction machinery from tracking soil onto paved roadways.

Following vegetation removal activities and prior to grubbing, the location of the erosion and sediment controls will be identified in the field with survey grade equipment and will be installed in accordance with Eversource's BMPs manual and any applicable permit requirements. Eversource's Construction Supervisor and designated EM will oversee the installation of erosion and sediment controls by Eversource's contractor, which will be installed between the work area and environmentally sensitive areas, such as wetlands, streams, and drainage courses. The erosion and sediment control details are shown on sheet 124 in the NOI plans in Attachment B. Syncopated silt fencing will be used (as shown on sheet 124 of the Plans) to permit movement of wildlife in Estimated/Priority Habitat and within 450 feet of vernal pools. At bridges, sediment controls and debris netting will be installed to prevent impacts to wetlands and waterways.

If any stockpiling within the Project Site becomes necessary, it will be limited in size and duration and silt fence/compost filter tube will be installed around its perimeter. These sediment controls will be inspected regularly and promptly repaired or replaced, as needed.

Specific locations for dewatering have not been identified because groundwater can vary depending on location, time of year, and recent storm events. If dewatering is required based on field conditions, efforts will be made to locate the discharge either in the construction trench or in uplands at least 100 feet from wetlands. BMPs such as dewatering basins and filter bags are shown on sheet 125 of the Plans in Attachment B. A soil and groundwater management plan will be developed that includes procedures for the management of any dewatering and the contractor will follow all guidelines in Eversource's BMP manual (see Attachment H for dewatering BMPs).

The Project will require coverage under the National Pollutant Discharge Elimination System ("NPDES") 2017 Stormwater Construction General Permit ("CGP"), given that there will be disturbance of over an acre of land from proposed construction activities. Actions required under the CGP include:

- Develop a Stormwater Pollution Prevention Plan ("SWPPP") that details how stormwater discharges will be controlled;
- Complete and submit a construction Notice of Intent ("NOI") to USEPA;
- Install and maintain erosion and sediment controls throughout the entire construction project so they operate effectively to control stormwater discharges;
- Implement pollution prevention controls to minimize the discharge of pollutants from stormwater and spilled or leaked materials;
- Conduct inspections on the site a) at least once every 7 calendar days, or b) once every 14 calendar days and within 24 hours of the occurrence of a storm event of 0.25-inch or greater, or the occurrence of runoff from snowmelt enough to cause discharge;
- Take corrective action to address any issues with stormwater controls or discharges; and
- Keep the SWPPP up to date to reflect current conditions on the site.

Both Eversource and DCR will develop SWPPPs from the detailed plans provided in this application, specific to the proposed work to be undertaken during each phase of the project. The SWPPPs for the Project will include adequate soil erosion prevention measures, sediment control, and turbidity control plan to prevent the migration of soil and sediment from disturbed areas to adjacent wetlands and waterbodies.

3.1.3 Installation of New Equipment at Sudbury Substation

To accommodate the Project, the following equipment would be installed at the existing Sudbury Substation within the existing fence line:

- 115-kV breaker with associated disconnect switch
- 115-kV surge arresters (three)
- 115-kV cable disconnect switch (one) and termination structure(s) (three)
- 115-kV air core shunt reactor with associated foundations
- 115-kV breaker with associated disconnects and foundations to switch the shunt reactor

- Shielding mast (approximately 100 feet tall)
- 115-kV bus support structure (one) for 115-kV conductors
- Control, protection, and communication equipment inside the existing control house
- Underground conduits and cable trench for control cables

3.1.4 Removal of Rails and Ties, Grading of Construction Platform, and Installation of Stormwater Features

The conversion of the existing rail bed to a gravel base requires the removal and salvage of the steel rails and removal and disposal off-site of the wooden rail ties, in accordance with applicable requirements. The rails will be cut by hand using a cutoff saw or oxyacetylene torch and the ties will be removed and placed into trucks using an excavator and fork loader. The existing rail bed will then be graded and leveled using a bulldozer to a "subgrade" below the final gravel base elevation for use during construction, and stormwater features (swales and check dams) will be installed. If necessary, stumps and roots will be grubbed during this stage. Eversource has developed a Soil Management Plan and all soil within the MBTA ROW will be managed in accordance with applicable regulatory requirements. Refer to Section 5.2 and sheets 122 and 123 of the plans in Attachment B for more information about the stormwater features.

3.1.5 Construction of Manholes and Duct Bank

The installation of pre-cast concrete manholes will follow the completion of the construction platform. Manholes are used to facilitate cable installation and splicing and enable access for future maintenance. Placement of manholes is determined by several factors including, but not limited to: allowable pulling tensions; sidewall pressure on the cables as they are pulled around a bend; the maximum length of a cable that can be transported on the width, height, and weight of the cable reel; and accessibility of the site based on existing environmental constraints.

For the Project, the size of each manhole is approximately eight feet wide by eight feet high and 24 feet long. The manhole depth will vary by location, with the base measuring approximately 12 to 15 feet below the proposed final grade of the gravel base. The manholes are located entirely underground with only manhole covers being visible at ground level at final grade. At each manhole, a precast communication handhole measuring four feet by four feet by four feet will be installed parallel to each manhole on the opposite side of the MCRT. It is anticipated that each manhole will take approximately five to seven days to install.

In Sudbury, a total of 13 manholes will be installed within the MBTA ROW, with seven manholes located in the following resource areas:

1. Station 519+75 to 520+25: Within Sudbury RFA and 100-foot buffer zone/AURA
2. Station 533+75 to 534+25: Within MWPA RFA and 100-foot buffer zone/AURA

3. Station 586+75 to 587+25: Within Sudbury RFA and 100-foot buffer zone/AURA
4. Station 601+09 to 601+59: Within Sudbury RFA
5. Station 717+75 to 718+25: Within MWPA RFA and 100-foot buffer zone/AURA
6. Station 736+75 to 737+25: Within MWPA RFA and 100-foot buffer zone/AURA
7. Station 752+75 to 753+25: Within 100-foot buffer zone/AURA

There are no manholes located within BVW, BLSF, or LUWW.

After the manholes are installed, the duct bank that protects the cable will be constructed. Working in sections, the trench will be excavated, and the conduit will either be assembled inside the trench or pre-assembled at the ground surface and lowered into the trench. High-strength thermal concrete will be placed around the conduit to form the duct bank. The trench will then back-filled with fluidized thermal backfill, which is a concrete-like material.

3.1.6 Installation of Electrical and Signal Conduit for MCRT at Road Crossings

At roadway crossings, the MCRT will use rectangular rapid flashing beacons ("RRFB") to stop traffic and allow safe crossing of roadways. Construction within public roadways during Phase 1 will be limited to installation of conduit and signal equipment under the existing roadways at the crossings. The existing pavement will be sawcut, a trench excavated, conduit installed, the trench backfilled and road surface repaved. Once the conduit is installed, the signal and power cables will be installed.

3.1.7 Construction of MCRT Gravel Base

Following the installation of the transmission line, additional grading will bring the construction platform subgrade up to the final elevation for the MCRT gravel base, and 8 inches of gravel will be installed. Upon completion of construction associated with the underground transmission line and grading of the MCRT base, Eversource will stabilize all disturbed areas outside of the 14-foot gravel base with loam and a native seed mix.

3.1.8 Cable Pulling, Splicing, Testing, and Commissioning

Each conduit will be tested and cleaned prior to cable installation. The cables will be installed in sections between two adjacent manholes. Adjacent cable sections will then be spliced together inside the manholes. The splicing operation requires a specialized splicing van containing all the equipment and a generator. An air conditioning unit may also be used to control the moisture content in the manholes during the splicing activity. A portable generator will provide the electrical power for the splicing van and air conditioning unit and will be muffled to minimize noise. Typically, the splicing van is located over one manhole access cover. The air conditioner is located near the second manhole access cover and the generator is in a convenient area nearby out of the immediate work zone.

Once the electric cable is installed and spliced, the communications fiber cable is pulled and spliced in the communications handholes. Splicing the communications fiber cable typically

requires three (10-hour) work days to complete at each of the manholes. Once the cable system installation is complete, the cables are field-tested from the substations. At the completion of successful testing, the line is energized.

3.1.9 Waterbody and Drainageway Crossings

The condition of each bridge, culvert, and drainage pipe was evaluated by VHB structural engineers in 2017 and 2018 along the entire length of the Project Locus (see Table 4 below). For the purposes of this application, bridges are defined as structures that traverse over regulated streams, culverts are structures that convey regulated streams, and drainage pipes are structures that convey stormwater or overland flow only (no streams). The following sections describe the proposed improvements/replacements to these crossings.

3.1.9.1 Bridges

Western Hop Brook Crossing (Bridge 128)

The Project crosses Hop Brook west of Dutton Road via an existing steel girder bridge. There are BVWs, LUWW, BLSF, Bank, RFA, and Sudbury's local AURA on either side of the existing bridge structure. The existing superstructure is in satisfactory condition, and the intermediate timber piers are in fair to satisfactory condition. However, the existing superstructure will not adequately support the rail trail and transmission line, so the existing bridge deck will be upgraded to support the rail trail and transmission line as well as construction vehicles, which will facilitate efficient construction sequencing and minimize construction duration. No foundation work will be necessary as part of the bridge rehabilitation because the existing stone abutments of this bridge are suitable for reuse.

Crane mats will be temporarily installed at either side of the crossing outside of the time-of-year-restriction ("TOYR") for Hop Brook (October 1 through June 30), partially within RFA, BLSF, and 100-foot Buffer Zone/AURA, to facilitate rehabilitation of the superstructure. See the conceptual crane mat section on sheet 125 in Attachment B for details regarding the conceptual construction of the crane mats and sheet 130 in Attachment B for a typical crane mat restoration detail for Bridge 128. Bridge 128 will be rehabilitated in full compliance with the Massachusetts Stream Crossing Standards. The following outlines the general sequence of construction activities proposed for Bridge 128:

1. Initial survey;
2. Vegetation removal and installation of erosion and sediment controls;
3. Grade the construction platform to subgrade;
4. Install debris containment measures, crane mats (outside TOYR), and associated erosion and sediment controls for removal of the existing superstructure;
5. Remove existing bridge span;
6. Install sheet piling retaining walls;

7. Install new bridge components including integrated duct system (including temporary steel decking);
8. Continue sheeting installation, removing crane mats outside of the Hop Brook TOYR as sheets are installed working away from the bridges;
9. Install jute mesh erosion control blankets, a native seed mix, and woody plantings to stabilize crane mat areas;
10. Connect duct bank on the bridge to the duct bank in the construction platform;
11. Final grading, installation of gravel base, and restoration of all disturbed areas; and
12. Remove temporary steel decking and install permanent wood decking.

Eastern Hop Brook Crossing (Bridge 127)

The Project crosses Hop Brook east of Route 20 via Bridge 127, an existing steel girder bridge, which is similar to Bridge 128. There are BVWs, LUWW, BLSF, Bank, RFA, and Sudbury's local AURA on either side of the existing bridge structure. The existing stone masonry abutments are in satisfactory condition, and the existing steel is in fair to satisfactory condition. However, the piers are in poor condition, with the easterly pier showing total section loss and no longer providing effective bearing. In addition, the existing structure is partially submerged in the water, causing deterioration to the bridge. Due to this, the existing bridge structure will be removed except for the existing stone abutments, and a new replacement bridge will be built in the same location to support the MCRT and transmission line.

Crane mats will be temporarily installed at either side of the crossing outside of the TOYR for Hop Brook, partially within BVW, LUWW, RFA, BLSF, Bank, and 100-foot Buffer Zone/AURA, to facilitate replacement of the bridge. The new bridge will consist of a single span structure with new abutments that will be constructed landward of the existing abutment locations. The low chord of the new bridge will be located above the existing bridge's low chord so that the bridge will no longer be partially submerged. As part of the bridge replacement, the existing timber piers will be cut at the mudline and removed by hand. This bridge will be designed and built to support construction vehicles to expedite construction between Hop Brook and the Sudbury Substation. The removal of the existing piers and the increased height of the span will have the benefits of increasing the hydraulic opening at the bridge, increasing navigability, providing additional clearance over the two-year design storm event, and reducing the likelihood of trapping debris. See the conceptual crane mat section on sheet 125 in Attachment B for details regarding the conceptual construction of the crane mats and sheet 130 in Attachment B for a typical crane mat restoration detail for Bridge 127.

Bridge 127 will be reconstructed in full compliance with the Massachusetts Stream Crossing Standards. The following outlines the general sequence of construction activities proposed for Bridge 127:

1. Initial survey;
2. Vegetation removal and installation of erosion and sediment controls;

3. Grade the construction platform to subgrade;
4. Install debris containment measures, crane mats (outside TOYR), and associated erosion and sediment controls for removal of the existing bridge;
5. Remove existing bridge piers and steel span;
6. Install sheeting to facilitate excavation for new bridge abutment installation;
7. Install new bridge abutments (landward of existing abutments);
8. Install new steel bridge sections including integrated duct system (including temporary steel decking);
9. Continue sheeting installation, removing crane mats (outside TOYR) as sheets are installed working away from the bridges;
10. Install jute mesh erosion control blankets, a native seed mix, and woody plantings to stabilize crane mat areas;
11. Connect duct bank on the bridge to the duct bank in the construction platform;
12. Final grading, installation of gravel base, and restoration of all disturbed areas; and
13. Remove temporary steel decking and install permanent wood decking.

Culverts and Drain Pipes

Other crossings include culverts and drainage pipes. The condition of each crossing was evaluated for being able to safely support the Project, as well as to identify any potential opportunities to improve conditions at these crossings without causing major disturbance to the resources around them. The results of the evaluation and the proposed work are summarized in Table 4 below.

Table 4 Other Crossings

Crossing ID	Station	Plan Sheet	Type	Size/Material	Existing Conditions	Work Proposed
129A	368+84	44	Drainage Structure	2'x2.5' Stone Box	South end collapsed; north end not found. Appears clear inside 10 ft. in from south end. Existing cover: 8.2 ft.	None. Sufficient cover between Project and culvert.
127J	410+25	48	Drainage Structure	2'x2' Stone Box	South headwall and wingwall partial collapse; north end total collapse. Running water audible. Existing cover: 8.1 ft.	None. Sufficient cover between Project and culvert.
127I	517+96	51	Culvert	1'x2' Stone Box	South headwall collapsed; north end partially filled with debris. Water visibly flowing. Existing cover: 8.1 ft.	Clear out debris on north end. Sufficient cover between Project and culvert.
127H	521+64	51	Drainage Structure	1.5'x3' Stone Box	South end in fair condition; north headwall and wingwall collapsing. Clear all the way through. Existing cover: 10.6 ft.	Cut two 12" trees that are causing wingwall damage (no grubbing). Sufficient cover between Project and culvert.
127G	527+30	52	Culvert	2'x2' Stone Box	South end in fair to good condition; north headwall collapsing. Clear all the way through. Existing cover: 13.4 ft.	None. Sufficient cover between Project and culvert.
127F	539+40	54	Culvert	Two 36" Corrugated Metal	South wingwalls partially collapsed; north wingwalls and headwalls in fair condition. Both ends of pipes heavily corroded. Clear all the way through; interior in fair condition. Existing cover: 8.9 ft.	None. Sufficient cover between Project and culvert.
127E	560+82	57	Culvert	3'x2' Concrete Box	Both concrete ends and headwalls in poor condition. Clear all the way through. Interior appears to be stone. Existing cover: 7.5 ft.	None. Sufficient cover between Project and culvert.
127D	577+31	58	Drainage Structure	1'x2' Stone Box	South end not found; north headwall mostly buried. Existing cover: 6.7 ft.	None. Sufficient cover between Project and culvert.
127C	593+18	59	Culvert	2'x2' Stone Box	South end filled with dirt; north end not found. Interior in fair condition. Existing cover: 3.9 ft.	None. Transmission line design will use flat 4x1 configuration.
127B	704+56	62	Drainage Pipe	24" Cast Iron	South end appears to be catch basin in lumber yard; north end damaged. Existing cover: 3.0 ft.	None. Transmission line will be installed under culvert.

Crossing ID	Station	Plan Sheet	Type	Size/Material	Existing Conditions	Work Proposed
127A	713+63	64	Drainage Pipe	24" Cast Iron	Lined with metal pipe, resulting in 19-in. pipe opening. Mostly filled with dirt. At south end original pipe broken and liner pipe heavily corroded; minor corrosion of liner pipe at north end. Existing cover: 1.9 ft.	Replace with 24" ductile iron pipe ("DIP") with concrete headwall.
126D	738+77	66	Drainage Pipe	18" Cast Iron	South end broken and half filled with dirt; north end broken and buried. Existing cover: 2.8 ft.	None. *Note: Abandon in place. No wetland resources on either end.*
126C	Identified on MBTA evaluation map but not found in the field					
126B	747+39	67	Culvert	2.5'x2' Stone Box	North headwall collapsing; northeast wingwall collapsing. Clear all the way through. Existing cover: 5.9 ft.	Cut vegetation on northeast wingwall that is causing collapse (no grubbing). Sufficient cover between Project and culvert.
126A	752+17	67	Drainage Pipe	12" Corrugated Metal	Half full of sediment. Both ends in fair condition. Existing cover: 4.9 ft.	Clear out sediment. Transmission line design will use flat 4x1 configuration.
125B	764+60	69	Drainage Pipe	12" Reinforced Concrete	Completely buried; north end under vernal pool. Existing cover: 2.8 ft.	Extend existing pipe to maintain vernal pool hydrology. Transmission line design will use flat 4x1 configuration.

Source: VHB

3.1.10 Restoration

Restoration efforts following construction begin with removal of construction debris and stabilization of disturbed soil. All disturbed areas outside of the gravel base will then be restored by loaming and seeding with a seed mix that contains only species native to New England such as Canada wild rye (*Elymus canadensis*), little bluestem (*Schizachyrium scoparium*), fox sedge (*Carex vulpinoidea*), soft rush (*Juncus effusus*), New England Aster (*Symphyotrichum novae-angliae*), woodland goldenrod (*Solidago caesia*), and joe-pye weed (*Eutrochium maculatum*) (see sheet 131 in the NOI plans provided in Attachment B for seed mix). In addition, the crane mat locations and the slopes adjacent to Hop Brook will be planted with trees and shrubs and additional plantings will be installed within Estimated and Priority Habitat. All woody plantings will be installed after the MCRT is constructed to avoid damaging the plants.

All restoration plantings and seed mixes will consist of native species and, if feasible, be from local nursery stock. The Native Plant Trust's Go Botany site[12] as well as The Native Plant List[13] on Sudbury's Conservation Commission website (prepared by the Conservation Department of Native Plants in Middlesex County) were reviewed to identify recommended plantings in Sudbury. The Native Plant List states that it is not an all-inclusive list and was used as a guide when selecting species; however, the planting plan was designed to replace native species that are being removed (e.g., the proposed Project will remove silky dogwood, so the planting plan includes replanting silky dogwood).

Eversource's qualified environmental monitor or qualified biologist will direct the locations of the woody plantings to the contractor in the field. All plantings will be planting in a naturalized condition to provide wildlife habitat and will not be planted in a linear manner except where the plantings need to be linear to provide a visual alignment reference for the MCRT. Please see sheet 131 in the plans in Attachment B for the planting schedules.

3.2 Phase 2 Construction Activities

Phase 2 construction will consist of work within the same MBTA ROW as Phase 1, and public road crossings along the MBTA ROW (refer to the plans in Attachment C). Certain Phase 2 activities can begin once sections of Phase 1 activities are completed.

The following sections provide further detail of activities associated with Phase 2 of the Project. Section 3.2.1 provides an overview of the proposed activities along the MBTA ROW,

[12] Go Botany. Native Plant Trust. https://gobotany.nativeplanttrust.org/

[13] Native Plant List. Conservation Department of Native Plants in Middlesex County. https://s3-us-west-2.amazonaws.com/cdn.sudbury.ma.us/wp-content/uploads/sites/272/2014/08/NativePlantList.pdf?version=b9f7ef2b3e317d111cf632f6f98c2b92

and Section 3.2.2 provides details regarding the proposed activities at and within public roadways.

3.2.1 Construction within the MBTA ROW

For Phase 2 of the Project, Eversource will turn over the construction site to DCR following installation of the gravel base. DCR will fine grade and compact the surface, and then pave the MCRT. After paving, the shoulders will be loamed and seeded, and woody plantings will be installed. Installation of railings will complete the Project within the MBTA ROW.

Erosion and sediment controls will remain in place from Phase 1 and DCR will assume responsibility to maintain the controls for the duration of Phase 2 of the Project. Once the Project is complete and disturbed areas are stable with final vegetation, DCR will remove the erosion controls upon approval of the environmental monitor. Plans for this portion of the work are provided in Attachment C.

3.2.2 Construction within Public Roadways

At roadway crossings, RRFBs will be installed that are activated by people using the MCRT to stop traffic and allow safe crossing of roadways. Construction within public roadway during Phase 2 will be limited to installation of signal equipment, pole foundations, signal poles, gateway details and pavement markings. Conduit for the crossing signals will be installed during Phase 1; during Phase 2, the signal equipment and crossing buttons will be installed.

3.2.3 Restoration

All disturbed areas outside of the 10-foot-wide paved MCRT will be restored by loaming and seeding with the same seed mix that is used in Phase 1, containing only species native to New England. In addition, as described in Section 3.1.10, woody plantings proposed in Priority Habitat and at both Hop Brook crossings will be installed under the direction of a qualified environmental monitor or qualified biologist.

3.3 Operation and Maintenance

DCR will be responsible for operation and maintenance of stormwater features and a 19-foot-wide corridor that includes:

- The 10-foot-wide paved MCRT;
- Adjacent two-foot shoulders (four feet total); and
- A five-foot corridor over the duct bank.

DCR will mow and/or weed whack the shoulders adjacent to the rail trail biweekly or as needed between Memorial Day and Columbus Day. Outside of the shoulders, DCR will mow the area over the duct bank no more than once annually. Outside of the 19-foot maintained area, woody vegetation will be allowed to naturally revegetate and DCR will not implement

vegetation management unless it poses a risk to MCRT users or to the underground transmission line. Eversource inspection vehicles will use the paved MCRT to access the transmission line facility once every three years.

3.3.1 Invasive Species Management

DCR will monitor for invasive species as part of its regular trail maintenance and will generally follow its BMPs for managing invasive plants as resources and priorities allow. The BMPs include the following guidelines:

- **Prevention:** Monitor properties annually for potential introductions, especially near boundaries and disturbed areas (e.g., roadsides, trailheads). Eliminate new infestations using hand pulling or weed wrenches when feasible.
- **Management Planning:** Identify population sizes and locations. Prioritize populations for management based on significance of the resource, aggressiveness of the species, and potential for long-term control.
- **Mechanical Control:** Hand pulling recommended for young plants and small populations. Cutting or mowing, repeatedly through the season before plants flower, can be good for large monocultures or when root systems are extensive. For species where a small fragment of root can start a new plant, one option may be to remove all above-ground invasive vegetation and cover the area with layers of black plastic, to remain in place for 1 to 4 growing seasons depending on the species.
- **Chemical Control:** Chemical treatments will only be used when another approach is not effective. Herbicides must be applied only by a licensed applicator. For woody stemmed species, herbicide can be applied locally to the cut surface immediately after cutting. Generally speaking, broadcast chemical foliar application is not an appropriate control method along improved-surface trails and greenways.

Due to the linear nature of rail trails and their history of previous disturbance, it is usually not feasible to attempt to control invasive plants beyond the mowed area, with the following exceptions:

- Small, emerging populations of invasive plants within an otherwise native landscape matrix can be prioritized for control efforts.
- Species or individuals that may result in user safety issues should be addressed. For example, Oriental Bittersweet can impact canopy trees adjacent to rail trails and can create “hazard tree” conditions in certain cases.
- Species or individuals that are resulting in damage to the improved surface pathway infrastructure should be removed. For example, the roots of Black Locust and Japanese Knotweed can both cause significant damage to the paved trail surface.

If DCR finds it necessary to use chemical treatment, this work will be done in compliance with the Massachusetts Department of Agricultural Resources regulations at 333 CMR 11.00, which protect sensitive areas such as groundwater and drinking water wells.

4

Avoidance and Minimization Measures

The Project has undergone an extensive and collaborative design process that included evaluation of methods to avoid and minimize impacts to wetland resource areas to the maximum extent practicable.

Table 5 below summarizes the reduction in impacts followed by subsections discussing each measure that resulted in these reductions.

Table 5 Summary of Changes in Design to Minimize and Avoid Impacts

Wetland Resource Area	Impact Amount Prior to Reduction in Footprint	Impact Amount Based on Current Design Plans	Summary of Change
Bordering Vegetated Wetlands ("BVW")	1,655 sf – permanent fill and vegetation removal within limits of grading 2,480 sf – vegetation removal (outside of permanent fill limits) ***4,135 sf total disturbance***	89 sf – vegetation removal and permanent fill within limits of grading 524 sf – vegetation removal, within 524 sf for temporary placement of timber mats (for cranes in BVW outside of permanent fill limits near Hop Brook and installation of headwall at pipe #127A) ***613 sf total disturbance***	**Decrease of 3,723 sf of BVW impacts.** Use of revised 2018 wetland line approved in the ORAD issued by the Sudbury Conservation Commission. Redesign rip rap slopes at Hop Brook crossings to retaining walls. Reduction in Project footprint to include vegetation removal only within limits of disturbance. Reduction of width of construction platform.
Bordering Land Subject to Flooding ("BLSF")	10,529 sf – land disturbance from limits of proposed grading 4,268 sf – vegetation removal in BLSF (outside of limits of grading) ***14,797 sf total***	2,686 sf – permanent land disturbance from paving of MCRT 7,752 sf – temporary land disturbance from limits of grading 54.43 cy of fill, 133.15 cy of cut = 78.72 cy of net gain in flood storage ***10,438 sf total land disturbance*** ***78.72 cy net gain storage***	**Decrease of 91 sf of total BLSF disturbance.** The decrease in square footage disturbance is from the revised BLSF line approved in the Sudbury ORAD and the reduction in Project footprint to include vegetation removal only within limits of disturbance. The Project is currently designed to have a net increase in flood storage (78.72 cy net gain) along its length in Sudbury.

4.1 Reduction of Construction Platform Width

During the design process, it was determined that the construction platform, except for manhole locations and other limited select locations, could be reduced in width from 30 feet to 22 feet. As described in Section 3.1, the 22-foot width is the minimum needed for safe passage of construction vehicles alongside the excavated and shored trench, efficient construction with two-way construction vehicle traffic and multiple crews working concurrently within the same section of ROW, and access and egress of emergency vehicles.

There is one location (82 linear feet) where the construction platform will be reduced to 20 feet wide and several locations (for a total of 3,488 linear feet) where it will be reduced to 18 feet wide in order to balance minimization of impacts to resource areas with safety and efficiency of construction. This reduction minimized grading and impacts to wetland resource areas and historic resources. Specifically, reductions were made in the following eight areas (see plans in Attachment B for locations):

1. On plan sheet 47 (station 397+60 to 399+10 and 401+65 to 402+63), the elevation of the access road is dictated by the design of Bridge #128 over Hop Brook. On either side of the bridge, the access road must be higher than it would otherwise be in an embankment section. An 18-foot platform is used in this location to avoid BVW impacts, avoid having a net fill in BLSF, and minimize permanent and temporary impacts to BLSF, MWPA RFA, and Sudbury's AURA.
2. On plan sheet 59 (station 592+75 to 593+50), an 18-foot construction platform is used to avoid impacts to existing culvert #127C and Bank on either side of the access road, and to minimize impacts to Sudbury's local RFA and AURA.
3. On plan sheet 61 (station to 602+48 to 700+30), a 20-foot construction platform is used to avoid impacts to BLSF, LUWW and Bank and reduce impacts to Sudbury's local RFA.
4. On plan sheets 61-63 (station 700+30 to 711+35), an 18-foot construction platform is used to minimize/avoid impacts to BVW, LUWW, RFA (both MWPA and Sudbury), Bank, and Sudbury's AURA associated with the adjacent tributary to Hop Brook to the north, and to avoid having a net fill in BLSF. This area is also constrained by Sudbury Lumber's legal easement to the south.
5. On plan sheets 63-64 (station 711+65 to 715+76), an 18-foot construction platform is used to minimize permanent impacts to BVW, MWPA RFA, and Sudbury's local AURA. The 18-foot construction platform also avoids impacts to the historic Boston and Maine Railroad Section Tool House (SUD.282).
6. On plan sheets 64-65 (station 723+76 to 724+34 and station 726+37 to 734+27), the elevation of the access road is dictated by the design of Bridge #127 over Hop Brook. On either side of the bridge, the access road must be higher than it would otherwise be in an embankment section. An 18-foot platform is used in this location to avoid and/or minimize temporary and/or permanent impacts to BVW, MWPA RFA, Bank, LUWW, and Sudbury's AURA, and to avoid having a net fill in BLSF.

7. On plan sheets 66-67 (station 742+88 to 747+56), an 18-foot construction platform is used to avoid permanent impacts to BVW, bank, and vernal pools, and reduce impacts to MWPA RFA and Sudbury's local AURA and 100-foot vernal pool buffer.
8. On plan sheet 68 (station 763+89 to 767+22), an 18-foot construction platform is used to avoid permanent impacts to the vernal pool to the north of the access road, and to minimize permanent impacts to the BVW to the south of the access road, and Sudbury's local AURA and 100-foot vernal pool buffer.

4.2 Use of Retaining Walls

Rather than using riprap or turf reinforcement, retaining walls were proposed where feasible to minimize Project related impacts within jurisdictional wetland resource areas. They reduce impacts because retaining walls allow for a vertical drop in the proposed grade down to the existing elevation, which reduces the Project footprint by eliminating the need to grade the slope back to the existing ground. Within Sudbury, the Project proposes the use of retaining walls for approximately 326 linear feet from Station 730+99 to 734+25, which is within MWPA RFA and 100-foot BZ/AURA.

4.3 Use of Steel Sheeting at Hop Brook Crossings

The original design included installing rip rap within Hop Brook for both Bridge 127 and Bridge 128. However, to reduce impacts to LUWW and Bank, the bridges were redesigned to use steel sheeting instead of rip rap. The steel sheeting allows the permanent limit of disturbance to be a constant three feet from the edge of the construction platform, which minimizes grading and impacts to LUWW. In contrast, when using rip rap, the distance between the limit of disturbance and the edge of the construction platform varies based on the existing topography and is at least several feet further away than when using sheeting, thus causing greater impacts to LUWW and Bank.

4.4 Location of Manholes

As discussed within Section 3.2.1, manholes require a larger construction footprint of approximately 40 feet by 50 feet. To minimize impacts to wetland resource areas and buffer zones, manholes were placed outside of jurisdictional wetland resource areas where feasible by spacing them a maximum of 2,100 feet apart where the curvature of the MBTA ROW allowed, which is greater than typical manhole spacing. This design consideration eliminated all manholes within BVW. Seven of 13 manholes will be in RFA and/or 100-foot Buffer Zone/AURA as identified in Section 3.1.1.4.

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5

Proposed Wetland Impacts, Mitigation Overview and Regulatory Compliance Summary

In Sudbury, construction of the Project will result in temporary and permanent disturbance to state and locally jurisdictional wetland resource areas, including BVW, BLSF, Bank, LUWW, and RFA. The Bylaw and Bylaw Regulations have some concurrent jurisdiction with the MWPA but include additional requirements beyond the MWPA for Coldwater Fishery Resources and AURA.

The Project fully complies with all applicable MWPA and Sudbury Bylaw related performance standards for their respective resource areas, including Buffer Zones to state wetland resource areas, BVW, BLSF, LUWW, Bank, RFA and local AURA.

In addition to fully complying with the performance standards, both components of the Project qualify for "limited project" status under the MWPA Regulations. The transmission line component qualifies under 310 CMR 10.53(3)(d) for the "construction, reconstruction, operation, and maintenance of underground or overhead public utilities," and the majority of the bike path component, which is within MWPA RFA but outside of other MWPA resource areas, qualifies under 310 CMR 10.53(6) for the "construction, rehabilitation, and maintenance of footpaths, bike paths, and other pedestrian or non-motorized vehicle access to or along riverfront areas but outside other resource areas, provided that adverse impacts from the work are minimized and that the design specifications are commensurate with the projected use and are compatible with the character of the riverfront area" (see Section 5.1.1). Three sections of the MCRT alignment are not eligible for limited project status because they are within MWPA RFA that overlaps with BLSF. However, as discussed in detail in Section 5.1.8, these three sections fully comply with all applicable performance standards for previously developed and degraded RFA and for BLSF.

Furthermore, the Project's construction activities meet applicable stormwater management standards, the MCRT was designed to meet the Massachusetts Stormwater Management Standards to the maximum extent practicable per 310 CMR 10.05(6)(m)6, and the Project fully complies with the Massachusetts Endangered Species Act (for work within Estimated Habitat).

The Project also fully complies with all applicable performance standards under the Section 401 Water Quality Certification regulations and proposes to replace the loss of vegetated wetlands (bordering and isolated) at a ratio of 2:1 (see Sections 5.1.5 and 5.4, and Attachment D).

The following sections provide details to demonstrate compliance with the applicable federal, state, and local performance standards, including the Massachusetts Stormwater Management Standards. Note that for resource areas where the Bylaw has concurrent jurisdiction with the MWPA, the MWPA performance standards apply and compliance is discussed in Section 5.1. Section 5.2 addresses the additional requirements outlined in the Bylaw, beyond those specified in the MWPA, Section 5.3 addresses Stormwater Management under both the state and local regulations, and Section 5.4 addresses compliance with Section 401 of the federal Clean Water Act.

5.1 Massachusetts Wetlands Protection Act (310 CMR 10.00)

All wetland resource area boundaries within the Project Locus for BVW, RFA, BLSF, Bank, and LUWW were verified and approved in an ORAD that was issued by the Sudbury Conservation Commission on August 27, 2018 (MADEP File No. 301-1227). As discussed throughout this NOI, unavoidable impacts to these resources were minimized to the maximum extent practicable during design.

The following information is provided to demonstrate compliance with the applicable performance standards in the MWPA Regulations. Note that the performance standards identified in these sections also apply to the relevant wetland resource areas protected by the Bylaw and Bylaw Regulations; Section 5.2 addresses the additional requirements outlined in the Bylaw Regulations.

5.1.1 Limited Project Status

The Project is the result of a collaborative effort among Eversource, DCR, and MBTA to provide a project that incorporates dual compatible uses, each serving public needs, within the footprint of a previously disturbed and inactive transportation ROW and within existing public roadways.

Each of the components of the Project qualifies as a limited project under the MWPA regulations as detailed below.

5.1.1.1 Underground Transmission Line [310 CMR 10.53(3)(d)]

The MWPA Regulation at 310 CMR 10.53(3) states the following:

> "Notwithstanding the provisions of 310 CMR 10.54 through 10.58 and 10.60, the Issuing Authority may issue an Order of Conditions and impose such conditions as will contribute to the interests identified in M.G.L. c. 131, § 40 permitting the following limited projects . . . . In determining whether to exercise its discretion to

> approve the limited projects listed in 310 CMR 10.53(3), the Issuing Authority shall consider the following factors: the magnitude of the alteration and the significance of the project site to the interests identified in M.G.L. c. 131, § 40, the availability of reasonable alternatives to the proposed activity, the extent to which adverse impacts are minimized, and the extent to which mitigation measures, including replication or restoration, are provided to contribute to the protection of the interests identified in M.G.L. c. 131, § 40."

The underground transmission line portion of the Project qualifies as a limited project per 310 CMR 10.53(3)(d), which applies to the "construction, reconstruction, operation, and maintenance of underground or overhead public utilities." Limited Project status for this component of the Project was confirmed by MassDEP's Central Regional Office ("CERO") in their comments submitted during MEPA review for the transmission line.

A limited project under 310 CMR 10.53(3)(d) may be permitted by the issuing authority in accordance with the following general conditions and any additional conditions deemed necessary by the issuing authority:

1. *The issuing authority may require a reasonable alternative route with fewer adverse effects for a local distribution or connecting line* **not reviewed by the Energy Facilities Siting Council** *(emphasis added).*

   The underground transmission line component of the Project was reviewed by the Energy Facilities Siting Board ("EFSB"), formerly the EFSC, and as such, 310 CMR 10.53(3)(d)1. does not apply. The Certificate of Environmental Impact and Public Interest approving this route for the underground transmission line portion of the Project was issued by the EFSB on December 18, 2019.

2. *Best available measures shall be used to minimize adverse effects during construction.*

   Consistent with 310 CMR 10.53(3)(d)2., best management practices ("BMPs") will be implemented to minimize adverse effects to wetland resource areas during construction. A discussion of BMPs that will be utilized is presented in Section 3.1.1.2 of this NOI (see also Attachment H) and a draft Construction Spill Prevention Control and Countermeasures Plan is included as Attachment I. In addition, as outlined in Section 4 of this filing, impacts to wetland resource areas from the Project were avoided and minimized to the extent practicable during the design phase.

3. *The surface vegetation and contours of the area shall be substantially restored.*

   Consistent with 310 CMR 10.53(3)(d)3., surface vegetation and contours will be substantially restored within the limits of disturbance associated with the Project. All disturbed areas within the limits of disturbance that are outside of the 14-foot gravel base will be revegetated with a seed mix containing native plant species with a focus on developing an herbaceous and low-growing woody vegetation community over the duct bank (a five-foot corridor), and herbaceous and taller woody vegetation will be allowed to naturally revegetate in the remaining areas. In addition, woody shrubs and

herbaceous vegetation will be planted within the Priority and Estimated Habitat area and within the temporary crane mat locations at Hop Brook.

The Project was sited within the MBTA corridor to maximize use of the existing raised rail bed and to locate the Project within existing degraded areas to minimize grading and vegetation removal. The proposed Project topography generally follows the existing topography within the MBTA ROW. Where the Project is proposed within public roadways, the existing road surface will be restored to its original elevation. Please refer to the profile for the Project on sheets 83 to 94 of Attachment B for a detailed comparison of the existing versus proposed elevations.

4. *All sewer lines shall be constructed to minimize inflow and leakage.*

310 CMR 10.53(3)(d)3. does not apply because the Project does not involve construction of a sewer line.

5.1.1.2 Mass Central Rail Trail [310 CMR 10.53(6)]

The MCRT component of the Project qualifies as a "limited project" under 310 CMR 10.53(6), which states the following:

> "Notwithstanding the provisions of 310 CMR 10.58, the issuing authority may issue an Order of Conditions permitting as a limited project the construction, rehabilitation, and maintenance of footpaths, bike paths, and other pedestrian or non-motorized vehicle access to or along riverfront areas but outside other resource areas, provided that adverse impacts from the work are minimized and that the design specifications are commensurate with the projected use and are compatible with the character of the riverfront area. Generally, the width of access shall not exceed ten feet of pavement, except within an area that is already altered (e.g., railroad beds within rights of way). Access shall not be located in vernal pools or fenced in a manner which would impede the movement of wildlife."

DCR proposes to construct a 10-foot-wide paved bike path surface as Phase 2 of this Project. This limited project provision applies to the areas where the bike path is in the areas of RFA that do not overlap other MWPA resource areas., Adverse impacts from the work have been minimized and the design is commensurate with the projected use and compatible with the character of the RFA. The proposed grading for the Project follows the requirements and standard approach DCR employs for the design and construction of multi-use trails in the Commonwealth. Three sections of the bike path alignment are within areas that include both RFA and BLSF and are not eligible for the limited project status. However, as discussed in Section 5.1.8, the RFAs within the Project Site are previously developed from the former railroad ROW, so the Project has also been designed to satisfy the performance standards for previously developed and degraded RFA at 310 CMR 10.58(5).

5.1.2 Massachusetts Stream Crossing Standards [310 CMR 10.53(8)]

Within Sudbury, the proposed Project will cross five intermittent and three perennial waterbodies. Both Hop Brook crossings are bridges (Bridges 127 and 128); however, only Bridge 127 is being reconstructed because Bridge 128 is being rehabilitated. All other streams, including Dudley Brook, are conveyed underneath the rail bed by existing culverts. .

1. Bridge 128: Hop Brook (See Sheet 47 in Attachment B, Station 400+08 to 400+56). The Project proposes to rehabilitate this bridge.
2. Culvert 127I: Unnamed stream (See Sheet 51 in Attachment B, Station 517+96). The Project proposes to clear debris from the north end of the pipe.
3. Culvert 127G: Unnamed tributary to Dudley Brook (See Sheet 52 in Attachment B, Station 527+30). No culvert work proposed.
4. Culvert 127F: Dudley Brook (See Sheet 54 in Attachment B, Station 539+40). No culvert work proposed.
5. Culvert 127E: Unnamed tributary to Dudley Brook (See Sheet 57 in Attachment B, Station 560+82). No culvert work proposed.
6. Culvert 127C: Unnamed tributary to Landham Brook (See Sheet 59 in Attachment B, Station 593+18). No culvert work proposed.
7. Bridge 127: Hop Brook (See Sheet 65 in Attachment B, Station 725+05 to 725+62). The Project proposes to replace this bridge.
8. Culvert 126B: Unnamed tributary to Wash Brook (See Sheet 67 in Attachment B, Station 747+39). The Project proposes to cut vegetation on the northeast wingwall that is causing collapse (no grubbing is proposed).

Compliance with Stream Crossing Standards

The Stream Crossing Standards apply to new structures and replacement structures. As described above, Bridge 127 at Hop Brook is the only stream crossing that is proposed to be replaced in Sudbury (there are no new stream crossings proposed). Under 310 CMR 10.53(8), any person proposing the replacement of an existing stream crossing shall demonstrate to the Issuing Authority that the impacts of the crossing have been avoided where possible, and when not possible have been minimized and that mitigation measures have been provided to contribute to the protection of the interests identified in M.G.L. c. 131, § 40.

This standard is presumed to be met for the replacement of an existing non-tidal crossing if the work is designed to comply with the Massachusetts Stream Crossing Standards ("the MSC Standards") to the maximum extent practicable. The proposed replacement for Bridge 127 at Hop Brook was designed to comply fully with the MSC Standards as outlined in the following sections.

1. *Open-bottom span preferred (a bridge is optimal)*

   The Project proposes to replace the existing bridge with a new single-span bridge. There will be no disruption to the streambed.

2. *If a culvert, then it should be embedded…*

   The Project is not proposing a culvert in this location.

3. *Spans channel width (a minimum of 1.2 times the bankfull width)*

   To estimate the bankfull width ("BFW") for the eastern Hop Brook crossing (Bridge 127), VHB used the *Scientific Investigations Report 2013–5155: Equations for Estimating Bankfull Channel Geometry and Discharge for Streams in Massachusetts* ("BFW Equation"), the 2006 Bent Equations, and field measurements taken on February 2, 2018. The BFW was estimated to be approximately 42.4, 45.0, and 44.0 feet, based on each of these methods, respectively. The existing bridge spans the estimated BFW. The proposed bridge span of 70.5 exceeds the required span of 1.2 times the BFW (see Table 6).

Table 6 Bankfull Width at Hop Brook (Bridge 127)

Bankfull Method	Width (feet)
SIR2013 5155	42.4
Bent, 2006	45.0
Field Observation	44.0
Use largest to be conservative	
BFW (max.):	45.0
Required Span = 1.2*BFW	54.0
Proposed Span	70.5

Source: VHB

4. *Natural bottom substrate within the structure*

   The proposed bridge replacement will not disturb the existing natural bottom substrate.

5. *Match water depth and velocity in natural stream over a range of flows*

   The MSC Standards state that open-bottom spans are preferred. The Project does not propose a closed structure that would affect water depth and velocity.

6. *Openness > 0.82 feet (0.25 meters). Optimal Standard requires openness ratio of 2.46 feet (0.75 meters).*

   The ratio is calculated as the crossing's cross-sectional area divided by the length of the crossing. The proposed crossing complies with the standards with an openness ratio of 20.2.

7. *Banks should be present on each side of the stream matching the horizontal profile of the existing stream and banks.*

   The proposed abutments will be located landward of the existing abutments and will not result in changes to the horizontal profile of the existing stream and banks.

5.1.3 Buffer Zone [310 CMR 10.53(1)]

Summary of Impacts

The Project was designed to fully comply with all applicable performance standards for Buffer Zone. Note that the area designated as Buffer Zone under the MWPA is the same as the area designated as AURA under the Sudbury Bylaw.

There is a total of 985,096 square feet of Buffer Zone within the Project Locus. The Project will result in 123,686 square feet (12.6% of all Buffer Zone within the Project Locus) of permanent disturbance to Buffer Zone from the paving of the MCRT bike path, and 196,884 square feet (20.0% of all Buffer Zone within the Project Locus) of temporary disturbance to Buffer Zone from installation of the transmission line and construction of the base for the MCRT. All areas of temporary Buffer Zone disturbance outside the 10-foot-wide pavement of the MCRT will be restored with a native seed mix.

Proposed Restoration and Mitigation Measures

To prevent work within the Buffer Zone from causing adverse impacts to adjacent resource areas, the following mitigation measures will be implemented:

› Erosion and sediment controls will be installed prior to any grading to protect adjacent resources and demarcate a clear limit of work.
› All disturbed areas outside the 10-foot pavement of the MCRT will be loamed and seeded with a native seed mix.
› Once the Project is complete, all areas outside of the 19-foot-wide final maintained width will be allowed to naturally revegetate with woody vegetation.

Regulatory Compliance Summary

The following paragraphs present a summary of how the Project will fully comply with the General Performance Standards for activities proposed within Buffer Zone per 310 CMR 10.53(1):

The potential for adverse impacts to Resource Areas from work in the Buffer Zone may increase with the extent of the work and the proximity to the Resource Area. The Issuing Authority may consider the characteristics of the Buffer Zone, such as the presence of steep slopes, that may increase the potential for adverse impacts on Resource Areas. Conditions may include limitations on the scope and location of work in the Buffer Zone as necessary to avoid alteration of Resource Areas. The Issuing Authority may require erosion and sedimentation

controls during construction, a clear limit of work, and the preservation of natural vegetation adjacent to the Resource Area and/or other measures commensurate with the scope and location of the work within the Buffer Zone to protect the interests of M.G.L. c. 131, § 40. Where a Buffer Zone has already been developed, the Issuing Authority may consider the extent of existing development in its review of subsequent proposed work and, where prior development is extensive, may consider measures such as the restoration of natural vegetation adjacent to a Resource Area to protect the interest of M.G.L. c. 131, § 40. The purpose of preconstruction review of work in the Buffer Zone is to ensure that adjacent Resource Areas are not adversely affected during or after completion of the work.

As described in Section 2, the Buffer Zone within the Project Locus consists of previously developed areas associated with its historic use as a railroad ROW. The Project has been designed to minimize grading and vegetation removal to the extent practicable by maximizing use of the existing rail bed and keeping disturbance close to areas that have been previously disturbed from the historic and present use of the ROW. During construction, erosion and sedimentation controls will be used within Buffer Zone to prevent adverse effects to adjacent resource areas and demarcate a clear limit of work. Where feasible, the Project has been designed to preserve natural vegetation adjacent to the resource area. Where vegetation adjacent to resource areas must be removed, disturbed areas will be loamed and seeded with a native seed mix, and in areas adjacent to Hop Brook, woody vegetation will be planted to restore the natural vegetation adjacent to the resource area.

5.1.4 Bank (310 CMR 10.54)

Summary of Impacts

The Project was designed to fully comply with all applicable performance standards for Bank.

The Project will result in 246 linear feet of temporary disturbance to Bank at four locations within the MBTA ROW at Bridge 127 as outlined in Table 7. The temporary disturbance is required to facilitate the placement of crane mats which are needed for reconstruction of the bridge. The bank will be restored after the crane mats are removed.

Table 7 Permanent and Temporary Disturbance to Bank (Linear Feet)

Station	Stream ID	Permanent Disturbance	Temporary Disturbance[1]
724+33 to 724+93 (South)	3 (Hop Brook)	0	60
724+33 to 724+97 (North)	3 (Hop Brook)	0	64
725+74 to 726+36 (North)	3 (Hop Brook)	0	60
725+75 to 726+36 (South)	3 (Hop Brook)	0	62
Total		**0**	**246**

Source: VHB

Proposed Restoration and Mitigation Measures

Erosion and sediment controls will be installed prior to any grading, and once construction is complete all disturbed areas will be loamed and seeded to re-stabilize these areas. In addition, the following restoration and mitigation measures will be implemented at the eastern Hop Brook crossing where temporary Bank disturbance is proposed.

- Debris containment measures and additional erosion and sediment controls will be installed at the bridge itself for the removal of the existing structure.
- Crane mats will be in place for the minimum duration necessary and will be removed immediately upon completion of activities (or outside of TOYR, as applicable) where the use of a crane is required. See the conceptual crane mat section on sheet 125 in Attachment B for details regarding the conceptual construction of the crane mats.
- Following removal of mats, the area where mats were placed will be restored and stabilized with jute mesh erosion control blankets and planted with native woody plant species (see crane mat restoration detail on plan set in Attachment B, Sheet 130). The trees and shrubs will be planted after Phase 2 construction is completed to avoid disturbing and/or damaging the plants. The area will be reseeded with an appropriate wetland seed mix that will allow for the regrowth of indigenous, non-invasive herbaceous species to supplement natural recruitment.

Regulatory Compliance Summary

The following paragraphs present a summary of how the Project will fully comply with the General Performance Standards for activities proposed within Bank per 310 CMR 10.54(4)(a) through (c):

(a) Where the presumption set forth in 310 CMR 10.54(3) is not overcome, any proposed work on a Bank shall not impair the following:

1. *The physical stability of the bank;*

   As described in Table 7 above, there are no permanent alterations to Bank. The proposed crane mats will not impair the physical stability of the Bank because the crane mat will only contact limited areas of the Bank. Once construction is complete, jute mesh erosion control blankets will be applied to the final grade and the area will be seeded with a native herbaceous seed mix to stabilize the Bank and the adjacent buffer zone will be planted with woody shrubs and trees (see sheets 130 and 131 in the plans in Attachment B).

2. *The water carrying capacity of the existing channel within the bank;*

   The Project does not propose any permanent encroachments within the main stream channel that might impair the water carrying capacity of the Bank. The temporary crane mats will be placed in low gradient flow areas adjacent to the main stream channel located under the bridge. They will not be used within the

main channel and therefore will not affect its water carrying capacity during construction.

3. *Ground water and surface water quality;*

   The Project will not impair the ability of the existing Bank resource to continue to protect ground water and surface water quality because the Bank will be stabilized using the sediment control and erosion prevention measures described herein, including the application of a native seed mix, plantings with native trees and shrubs, and use of crane mats to protect the Bank during construction. The erosion prevention measures and native plantings will also ensure that sediment does not enter the stream channel during and after construction, thus protecting water quality.

4. *The capacity of the bank to provide breeding habitat, escape cover and food for fisheries; and*

   The Project will not impair the capacity of the Bank to provide breeding habitat, escape cover, or food for fisheries because the Bank stabilization measures and proposed restoration plantings described herein will provide these habitat features following construction.

5. *The capacity of the bank to provide important wildlife habitat functions. A Project… that (cumulatively) alters up to 10% or 50 feet (whichever is less) of the length of the bank found to be significant to the protection of wildlife habitat shall not be deemed to impair its capacity to provide important wildlife habitat functions.*

   A detailed Wildlife Habitat Evaluation ("WHE") was completed within the areas of proposed temporary Bank impacts (see WIAs S17 and S18 in the WHE in Attachment J). Important wildlife habitat features identified within these two WIAs included:

   - Important Upland/Wetland Food Plants;
   - Standing Dead Trees;
   - Tree Cavities in Trunks or Limbs;
   - Large Woody Debris on the Ground;
   - Rocks, Crevices, Fallen Logs, Overhanging Branches, or Hummocks at or Within 1m Above the Water's Surface;
   - Live or Dead Standing Vegetation Overhanging or Offering Good Visibility of Open Water; and
   - Standing Water Present At least Part of the Growing Season Suitable for use by Breeding Amphibians, Non-Breeding Amphibians, Turtles, or Foraging Waterfowl.

   The Project will not permanently alter more than 10% or 50 feet of Bank and therefore will not impair its capacity to provide important wildlife habitat functions.

Although crane mats will temporarily alter more than 50 feet of Bank for a short period, the area will be stabilized and fully restored, and the WHE determined that this work will not adversely affect wildlife habitat that is significant to the protection of wildlife habitat functions. Restoration measures were incorporated into the Project in these locations where appropriate and include measures such as plantings to offset the loss of food plants, reinstalling standing dead trees that will be removed during construction, creating brush piles to replace the loss of some large woody debris on the ground, and plantings to offset the loss of vegetation overhanging open water and providing good visibility of open water. Overall, following construction and the implementation of restoration measures, the Project will not reduce the capacity of the area to provide important wildlife habitat features or have an adverse effect on the availability of important wildlife habitat either on a local or regional scale. See the WHE in Attachment J for more details

6. *Work on a stream crossing shall be presumed to meet the performance standard set forth in 310 CMR 10.54(4)(a) provided the work is performed in compliance with the Massachusetts Stream Crossing Standards.*

   As described in Section 5.1.2, the Bridge 127 replacement was designed to fully comply with the Stream Crossing Standards.

(b) Notwithstanding the provisions of 310 CMR 10.54(4)(a), structures may be permitted in or on a Bank when required to prevent flood damage…

This standard is not applicable. The Project does not propose any structures for preventing flood damage.

(c) Notwithstanding the provisions of 310 CMR 10.54(4)(a) or (b), no project may be permitted which will have any adverse effect on specified habitat sites of Rare Species, as identified by procedures established under 310 CMR 10.59.

The Project will not have any adverse effect on specified habitat sites of Rare Species. The Project was reviewed by NHESP and a conditional no-take determination was issued (see Attachment G). See Section 5.1.8 for further discussion regarding rare species and consultation with NHESP.

5.1.5 Bordering Vegetated Wetlands (310 CMR 10.55)

Summary of Impacts

The Project was designed to fully comply with all applicable performance standards for BVW and to avoid permanent impacts to BVW to the greatest extent possible. The Project will result in minor permanent disturbance to BVW at two locations, and temporary disturbance in six locations, as outlined in Table 8.

Table 8 Permanent and Temporary Disturbance to BVW (Square Feet)

Station	Wetland ID	Permanent Disturbance	Temporary Disturbance	Comments
713+57 to 713+69 (North)	18	4	23	Drainage pipe replacement and headwall installation
713+61 to 713+69 (South)	19	0	4	
724+33 to 724+97 (North)	15	0	118	Crane mats on west side of Bridge 127
724+33 to 724+93 (South)	16	0	60	
725+74 to 726+36 (North)	14	0	118	Crane mats on east side of Bridge 127
764+57 to 764+65 (South)	4	85	201	Permanent disturbance from grading for construction platform; temporary disturbance from extension of existing drainage pipe and creation of wetland replication area
Total		**89**	**524**	

Source: VHB

Proposed Restoration and Mitigation Measures

Erosion and sediment controls will be installed prior to any grading. In addition, the following restoration and mitigation measures will be implemented at the Hop Brook (Bridge 127) crossing where temporary BVW disturbance is proposed:

- Debris containment measures and additional erosion and sediment controls will be installed at the bridge itself for the removal of the existing structure.
- Crane mats will be in place for the minimum duration necessary and will be removed immediately upon completion of activities where the use of a crane is required.
- Following removal of mats, the area where mats were placed will be restored by raking and re-grading the soil (if necessary due to soil compaction).
- The crane mat area will be stabilized with jute mesh erosion control blankets and planted with native woody plant species (see crane mat restoration detail on plan set in Attachment B, Sheet 130). The trees and shrubs will be planted after Phase 2 construction is completed to avoid disturbing and/or damaging the plants. The area will be reseeded with an appropriate wetland seed mix that will allow for the regrowth of indigenous, non-invasive herbaceous species to supplement natural recruitment.

For the permanent impacts to BVW, the Applicants propose to provide wetland replication at a ratio of approximately 2:1. Please refer to Attachment D for a wetland replication report and sheets 133 and 134 in the NOI plans submitted as Attachment B for the wetland replication plans.

Regulatory Compliance Summary

The following paragraphs present a summary of how the Project will fully comply with the General Performance Standards for activities proposed within BVW, as per 310 CMR 10.55(4)(a) through (e):

(a) Where the presumption set forth in 310 CMR 10.55(4)(a), is not overcome, any proposed work in a Bordering Vegetated Wetland shall not destroy or otherwise impair any portion of said area.

The Project was designed to minimize impacts to BVW. The Project will result in the loss of 89 square feet of BVW. Most of this impact (85 square feet) is located on the south side of the railroad tracks from Station 764+57 to 764+65 at Wetland 4. The Project proposes to provide wetland replication for all wetland losses (both BVW and IVW) in the area surrounding the impact to Wetland 4 at a ratio of approximately 2:1. Please see 310 CMR 10.55(4)(b) below and Attachment D in this NOI.

(b) Notwithstanding the provisions of 310 CMR 10.55(4)(a), the issuing authority may issue an OOC permitting work which results in the loss of up to 5,000 square feet of BVW when said area is replaced in accordance with the following general conditions and any additional, specific conditions the issuing authority deems necessary to ensure that the replacement area will function in a manner similar to the area that will be lost:

1. *the surface of the replacement area to be created ("the replacement area") shall be equal to that of the area that will be lost ("the lost area");*

   The Project will result in 89 square feet of permanent BVW loss and 303 square feet of IVW loss. The Applicants propose to provide 784 square feet of wetland replication for a replacement ratio of 2:1.

2. *the ground water and surface elevation of the replacement area shall be approximately equal to that of the lost area;*

   Two wetland mitigation wells were installed within the proposed wetland replication area to collect groundwater elevation data. These data were used to determine the surface elevation of the wetland replication area, in conjunction with the surface elevation of the abutting BVW.

3. *The overall horizontal configuration and location of the replacement area with respect to the bank shall be similar to that of the lost area;*

   The replication area was designed such that it has a similar horizontal configuration to the larger area of permanent wetland fill and the abutting wetland to the replication area.

4. *the replacement area shall have an unrestricted hydraulic connection to the same water body or waterway associated with the lost area;*

   The replacement area is directly adjacent to the area of loss in Wetland 4 and will have an unrestricted hydraulic connection to the same water body or waterway associated with the lost area.

5. *the replacement area shall be located within the same general area of the water body or reach of the waterway as the lost area;*

   The replacement area will be located directly adjacent to the lost area in Wetland 4.

6. *at least 75% of the surface of the replacement area shall be reestablished with indigenous wetland plant species within two growing seasons, and prior to said vegetative reestablishment any exposed soil in the replacement area shall be temporarily stabilized to prevent erosion in accordance with standard U.S. Soil Conservation Service methods; and*

   The wetland replication area will be inspected during the first two growing seasons following planting to evaluate the effectiveness of the replication area. Plots will be established and the vegetation community will be inventoried to determine the percent cover of wetland plant species to confirm that a minimum of 75% of the replication area's vegetation is successfully established and stabilized within the first two growing seasons. A wetland seed mix will be applied to provide an herbaceous layer to stabilize the soil and prevent erosion in accordance with standard USCS methods. See sheet 134 in the NOI plans submitted as Attachment B for the proposed wetland plantings and seed mix.

7. *the replacement area shall be provided in a manner which is consistent with all other General Performance Standards for each resource area in Part III of 310 CMR 10.00.*

   The replacement area is located within the 100-foot Buffer Zone to BVW, which does not have performance standards. Once wetland soils and any natural materials have been placed, equipment or vehicles exerting a ground pressure greater than 3 pounds per square inch (psi) will no longer be allowed in the replacement area to avoid compacting the wetland soils.

(c) Notwithstanding the provisions of 310 CMR 10.55(4)(a), the issuing authority may issue an Order of Conditions permitting work which results in the loss of a portion of Bordering Vegetated Wetland when;

1. *said portion has a surface area less than 500 square feet;*
2. *said portion extends in a distinct linear configuration ("finger-like") into adjacent uplands; and*
3. *in the judgment of the issuing authority it is not reasonable to scale down, redesign or otherwise change the proposed work so that it could be completed without loss of said wetland.*

   Although this subsection would be applicable to the fingerlike projection of 85 square feet, the Project will address the loss of 89 square feet of BVW under subsection (b) above and provide 2:1 replication.

(d) No project may be permitted which will have any adverse effect on specified habitats of rare vertebrate or invertebrate species, as identified by the procedures under 310 CMR 10.59.

The Project will not have any adverse effect on specified habitat of rare species. The Project was reviewed by NHESP and a conditional no-take determination was issued (see Attachment G). See Section 5.1.8 for further discussion regarding rare species and consultation with NHESP.

(e) Any proposed work shall not destroy or otherwise impact any portion of a BVW that is within an ACEC.

The Project is not located within an ACEC.

5.1.6 Land under Water Bodies and Waterways (310 CMR 10.56)

Summary of Impacts

The Project was designed to fully comply with all applicable performance standards for LUWW and there are no proposed permanent impacts to LUWW.

The Project will result in temporary disturbance to LUWW at four locations within the Project Site as outlined in Table 9. All four temporary disturbance areas are near Bridge 127, where a total of approximately 1,146 square feet of temporary disturbance to LUWW will be required to facilitate the placement of crane mats, which are needed for reconstruction of the bridge.

Table 9 Permanent and Temporary Disturbance to LUWW (Square Feet)

Station	Stream ID	Permanent Disturbance	Temporary Disturbance
724+33 to 724+97 (North)	3 (Hop Brook)	0	333
724+33 to 724+93 (South)	3 (Hop Brook)	0	263
725+74 to 726+36 (North)	3 (Hop Brook)	0	155
725+75 to 726+36 (South)	3 (Hop Brook)	0	395
Total		**0**	**1,146**

Source: VHB

Proposed Mitigation Measures

The following mitigation measures will be implemented at Bridge 127 where temporary LUWW disturbance is proposed.

› Debris containment measures and additional erosion and sediment controls will be installed at the bridge itself for the removal of the existing structure.

› Crane mats will be in place for the minimum duration necessary and will be removed immediately upon completion of activities where the use of a crane is required.

› Following removal of mats, the area where mats were placed will be restored and stabilized with jute mesh erosion control blankets. The area will be reseeded with an appropriate wetland seed mix that will allow for the regrowth of indigenous, non-invasive herbaceous species to supplement natural recruitment.

Regulatory Compliance Summary

The following paragraphs present a summary of how the Project will fully comply with the General Performance Standards for activities proposed within LUWW, as per 310 CMR 10.56(4)(a) through (c):

(a) Where the presumption set forth in 310 CMR 10.56(3) is not overcome, any proposed work within Land under Water Bodies and Waterways shall not impair the following:

1. The water carrying capacity within the defined channel, which is provided by said land in conjunction with the banks;

The proposed temporary disturbance is associated with the placement of crane mats which will not impair the water carrying capacity of the existing channel. The mats will be placed within the low gradient flow areas adjacent to the main defined channel and will not be placed within the main channel itself.

2. Ground and surface water quality;

The ability of LUWW resource areas to continue to provide the function of the protection of ground and surface water quality will not be adversely affected by the Project. As described in Section 3.1.2, erosion and sediment control measures including turbidity controls will ensure that sediment does not enter the stream channel, thus protecting water quality.

3. The capacity of said land to provide breeding habitat, escape cover and food for fisheries;

The Project will not impair the capacity of the LUWW resource areas to provide breeding habitat, escape cover, or food for fisheries. As described in Section 3, crane mats, erosion controls, and debris containment measures will be used at Bridge 127 to protect the waterway during construction, and the disturbed area will be restored with aquatic plantings once construction is complete. Additional details regarding Coldwater Fishery Resources are provided in Section 5.2.2.

4. The capacity of said land to provide important wildlife habitat functions. A project… that cumulatively alters up to 10% or 5,000 square feet (whichever is less) of land in this area found to be significant to the protection of wildlife habitat shall not be deemed to impair its capacity to provide important wildlife functions.

The Project will not alter more than 10% or 5,000 square feet of LUWW and therefore shall not be deemed to impair its capacity to provide important wildlife functions. Although a WHE was not required, an Appendix B Detailed WHE was completed for the temporary LUWW impacts (see WIAs S17 and S18 in the WHE in

Attachment J) to evaluate potential impacts from the temporary placement of crane mats. Within LUWW, the only important wildlife habitat feature that was identified was Standing Water Present for at Least Part of the Growing Season Suitable for Use by Breeding Amphibians, Non-Breeding Amphibians, Turtles, or Foraging Waterfowl. During reconstruction of Bridge 127 filter fabric will be laid under and wrapped around the timber crane mats to prevent sediment from entering the waterbody. Once Bridge 127 is reconstructed, the crane mats will be removed, and the area will be restored (see crane mat restoration detail on sheet 130 and planting plan on sheet 131 in the NOI plans provided in Attachment B).

5. *Work on a stream crossing shall be presumed to meet the performance standards set forth at 310 CMR 10.56(4)(a) provided the work is performed in compliance with the Massachusetts Stream Crossing Standards.*

   As described in Section 5.1.2, the Project was designed to fully comply with the Stream Crossing Standards.

(b) Notwithstanding the provisions of 310 CMR 10.56(4)(a), the issuing authority may issue an Order in accordance with M.G.L. c. 131, § 40 to maintain or improve boat channels within Land under Water Bodies and Waterways…

The Project does not involve work to maintain or improve boat channels.

(c) Notwithstanding the provisions of 310 CMR 10.56(4)(a) or (b), no project may be permitted which will have any adverse effect on specified habitat sites of rare vertebrate or invertebrate species, as identified by procedures established under 310 CMR 10.59.

The Project will not have any adverse effect on specified habitat sites of Rare Species. The Project was reviewed by NHESP and a conditional no-take determination was issued (see Attachment G). See Section 5.1.8 for further discussion regarding rare species and consultation with NHESP.

5.1.7 Bordering Land Subject to Flooding (310 CMR 10.57)

Summary of Impacts

The Project was designed to fully comply with all applicable performance standards for BLSF and will result in a net gain of flood storage within the Project Site. In addition, because the Project will result in a net gain 78.46 cubic yards of flood storage, the Project will not adversely affect the floodway associated with Hop Brook.

As outlined in Tables 10 and 11, the Project will result in permanent and temporary disturbance to BLSF at three locations within the Project Site. In all cases, permanent disturbance is due to the paved surface proposed for the MCRT and temporary disturbance includes all areas of disturbance outside the limits of the paved MCRT. All disturbed areas outside the limits of paved surfaces will be revegetated with native species.

Table 10 identifies the square footage of disturbance in each area; Table 11 summarizes the changes to flood storage volume.

Table 10 Permanent and Temporary Disturbance to BLSF (square feet)

Disturbance Area	Station	Permanent Disturbance[1] (square feet)	Temporary Disturbance[2] (square feet)	Total Disturbance (square feet)
Hop Brook (Bridge 128) Station 399+24 to 401+65 Base Flood Elevation = 161.0 feet	399+24 to 399+95	0	37	37
	400+65 to 401+65	0	262	262
	Subtotal	**0**	**302**	**302**
Unnamed Tributary to Hop Brook Station 702+18 to 710+52 Base Flood Elevation = 132.0 to 134.0 feet	702+18 to 702+32	0	6	6
	702+88 to 706+17	0	570	570
	706+30 to 707+32	0	282	282
	708+00 to 710+19	64	862	926
	710+32 to 710+52	0	7	7
	Subtotal	**64**	**1,727**	**1,791**
Hop Brook (Bridge 127) Station 713+57 to 729+26 Base Flood Elevation = 122.0 to 127.0 feet	713+57 to 713+63	0	31	31
	722+38 to 722+65	0	68	68
	723+42 to 725+07	523	1,993	2,516
	725+56 to 729+26	2,099	3,631	5,730
	Subtotal	**2,622**	**5,723**	**8,345**
	Total	**2,686**	**7,749**	**10,435**

Source: VHB

1 Permanent disturbance is due to paved surface proposed for the MCRT.

2 Temporary disturbance includes all areas of disturbance outside of the limits of paved MCRT. All disturbed areas outside the limits of paved surfaces will be revegetated with native species.

Table 11 Summary of Changes to Flood Storage Volume in BLSF (cubic yards)

Disturbance Area	Elevation (feet)	Fill	Cut	Net Gain (Cut)
Unnamed Tributary to Hop Brook Station 702+18-710+52	133'-134'	17.30	20.81	-3.52
	132'-133'	7.80	9.37	-1.57
	131'-132'	0.04	1.07	-1.04
Hop Brook (Bridge 127) Station 713+57 to 729+26	126'-127'	10.89	21.02	-10.13
	125'-126'	15.70	75.41	-59.70
	124'-125'	2.70	5.11	-2.41
	123'-124'	0.00	0.09	-0.09
	Total	**54.43**	**132.89**	**-78.46 (Net Gain)**

Source: VHB

Proposed Restoration and Mitigation Measures

As required by the performance standards for BLSF, the Project was designed to provide compensatory storage for any flood storage volume that will be lost as a result of the Project. In addition, a detailed wildlife habitat evaluation has been completed for those areas

within the limits of work for the Project that are in BLSF and proposed restoration measures are incorporated into the Project. The following section provides more details related to compensatory flood storage and wildlife habitat features within BLSF.

Regulatory Compliance Summary

The following paragraphs present a summary overview of how the Project will fully comply with the General Performance Standards for activities proposed within BLSF, as per 310 CMR 10.57(4)(a)1 through 3 and 10.57(4)(c):

10.57(4)(a)1. *Compensatory storage shall be provided for all flood storage volume that will be lost as the result of a proposed project within Bordering Land Subject to Flooding, when in the judgment of the issuing authority said loss will cause an increase or will contribute incrementally to an increase in the horizontal extent and level of flood waters during peak flows.*

As shown in Table 11, the Project will result in a total of 54.43 cubic yards of fill and 132.89 cubic yards of cut, for a net gain of 78.46 cubic yards of flood storage associated with an unnamed tributary to Hop Brook near Station Road and Hop Brook itself east of Boston Post Road (Station 700+00 to 728+50). As required, the cut areas result in compensatory flood storage at each incremental elevation within the floodplain where fill is proposed.

10.57(4)(a)2. *Work within Bordering Land Subject to Flooding, including that work required to provide the above-specified compensatory storage, shall not restrict flows so as to cause an increase in flood stage or velocity.*

The Project will not restrict flows and will not result in an increase in flood stage or velocity. No culverts will be replaced within BLSF, the low chord of Bridge 127 will be higher in elevation than its current elevation so that the bridge is not partially submerged, and Bridge 128 will maintain the same elevation as existing conditions.

10.57(4)(a)3. *Work in those portions of bordering land subject to flooding found to be significant to the protection of wildlife habitat shall not impair its capacity to provide important wildlife habitat functions. Except for work which would adversely affect vernal pool habitat, a project or projects on a single lot, for which Notice(s) of Intent is filed on or after November 1, 1987, that (cumulatively) alter(s) up to 10 percent or 5,000 square feet (whichever is less) of land in this resource area found to be significant to the protection of wildlife habitat, shall not be deemed to impair its capacity to provide important wildlife habitat functions. Additional alterations beyond the above threshold, or altering vernal pool habitat, may be permitted if they will have no adverse effects on wildlife habitat, as determined by procedures contained in 310 CMR 10.60.*

Table 10 provides a summary of the permanent and temporary disturbances to the surface vegetation within BLSF. After the Project is constructed, all areas

outside of the paved surface of the MCRT will be loamed and seeded along the side slopes and the immediate vicinity of Bridges 128 and 127 will be replanted with woody vegetation (see the crane mat restoration detail and planting schedule on sheets 130 and 131 of Attachment B).

It is important to note that 310 CMR 10.57(1)(a)(3) states that railroad tracks, including embankment and ballast, have effectively eliminated wildlife habitat functions, and all permanent BLSF impacts will occur within the existing railroad tracks and ballast. Notwithstanding this important clarification of the performance standards, Detailed "Appendix B" Wildlife Habitat Evaluations were completed to identify existing wildlife habitat features within all wetland resource areas, including BLSF. The evaluations determined that features such as woody vegetation, food plants, and woody debris are abundant in the area surrounding the Project in BLSF, outside of the proposed disturbance. In addition, the Applicants propose to reinstall removed standing dead trees; create brush piles; and plant native trees, shrubs, and herbaceous cover as restoration for the features that will be lost. The Project also involves removing the tracks and ties from the MBTA ROW, which removes a movement barrier for turtles and amphibians and improves existing conditions. For these reasons, the Project will not impair the capacity for these areas to provide important wildlife habitat functions. Please see Attachment J for the Wildlife Habitat Evaluation.

10.57(4)(c) *Notwithstanding the provisions of 310 CMR 10.57(4)(a) or (b), no project may be permitted which will have any adverse effect on specified wildlife habitat sites of rare vertebrate or invertebrate species, as identified by procedures established under 310 CMR 10.59.*

As determined by NHESP, the Project will not have an adverse effect on specified habitats of rare vertebrate or invertebrate species. The Project was reviewed by NHESP and a conditional no-take determination was issued (see Attachment G) for both Phases 1 and 2. See Section 5.1.7 for further discussion regarding rare species and consultation with NHESP.

5.1.8 Riverfront Area (310 CMR 10.58)

Summary of Impacts

The Project was designed to fully comply with all applicable performance standards for RFA and will provide an improvement to the previously degraded areas.

There are three locations of disturbance to MWPA RFA within the Project Site:

1. Station 395+71 to 403+52: Associated with Hop Brook crossing west of Dutton Road (see plan sheets 46 to 47 in Attachment B)

2. Station 533+85 to 543+57: Associated with Dudley Brook (see plan sheet 54 in Attachment B)
3. Station 705+30 to 749+45: Associated with Hop Brook east of Route 20 (see plan sheets 61 to 67 in Attachment B)

These three locations comprise 457,504 total square feet of existing, previously disturbed RFA within the Project Locus in Sudbury. Approximately 65,431 square feet of the previously disturbed RFA is degraded by the presence of existing rails, ties and ballast. As outlined in Table 12, the Project will result in permanent disturbances to RFA within the Project Site due to installation of the MCRT, and temporary disturbance due to installation of the transmission line, construction of the MCRT base, and the placement of crane mats (and associated vegetation removal) to accommodate rehabilitation and replacement of Bridges 128 and 127. In total, the Project will temporarily disturb 20.9 percent of the RFA within the work limits of the Project.

Table 12 Permanent and Temporary Disturbance to MWPA RFA

		Inner 100' RFA			Outer 200' RFA			
Disturbance Area	Station	Permanent Disturbance[1] (square feet)	Temporary Disturbance[2] (square feet)	Total Disturbance (square feet)	Permanent Disturbance[1] (square feet)	Temporary Disturbance[2] (square feet)	Total Disturbance (square feet)	Comments
Hop Brook (Bridge 128) 395+71 to 403+52	395+71 to 396+73	0	0	0	1,022	1,506	2,528	Out of the total 49,355 square feet of RFA in this area, 7,994 square feet is currently degraded. The Project will restore all areas outside of the 10-foot MCRT, resulting in a 1.4% reduction in degraded area.
	396+73 to 400+09	3,330	5,781	9,111	0	0	0	
	400+60 to 402+55	1,923	3,967	5,890	0	0	0	
	402+55-403+52	0	0	0	1,027	1,534	2,561	
	Subtotal	**5,253**	**9,748**	**15,001**	**2,049**	**3,040**	**5,089**	
Dudley Brook 533+85 to 543+57	533+85 to 534+95	0	0	0	1,519	2,510	4,029	Out of the total 74,359 square feet of RFA in this area, 10,750 square feet is currently degraded. The Project will restore all areas outside the 10-foot MCRT, resulting in a 0.8% reduction in degraded area.
	534+95 to 542+56	7,596	10,265	17,861	0	0	0	
	542+56 to 543+57	0	0	0	1,023	1,359	2,382	
	Subtotal	**7,596**	**10,265**	**17,861**	**2,542**	**3,869**	**6,411**	
Hop Brook (Bridge 127) 705+30-749+45	705+30 to 706+95	0	0	0	1,518	1,926	3,444	Out of the total 333,790 square feet of RFA in this area, 46,687 square feet is currently degraded. The Project will restore all areas outside the 10-foot MCRT, result in a 0.9% reduction in degraded area.
	706+95 to 711+40	4,743	5,225	9,968	0	0	0	
	711+35 to 711+40	0	0	0	0	218	218	
	711+60 to 714+65	0	0	0	974	1,667	2,641	
	711+60 to 725+10	12,540	19,686	32,226	0	0	0	

Disturbance Area	Station	Inner 100' RFA			Outer 200' RFA			Comments
		Permanent Disturbance[1] (square feet)	Temporary Disturbance[2] (square feet)	Total Disturbance (square feet)	Permanent Disturbance[1] (square feet)	Temporary Disturbance[2] (square feet)	Total Disturbance (square feet)	
	725+70 to 743+10	16,290	30,985	47,275	0	0	0	
	737+04 to 737+40	0	0	0	0	158	158	
	741+25 to 745+95	0	0	0	3,158	3,802	6,960	
	743+10 to 743+90	0	276	276	0	0	0	
	744+75 to 748+45	3,319	3,335	6,654	0	0	0	
	748+45 to 749+45	0	0	0	1,021	1,264	2,284	
	Subtotal	**36,892**	**59,507**	**96,399**	**6,671**	**9,034**	**15,705**	
	Total	**49,741**	**79,520**	**129,261**	**11,262**	**15,943**	**27,205**	

Source: VHB

1 Permanent disturbance is limited to the impervious surface proposed for the MCRT

2 Temporary disturbance includes all areas of disturbance outside of the limits of impervious surfaces associated with the MCRT. All disturbed areas outside the limits of impervious surface will be revegetated with native species.

Proposed Restoration and Mitigation Measures

The Project was designed to avoid and minimize impacts to RFA to the extent practicable by:

- Reducing the construction platform width to 18 feet at the approaches to Bridges 127 and 128;
- Using steel sheeting at both Bridges 128 and 127 to further minimize the limit of disturbance; and
- Using a retaining wall from Station 730+99 to 734+25;
- Spacing out manholes to a maximum of 2,100 feet apart where curvature allowed.

In addition, the following restoration and mitigation measures will be implemented in RFA:

- Erosion and sediment controls will be installed to protect the associated waterbodies.
- Crane mats at Bridges 128 and 127 will be in place for the minimum duration necessary and will be removed immediately upon completion of activities where the use of a crane is required.
- Following removal of the crane mats, the area where mats were placed will be restored by raking and re-grading the soil (if necessary due to soil compaction).
- The crane mat area will be stabilized with jute mesh erosion control blankets and planted with native woody plant species (see crane mat restoration detail and planting schedule on sheets 130 and 131 in the plan set in Attachment B). The trees and shrubs will be planted after Phase 2 construction is completed to avoid disturbing and/or damaging the plants. The area will also be reseeded with an appropriate seed mix that will allow for the regrowth of indigenous, non-invasive herbaceous species to supplement natural recruitment.
- After Phase 1 is constructed, all temporarily disturbed areas outside of the 14-foot gravel base will be loamed and seeded with the seed mix shown on sheet 131 in the plans in Attachment B.
- After Phase 2 is completed, DCR will loam and seed the two-foot shoulders on either side of the MCRT so that all temporarily disturbed areas except for the 10-foot wide MCRT are replanted.
- Once the Project is complete, all areas outside of the 19-foot-wide final maintained width will be allowed to naturally revegetate with woody vegetation.

Regulatory Compliance Summary

As discussed in Section 5.1.1 above, both phases of the Project qualify as limited projects for relief from certain provisions of 310 CMR 10.58 for work in RFA. In addition, because the RFA in the Project Locus is previously developed from the former railroad right-of-way operations, including degraded areas where the ballast, rails and ties are located, the Project is a redevelopment project that proposes reuse of degraded and previously developed areas subject to 310 CMR 10.58(5). The Project fully complies with all applicable performance

standards at 310 CMR 10.58(5), which requires compliance with 310 CMR 10.58(4)(a) and (b), but not 10.58(4)(c) and (d).

As outlined below, the Project fully complies with the provisions of 310 CMR 10.58(4)(a) and (b):

10.58(4)(a) *The work shall meet the performance standards for all other resource areas within Riverfront Area. When work in the RFA is also within the buffer zone to another resource area, the performance standards for the RFA shall contribute to the protection of the interests of M.G.L. c. 131 § 40 in lieu of any additional requirements that might otherwise be imposed on work in the buffer zone within the RFA;*

As presented in detail in Sections 5.1.3 through 5.1.7, the Project was designed to fully comply with the performance standards of other wetland resource areas within RFA along the Project Site.

10.58(4)(b) *No project may be permitted within the RFA which will have any adverse effect on specified habitat sites of rare wetland or upland vertebrate or invertebrate species … or certified vernal pool habitat;*

The Project will not have any adverse effect on specified habitat of rare species. The Project was reviewed by NHESP and conditional no-take determinations have been issued (see Attachment G). See Section 5.1.8 for further discussion regarding rare species and consultation with NHESP.

In addition, the following paragraphs present a summary of how the Project will fully comply with the performance standards for redevelopment within previously developed RFA, as per 310 CMR 10.58(5):

10.58(5) *Notwithstanding the provisions of 310 CMR 10.58(4)(c) and (d), the issuing authority may allow work to redevelop a previously developed riverfront area, provided the proposed work improves existing conditions. Redevelopment means replacement, rehabilitation or expansion of existing structures, improvement of existing roads,* ***or reuse of degraded or previously developed areas*** [emphasis added]. *A previously developed riverfront area contains areas degraded prior to August 7, 1996 by impervious surfaces from existing structures or pavement, absence of topsoil, junkyards, or abandoned dumping grounds.*

The RFAs that extend into the Project Locus are previously developed from the construction and operation of the railroad right-of-way, including degraded areas occupied by the steel rails, wooden railroad ties, and stone ballast with a linear footprint that is 11 feet wide. Therefore, all of the work in RFAs within the Project Site, including both the transmission line and MCRT components, is within previously developed RFA, and the 10-foot paved surface of the MCRT is designed to be located within the footprint of the existing 11-foot degraded area.

10.58(5)(a) At a minimum, proposed work shall result in an improvement over existing conditions of the capacity of the riverfront area to protect the interests identified in M.G.L. c. 131 § 40.

The Project will result in an improvement over the existing conditions of the capacity of the RFA to protect the interests of the Act. The Project will improve the RFA by reducing the total footprint of the degraded area by 1 foot in width throughout the RFA, which results in a reduction in degraded area of approximately 4,339 square feet. In addition, except for the 10-foot-wide paved MCRT, the remaining previously developed area within the proposed limits of work, including existing areas of recent activity where there is limited or no vegetation, will be restored with dense native vegetation. Please refer to sheet 131 in Attachment B for the proposed planting schedule.

In addition to reducing the footprint of the currently degraded areas and restoring all areas with native vegetation, the Project will improve the capacity of the RFA to protect the wildlife habitat interest of the MWPA by removing the existing rails and ties, which extend approximately four to five inches above the ground and create a barrier to wildlife movement, particularly for reptiles and amphibians. For example, turtles have difficulty climbing over the rails and are therefore required to travel to widely spaced crossing points such as existing culverts to cross the railroad embankment. The Project will remove the obstruction and create a flat unobstructed surface that is more readily traversed by small wildlife such as turtles and migrating salamanders.

10.58(5)(b) Stormwater management is provided according to standards established by the Department.

Stormwater management during construction will comply with all applicable standards. Per 310 CMR 10.05(6)(m)6, the Stormwater Management Standards (SMS) for the post-construction phase shall apply to the maximum extent practicable to footpaths, bike paths, and other paths for pedestrian and/or non-motorized vehicle access. The Project was designed for the final condition of the paved MCRT to meet the SMS to the maximum extent practicable and includes an open stormwater system with vegetated filter strips and water quality swales with check dams to provide treatment. The MCRT will require 10 feet of paving and runoff will sheet flow to the vegetated shoulders, providing an additional opportunity for stormwater to infiltrate before it enters the swales. The swales were designed to convey water to appropriate discharge points to maintain existing drainage patterns and were sized such that they can accommodate a two-year storm to meet DCR's standards and, according to the stormwater analysis, frequently meeting the 10-year storm requirements of the SMS as well.

The end use of the Project will be the MCRT, therefore, is not anticipated to increase pollutant loads within the Project Locus above the existing conditions. The MCRT will be used by pedestrians and bicyclists, which will not contribute

contaminants to the path surface. Other than in emergency situations, motor vehicle access along the path will be limited to bi-weekly mowing over the shoulders and annual mowing over the duct bank by DCR, inspections by Eversource approximately once every three years, and other maintenance as needed by both Eversource and DCR. In addition, the MCRT will not be plowed and/or treated in the winter. Therefore, there will be little to no contaminants on the path surface to be washed off by stormwater runoff. For additional details regarding stormwater management, please refer to the Stormwater Report in Attachment L.

10.58(5)(c) *Within 200-foot riverfront areas, proposed work shall not be located closer to the river than existing conditions or 100 feet, whichever is less, or not closer than existing conditions within 25-foot riverfront areas, except in accordance with 310 CMR 10.58(5)(f) or (g).*

The Project is not located closer to the river than existing conditions. The existing degraded and previously disturbed RFA extends through the entire RFA and to the edge of both Hop Brook and Dudley Brook crossings. In addition, although the Project involves rehabilitating Bridge 128 and reconstruction of Bridge 127, no foundation work will be required within the waterbody. The existing stone abutments at Bridge 128 will be reused and the new abutments at Bridge 127 will be constructed behind (landward) of the existing abutments, which will remain in place (please refer to Section 3.1.9 for additional information on bridge construction). The Project also provides restoration in the form of revegetation with native species of the RFA, which is addressed in 310 CMR 10.58(5)(f).

10.58(5)(d) *Proposed work, including expansion of existing structures, shall be located outside the riverfront area or toward the riverfront area boundary and away from the river, except in accordance with 310 CMR 10.58(5)(f) or (g).*

The Project is a redevelopment project that proposes reuse of existing degraded and previously developed areas in the RFA. The Project Locus is a former linear transportation corridor that currently crosses existing water bodies and their associated RFAs. There are existing culverts or bridges at each water body crossing. All work associated with the Project, including both the transmission line and MCRT components, is proposed entirely within the previously developed and degraded area. The Project does not propose expansion of the existing degraded or previously developed areas in the RFA.

To the extent feasible, the Project also has been designed to locate work outside of RFA or toward the RFA boundary and away from associated waterbodies, including manholes. To avoid and minimize placement of manholes within RFA, they were spaced as much as 2,000 feet apart as the curvature of the MBTA ROW allowed. Where manholes could not be located outside of RFA, they were located at the outer edge of the 200-foot RFA; or where they were within the

100-foot RFA due to the waterbody paralleling the Project, they were located at least 700 feet away from the waterbody crossing. The Project also provides restoration in the form of revegetation of the RFA, which is addressed in 310 CMR 10.58(5)(f).

10.58(5)(e) *The area of proposed work shall not exceed the amount of degraded area, provided that the proposed work may alter up to 10% if the degraded area is less than 10% of the riverfront area, except in accordance with 310 CMR 10.58(5)(f) or (g).*

The existing degraded area is greater than 10 percent of the total previously developed RFA in the Project Locus. Therefore, the Project is not limited to alteration of up to 10% of the RFA as prescribed in this performance standard. The Project also is proposing on-site restoration in accordance with 310 CMR 10.58(5)(f).

10.58(5)(f) *When an applicant proposes restoration on-site of degraded riverfront area, alteration may be allowed notwithstanding the criteria of 310 CMR 10.58(5)(c), (d), and (e) at a ratio in square feet of at least 1:1 of restored area to area of alteration not conforming to the criteria. Areas immediately along the river shall be selected for restoration. Alteration not conforming to the criteria shall begin at the riverfront area boundary.*

There is a total of 95,463 square feet of proposed temporary RFA disturbance and 61,002 square feet of proposed permanent RFA disturbance associated with the Project. The only permanent disturbance is the 10-foot-wide paved MCRT, which will be within the 11-foot-wide degraded area. All areas of disturbance outside of the paved MCRT will be restored with native species, which meets the criteria of 1:1. In addition, the Project will reduce the amount of degraded area by 4,339 square feet by restoring the degraded area, reducing the amount of degraded RFA on the Project Locus by approximately 1 percent.

Restoration shall include:

1. *Removal of all debris, but retaining any trees or other mature vegetation;*

   Any debris within the limits of work will be removed as part of the Project. Existing trees and mature vegetation will be retained wherever possible within the RFA. Once the Project is completed, all disturbed areas outside of the 10-foot MCRT paved surface will be restored with native vegetation to provide a dense herbaceous cover and trees and shrubs are proposed at both Hop Brook crossings. Please refer to sheets 130 and 131 in the NOI plans provided in Attachment B for planting details.

2. *Grading to a topography which reduces runoff and increases infiltration;*

   Within the proposed limits of work, the grading has been designed to reduce runoff and promote infiltration. The RFA will be graded flat along the

MCRT but with a slight pitch to the either side to shed runoff. The dense herbaceous growth adjacent to the MCRT will function as a vegetated filter strip to reduce runoff and promote infiltration of stormwater runoff.

3. *Coverage by topsoil at a depth consistent with natural conditions at the site; and*

   The Project Site within RFA is previously disturbed, consisting primarily of a filled embankment to support the rails and maintain a relatively level alignment. Except for the 10-foot-wide paved MCRT, all disturbed areas within the Project Site will be covered with a minimum of four inches of clean topsoil consistent with natural conditions and will be revegetated with native species.

4. *Seeding and planting with an erosion control seed mixture, followed by plantings of herbaceous and woody species appropriate to the site.*

   A restoration seed mixture will be used throughout the Project Site, which contains a mixture of native species including Canada wild rye, little bluestem, fox sedge, soft rush, New England Aster, woodland goldenrod, and joe-pye weed (see sheet 131 in the NOI plans provided in Attachment B for seed mix). Except for the 10-foot-wide paved MCRT, this seed mix will be applied in all areas of proposed disturbance associated with the Project, which includes approximately 4,339 square feet of existing degraded RFA. In addition to the herbaceous vegetation, woody shrubs will be planted approximately eight feet to the north of the MCRT in two locations within RFA, and trees and shrubs will be planted in a naturalized pattern at both Hop Brook crossings. Please refer to sheets 130 and 131 in the plans provided in Attachment B for the proposed crane mat restoration details and planting schedules.

10.58(5)(g) When an applicant proposes mitigation either on-site or in the riverfront area within the same general area of the river basin, alteration may be allowed notwithstanding the criteria of 310 CMR 10.58(5)(c), (d), or (e) at a ratio in square feet of at least 2:1 of mitigation area to area of alteration not conforming to the criteria or an equivalent level of environmental protection where square footage is not a relevant measure. Alteration not conforming to the criteria shall begin at the riverfront area boundary. Mitigation may include off-site restoration of riverfront areas, conservation restrictions under M.G.L. c. 184, §§ 31 to 33 to preserve undisturbed riverfront areas that could be otherwise altered under 310 CMR 10.00, the purchase of development rights within the riverfront area, the restoration of bordering vegetated wetland, projects to remedy an existing adverse impact on the interests identified in M.G.L. c. 131, § 40 for which the applicant is not legally responsible, or similar activities undertaken voluntarily by the applicant which will support a determination by the issuing authority of no significant adverse impact. Preference shall be given to potential mitigation projects, if any, identified in a

River Basin Plan approved by the Secretary of the Executive Office of Environmental Affairs.

Mitigation is not proposed for this Project because it includes extensive restoration of degraded and previously disturbed RFA in accordance with 10.58(5)(f) above.

10.58)(5)(h) The issuing authority shall include a continuing condition in the Certificate of Compliance for projects under 310 CMR 10.58(5)(f) or (g) prohibiting further alteration within the restoration or mitigation area, except as may be required to maintain the area in its restored or mitigated condition. Prior to requesting the issuance of the Certificate of Compliance, the applicant shall demonstrate the restoration or mitigation has been successfully completed for at least two growing seasons.

This condition is understood and will be met.

5.1.9 Estimated Habitats of Rare Wildlife (310 CMR 10.59)

There is Estimated Habitat (EH 1440) within a portion of the Project Locus that extends from White Pond Road east to just east of Hop Brook (Bridge 128); however, within Sudbury, it terminates at the Hudson/Sudbury town line.

Consultation with NHESP for Eversource's underground transmission line began in March 2016. Based upon the latest information provided by NHESP in August 2017 in response to an information request, this area contains records for eastern box turtle (*Terrapene carolina*), eastern whip-poor-will (*Caprimulgus vociferous*), Gerhard's underwing *(Catocala herodias gerhardi*), and coastal swamp Metarranthis (*Metarranthis pilosaria*).

Based on discussions with NHESP, it was determined that Eversource and DCR would file separate MESA checklists for the two Phases of the Project, but under the same file number. Eversource submitted a MESA checklist to the NHESP on September 19, 2018, which included mitigation measures for all four species and time-of-year restrictions ("TOYR"). No construction will occur in areas mapped for eastern whip-poor-will during nesting season (May 1 to July 31). NHESP reviewed the checklist and issued a conditional no-take determination for Eversource's underground transmission line on October 19, 2018 (Attachment G). DCR submitted a MESA checklist on April 17, 2019 that included the same mitigation measures identified in Eversource's filing, and NHESP issued a conditional no-take determination for Phase 2 of the Project on May 17, 2019 (Attachment G).

5.1.10 Wildlife Habitat Evaluations (310 CMR 10.60)

According to 310 CMR 10.60(1), to the extent that a proposed project will alter wildlife habitat beyond established thresholds for each respective wetland resource area, such alterations may be permitted only if they will have no adverse effects on wildlife habitat. Adverse effects on wildlife habitat are the alteration of any habitat characteristic listed in 310

CMR 10.60(2), "insofar as such alteration will, following two growing seasons of project completion and thereafter (or, if a project would eliminate trees, upon the maturity of replanted saplings) substantially reduce its capacity to provide the important wildlife habitat functions listed in 310 CMR 10.60(2)." The Guidance continues, stating, "it is not adequate to conclude that a project will result in an adverse effect only because alterations to wildlife habitat are proposed. The alterations become "adverse" when they *substantially* (emphasis added) reduce the site's capacity to provide important wildlife habitat functions (e.g., shelter, food, breeding areas) and consequently reduce the site's capacity to support wildlife." The Guidance also states, "simply put, no adverse effect does not mean no alteration."

To demonstrate that a project will meet the no adverse effect standard, the Guidance states that it must be demonstrated that either:

- A site lacks any important habitat features listed in Appendix A or B; or
- Important habitat features exist but adverse effects will be avoided because the project will not substantially reduce the capacity of the site to provide the important wildlife habitat functions.
  - Adverse effects can be avoided by restoration, replication, or other mitigation.
  - Applicants can also demonstrate that alterations will have a negligible effect on important habitat features. This can occur when an important habitat feature is very common on the site so that the amount of habitat feature lost is insignificant to what will remain on the site.

Summary of Impacts

Table 13 provides an overview of the wetland resource areas along the Project and identifies the threshold requirements and the corresponding Project disturbance to these resource areas.

Table 13 Wildlife Habitat Evaluation Thresholds per Wetland Resource Area

Wetland Resource Area	Appendix A Threshold	Appendix B Threshold	Project Disturbance (square feet)
Bank – 10.54(4)(a)5	10 percent or 50 Linear Feet (whichever is less)	When triggered by Appendix A	246 linear feet
Bordering Vegetated Wetland *(no thresholds in regulations)*	Below 5,000 square feet	Above 5,000 square feet	613
Land Under Water Bodies and Waterways – 10.56(4)(a)4	10 percent or 5,000 Square Feet (whichever is less)	When triggered by Appendix A	1,146
Bordering Land Subject to Flooding – 10.57(4)(a)3	10 percent or 5,000 Square Feet (whichever is less), except for work that would adversely affect vernal pool habitat	When triggered by Appendix A or for any impacts to certified or documented vernal pool habitat	10,435 *(No impacts to certified or documented vernal pool habitat)*
Previously Developed RFA	Appendix A and Appendix B are not required for previously developed RFA		

Sources: MWPA Regulations (310 CMR 10.00); *Massachusetts Wildlife Habitat Protection Guidance for Inland Wetlands* (MassDEP 2006); VHB

The Project will result in impacts to BVW, Bank, LUWW, BLSF, RFA that are jurisdictional under both the MWPA and Bylaw Regulations, RFA that is jurisdictional under the Bylaw Regulations only, and Sudbury's local AURA and IVW. However, 310 CMR 10.57(1)(a)(3) states that railroad tracks, including embankment and ballast, have effectively eliminated wildlife habitat functions. In addition, LUWW impacts do not exceed the threshold and a WHE is not required for previously developed RFA and there are no performance standards at 310 CMR 10.58(5) for wildlife habitat. Regardless, all WIAs, including BLSF, RFA, and LUWW, were evaluated. To evaluate these impacts, 21 WIAs (WIAs S1-S21) were identified and a Detailed WHE ("Appendix B") was completed at each WIA, which is the most rigorous and comprehensive type of WHE required under MWPA and the Bylaw Regulations. Of the 21 WIAs, S1, S2, S7, S8, S9, S11, S12, S13, S14, a portion of S15, and S21 are within Sudbury's jurisdiction only.

Site visits to complete the WHE occurred from April through October 2019, and 21 individual WIAs were evaluated. The evaluations determined that although there are some important wildlife habitat features within the WIAs, there is an abundance of important wildlife habitat features beyond the construction footprint of the Project Site within the remainder of the Project Locus. These features are also present within areas beyond the Project Locus in quantities such that the evaluations determined that the losses attributed to the Project will not have an adverse effect on wildlife habitat in the local area or region. Notwithstanding these findings, as described below the Project incorporates restoration measures on the Project Locus to replace some of the wildlife features that will be impacted within the construction footprint and to supplement important wildlife habitat features in the area.

Proposed Restoration Measures

Eversource and DCR propose the following restoration and replication measures for the wildlife habitat features that will be impacted:

- Removing the existing rails and ties, which are an impediment to wildlife movement;
- Reinstalling standing dead trees (i.e., snags) that will be temporarily removed for construction;
- Creating brush piles within the limits of the WIA to replace large woody debris on the ground;
- Reseeding all disturbed areas with an herbaceous seed mix consisting of native species to promote growth of herbaceous vegetation;
- Planting tree, shrub, and aquatic species within both Hop Brook crossings to replace those that will be removed in the crane mat locations and immediately surrounding areas; and
- Planting woody shrubs within Estimated and Priority Habitat.

In addition, the construction schedule for the Project considers and includes time-of-year restrictions for work activities along Project segments that contain state-listed species habitat, coldwater fishery resources, and vernal pools. The time-of-year restrictions related to state-listed species and non-listed species of significance include the following:

- No construction in areas mapped for eastern whip-poor-will due to potential nesting activities (May 1 to July 31);
- No construction up to 450 feet from a vernal pool to avoid migratory breeding period (March 1 to May 14);
- No work allowed within 100 feet of black racer hibernaculum to avoid disturbance (November 1 to March 31); and
- No active in-stream work in Hop Brook (October 1 to June 30).

For additional details regarding the results of the WHE and restoration proposals, please refer to Attachment J.

Regulatory Compliance Summary

As described above, the Applicants propose to restore and replicate important wildlife habitat functions within Project WIAs. In accordance with 310 CMR 10.60(3), restoration and replication will be completed in accordance with the following general conditions:

(a) The surface of the replacement area to be created ("the replacement area") shall be equal to that of the area that will be lost ("the lost area");

Standing dead trees (snags) that will be removed during construction will be reinstalled and brush piles and plantings are proposed in an equal or greater amounts to that which will be lost. Please refer to Attachment J for details regarding the replacements

proposed in each impact area. Typical details for the snags and brush piles are included in Attachment K. Planting details are located on sheet 131 in the NOI plans provided in Attachment B.

(b) The elevation of groundwater relative to the surface of the replacement area shall be approximately equal to that of the lost area;

The Project will not result in changes to the elevation of groundwater.

(c) The replacement area shall be located within the same general area as the lost area. In the case of banks and land under water, the replacement area shall be located on the same water body or waterway if the latter has not been rechanneled or otherwise relocated. In the case of bordering land subject to flooding, the replacement area shall be located approximately the same distance from the water body or waterway as the lost area. In the case of vernal pool habitat, the replacement area shall be located in close proximity to the lost area;

There are no permanent impacts to Bank or LUWW and all temporarily disturbed areas will be restored once construction is completed. Standing dead trees that will be removed during construction will be reinstalled and brush piles will be created within the same general areas as the areas of disturbance. Please refer to Attachment J for details regarding the WHE and Attachment K for typical details for reinstallation of snags and creation of brush piles.

(d) Interspersion and diversity of vegetation, water and other wildlife habitat characteristics of the replacement area, as well as its location relative to neighboring wildlife habitats, shall be similar to that of the lost areas, insofar as necessary to maintain the wildlife habitat functions of the lost area;

As described above and in more detail in Attachment J, replacement features and vegetation to be planted will be similar to that of the lost area and will maintain the wildlife habitat functions of the lost area. Typical details for creation of these features are included in Attachment K and planting details are located on sheet 131 in the NOI plans submitted as Attachment B.

(e) The project shall not alter ten or more acres of Land Subject to Flooding or Land under Water found to be significant to the protection of wildlife habitat, or 2,000 feet or more of Bank found to be significant to the protection of wildlife habitat (in the case of a bank of a stream or river, this shall be measured on each side of said stream or river).

The Project will alter less than half an acre of Land Subject to Flooding and Land Under Water and will alter less than 2,000 feet of Bank.

(f) If the replacement area is located in an area subject to M.G.L. c. 131, § 40, there shall be no adverse effect on the existing important wildlife habitat functions of said area as measured by the standards of 310 CMR 10.60;

The proposed replacement features (snags, brush piles, and plantings) do not require substantial disturbance within the proposed area and will not have an adverse effect on the existing important wildlife habitat functions in said areas.

(g) The "thresholds" established in 310 CMR 10.54(4)(a)5., 10.56(4)(a)4., 10.57(4)(a)3. and 10.58(4)(d)1.c. (below which alterations of resource areas are not deemed to impair capacity to provide important wildlife habitat functions) shall not apply to any replacement area; and

This condition is understood.

(h) The replacement area shall be provided in a manner which is consistent with all other General Performance Standards for each resource area in 310 CMR 10.51 through 10.60.

The replacement features require minimal disturbance and will be provided in a manner that is consistent with all other General Performance Standards for each resource area.

5.2 Town of Sudbury Wetlands Administration Bylaw

The Town of Sudbury Wetlands Administration Bylaw and its implementing regulations have some concurrent jurisdiction with the MWPA but include additional requirements beyond the MWPA. In particular, the Bylaw regulates isolated vegetated wetlands ("IVW"), CFRs and AURAs (including Vernal Pool Buffers) and has additional requirements regarding wildlife habitat evaluations and resource replications.

The following discussion is provided to demonstrate compliance with the Bylaw and its Regulations. Note that, for resource areas where the Bylaw has concurrent jurisdiction with the MWPA, the MWPA performance standards apply and compliance is discussed in Section 5.1. This section addresses the *additional* requirements outlined in the Bylaw, beyond those specified in the MWPA.

5.2.1 Isolated Vegetated Wetland

As shown in Table 1, the Project will result in the loss of one IVW (303 square feet) in Sudbury, which will be replicated within the Project Locus as discussed in Section 5.2.5. Although there are no specific performance standards for IVW, Section 7 of the Bylaw states that an applicant must "avoid or prevent unacceptable significant or cumulative effects upon the resource area values protected by this bylaw." By replicating this area of IVW, the Project will avoid significant effects upon the resource area values provided by the IVW such as flood control and wildlife habitat.

5.2.2 Cold Water Fisheries Resources (Section 2.6 of the Bylaw Regulations)

Under the Bylaw Regulations, the primary performance standard applied to protect the functioning of CFRs is to maintain an undisturbed, vegetated state within the RFA and/or restore the riparian area to a naturally vegetated state. The Regulations also prioritize maintaining canopy trees along exposed streams, leaving undisturbed any logs, stumps and other large woody debris in or overhanging the water, and maintaining connections between rivers and adjacent floodplains.

According to the Bylaw Regulations, CFRs include any stream designated as a cold water fishery in 314 CMR 4.00, any stream designated as a cold water fishery by MassWildlife, and waters where there is evidence based on a fish survey that a cold water fish population and habitat exist. The areas that may qualify as CFRs under the Bylaw within the Project Locus in Sudbury include the following:

- Hop Brook at Station 400+30 (Bridge 128)
- Intermittent stream at Station 527+30, which drains into Dudley Brook
- Dudley Brook at Station 539+40, which drains into Hop Brook
- Intermittent stream at Station 561+82, which drains into Dudley Brook
- Intermittent stream at 593+18, which drains into Landham Brook (which is mapped as a CFR by MassWildlife)
- Intermittent tributary to Hop Brook that runs parallel to the Project Site near Station Road (Station 602+50 to 710+50)
- Hop Brook at Station 725+35 (Bridge 127)
- Tributary to Wash Brook at Station 747+39 (Wash Brook drains into Hop Brook)

Summary of Impacts

There will be no disturbance within the waterways of any of the CFRs except at Hop Brook at Bridge 127, where there will be temporary disturbance from the placement of crane mats to support replacement of the bridge. There will be no impacts to baseflow, existing connections to adjacent floodplains, or levels of phosphates or nitrates in the CFRs. The Project includes a stormwater design that will promote infiltration and recharge with minimal increases to peak discharge rates (refer to Attachment L for the full Stormwater Report). The end use of the Project will be the MCRT, which will be used by pedestrians and bicyclists and will not contribute phosphates or nitrates. No fertilizers will be used for the seeding and planting proposed post-construction, and DCR's maintenance of the corridor will involve mowing and/or weed whacking and will not include use of fertilizers.

Vegetation will be removed from the RFA within 80 feet of Dudley Brook, both Hop Brook crossings, and the tributary to Hop Brook along Station Road. At the direction of the Natural Heritage & Endangered Species Program, Eversource consulted with Dr. Caleb Slater, Anadromous Fish Project Leader for the Massachusetts Division of Fisheries and Wildlife, regarding potential impacts to state-identified CFRs (the two Hop Brook crossings) and

appropriate measures to avoid, minimize, and mitigate such impacts. Plans and work descriptions were provided for Dr. Slater to review and a site visit was conducted with Dr. Slater on April 19, 2018. Based on this information, Dr. Slater indicated that the work as proposed is not anticipated to result in impacts to CFRs, and the proposed vegetation removal should not cause a significant increase in insolation or stream temperatures because a large portion of the existing brook is already flowing through open wet meadows.

Proposed Restoration and Mitigation Measures

The Project has been designed to avoid and minimize impacts to these CFRs to the extent practicable by the following measures:

- Using steel sheeting to minimize the limit of disturbance, avoid grading within the waterway, and minimize the amount of vegetation that may need to be removed
- Reducing the width of the limits of disturbance across the Project from 30 feet to 22 feet, and
- Further reducing the limits of disturbance to 18 feet at the approaches to both bridges and along most of Station Road adjacent to the tributary to Hop Brook.

In addition, the following restoration and mitigation measures will be implemented at the CFR crossings:

- Erosion and sediment controls will be installed prior to grading.
- After Phase 1 is constructed, permanent impact areas outside of the 14-foot gravel base will be loamed and seeded with the seed mix shown on the NOI Plans in Attachment B.
- After Phase 2 is completed, DCR will loam and seed the two-foot shoulders on either side of the MCRT so that all permanently disturbed areas except for the 10-foot wide MCRT are replanted.
- Once the Project is complete, all areas outside of the 19-foot-wide final maintained width will be allowed to naturally revegetate with woody vegetation.
- At Bridges 128 and 127:
  - At Bridge 127, debris containment measures and additional erosion and sediment controls will be installed for the removal of the existing structure.
  - Crane mats will be in place for the minimum duration necessary and will be removed immediately upon completion of activities where the use of a crane is required.
  - Following removal of mats, the area where mats were placed will be restored by raking and re-grading the soil (if necessary due to soil compaction).
  - The crane mat areas will be stabilized with jute mesh erosion control blankets and planted with native woody plant species to provide shade (see crane mat restoration detail on plan set in Attachment B, Sheet 130). The trees and shrubs will be planted after Phase 2 construction is completed to avoid disturbing and/or damaging the plants. The area will be reseeded with an appropriate wetland seed mix that will allow

for the regrowth of indigenous, non-invasive herbaceous species to supplement natural recruitment.

These actions will serve to restore the area to a naturally vegetated state and will allow the area to continue to serve the functions of filtering out excess sediments, nutrients, and other pollutants and maintaining adequate groundwater recharge.

Regulatory Compliance Summary

The following discussion presents a summary of how the Project will comply with the CFR performance stands in Section 2.6 of the Bylaw Regulations.

› *Maintain and/or restore an undisturbed, vegetated forested state in Riverfront Area of at least 80-feet from top of bank*

Some vegetation will be removed from the Riverfront Area within 80 feet of the bank of the eight potential CFRs under the Bylaw. To comply with this standard, the Project was designed to be within the smallest footprint possible to safely facilitate construction in these areas with an emphasis on maintaining existing vegetation to the extent possible. Previous design iterations included vegetation removal outside of the proposed limits of grading to facilitate equipment swing. However, the Project proponents have consulted with a construction contractor to identify how work within these areas could be completed to eliminate vegetation removal outside of the limits of grading, which was accomplished. At all locations except for the 10-foot-wide MCRT, vegetation will be restored within the proposed limits of disturbance.

› *Retain canopy shade along stream banks*

As described above, the Project has been designed with an emphasis on maintaining existing vegetation to the extent possible and will restore any disturbed vegetation within the proposed limits of disturbance along the stream banks. In addition, at the two Hop Brook crossings Dr. Slater of MassWildlife noted that a large part of the existing brook is already flowing through open wet meadows, and no shade impacts are expected as the Applicants will be replanting appropriate and compatible vegetation that will replace any existing canopy and provide shade upon completion of construction.

› *Do not disturb logs, stumps and other large woody debris in and/or overhanging the water*

A detailed wildlife habitat evaluation was completed for each of these locations to identify any logs, stumps, and other large woody debris in and/or overhanging the water that will be removed. Following construction in the area, these features will be replicated in the same general location using logs that will be generated by Project vegetation removal.

› *Maintain connections between rivers and adjacent floodplains*

The Project will not disrupt existing connections between the CFRs and the adjacent floodplains. No culverts associated with stream crossings will be replaced or enlarged, and existing conditions will be maintained or improved. In addition, the abutments for

the reconstructed bridges will be installed landward of the existing abutments and retaining walls will be installed to minimize the permanent Project footprint in these locations. Furthermore, the Project was designed to comply with all applicable performance standards related to BLSF, which include maintaining appropriate hydrologic connections between waterbodies and adjacent floodplains.

- *Establish level of phosphates and nitrates in the CFR pre-construction and complete post-construction monitoring and evaluation*

  The Project does not propose long-term use of fertilizers after the MCRT is completed and will not result in any increase in phosphates or nitrates in the CFRs.

- *Establish baseflow of stream pre-construction and monitor post construction*

  The Project does not propose any permanent disturbance within the waterways. At Hop Brook at Bridge 127, there will be temporary disturbance from the placement of crane mats, and the replaced bridge will no longer be partially submerged. Neither of these activities will result in a decrease of baseflow.

- *Blockages of CFRs are not permitted without a special limited permit. Stream crossing of an in-place bridge is permitted*

  The Project will not result in blocking a CFR. The existing railroad bridges will be reconstructed (Bridge 127) and rehabilitated (Bridge 128), and the transmission line will be attached to the side of the bridge. In addition, the low chord of Bridge 127 will be located above the existing bridge's low chord such that the new bridge will not be partially submerged, as it is in its current condition.

- *The creation of a man-made dam of any sort is prohibited, unless approved by the Massachusetts Division of Fish and Wildlife and the Sudbury Conservation Commission*

  The Project does not involve the construction of a man-made dam.

- *Any activity, disturbance, construction or habitat modifications in the CFR Watershed that will increase the stream's temperature is prohibited*

  The Project proponents have consulted with DFW and completed a site visit with a DFW fisheries biologist to discuss the potential for the proposed activities to increase the stream's temperatures at these locations. The DFW fisheries biologist did not suggest that any mitigation measures or restoration techniques would need to be implemented to maintain stream temperature given the similarities in existing and future conditions at each location.

5.2.3 Adjacent Upland Resource Areas (Section 7.2 of the Bylaw Regulations)

Under the Bylaw, the Commission may require an applicant to maintain a strip of continuous, undisturbed vegetative cover in part or all of the AURA and set other conditions on this area, unless the applicant provides evidence deemed sufficient by the Commission that the area or part of it may be disturbed without harm to the values protected by the Bylaw. The

applicant must demonstrate that the proposed activities in the AURA are necessary and that reasonable alternatives, including reducing the scale and scope of the project, do not exist.

The information presented in this NOI is intended to demonstrate that the AURA in the Project Locus will not be adversely impacted by the disturbance proposed for this Project, that reasonable alternatives to the proposed activities do not exist, and that the proposed activities will not affect resource values singularly or cumulatively because the regrading and restoration of vegetation will fully protect all of the wetland values cited in the Bylaw.

The Project has been designed to avoid and minimize impacts to AURA to the maximum extent practicable. As described in Section 4, the applicants have made extensive efforts to reduce the construction platform width and minimize the Project footprint using retaining walls and steel sheeting. The design has maximized the use of the existing rail bed to minimize vegetation removal and changes to existing grades, and to keep disturbance close to areas that have been previously disturbed from the historic and present use of the ROW.

Within the Project Locus, the total area of AURA is 853,305 square feet. In accordance with Section 7.2.2 of the Bylaw, the Project has been designed with areas of No Disturbance, Temporary Disturbance, and Permanent Disturbance. The majority (71%) of the total area of AURA will be a No Disturbance Area, with no activities proposed. As shown in Table 14, there are approximately 248,164 square feet of proposed disturbance within AURA (29% of the AURA on the Project Locus). Of this total, approximately 153,519 square feet of the proposed work (18% of AURA within the Project Locus) will be a Temporary Disturbance Area, where disturbed areas will be loamed and seeded and/or provided with additional plantings to return the area to natural vegetation and function. The remaining 94,645 square feet of the proposed work (11% of AURA within the Project Locus) will be a Permanent Disturbance Area, where the final condition is the paved bike path surface.

Table 14 Permanent and Temporary Disturbance to AURA
[Total AURA = 853,305 square feet]
[No Disturbance Area = 605,141 square feet]

Stationing	Permanent Disturbance (square feet)	Temporary Disturbance (square feet)	Total Disturbance (square feet)
367+00 to 368+50	1,282	1,696	2,978
368+85 to 370+60	1,445	1,790	3,235
396+60 to 400+10	3,502	6,029	9,531
400+50 to 403+00	2,423	4,672	7,095
404+90 to 406+60	1,437	2,851	4,288
515+75 to 522+80	6,553	11,094	17,647
525+75 to 527+40	1,606	2,139	3,745
530+35 to 530+50	332	278	610
530+50 to 530+80	131	272	403
534+00 to 543+90	9,682	13,652	23,334

Stationing	Permanent Disturbance (square feet)	Temporary Disturbance (square feet)	Total Disturbance (square feet)
558+10 to 559+20	999	1,397	2,396
561+50 to 564+25	2,677	3,460	6,137
576+10 to 580+00	3,669	6,382	10,051
586+40 to 586+00	9,328	14,377	23,705
601+60-602+10	573	981	1,554
602+50-711+40	11,839	13,536	25,375
711+60 to 725+10	12,539	21,642	34,181
725+70 to 743+10	17,435	32,118	49,553
747+85 to 753+30	5,372	8,773	14,145
760+55 to 762+40	1,821	2,919	4,740
767+25 to 767+30	0	64	64
Eversource Driveway	0	1,068	1,068
Sudbury Substation	0	2,329	2,329
TOTAL	**94,645**	**153,519**	**248,164**

Source: VHB.

1 Permanent disturbance is limited to the impervious paved surface proposed for the MCRT.

2 Temporary disturbance includes all areas of disturbance outside of the limits of paved MCRT, and work within the Sudbury Substation. All disturbed areas outside the limits of paved surfaces and outside the Substation will be revegetated with native species.

As noted in Section 9 of the Bylaw, there is a special adjacent upland resource area definition for vernal pools. In consideration of this, Table 15 identifies impacts within Vernal Pool Buffers separate from other AURAs. Within the Project Locus, the total area of Vernal Pool Buffer is 254,887 square feet. The majority (68%) of the total Vernal Pool Buffer will be a No Disturbance Area, with no activities proposed. There are approximately 82,692 square feet of proposed disturbance within Vernal Pool Buffer (32% of the Vernal Pool Buffer on the Project Locus). Approximately 49,553 square feet of the proposed work (19% of Vernal Pool Buffer within the Project Locus) will be a Temporary Disturbance Area, where disturbed areas will be loamed and seeded and/or provided with additional plantings to return the area to natural vegetation and function. The remaining 33,139 square feet of the proposed work (13% of Vernal Pool Buffer within the Project Locus) will be a Permanent Disturbance Area, where the final condition is the paved bike path surface.

Table 15 Permanent and Temporary Disturbance to Vernal Pool Buffer [No Disturbance Area = 172,195 square feet]

Stationing	Permanent Disturbance (square feet)	Temporary Disturbance (square feet)	Total Disturbance (square feet)
368+50 to 368+85	888	1,227	2,115
375+00 to 376+60	1,255	1,998	3,253
406+60 to 416+50	9,818	15,615	25,433

Stationing	Permanent Disturbance (square feet)	Temporary Disturbance (square feet)	Total Disturbance (square feet)
522+95 to 525+75	2,843	4,082	6,925
527+40 to 530+35	3,049	4,443	7,492
559+20 to 561+50	2,404	3,545	5,949
595+70 to 599+75	4,010	5,849	9,859
743+10 to 747+85	4,786	5,389	10,175
762+40 to 766+50	4,086	7,297	11,383
TOTAL	**33,139**	**49,445**	**82,584**

Source: VHB.

1 Permanent disturbance is limited to impervious paved surface proposed for the MCRT.

2 Temporary disturbance includes all areas of disturbance outside of the limits of paved MCRT. All disturbed areas outside the limits of paved surfaces will be revegetated with native species.

Erosion and sediment controls (see Section 3.1.2 and Attachment B) will be installed prior to any grading to protect adjacent wetland resource areas, and syncopated silt fence will be used within 450 feet of vernal pools. In addition, as described in Section 5.1.10, the Project will implement time-of-year restrictions related to state-listed species, vernal pools, black racers, and CFRs.

The Project will restore all disturbed areas outside of the 10-foot-wide MCRT using a native seed mix with a focus on developing an herbaceous and low-growing woody vegetation community over the duct bank (a 5-foot corridor). In addition, any areas outside of the 19-foot-wide maintained corridor that includes the paved MCRT, two 2-foot shoulders, and 5-foot area over the duct bank will be allowed to naturally revegetate with herbaceous and taller woody vegetation. Woody shrubs and herbaceous vegetation will be planted within Priority and Estimated Habitat and at the banks of both Hop Brook crossings (see Attachment B, sheets 130 and 131 for planting details). The Project also proposes to create wildlife habitat features such as snags and brush piles and to reseed to establish a native herbaceous cover to mitigate for wildlife habitat features that are lost. Refer to the WHE in Attachment J for more information about habitat features in each AURA. These actions will serve to restore the AURA to a naturally vegetated state and will ensure that they will continue to support the wetland values protected by the Bylaw.

5.2.4 Wildlife Habitat (Sections 7.3 and 7.4 of the Bylaw Regulations)

The Bylaw and Bylaw Regulations may require a WHE and Section 7.4 of the Bylaw Regulations states, "for the purposes of this Bylaw the Wildlife Habitat Evaluation shall use Appendix B of the *Wildlife Habitat Protection Guidance*." According to Section 7.3 of the Bylaw Regulations, "all wildlife habitat functions are presumed to exist in all resource areas, and therefore, all resource areas are presumed significant for wildlife habitat interests and values." According to the Bylaw Regulations, a WHE is vital to confirm the presence or absence of wildlife features within the WIAs on the project site (i.e., Project Locus). Similar to the MWPA and the Guidance, the Bylaw Regulations state "no project may have a significant

adverse project/site-specific impact or an adverse cumulative impact on wildlife for more than two growing seasons."

The Project will not have a significant adverse site-specific or cumulative impact on wildlife habitat. As described in Section 5.1.9, detailed "Appendix B" WHEs were completed for impact areas along the Project, including Sudbury Bylaw RFA and AURA. As described above, historic and present use of the ROW has impacted the existing habitat through the introduction of invasive species and creation of defined trails that lack vegetation. Adverse effects from the Project will be avoided by substantially restoring important wildlife habitat functions of areas within the Project Locus during construction, and in many cases the important habitat features identified are abundant outside of the impact area. The Project also involves removing the tracks and ties from the MBTA ROW, which removes a movement barrier for turtles and amphibians and improves existing conditions. Please see Attachment J for the Wildlife Habitat Evaluation.

5.2.5 Resource Replications (Section 7.8 of the Bylaw Regulations)

Section 7.8 in the Bylaw Regulations sets out the Commission's standards for wetland replication. Although impacts were minimized to the greatest extent practicable, the Project will result in 89 square feet of permanent BVW alteration and 303 square feet of IVW alteration, which is being mitigated with a proposed wetland replication at a 2:1 ratio (minimum of 1:1 under the Water Quality Regulations and 2:1 under the Bylaw). Please refer to Attachment D for a wetland replication report.

Pursuant to the Bylaw Regulations, the proposed wetland replication should be completed in accordance with the following conditions:

7.8.1. The replicated wetland must be constructed in full and conditionally approved prior to construction of any structures;

Eversource respectfully requests a waiver from this requirement and asks that the Commission allow completion of the replication area during construction of the Project. The contractor will need to remove vegetation to access the replication area and Eversource requests that the contractor will be allowed to conduct this replication activity as part of the overall vegetation removal for the Project as described in Section 3.1.1.1.

7.8.2. At a minimum, the replicated wetland must reproduce all the values and functions of the original wetland as determined by the Conservation Commission;

The proposed replication area is located directly adjacent to the larger area of impact, west of Landham Road. The existing wetland is an old drainage ditch with standing water and there is no vegetation in the center of the channel. There is a small fringe of vegetation at the south end of the channel, and the surrounding upland area has been historically disturbed by the rail bed activities. The original wetland provides little wildlife habitat value at present, and the proposed replication

will provide greater species diversity and wildlife habitat, improving the values and functions being provided.

7.8.3. The area of replication must be at least twice as large as the area of the original resource area that will be destroyed;

The Project will result in 89 square feet of permanent BVW impacts and 303 square feet of permanent IVW impacts. The Applicants propose to provide 784 square feet of replication (a ratio of 2:1).

7.8.6. The top 12" of soil from the original wetland must be transplanted with soil structure – especially the lamination and density profile – intact to the replication;

The soil within the original wetland is generally disturbed from previous land use and some invasive species are present in the area. To avoid introducing invasive species into the replacement wetland, the Applicants do not intend to transplant existing soils and instead propose to use a minimum of 12 inches of manmade organic enriched topsoil mixture consisting of equal volumes of organic (compost) and mineral material.

7.8.7. Any replication or restoration work that creates a resource on abutting properties shall require an easement from the abutting property owner covering the full extension of the resource on that property prior to commencement of the work; and

The proposed replication will not create wetland resources on abutting properties.

7.8.8. A bond shall be posted that will enable to Commission to complete the replication should the applicant fail to fulfill obligations set forth in the Order of Conditions.

Eversource will post a bond as required.

5.2.6 Local Riverfront Area Protection (Section 7.10 of the Bylaw Regulations)

Summary of Impacts

The Project was designed to fully comply with all applicable performance standards for the additional RFAs that are subject to jurisdiction under the Sudbury Bylaw.

There are six areas of RFA subject to jurisdiction under the Bylaw:

1. Station 514+98 to 520+31: Associated with an unnamed stream (see plan sheet 51 in Attachment B)
2. Station 525+25 to 529+45: Associated with an unnamed stream (see plan sheet 52 in Attachment B)
3. Station 558+06 to 562+94: Associated with an unnamed stream (see plan sheets 56 to 57 in Attachment B)
4. Station 585+30 to 595+15: Associated with an unnamed stream (see plan sheets 59 to 60 in Attachment B)

5. Station 600+56 to 705+30: Associated with an unnamed tributary to Hop Brook at Station Road (see plan sheets 61 to 63 in Attachment B)
6. Station 749+45 to 749+55: Associated with an unnamed stream (see plan sheets 66 to 67 in Attachment B)

These six locations comprise 252,729 square feet of existing RFA under the Bylaw within the Project Locus in Sudbury. As outlined in Table 16, the Project will result in permanent disturbance to RFA within the MBTA ROW due to installation of the MCRT, and temporary disturbance due to installation of the transmission line, construction of the base for the MCRT, and the placement of crane mats (and associated vegetation removal) to accommodate rehabilitation and replacement of Bridges 128 and 127.

Table 16 Permanent and Temporary Disturbance of Sudbury Bylaw RFA

Station	Inner 100' RFA			Outer 200' RFA		
	Permanent Disturbance[1] (square feet)	Temporary Disturbance (square feet)	Total Disturbance (square feet)	Permanent Disturbance[1] (square feet)	Temporary Disturbance (square feet)	Total Disturbance (square feet)
Unnamed Stream, Station 514+98 to 520+31						
514+98-516+00	-	-	-	1,022	1,895	2,917
516+00-519+15	3,105	4,539	7,644	-	-	-
519+15-520+31	-	-	-	1,091	3,025	4,116
Subtotal	*3,105*	*4,539*	*7,644*	*2,113*	*4,920*	*7,033*
Unnamed Stream, Station 525+25 to 529+45						
525+25-526+25	-	-	-	987	1,372	2,359
526+25-528+45	2,070	2,913	4,983	-	-	-
528+45-529+45	-	-	-	1,084	1,592	2,676
Subtotal	*2,070*	*2,913*	*4,983*	*2,071*	*2,964*	*5,035*
Unnamed Stream, Station 558+06 to 562+94						
558+05-559+35	-	-	-	1,243	1,792	3,035
559+30-562+95	2,509	3,611	6,120	-	-	-
562+95-563+94	-	-	-	1,014	1,346	2,360
Subtotal	*2,509*	*3,611*	*6,120*	*2,257*	*3,138*	*5,395*

Station	Inner 100' RFA			Outer 200' RFA		
	Permanent Disturbance[1] (square feet)	Temporary Disturbance (square feet)	Total Disturbance (square feet)	Permanent Disturbance[1] (square feet)	Temporary Disturbance (square feet)	Total Disturbance (square feet)
Unnamed Stream, Station 585+30 to 595+15						
585+35-586+45	-	-	-	1,072	1,909	2,981
586+45-594+15	7,831	12,368	20,199	-	-	-
594+15-595+15	-	-	-	909	1,230	2,139
Subtotal	*7,831*	*12,368*	*20,199*	*1,981*	*3,139*	*5,120*
Tributary to Hop Brook, Station 600+56 to 705+30						
600+55-601+60	-	-	-	1,434	1,998	3,432
601+60-602+10	573	981	1,554	-	-	-
602+50-705+30	5,751	6,008	11,759	-	-	-
Subtotal	*6,324*	*6,989*	*13,313*	*1,434*	*1,998*	*3,432*
Tributary to Hop Brook, Station 749+45 to 749+55						
749+45-749+55	-	-	-	94	128	222
Subtotal	-	-	-	*94*	*128*	*222*
TOTAL	**21,839**	**30,420**	**52,259**	**9,950**	**16,287**	**26,237**

Source: VHB.

1 Permanent disturbance is limited to paved surface proposed for the MCRT.

2 Temporary disturbance includes all areas of disturbance outside of the limits of paved bike path associated with MCRT. All disturbed areas outside the limits of the paved bike path will be revegetated with native species.

Proposed Mitigation Measures

The Project was designed to avoid and minimize impacts to RFA to the extent practicable by:

› Avoiding disturbance of existing culverts unless necessary for safe installation of the Project

› Maintaining existing vegetation and/or restoring vegetation adjacent to the associated water bodies

› Reducing the construction platform width to 18 feet at the following locations:

- The approaches to the unnamed stream at Station 593+18

- Along Station Road
- The approaches to the unnamed stream at Station 747+39

› Using a retaining wall from Station 730+99 to 734+25;

In addition, the following mitigation measures will be implemented in RFA:

› Erosion and sediment controls will be installed to protect the associated waterbodies.

› After Phase 1 is constructed, permanent impact areas outside of the 14-foot gravel base will be loamed and seeded with the seed mix shown on sheet 131 in the plans in Attachment B.

› After Phase 2 is completed, DCR will loam and seed the two-foot shoulders on either side of the MCRT so that all permanently disturbed areas except for the 10-foot-wide MCRT are replanted.

› Once the Project is complete, all areas outside of the 19-foot-wide final maintained width will be allowed to naturally revegetate with woody vegetation.

Regulatory Compliance Summary

Section 7.10 in the Bylaw Regulations states that the protections afforded to RFAs shall follow the regulations in sections 7.2 and 7.3 for Adjacent Upland Resource Areas for the full 200-foot extent of the RFA.

As described in 5.2.3 above, the Commission may require an applicant to maintain a strip of continuous, undisturbed vegetative cover and set other conditions in this area unless the applicant provides sufficient evidence that the proposed disturbance will not harm the values protected by the Bylaw, and that the proposed activities are necessary and that reasonable alternatives, including reducing the scale and scope of the project, do not exist.

The Project has been designed to avoid and minimize impacts to RFA by minimizing the width of the construction platform and maximizing the use of the existing rail bed. Within the Project Locus, the majority of 200-foot RFA will consist of a No Disturbance Area, with no activities proposed. As shown in Table 15, there are approximately 87,483 square feet of proposed disturbance within RFA that are jurisdictional exclusively under the Bylaw (i.e., areas that are not defined as RFA under the MWPA Regulations). Approximately 55,694 square feet of the proposed work will be Temporary Disturbance Area, where disturbed areas will be loamed and seeded and/or provided with additional plantings to return the area to natural vegetation and function. The remaining 31,789 square feet of the proposed work will be Permanent Disturbance Area, where the final condition is the paved bike path surface. These areas are included within the AURA areas addressed above in Section 5.2.3.

The Project will improve existing conditions on the previously degraded railbed by removing the existing rails and ties, and loaming, seeding, and/or planting all construction areas outside of the proposed 10 feet of pavement. The final condition will present less of a barrier to movement to wildlife such as turtles and salamanders, and the proposed plantings within Estimated and Priority Habitat and at the two Hop Brook crossings will provide food and

shelter for wildlife and provide shade for the CFRs. As discussed in Section 5.2.4 and in more detail in the Wildlife Habitat Evaluation in Attachment J, the Project will not have a significant adverse site-specific or cumulative impact on wildlife habitat within RFA.

5.3 Stormwater Management

5.3.1 Massachusetts Stormwater Management Standards

Stormwater management during construction will comply with all applicable standards.

Per 310 CMR 10.05(6)(m)6, the Stormwater Management Standards for the post-construction phase shall apply to the maximum extent practicable to footpaths, bike paths, and other paths for pedestrian and/or non-motorized vehicle access. The Project was designed to meet the SMS to the maximum extent practicable and includes an open stormwater system with vegetated water quality swales and check dams to promote infiltration and recharge. The MCRT will require 10 feet of paving and runoff will sheet flow to the vegetated shoulders, providing an additional opportunity for stormwater to infiltrate before it enters the swales. The swales were designed to convey water to appropriate discharge points to maintain existing drainage patterns along the Project and were sized such that they can accommodate a two-year storm to meet DCR's standards and, according to the stormwater analysis, frequently meeting the 10-year storm requirements of the SMS as well.

The end use of the Project will be the MCRT and is not anticipated to increase the pollutant loads within the Project Locus above the existing conditions. The Project will be used by pedestrians and bicyclists, which will not contribute contaminants to the path surface. Therefore, there will be little to no contaminants on the path surface to be washed off by stormwater runoff. Other than in emergency situations, vehicle access along the path will be limited to bi-weekly mowing over the shoulders by DCR, inspections by Eversource approximately once every three years, and other maintenance as needed by both Eversource and DCR. The MCRT will not be plowed and/or treated in the winter.

In developing the current Project design, the following tasks were completed to stormwater management features for the Project:

- Additional analysis was performed to provide appropriate swales and check dams to handle a two-year storm for compliance with the Massachusetts Stormwater Standards.
  - All designed swales were sized such that the proposed MCRT will not be overtopped during a two-year storm event, per DCR design standards.
  - Swales were designed to include check dams with a spacing that varies based on the longitudinal slope of the swale such that the check dams result in an "effective" maximum slope of two percent in all swales, thus preventing erosive flows.
  - Check dams were designed for swales having a longitudinal gradient below two percent to encourage greater infiltration.

  - Check dam details were revised to have a height of six inches, instead of the typical one-foot height, given that most of the swales are one foot deep, and as such, a six-inch check dam height provides free board for higher flows, ensuring that the flow of stormwater will stay within the swale.
  - The check dam details have a stone size of 3 inches to prevent dislodged stones from migrating downstream during high-flow conditions.
- Erosion control barriers will be installed in all locations where water can flow off the Project limits at a slope of 2:1 or when water can sheet-flow off the Project limits within 100 feet of a wetland.
- Additional analyses of existing and proposed flows to vernal pools were performed using the TR-55 methodology to confirm that the Project will not impact the annual recharge of any of the vernal pools.
- A comprehensive analysis of peak flow rates was completed for all existing outfalls so that the Project will not increase peak flows to abutting private properties or closed drainage systems at crossing roadways considering the 25-year storm.

The Project was also evaluated and designed to address potential impacts to critical areas to the greatest extent practicable. As defined in the SMS, critical areas include:

- Outstanding Resource Waters as designated in 314 CMR 4.00;
- Special Resource Waters as designated in 314 CMR 4.00;
- Recharge areas for public water supplies as defined in 310 CMR 22.02 (Zone Is, Zone IIs and Interim Wellhead Protection Areas for groundwater sources and Zone As for surface water sources);
- Bathing beaches as defined in 105 CMR 445.000;
- Cold-water fisheries as defined in 310 CMR 10.04 and 314 CMR 9.02; and
- Shellfish growing areas as defined in 310 CMR 10.04 and 314 CMR 9.02.

The Project does not involve work within any Outstanding Resource Waters, Special Resource Waters, bathing beaches, shellfish growing areas, Zone I Wellhead Protection Areas, Interim Wellhead Protection Areas, or Zone As for surface water sources. However, the Project passes through one Zone II WPA in Sudbury, and crosses Hop Brook, which is identified by MassWildlife as a Coldwater Fishery Resource. In addition, although the Project does not involve any work within vernal pools (which qualify as ORWs) or vernal pool habitat as defined in the MWPA, there is one vernal pool certified by the Natural Heritage & Endangered Species Program and 12 presumed vernal pools under the Bylaw within or adjacent to the Project Locus in Sudbury, and Eversource has evaluated potential stormwater impacts to these resources.

In critical areas, the SMSs require that at least 44 percent of the total suspended solids (“TSS”) be removed prior to discharge into an infiltration structure. This requirement would typically require multiple pretreatment practices in series. The Stormwater Handbook identifies several acceptable stormwater treatment BMPs for critical areas, including

bioretention areas, sand or organic filters, and infiltration basins, trenches, or subsurface structures. The SMSs also require that BMPs be set back 100 feet from vernal pools and that all infiltrating BMPs be located at least 50 feet from any surface water including wetlands. Meeting these standards would not be achievable without additional vegetation removal, significant changes to existing topography, increases to the limit of disturbance near wetlands and vernal pools, and/or alterations to existing drainage patterns. Filtering BMPs must also be sufficiently raised to discharge into the receiving water while meeting minimum media depths, which would require raising the Project grade around the most environmentally sensitive areas. The Project will be used by pedestrians and bicyclists will not contribute contaminants to the path surfaces. Therefore, there will be little to no contaminants on the path surface to be washed off by stormwater runoff.

In summary, the Project includes the use of vegetated shoulders and water quality swales with check dams to promote infiltration and recharge. DCR will pave only 10 feet of the 14-foot-wide gravel access path and will loam and seed the shoulders with a native herbaceous seed mix. This loaming and seeding will provide an additional opportunity for stormwater shed from the paved surface to infiltrate before it enters the swales. The swales were designed to convey water to appropriate discharge points to maintain existing drainage patterns along the Project and were sized considering the volumes of runoff from the pavement such that they can accommodate a two-year storm. This design meets all applicable SMS requirements to the maximum extent practicable, is consistent with the stormwater management for all DCR's rail trail facilities and is appropriate for the Eversource underground transmission line as well.

Please refer to the Stormwater Report in Attachment L for additional details regarding the stormwater management measures.

5.3.2 Sudbury Stormwater Management Bylaw

Under Section 5C of Article V(F), the Sudbury Stormwater Management Bylaw, a Stormwater Management Permit ("SMP") is required from the Planning Board, or its designee, for the Project. Under Section 4.0 of the Sudbury Stormwater Management Bylaw Regulations, the Planning Board may designate the Conservation Commission as the Reviewing Agent, and if a project meets the Applicability Section of the Stormwater Management Bylaw and it is within the specific jurisdiction of the Conservation Commission, then the entire project and all related projects required as a result of the activity proposed by the applicant may be designated to the jurisdiction of the Conservation Commission without further action needed by the Planning Board. The Applicants have requested that the Planning Board delegate review to the Conservation Commission as allowed under Section 4.0.

Section 8.A.3 of the Stormwater Management Bylaw Regulations identifies design and performance criteria for projects subject to an SMP. The Project fully complies with these criteria:

a. *The design of the project shall, to the maximum extent feasible, employ environmentally sensitive site design as outlined in the DEP handbook and shall attempt to reproduce natural hydrologic conditions with respect to ground and surface waters.*

   The Project has employed environmentally sensitive site design by incorporating low impact development techniques:

   - Reducing impervious surfaces by using a 10-foot paved path rather than DCR's typical 12-foot width;
   - Reproducing natural hydrologic conditions and treating stormwater at its source through the use of "country drainage" such as vegetated water quality swales and check dams that are located close to the impervious path that generates the runoff;
   - Minimizing disturbance to existing trees and shrubs; and
   - Protecting natural features and processes by maintaining existing drainage patterns.

b. *Evaluation of Low Impact Development practices is required, and implementation of such practices is required, to the maximum extent practicable and where it provides a substantially equivalent alternative. Guidance on these practices is provided in Appendix D and the MA Stormwater Management Handbook.*

   Please refer to the response to part a above.

c. *The Stormwater Management Plan shall incorporate source controls of contaminants and employ Best Management Practices (BMPs) to minimize stormwater pollution.*

   The end use of the Project will be the MCRT, which will be used by pedestrians and bicyclists and will not contribute contaminants to path surfaces to be washed off by stormwater runoff.

d. *The water quality volume for sizing of BMPs shall be based on 1-inch of runoff from the tributary area.*

   The Project has sized BMPs to handle 1 inch of runoff from the tributary area. As shown in Attachment L, the Project will not result in any increases in peak discharge rates for a 1-inch storm.

e. *Hydrologic analyses using TR-55/TR-20 methodology shall be performed on the entire project site and include any off-site areas that drain to or through the project site.*

   As described in Attachment L, hydrologic analyses were performed using the TR-55/TR-20 methodology along the entire Project and included off-site areas that drain to or through the Project.

f. *The analyses shall be analyzed for the 1 inch, and the 2, 10, 25 and 100-year design storms under pre-development and post-development conditions. The 24-hour rainfall amounts for the 2, 10, 25- and 100-year storms are to be based on the Northeast Regional Climate Center "Atlas of Precipitation Extremes for the Northeastern United States and*

Southeastern Canada." For Sudbury, the 24 hr rainfall amounts are as follows (rounded to the nearest one-tenth of an inch):

- *2 yr, 24 hr event = 3.2 inches*
- *10 yr, 24 hr event = 4.8 inches*
- *25 yr, 24 hr event = 6.0 inches*
- *100 yr, 24 hr event = 8.6 inches*

As described in Attachment L, analyses were performed for the 1-inch and the 2, 10, 25, and 100-year 24-hour design storms under pre-development and post-development conditions.

g. The analysis is to be performed on a pre and post sub-watershed basis with designated control points at each location where runoff leaves the site.

The analysis was performed on a pre and post sub-watershed basis with designated control points at each location where runoff leaves the site.

h. The same land area shall be used in the analysis to facilitate comparison of existing and proposed conditions.

Comparison of the existing and proposed conditions was completed using the same land area.

i. The total volume of discharge as well as peak rate shall be evaluated at each control point.

The total volume of discharge as well as peak rate was evaluated at each control point.

j. Redevelopment Standards: Projects involving redevelopment of existing sites shall be designed in accordance with the redevelopment checklist provided in the latest MA Stormwater Handbook. All redevelopment projects must provide a net improvement to stormwater conditions at the site, either in the area of disturbance or to other areas on the site.

Many portions of the Project involve redevelopment of the existing railroad ROW, as defined in Section 2.0 of the Sudbury Stormwater Bylaw ("any construction, alteration, improvement, repaving, or resurfacing on a previously developed site"). The Project has been designed in accordance with the redevelopment checklist provided in the latest MA Stormwater Handbook and provides a net improvement to stormwater conditions at the site.

5.4 Section 401 of the Clean Water Act

In addition to the 89 square feet of permanent impacts to BVW, the Project will result in 303 square feet of permanent impact to one isolated wetland (Wetland 13) in Sudbury that is subject to federal jurisdiction under Sections 401 and 404 of the Clean Water Act.

A Water Quality Certification ("WQC") would be required under 314 CMR 9.00. However, per 314 CMR 9.03(1), the Project does not require a separate application to MassDEP for a WQC provided that the following conditions are met:

(a) the Final Order of Conditions [under the MWPA] permits work that results in the loss of up to 5,000 square feet cumulatively of bordering and isolated vegetated wetlands and land under water.

The Project will result in the loss of 1,018 square feet cumulatively of bordering and isolated vegetated wetlands and land under water and therefore meets this condition. Of this amount, 622 square feet is located in Hudson and the remaining 396 square feet is located in Sudbury.

(b) the Final Order of Conditions includes conditions requiring at least 1:1 replacement of bordering vegetated wetlands under 310 CMR 10.55(4)(b);

The Project proposes to replace bordering vegetated wetlands at a ratio of 2:1 as described in Section 5.1.4. Please refer to Attachment D for more information regarding the replication proposed.

(c) if applicable, the activity conforms to the Waterways Crossing requirements at General Condition 21 in the Corps of Engineers' Programmatic General Permit (PGP) for Massachusetts; and

The Project will comply with the Waterways Crossing requirements of the Corps of Engineers' latest General Permit for Massachusetts (issued April 16, 2018). The Project will only require replacement of one waterway crossing (Bridge 127), which will be constructed in the same alignment as the existing crossing but raised to pull the bridge out of the water and will comply with the Massachusetts Stream Crossing Standards (see Section 5.1.2).

(d) the proposed work is not subject to 314 CMR 9.04.

The Project is not subject to 314 CMR 9.04.

5.5 General Mitigation Measures and Best Management Practices Summary

The Project incorporates general mitigation measures and BMPs to avoid and/or minimize permanent and temporary disturbance, including the following:

› **Erosion and Sediment Controls:** As discussed within Section 3.2.1.3, the Project will employ a variety of erosion and sediment controls, which may include:
- Construction mats to support cranes at the Hop Brook crossings;
- Silt fence, straw bales, compost filter tubes, straw wattles, and/or silt socks;
- Jute mesh erosion control blankets;

- Hydroseeding;
- Turbidity controls; and
- Frac tanks/filter bags and straw bale containment areas.

› **ROW Restoration:** As discussed within Sections 3.1.10 and 3.2.3, restoration of the ROW will include:

- Loaming and seeding all disturbed areas outside of the 10-foot-wide paved MCRT; and
- Planting woody vegetation within the crane mat areas at both Hop Brook crossings, within the Priority and Estimated Habitat area, and at select locations as slope protection (see Attachment C for safety plantings).

› **Invasive Species Monitoring:** As discussed within Section 3.4.1, DCR will be responsible for monitoring for invasive species on an annual basis.

› **Environmental Monitoring:** Eversource and DCR will employ a qualified EM during both Phases of construction. The EM will be responsible for daily inspections of work areas and will address potential issues related to the environment, if any (e.g., sediment migration, erosion controls, swamp mat installation, rare species, etc.). The EM will have stop work authority if site conditions are found to not be in conformance with permit conditions. During Phase 1, an Eversource EM will be responsible for ensuring that all construction activities are completed in accordance with applicable permit conditions. Once Phase 1 is complete, DCR's EM will assume all monitoring responsibilities during Phase 2 construction.

Attachments

Attachment A – Site Figures
Attachment B – NOI Plans: Underground Transmission Line along Inactive MBTA Corridor (*under separate cover*)
Attachment C – NOI Plans: Mass Central Rail Trail Along Inactive MBTA Corridor (*under separate cover*)
Attachment D – Wetland Replication Report
Attachment E – Site Photographs
Attachment F – Sudbury ORAD
Attachment G – NHESP Correspondence
Attachment H – Best Management Practices
Attachment I – Draft Construction Spill Prevention Control and Countermeasures Plan
Attachment J – Wildlife Habitat Evaluation (*under separate cover*)
Attachment K – Snag and Brush Pile Replacement Details
Attachment L – Stormwater Management Report (*under separate cover*)

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Attachments

Attachment A – Site Figures

- Figure 1 – Sudbury USGS Locus Map
- Figure 2 – Sudbury Aerial Map
- Figure 3 – Sudbury Soils Map
- Figure 4 – Sudbury NHESP Priority and Estimated Habitat Map
- Figure 5 – Sudbury Public Water Supply and Groundwater Resources Map
- Figure 6 – Construction Conditions

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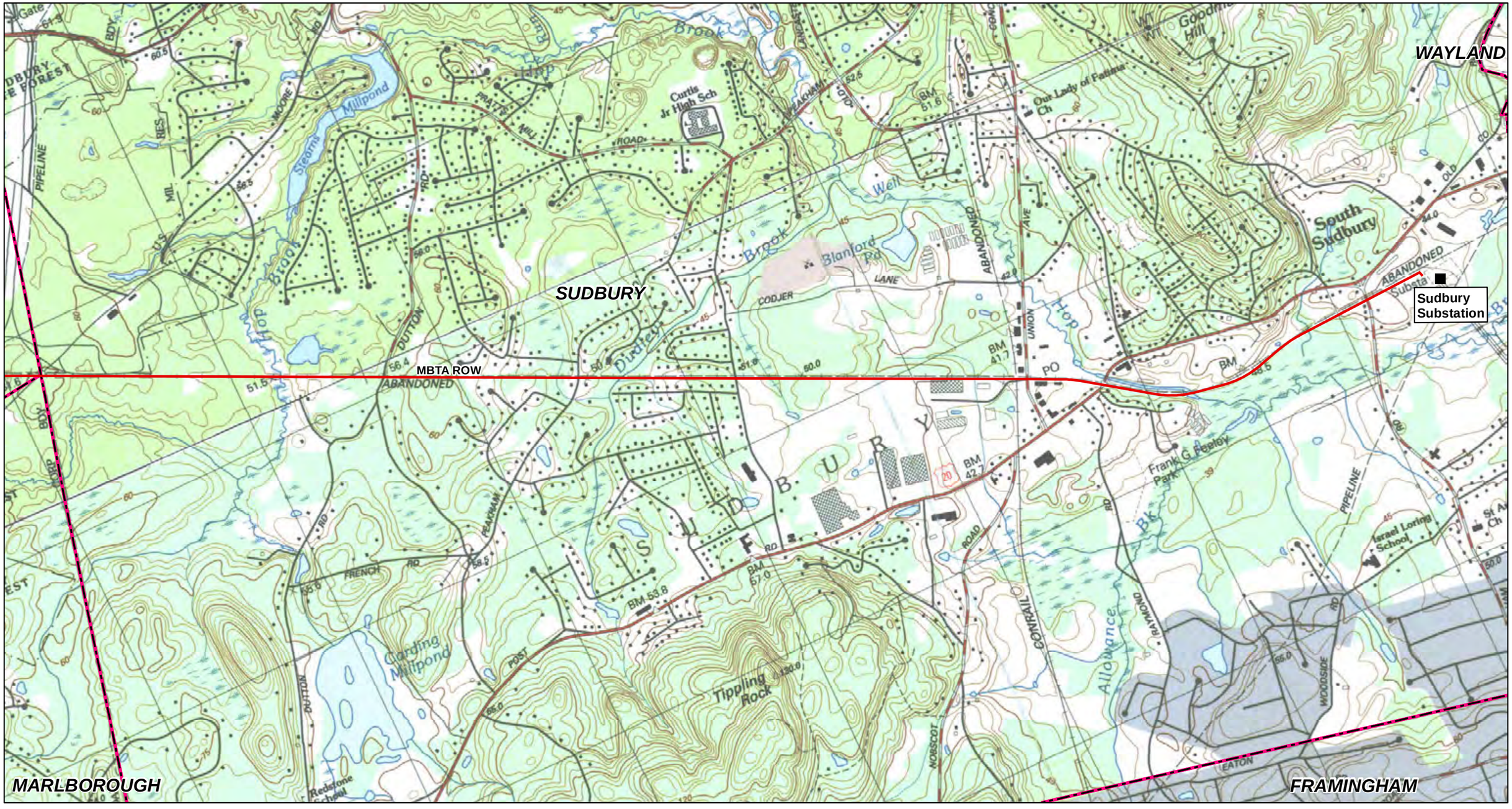


Project

Substation Location

Municipal Boundary

EVERSOURCE ENERGY dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

Sudbury-Hudson Transmission Reliability and Mass Central Rail Trail Project

Figure 1: Sudbury Locus Map (USGS)

N

Source: MassGIS, VHB

1/9/2020

0 1,500 3,000 Feet

vhb

\\NHBEDATA\gislib\WSTAR\SudburytoHudson\Figures\Geotech_NOI\Sudbury\Figure 2 Sudbury Aerial Map.mxd 1/9/2020

Project

Substation Location

Municipal Boundary

EVERSOURCE ENERGY

dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

Sudbury-Hudson Transmission Reliability and Mass Central Rail Trail Project

Figure 2: Sudbury Aerial Map

N

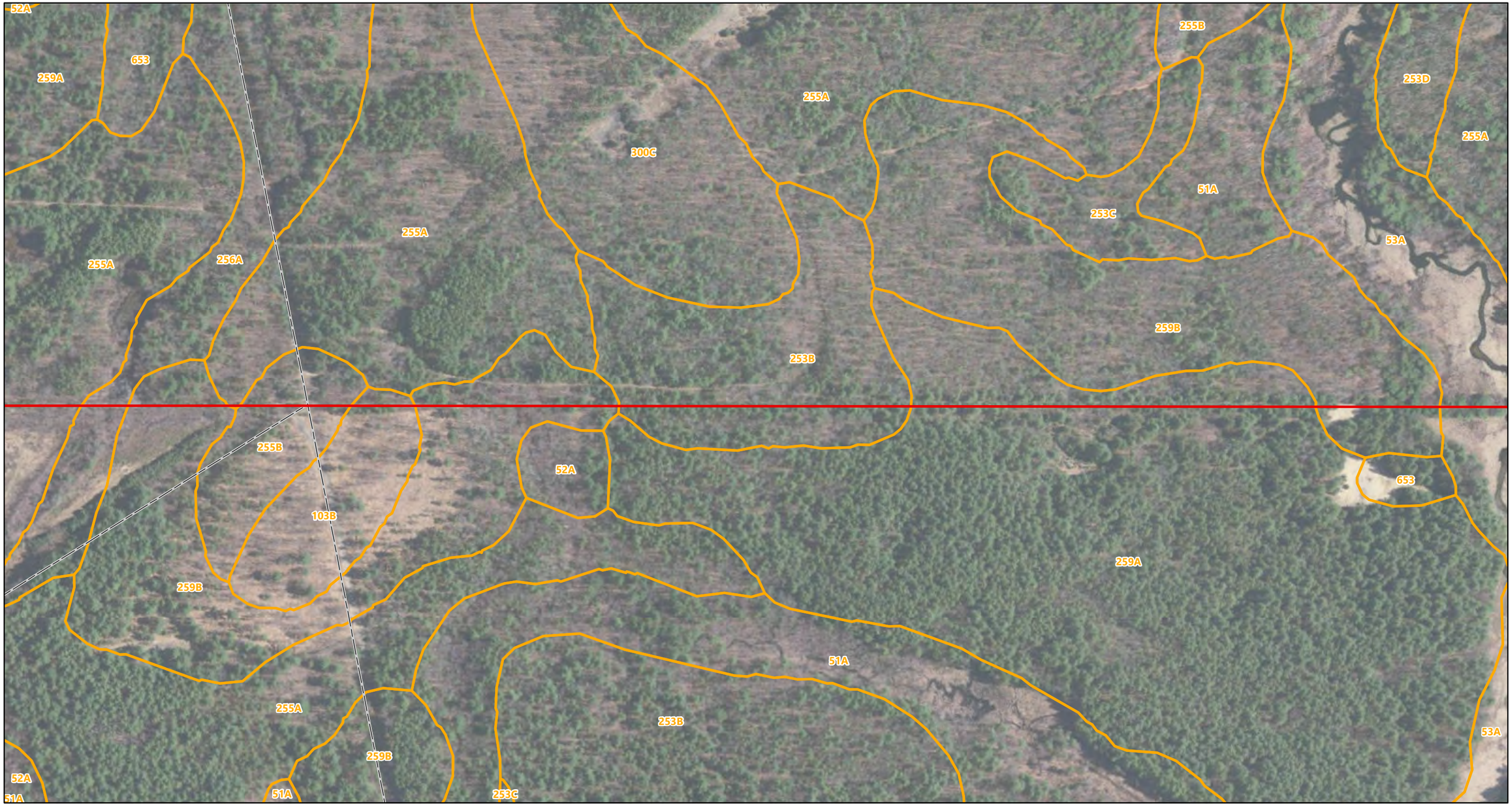
Source: MassGIS, VHB

1/9/2020

0 1,500 3,000 Feet

vhb

\\nhbedata\gislib\WSTAR\SudburytoHudson\Figures\Geotech_NOI\Sudbury\Figure 3 Sudbury Soils Map.mxd 1/10/2020



Project

Substation Location

Municipal Boundary

NRCS Soil Boundary

EVERSOURCE ENERGY

dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

Sudbury-Hudson Transmission Reliability and Mass Central Rail Trail Project

Figure 3: Sudbury Soils Map

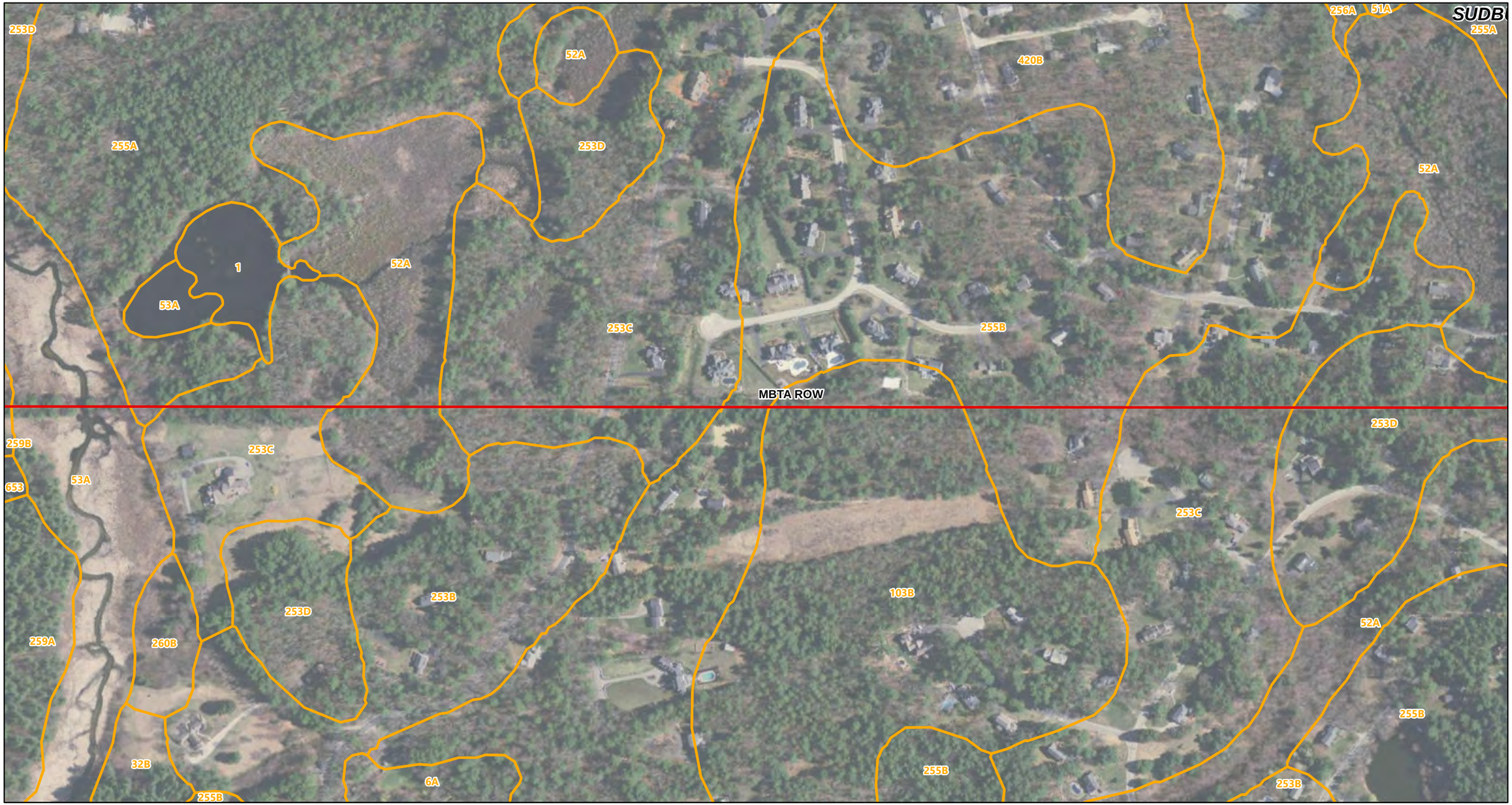
N

Source:
MassGIS, VHB

1/10/2020

0 300 600 Feet

vhb



Project
Substation Location
Municipal Boundary
NRCS Soil Boundary

EVERSOURCE ENERGY
dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

Sudbury-Hudson Transmission Reliability and Mass Central Rail Trail Project

Figure 3: Sudbury Soils Map

Source:
MassGIS, VHB

1/10/2020

N

0 300 600 Feet

vhb

\\nhbedata\gislib\WSTAR\SudburytoHudson\Figures\Geotech_NO\Sudbury\Figure 3 Sudbury Soils Map.mxd 1/10/2020

Project
NRCS Soil Boundary
Substation Location
Municipal Boundary

EVERSOURCE ENERGY
dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

Sudbury-Hudson Transmission Reliability and Mass Central Rail Trail Project

Figure 3: Sudbury Soils Map

N

Source:
MassGIS, VHB

1/10/2020

0 300 600 Feet

vhb

Project
Substation Location
Municipal Boundary
NRCS Soil Boundary

EVERSOURCE ENERGY
dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

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Source:
MassGIS, VHB

1/10/2020

0 300 600 Feet

Sudbury-Hudson Transmission Reliability and Mass Central Rail Trail Project

Figure 3: Sudbury Soils Map

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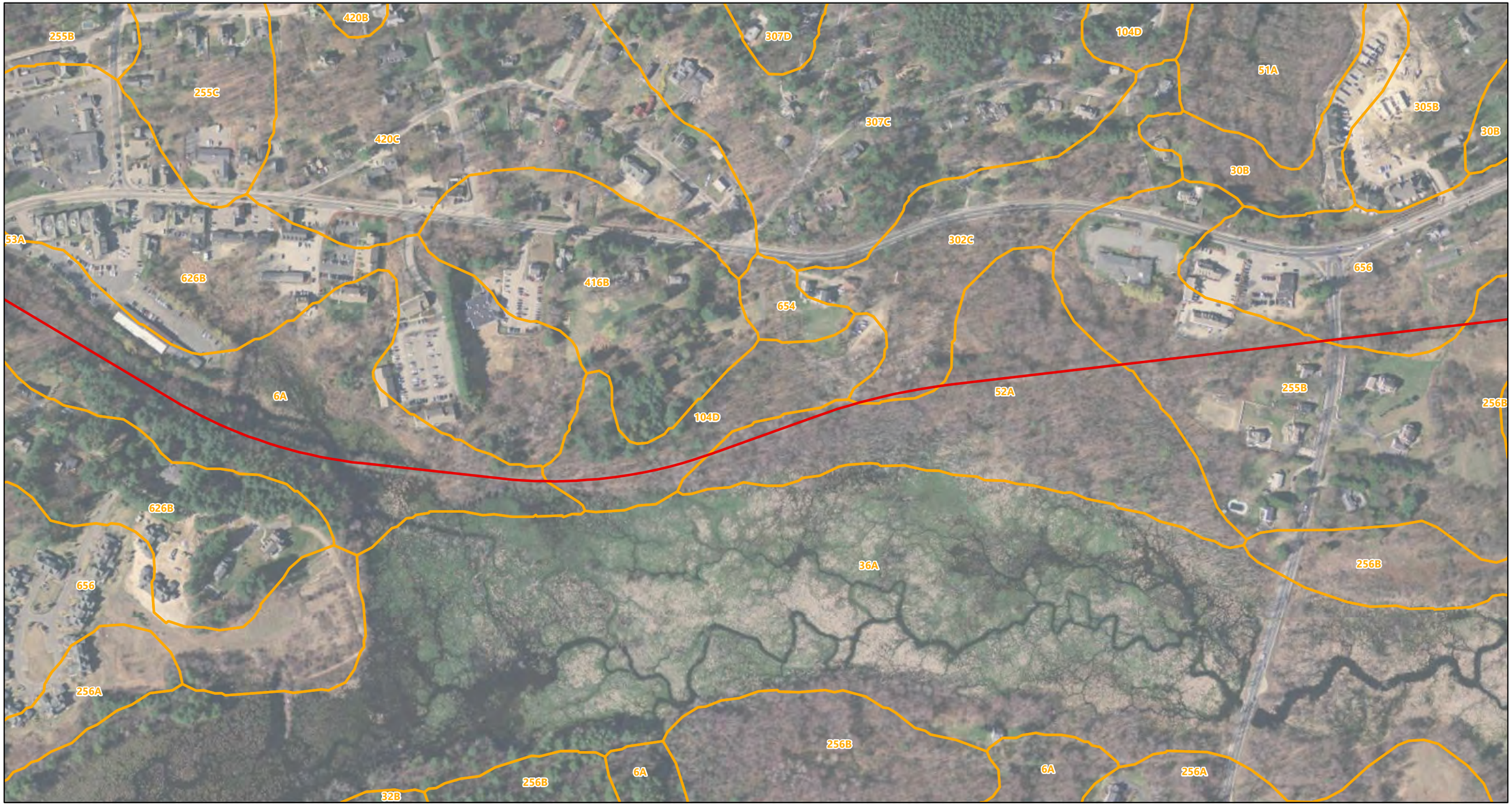

Project
Substation Location
Municipal Boundary
NRCS Soil Boundary

EVERSOURCE ENERGY dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

N

Source:
MassGIS, VHB

1/10/2020

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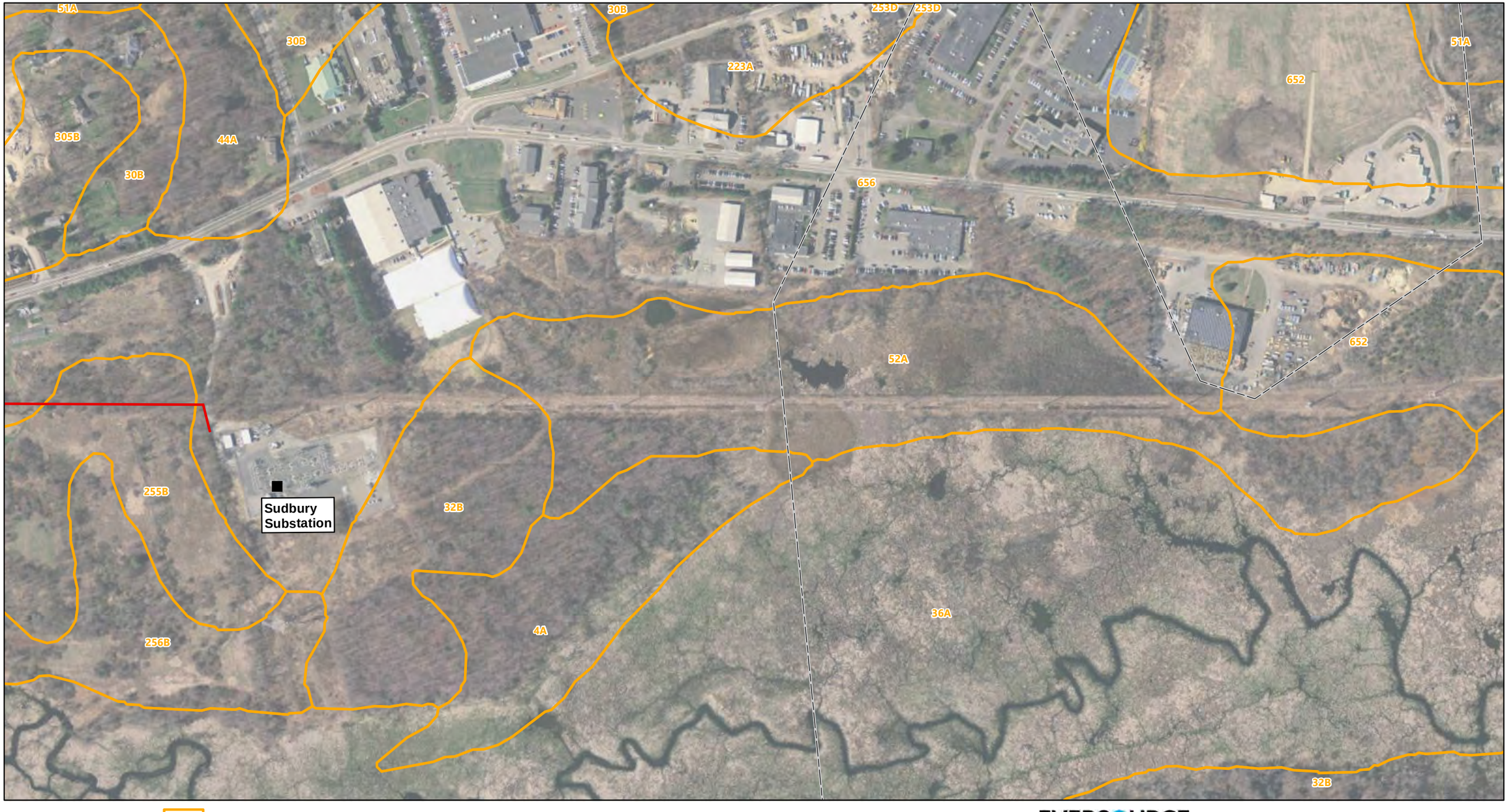
Sudbury-Hudson Transmission Reliability and Mass Central Rail Trail Project

Figure 3: Sudbury Soils Map

vhb



Project
Substation Location
Municipal Boundary
NRCS Soil Boundary

EVERSOURCE ENERGY
dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

N

Source: MassGIS, VHB

1/10/2020

0 300 600 Feet

Sudbury-Hudson Transmission Reliability and Mass Central Rail Trail Project

Figure 3: Sudbury Soils Map

vhb

\\nhbedata\gislib\WSTAR\SudburytoHudson\Figures\Geotech_NOI\Sudbury\Figure 4 Sudbury NHESP Detail.mxd

MBTA ROW Boundary
Municipal Boundary
Parcel Boundaries (MassGIS)
Limit of Disturbance
Project Area with in NHESP Habiat
NHESP Priority Habitat

EVERSOURCE ENERGY

dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

N

Source:
MassGIS, VHB

1/10/2020

0 200 400 Feet

Sudbury-Hudson Transmission Reliability and Mass Central Rail Trail Project

Figure 4: Sudbury NHESP Priority & Estimated Habitat Map

vhb

MBTA ROW Boundary
Municipal Boundary
Parcel Boundaries (MassGIS)
Limit of Disturbance
Project Area with in NHESP Habiat
NHESP Priority Habitat

EVERSOURCE ENERGY

dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

N

Source:
MassGIS, VHB

1/10/2020

0 200 400 Feet

Sudbury-Hudson Transmission Reliability and Mass Central Rail Trail Project

Figure 4: Sudbury NHESP Priority & Estimated Habitat Map

vhb

Well Name	Distance to Project (LF)
Pratt's Mill Rd Well 3A	5,240
Pratt's Mill Rd Well 8A	5,378
Pratt's Mill Rd Well 10	5,509
Nobscot Rd Well 7	3,181
Raymond Rd Well 2A	1,822
Raymond Rd Well 6	2,916
Raymond Rd Well 9	2,392
Warren Rd Well 4	3,455

Project

Open Space Protected for Water Supply
Aquifer
Outstanding Resource Water

MADEP Wellhead Protection Areas
Zone I
Zone II

Public Water Supplies
Community Groundwater Source
Surface Water Intake
Non-Community Groundwater Source
Emergency Surface Water
Groundwater Contour (FT)

Source:
MassGIS,
Whitman & Howard (1991),
VHB

1/10/2020

0 1,200 2,400 Feet

EVERSOURCE ENERGY

dcr MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

Sudbury-Hudson Transmission Reliability and Mass Central Rail Trail Project

Figure 5: Sudbury Public Water Supply and Groundwater Resources

vhb

* *Exceptions include manhole locations where limits of clearing are approximately 45′ wide, and near Hop Brook, where limits of clearing are approximately 18′ wide*

FIGURE 6-1
Eversource Construction Conditions
Sudbury-Hudson Transmission Reliability and Mass Central Rail Trail Project

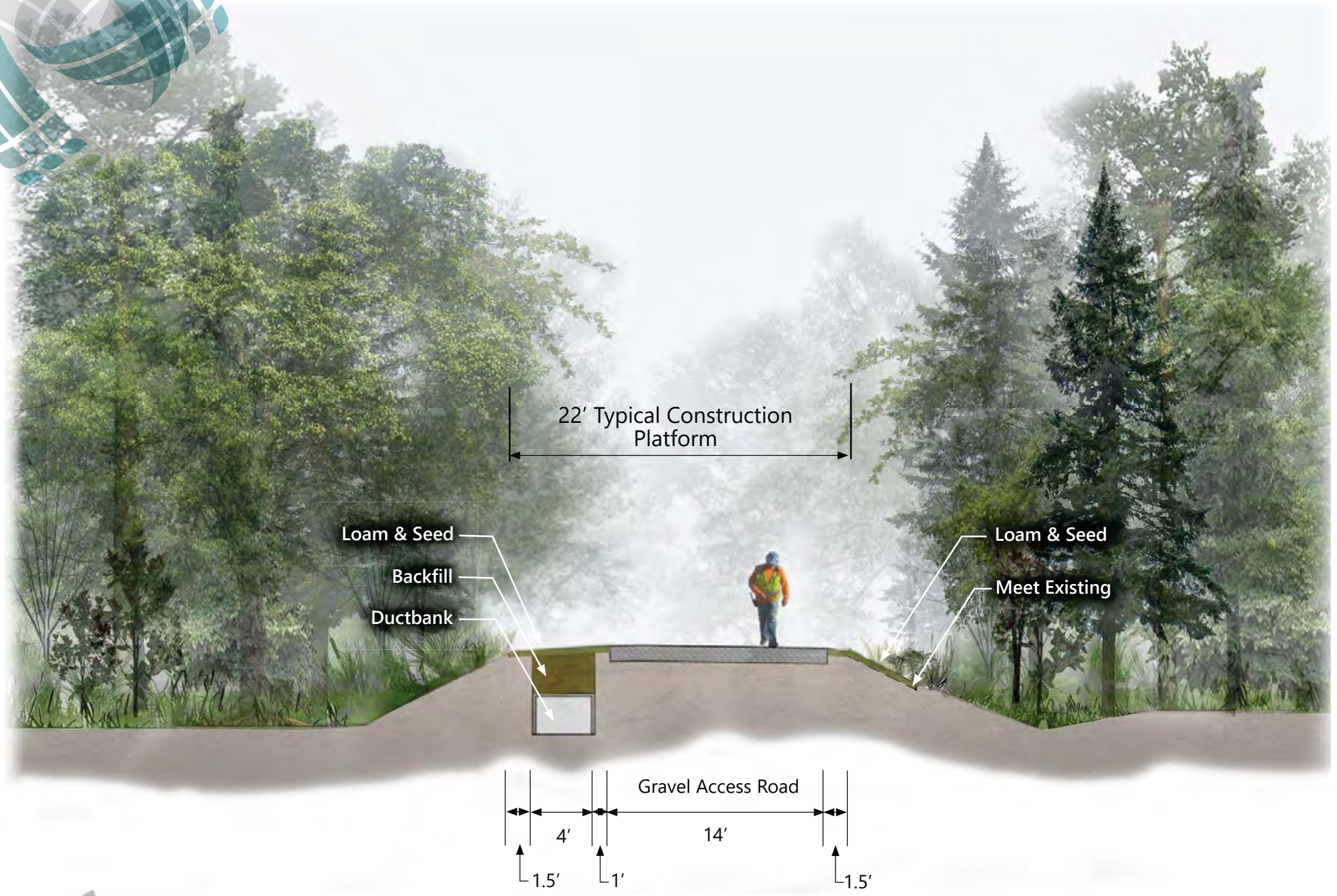


FIGURE 6-2

Post-Eversource Construction Conditions

Sudbury-Hudson Transmission Reliability and Mass Central Rail Trail Project

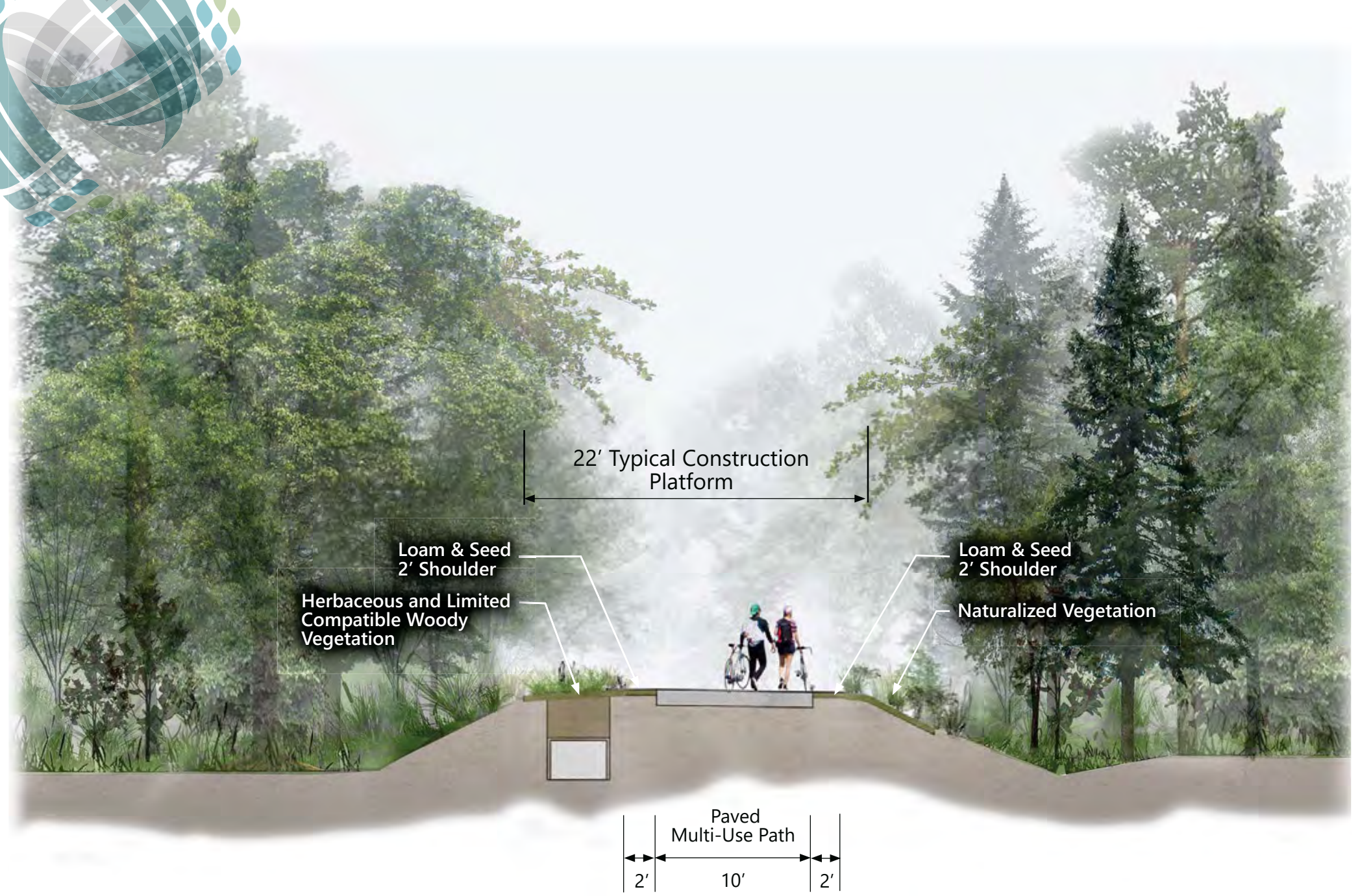


FIGURE 6-3

Post-DCR Construction Conditions

Sudbury-Hudson Transmission Reliability and Mass Central Rail Trail Project

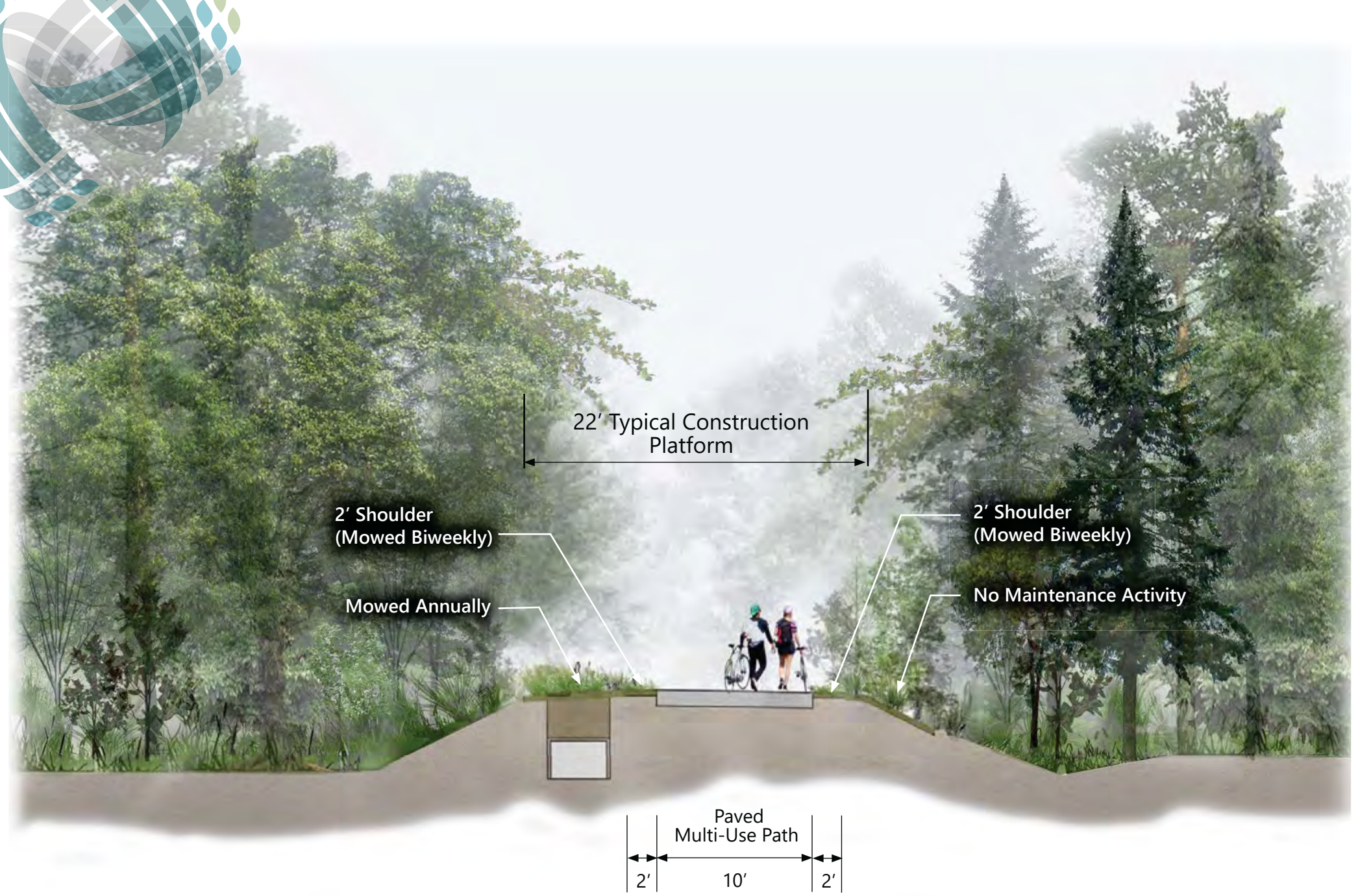


FIGURE 6-4
DCR Maintenance Conditions
Sudbury-Hudson Transmission Reliability and Mass Central Rail Trail Project

Attachment B – NOI Plans: Underground Transmission Line along Inactive MBTA Corridor (under separate cover)

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Attachment C – NOI Plans: Mass Central Rail Trail Along Inactive MBTA Corridor (under separate cover)

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Attachment D – Wetland Replication Report

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WETLAND REPLICATION REPORT

Sudbury-Hudson Transmission Reliability and Mass Central Rail Trail Project

Sudbury, Massachusetts

PREPARED FOR

NSTAR Electric Company
d/b/a Eversource Energy
247 Station Drive
Westwood, Massachusetts 02090

Massachusetts Department of
Conservation and Recreation
251 Causeway Street, 9th Floor
Boston, MA 02114

PREPARED BY

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PO Box 9151
Watertown, MA 02471
617.924.1770

March 2020

Table of Contents

List of Tables

1

Wetland Replication

Mitigation for unavoidable impacts to wetland resource areas is required under the MWPA, the 401 Water Quality Regulations as part of the federal Clean Water Act, and the Sudbury Bylaw. The Project will result in approximately 89 square feet of permanent impact to BVW and 303 square feet of permanent impact to IVW, for a total of 392 square feet of permanent impact. A total of 819 square feet of wetland replication is proposed in the area immediately adjacent to the largest impacted area of BVW, which will provide mitigation for all permanent wetland impacts at a ratio of approximately 2:1. Constructing and monitoring the replication area will be the responsibility of Eversource. The replication area will be constructed concurrently with the Project.

1.1 Existing Replication Area Conditions

The proposed wetland replication area is on the south side of an unmaintained portion of the Project Locus immediately adjacent to Wetland 4, which is an excavated wetland channel where most of the permanent impacts will occur. The channel is an old drainage ditch that is approximately six to eight feet wide and approximately 30 feet long, with abrupt and clearly defined slopes. The channel is hydrologically connected to Wetland 3 on the north side of the Project Locus via a mostly blocked 12-inch reinforced concrete pipe under the railroad tracks. VHB's survey team was only able to locate the southern end of this pipe. Water seeps under the railroad tracks from Wetland 3 through the culvert into the north end of Wetland 4, then flows out the south end under an old cart path via another pipe. The outflow pipe was not readily observed in the field. During a site visit in April 2019, the channel held approximately 12 inches of standing water, with no wetland vegetation in the center of the channel and a small fringe of wetland vegetation at the south end of the channel. Typical species include silky dogwood (*Swida amomum*) and sensitive fern (*Onoclea sensibilis*). The surrounding upland area has been historically disturbed by the construction and operation of the railroad, with a few mature trees and an understory of several vines and shrubs. Typical species include red maple (*Acer rubrum*), silky dogwood, glossy buckthorn (*Frangula alnus*), Oriental bittersweet (*Celastrus orbiculata*), fox grape (*Vitis labrusca*), and multiflora rose (*Rosa multiflora*).

1.2 Wetland Replication Design, Construction Approach, and Sequencing

Below is a summary of design considerations, construction approach, and sequence of events for the replication area. Design considerations and construction sequencing are subject to modification based on site conditions and scheduling of various Project elements. Characteristics considered while designing the wetland replication area include depth to groundwater, soils to be used, and types of vegetation to be planted.

1.2.1 Overall Design and Depth to Groundwater

To determine existing groundwater depths within the proposed replication area, two groundwater monitoring wells were installed (WW15 and W16) on either side of Wetland 4 in 2018. Groundwater levels in the wells were recorded from December 2018 to April 2019 and were consistently observed approximately 18 inches below the existing ground surface, which is consistent with the observed water levels in the channel itself.

To maintain the hydrologic connection between Wetland 3 and Wetland 4, the Project will extend the existing pipe that connects under the railroad tracks. The existing invert elevation of the pipe in Wetland 4 is 132.4 feet; the end of the pipe has been buried over time by sediment from the railroad bed. The Project will excavate the existing bottom of Wetland 4 down to approximately elevation 132 to allow the end of the pipe extension to remain open, and the surrounding area will be graded up from this point. At this elevation, groundwater is expected to be between the finished surface of the replication area and no greater than 12 inches below the surface for 14 or more consecutive days during the growing season. A cross-section is included on Sheet 133 in the NOI Plans provided as Attachment B in the submitted NOI, which shows the horizontal configuration of the replication area in relation to the impacted area.

As shown on Sheets 133 and 134 in the NOI Plans provided as Attachment B in the submitted NOI, the proposed conditions will provide a larger, wider, and deeper wetland area with more gradual slopes than the existing drainage ditch. As discussed above, hydrology in the replication area is expected to function in a similar manner to that of the existing wetland, and groundwater flows will have an unrestricted connection to the wetland replication area and will be contiguous with the existing adjacent wetland area in the channel.

1.2.2 Replication Area Soils

The replication area will have a minimum of 12 inches of an organic enriched topsoil placed over the excavated base elevation of approximately 132 feet. Common practice in building a replication area is to salvage and translocate soils from the filled wetland into the replacement area. However, because of the potential to introduce invasive species into the replacement wetland via translocated soils, this practice will not be used on this site. Instead, a manmade soil mixture consisting of equal volumes of organic (compost) and mineral

material such as rich loamy sand with a loose to friable consistency will be used. No wood chips will be added to the manmade soil. Soil material will be spread in a manner that will minimize soil compaction in the wetland replication areas.

1.2.3 Replication Area Vegetation

A palustrine scrub-shrub community of native shrubs along with a native seed mix will be planted in the replication area. The immediate buffer zone around the wetland will be planted with transitional plants that are found in both wetlands and uplands. These plantings will provide a wetland replication area and surrounding buffer zone that provides greater species diversity and wildlife habitat than the existing channel. Plants selected for the replication area will be healthy disease-free stock from a regional nursery. All planted material will be guaranteed for one year following the date of final acceptance. Plant material that fails to become established within one year will be replaced in-kind. Alternative species may be added to the landscape plan upon consultation with the environmental monitor and pending availability of plant species identified for use.

The species selected are suitable to the proposed hydrologic and soil conditions. Plants have been selected for their wildlife value as potential nesting sites, protective cover habitat, and food sources. Table 1 lists recommended species and other details of the proposed plantings.

Table 1 Wetland Replication Area Planting Schedule

Specimen	Wetland Status	Plant Type	Plant Size	Quantity	Density/Spacing
Basin Embankment:					
buttonbush (*Cephalanthus occidentalis*)	OBL	Shrub	18-24 inches	10	6-8 ft. on center
arrow arum (*Peltandra virginica*)	OBL	Herbaceous	2" plug	20	2-3 ft. on center
giant bur-reed (*Sparganium eurycarpum*)	OBL	Herbaceous	2" plug	20	2-3 ft. on center
silky dogwood (*Swida amomum*)	FACW	Shrub	18-24 inches	5	6 ft. on center
Wetland seed mix[1]	--	Herbaceous	--		18 lb./ac
Surrounding Buffer Zone:					
red maple (*Acer rubrum*)	FAC	Tree	1-2" caliper	3	15 ft. on center
sweet pepperbush (*Clethra alnifolia*)	FAC	Shrub	18-24 inches	10	6 ft. on center
Wetland seed mix[1]	--	Herbaceous	--		18 lb./ac

1 Wetland seed mix: "New England Wetmix" from New England Wetland Plants, Inc. or similar. Typical species: fox sedge (*Carex vulpinoidea*), sallow sedge (*Carex lurida*), broom sedge (*Carex scoparia*), sensitive fern (*Onoclea sensibilis*), blue vervain (*Verbena hastata*), hop sedge (*Carex lupulina*), dark-green bulrush (*Scirpus atrovirens*), nodding bur-marigold (*Bidens cernua*), bristly sedge (*Carex comosa*), fringed sedge (*Carex crinita*), tall mannagrass (*Glyceria grandis*), wool-grass (*Scirpus cyperinus*), soft rush (*Juncus effusus*), spotted Joe-Pye-weed (*Eutrochium maculatum*), boneset (*Eupatorium perfoliatum*), American water-plantain (*Alisma subcordatum*), New England aster (*Symphyotrichum novae-angliae*), rattlesnake mannagrass (*Glyceria canadensis*), purple-stem aster (*Symphyotrichum puniceum*), soft-stemmed bulrush (*Schoenoplectus tabernaemontani*), blueflag (*Iris versicolor*), swamp milkweed (*Asclepias incarnata*), and Allegheny monkey-flower (*Mimulus ringens*).

The planting schedule is also provided on Sheet 134 in the NOI Plans provided as Attachment B in the submitted NOI. The species selected for the replication area will be planted according to standard planting protocols and planting depths.

The wetland seed mix will provide an herbaceous layer that will help prevent the establishment of invasive species. The proposed seed mix will be applied at the recommended rate of approximately one pound per 2,000 square feet (18 pounds per acre). Due to the small size of the replication area, the seed mix will also be applied to the buffer zone around the wetland, since it contains species that can also grow in transitional areas adjacent to wetlands such as sensitive fern, spotted Joe-Pye-weed, New England aster, and soft rush. The seed mix will provide a ground cover of native herbaceous species that will stabilize the soil in the replication area and provide a food source, cover habitat, and potential nesting sites for birds and small mammals.

1.2.4 Standing Dead Tree (Snag)

A single dead standing tree (snag) is present adjacent to the existing channel. Snags are important wildlife habitat features, providing perches and a food supply for several different types of birds. The snag will be preserved and reused in the wetland replication area. The snag will be pushed over rather than cut to preserve the root structure for use as a stable base. The snag will be pruned as needed, but as many of the large upper limbs will be preserved as possible. The root mass of the snag will be buried to provide support. The snag will be firmly entrenched into the ground to minimize the possibility of future windthrow. Figure A in Attachment L of the submitted NOI illustrates the methodology of the snag creation technique.

1.2.5 Wetland Replication Construction Methods and Sequencing

Wetland replication is one part of the larger construction effort for the Project, and portions of the work may be completed concurrent with similar activities throughout the Project Site. Detailed means and methods of construction will be at the discretion and responsibility of the contractor performing the work to construct the Project. Below is a general construction sequence for the wetland replication. This sequence is subject to modification based on site conditions and scheduling of various Project elements.

- **Vegetation Clearing and Erosion Controls:** Prior to commencement of construction activities in the replication area, temporary erosion controls will be installed along the entire perimeter of the proposed wetland replication area except at the upgradient edge to allow access to machinery. Following installation, all existing vegetation will be removed.
- **Site Preparation:** The replication area will be grubbed as necessary and all roots and stumps will be removed from the Project Site. The replication area will be excavated to approximately 12 inches below the proposed grades; this soil will be removed from the site. Soils in disturbed areas may contain root and seed stock of invasive plant material, and removal reduces colonization of restoration areas by invasive plants. The replication

area will be backfilled with approximately 12 inches of manmade organically enriched soil. To avoid compaction, heavy mechanical equipment will not be allowed in this area once the soils have been placed.

- **Vegetation Planting:** Wetland plants will be installed according to the planting schedule discussed above and as shown on Sheet 134 in the NOI Plans provided as Attachment B in the submitted NOI. Habitat features such as large woody debris will also be added as available. Pending actual site and weather conditions, all plantings will take place in spring (April 15–June 15) or fall (September 1–October 31). Upon delivery of the plant material to the site, the environmental monitor will inspect the planting stock to ensure that the specimens are healthy, free from pests, and suitable for use within the planting area. Unsuitable specimens will be rejected and replaced with suitable specimens. Any planting substitutions must be approved by the environmental monitor. All woody plant stock will either be bare-root or container-grown. Upon final stabilization all erosion controls will be removed upon approval by the environmental monitor.
- **Maintenance:** As necessary following planting, the wetland replication area will be irrigated as necessary to ensure successful establishment of newly planted vegetation.

1.3 Monitoring of Wetland Replication and Invasive Species

The wetland replication area will be inspected during the first two growing seasons following planting to evaluate the effectiveness of the replication and to monitor the replication area for invasive species. If any invasive species are found, they will be uprooted and removed from the area.

The vegetation community in the replication area will be inventoried late in the growing season to determine the percent cover of hydrophytes. Yearly monitoring reports will be prepared summarizing the year's findings and will provide recommendations to ensure the success of the replication effort. These reports will be provided to the Conservation Commission. Eversource will undertake whatever efforts are necessary to ensure compliance with this plan.

The first year of monitoring will be the first year that the site has been through a full growing season after planting. For monitoring purposes, a growing season starts no later than May 31. If there are problems that need to be addressed and if the measures to correct them require prior approval from the Conservation Commission, Eversource will contact the Commission as soon as the need for corrective action is discovered.

1.3.1 Wetland Monitoring Report Content

Annual monitoring reports will be prepared and submitted to the Conservation Commission. The reports will provide details on the success standard described below.

- The proposed vegetation diversity and/or density goals for woody plants from the plan are met. The planting area will be monitored to assess whether:

- It is free of invasive plant species;
- The established plantings are healthy and vigorous, and
- They provide a vegetated cover of at least 75% surface area.

› The replication area will exhibit wetland hydrology indicators. The replication area will be monitored for positive signs of wetland hydrology, which include primary indicators such as surface water, high water table, soil saturation and others for an adequate duration as detailed in the US Army Corps of Engineers' "Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region," dated January 2012.

In addition to a comparison of the planting area to the success standards, the monitoring narrative will provide:

› Descriptions of the monitoring inspections that occurred since the last report (to be completed in year 2);

› Descriptions of the remedial actions done during the monitoring year to meet the two success standards (if any), including such actions as removing debris, replanting, re-grading any areas, applying additional topsoil or soil amendments, etc.;

› Descriptions of the general health and vigor of the planted specimens, prognosis for future survival, and diagnosis of cause(s) of morbidity or mortality;

› Percent cover and percent survival for each species of planted specimens;

› Observed wetland hydrology during spring and fall for the first two years;

› If necessary, recommended remedial measures to achieve or maintain achievement of the success standards; and

› Representative photographs of the planting areas taken from the same locations for each monitoring event.

Attachment E – Site Photographs

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Photo 1 Looking east down the ROW near Station 376+20

Photo 2 Looking west down the ROW near Station 399+00 with the well-defined foot path visible in the right side of the photograph. This location is west of Dutton Road and Hop Brook.

	Sudbury-Hudson Transmission Reliability and Mass Central Rail Trail Project Sudbury, MA Representative Photographs	EVERSOURCE ENERGY dcr Massachusetts

Photo 3 Looking west down the ROW near Station 414+50 with the well-defined foot path visible in the right side of the photograph. This location is west of Dutton Road and east of Hop Brook.

Photo 4 Looking east down the ROW near Station 524+90 with the well-defined foot path visible in the right side of the photograph. This location is between Dutton Road and Peakham Road.

Photo 5 Looking east down the ROW near Station 535+50 with the well-defined foot path visible in the left side of the photograph. This location is between Peakham Road and Horse Pond Road.

Photo 6 Looking east down the ROW near Station 558+20 with the well-defined foot path visible in the left side of the photograph. This location is just east of Horse Pond Road.

Photo 7 Looking east down the ROW near Station 576+30 with a moderately defined foot path visible in the right side of the photograph. This location is between Horse Pond Road and Union Avenue.

Photo 8 Looking east down the ROW near Station 717+90. This location is between Boston Post Road and Hop Brook.

Photo 9 Looking east down the ROW near Station 735+85. This location is east of Hop Brook and west of Landham Road.

Photo 10 Looking west at ROW near Station 761+70. This location is between Landham Road and the Sudbury Substation access road.

Attachment F – Sudbury ORAD

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For Registry of Deeds Use Only

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Page: 1 of 6 09/12/2018 09:19 AM

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 4B – Order of Resource Area Delineation

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
301-1227
MassDEP File Number

eDEP Transaction Number

Sudbury
City/Town

A. General Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.

Note: Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

From: Sudbury
1. Conservation Commission

2. This Issuance is for (check one):

a. ☒ Order of Resource Area Delineation

b. ☐ Amended Order of Resource Area Delineation

3. Applicant:

Denise
a. First Name

Bartone
b. Last Name

NSTAR Electric Company d/b/a Eversource Energy
c. Organization

247 Station Drive, SE270
d. Mailing Address

Westwood
e. City/Town

MA
f. State

02090
g. Zip Code

4. Property Owner (if different from applicant):

Janelle
a. First Name

Chan
b. Last Name

Massachusetts Bay Transportation Authority
c. Organization

10 Park Plaza
d. Mailing Address

Boston
e. City/Town

MA
f. State

02116
g. Zip Code

5. Project Location:

183 Boston Post Rd. (start) to Sudbury-Hudson line along MBTA track

Sudbury
b. City/Town

01776
c. Zip Code

various
d. Assessors Map/Plat Number

-
e. Parcel/Lot Number

Latitude and Longitude (in degrees, minutes, seconds):

d m s
f. Latitude

d m s
g. Longitude

6. Dates: 11/21/2017 (3/15/18 MBTA signature provided)

Aug. 6, 2018
b. Date Public Hearing Closed

Aug. 27, 2018
c. Date of Issuance

1734-426

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 4B – Order of Resource Area Delineation

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
301-1227
MassDEP File Number

eDEP Transaction Number

Sudbury
City/Town

A. General Information (cont.)

7. Title and Date (or Revised Date if applicable) of Final Plans and Other Documents:

c. Title	d. Date
Existing Conditions Plan for ANRAD Submittal, Sudbury-Hudson Transmission Reliability Project, Sudbury MA, 46 sheets	Oct. 18, 2017 REVISED through July 24, 2018

B. Order of Delineation

1. The Conservation Commission has determined the following (check whichever is applicable):

a. ☒ **Accurate**: The boundaries described on the referenced plan(s) above and in the Abbreviated Notice of Resource Area Delineation are accurately drawn for the following resource area(s):

1. ☒ Bordering Vegetated Wetlands

2. ☒ Other resource area(s), specifically:

a. Bordering Land Subject to Flooding (in accordance with Sudbury Wetlands Bylaw definition), Bank, Land Under Water Body, Riverfront Area (as determined by Sudbury Wetlands Bylaw Perennial stream and mean annual high water definition); Vernal Pools (in accordance with Sudbury Wetland Bylaw definition)

Should the Base Flood Elevations (BFEs) shown on the Plans be revised by FEMA as the result of a Letter of Map Revision (LOMR), the revised BFEs shall supersede the BFEs confirmed in this ORAD and the Bordering Land Subject to Flooding shall adhere to such changes.

b. ☐ **Modified**: The boundaries described on the plan(s) referenced above, as modified by the Conservation Commission from the plans contained in the Abbreviated Notice of Resource Area Delineation, are accurately drawn from the following resource area(s):

1. ☐ Bordering Vegetated Wetlands

2. ☐ Other resource area(s), specifically:

a.

c. ☒ **Inaccurate**: The boundaries described on the referenced plan(s) and in the Abbreviated Notice of Resource Area Delineation were found to be inaccurate and cannot be confirmed for the following resource area(s):

1. ☐ Bordering Vegetated Wetlands

2. ☒ Other resource area(s), specifically:

THIS ORAD IS NOT APPROVING: 1) ANY RESOURCE AREA LABELED ON THE REFERENCED PLANS AS "AWL" (APPROXIMATE WETLAND LINE); 2) THE

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 4B – Order of Resource Area Delineation

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
301-1227
MassDEP File Number

eDEP Transaction Number

Sudbury
City/Town

FLOODWAY AS SHOWN ON THE REFERENCED PLAN (NOT A WETLAND RESOURCE AREA).

B. Order of Delineation (cont.)

3. ☒ The boundaries were determined to be inaccurate because:

The "AWL" was not determined by field survey and not reviewed in the field due to the locations on private property

C. Findings

This Order of Resource Area Delineation determines that the boundaries of those resource areas noted above, have been delineated and approved by the Commission and are binding as to all decisions rendered pursuant to the Massachusetts Wetlands Protection Act (M.G.L. c.131, § 40) and its regulations (310 CMR 10.00). This Order does not, however, determine the boundaries of any resource area or Buffer Zone to any resource area not specifically noted above, regardless of whether such boundaries are contained on the plans attached to this Order or to the Abbreviated Notice of Resource Area Delineation.

This Order must be signed by a majority of the Conservation Commission. The Order must be sent by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate DEP Regional Office (see http://www.mass.gov/eea/agencies/massdep/about/contacts/find-the-massdep-regional-office-for-your-city-or-town.html).

D. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate DEP Regional Office to issue a Superseding Order of Resource Area Delineation. When requested to issue a Superseding Order of Resource Area Delineation, the Department's review is limited to the objections to the resource area delineation(s) stated in the appeal request. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request for Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

Any appellants seeking to appeal the Department's Superseding Order of Resource Area Delineation will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order or Determination, or providing written information to the Department prior to issuance of a Superseding Order or Determination.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act, (M.G.L. c. 131, § 40) and is inconsistent with the wetlands regulations (310 CMR 10.00).

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 4B – Order of Resource Area Delineation

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
301-1227
MassDEP File Number

eDEP Transaction Number

Sudbury
City/Town

E. Signatures

Aug. 27, 2018
Date of Issuance

Please indicate the number of members who will sign this form. 6
1. Number of Signers

Charles Russo
Signature of Conservation Commission Member

Signature of Conservation Commission Member

Kathleen Rogers
Signature of Conservation Commission Member

Signature of Conservation Commission Member

Richard Morse
Signature of Conservation Commission Member

Signature of Conservation Commission Member

MARK SCHAFER
Signature of Conservation Commission Member

This Order is valid for three years from the date of issuance.

If this Order constitutes an Amended Order of Resource Area Delineation, this Order does not extend the issuance date of the original Final Order, which expires on unless extended in writing by the issuing authority.

This Order is issued to the applicant and the property owner (if different) as follows:

2. ☐ By hand delivery on

a. Date

3. ☒ By certified mail, return receipt requested on

Aug. 27, 2018
a. Date

7015 1520 0003 5445 7281

Attachment G – NHESP Correspondence

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MASSWILDLIFE

DIVISION OF
FISHERIES & WILDLIFE

1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6300 | f: (508) 389-7890
MASS.GOV/MASSWILDLIFE

Jack Buckley, *Director*

August 04, 2017

Vivian Kimball
Vanasse Hangen Brustlin, Inc.
2 Washington Square
Union Station, Suite 219
Worcester MA 01604

RE: Project Location: Sudbury to Hudson Transmission Reliability Project (MTBA ROW)
Town: HUDSON, MARLBOROUGH, SUDBURY, STOW
NHESP Tracking No.: 15-34327

To Whom It May Concern:

Thank you for contacting the Natural Heritage and Endangered Species Program of the MA Division of Fisheries & Wildlife (the "Division") for information regarding state-listed rare species in the vicinity of the above referenced site. Based on the information provided, this project site, or a portion thereof, is located **within** *Priority Habitat 1040* (PH 1040) and *Estimated Habitat 1440* (EH 1440) as indicated in the *Massachusetts Natural Heritage Atlas* (14th Edition). Our database indicates that the following state-listed rare species have been found in the vicinity of the site:

Scientific name	Common Name	Taxonomic Group	State Status
Terrapene carolina	Eastern Box Turtle	Reptile	Special Concern
Caprimulgus vociferus	Eastern Whip-poor-will	Bird	Special Concern
Catocala herodias gerhardi	Gerhard's Underwing Moth	Butterflies and Moths	Special Concern
Metarranthis pilosaria	Coastal Swamp Metarranthis Moth	Butterflies and Moths	Special Concern

The species listed above are protected under the Massachusetts Endangered Species Act (MESA) (M.G.L. c. 131A) and its implementing regulations (321 CMR 10.00). State-listed wildlife are also protected under the state's Wetlands Protection Act (WPA) (M.G.L. c. 131, s. 40) and its implementing regulations (310 CMR 10.00). Fact sheets for most state-listed rare species can be found on our website (www.mass.gov/nhesp).

Please note that projects and activities located within Priority and/or Estimated Habitat **must** be reviewed by the Division for compliance with the state-listed rare species protection provisions of MESA (321 CMR 10.00) and/or the WPA (310 CMR 10.00).

Wetlands Protection Act (WPA)
If the project site is within Estimated Habitat and a Notice of Intent (NOI) is required, then a copy of the NOI must be submitted to the Division so that it is received at the same time as the local conservation commission. If the Division determines that the proposed project will adversely affect the actual Resource Area habitat of state-protected wildlife, then the proposed project may not be permitted (310 CMR 10.37, 10.58(4)(b) & 10.59). In such a case, the project proponent may request a consultation with

the Division to discuss potential project design modifications that would avoid adverse effects to rare wildlife habitat.

A streamlined joint MESA/WPA review process is available. When filing a Notice of Intent (NOI), the applicant may file concurrently under the MESA on the same NOI form and qualify for a 30-day streamlined joint review. For a copy of the NOI form, please visit the MA Department of Environmental Protection's website: http://www.mass.gov/eea/agencies/massdep/service/approvals/wpa-form-3.html.

MA Endangered Species Act (MESA)

If the proposed project is located within Priority Habitat and is not exempt from review (see 321 CMR 10.14), then project plans, a fee, and other required materials must be sent to Natural Heritage Regulatory Review to determine whether a probable Take under the MA Endangered Species Act would occur (321 CMR 10.18). Please note that all proposed and anticipated development must be disclosed, as MESA does not allow project segmentation (321 CMR 10.16). For a MESA filing checklist and additional information please see our website: www.mass.gov/dfw/nhesp/regulatory-review.

We recommend that rare species habitat concerns be addressed during the project design phase prior to submission of a formal MESA filing, as avoidance and minimization of impacts to rare species and their habitats is likely to expedite endangered species regulatory review.

This evaluation is based on the most recent information available in the Natural Heritage database, which is constantly being expanded and updated through ongoing research and inventory. If the purpose of your inquiry is to generate a species list to fulfill the federal Endangered Species Act (16 U.S.C. 1531 et seq.) information requirements for a permit, proposal, or authorization of any kind from a federal agency, we recommend that you contact the National Marine Fisheries Service at (978)281-9328 and use the U.S. Fish and Wildlife Service's Information for Planning and Conservation website (https://ecos.fws.gov/ipac). If you have any questions regarding this letter please contact Emily Holt, Endangered Species Review Assistant, at (508) 389-6385.

Sincerely,

Thomas W. French

Thomas W. French, Ph.D.
Assistant Director

MASSWILDLIFE

DIVISION OF
FISHERIES & WILDLIFE

1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6300 | f: (508) 389-7890
MASS.GOV/MASSWILDLIFE

Jack Buckley, *Director*

October 19, 2018

Denise Bartone
NSTAR Electric dba Eversource Energy
247 Station Drive, SE270
Westwood, MA 02090

Paul Jahnige
DCR Greenways & Trails Program
136 Damon Rd
Northampton, MA 01060

RE:	Applicant:	Denise Bartone
	Project Location:	MBTA Right of Way- Sudbury, Marlborough, Hudson, Stow
	Project Description:	Sudbury–Hudson Transmission Reliability; DCR Phase 2: Mass Central Rail Trail (MCRT)
	NHESP File No.:	**15-34327**

Dear Applicant:

The Natural Heritage & Endangered Species Program of the Massachusetts Division of Fisheries & Wildlife (the "Division") received the MESA Project Review Checklist (dated September 2018) with plans, Corridor Management Plan, Turtle Protection Plan, and other required materials, including the for review pursuant to the Massachusetts Endangered Species Act (MESA) (MGL c.131A) and its implementing regulations (321 CMR 10.00).

The proposed project includes the installation of an underground electrical transmission line in the existing MBTA right-of-way (Phase 1), totaling 4 acres of disturbance within Priority Habitat. Total habitat loss from the project will be minimized through compatible management of 1.9 acres of the duct bank and slopes of the construction platform. The Division understands that following the completion of the transmission line project the Department of Conservation and Recreation (DCR) proposes to install a segment of the Mass Central Rail Trail (MCRT) within the final construction platform layout (Phase 2). Eversource and DCR have coordinated to develop a Corridor Management Plan to address ongoing management activities within the right-of-way and an Eastern Box Turtle Protection Plan.

The MESA is administered by the Division, and prohibits the Take of state-listed species. The Take of state-listed species is defined as "in reference to animals…harm…kill…disrupt the nesting, breeding, feeding or migratory activity…and in reference to plants…collect, pick, kill, transplant, cut or process…Disruption of nesting, breeding, feeding, or migratory activity may result from, but is not limited to, the modification, degradation, or destruction of Habitat" of state-listed species (321 CMR 10.02).

The Division has determined that this Project, as currently proposed, will occur **within** the actual habitat of the following state listed species. These species and their habitats are protected in accordance with the MESA. Fact sheets for state-listed species can be found at www.mass.gov/nhesp.

Scientific Name	Common Name	Taxonomic Group	State Status
Terrapene carolina	Eastern Box Turtle	Reptile	Special Concern
Caprimulgus vociferous	Eastern Whip-poor-will	Bird	Special Concern
Catocala herodias gerhardi	Gerhard's Underwing	Butterflies and Moths	Special Concern
Metarranthis pilosaria	Coastal Swamp Metarranthis	Butterflies and Moths	Special Concern

Based on the information provided and the information contained in our database, the Division finds that a portion of this project, as currently proposed, **must be conditioned** in order to avoid a prohibited Take of state-listed species (321 CMR 10.18(2)(a)). To avoid a prohibited Take of state-listed species, the following conditions must be met:

1. The Eastern Box Turtle Protection Plan (dated 5/31/2018) must be implemented as proposed.
2. The Corridor Management Plan for Massachusetts Central Rail Trail and Sudbury-Hudson Transmission Reliability Project (dated 5/31/2018) must be implemented as proposed.
3. Timing restrictions for construction activities within Whip-poor-will habitats must be implemented, as proposed unless otherwise approved by the Division.
4. Within thirty (30) days of the completion of the transmission line project, or as otherwise approved by the Division, the Applicant shall submit a compliance report containing, including a summary of construction timelines and photographs, to the Division documenting the completion of the project.

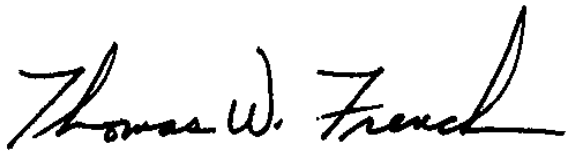
DCR Mass Central Rail Trail (Phase 2)

The Division has been involved in ongoing coordination with DCR regarding the proposed MCRT segment following completion of the transmission line. The Division's review of the Mass Central Rail Trail pursuant to the MESA is ongoing. DCR must submit a supplemental MESA Project Review Checklist which must include site plans for the MRCT for Division review and written approval.

Provided the above-noted conditions are fully implemented and there are no changes to the transmission line project plans, this project will not result in a Take of state-listed species. We note that all work is subject to the anti-segmentation provisions (321 CMR 10.16) of the MESA. This determination is a final decision of the Division of Fisheries and Wildlife pursuant to 321 CMR 10.18. Any changes to the proposed project or any additional work beyond that shown on the site plans may require an additional filing with the Division pursuant to the MESA. This project may be subject to further review if no physical work is commenced within five years from the date of issuance of this determination, or if there is a change to the project.

Please note that this determination addresses only the matter of state-listed species and their habitats. If you have any questions regarding this letter please contact Lauren Glorioso, Endangered Species Review Biologist, at 508-389-6361.

Sincerely,



Thomas W. French, Ph.D.
Assistant Director

cc: John Vieira, VHB
MBTA
Sudbury Conservation Commission
Hudson Conservation Commission
Marlborough Conservation Commission
Stow Conservation Commission

MASSWILDLIFE

DIVISION OF
FISHERIES & WILDLIFE

1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6300 | f: (508) 389-7890
MASS.GOV/MASSWILDLIFE

May 17, 2019

Priscilla Geigis
Massachusetts Dept. of Conservation & Recreation
251 Causeway Street
Boston, MA 02114

RE: Applicant: Priscilla Geigis, Massachusetts Dept. of Conservation & Recreation (DCR)
Project Location: MBTA Right of Way- Sudbury, Marlborough, Hudson, Stow
East of Wilkins St, Hudson to Eversource Substation, Rte. 20, Sudbury
Project Description: Phase 2 of Sudbury–Hudson Transmission Reliability: Mass Central Rail Trail (MCRT) Segment
NHESP File No.: 15-34327

Dear Applicant:

The Natural Heritage & Endangered Species Program of the Massachusetts Division of Fisheries & Wildlife (the "Division") received the MESA Project Review Checklist (dated April 2019) with project plans (dated March 2019, prepared by VHB), a Corridor Management Plan (dated 5/31/2018), a draft Turtle Protection Plan (dated 5/31/2018, prepared by VHB), and other required materials for review pursuant to the Massachusetts Endangered Species Act (MESA) (MGL c.131A) and its implementing regulations (321 CMR 10.00).

The MESA is administered by the Division, and prohibits the Take of state-listed species. The Take of state-listed species is defined as "in reference to animals…harm…kill…disrupt the nesting, breeding, feeding or migratory activity…and in reference to plants…collect, pick, kill, transplant, cut or process…Disruption of nesting, breeding, feeding, or migratory activity may result from, but is not limited to, the modification, degradation, or destruction of Habitat" of state-listed species (321 CMR 10.02).

The Division has determined that this Project, as currently proposed, will occur **within** the actual habitat of the following state listed species. These species and their habitats are protected in accordance with the MESA. Fact sheets for state-listed species can be found at www.mass.gov/nhesp.

Scientific Name	Common Name	Taxonomic Group	State Status
Terrapene carolina	Eastern Box Turtle	Reptile	Special Concern
Caprimulgus vociferous	Eastern Whip-poor-will	Bird	Special Concern
Catocala herodias gerhardi	Gerhard's Underwing	Butterflies and Moths	Special Concern
Metarranthis pilosaria	Coastal Swamp Metarranthis	Butterflies and Moths	Special Concern

Phase 1 of this project consists of the installation of an underground electrical transmission line. The Division determined that Phase 1 would not result in a Take of rare species (determination letter dated 10/19/2018). The current proposal, which constitutes Phase 2 of the overall project, is for a 7.7 mile segment of shared-use path within the final construction platform layout of Phase 1. The shared-used path, a segment of the Mass. Central Rail Trail (MCRT), is proposed as a maintained 14 ft. wide corridor within the existing MBTA right-of-way and limits of work established by the Eversource transmission line project (Phase 1). An approximately 210 ft. extension at the western end of the shared-use path will be constructed to connect to the Assabet River Rail Trail. Work proposed within Priority Habitat consists of a 1.2 mile portion of the MCRT with one pull-off area (approx. 65 ft x 10 ft).

Phase 2 will result in 2.1 acres of disturbance within Priority Habitat, which will occur entirely within the previously-approved Limit of Work for Phase 1. This segment of the MCRT will be constructed using the gravel roadway installed by Eversource during Phase 1 construction. Ongoing maintenance of the MCRT shoulders and transmission line duct bank will be conducted by DCR.

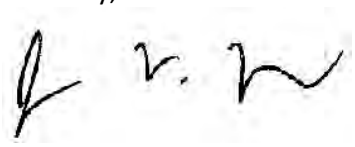
Based on the information provided and the information contained in our database, the Division finds that Phase 2 of this project, as currently proposed, **must be conditioned** in order to avoid a prohibited Take of state-listed species (321 CMR 10.18(2)(a)). To avoid a prohibited Take of state-listed species, the following conditions must be met:

1. The Corridor Management Plan for Massachusetts Central Rail Trail and Sudbury-Hudson Transmission Reliability Project (dated 5/31/2018) must be implemented as proposed. If changes to said Plan are proposed, a revised Plan must be submitted to the Division for review and prior written approval.
2. Prior to the start of work, the Applicant must submit to the Division, for review and approval, a signage plan for the shoulder and duct bank mowing areas, which must describe sensitive dates for the Eastern Box Turtle.
3. Measures must be implemented to protect Eastern Box Turtles during construction. Prior to the start of work a final Eastern Box Turtle Protection Plan must be submitted to the Division for review and approval, and must be implemented as approved. Said Plan must include detailed turtle protection measures to be implemented by DCR. If changes to said Plan are proposed, a revised Plan must be submitted to the Division for review and prior written approval.
4. Prior to the start of work the Applicant must submit to the Division, for review and approval, a native seed mix proposed for any planting or loam and seed activities.
5. Unless otherwise approved by the Division, proposed wood railings must leave, at minimum, a 10 in. space beneath the lowest rail for wildlife passage.
6. Unless otherwise approved by the Division, construction activities within Priority Habitat must not occur during the Eastern Whip-poor-will breeding season (May 1 – August 1), as proposed.
7. Within thirty (30) days of the completion of Work, or as otherwise approved by the Division, the Applicant shall submit a compliance report to the Division documenting the completion of the project and compliance with all conditions herein, including a summary of construction timelines and photographs.

Provided the above-noted conditions are fully implemented and there are no changes to the transmission line project plans, this project will not result in a Take of state-listed species. We note that all work is subject to the anti-segmentation provisions (321 CMR 10.16) of the MESA. This determination is a final decision of the Division of Fisheries and Wildlife pursuant to 321 CMR 10.18. Any changes to the proposed project or any additional work beyond that shown on the site plans may require an additional filing with the Division pursuant to the MESA. This project may be subject to further review if no physical work is commenced within five years from the date of issuance of this determination, or if there is a change to the project.

Please note that this determination addresses only the matter of state-listed species and their habitats. If you have any questions regarding this letter please contact Lauren Glorioso, Endangered Species Review Biologist, at 508-389-6361.

Sincerely,



Jonathan V. Regosin, Ph.D.
Deputy Director

cc: Gene Crouch, VHB
MBTA
Sudbury Conservation Commission
Hudson Conservation Commission
Marlborough Conservation Commission
Stow Conservation Commission

Attachment H – Best Management Practices

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1.3 Straw (or Hay) Bales

Applications: Erosion and sedimentation control, mulch

Limitations:

- Hay bales degrade quickly.
- Hay bale height can provide an obstacle to movement of smaller wildlife.
- Should not be used as a temporary check dam/ stormwater control within waterways.
- Difficult to install during frozen conditions.
- Generally only effective for 3-6 months (hay) or 6-12 months (straw) before replacement.

Overview:

Hay/straw bales should be placed end-to-end to form a temporary sedimentation control barrier. This barrier should run perpendicular to the slope and direction of runoff, and should be installed downgradient of the disturbed site (i.e., construction area). Hay/straw bales are intended to slow flow velocity and trap sediments to prevent siltation in sensitive areas, specifically downgradient areas with open and/or flowing water. Barriers should be removed once the project is complete and soils are stabilized with erosion control blankets and/or well-established vegetation.

Installation:

- Install hay/straw bales end-to-end lengthwise along the toe of a slope or along a slope contour being sure the bales are butted tightly against each other without gaps between them. The outer ends of the barrier should be turned slightly upslope.
- Entrench to a minimum depth of 4 inches and backfill around the base of the bale. If additional protection is needed, backfill both upslope and downslope to create better ground contact and reduce sediment passage through or beneath hay/straw bales.
- Stake each hay/straw bale into the ground by two stakes each approximately 3 feet long
- If a silt fence is being used with the hay/straw bale barrier, position the silt fence downgradient of the hay/straw bales (hay bales filter first).
- Since hay/straw bales degrade quickly, check barriers often and replace as needed. Routinely remove and dispose of sediment buildup in a stable upland area.
- The hay/straw bale barrier should be as far away from downgradient sensitive areas, and as close to the work areas as construction limitations allow, in order to minimize the total work area and disturb as little area as possible.
- Once the project is complete and soils are stabilized, hay/straw bales should generally be compacted and allowed to decay in place, as their height can provide an obstacle to movement of smaller wildlife. Spreading hay bales around a site as mulch could introduce weed seeds. Using hay/straw as mulch is not generally

problematic if the site is already colonized by invasive species. Plastic bailing twine should be removed from hay/straw bales. Wooden stakes should also be removed.

Maintenance:

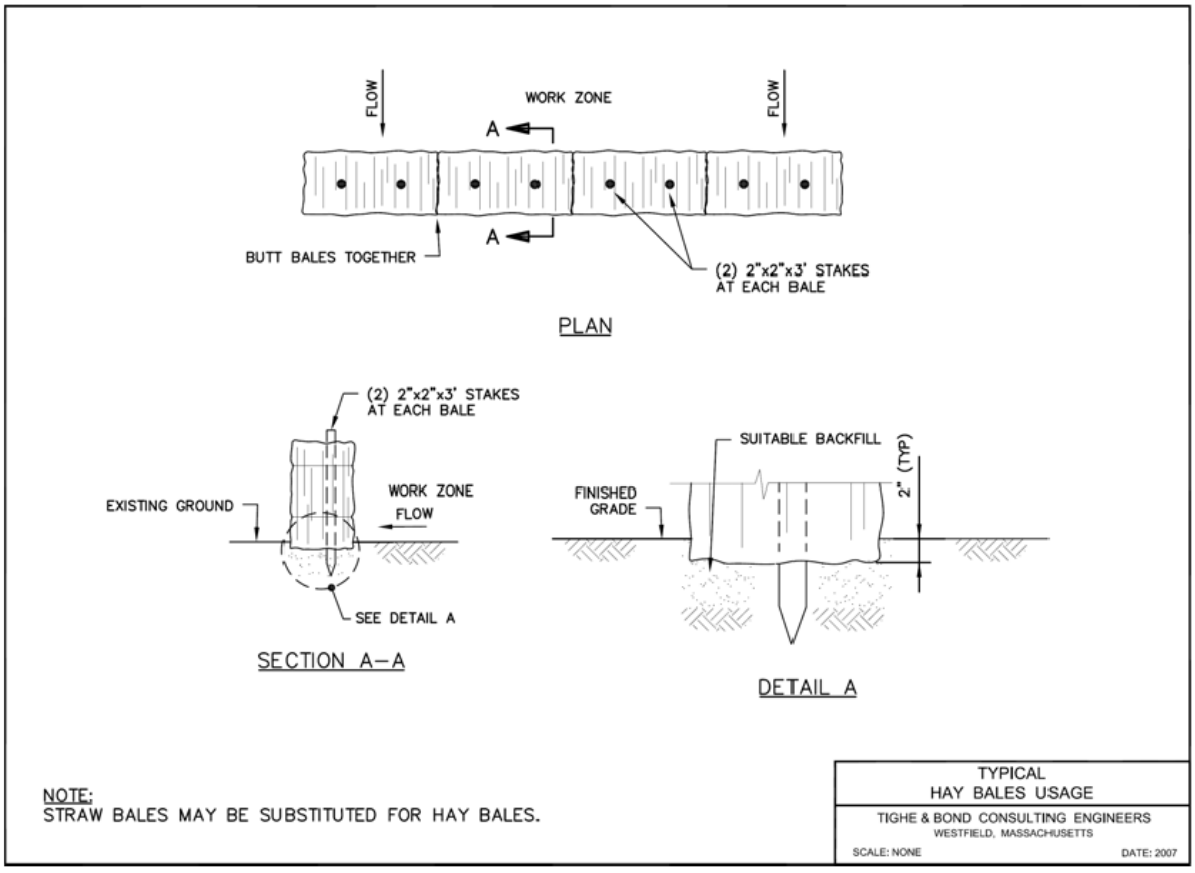
- Inspect before a forecasted storm event and daily during a prolonged rain event.
- Remove accumulated sediment and properly disposed outside sensitive areas when it has reached a thickness of ½ to ⅔ the height of the bale.
- Replace rotted or sediment-covered bales when necessary.

Additional Comments:

Straw bales are favored over hay bales for use as erosion control barriers. Since straw bales are composed of the dried stalks left over after a grain is harvested, they do not contain the plant's seeds and therefore will not spread growth of such species, some of which may be exotic, invasive or otherwise undesirable. Hay bales are generally less expensive, but consist of the seed heads and the upper, thinner portion of the stems which generally decay faster than straw.

Properly installed hay bale barrier with silt fence.

Properly installed hay bale barrier with silt fence.



1.4 Silt Fence

Applications: Sedimentation control, work limits, temporary animal barrier, slows flow on steep slopes

Limitations:

- Frozen or rocky ground (for installing stakes).
- May prevent critical movements of sensitive wildlife species.
- Disposal.

Overview:

Silt fence is constructed of a permeable geotextile fabric secured by wooden stakes driven into the ground. It is installed as a temporary barrier to prevent sediments from flowing into an unprotected and/or sensitive area from a disturbed site. A silt fence should be installed downgradient of the work area. Once the project is complete and soils are stabilized, silt fence materials (i.e., geotextile fabric and wooden stakes) must be removed and properly disposed off-site (see environmental scientist to determine if area is stabilized).

Installation:

- Install silt fence along the toe of a slope or along a fairly level contour with the outermost ends directed upslope. The fabric should be laid into a 6-inch wide by 6-inch deep trench dug on the upslope side of the fence and tamped down with fill material to ensure a sturdy base and so sediments will not flow beneath the fabric. Use of a Ditch Witch® or similar equipment is suggested for this task.
- Drive the silt fence stakes into the ground until secure (≥6 inches below grade).
- If a hay bale or straw bale barrier is being used with the silt fence, position the silt fence downgradient of the bales.
- The silt fence should be as far away from downgradient sensitive areas, and as close to the work areas as construction limitations allow, in order to disturb as little area as possible.

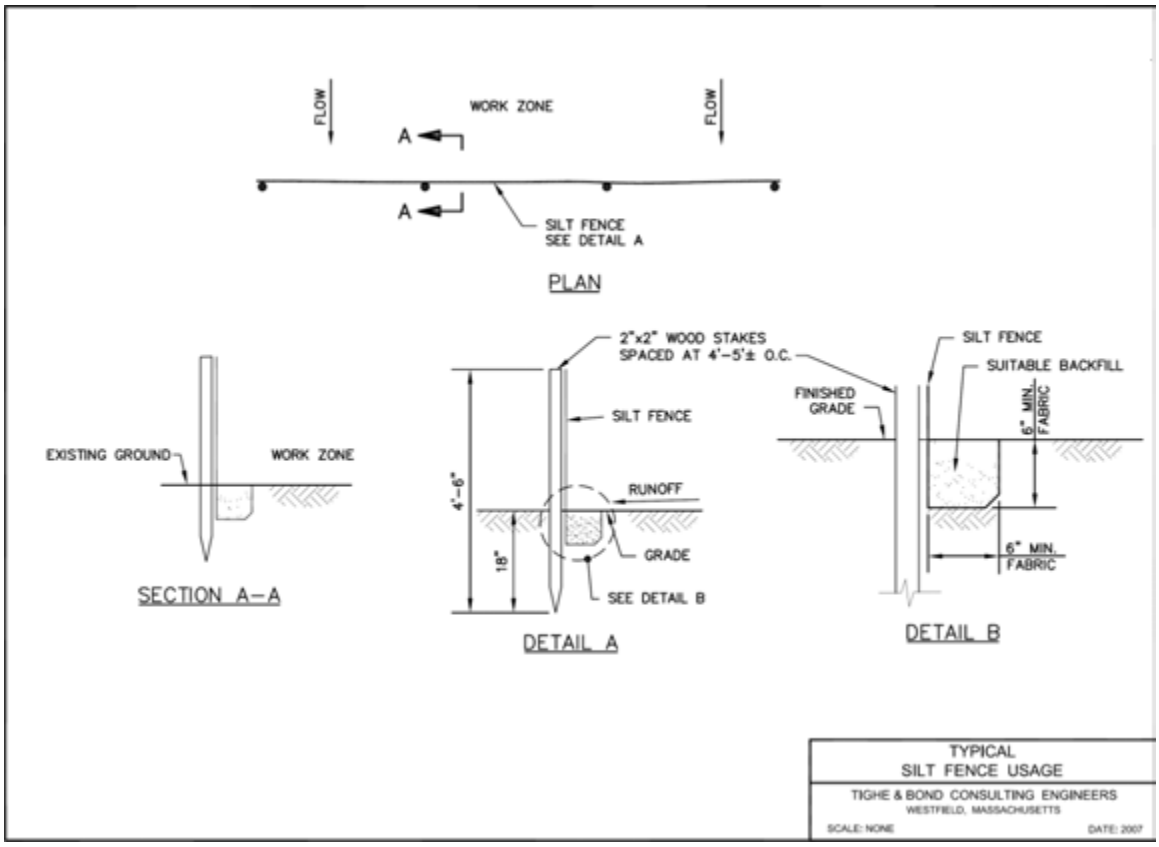
Maintenance:

- Inspect frequently and replace or repair as needed, especially during long-term projects.
- Routinely remove and properly dispose of sediment buildup in a stable upland area, outside of sensitive areas. Remove sediment when it has accumulated to a thickness of ½ the height of the silt fence.

Additional Comments:

A silt fence must be installed in an excavated trench and located where shallow pools can form so sediment can settle. The fence must be placed along the contour. If placed otherwise, water may concentrate to a low point and is likely to flow beneath the fence.

Properly installed and functioning silt fence. Direction of flow indicated by blue arrow.


FLOW
WORK ZONE
FLOW
A
A
SILT FENCE
SEE DETAIL A
PLAN
EXISTING GROUND
WORK ZONE
SECTION A–A
2"x2" WOOD STAKES
SPACED AT 4'–5'± O.C.
SILT FENCE
4'–6"
18"
RUNOFF
GRADE
SEE DETAIL B
DETAIL A
SILT FENCE
SUITABLE BACKFILL
FINISHED
GRADE
6" MIN.
FABRIC
6" MIN.
FABRIC
DETAIL B
TYPICAL
SILT FENCE USAGE
TIGHE & BOND CONSULTING ENGINEERS
WESTFIELD, MASSACHUSETTS
SCALE: NONE
DATE: 2007

1.5 Syncopated Silt Fence

Applications: Sedimentation control, work limits, slow flows on steep slopes, and permit wildlife movement.

Limitations:

- Frozen or rocky ground (for installing stakes).
- Complex installation compared to standard silt fence.
- Disposal.

Overview:

Syncopated silt fence refers to silt fence that is installed in a specific layout that permits wildlife movement. Many construction projects continue over at least one wildlife activity season, and silt fence may impede the movement of animals. Syncopated silt fencing is to be installed in areas where silt fencing may impede wildlife access to a resource (i.e., vernal pool, wooded area). These areas will be identified when developing wetland protection measures.

Installation:

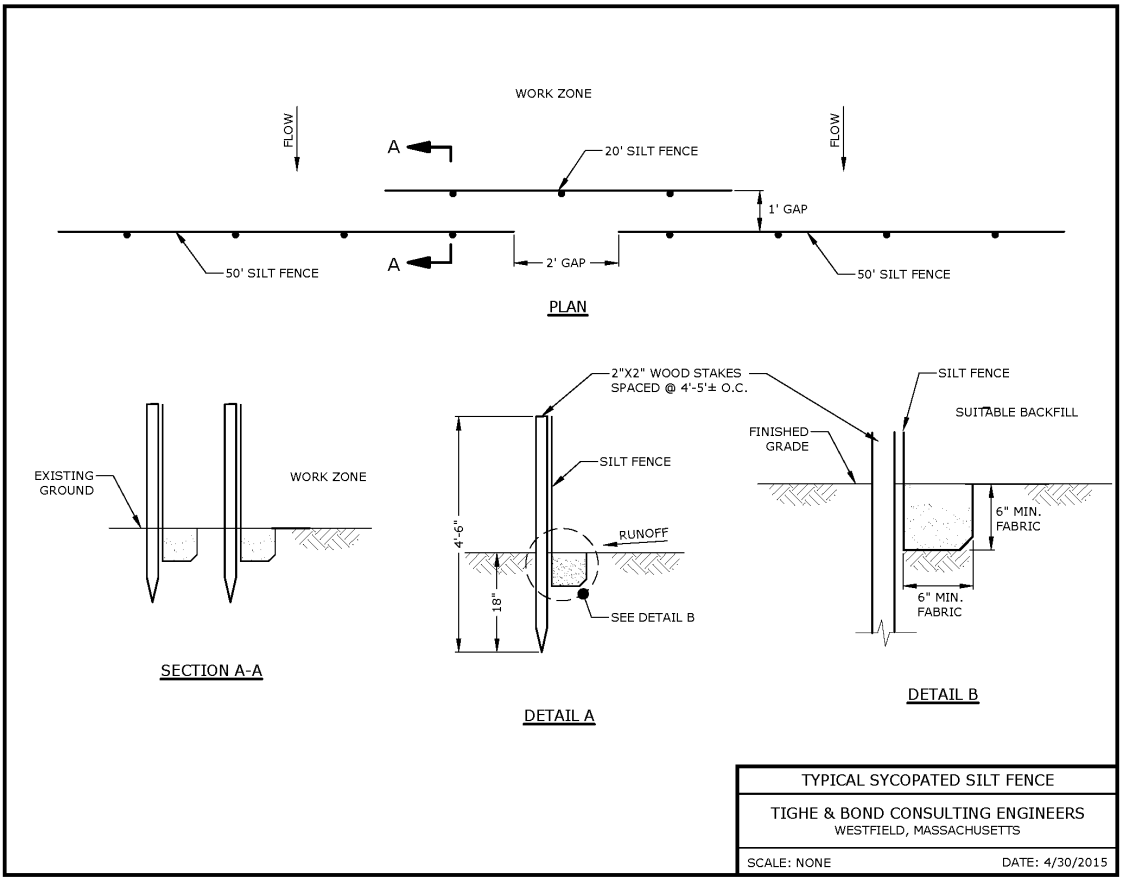
- The syncopated silt fence layout is shown on the typical below. For every 50 feet of siltation fence installed, allow for a gap of two feet before installing the next section. The gap allows wildlife movement One foot behind the main silt fence line, install a second row of silt fence approximately 20 feet in length and centered at the gap.
- Install silt fence along the toe of a slope or along a fairly level contour with the outermost ends directed upslope. The fabric should be laid into a 6-inch wide by 6-inch deep trench dug on the upslope side of the fence and tamped down with fill material to ensure a sturdy base and so sediments will not flow beneath the fabric. Use of a Ditch Witch® or similar equipment is suggested for this task.
- Drive the silt fence stakes into the ground until secure (≥6 inches below grade).
- If a hay bale or straw bale barrier is being used with the silt fence, position the silt fence downgradient of the bales.
- The silt fence should be as far away from downgradient sensitive areas, and as close to the work areas as construction limitations allow, in order to disturb as little area as possible.

Maintenance:

- Inspect frequently and replace or repair as needed, especially during long-term projects.
- Routinely remove and properly dispose of sediment buildup in a stable upland area, outside of sensitive areas. Remove sediment when it has accumulated to a thickness of ½ the height of the silt fence.

Additional Comments:

A silt fence must be installed in an excavated trench and located where shallow pools can form so sediment can settle. The fence must be placed along the contour. If placed otherwise, water may concentrate to a low point and is likely to flow beneath the fence.



1.6 Erosion Control Blankets

Applications: Slope stabilization, erosion and sedimentation control

Limitations:

- Can be used on steep (i.e. greater than 45°) slopes but not on rocky soils.
- Mulches may be more cost effective on flatter areas.

Overview:

Erosion control blankets are generally composed of biodegradable or synthetic materials and are used as a temporary or permanent aid in the stabilization of disturbed soil on slopes. These blankets are used to prevent erosion, stabilize soils, and protect seeds from foragers while vegetation is recolonized.

Installation:

- Always follow manufacturer's instructions for properly installing erosion control blankets. Different composition blankets are recommended for site-specific conditions (slope grades, contributing watershed areas) and use requirements (biodegradable, photodegradable, non-biodegradable).
- Prior to installation, clear the slope of any rocks, branches, or other debris.
- Rolled out blankets in a downward direction starting at the highest point of installation. Secure blankets above the crest of the slope using a berm tamped down along the top of the disturbed area.
- Tack down blankets with stakes or staples every 11 to 12 inches (or closer) horizontally and every 3 feet (or closer) vertically. Biodegradable staples are preferred.
- Overlap each blanket section horizontally with the next section by approximately 2 or 3 inches. Vertical overlaps should be approximately 6 inches, with the upslope section overlaying that of the down-slope section.

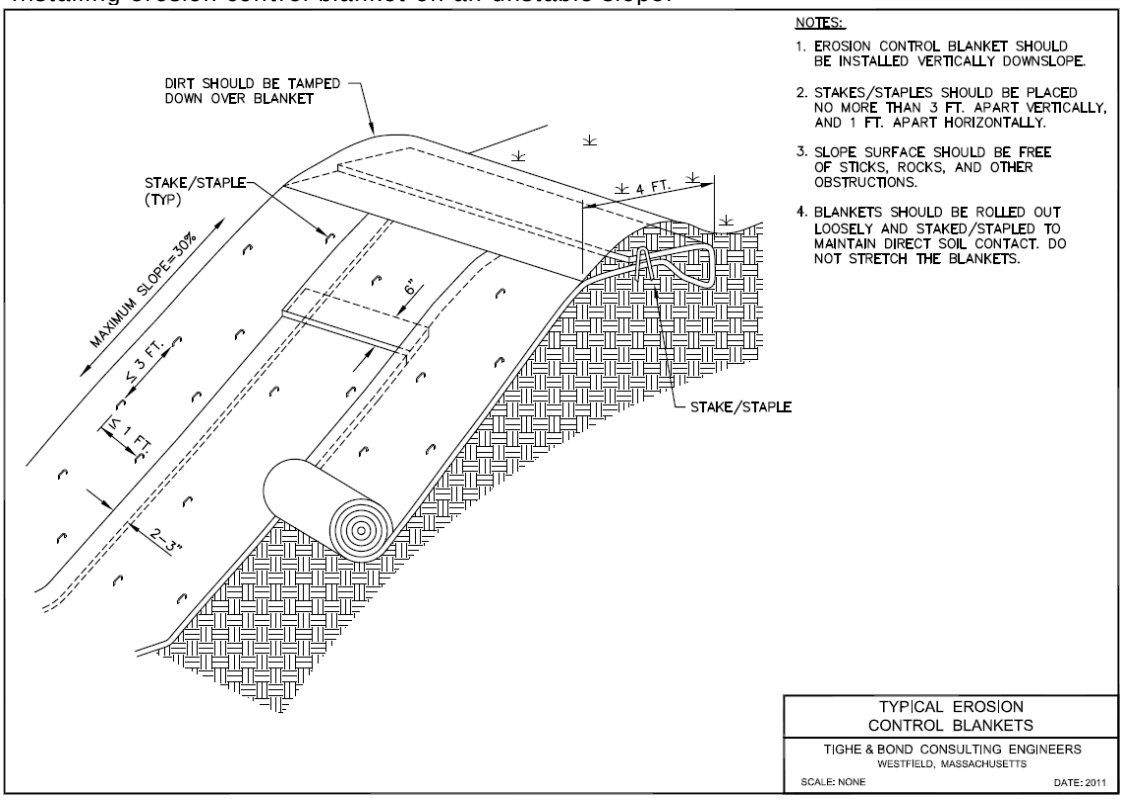
Maintenance:

- Inspect for movement of topsoil or erosion weekly and after major precipitation events. Inspect until vegetation is firmly established.
- Repair surface, reseed, replace topsoil, and install new netting if washout, breakage, or erosion occurs.

Additional Comments:

Additional materials used for erosion control with a continuous sheet or material include Jute Mats (sheets of woven jute fiber) and Turf Reinforcement Matting (geotextile matrix most effective for channels).

Installing erosion control blanket on an unstable slope.



1.7 Straw/Compost Wattles

Applications: Erosion and sedimentation control, work limits

Limitations:

- Not recommended for steep slopes.

Overview:

Straw wattles are used as an erosion control device to slow runoff velocities, entrain suspended sediments, and promote vegetation growth until an area is stabilized. They are not generally intended for steep slopes, but rather, to stabilize low to moderate grades where there is a broad area of disturbance. Straw wattles may also be used along small stream banks to protect areas before vegetation has stabilized the soils. The wattles are constructed from a biodegradable netting sock stuffed with straw and may be left to biodegrade in place once a project is complete.

Wattles should be placed lengthwise, perpendicular to the direction of runoff. The wattles are typically spaced about 10 to 40 feet apart, depending on the slope angle. Additionally, the soil texture should be considered – for soft, loamy soils, wattles should be placed closer together; for coarse, rocky soils, they may be placed further apart.

Installation:

- Install prior to disturbing soil in the upgradient drainage area.
- Install so that the ends of each row of wattles on a slope are slightly turned downhill to prevent ponding behind them.
- Where straw wattles are installed end-to-end, butt the wattles tightly together so as not to allow water/sediments to flow between them.
- Place straw wattles in a shallow trench to assure stabilization and soil should be packed against the wattle on the uphill side.
- Securely stake straw wattles to the ground by driving a stake directly through the wattle approximately every four feet. A portion of each stake should remain approximately 2 to 3 inches above the wattle.
- Use *without* silt fence reinforcement: at the base of shallow slopes, on frozen ground, bedrock, and rooted, forested areas.
- Use *with* silt fence reinforcement: at low points of concentrated runoff, below culvert outlets, at the base of slopes more than 50 feet long, and in places where standalone mulch wattles have failed.

Maintenance:

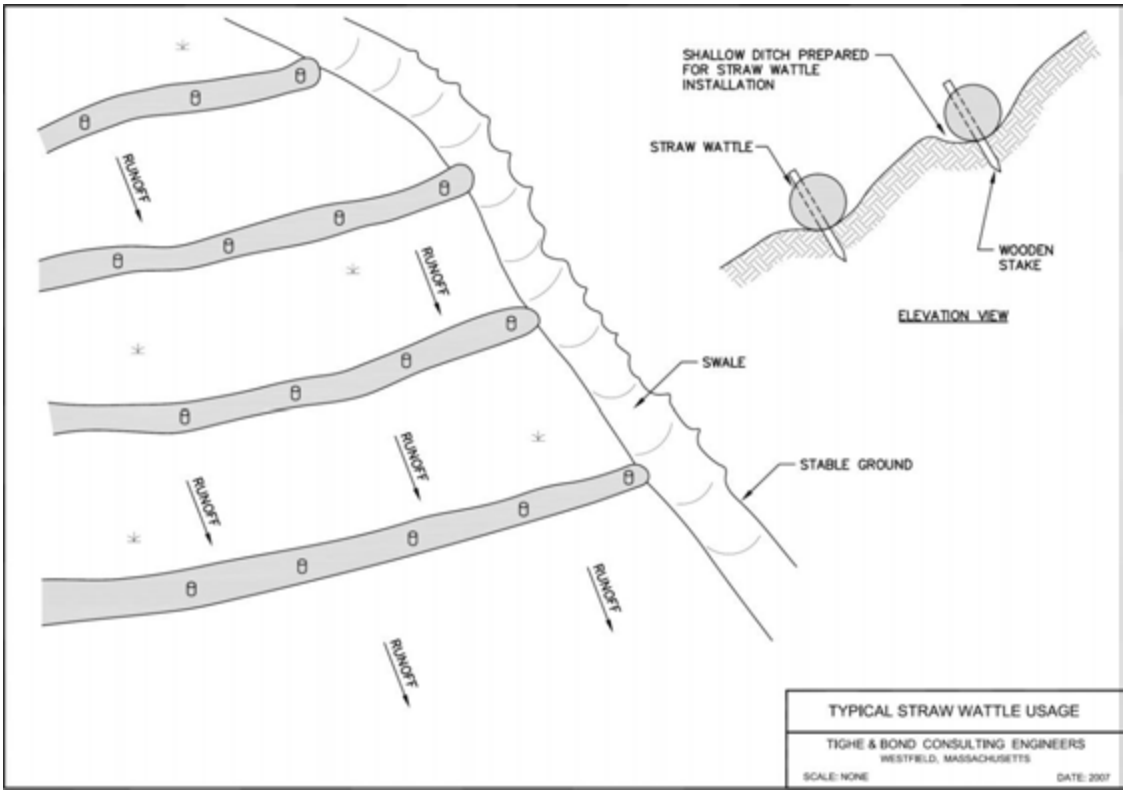
- Routinely inspect wattles and after rain events. Repair as needed with additional wattles and/or stakes.
- Remove sediment deposits when they reach half the height of the wattle. Repair or reshapes wattles when they have eroded or have become sediment clogged or ineffective.

- If flow is evident around the edges, extend the barriers or evaluate replacing them with temporary check dams.

- Reinforce the berm with an additional sediment control measure, such as silt fence or a temporary rock check dam, if there is erosion or undercutting at the base or sides of the berm or if large volumes of water are being impounded behind the berm.

Additional Comments:

Woody vegetation and tall grasses may need to be removed before installing the berm to prevent voids that allow sediment under the berm. Wattles can also be planted with woody vegetation and seeded with legumes for additional stability.


SHALLOW DITCH PREPARED FOR STRAW WATTLE INSTALLATION
STRAW WATTLE
WOODEN STAKE
ELEVATION VIEW
RUNOFF
SWALE
STABLE GROUND
TYPICAL STRAW WATTLE USAGE
TIGHE & BOND CONSULTING ENGINEERS
WESTFIELD, MASSACHUSETTS
SCALE: NONE
DATE: 2007

1.9 Catch Basin Protection

Applications: Erosion and sedimentation control

Limitations:

- For small quantity and low velocity stormwater flows.
- Hay/straw bales hard to stake into paved areas.
- Ineffective for very silty water.
- May require authorization from local government for discharge to municipal system.
- Fabric drop inlet should be used where stormwater runoff velocities are low and where the inlet drains a small, nearly level area.
- Undercutting and erosion under filter fabric if fabric is not buried at bottom.

1.9.1 Hay/Straw Bales, Filter Fabric, and Filter Baskets

Overview:

Hay bales, filter fabric, and filter baskets are all temporary devices placed around and within existing catch basin inlets to protect the stormwater management system from high sediment loads and high velocities during construction. Use in areas where stormwater runoff is relatively small and velocities are low and where shallow sheets of run-off are expected.

Hay/Straw Bales Installation: Hay/straw bales are recommended for areas which have the storage space to allow temporary ponding since they are one of the least permeable protection methods.

- Installation is similar to perimeter hay/straw bale barriers.
- Use bales that are wire bound or string tied. Place bales so that the bindings are on the sides of the bales rather than against the ground.
- Install hay/straw bales in a box configuration around the drop inlet with the ends of the bales placed tightly against each other.
- If the area is unpaved, anchor bales using two stakes driven through the bale and into the ground.
- Hay bales can be placed around the perimeter of the inlet in order to extend the life of the filter fabric and/or basket by removing much of the sediment before-hand.

Filter Fabric Installation: Filter fabric is used to protect catch basins from excessive sediment.

- Cut fabric from a single roll.
- Place fabric beneath catch basin grate.
- Avoid setting top of fabric too high, which will lead to flow bypassing the inlet.

Filter Baskets/Bags Installation: Install filter baskets/bags within catch basins in combination with hay bales, fabric, stone or sod drop inlets. They may be used alone where drainage area is small with shallow flows.

- Install per manufacturer's instructions.
- Filter baskets typically consist of a porous fabric bag which is fitted under the catch basin grate.
- Sediments are filtered out of the stormwater and accumulate in the basket or bag.

Maintenance:

- Inspect weekly and after each major rain event.
- Remove accumulated sediment on a regular basis.
- Replace or make repairs as needed.
- Remove after area is permanently stabilized.

Additional Comments:

Discharge of clean water into municipal system catch basins may be an option for certain sites. However, this activity must be coordinated with the municipality and shall not occur without their written consent.

1.9.2 Sod or Stone Mound Drop Inlets

Overview:

Sod or stone mound drop inlets are temporary devices placed around and within existing catch basin inlets to protect the stormwater management system from high sediment loads and high velocities. They are used in areas where stormwater run-off is relatively heavy and overflow capacity is necessary. Sod should only be used in well vegetated areas and when the general area around the inlet is planned for vegetation and is well suited for lawns. Stone mounds are well suited for the heaviest flows.

Installation:

- For Sod: Place a mound of permanently vegetated sod around the perimeter of the inlet to a minimum height of 6 inches.
- For Stone: Stone can be used alone or in combination with stacked concrete blocks. Gravel alone will slow drainage time and increase settlement.
- Place wire mesh with ½" openings over the inlet with 1 foot extending on each side. Overlay with filter fabric.
- Surround inlet with mound of gravel, 1" diameter or smaller, to a minimum height of 6", placed over the mesh.
- If blocks are used, stack them around the inlet, between 12 and 24" high, place mesh over the openings and pile the gravel against the outside face of the blocks.

Maintenance:

- Inspect weekly and after each major rain event.
- Remove accumulated sediment when it reaches ½ of the height of the filter mound. Stone especially must be regularly maintained.

- Repair erosion as necessary.
- If the storm flow bypasses inlet and causes erosion, the top of the structure is too high.
- If the trap is not efficient and/or there is sediment overload, the drainage area is too large to handle load. Consider constructing a temporary sediment trap.
- If scour holes develop (if blocks are being used), blocks are not placed snugly against the inlet grate.

Filter Baskets/Silt Bags

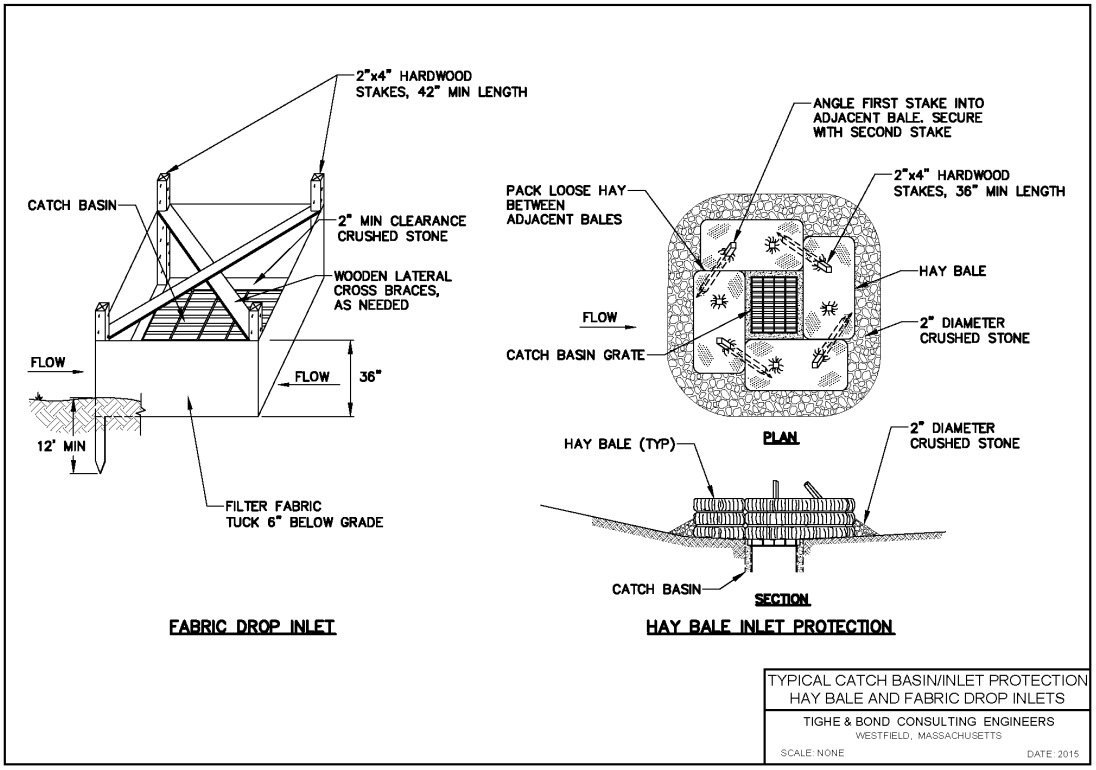
Filter baskets/silt bags are installed within catch basins in combination with hay bales, fabric, stone or sod drop inlets. They can potentially be used alone where drainage area is small with shallow flows. They may cause ponding or may rip under heavier flows without the additional external filtering method.

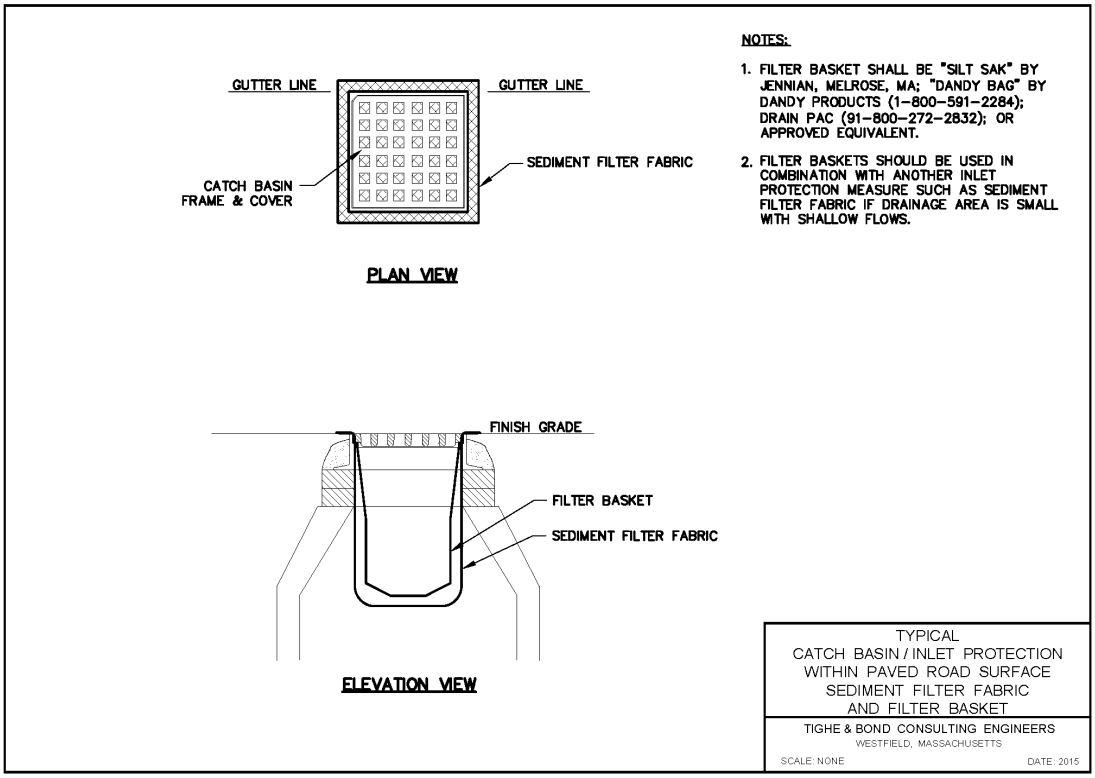
Installation:

- Several trademarked/name brand filter/silt bags exist and should be installed per the manufacturer's instructions. Almost all consist of a porous fabric bag which is fitted under the catch basin grate. Sediments are filtered out of the stormwater and accumulate in the bag.

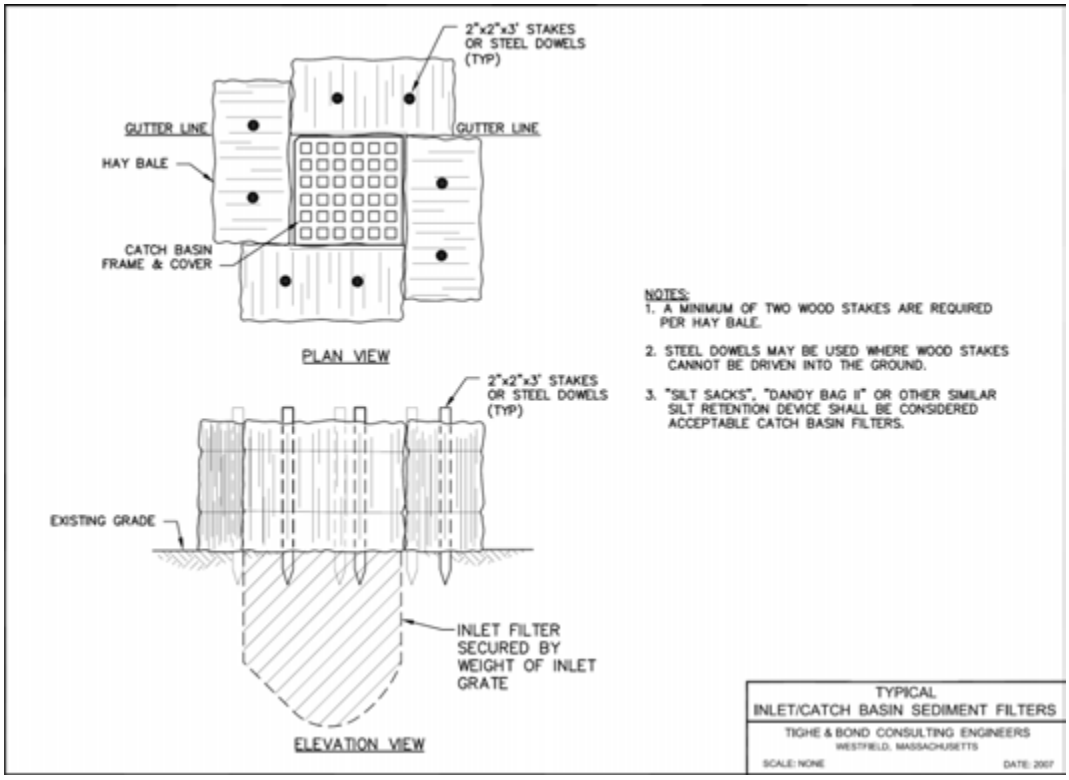
Maintenance:

- Inspect inlet and fabric weekly and after each major rain event.
- Remove sediment when the bag is halfway full.
- Replace bags as necessary due to wear or ripping.





Catchbasin protected from sedimentation by filter fabric.


2"x2"x3' STAKES
OR STEEL DOWELS
(TYP)
GUTTER LINE
GUTTER LINE
HAY BALE
CATCH BASIN
FRAME & COVER
PLAN VIEW
2"x2"x3' STAKES
OR STEEL DOWELS
(TYP)
EXISTING GRADE
INLET FILTER
SECURED BY
WEIGHT OF INLET
GRATE
ELEVATION VIEW
NOTES:
1. A MINIMUM OF TWO WOOD STAKES ARE REQUIRED PER HAY BALE.
2. STEEL DOWELS MAY BE USED WHERE WOOD STAKES CANNOT BE DRIVEN INTO THE GROUND.
3. "SILT SACKS", "DANDY BAG II" OR OTHER SIMILAR SILT RETENTION DEVICE SHALL BE CONSIDERED ACCEPTABLE CATCH BASIN FILTERS.
TYPICAL
INLET/CATCH BASIN SEDIMENT FILTERS
TIGHE & BOND CONSULTING ENGINEERS
WESTFIELD, MASSACHUSETTS
SCALE: NONE
DATE: 2007

1.10 Loaming and Seeding

Applications: Erosion control, soil stabilization, site restoration

Limitations:

- May be site specific limitations (e.g. permit or State requirements).
- Applies to upland areas only.

Overview:

Permanent seeding is appropriate for vegetated swales, steep slopes, or filter strips. Temporary seeding is used if construction has ceased and if an area will be exposed.

Installation:

- Apply loam/ topsoil prior to spreading seed mix per manufacturer's recommendations. Apply water, fertilizer, and mulch to seedbed, as needed.
- Plant native species of grasses and legumes where practicable.

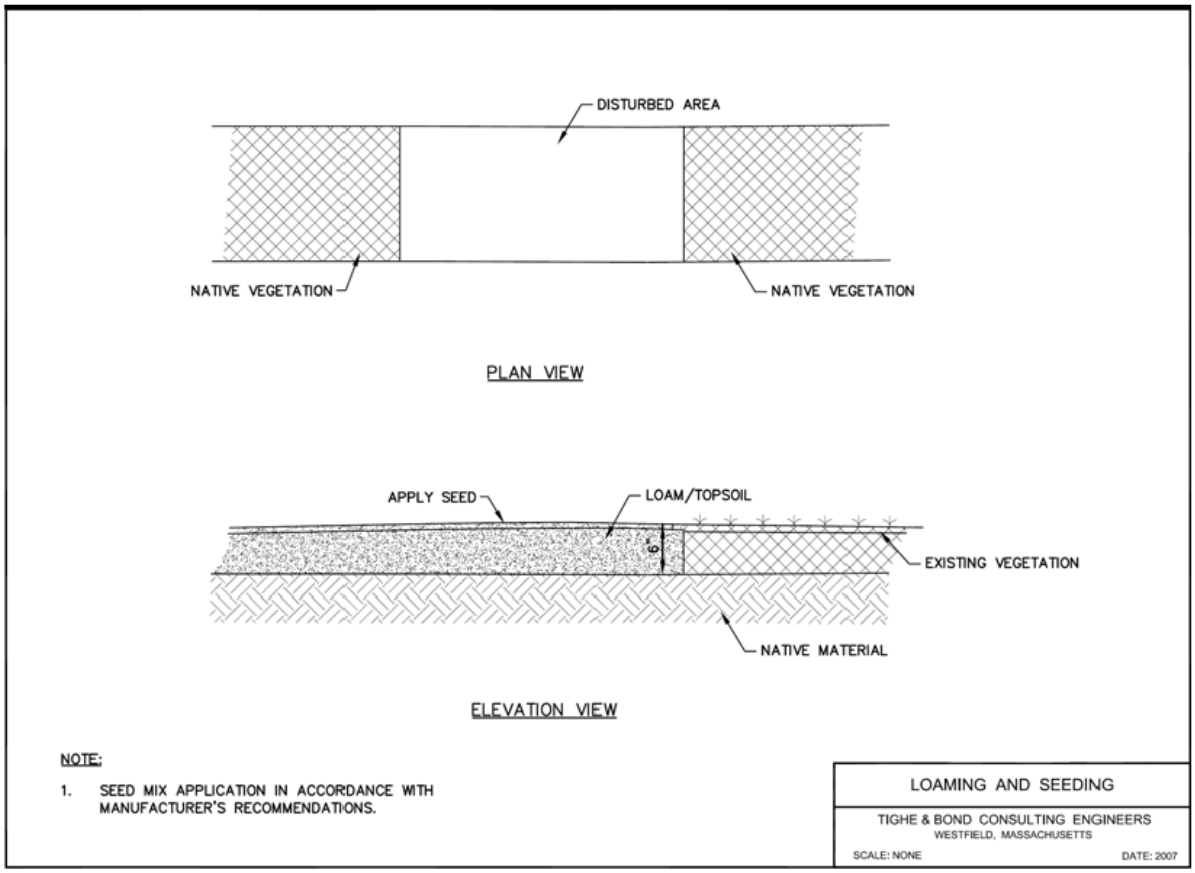
Maintenance:

- Inspect on regular basis until vegetation has established.
- If washout or erosion occurs, repair surface, re-seed, re-mulch and install new netting.
- Follow permit requirements regarding use of wetland seed mix in wetlands where required.

Additional Comments:

Cool Season Grasses	Warm Season Grasses
• Best growth in the cool weather of fall and spring, set seed in June and July. • Seed April 1-May 31 and Aug 1-Sept 10.	• Growth begins in the spring, accelerates in the summer, and plants set seed in the fall. • Seed April 1-May 15, dormant seeding Nov 1-Dec 15.

Loaming and seeding of recently disturbed right of way.



1.11 Mulching with Hay/Straw/Woodchips

Applications: Erosion control, soil stabilization, site restoration

Limitations:

- May be site specific limitations (e.g. permit or State requirements).
- Applies to upland areas only.
- Thick mulch may prevent seed germinations.
- Mulch on steep slopes must be secured with netting to prevent it from being washed away.

Overview:

Mulching consists of an application of a protective blanket of straw or other plant residue, gravel, or synthetic material to the soil surface to provide short term soil protection. It enhances plant establishment by conserving moisture and moderating soil temperatures, and anchors seed and topsoil in place. Mulch also reduces stormwater runoff velocity.

Application rates and technique depend on material used. Select mulch material based on soil type, site conditions and season. Straw/hay provides the densest cover if applied at the appropriate rate (at least ½ inch) and should be mechanically or chemically secured to the soil surface. Woodchip application can be less expensive if on-site materials are used.

Installation:

- Use in areas which have been temporarily or permanently seeded.
- Use mulch netting on slopes greater than 3% or in concentrated flows.
- Mulch prior to winter (ideally in mid-summer).

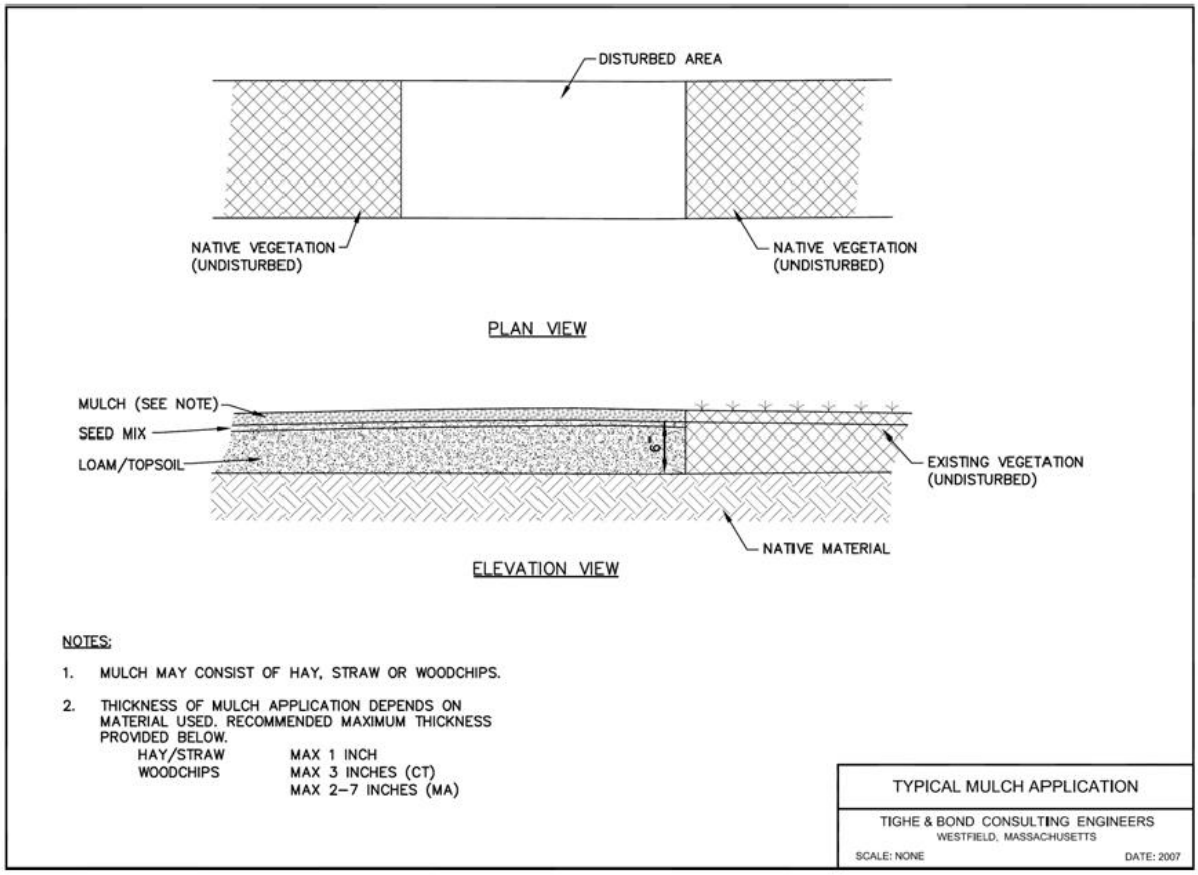
Maintenance:

- Inspect on regular basis until vegetation has established.
- If washout or erosion occurs, repair surface, re-seed, re-mulch, and install new netting.

Additional Comments:

Type	Description/Use
Straw/Hay	• Straw or hay applied to surface at 2-4 tons per acre • Mechanically or chemically secured to soil surface • Provides the densest cover to protect soil and seeds
Wood Fiber/Hydraulic Mulch	• Chopped up fibers applied to the soil surface with a hydroseeder • Tackifier when necessary can be applied with fiber, seeds and fertilizer in one step. This is best when done with fast growing seeds
Compost	• Compost acts as a soil amendment but is more expensive than most mulches • Its efficiency is comparable to wood fiber
Wood Chips	• Use of wood chips as a mulch saves money if on-site materials are used • Effective when applied at high levels (6 tons per acre) and on up to 35% slopes

Typical view of light mulching atop unstable, seeded soils.



1.12 Coir Log Use for Bank Stabilization

Applications: Bank stabilization, wetlands and watercourse restoration

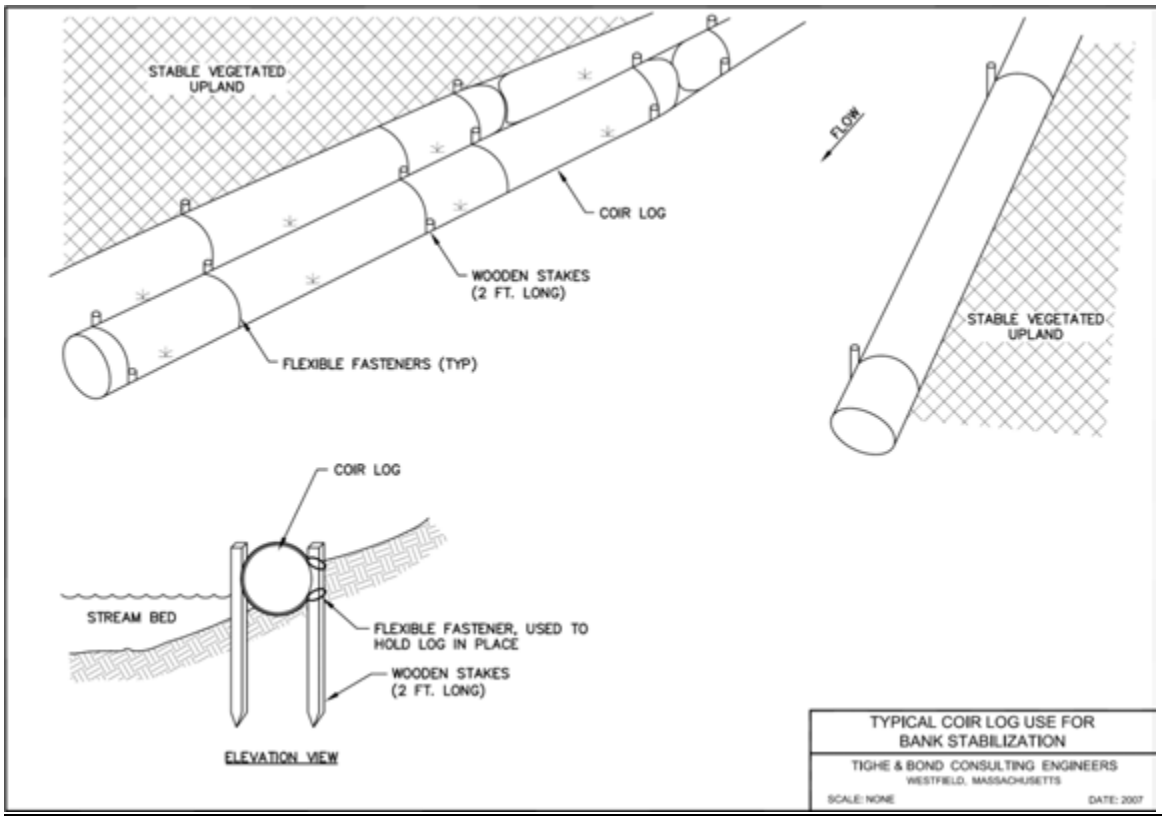
Limitations:

- Moderately expensive.

Overview:

- Refer to permit requirements (if applicable) and manufacturer's specifications.
- Install along banks between upland and watercourse using wooden stakes (2 foot long) and flexible fasteners (to hold log in place).

Coir logs used to restore a stream bed and banks.



1.14 Check Dams

Applications: Stormwater management, erosion control

Limitations:

- Need to be adequately sized based on expected rain events.

Overview:

Check dams are porous physical barriers placed across a drainageway to reduce the velocity of concentrated stormwater flows and erosion. Check dams also temporarily pond stormwater runoff to allow sediment in the water column to settle out. Permanent or long-term check dams are typically constructed of rip rap or other stone material. Short-term check dams can be constructed of rip rap. Rip rap check dams are preferred over hay bales.

Installation:

- Place stone by hand or machine, making side slopes no steeper than 1:1 and with a maximum height of 3 feet at the center of the check dam. A geotextile may be used under the stone to provide a stable foundation and/or to facilitate removal of the stone.
- The minimum height of the check dam shall be the flow depth of the drainageway, but shall not exceed 3 feet at the center.
- Install the check dam so that it spans the full width of the drainageway, plus 18 inches on each side. Leave the center of the check dam approximately 6 inches lower than the height of the outer edges.
- The maximum spacing between check dams should be such that the toe of the upstream check dam is at the same elevation as the top of the center of the downstream check dam.

Maintenance:

- For permanent stone check dams, inspect and maintain the check dam in accordance with the standards and specifications provided in the design for the site.
- For temporary check dams, inspect at least once per week and within 24 hours of the end of a precipitation event of 0.5 inches or more to determine maintenance needs.
- Maintenance may include, but are not limited to, the replacement of stone, repair of erosion around or under the structure, and/or the removal and proper disposal of accumulated sediment.

Problem	Solution/Explanation
Stone displaced from face of dam	Stone size too small and/or face too steep
Erosion downstream from dam	Install stone lined apron
Erosion of abutments during high flow	Rock abutment height too low
Sediment loss through dam	Inadequate layer of stone on inside face or stone too coarse to restrict flow through dam

Stone check dams at construction site.

Stone check dam at construction site.

2.1.2 Frac Tank

Applications: Dewatering, managing contaminated groundwater

Limitations:

- Expensive
- May be site specific limitations (e.g. extremely unlevel ground)
- May require proper disposal at a regulated facility (in cases of contaminated groundwater)

Overview:

Frac Tanks are pre-fabricated and self-contained units that contain a series of baffles that allow fine materials to settle out of the water column. Use frac tanks when the work requires dewatering in an area with very silt laden water and/or contaminated groundwater.

Frac tank on-site for dewatering activities.

2.1.3 Filter Bags and Hay Bale Containment Area

Applications: Dewatering

Limitations:

- Pumps require oversight at all times.
- Filter bags clog and require replacement.

Overview:

Use filter bags with hay bale containment area for dewatering when there is the potential for discharged water to flow overland into wetlands or waterbodies. Locate dewatering sites in well-vegetated areas within the right of way or approved work areas. Locate discharges outside of wetlands and over 100 feet from a streambank or waterbody, if practicable.

Installation:

- Place pump in a containment structure (i.e., child-sized plastic pool) to avoid fuel leakage to the wetlands or waterways.
- Properly place the discharge hose into a pre-manufactured, geotextile filter bag per the manufacturer's instructions.
- Place the filter bag in a well-vegetated area outside of a wetland area and over 100 feet from a waterbody, if practicable.
- Elevate the intake hose off the trench bottom and create a sump with clean rock in order to avoid pumping additional sediment.
- Build a hay bale corral for the filter bag if the water must be discharged within 100 feet of a wetland, waterbody, or other sensitive area.
- Stake a double vertical line of hay bales in an "L" or "U" shape on the downgradient sides of the bag to further filter the discharge water.

Maintenance:

- Man the pump at all times.
- Refuel pump within a plastic containment structure and/or over 100 feet from the wetland or waterbody.
- Routinely check the filter bag during pumping activities to ensure that it is not reaching its holding capacity.
- If the bag appears to be nearing its limits, stop dewatering until more water has filtered out and the bag can be replaced.
- Properly dispose of used filter bags and trapped sediment.

2.1.4 Discharge Hose Filter Socks

Applications: Dewatering

Limitations:

- Ineffective for very silty water

Overview:

Use discharge hose filter socks at sites where there is insufficient space to construct sediment basins or enough suitable uplands for overland flow and infiltration. Filter "socks" or bags may be affixed to the end for the discharge hose of the pump and used for dewatering. It is important that enough socks be on hand at the site to accommodate the anticipated need, as they fill fast with more turbid water. Additional measures such as hay or straw bales can be installed around the filter device for added protection.

Dewatering to filter "sock" surrounded by hay bales.

2.4 Silt Barriers

Applications: Turbidity control

Limitations:

- Must be rated to withstand anticipated flow velocity and quantity.

Overview:

Staked and floating silt barriers are temporary flexible barriers used within a waterbody to separate or deflect natural flow around a work area. Barriers are placed around the sediment source to contain the sediment-laden water, allowing suspended soil particle to settle out of suspension and stay in the immediate area. The staked barrier consists of geotextile fabric attached to support posts and a wire support fence and a chain sewn into a sleeve along the bottom edge to allow the barrier to conform to the channel.

The floating silt barriers are often called silt or turbidity curtains, and can be purchased from manufacturers or can be made on site. Construction generally includes a skirt (geotextile fabric) that forms the barrier, flotation segments such as styrofoam sealed in a seam along the top of the fabric, a ballast chain sealed into a sleeve along the bottom edge of the fabric, a loadline built into the barrier above or below the floatation segments, and piles or posts tied back to underwater or on shore anchor points.

Staked Silt Barriers

- For installations which only isolate a part of the stream, barriers can be used in higher flows (shallow streams with currents less than 0.5 ft/s).
- Do not use in streams/river with strong currents, strong waves, ice, floating debris, or boats and do not place barriers completely across stream channels unless they are minor or intermittent streams with negligible flow.

Installation:

- Place the staked barrier and wire support fence at least 1 foot above the waterline. Do not install in a waterbody deeper than 4 feet.
- Place support stakes 10 feet apart and drive them 2 feet into the channel bottom.
- Fasten the wire mesh securely against the fabric with heavy duty wire staples at least 1″ long. If possible, use a continuous roll of fabric and fasten securely to the posts with heavy duty staples with a maximum spacing of 2″.
- Where possible, prefabricate a staked barrier on shore. Carefully roll it up lengthwise and move it into place.
- Secure the bottom edge of fabric to the channel bottom by placing a heavy chain into a sewn sleeve along the fabric edge, or by placing clean rockfill over the edge.

Floating Silt Barriers

- Use only in negligible or low flow conditions. Can be used for instream areas between 2.6 feet and 6 feet deep and with waves potentially up to 10 feet.

- Do not use to stop, divert, or filter a significant volume of water.

Installation:

- Purchasing a pre-manufactured silt curtain such as Siltmaster® will save time constructing the barrier. Follow manufacturer's advice for the area.

- Enclose the smallest area as practicable. Locate the barrier far enough away from construction equipment to avoid damage.

- Launch the furled barrier from a ramp, pier or shore. Set the shore anchor points and tie off one end of the barrier to the stream anchor point and the downstream end to a boat. Bring to the downstream point to be anchored.

- Anchor the barrier in the desired formation and make sure the skirt is not twisted around the flotation.

- Cut the furling ties and let the ballast sink to its maximum depth.

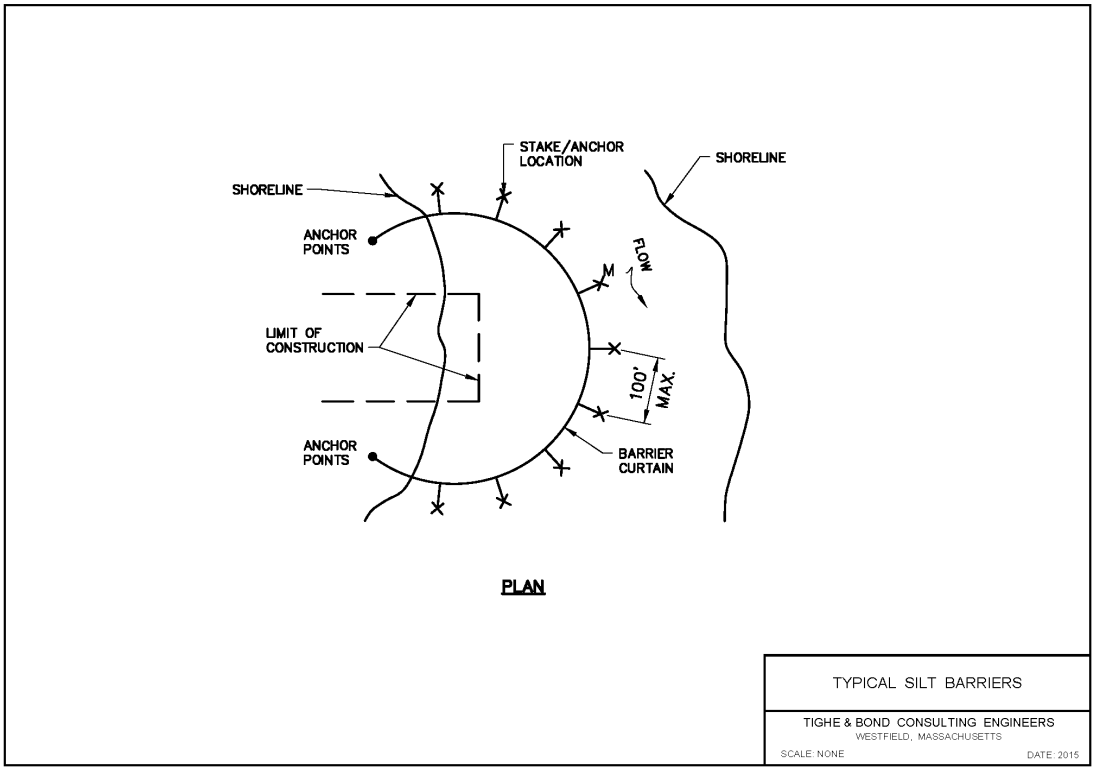
- Slant the barrier at an angle, not perpendicular to the flow. If the barrier will be exposed to reversing currents, anchor it on both sides.

Maintenance for both:

- Inspect daily for any rips or tears or turbidity in the stream flow. Repair immediately with overlapping pieces of geotextile fabric.

- Remove accumulated sediment from the base of the barrier. If necessary, dewater turbid water to an onshore filter bag before removing the barrier.

- Remove the barrier carefully when the work is completed and after suspended sediments have time to settle out.


STAKE/ANCHOR LOCATION
SHORELINE
SHORELINE
ANCHOR POINTS
FLOW
LIMIT OF CONSTRUCTION
100' MAX.
ANCHOR POINTS
BARRIER CURTAIN
PLAN
TYPICAL SILT BARRIERS
TIGHE & BOND CONSULTING ENGINEERS
WESTFIELD, MASSACHUSETTS
SCALE: NONE
DATE: 2015

Section 4
Inspection and Maintenance

A pre-construction meeting will be held to discuss how often and who will be checking that all erosion and sedimentation controls are in working order. All BMPs will be inspected at least once per week during construction and at least once per month during restoration. Construction sites will be inspected after major storm events (rainfall events greater than 0.25 inches).

4.1 During Construction

Construction sites, construction access roads, and the associated erosion and sedimentation controls should be inspected by the person(s) designated at the pre-construction meeting, as required by permit conditions. Any damage observed must be repaired in a timely matter, at least within 48 hours of observation. Repairs may include regrading and/or top dressing the surface with additional aggregate to eliminate ruts as well as those repairs required by each erosion and sedimentation measure used.

All inspections will be documented in the project folder.

4.1.1 Maintenance of E&S Controls

Spare erosion and sedimentation control materials such as straw wattles, hay/straw bales and silt fencing should be kept on site or readily available so they may be replaced if they become non-functional due to deterioration or damaged during a storm, extreme water or wind, or other unexpected events.

4.1.2 Rapid Wetland Response Restoration

In the event of unintended discharges of sediment into wetlands, Eversource will quickly control, contain and remove sediment using non- or marginally invasive methods. Responding quickly to unintended discharges minimizes the difficulty and cost of restoration if the sediment is left in place for an extended period of time. Eversource will conduct sediment removal activities at the time of discharge and will notify the appropriate regulators of the discharge and the restoration process.

4.1.3 Vehicle Storage

All storage and refueling of vehicles and other equipment must occur outside of and as far away as practical from sensitive areas such as wetlands, unless specifically agreed by the Project Team and an alternate protocol is developed and approved internally. Refueling for larger, less mobile equipment such as drill rigs or large cranes, may be allowed within wetland resources only with prior approval and if specified precautions and protocols are followed. A proper location for refueling should be identified and designated before site work begins. The recommended minimum distance from wetland areas for storage of fuel and refueling is 100 feet. Additionally, equipment should be checked regularly for evidence of leaks. Construction material storage should also be located at least 100 feet from wetlands.

4.1.4 Spills

Spill kits consist of emergency cleanup and spill containment materials that can be used in the event of a fuel or other chemical spill. Spill kits must be kept on site and accessible at all times in case of an emergency spill. Such kits should generally contain multiple absorbent socks and/or pillows and wipes and temporary disposal bags. Follow the applicable Eversource Contractor Work Rules.

4.1.5 Post Construction

Post-construction inspections of restored areas will be conducted at regular intervals throughout the growing season, as required by any applicable permits, and/or after major storm events. Sites should be inspected for success or failure of revegetation, invasive species colonization, and erosion and sedimentation. In the event additional measures are required to achieve site restoration and stabilization, corrective actions shall be identified and implemented.

All information collected during inspections, regular maintenance, and repair procedures should be documented in project folders. In addition, photographic or diagrammatic logs may be kept to help record certain events and for documentation of project progress and any noteworthy observations.

The construction work is not complete until all areas are restored.

Section 5
Rehabilitation and Restoration

5.1 Restoration

All areas disturbed by construction, repair, and maintenance activities shall be substantially restored to pre-construction conditions. Please refer to Appendix A Section I for photos and typicals for loaming, seeding, and mulching. Prompt restoration minimizes the extent and duration of soil exposure and protects disturbed areas from stormwater runoff. Stabilization should be conducted as soon as practicable. Where appropriate, it is preferable to allow wetlands to naturally revegetate.

5.1.1 Seed Mixes

Several different seed mixes are available for upland and wetland restoration. State-specific comprehensive summaries of seed mixes for both temporary and permanent seeding of disturbed sites can be found within the following documents:

- Massachusetts: Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas, page 157: http://www.mass.gov/eea/docs/dep/water/essec1.pdf

- Connecticut: 2002 Connecticut Guidelines for Soil and Erosion Sediment Control, page 5-3-8: http://www.ct.gov/deep/cwp/view.asp?A=2720&Q=325660

Upland Seed Mix: If significant grading or upland alteration has occurred, annual rye grass seed shall be placed following manufacturer's recommendations after regrading activities.

Wetland Seed Mix: If significant grading or wetland alteration has occurred, a wetland seed mix shall be placed following manufacture's recommendations after regrading activities.

5.1.2 Upland

The following restoration techniques apply to restoration projects in upland areas.

- Soil excavated during construction and not used as backfill must be evenly spread onto disturbed areas to restore grades. Topsoil shall be stripped and separated to the extent practical, for re-use. Permanent soil protection shall be provided for all areas disturbed by construction activities. All areas will be seeded either by Hydro-seeding or broadcast seeding. If areas cannot be seeded due to the time of year, then mulch (hay or straw) is still required prior to the next precipitation event.
- Topsoil removed during construction activities will be replaced, seeded, and mulched.
- All areas that are broadcast seeded shall be treated with a layer of mulch, such as hay, but preferably straw, up to one inch thick to enhance moisture retention, dissipate disturbance from precipitation, and detract birds foraging on broadcast seed.

- Rehabilitation of access routes and other areas must be performed as soon as practicable after construction is completed, including reestablishment of water bars or other BMPs to control erosion of the access road, and the removal and restoration of temporary wetland or waterway crossings.
    - Temporary breaks in construction activities may warrant seeding and mulching of disturbed areas as interim erosion control measures.
- Erosion control measures shall remain in place until soils are clearly stabilized. Once soils are stable, erosion controls – especially silt fence, which presents an obstacle to movement of small animals shall be removed and properly disposed. Stakes should be removed from hay bales and spread as mulch to remove barriers to wildlife movement.
- Straw is preferred over hay to prevent the spread of invasive plant species seed stock.
- If a grading operation at a site shall be suspended for a period of more than 29 consecutive days, the disturbed area shall be stabilized by seeding, mulching, and/or other appropriate means within the first 7 days of the suspension of grading.
- Within 7 days after a final grade is established in any grading operation the disturbed area shall be stabilized by seeding, loaming, and/or other appropriate means.

5.1.3 Wetland/Watercourses

Regrading of Ruts: Upon removal of construction mats, or other BMPs, the wetland resource area should be inspected for rutting or disturbance from eroded upland soils. Any rutting should be regraded to pre-existing contours and upland soils removed from wetland areas while taking care not to compact soils.

The following restoration techniques apply to restoration project in wetlands:

Maintenance, Repair, and Emergency Projects (When No Permit is Required)

- Remove mats by "backing" out of the site and removing mats one at a time. Regrade soils to pre-existing contours while taking care not to compact soils.
- Soils excavated from wetland areas shall be segregated and stockpiled separately (i.e., topsoil/muck apart from mineral subsoil) in a dry/upland area at least 100 feet from wetland boundaries unless other provisions have been made to facilitate restoration activities.
- Excavated wetland soils that have been stockpiled during underground utility installations within wetlands shall be replaced in the same order (i.e., mineral subsoil beneath organic topsoil/muck) to the extent practicable and restored to pre-disturbance grades.
    - Grading activities should include the elimination of ruts within the area to be restored.
- If replacement of soil associated with temporary wetland or watercourse crossings for access roads is necessary, disturbed areas must be restored to pre- disturbance grades, either seeded and mulched, or allowed to revegetate from the natural seed bank.

- Disturbed wetland areas shall generally be allowed to revegetate from the natural seed bank. Measures to discourage the establishment or spread of plant species identified as non-native, invasive species by federal or state agencies shall be utilized. Environmental Licensing and Permitting can evaluate whether to let the wetland vegetate naturally.
- Any restoration plantings or seed mixes used in restoration shall consist of species native to the project area and, if feasible, from local nursery stock.
- Any stream banks and beds damaged shall be restored through use of geotextile erosion control blankets, and/or coir logs.
- All seeded areas shall be treated with a layer of mulch (i.e., hay, but preferably straw) up to one inch thick to enhance moisture retention, dissipate disturbance from precipitation, and detract songbirds foraging on broadcast seed.

5.2 Private Property

5.2.1 Improved Areas

Access to and along the ROW over private property must be improved to the extent necessary to ensure suitable passage for construction equipment, provide erosion control, and maintain proper drainage. Upon completion of construction activities, altered yards, lawns, agricultural areas, and other improved areas must be restored to a condition equal to or better than before their use for the construction project. If access is over a property off the transmission easement, then it is the responsibility of a construction representative to determine if legal access rights are available to cross the property.

5.2.2 Overall Work Site

Construction personnel should remove all work-related trailers, buildings, rubbish, waste soil, temporary structures, and unused materials upon satisfactory completion of work. All areas should be left clean, without any litter or equipment (wire, pole butts, anchors, insulators, cross-arms, cardboard, coffee cups, water bottles, etc.) and restored to a stable condition and close to the original condition. Debris and spent equipment should be returned to the operating facility or contractor staging area for disposal or recycling as appropriate.

5.2.3 Material Storage/Staging and Parking Areas

Upon completion of all work, all material storage yards, staging areas, and parking areas shall be completely cleared of all waste and debris. Unless otherwise directed or unless other arrangements have been made with an off ROW or off-property owner, material storage yards and staging areas shall be returned to the condition that existed prior to the installation of the material storage yard or staging area. Regardless of arrangements made with a landowner, all areas shall be restored to their pre-construction condition or better. Also any temporary structures erected by the construction personnel, including fences, shall be removed by the construction personnel and the area restored as near as possible to its original condition, including seeding and mulching as needed.

Attachment I – Draft Construction Spill Prevention Control and Countermeasures Plan

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Sudbury, Massachusetts Construction Spill Prevention Control & Countermeasures Plan

Construction personnel will be instructed regarding the following spill prevention practices and procedures. Notices stating these practices will be posted in the office trailer, and the site construction supervisor will be responsible for seeing that these procedures are followed.

Material Management Practices

The following material management practices will be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff. These include good housekeeping practices and guidelines for the handling of hazardous products.

The following good housekeeping practices will be followed on-site during the construction period.

- No storage, stockpiling or staging of construction-related materials or products will occur within 100 feet of a wetland or waterway without adequate erosion control protection and without approval of the Conservation Commission.
- An effort will be made to store only enough product required to do the job.
- All materials stored on-site will be stored in a neat, orderly manner in their appropriate containers, and (if necessary) under a roof or other enclosure.
- Products will be kept in their original containers with the original manufacturer's label.
- Substances will not be mixed with one another unless recommended by the manufacturer.
- Whenever possible, all of a product will be used before disposing of the container.
- Manufacturer's recommendations for proper use and disposal will be followed.
- The project superintendent will inspect the storage area(s) daily to ensure proper use and disposal of materials on-site.

The following practices will reduce the risks associated with hazardous materials (e.g., petroleum products, solvents).

- A copy of all Safety Data Sheets (SDS) for materials or products used during construction will be kept in the office trailer.
- Products will be kept in original containers unless they are not re-sealable.
- Original labels and SDS sheets will be retained; they contain important health, safety and product information.
- If surplus product must be disposed of, it will be done in accordance with Federal, State and Local regulations along with the manufacturer's recommended methods for proper disposal.

Product-Specific Practices

The following product-specific practices will be followed on-site. Recommendations are provided for petroleum products, fertilizers, solvents, paints, and other hazardous substances, and concrete.

Petroleum Products

All on-site vehicles will be monitored for leaks and will receive regular preventive maintenance to reduce the chance of leakage. No vehicle maintenance or handling of petroleum products will occur within 100 feet of a wetland or waterway. Petroleum products will be stored in tightly sealed containers that are clearly labeled. Any asphalt substances used on-site will be applied according to manufacturer's recommendations. No petroleum-based or asphalt substances will be stored within 100 feet of a wetland or waterway.

Fertilizers

Fertilizers will be applied only in the minimum amounts recommended by the manufacturer. Once applied, the fertilizer will be worked into the soil to limit exposure to stormwater. Storage will be in a covered shed; and the contents of any partially used bags will be transferred to a sealable, plastic bin to avoid spills. No fertilizer storage will occur within 100 feet of a wetland or waterway.

Solvents, Paints, and other Hazardous Substances

All containers will be tightly sealed and stored when not required for use. Excess materials will not be discharged to the storm sewer system but will be properly disposed according to manufacturer's instructions or state and local regulations. No storage will occur within 100 feet of a wetland or waterway.

Concrete Trucks

Concrete trucks will not be allowed to wash out or discharge surplus concrete or drum wash water within 100 feet of wetland resources, except within the limits of the existing reservoir, or into catch basins that are already in place.

Cranes
Stationary cranes (cranes that cannot be driven to a fueling location) will be fueled by experienced fueling technicians. A 55-gallon petroleum spill kit will be maintained onsite at each crane fueling location. Crane fueling will not be conducted during inclement weather conditions or high winds. The fuel tanker truck will be parked on a portable dike during crane fueling.

Spill Control/Notification Practices

In addition to the good housekeeping and material management practices discussed above, the following practices will be followed for spill control, notification and cleanup.

- Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be informed of the procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area on-site. Equipment and materials will include, but will not be limited to, shovels, wheel barrows, brooms, dust pans, mops, rags, gloves, goggles, kitty litter or Speedi-Dry, sand, sawdust, and plastic and metal trash containers specifically designated for this purpose.
- All spills will be removed immediately after discovery.
- The spill area will be kept well ventilated and personnel will wear protective clothing to prevent injury from contact with a hazardous substance.
- Spills of toxic or hazardous material in excess of reportable quantities, as established in the Massachusetts Contingency Plan (MCP), will be reported to the Massachusetts Department of Environmental Protection Division of Hazardous Waste [(617) 556-1133 or 1-888-304-1133]. The Emergency Spill Response Procedure is provided as Attachment A.
- The construction superintendent responsible for the daily operations will be the spill prevention and cleanup coordinator. He will designate at least three other site personnel to receive spill prevention and cleanup training. These individuals will each become responsible for a particular phase of prevention and cleanup. The names of the responsible spill personnel will be posted in the material storage area and in the on-site office trailer.

Source Control

Trash removal, designated trash storage areas, pavement sweeping and the controlled use of fertilizer and deicing agents on the site will reduce the pollutant load in the site's stormwater management system.

Construction Trash Removal

Daily loose trash removal will prevent litter, construction debris, and construction chemicals exposed to stormwater from becoming a pollutant source for stormwater discharges. All loose trash will be placed in appropriate storage containers until disposed of properly off-site.

Covered Trash/Storage Areas

Areas to be used for storing dumpsters, compactors or other raw or waste materials will be covered to prevent contact with stormwater.

Pavement Sweeping

Paved surfaces at the site will be swept at least twice annually (fall and spring). The sweeping program will remove contaminants directly from paved surfaces before their release into stormwater runoff. Pavement sweeping has been demonstrated to be an effective initial treatment for reducing pollutant loading into stormwater[1].

Fertilizer

Only slow-release organic fertilizers will be used in landscaped areas. This will limit the amount of nutrients that could enter the stormwater and wetland systems. Fertilizer use will be reduced once the proposed landscaping is established.

Deicing Agents

The use of road salt (sodium chloride) for maintenance of parking areas and circulation drives during the winter will be minimized. Sand will be the primary agent used during ice and snow conditions. De-icing or anti-caking agents, added to enhance performance and application characteristics of the sand mixture, will be included only as necessary and at minimum application rates. This will help to limit the amount of dissolved pollutants in snowmelt and stormwater runoff.

Waste Disposal

All non-demolition waste materials will be collected and stored in securely lidded metal dumpsters. The dumpster will meet all local and state solid waste management regulations. All trash and non-demolition construction debris from the site will be deposited in the dumpster; and the dumpster will be emptied as necessary. Trash will be hauled by a licensed contractor and disposed in accordance with federal, state, and local environmental regulations. No trash or construction waste will be buried on-site, and personnel will be instructed regarding the correct procedure for waste disposal. Notices stating these practices will be posted in the office trailer and the site construction supervisor will be responsible for seeing that these procedures are followed.

Hazardous Waste

Hazardous waste materials (e.g., petroleum products, solvents) will be disposed in the manner specified by local and state regulation, or by the manufacturer. Site personnel will be instructed in these practices, and the site construction supervisor will be responsible for seeing that these procedures are followed.

Sanitary Waste

Sanitary waste will be collected from the portable units by a licensed contractor a minimum of three times weekly and disposed in compliance with state and local regulation.

Attachment A

Spill Response Procedure

Initial Notification

In the event of a spill the facility and/or construction manager or supervisor will be notified immediately.

Construction Manager: (name) _____
(phone) _____

Project Supervisor: (name) _____
(phone) _____

Assessment - Initial Containment

The supervisor or manager will assess the incident and initiate containment control measures with the appropriate spill containment equipment included in the spill kit kept on-site. The supervisor will first contact the ***Sudbury*** Fire Department and then notify the ***Sudbury*** Police Department, if there is a danger to the public. The fire department is ultimately responsible for matters of public health and safety and should be notified immediately by calling **911**.

Non-emergency phone numbers

Fire Department:	(978) 440-5301
Police Department:	(978) 443-1042
Board of Health	(978) 440-5479
Conservation Commission	(978) 440-5471

Further Notification

Based on the assessment by the supervisor or manager, additional notification to a cleanup contractor may be made. The Massachusetts Department of Environmental Protection and the EPA may be notified depending upon the nature and severity of the spill. The supervisor or manager will be responsible for determining the level of cleanup and notification required. The attached list of emergency phone numbers shall be posted in the main construction/facility office and readily accessible to all employees.

HAZARDOUS WASTE / OIL SPILL REPORT

Date____/____/____ Time_____ AM / PM

Approximate location _____

Type of equipment_____Make_____Size_____

S / N_____Weather Conditions_____

On or near water ☐ Yes If yes, name of body of water_____
☐ No

Type of chemical / oil spilled_____

Amount of chemical / oil spilled_____

Cause of spill_____

Measures taken to contain or clean up spill_____

Amount of chemical / oil recovered_____Method_____

Material collected as a result of clean up

_____drums containing_____

_____drums containing_____

_____drums containing_____

Location and method of debris disposal_____

Name and address of any person, firm, or corporation suffering damages_____

Procedures, method, and precautions instituted to prevent a similar occurrence from recurring____

Spill reported to General Office by_____Time_____AM / PM

Spill reported to DEP / National Response Center by_____

DEP Date____/____/____ Time_____ AM / PM Inspector_____

NRC Date____/____/____ Time_____ AM / PM Inspector_____

Additional comments_____

EMERGENCY RESPONSE EQUIPMENT
INVENTORY

The following equipment and materials shall be maintained at all times and stored in a secure area for long-term emergency response need.

--	SORBENT PADS	2 BALES
--	SORBENT BOOM	100 FEET
--	SAND BAGS (empty)	50
--	SPEEDI-DRI ABSORBENT	5 40# BAGS
--	SQUARE END SHOVELS	2
--	PICK	1
--	PRY BAR	2
--	DRAIN COVERS	2

The following items shall be placed in a convenient, readily accessible location on site.

--	HAY BALES & GRADE STAKES	10
--	SAND	10 CUBIC YARDS

EMERGENCY NOTIFICATION PHONE NUMBERS

1. CONSTRUCTION MANAGER
   NAME: _____MOBILE: _____
   PHONE: _____ HOME PHONE: _____

   ALTERNATE:
   NAME: _____MOBILE: _____
   PHONE: _____ HOME PHONE: _____

2. SUDBURY FIRE DEPARTMENT
   EMERGENCY: 911
   BUSINESS: (978) 440-5301

   SUDBURY POLICE DEPARTMENT
   GENERAL NUMBER: (978) 443-1042

3. CLEANUP CONTRACTOR: _____
   ADDRESS: _____
   PHONE: _____

4. MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION
   EMERGENCY: (888) 304-1133
   NORTHEAST REGION: (978) 694-3200

5. NATIONAL RESPONSE CENTER (Will contact EPA and other agencies, as necessary)
   PHONE: (800) 424-8802

6. SUDBURY CONSERVATION COMMISSION
   CONTACT: _____
   PHONE: (978) 440-5471

7. SUDBURY BOARD OF HEALTH
   CONTACT: _____
   PHONE: (978) 440-5479

8. SUDBURY HIGHWAY DEPARTMENT (DISCHARGE TO STORM DRAIN)
   CONTACT: _____
   PHONE: (978) 440-5421

ATTACHMENT B

Attachment J – Wildlife Habitat Evaluation (under separate cover)

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Attachment K – Snag and Brush Pile Replacement Details

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VHB Computations

Project _____ Project # _____

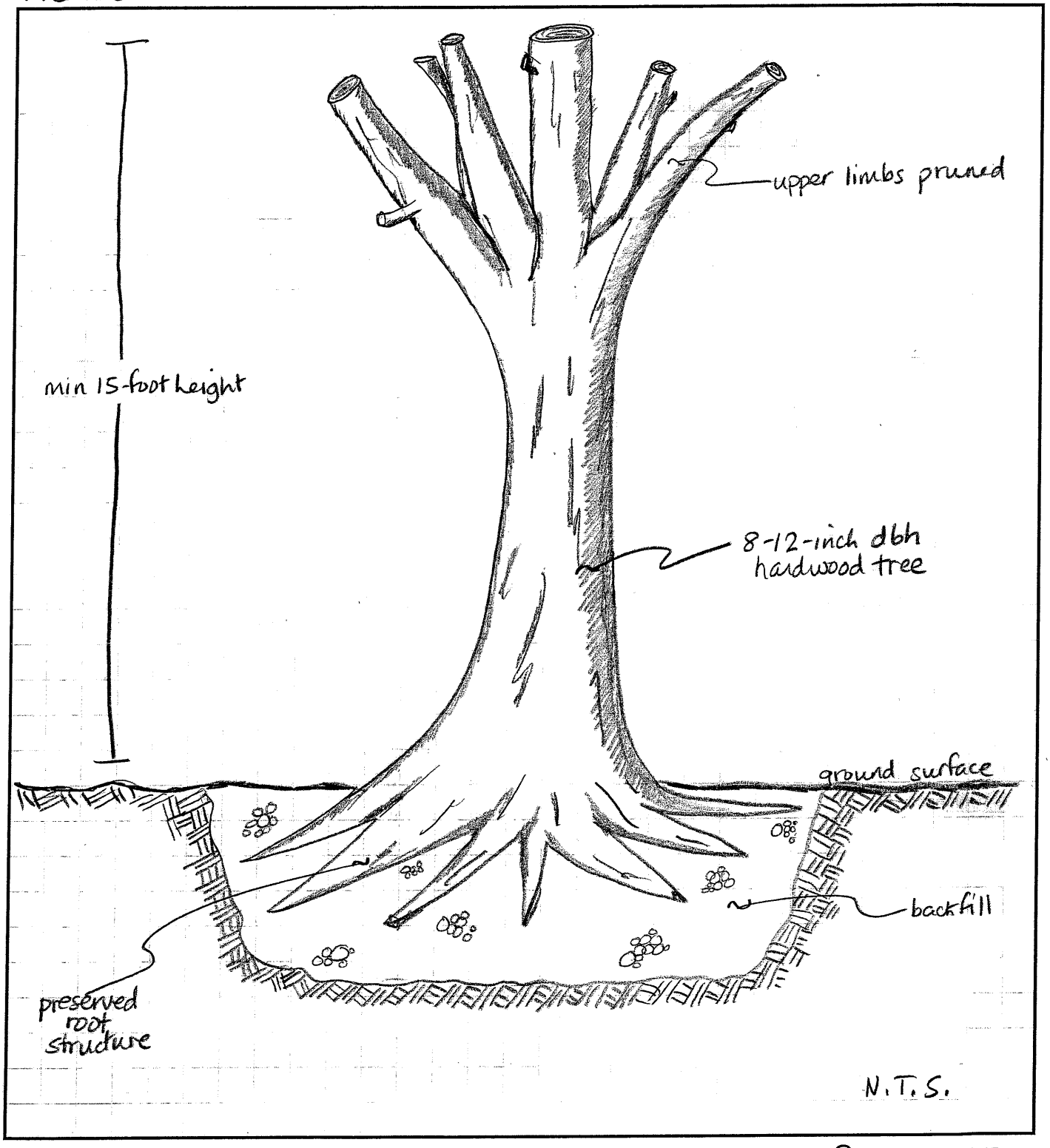
Location _____ Sheet _____ of _____

Calculated by _____ Date _____

Checked by _____ Date _____

Title Replacement Snag Detail

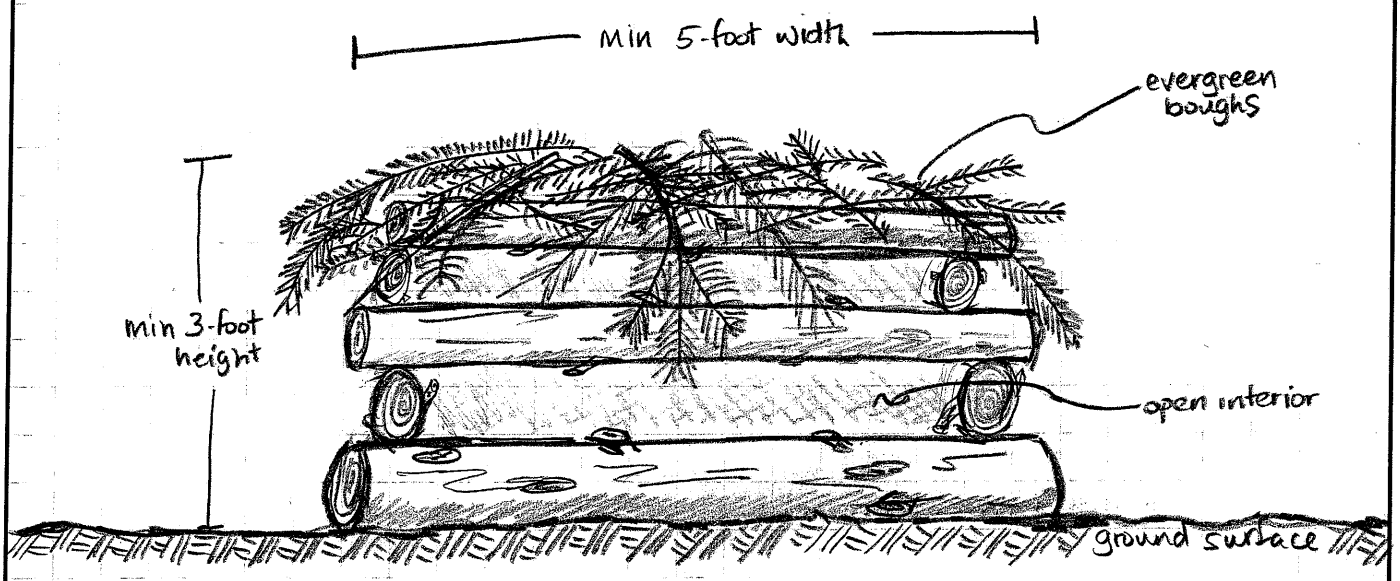
FIGURE A.



VHB Computations

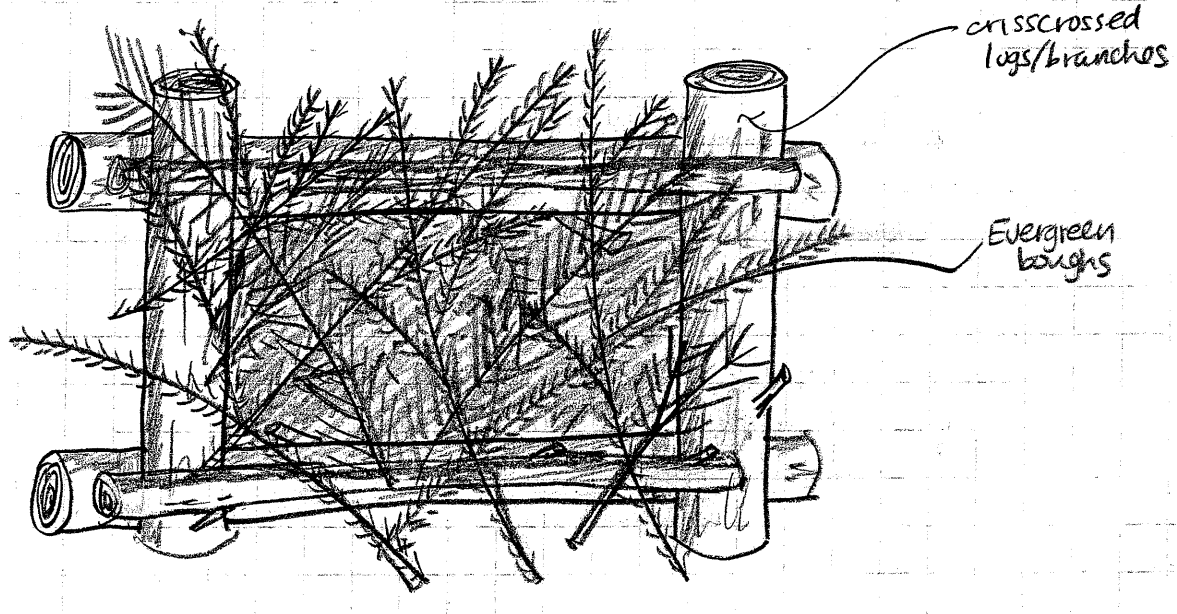
Project _____ Project # _____
Location _____ Sheet _____ of _____
Calculated by _____ Date _____
Checked by _____ Date _____
Title Brush Pile Detail

FIGURE B.



ELEVATION VIEW

N.T.S.



PLAN VIEW

Note: Description taken from "Landscaping for Birds" Mass. Audubon Society, Public Service Info.

Attachment L – Stormwater Management Report (under separate cover)

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