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Notice of Intent Application

Montague-Fairmont Structure Replacement Project
Leverett, Massachusetts

August 2020
File No. 15.0166637.09

PREPARED FOR:
Eversource Energy
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August 28, 2020
GZA File No. 15.0166637.09

Leverett Conservation Commission
PO Box 300
Leverett, MA 01054

RE: Notice of Intent Application
Eversource Energy
Line 1044/1632 Structure Replacement Project
Leverett, MA

Dear Conservation Commission Members:

On behalf of NSTAR Electric Company dba Eversource (Eversource), GZA GeoEnvironmental, Inc. (GZA) is pleased to submit the enclosed Notice of Intent (NOI) Application for the Line 1044/1632 Structure Replacement Project in Montague, MA (the "Project").

Eversource is proposing to replace fifty-three (53) electrical transmission structures in Leverett along the existing right-of-way for Line 1044/1632 in the Town of Leverett which traverses an area generally north to south between the Montague/Leverett town line and the Leverett/Amherst town line. electrical substation and the Montague-Sunderland town line. Work associated with seventeen (17) of the structures and ancillary work areas are located within wetland resource areas under the jurisdiction of the Massachusetts Wetlands Protection Act and its companion regulations (310 CMR 10.00).

Enclosed is a WPA Form 3-Notice of Intent application and supporting documentation for your review and anticipated approval. If you have any questions, please feel free to contact Mary Brittain at (413) 726-2137 or Steve Lecco at (860) 227-4212.

Very truly yours,
GZA GeoEnvironmental, Inc.

Mary J. Brittain, LSP
Senior Project Manager

Stephen L. Lecco, A.I.C.P, C.E.P
Consultant Reviewer

Deborah M. Zarta Gier, CNRP
Principal

CC with attachments:
Jonathan Roberge, Eversource
MassDEP – Western Regional Office
Lauren Glorioso, MA NHESP

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1.0 INTRODUCTION

On behalf of Eversource, GZA has prepared this Notice of Intent (NOI) application for the replacement of seventeen (17) structures (STRs) that are subject to review by the Town of Leverett Conservation Commission (Commission) pursuant to the Massachusetts Wetlands Protection Act (WPA) and accompanying regulations (WPA, 310 CMR 10.00). A WPA Form 3 – Notice of Intent application is provided in Appendix A.

The proposed project includes the replacement of forty-six (46) electrical transmission STRs along the right-of-way (ROW) for Line 1044/1632 in the Town of Leverett which traverses an area generally north to south between the Leverett-Montague and Leverett-Amherst town lines. A Site Locus is provided on the Overview Sheet in Appendix B.

Work associated with seventeen (17) of the STRs and ancillary work areas are located within wetland resource areas ("resource areas") under the jurisdiction of the Massachusetts Wetlands Protection Act (WPA; M.G.L. c. 131 § 40) and its companion regulations, 310 CMR 10.00. Proposed work is shown in Appendix B. The ancillary work areas are within the ROW subject to the WPA and this NOI includes construction of permanent gravel access roads and/or select tree removal within Resource areas.

The following table summarizes the work subject the WPA. The work is further described in **Section 3.5**.

Table 1: WPA Jurisdictional Activities

Work Description	Jurisdictional Resource Area		
	Bordering Vegetated Wetlands (BVW)	Buffer Zone	Riverfront Area (RA)
Construction of gravel work pads	n/a	X	X
Construction of gravel pull pads	n/a	n/a	n/a
Construction of gravel access roads	n/a	X	X
Placement of temporary matted work pads	X	n/a	n/a
Placement of temporary matted pull pads	X	n/a	n/a
Placement of temporary matted access roads	X	n/a	n/a
Replacement of Structures	X	n/a	X
Tree removal	X	X	X

Additional planned work activities that are not subject to the WPA include:

- Work outside the 100-foot Buffer Zone to Bordering Vegetated Wetlands;
- Work outside the 200-foot Riverfront Area;
- Work in isolated vegetated wetlands (IVW);
- Structure replacements per the WPA maintenance exemptions; and
- Matting within Buffer Zone and RA.

Eversource is seeking an Order of Conditions (OOC) from the Commission finding that the work described herein is consistent with the interests of the public and adequately protective of the interests of the WPA.

Impact and Mitigation Summary

Although occurring over a large area, most of the work is similar across the ROW. The work involves matting where possible, grading and gravelling where necessary, and replacing structures in-kind. Because of the distance the ROW bisects the Town, much of this work is in wetland resource areas and avoidance of all resources is not possible.

Table 2: Summary of Impacts (SF)

Work Description	Jurisdictional Resource Area		
	BVW	Buffer Zone	RA
Construction of gravel work pads	n/a	90,340*	49,155*
Construction of gravel pull pads	n/a	n/a	n/a
Construction of gravel access roads	n/a	27,075*	14,650*
Placement of temporary matted work pads	111,260	n/a	n/a
Placement of temporary matted pull pads	17,120	n/a	n/a
Placement of temporary matted access roads	57,740	n/a	n/a
Replacement of Structures	-3	n/a	287
Tree removal	4,050	15,200	11,000

Note:
SF = square feet
(*) = Total includes temporary and permanent gravel.

- The majority of the work is associated with temporary matting in BVW (total of 186,120 SF), which will result in no permanent impact.
- No net BVW loss is anticipated.

2.0 EXISTING CONDITIONS

2.1 WETLAND RESOURCE AREA SUMMARY

GZA wetland scientists completed wetland delineations within the Project areas in April and July 2019. The wetland delineation methodology was consistent with the *Corps of Engineers Wetland Delineation Manual, Environmental Laboratory. Technical Report Y-87-1*. U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS; *2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, ed*. J.S. Wakely, R.W. Lichvar, and C.C. Noble; *ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center (Version 2.0)*; and *Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act: A Handbook*, S. Jackson, K.W. Peterson, R.W. Golledge, Jr., and R. Tomczyk. Boston, MA. Massachusetts Department of Environmental Protection, Division of Wetlands and Waterways.

The project mapping in Appendix B depicts the delineated resource areas with the transect locations. Copies of wetland field delineation forms are provided in Appendix C. Photographs of the wetland areas are included in Appendix D. Table 3 summarizes the wetlands in which permanent construction activities are proposed.

Table 3: Vegetated Wetland Resource Area Summary

Wetland ID	WPA Resource Type	Cowardin Classification			Dominant Species	Associated Watercourse
		Code	System/ Class/ Subclass	Water Regime		
W-2	BVW	PEM1E	Palustrine persistent emergent	Seasonally flooded / saturated	*Spirea alba, Onoclea sensibilis, Carex stricta*	Long Plain Brook
W-4	BVW	PEM1E	Palustrine persistent emergent	Seasonally flooded / saturated	*Spirea alba, Ononclea sensibilis, Carex stricta*	Long Plain Brook
W-52	IVW	PSS1E	Palustrine broad-leaved deciduous scrub-shrub	Seasonally flooded / saturated	*Spirea alba, Viburnum dentatum, Onoclea sensibilis*	Unnamed intermittent stream
W-54	BVW	PSS1E	Palustrine broad-leaved deciduous scrub-shrub	Seasonally flooded / saturated	*Alnus incana rugosa, Cornus amomum, Solidago altissima, Onoclea sensibilis*	Unnamed intermittent stream
W-64	BVW	PEM1E	Palustrine persistent emergent	Seasonally flooded / saturated	*Typha latifolia, Onoclea sensibilis*	Unnamed intermittent stream
W-65	BVW	PEM1E	Palustrine persistent emergent	Seasonally flooded / saturated	*Onoclea sensibilis, Carex stricta*	Unnamed intermittent stream
W-66	BVW	PSS1E	Palustrine broad-leaved deciduous scrub-shrub	Seasonally flooded / saturated	*Spirea alba, Frangula alnus, Lyonia ligustrina, Thelypteris palustris, Ononclea sensibilis, Rubus hispidoides*	Unnamed intermittent stream
W-67	BVW	PSS1E	Palustrine broad-leaved deciduous scrub-shrub	Seasonally flooded / saturated	*Rosa multiflora, Alnus incana rugosa, Lonicera canadensis, Solidago altissima, Onoclea sensibilis*	Unnamed intermittent stream

Wetland ID	WPA Resource Type	Cowardin Classification			Dominant Species	Associated Watercourse
		Code	System/ Class/ Subclass	Water Regime		
W-68	BVW	PSS1E	Palustrine broad-leaved deciduous scrub-shrub	Seasonally flooded / saturated	*Rosa multiflora, Alnus incana rugosa, Loncera canadensis, Solidago altissima, Impatiens capensis, Onoclea sensibilis*	Unnamed perennial stream
W-69	BVW	PEM1C	Palustrine persistent emergent	Seasonally flooded	*Solidago altissima, Parathelypteris noveboracensis, Onoclea sensibilis*	Unnamed tributary to Eastman Brook
W-70	BVW	PEM1E	Palustrine persistent emergent	Seasonally flooded / saturated	*Dennstaedtia punctilobula, Onoclea sensibilis, Alnus incana rugosa, Salix sericea*	Unnamed intermittent stream
W-71	BVW	PEM1E	Palustrine persistent emergent	Seasonally flooded / saturated	*Juncus effuses, Onoclea sensibilis, Glyceria maxmia*	Unnamed intermittent stream
W-73	BVW	PSS1E	Palustrine broad-leaved deciduous scrub-shrub	Seasonally flooded / saturated	*Acer rubrum, Frangula alnus, Equisetum arvense, Juncus pylaei, Symplocarpus foetidus*	Unnamed intermittent stream
W-74	IVW	PSS1C	Palustrine broad-leaved deciduous scrub-shrub	Seasonally flooded	*Viburnum dentatum, Lonicera canadensis, Rubus spp., Rosa multiflora*	Unnamed intermittent stream

2.2 WATERWAYS SUMMARY

Bank and Land Under Water Bodies and Waterways (LUWW) resource areas were delineated in proximity to the Project area in April, June, and July 2019 by GZA. Where located within the ROW, waterways were delineated in accordance with 310 CMR 10.54(2) for Bank and 310 CMR 10.58(2) for the mean annual high water line (MAHWL) to indicate the start of the RA. Portions of resource areas that were off-ROW were estimated based on publicly available stream lines (from MassGIS mapping, etc.) and adjusted based on aerial interpretation and observations made from the property line for the purposes of identifying associated RA within the ROW.

Three (3) perennial streams in proposed work areas subject to the WPA were delineated through portions of the ROW and include: Cranberry Pond Brook, Long Plain Brook, and an unnamed tributary to Eastman Brook as shown on the project mapping, Appendix B. Photographs of watercourses in the Project area are included in Appendix D. Table 4 provides a description of the watercourses with jurisdictional activities located within the associated RA.

Table 4: Waterways Summary

Resource Area	Cowardin Classification					Direction of Flow	Average Width (ft)
	Code	System	Subsystem	Class	Subclass		
Cranberry Pond Brook	R5UBH	Riverine	Unknown Perennial	Unconsolidated Bottom	NA	West	14
Long Plain Brook	R5UBH	Riverine	Unknown Perennial	Unconsolidated Bottom	NA	South	10
Unnamed tributary to Eastman Brook*	R5SBC	Riverine	Unknown Perennial	Unconsolidated Bottom	NA	South	NA – Beaver Impounded

(*) RA mapped from culvert on western edge of ROW. Area within ROW is beaver impounded water in a BVW which lacks channel or evidence of perennial flow.

2.3 OTHER RESOURCE AREAS

Upon review of the most recently published Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (FEMA), there is no flood profile data for the proposed work areas; therefore, the project area is not within a regulated Bordering Land Subject to Flooding (BLSF) resource (a.k.a. 100-year floodplain).

Outstanding Resource Waters (ORW) include Class A public water supplies, their tributaries, and bordering vegetated wetlands; active and inactive reservoirs approved by MassDEP; certain waters within Areas of Critical Environmental Concern (ACEC); and Certified Vernal Pools (CVPs). ORWs are listed in the Surface Water Quality Standards, 314 CMR 4.00.

- None of the watercourses are identified in 314 CMR 4.00 as a Class A surface water; therefore, BVW associated with these watercourses are designated as Class B and therefore not classified as an ORW.
- There are no active or inactive reservoirs near the project site.
- There are no ACECs within approximately 0.25 miles of the project site.
- There are no NHESP-identified CVPs within approximately 100 feet of the ROW.
- No mapped Zone I Wellhead Protection Areas are identified in the ROW in Leverett; however, a portion of the ROW is located in a Zone II Wellhead Protection Area.

2.4 RARE SPECIES

Eversource, with support from GZA, has been in active discussions with the Massachusetts Natural Heritage and Endangered Species Program (NHESP) since summer of 2019 in regard to this project. Current priority and estimated habitat mapping indicate that portions of the Project area within the ROW are within Priority Habitat (PH) of Rare Species. Specifically, STRs and associated work areas listed below in Table 5 are located in PH. Eversource is in ongoing consultation with NHESP with regards to the proposed work, within Priority and Estimated Habitat for Rare Species.

NHESP issued Tracking Number 19-38624 to the project and a separate MESA Checklist Review was submitted on June 29, 2020. The following table summarizes the determination by NHESP in their MESA Determination Letter, dated August 14, 2020:

Table 5: MESA Determination Summary

Location	NHESP Species Code (on project mapping)	Details	Outcome
STRs 10083-10086, and STRs 10089-10108	M	Data Sensitive Species	Take
STRs 10099-10100	N	Threatened Plant	No Take
STRs 10115-10126	O	Threatened Amphibian	Take

As anticipated, NHESP issued a Take for two (2) species: one (1) data sensitive species (M) and one (1) threatened amphibian (O). Comprehensive avoidance, minimization, and mitigation plans are being developed in consultation with NHESP. Eversource submitted a Conservation and Management Plan (CMP) to NHESP on August 21, 2020 that describes the proposed long-term net benefit to the conservation of the State-listed species.

As part of the MESA Determination Letter, NHESP has approved the hammering of bedrock and ledge during the data sensitive species active season between STRs 10089 and 10097. The purpose of the work is to avoid disturbance to any overwintering species in the vicinity of the hammering activities. Eversource plans to begin hammering on September 14, 2020 and will end by November 1, 2020. With the exception of the work pad at STR 10089, the hammering will take place in areas outside of WPA jurisdiction. Hammering at STR 10089 will commence after issuance of the OOC.

A copy of the NOI will be provided to NHESP for comment under 310 CMR 10.60

3.0 REGULATORY REVIEW/ESTABLISHING JURISDICTION

3.1 WPA

An OOC is needed from the Leverett Conservation Commission to complete the replacement of seventeen (17) existing structures and ancillary work areas on the Line 1044/1632 ROW. Eversource maintains that the work described herein is consistent with the interests of the public and adequately protective of the interests of the Massachusetts WPA and is seeking confirmation of this through the issuance of an OOC from the Commission.

The proposed structure replacement work is designed in accordance with the provisions of the WPA and its implementing regulations, which provide an exemption for utility maintenance activities within a maintained electric ROW under M.G.L. Chapter 131, Section 40 and 310 CMR 10.02(2)(a)(2):

"activities conducted to maintain, repair or replace, but not substantially change or enlarge an existing and lawfully located structure or facility used in the service of the public and used to provide electric, gas, water, sewer, telephone, telegraph and other communication services, provided said work utilizes the best practical measures to avoid or minimize impacts to wetland resource areas outside the footprint of said structure or facility."

In accordance with 310 CMR 10.02(2)(a)(2), the majority of the proposed work is exempt because it involves maintenance of the existing transmission lines. Eversource considers its existing electric transmission structures and its appurtenant hardware (foundation, caissons, counterpoise, gradient rings, etc.) and its existing roads, where the limit/width of its historic access road where evidence of local and/or imported fill has been observed, as a part of its "existing facility". Any activity conducted to maintain, repair and/or replace, but not substantially enlarge this facility, is not subject to jurisdiction under the WPA. The temporary placement of construction mats in the Buffer Zone and RA to access structures and provide safe work pads is not a substantial change or enlargement of the transmission line facility and is therefore exempt.

The replacement of the existing structures is maintenance work and will not substantially change or enlarge the facility used in the service of the public to provide electric service. The change from a lattice structure to a monopole is a change in style and design and not a substantial change or enlargement of the existing utility. The new structures will be placed in the vicinity of the existing structures; no mid-span poles will be installed. Therefore, the replacement activities in resource areas meet the criteria of an exempt maintenance activity stated at 310 CMR 10.02(2)(a)2. The difference in the pole size (diameter) in BVW and RA will be addressed in this NOI because the size of the pole, although not significantly greater, is larger than what is exempt under a MassDEP issued Administrative Consent Order (ACO). This additional resource area work is subject to the WPA regulations and under the purview of the Leverett Conservation Commission.

The wetlands identified throughout the ROW will be further protected from inadvertent impacts due to erosion or sedimentation by installing sediment control measures near work areas to prevent the migration of soil towards the resource areas. The measures will remain in place until the project is complete and the site is deemed stable through vegetative growth or gravel cover.

3.2 401 WATER QUALITY CERTIFICATION

Eversource intends to submit a 401 Water Quality Certification (WQC) application to the Massachusetts Department of Environmental Protection (MassDEP) in accordance with the requirements of 314 CMR 9.00. The 401 WQC will include approval for the following activities:

1. The replacement of structures in BVW and Waters of the United States within the Commonwealth (WUSWC), as defined by the U.S. Army Corps of Engineers;
2. The placement of temporary construction mats in BVW and WUSWC.

3.3 ANTICIPATED PERMITS

Eversource anticipates the following permits and submittals to be made in support of this project:

- Submittal of a Pre-Construction Notification (PCN) to the U.S. Army Corps of Engineers (USACE) New England District under the General Permit for Massachusetts;
- Preparation of a stormwater pollution prevention plan (SWPPP) and submittal of a Notice of Intent to the U.S. Environmental Protection Agency (EPA) for authorization under the National Pollution Discharge Elimination System (NPDES) 2016;
- CMP to MA NHESP; and

- Massachusetts Environmental Policy Act (MEPA) Request for an Advisory Opinion.

3.4 SUMMARY OF WORK

The proposed work along Line 1044/1632 in Leverett, as summarized below, is anticipated to begin in 2021. The placement of temporary construction mats and construction of gravel access roads and work pads is expected to start February 1, 2021 and will continue through June 2021. After the completion of structure installations and electrical work, construction mat removal and site restoration will begin in July 2022 and continue through May 2023.

Portions of the proposed work that are subject to review by the Commission under the WPA consist of the following:

- Use of temporary matting in BVW;
- Replacement of structures in BVW and RA;
- Placement of gravel in Buffer Zone and RA; and
- Tree clearing in BVW, Buffer Zone, and RA.

The proposed work involves replacing metal lattice frame structures with new steel monopole type structures in locations shown on the Project Plans in Appendix B. The removal of the lattice structures will include the removal of the concrete footings to at least one (1) foot below grade and restoration of the ground surface.

Typical metal lattice frame structure

Typical double monopole type structure

Access to structures will be via existing or proposed gravel access roads in upland areas or existing gravel access roads or temporary construction matting in buffer zones, with exception of the locations described below. Where there is no existing access road in BVW, construction mats will be used to build temporary access. Spans will be used to cross watercourses where necessary, and as identified on the Project plans. Equipment will remain on the work pads and access roads (i.e., no disturbance outside of the indicated work areas will occur). Excess soils from the drilled holes for the new poles will be either spread along the edges of the work pads in upland areas, stabilized and seeded, or removed from the site.

Appropriate erosion and sedimentation control measures will be installed to protect adjacent BVW areas in accordance with the Eversource Construction & Maintenance Environmental Requirements, Best Management Practices Manual for Massachusetts and Connecticut, September 2016 (BMP Manual). An electronic copy of the BMP Manual can be provided to the Conservation Commission if desired. Based on the use of BMPs, temporary construction mats, and the stability of gravel work pads, pull pads, and access roads, there are no anticipated impacts or alterations to adjacent resource areas outside of those described below.

Where temporary impacts to resource areas are proposed, the areas will be backfilled or graded in accordance with adjacent resource characteristics and restored with a native wetland seed mix, such as New England Wetmix, which contains Fox Sedge (*Carex vulpinoidea*), Lurid Sedge (*Carex lurida*), Blunt Broom Sedge (*Carex scoparia*), Blue Vervain (*Verbena hastata*), Fowl Bluegrass (*Poa palustris*), Hop Sedge (*Carex lupulina*), Green Bulrush (*Scirpus atrovirens*), Creeping Spike Rush (*Eleocharis palustris*), Fringed Sedge (*Carex crinita*), Soft Rush (*Juncus effusus*), Spotted Joe Pye Weed (*Eupatorium maculatum*), Rattlesnake Grass (*Glyceria canadensis*), Swamp aster (*Aster puniceus*), Blueflag (*Iris versicolor*), Swamp Milkweed (*Asclepias incarnata*), Square stemmed Monkey Flower (*Mimulus ringens*).

3.5 SCOPE OF JURISIDICTIONAL ACTIVITIES

The maps presented in Appendix B identify the locations of Project construction activities. The work subject to the WPA is described herein.

3.5.1 Proposed BVW and WUSWC Impacts

Temporary Matting in BVW and WUSWC

To safely replace and provide continued access to the proposed structures, Eversource intends to establish temporary work pads, pull pads, and access roads in portions of BVW and WUSWC to create a stable work area to support the equipment necessary for structure replacement activities. The temporary work pads, pull pads, and access roads will be constructed with timber construction matting. The use of temporary construction mats is considered a BMP and their placement is permitted by the 401 WQC. The locations of the temporary matting are shown on the map set in Appendix B. At the conclusion of the replacement activities, the matting will be removed.

Table 6: Proposed Matting for Work Pad and Pull Pad Locations in BVW and WUSWC

STR Number and Type	Map Page	Total SF Matting
10099 work pad	8	6,200
10102 work pad	9	5,000
10103 pull pad	9	2,500
10104 pull pad	10	2,500
10105 work pad	10	15,300
10106 work pad	10	13,500
10109 work pad	11	5,010
10110 work pad	12	3,300
10115 work pad*	13	640
10119 pull pad	15	720
10120 work pad	15	13,600

STR Number and Type	Map Page	Total SF Matting
10120 pull pad	15	11,400
10126 work pad	17	810
10127 work pad	17	13,200
10128 work pad	18	8,900
10129 work pad	18	7,300
10130 work pad	18	11,900
10131 work pad	19	3,300
10133 work pad*	19	3,300
	TOTAL:	**128,380**

(*) Indicates matting is in an Isolated Vegetated Wetland (IVW)

Table 7: Proposed Matting for Access Roads in BVW and WUSWC

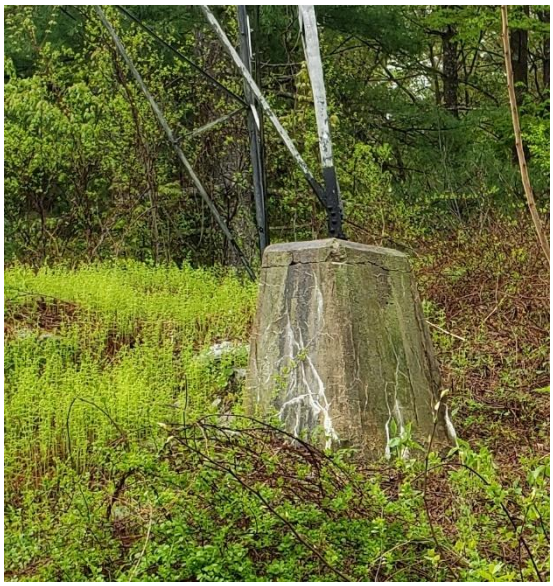
Location	Map Page(s)	Total SF Matting
Between STR 10098 and 10099	7	3,140
Between STRs 10102 and 10105	9-10	20,590
Between STRs 10105 and 10106	10	5,200
Between 10106 and 10107	10-11	650
Between 10109 and 10110	11-12	7,400
Between 10115 and 10116	14	1,800
Between 10119 and 10120	15	450
Between 10120 and 10121	15	2,890
Access to 10122	15	4,270
Between 10123 and 10124	16	1,800
Between 10124 and 10125	16-17	950
Between 10125 and 10126	17	120
Between 10126 and 10127	17	4,200
Between 10127 and 10128	17-18	1,800
Access to 10129	18	1,400
Access to 10130	18	630
Between 10132 and 10133	19	350
Between 10133 and 10134*	19-20	100
	TOTAL	**57,740**

(*) Indicates matting is in an IVW

In total, 186,120 square feet of temporary construction matting is proposed in BVW and WUSWC. Eversource intends to submit a USACE Section 401 WQC for the placement of temporary construction mats in BVW and WUSWC. Due to the temporary nature of the mats, no mitigation or permanent impacts to BVW is anticipated. A copy of the 401 WQC will be provided to the Conservation Commission.

Replacement of Structures in BVW and Bank

Eversource plans to remove the structures in BVW after the replacement structures have been installed. Based on a conservative estimate of the concrete footing size for the steel lattice structures, each of the four footings to be removed is approximately 9 square feet, resulting in the creation of 36 square feet of wetland per structure removed.



Typical lattice structure footing

Though uncommon, some structures other than steel lattice are scheduled for replacement in BVW. These unique structure types have existing gravel around their bases. The structures and gravel areas were measured in the field to determine the total restoration area following structure removal. These areas are identified in the Table 8.

Based on the specific location needs, Eversource proposes the following replacement structure types:

- Monopole on a concrete foundation. Each foundation is anticipated to be a 10-foot diameter foundation covering 79 square feet.
- Monopole in a 5.5’ diameter caisson. Each caisson covers 24 square feet.
- Monopole in a 6’ diameter caisson. Each caisson covers 28 square feet.

The total area of BVW loss and gain from the structure replacement in BVW is summarized below.

Table 8: Summary of Proposed Structure Replacement Impacts in BVW and Bank

Map Sheet	STR #	Existing STR Type / New STR Type	Activity (in BVW unless otherwise noted)	BVW Area (SF) And Bank (LF)	Net Change per STR
10	10105	Lattice / 2 Monopoles on concrete foundations	Removal of existing STR	-36 SF (gain)	-12 SF (gain)
			Installation of replacement STR	24 SF (loss)	

Map Sheet	STR #	Existing STR Type / New STR Type	Activity (in BVW unless otherwise noted)	BVW Area (SF) And Bank (LF)	Net Change per STR
10	10106	Lattice / 2 Monopoles on concrete foundations	Removal of existing STR	-36 SF (gain)	122 SF (loss)
			Installation of replacement STR	158 SF (loss)	
11	10109	Square Monopole / Monopole installed in 6' diameter caisson	Removal of existing STR	-96 SF (gain)	-96 SF (gain)
			Installation of replacement STR	0 SF (loss)	
15	10119	Lattice / Monopoles on concrete foundations	Temporary Bank Disturbance	10 LF BANK (temporary)	0 LF BANK
15	10120	Lattice / 2 Monopoles on concrete foundations	Removal of existing STR	-36 SF (gain)	122 SF (loss)
			Installation of replacement STR	158 SF (loss)	
17	10127	Monopole/ Monopole installed in 5.5' diameter caisson	Removal of existing STR	-52.4 SF (gain)	-28.4 SF (gain)
			Installation of replacement STR	24 SF (loss)	
18	10128	Monopole / 2 Monopoles on concrete foundations	Removal of existing STR	0 SF (gain)	35 SF (loss)
			Installation of replacement STR	35 SF (loss)	
18	10129	Monopole / Monopole installed in 6' diameter caisson	Removal of existing STR	-101.4 SF (gain)	-101.4 SF (gain)
			Installation of replacement STR	0 SF (loss)	
18	10130	Lattice / Monopole installed in 6' diameter caisson	Removal of existing STR	-36 SF (gain)	-8 SF (gain)
			Installation of replacement STR	28 SF (loss)	
19	10131	Lattice / Monopole installed in 6' diameter caisson	Removal of existing STR	-36 SF (gain)	-36 SF (gain)
			Installation of replacement STR	0 SF (loss)	
				Total Structure Replacement Impacts in BVW:	**-3 SF (gain)**

There is an anticipated gain of 3 square foot of wetland following Project completion. The wetland details are included in representative data sheets provided in Appendix C.

To stabilize the newly installed structure, screw type guy anchors may be installed within BVW. There is no anticipated area of disturbance associated with the installation of these anchors. If the ground conditions do not allow for a secure anchor by that method, a concrete footing will be installed below grade onto which the anchor will be secured. If the anchors need to be installed into a concrete footing, the excavated soils will be temporarily stored on geotextile fabric and replaced immediately after the work has been conducted. The vegetation removed will be set aside and immediately replaced following the completion of work and backfilling with the soils stored on geotextile. According to the MassDEP, the anchor mountings meet the intent and definition of "piling" and do not have the effect of filling; therefore, there is no net impact to BVW from the installation of anchors.

3.5.2 Proposed Buffer Zone Impacts

Construction of Gravel Work Pads and Access Roads in Buffer Zone

To safely replace and provide continued access to the proposed structures, Eversource intends to establish gravel work pads and access roads in portions of Buffer Zone to create a stable work area to support the equipment necessary for structure replacement activities. Once constructed, the gravel work pads and access roads are considered permanently stable. To avoid and minimize impacts to sensitive resource areas, temporary construction mats will be utilized to supplement the work pads and access roads at BVW/Buffer Zone boundaries, as necessary. At the conclusion of the replacement activities, the matting will be removed.

The work pads will be constructed of eight (8) to twelve (12) inches of 3- to 8-inch riprap, top-dressed with approximately 4 inches of crushed stone (3" minus). Gravel work pads will be at the locations included on Table 9. Where listed as "temporary" in Table 9, the gravel will be removed, and the area restored upon completion of the project.

Table 9: Proposed Gravel Work Pad Locations and Impacts

STR Number and Type	Map Page	Total SF gravel in buffer zone (permanent)	Total SF gravel in buffer zone (temporary)
10089 work pad	4	4,100	0
10100 work pad	8	325	0
10102* work pad	9	7,350	0
10107 work pad	11	6,225	0
10108 work pad	11	10,700	0
10111* work pad	12	0	2,550
10112 work pad	12	3,875	0
10116 work pad	14	5,975	775
10118 work pad	14	8,600	2,340
10119* work pad	15	8,220	0
10121 work pad	15	1,800	0
10122 work pad	16	525	325
10124 work pad	16	650	3,110
10125 work pad	17	20	625
10126* work pad	17	5,340	0
10131* work pad	19	9,200	0
10132 work pad	19	7,710	0
	TOTAL:	**80,615**	**9,725**

(*) work pads will be constructed with a combination of gravel and temporary construction mats to decrease impact.

The access roads will be constructed of eight (8) to twelve (12) inches of 3- to 8-inch riprap, top-dressed with approximately 4 inches of crushed stone (3" minus). The maximum width of the travelled road surface will be 16 feet, which is typical for a ROW access road for this type of construction work. Proposed gravel access road construction in Buffer Zone is summarized in Table 10.

Table 10: Proposed Gravel Access Roads and Impacts

Location	Map Page(s)	Total SF gravel in buffer zone (permanent)	Total SF gravel in buffer zone (temporary)
Between STRs 10099 and 10100	8	5,200	0
Between STRs 10101 and 10102	9	1,135	0
Between STRs 10107 and 10108	11	0	3,720
Between STRs 10115 and 10116	13	1,825	0
Between STRs 10117 and 10118	14	210	0
Between STRs 10118 and 10119	14 and 15	2,200	0
Between STRS 10119 and 10120	15	1,950	0
Between 101030 and 10131	18	2,975	0
Between 10131 and 10132	19	4,630	0
Between 10132 and 10133	19	3,230	0
	TOTAL	**23,355**	**3,720**

Temporary construction mats will be utilized to construct the remaining access roads through the associated BVWs and other sensitive areas (such as PH for rare species) as shown in Appendix B, Project Plans.

The following photographs depict typical gravel construction pads and the equipment used for structure replacement activities.

Typical gravel work pad needed for ROW maintenance activities.

Typical construction set up for ROW maintenance activities during live line work.

3.5.3 Proposed RA Impacts

Construction of Gravel Work Pads and Access Roads in RA

Eversource intends to establish limited gravel work pads and access roads in portions of RA within the ROW to create a stable work area to support the equipment necessary for structure replacement activities. In Leverett, these areas are limited, and most work in RA was minimized by using temporary matting wherever possible. Gravel work pads and access roads will be constructed in the same manner as described above. The proposed gravel work pads and access roads are included below in Table 11.

Replacement of Structures in RA

Twelve (12) existing structures are scheduled for replacement in RA. The new structures are the same as specified above. A total disturbance area of 287 square feet is anticipated within RA from structure replacement. The following table summarizes the total impacts to RA resulting from structure replacement, gravel work pad, and gravel access road construction.

Table 11: Summary of Proposed Impacts in Riverfront Area

Map Sheet	Structure No.	Water-course	Total RA Area (SF)	Activity	RA Area (SF)	Total Area of Permanent Impact (SF)	% RA
4	10089	Cranberry Pond Brook	583,272	Removal of existing STR	-36	10,472	1.8
				Installation of replacement STR	158		
				Grade and gravel work pad	10,350		
7 and 8	10098-10099	Long Plain Brook	133,422	Removal of existing STR (10099)	-36	-8	NA
				Installation of replacement STR (10099)	28		
				Grade and restore work pad (temporary impact)	9,275		
8	10100	Long Plain Brook	162,445	Removal of existing STR	-36	5,543	3.4
				Installation of replacement STR	79		
				Grade and gravel work pad	3,300		
				Grade and gravel access road	2,200		
				Grade, gravel and restore access road (temporary impact)	6,475		
9 and 10	10102-10104	Long Plain Brook	389,005	Removal of existing STR (10102)	-36	8,568	2.2
				Installation of replacement STR (10102)	79		
				Grade and gravel work pad	7,375		
				Grade and gravel access road	1,150		
10 and 11	10105-10107	Long Plain Brook	553,114	Removal of existing STRs (10105, 10106, 10107)	-108	3,748	0.7
				Installation of replacement STRs (10105, 10106, 10107)	206		
				Grade and gravel work pad	3,650		
				Grade, gravel and restore access road (temporary impact)	2,575		
11 and 12	10108-10110	Long Plain Brook	706,870	Removal of existing STRs (10108, 10109, 10110)	-142	11,463	1.6
				Installation of replacement STRs (10108, 10109, 10110)	80		
				Grade and gravel work pad	11,525		
				Grade, gravel and restore access road (temporary impact)	2,250		

Map Sheet	Structure No.	Water-course	Total RA Area (SF)	Activity	RA Area (SF)	Total Area of Permanent Impact (SF)	% RA
12	10111	Long Plain Brook	362,096	Removal of existing STR	-36	43	0.01
				Installation of replacement STR	79		
				Gravel and restore work pad (temporary impact)	3,680		
17 and 18	10128	Unnamed Stream	104,792	Removal of existing STR	-150	8	0.008
				Installation of replacement STR	158		
TOTAL PERMANENT IMPACTS:						**39,837 SF**	

Total RA impacts from structure replacement and temporary and permanent gravel is 64,092 square feet. Temporary impacts to RA associated with the placement and removal of gravel is 24,255 square feet. This demonstrates a net loss of 39,837 square feet of RA from permanent gravel and STR replacement.

3.5.4 Proposed Activities in Multiple Resource Areas

Tree Removal in Buffer Zone, BVW, and RA

In February 2020, GZA conducted a tree line survey along the ROW boundaries to identify tree removals within 40 feet of the proposed circuit (i.e., wires), needed to maintain the appropriate clearances for conductor phases. As a result of the survey, areas along the entire line may need some degree of side trimming and/or vegetation removal. An additional LIDAR survey and aerial image evaluation was performed to identify areas where tree removal was needed in resource areas within 35 to 40 feet of the proposed circuit. Some areas will require tree removal; other areas will only require side trimming of the canopy. The estimated tree removal areas are shown on the plans in Appendix B. The overall amount of tree removal is estimated as follows:

- Approximately 4,050 SF in BVW;
- Approximately 15,200 SF within the Buffer Zone; and
- Approximately 11,000 SF in RA.

The estimated tree removal areas represent approximately 0.46% (4,050 SF out of 876,599 SF) and 0.37% (11,000 SF out of 2,995,016 SF) of the total BVW and RA areas, respectively, within the ROW in Leverett. The entire ROW is approximately 3,802,692 SF. The proposed tree removal is limited to within the ROW and mostly occurs in small patches or single trees where they are too close to the circuit and may impact service or the safe functioning of the line. Removal of small patches of trees within a much larger wetland complex which extends outside the mapped ROW is not anticipated to have a significant effect on the overall wetland systems in Leverett.

The relatively small amount of the proposed tree removal will not change the functions and values of the wetland resource areas as the current palustrine habitat type (forested wetland) will be converted to another (shrub-scrub). Both wetland types have high wildlife value, albeit to a different suite of species. Most of the ROW is a maintained shrub habitat, and this work will result in in a net increase of shrub wetland/RA habitat by approximately 16,050 SF across the entire ROW

and will decreased forested wetland/RA by that same amount. The BVW tree removal areas largely are contained within RA. Functionally, high quality wildlife habitat will still exist within the ROW. The other wetland functions and values are not anticipated to be affected by this habitat conversion.

The trees will be reached using the access roads shown on the site plans. Where no access road is present, the crews will access the trees on foot. The trees will be cut by hand at or near grade and the stumps will remain in place. The understory vegetation will remain if the species present are compatible species (i.e., they will not grow tall enough to reach the wires).

3.6 OTHER ACTIVITIES

Temporary Matting and Replacement of Structures in Buffer Zone

Construction mats will be used to build temporary work pads, pull pads and access roads in Buffer Zones as shown in the mapping in Appendix B. The use of temporary mats is an Eversource BMP. The mats will be placed and removed in accordance with the Eversource BMP Manual. Upon removal of the mats, restoration will be performed, if needed.

As discussed in **Section 3.1**, structure replacement and temporary matting within Buffer Zone is exempt from the WPA regulations through the maintenance provision.

Table 12: Structures to be Replaced in Buffer Zone

Structure Number(s)	Activity
10099, 10102, 10107, 10108, 10109, 10110, 10112, 10118, 10119, 10121, 10126 and 10128	Replaced in-Kind
10129, 10131	Removed from BVW and Replaced in Buffer Zone
10089, 10116 and 10122	Removed from Buffer Zone and Replaced in unregulated area (upland)
10130.5	Removed from Buffer Zone and not Replaced

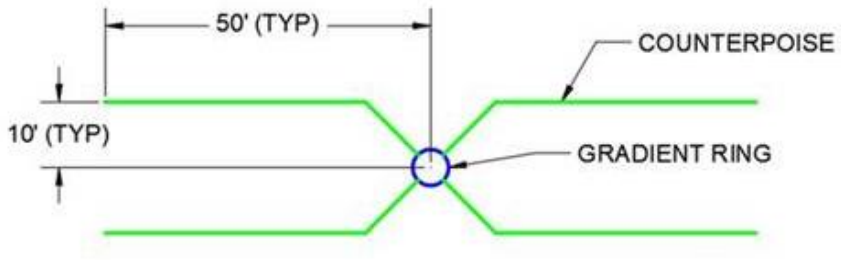
Temporary Mats in RA

The use of construction mats to build temporary work pads, pull pads, and access roads through RA is considered a BMP. This use of mats in RA is a temporary impact to the resource area and is exempt from the WPA regulations through the maintenance provision because their use will not substantially change or enlarge the existing and lawfully located structure or facility. The locations of temporary construction mats to build access roads, work pads and pull pads are shown on the mapping in Appendix B. At the conclusion of the replacement activities, the matting will be removed.

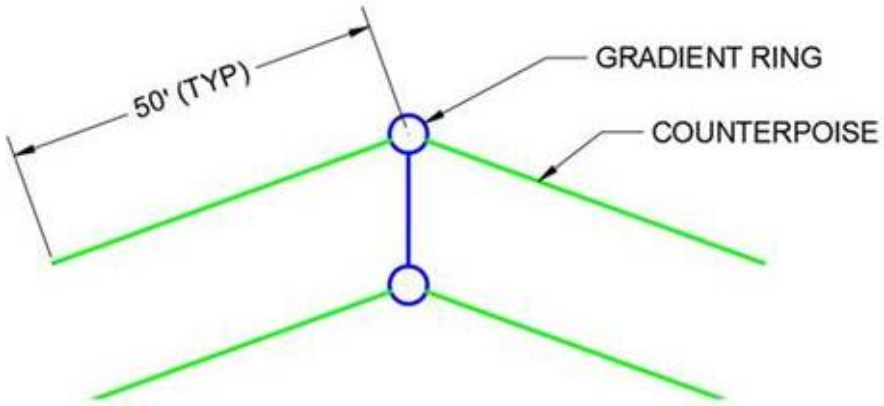
Counterpoise Installation in BVW, RA, and/or Buffer Area

Counterpoise (an electrical grounding system) will be installed at each structure location, unless otherwise determined by Eversource engineering or in sensitive environmental areas. The counterpoise is an underground wire that extends approximately 50 feet from the structure. The counterpoise is connected to the gradient ring, which is an underground metal ring centered on the pole at each structure. The counterpoise will be installed beneath the footprint of the proposed

work pads. In areas where work pads will be matted, the ground surface will be restored to its original condition after installation of the counterpoise. The impacts from the counterpoise installation are temporary. Typical layouts of the counterpoise are shown in the following sketches:



Typical layout for single pole structure standard counterpoise.



Typical layout for two pole angle or dead-end location counterpoise.

4.0 ALTERNATIVES ANALYSIS

4.1 ALTERNATIVE ANALYSIS FOR REPLACEMENT OF STR IN BVW

The proposed project involves replacement of the existing metal lattice frame or monopole structures identified with new monopole type structures. These include STRs 10105, 10106, 10109, 10120, 10127, 10128, 10129, 10130 and 10131. Eversource analyzed each structure location during engineering design of the project in order to avoid impacts where possible. The replacement structures within delineated BVW are unavoidable because Eversource is limited by span distance requirements between structures. The removal of the lattice structures will include the removal of the concrete footings to at least one (1) foot below grade and restoration of the ground surface.

Eversource plans to remove the footings in wetland and restoring the wetland surface. Following removal of the footings, the wetland areas will be restored with a native wetland seed mix, such as New England Wetmix. Additionally, at select structures existing gravel work pads around structures will be removed during structure replacement. According to Table 6, the total amount of wetland gain is 1 SF. As such, there is no known alternative that would allow for the completion of the proposed maintenance work with fewer impacts than currently proposed.

4.2 ALTERNATIVE ANALYSIS FOR RA

The proposed project involves the replacement of twelve (12) structures with new monopole type structures in RA. Eversource analyzed these structure locations during engineering design of the project to avoid impacts where possible. The replacement structures within RA are unavoidable because Eversource is limited by span distance requirements between structures. The work pad and access route configuration of each structure is discussed below. Therefore, there are no alternatives to the proposed work that could reduce or avoid RA impacts.

Structure 10089

An expanded gravel work pad within RA is proposed at STR 10089. An existing gravel work pad is in an amorphous configuration around the structure which is within the Buffer Zone; however, to support the proposed placement of the new structure outside the buffer zone, an expanded and squared-off gravel work pad is required. An expanded gravel work pad in the RA is proposed. The flat gravel surface in this area is proposed to remain in place after construction for future maintenance and emergency repair work for the existing transmission line. The location of this work pad is a critical staging area to support future access along the ROW.

There is no alternative that would allow the completion of the proposed replacement and anticipated maintenance work with fewer impacts. The new structure will be located outside of the buffer zone and further away from Cranberry Pond Brook. An existing gravel access road and permanent bridge spanning Cranberry Pond Brook will be left in their current condition.

All other alternatives were rejected based on the outcomes outlined in the following table.

Table 13: Alternatives Analysis for Work Pad for Structure 10089 in RA

10089 Alternative	Outcome	Justification
Gravel work pad	Selected	Creating a more permanent gravel work pad in this location will provide for continued stable and safe access and material staging to support work and maintenance at structures 10089 through 10097.
Matted work pad	Rejected	Flat matting will not provide for future access requirements and will instead result in repeated temporary disturbance.

Structure 10099

At STR 10099, a small existing gravel work area will be re-used and expanded through grading and the use of construction matting in the RA. The grading is necessary to achieve safe slopes. The area will be returned to pre-construction grades and restored following removal of the mats.

A permanent gravel access road is also proposed to access STR 10099 from 10100. The proposed gravel road will tie into an existing gravel road in the RA north of a Long Plain Brook temporary stream span.

All other alternatives were rejected based on the outcomes outlined in the following table.

Table 14: Alternatives Analysis for Access and Work Pad for Structure 10099 in RA

Alternative	Outcome	Justification
Grade and gravel work pad and access road.	Rejected	Placing a permanent gravel work pad in RA will have greater resource area impacts than the selected alternative and is not necessary in this location.
Mat work pad and access road	Rejected	A flat pad is needed during construction. Some grading will be needed to flatten the area to allow matting to occur safely. Long term gravelling of this area is not needed; however, permanent access to the structure is needed.
Grade and mat work pad and create a gravel access road	Selected	Long-term access with gravel is needed to the structure; however, due to the sensitivity of the work area, grading, matting, and restoration is proposed.

Structure 10100

An expanded gravel work pad within RA is proposed at STR 10100. There is a small existing gravel work pad; however, it does not provide an appropriate work surface for the proposed structure replacement locations. The proposed gravel will create a safe, stable, and level work surface which will support work at STR 10100 and staging for work at STR 10099. The proposed gravel access road will provide connection between an existing gravel access road within the RA and a proposed gravel access road outside of RA or Buffer Zone.

All other alternatives were rejected based on the outcomes outlined in the following table.

Table 15: Alternatives Analysis for Access and Work Pad for Structure 10100 in RA

Alternative	Outcome	Justification
Mat work pad and access road	Rejected	Placing mats directly on the ground is not a safe option due to uneven terrain and the sandy nature of the soil. Matting would not provide a stable work pad to perform the necessary electrical work safely.
Grade and mat work pad and access road	Rejected	A safe and stable work pad is needed long-term for future maintenance and emergencies.

Grade and gravel work pad and access road	Selected	Provides a long-term work pad for future maintenance and emergencies. Access road will decrease overall use of the RA by providing access to a route located outside the resource.

Structure 10102

An expanded gravel work pad and gravel access road within RA are proposed at STR 10102. There is a small existing gravel work pad; however, it does not provide access to either the existing or proposed structure. Additionally, this work pad is the last work pad located outside of BVW for four structures making this a critical staging and preparation work area. The short secondary access road proposed will complement the existing infrastructure and allow for more efficient access and staging of materials for activities at STRs 10102 through 10107.

All other alternatives were rejected based on the outcomes outlined in the following table.

Table 16: Alternatives Analysis for Access and Work Pad for Structure 10102 in RA

Alternative	Outcome	Justification
Mat work pad and access road	Rejected	A safe and stable work pad is needed long-term for future maintenance and emergencies.
Grade and mat work pad and access road	Rejected	A safe and stable work pad is needed long-term for future maintenance and emergencies.
Grade and gravel work pad and access road	Selected	Provides a long-term work pad for future maintenance and emergencies.

Structure 10105

Work here is limited to the replacement of STR 10105 from temporary wetland matting which includes spanning the stream banks. Grading is not expected in the RA, and the proposed matting will be placed directly on the existing topography in a practice termed “flat matting.” No new permanent impacts to RA from the work pad are proposed.

All other alternatives were rejected based on the outcomes outlined in the following table.

Table 17: Alternatives Analysis for Work Pad for Structure 10105 in RA

Alternative	Outcome	Justification
Create a permanent gravel work pad	Rejected	Placing a permanent gravel work pad in RA will have greater resource area impacts than the selected alternative and is not needed based on the flat terrain.
Flat mat work pad	Selected	Site terrain is flat, suitable for flat matting. Impacts are temporary and vegetation will be allowed to return to pre-construction condition.

Structure 10106

Work at STR 10106 is limited to the replacement of STR 10106 from temporary wetland matting in the RA. Grading is not expected in the RA. No new permanent impacts to RA from the work pad are proposed.

All other alternatives were rejected based on the outcomes outlined in the following table.

Table 18: Alternatives Analysis for Work Pad for Structure 10106 in RA

Alternative	Outcome	Justification
Create a permanent gravel work pad	Rejected	Placing a permanent gravel work pad in RA will have greater resource area impacts than the selected alternative and is not needed based on the flat terrain.
Flat mat work pad	Selected	Site terrain is flat, suitable for flat matting. Impacts are temporary and vegetation will be allowed to return to pre-construction condition.

Structure 10107

An expanded gravel work pad and gravel access road within RA are proposed at STR 10107. There is a small existing gravel work pad; however, it is amorphous and does not provide sufficient work area. The proposed gravel work area will provide enough space to safely work and stage equipment. The proposed gravel access road will provide a secondary connection between the newly expanded work pad at STR 10107 to an existing gravel area to the south. Additionally, this work pad is the last work pad located outside of BVW for four structures making this a critical staging and preparation work area for STRs 10102 through 10107.

All other alternatives were rejected based on the outcomes outlined in the following table.

Table 19: Alternatives Analysis for Access and Work Pad for Structure 10107 in RA

Alternative	Outcome	Justification
Mat work pad and access road	Rejected	A safe and stable work pad is needed long-term for future maintenance and emergencies.
Gravel work pad and access road	Selected	Provides a long-term work pad for future maintenance and emergencies. Secondary access road will provide for efficient storage and movement of materials and equipment.

Structure 10108

A new gravel work pad is proposed within RA at STR 10108. There is a small existing gravel work area around the structure; however, this does not provide access to the proposed structure location nor is it a safe size from which to perform the work. A temporary gravel road is proposed from an existing gravel work area to the proposed STR 10108 work pad. This will best facilitate the work. The gravel will be removed and restored per RA requirements following project completion.

All other alternatives were rejected based on the outcomes outlined in the following table.

Table 20: Alternatives Analysis for Work Pad for Structure 10108 in RA

Alternative	Outcome	Justification
Mat work pad and access road	Rejected	A safe and stable work pad is needed long-term for future maintenance and emergencies.
Permanently gravel work pad and Temporarily gravel access road	Selected	Provides a long-term work pad for future maintenance and emergencies. Secondary access road will provide for efficient storage and movement of materials and equipment.
Permanently gravel work pad and gravel access road	Rejected	Provides a long-term work pad for future maintenance and emergencies; however permanent access is not required given the features and improvements in the vicinity.

Structure 10109

Work here is limited to the replacement of STR 10109 from temporary construction matting and existing gravel access roads. Grading is not expected in the RA. Approximately 72 square feet of gravel is present around the existing structure which will be removed along with the structure. No other new permanent impacts to RA from the work pad are proposed.

All other alternatives were rejected based on the outcomes outlined in the following table.

Table 21: Alternatives Analysis for Work Pad for Structure 10109 in RA

Alternative	Outcome	Justification
Create a permanent gravel work pad	Rejected	Placing a permanent gravel work pad in RA will have greater resource area impacts than the selected alternative and is not needed based on the flat terrain.
Flat mat work pad	Selected	Site terrain is flat, suitable for flat matting. Impacts are temporary and vegetation will be allowed to restore to pre-construction condition.

Structure 10110

Work here is limited to the replacement of STR 10110 from temporary construction matting. Grading is not expected in the RA. No new permanent impacts to RA from the work pad are proposed.

All other alternatives were rejected based on the outcomes outlined in the following table.

Table 22: Alternatives Analysis for Work Pad for Structure 10110 in RA

Alternative	Outcome	Justification
Create a permanent gravel work pad	Rejected	Placing a permanent gravel work pad in RA will have greater resource area impacts than the selected alternative and is not needed based on the flat terrain.
Flat mat work pad	Selected	Site terrain is flat, suitable for flat matting. Impacts are temporary and vegetation will be allowed to restore to pre-construction condition.

Structure 10111

A temporary gravel work pad within RA is proposed at STR 10111. Due to the topography in the area and the distance between the existing and proposed structures, a gravel work pad will best support the proposed work. Following

completion of the structure replacement, the gravel will be removed, and the area restored per RA requirements. Areas surrounding the gravel work pad will be matted to increase the work area and stability of the area.

All other alternatives were rejected based on the outcomes outlined in the following table.

Table 23: Alternatives Analysis for Work Pad for Structure 10111 in RA

Alternative	Outcome	Justification
Flat mat work pad	Rejected	Placing mats directly on the ground is not a safe option due to uneven terrain. Flat matting would not provide a stable work pad to perform the necessary electrical work safely.
Temporary gravel work pad	Selected	Gravelling will create a safe work environment and compensate for the terrain and ground conditions. The gravel will be removed and the area restored following completion of the work.
Permanent gravel work pad	Rejected	Placing a permanent gravel work pad in RA will have greater resource area impacts than the selected alternative and is not needed based on the flat terrain.

Structure 10128

Work here is limited to the replacement of STR 10128 from temporary construction matting. Grading is not expected in the RA. No new permanent impacts are proposed.

All other alternatives were rejected based on the outcomes outlined in the following table.

Table 24: Alternatives Analysis for Work Pad for Structure 10128 in RA

Alternative	Outcome	Justification
Create a permanent gravel work pad	Rejected	Placing a permanent gravel work pad in RA will have greater resource area impacts than the selected alternative and is not needed based on the flat terrain.
Flat mat work pad	Selected	Site terrain is flat, suitable for flat matting. Impacts are temporary and vegetation will be allowed to restore to pre-construction condition.

5.0 PERFORMANCE STANDARDS FOR WPA

5.1 PERFORMANCE STANDARDS FOR WORK IN BUFFER ZONE

Work within the Buffer Zone is unavoidable due to the location of the existing structures to be replaced. However, the work has been minimized to the maximum extent practicable, through avoidance of wetland impacts and, where work is needed within Buffer Zones, the use of temporary construction matting will be used to avoid soil compaction and eliminate the need to remove existing vegetation. In certain locations, as discussed for STR access, gravel will be installed within the Buffer Zone to create a safe and stable working surface and access. The Buffer Zone work is not expected to result in impacts to the adjacent resource area(s) and Eversource will include the following Best Management practices to prevent unexpected impacts to wetlands.

Eversource will install appropriate sediment control measures between the work and the wetland resource to reduce or eliminate the potential for migration of disturbed soil towards the wetland. Monitoring of the E&S measures will be conducted during construction to further reduce the potential for imparts outside of the proposed limit of work.

5.2 PERFORMANCE STANDARDS FOR WORK IN BVW

In the development of the work plan for this project, Eversource has avoided wetland impacts to the maximum extent practicable. Where work cannot avoid wetland impacts, the amount of work was minimized to only that area needed to safely perform the work on a matted work pad. Unavoidable work within the BVW has been minimized to the maximum extent practicable, by using matting within BVW to avoid long-term impacts to the resources. For structures that must be replaced within BVW, the work has been kept under 5,000 SF and mitigation has been proposed in the form of restoring the wetland when the lattice stricture footings are removed. Structures being removed are within the same BVW area and same general location as where the new structure will be installed. The removed footing location will be restored based upon the adjacent wetland characteristics and the wetland restored as mitigation.

5.3 PERFORMANCE STANDARDS FOR WORK WITHIN RA

As stated above and summarized in Table 11, the proposed work in the RA includes approximately 187,000 square feet of temporary impact (matting and/or grading with restoration) and 39,837 square feet of grading and gravelling (permanent impact) across the twelve (12) structures in RA. At each location, these impacts are less than 10% of the total RA on each parcel as depicted in Table 10.

Table 25 outlines the Project's conformance to performance standards established by the WPA for work within RA.

Table 25: Performance Standards Review for Work in RA

Reference Under 310 CMR 10.58(4) – *General Performance Standards*	
(a) Protection of other Resource Areas	BVW and Bank will be protected through the use of standard BMPs and appropriate erosion and sediment control measures which will be implemented during the construction period, as detailed in this NOI.

(b) Protection of Rare Species	The Project in RA is located within NHESP mapped Priority & Estimated Habitat for Rare at multiple locations. Other portions of the work in Leverett are within mapped habitat and Eversource will adhere to avoidance and minimization measures approved through consultation with NHESP (*in progress*).
(c) Practicable and Substantially Equivalent Economic Alternatives	Refer to **Section 4.0** for an assessment of alternatives at these locations. The proposed work is the most economically feasible and entails the least impact over the long-term.
(d) No Significant Adverse Impact *1. The issuing authority may allow the alteration of up to 5,000 square feet or 10% of the RFA within the lot, whichever is greater.*	Refer below for conformance with the No Significant Adverse Impact section for all sections 310 CMR 10.58(4)(d)(1) a through d.

The proposed work in the RA is necessary and unavoidable because of the poor condition of the existing structures located within the RA, installed prior to April 6, 1997, and the replacement structures cannot be relocated outside of the RA. In conformance with the No Significant Adverse Impact section of the Rivers Act regulations, 310 CMR 10.58(4)(d) 1 (a-d), the proposed work will meet the applicable performance standards as shown below:

1) 310 CMR 10.58(4)(d)1: The proposed work equals less than 10% of the RA in the ROW of this transmission line as measured on each lot where the impacts will occur.

2) 310 CMR 10.58(4)(d)(1)a: All temporary disturbance in the RA will be restored to pre-construction conditions.

3) 310 CMR 10.58(4)(d)(1)b: Stormwater Management does not apply to this project as no point source discharge is proposed. Per the recommended Final Decision issued on July 19, 2016 in the Matter of the Berkshire Community College Docket No. WET-2015-023 from MassDEP Office of Appeals and Dispute Resolution, it was ruled out that 310 CMR 10.05(6)(k) through (q) does not apply to projects that do not propose a “point source” or “stormwater discharge” with Resource Areas or their Buffer Zones.

4) 310 CMR 10.58(4)(d)(1)c: The WHE was not required because the limits of work are currently within a developed RA.

5) 310 CMR 10.58(4)(d)(1)d: The project will include sediment and erosion control measures, where necessary, to protect adjacent wetlands and watercourse from potential sedimentation and this effort will protect the water quality of the wetland resource. Erosion and sedimentation control measures will be installed in accordance with the Eversource Construction & Maintenance Environmental Requirements, Best Management Practices Manual for Massachusetts and Connecticut, September 2016 (BMP Manual). (An electronic copy of the BMP Manual can be provided to the Conservation Commission.)

6.0 MITIGATION

6.1 MITIGATION FOR STRUCTURE REPLACEMENTS IN RA

Restoration of RA at STRs 10099, 10111, and sections of access roads (In-Situ Mitigation)

The proposed work in RA at STRs 10099 and 10111 and access roads between STRs 10099-10100 and 10107-10108, includes temporary impacts to construct a work platform required to replace the structure, temporary improvement of the access road to reach the work area, and permanent impacts for some areas of permanent gravel. Grading is required to provide a safe and stable work platform and to provide a more level surface for matting the access road in some areas. Areas of grading and matting and flat matting will be restored following mat removal. Once structure replacement activities have been completed, the areas will be restored to pre-construction contours and revegetated with a conservation seed mix.

The sites will be monitored for one year following restoration. If requested, monitoring reports can be provided to the Conservation Commission, showing full restoration, before filing the Request for Certificate of Compliance.

Mitigation for Work Within 200-foot RA (Net Improvement)

The proposed work in the RA meets the applicable performance standards, nonetheless Eversource is proposing to conduct mitigation in Leverett to help off-set the minor impacts from structure replacement and limited gravel areas and also to show a net improvement to the Riverfront Area as a result of the project.

Eversource is proposing to provide mitigation for this proposed wetland conversion discussed in **Section 3.5.4** by supporting the Commission in purchasing trees or plantings for BVW or RA restoration projects within Leverett. Eversource proposes to donate up to $2,100 to be used at the Conservation Commission's discretion, based on the following calculation:

(Acres of trees removed in BVW and RA) * (USACE Mitigation Guidance) * (Fee per Tree)

(0.35 acres) * (500 trees / acre) * ($12 / tree) = $2,100

GZA used the USACE New England District Compensatory Mitigation Guidance to determine the number of proposed plants per acre.

Additional mitigation for net improvement of RA includes beaver mitigation as described below.

Beaver Mitigation on Long Plain Brook

GZA observed during the 2019 Priority Structure Replacement Project the flooding of the access road between Long Plain Road and the ROW (near STR 10109). The flooding from Long Plain Brook on the access road is partly due to an undersized culvert, but it is made worse by beaver activity. Eversource will consult with a beaver management expert to determine a course of action, whether it be the installation of a beaver deceiver-type device, removal of dams or removal of individuals. Eversource proposes to conduct beaver management in this area during the project (2021–2023) to help mitigate the situation.

View looking west at culverts. Water is below flood level, but accumulated debris indicates limited flow through this area.

View looking northeast at culverts. Water is below flood level; however, scour path is visible to the right of the culverts which results in access road flooding.

APPENDIX A

WPA FORM 3 – NOTICE OF INTENT

AND OTHER DOCUMENTATION

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

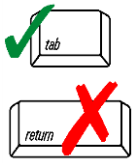
Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Leverett
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):

Line 1044/1632 Right-of-Way (ROW) — a. Street Address
Leverett — b. City/Town
01054 — c. Zip Code

Latitude and Longitude: 42.502008 to 42.430523 — -72.521899 to -72.515880

n/a — f. Assessors Map/Plat Number
n/a — g. Parcel /Lot Number

2. Applicant:

Jonathan — a. First Name
Roberge — b. Last Name
Eversource — c. Organization
107 Seldon Street — d. Street Address
Berlin — e. City/Town
CT — f. State
06037 — g. Zip Code
860-665-6327 — h. Phone Number
i. Fax Number
Jonathan.roberge@eversource.com — j. Email Address

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

Eversource ROW — 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

4. Representative (if any):

Mary — a. First Name
Brittain — b. Last Name
GZA GeoEnvironmental, Inc. — c. Company
1350 Main Street, Suite 1400 — d. Street Address
Springfield — e. City/Town
MA — f. State
01103 — g. Zip Code
413-726-2137 — h. Phone Number
i. Fax Number
mary.brittain@gza.com — j. Email address

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

$2,200.00 — a. Total Fee Paid
$1,087.50 — b. State Fee Paid
$1,112.50 — c. City/Town Fee Paid

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

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Leverett
City/Town

A. General Information (continued)

6. General Project Description:

Eversource is proposing to replace forty-six (46) structures along the 1044/1632 Line right-of-way (ROW) traversing an area north to south between the Leverett-Montague and Leverett-Amherst town lines. Seventeen (17) of the proposed structures have proposed permanent or temporary impact in wetlands, buffer zones, and/or riverfront areas.

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)

2. Limited Project Type

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:

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.

Massachusetts Department of Environmental Protection
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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	1. linear feet	2. linear feet
b. ☒ Bordering Vegetated Wetland	427 1. square feet	430 2. square feet
c. ☐ Land Under Waterbodies and Waterways	1. square feet 3. cubic yards dredged	2. square feet

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. ☐ Bordering Land Subject to Flooding	1. square feet 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	Cranberry Pond Brook, Long Plain Brook, Unnamed perennial stream - 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: 2,995,016 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.
64,092	20,473	43,619

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.

Massachusetts Department of Environmental Protection
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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

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City/Town

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

	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

8 - temporary spanning with mats
a. number of new stream crossings

b. number of replacement stream crossings

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

Provided by MassDEP:
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Leverett
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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

   August 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.

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

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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. 19-38624 (a. NHESP Tracking #) June 29, 2020 (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
836 South Rodney French Blvd.
New Bedford, MA 02744
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.

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

Leverett
City/Town

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: No point source discharge proposed.

      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.

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:

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Leverett
City/Town

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.

Montague to Fairmont Structure Replacement Project
a. Plan Title

GZA
b. Prepared By

N/A
c. Signed and Stamped by

8/21/2020
d. Final Revision Date

1 in = 100 ft
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:

275477
2. Municipal Check Number

8/26/2020
3. Check date

275476
4. State Check Number

8/26/2020
5. Check date

GZA GeoEnvironmental, Inc.
6. Payor name on check: First Name

7. Payor name on check: Last Name

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:

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Leverett
City/Town

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

8/28/2020
2. Date

3. Signature of Property Owner (if different)

4. Date

5. entative (if any)

8/28/2020
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.

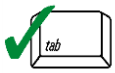
The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.

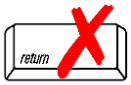
Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

NOI Wetland Fee Transmittal Form

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

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:

Line 1044/1632 Right-of-Way	Leverett
a. Street Address	b. City/Town
	$2,200.00
c. Check number	d. Fee amount

2. Applicant Mailing Address:

Jonathan		Roberge
a. First Name		b. Last Name
Eversource		
c. Organization		
107 Selden Street		
d. Mailing Address		
Berlin	CT	06037
e. City/Town	f. State	g. Zip Code
860-665-6327		jonathan.roberge@eversource.com
h. Phone Number	i. Fax Number	j. Email Address

3. Property Owner (if different):

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

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.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

NOI Wetland Fee Transmittal Form

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

B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Structure replacement activities	1	$500	$500
Activity in Riverfrton	1	50% ($250)	$250
Category 4a - Crossing Fee	1	$1,450	$1,450

Step 5/Total Project Fee:

Step 6/Fee Payments:

Total Project Fee:	$2,200 (a. Total Fee from Step 5)
State share of filing Fee:	$1,087.5 (b. 1/2 Total Fee **less $**12.50)
City/Town share of filling Fee:	$1,112.5 (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.)

275477

GZA GEOENVIRONMENTAL, INC.
249 VANDERBILT AVENUE
NORWOOD, MA 02062

KeyBank National Association
Salt Lake City, Utah 84115
1-800-KEY2YOU

31-300/1243

CHECK DATE August 26, 2020

PAY One Thousand One Hundred Twelve and 50/100 Dollars

AMOUNT 1,112.50

TO TOWN OF LEVERETT
Board of Assessors
PO Box 300
9 Montague Rd
Leverett,, MA 01054

NOT VALID IN EXCESS OF $10,000 UNLESS COUNTERSIGNED
NOT VALID AFTER 90 DAYS

AUTHORIZED SIGNATURE

Security features. Details on back.

⑈275477⑈ ⑆124303007⑆ 4409919001094⑈

GZA GEOENVIRONMENTAL, INC.

275477

Check Date: 8/26/2020

Invoice Number	Date	Voucher	Amount	Discounts	Previous Pay	Net Amount
08262020	8/26/2020	0486028	1,112.50			1,112.50
TOWN OF LEVERETT		TOTAL	1,112.50			1,112.50
Co 1 Key AP	5	0001234631				

275477

275476

GZA GEOENVIRONMENTAL, INC.
249 VANDERBILT AVENUE
NORWOOD, MA 02062

KeyBank National Association
Salt Lake City, Utah 84115
1-800-KEY2YOU

31-300/1243

CHECK DATE August 26, 2020

PAY One Thousand Eighty Seven and 50/100 Dollars

AMOUNT 1,087.50

TO Commonwealth of Massachusetts

NOT VALID IN EXCESS OF $10,000 UNLESS COUNTERSIGNED
NOT VALID AFTER 90 DAYS

AUTHORIZED SIGNATURE

Security features. Details on back.

⑈275476⑈ ⑆124303007⑆ 4409919001094⑈

GZA GEOENVIRONMENTAL, INC.

275476

Check Date: 8/26/2020

Invoice Number	Date	Voucher	Amount	Discounts	Previous Pay	Net Amount
08262020-01	8/26/2020	0486032	1,087.50			1,087.50
Commonwealth of Massachusetts		TOTAL	1,087.50			1,087.50
Co 1 Key AP	4	152706				

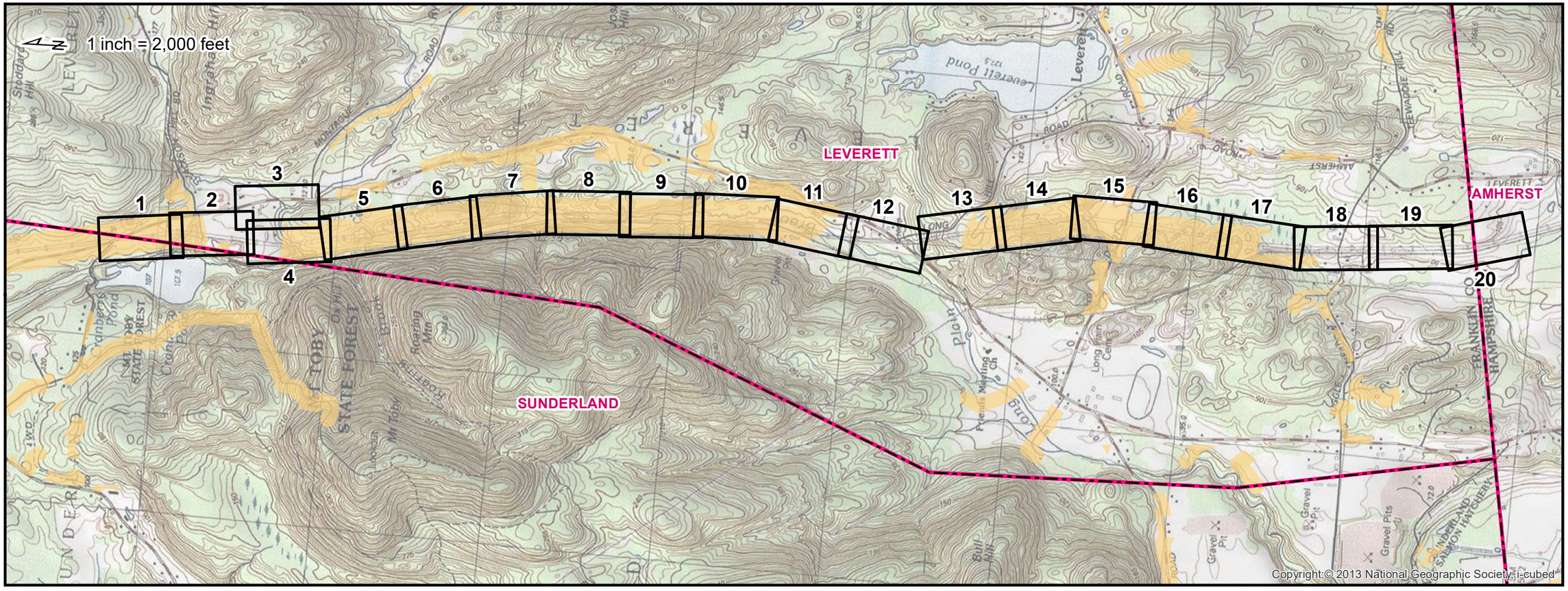
275476

APPENDIX B

STRUCTURE REPLACEMENT PROJECT PLANS

MONTAGUE TO FAIRMONT STRUCTURE REPLACEMENT PROJECT

Leverett, Massachusetts
NOI Project Mapping
08/21/2020



Plan Map Set
Municipal Boundary
MA Outstanding Resource Water
Eversource NHESP 2020 Rare Species Data

INDEX OF FIGURES
T1: TITLE SHEET
1-20: MAP SHEETS

Map Notes:
Basemap: USGS Topographic Map

The information/data provided in this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation or parcel level analysis. The maps should not be used for construction purposes. Recommended print size: 11" by 17"

PREPARED FOR

EVERSOURCE ENERGY

107 Selden Street
Berlin, CT 06037

PREPARED BY

GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

1350 Main Street, Suite 1400
Springfield, MA 01103

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LL#475
LL#477
LL#478
LL#478.01
LL#479
LL#483
LL#484
LL#485
LL#486
LL#487
LL#488
LL#489
LL#481
LL#482
LEVERETT
SUNDERLAND
LONG PLAIN ROAD
RESERVATION ROAD
Genesee & Wyoming
10083
10084
10085
SELECT TREE REMOVAL
SELECT TREE REMOVAL
Map Sheet Matchline 2
M
63

Index Map
North Sugarloaf
DEERFIELD
LEVERETT
SUNDERLAND
WHATELY
East Leverett
SHUTESBURY
AMHERST
bing

Legend

- Existing Structure
- Existing Structure to be Removed
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- MA Areas of Critical Environmental Concern
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- Approx Distribution Line
- Map Sheet Matchline
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- Tree Removal
- Inactive Landfill

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1 in = 100 ft

0 25 50 100 Feet

MONTAGUE – FAIRMONT STRUCTURE REPLACEMENT PROJECT

SUNDERLAND/LEVERETT
MASSACHUSETTS

PAGE 1 OF 20

Project No.: 15.0166637.09 08/21/2020

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LL#487
LL#488
LL#491.01
JACKSON HILL ROAD
LONG PLAIN ROAD
63
403
413
LEVERETT
LL#492.03
ACCESS FROM ROUTE 63 (LONG PLAIN ROAD)
M
LL#491
GRAVEL IMPROVEMENT NEEDED
Map Sheet Matchline 1
Map Sheet Matchline 3
Map Sheet Matchline 4
10085
10086
10087
LL#489
LL#492
ACCESS FROM ROUTE 63 (LONG PLAIN ROAD)
SELECT TREE REMOVAL
SELECT TREE REMOVAL
LL#490
LL#483
LL#481
Genesee & Wyoming
SUNDERLAND
LL#482
LL#480
364
374
383
393
354

Index Map
North Sugarloaf
DEERFIELD
SUNDERLAND
LEVERETT
WHATELY
East Leverett
SHUTESBURY
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bing

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1 in = 100 ft
0 25 50 100 Feet

MONTAGUE – FAIRMONT STRUCTURE REPLACEMENT PROJECT

SUNDERLAND/LEVERETT
MASSACHUSETTS

PAGE 2 OF 20

Project No.: 15.0166637.09 08/21/2020

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LL#492.01
LL#492.02
LL#492.04
LL#492.05
LL#492.08
LL#492.08
LL#492.07
LL#492.06
LL#492.03
LL#492
LL#493
LL#494
LONG PLAIN ROAD
MONTAGUE ROAD
403
393
63
413
425
428
Map Sheet Matchline 2
Map Sheet Matchline 4
WIDENING OR IMPROVEMENTS TO ACCESS ROAD PROHIBITED.
USE AS IS
LEVERETT
M

Index Map

Legend

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0 25 50 100 Feet

MONTAGUE – FAIRMONT STRUCTURE REPLACEMENT PROJECT

LEVERETT
MASSACHUSETTS

PAGE 3 OF 20

Project No.: 15.0166637.09

08/21/2020

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LL#492.03

WIDENING OR IMPROVEMENTS TO ACCESS ROAD PROHIBITED.

USE AS IS

Map Sheet Matchline 3

ACCESS FROM ROUTE 63 (LONG PLAIN ROAD)

EXISTING PERMANENT BRIDGE CROSSING 14 FEET WIDE.

EXISTING 16-FOOT GRAVEL ACCESS ROAD IN RIVERFRONT AREA. WIDENING PROHIBITED.

GRADE AND MAT THIS PORTION OF WORK PAD.

LL#493

LL#494

LEVERETT

LL#495

LL#492

10088

10089

10090

W-51

Map Sheet Matchline 2

Map Sheet Matchline 5

PROPOSED GRAVEL IN RIVERFRONT AREA.

SUNDERLAND

LL#480

LL#481

LL#482

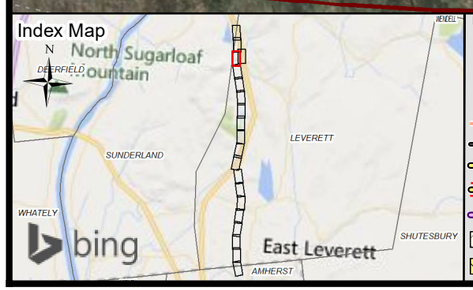
Genesee & Wyoming

LL#496

LL#497

423 413 403 393 383

Index Map



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1 in = 100 ft

0 25 50 100 Feet

MONTAGUE – FAIRMONT STRUCTURE REPLACEMENT PROJECT

SUNDERLAND/LEVERETT
MASSACHUSETTS

Project No.: 15.0166637.09

08/21/2020

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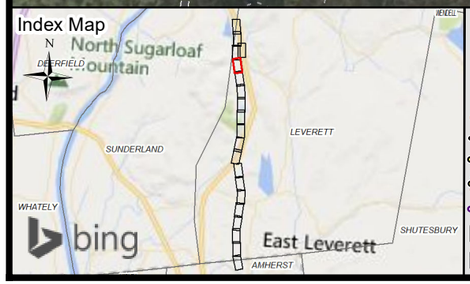
Index Map



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MONTAGUE – FAIRMONT STRUCTURE REPLACEMENT PROJECT

LEVERETT
MASSACHUSETTS

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Project No.: 15.0166637.09

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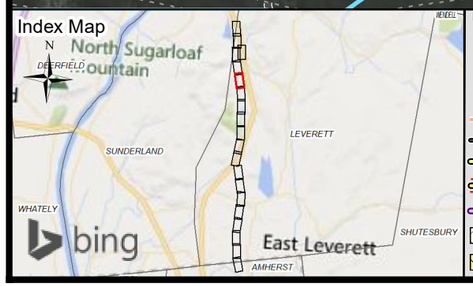
LL#503
LL#502
LEVERETT
LL#505
M
LL#501
ACCESS FROM ROUTE 63 (LONG PLAIN ROAD)
SELECT TREE REMOVAL
Map Sheet Matchline 5
Map Sheet Matchline 7
10093
10094
10095
LL#506
Long Plain Brook
LL#496
Genesee & Wyoming
LL#497
LL#507

Index Map



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1 in = 100 ft

0 25 50 100 Feet

MONTAGUE – FAIRMONT STRUCTURE REPLACEMENT PROJECT

LEVERETT
MASSACHUSETTS

PAGE 6 OF 20

Project No.: 15.0166637.09

08/21/2020

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LEVERETT

ACCESS FROM ROUTE 63 (LONG PLAIN ROAD)

SELECT TREE REMOVAL

Map Sheet Matchline 6

LL#506

10096

10097

REMOVE TREE

LL#513

GRADE AND RESTORE PER RIVERFRONT REQUIREMENTS

SPAN STREAM BANKS. WIDTH OF CROSSING APPROX. 10 FEET.

LL#514

10098

W-2

Map Sheet Matchline 8

ACCESS FROM ROUTE 63 (LONG PLAIN ROAD)

LL#515

LL#516

90 SF MATS IN BVW

460 SF MATS IN BVW

Long Plain Brook

Genesee & Wyoming

LL#496

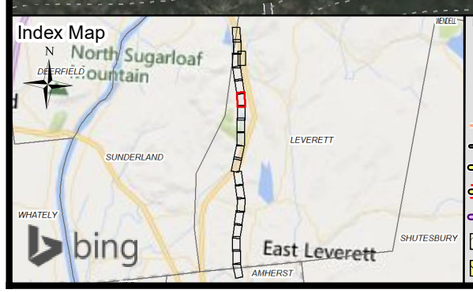
LL#507

LL#517

M

N

Index Map



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0 25 50 100 Feet

MONTAGUE – FAIRMONT STRUCTURE REPLACEMENT PROJECT

LEVERETT
MASSACHUSETTS

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LEVERETT

LL#515

LL#514

LL#516

LL#517

LL#518

LL#519

LL#507

Map Sheet Matchline 9

Map Sheet Matchline 7

Genesee & Wyoming

Long Plain Brook

ACCESS FROM ROUTE 63 (LONG PLAIN ROAD)

SPAN STREAM BANKS. WIDTH OF CROSSING APPROX. 10 FEET.

SPAN STREAM BANKS

GRADE AND RESTORE PER RIVERFRONT REQUIREMENTS

SPAN STREAM BANKS. WIDTH OF CROSSING APPROX. 10 FEET.

PROPOSED GRAVEL IN RIVERFRONT AREA.

REMOVE GRAVEL AND RESTORE PER RIVERFRONT REQUIREMENTS.

460 SF MATS IN BVW

6,200 SF MATS IN BVW

2,500 SF MATS IN BVW

EXISTING 16 FOOT GRAVEL ACCESS ROAD IN RESOURCE AREA. WIDENING PROHIBITED.

PROPOSED GRAVEL IN RIVERFRONT AREA.

EXISTING 16-FOOT GRAVEL ACCESS ROAD IN RIVERFRONT AREA. WIDENING PROHIBITED.

10099

10100

10101

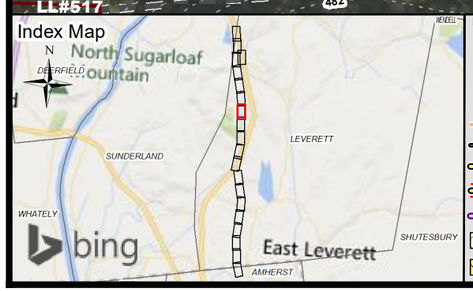
W-2

W-3

M

N

Index Map



Legend

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- Proposed Structure
- Guy Anchor
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- Proposed Access Road
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- NHESP Species Code
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- MA Areas of Critical Environmental Concern
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- FEMA 100yr Floodzone
- NHESP Certified Vernal Pool
- Confirmed Vernal Pool Extent
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- Manhole
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- Tree Removal
- Inactive Landfill

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Resource Area Code:
BVW: Bordering Vegetated Wetland
IVW: Isolated Vegetated Wetland
OHW: Ordinary High Water

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1 in = 100 ft

0 25 50 100 Feet

MONTAGUE – FAIRMONT STRUCTURE REPLACEMENT PROJECT

LEVERETT
MASSACHUSETTS

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08/21/2020

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LL#518

LL#521

LEVERETT

M

LL#519

LL#520

LL#522

LL#516

LL#507

LL#523

Genesee & Wyoming

Long Plain Brook

Map Sheet Matchline 8

Map Sheet Matchline 10

PROPOSED GRAVEL IN RIVERFRONT AREA.

EXISTING 16-FOOT GRAVEL ACCESS ROAD IN RIVERFRONT AREA. WIDENING PROHIBITED.

ACCESS FROM ROUTE 63 (LONG PLAIN ROAD)

SELECT TREE REMOVAL

REMOVE TREE

EXISTING 16-FOOT GRAVEL ACCESS ROAD IN RIVERFRONT AREA. WIDENING PROHIBITED.

2,500 SF MATS IN BVW

SPAN STREAM BANKS. WIDTH OF CROSSING APPROX. 10 FEET.

16,400 SF MATS IN BVW

SPAN STREAM BANKS

5,000 SF MATS IN BVW

790 SF MATS IN BVW

3,400 SF MATS IN BVW

SPAN STREAM BANKS

10101

10102

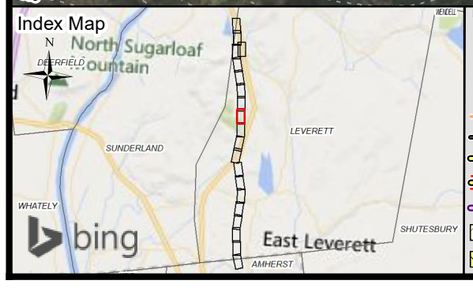
10103

W-3

W-4

433 423 413 403 393 383 374 364 354

344 334 383 374 364 354 393 403



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LEVERETT

M

LL#522

LL#524

LL#526

LL#516

LL#523

LL#529

LL#528

Map Sheet Matchline 9

Map Sheet Matchline 11

16,400 SF MATS IN BVW

2,500 SF MATS IN BVW

15,300 SF MATS IN BVW

SPAN STREAM BANKS

REMOVE TREE

Long Plain Brook

10104

10105

10106

W-4

ACCESS FROM ROUTE 63 (LONG PLAIN ROAD)

5,200 SF MATS IN BVW

13,500 SF MATS IN BVW

650 SF MATS IN BVW

Genesee & Wyoming

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North Sugarloaf Mountain

DEERFIELD

SUNDERLAND

LEVERETT

WHATELY

East Leverett

SHUTESBURY

AMHERST

bing

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LEVERETT

LONG PLAIN ROAD

LL#525

LL#533.01

LL#526

LL#527

LL#528

LL#529

LL#531

LL#536

Long Plain Brook

Genesee & Wyoming

Map Sheet Matchline 10

Map Sheet Matchline 12

REMOVE GRAVEL AND RESTORE PER RIVERFRONT REQUIREMENTS.

PROPOSED GRAVEL IN RIVERFRONT AREA.

REMOVE TREE

EXISTING 16-FOOT GRAVEL ACCESS ROAD IN 100-FOOT BUFFER ZONE. WIDENING PROHIBITED.

PROPOSED GRAVEL IN RIVERFRONT AREA.

USE AS IS

MAT WITHOUT GRADING

2,800 SF MATS IN BVW

1,300 SF MATS IN BVW

910 SF MATS IN BVW

7,400 SF MATS IN BVW

MAT PORTION OF ACCESS ROAD

SEPTIC SYSTEM

EXISTING 16-FOOT GRAVEL ACCESS ROAD IN 100-FOOT BUFFER ZONE. WIDENING PROHIBITED.

10107

10108

10109

W-4

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LL#533.01
LL#534
LL#533
LL#535
LL#540
LL#525
LL#541
LEVERETT
LL#543
SEPTIC SYSTEM
Map Sheet Matchline 11
REMOVE TREE
USE AS IS
STONE WALL WILL BE TEMPORARILY REMOVED FOR CONSTRUCTION AND REPLACED
SPAN STREAM BANKS
LONG HILL ROAD
LONG PLAIN ROAD
63
10112
LL#547
LL#536
LL#539
LL#544.01
LL#546
LL#528
10110
10111
W-4
REMOVE TREE
PROPOSED GRAVEL IN 100-FOOT BUFFER ZONE.
LL#537
7,400 SF MATS IN BVW
3,300 SF MATS IN BVW
GRADE AND RESTORE UPLAND PER RIVERFRONT REQUIREMENTS.
PROPOSED GRAVEL IN RIVERFRONT AREA.
REMOVE GRAVEL AND RESTORE PER RIVERFRONT REQUIREMENTS
LL#544
LL#538
LL#529
Genesee & Wyoming
LL#528
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North Sugarloaf
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SUNDERLAND
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WHATELY
East Leverett
SHUTESBURY
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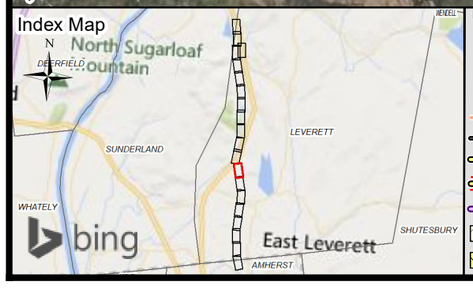

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LL#551

LEVERETT

LL#552

LL#548

LL#553

Map Sheet Matchline 13

Map Sheet Matchline 15

PROPOSED GRAVEL IN 100-FOOT BUFFER ZONE.

SELECT TREE REMOVAL

PERMANENT GRAVEL

ACCESS FROM DEPOT ROAD

SELECT TREE REMOVAL

PROPOSED GRAVEL IN 100-FOOT BUFFER ZONE.

PERMANENT GRAVEL

1,800 SF MATS IN BVW

PERMANENT GRAVEL

ACCESS FROM LONG HILL ROAD

RESTORE (LOAM & SEED)

RESTORE (LOAM & SEED)

RESTORE (LOAM & SEED)

PROPOSED GRAVEL IN 100-FOOT BUFFER ZONE.

10116

10117

10118

W-54

W-55

W-56

W-57

W-58

W-59

W-60

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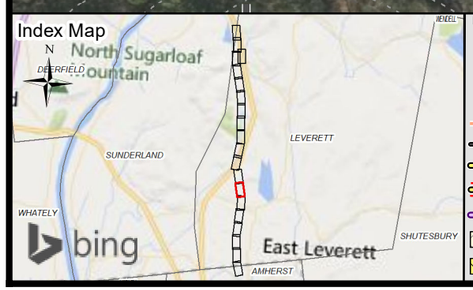
W-64

452 442 433 423 413 403 393 383 374 364 354 452 462 472 482 492 492 482 423 413 393 383



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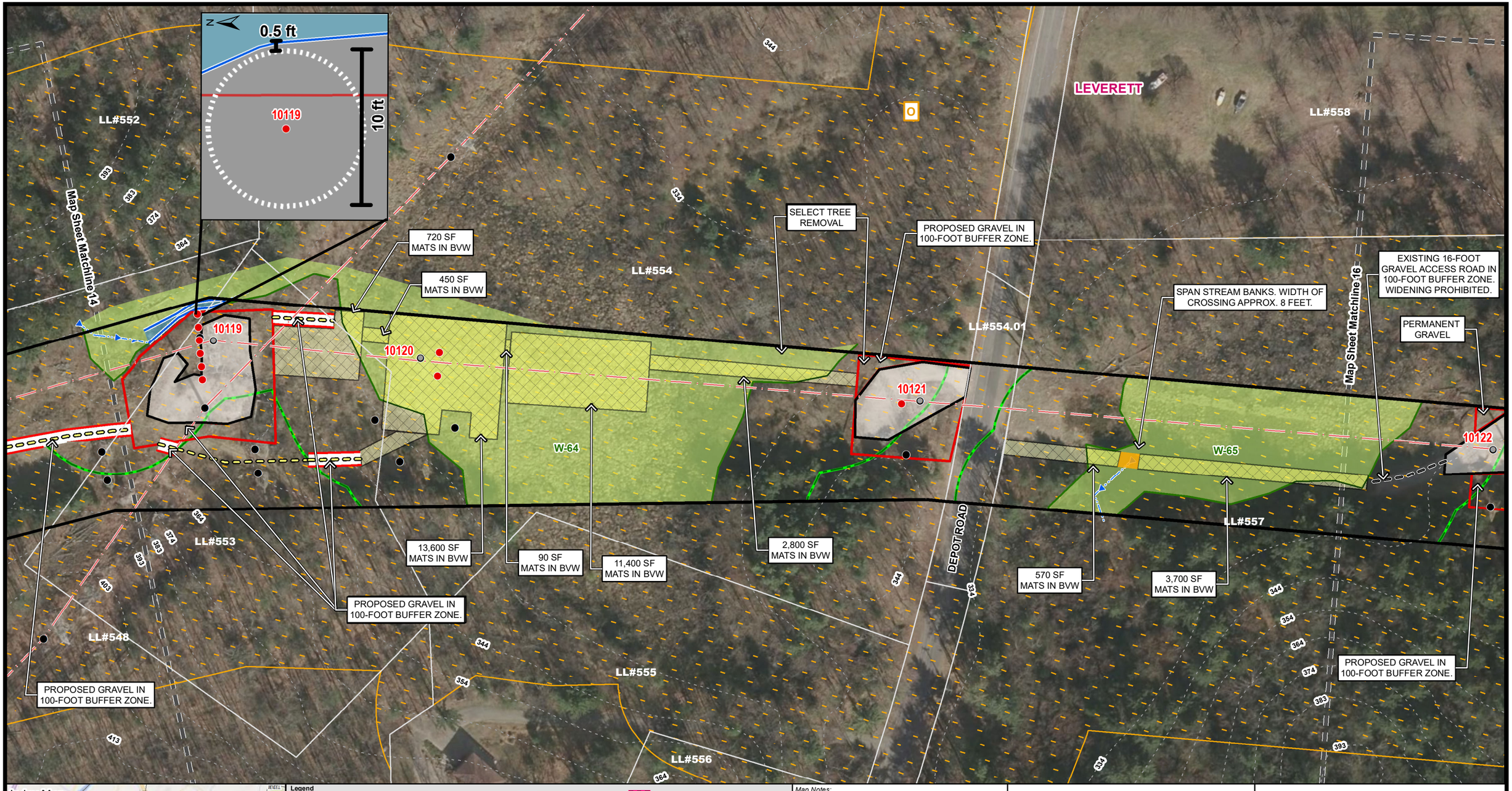

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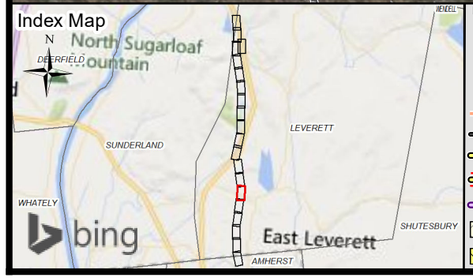

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LL#558

LEVERETT

EXISTING 16-FOOT GRAVEL ACCESS ROAD IN 100-FOOT BUFFER ZONE. WIDENING PROHIBITED.

PERMANENT GRAVEL

PERMANENT GRAVEL

ACCESS FROM DEPOT ROAD

1,800 SF MATS IN BVW

PERMANENT GRAVEL

950 SF MATS IN BVW

W-65

10122

LL#557

10123

W-66

10124

LL#559

W-67

Map Sheet Matchline 15

Map Sheet Matchline 17

RESTORE (LOAM & SEED)

RESTORE (LOAM & SEED)

PERMANENT GRAVEL

RESTORE (LOAM & SEED)

EXISTING 16 FOOT GRAVEL ACCESS ROAD IN 100-FOOT BUFFER ZONE. WIDENING PROHIBITED

PROPOSED GRAVEL IN 100-FOOT BUFFER ZONE.

PROPOSED GRAVEL IN 100-FOOT BUFFER ZONE.

EXISTING 16-FOOT GRAVEL ACCESS ROAD IN 100-FOOT BUFFER ZONE. WIDENING PROHIBITED.

O

305 314 324 334 344 354 364 374 383 393

Index Map

N

North Sugarloaf

DEERFIELD

Mountain

SUNDERLAND

LEVERETT

WHATELY

SHUTESBURY

East Leverett

AMHERST

bing

Legend

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1 in = 100 ft

0 25 50 100 Feet

MONTAGUE – FAIRMONT STRUCTURE REPLACEMENT PROJECT

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MASSACHUSETTS

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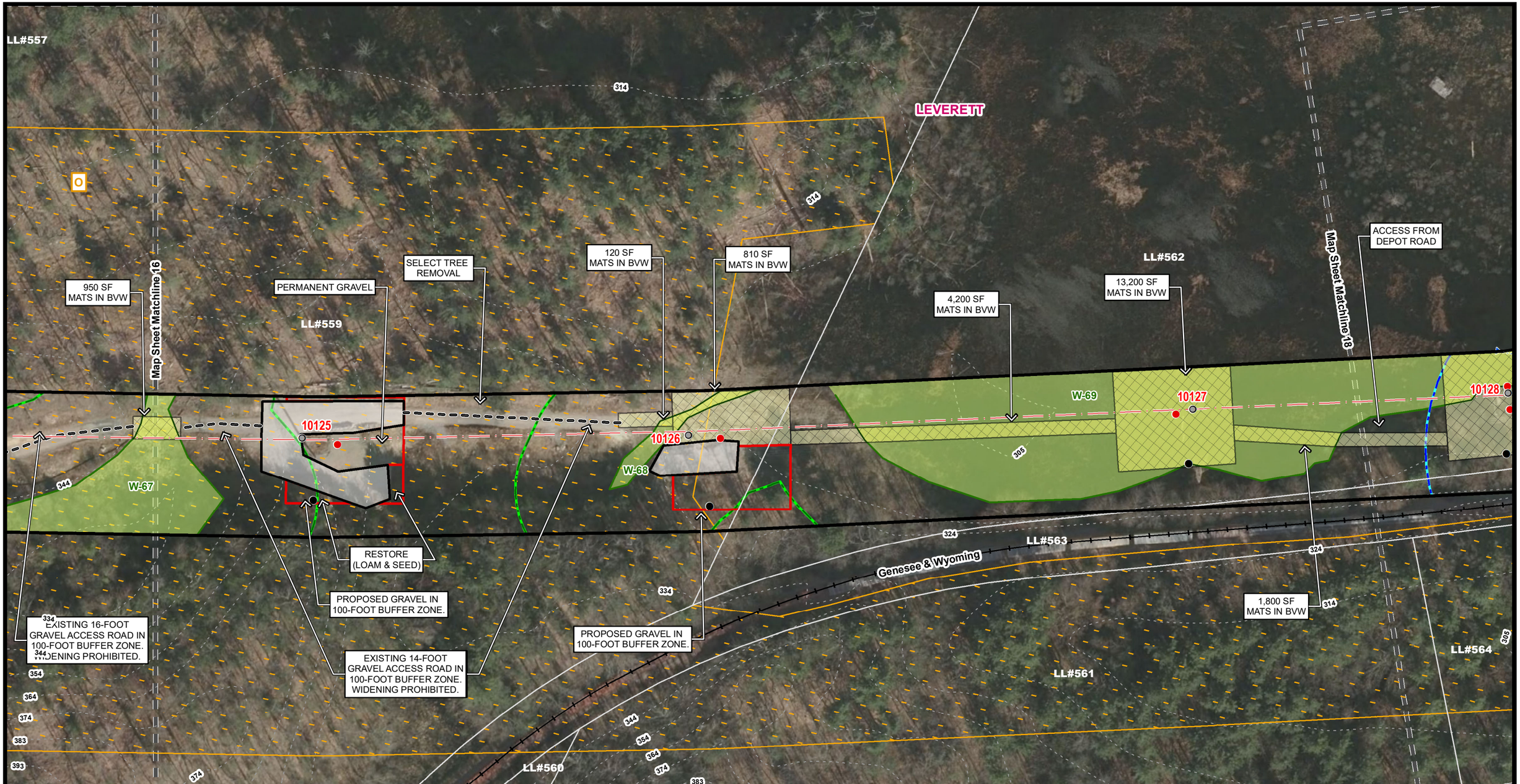
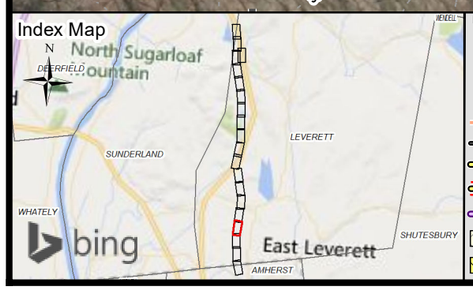


Index Map



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MONTAGUE – FAIRMONT STRUCTURE REPLACEMENT PROJECT

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LEVERETT

ACCESS FROM DEPOT ROAD

SPAN STREAM BANKS

8,900 SF MATS IN BVW

7,300 SF MATS IN BVW

1,400 SF MATS IN BVW

11,900 SF MATS IN BVW

USE AS-IS OR MAT

JUGGLER MEADOW ROAD

LL#562

LL#567

LL#563

LL#566

LL#563.01

LL#564

LL#561

LL#565

LL#569

Genesee & Wyoming

W-69

W-70

W-71

10128

10129

10130

10130.5

305

314

324

334

344

295

285

RIVERFRONT AREA STARTS AT CULVERT

630 SF MATS IN BVW

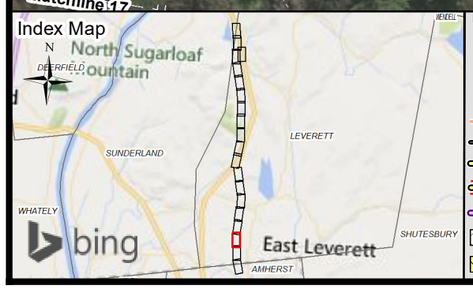
PROPOSED GRAVEL IN 100-FOOT BUFFER ZONE.

PROPOSED GRAVEL IN 100-FOOT BUFFER ZONE.

Map Sheet Matchline 17

Map Sheet Matchline 19

Index Map



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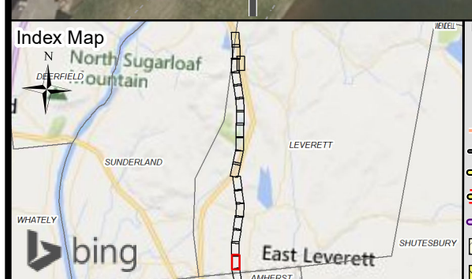

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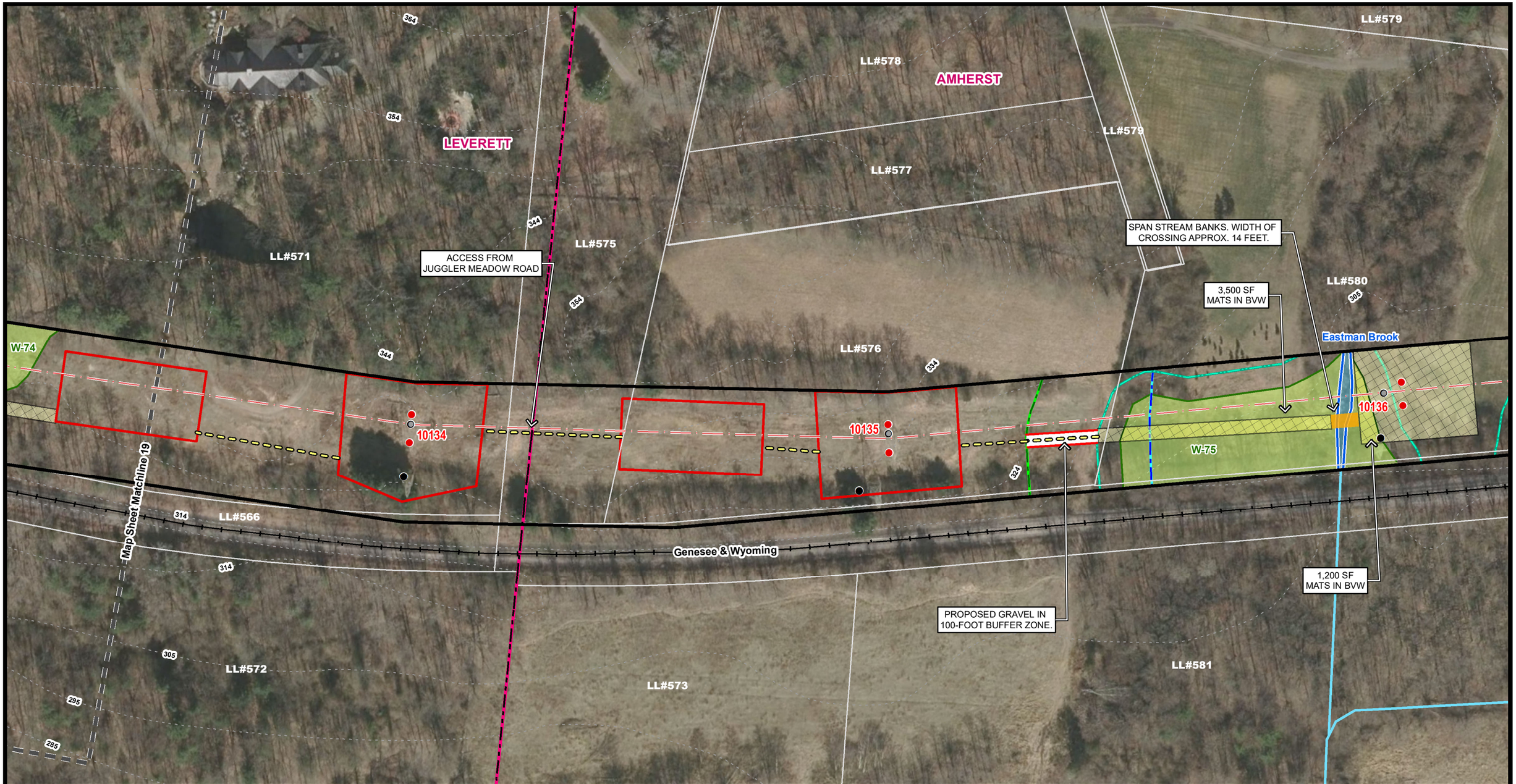

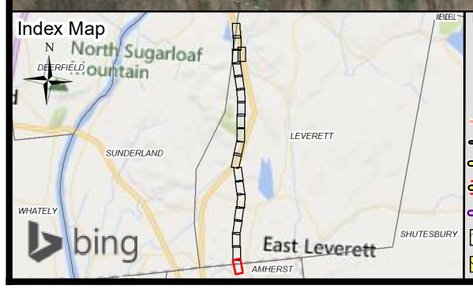

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MONTAGUE – FAIRMONT STRUCTURE REPLACEMENT PROJECT

LEVERETT/AMHERST
MASSACHUSETTS

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APPENDIX C

FIELD DELINEATION FORMS

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Eversource Transmission Lines 1044/1113 City/County: Leverett / Franklin Sampling Date: 4/25/2019

Applicant/Owner: Eversource Energy State: MA Sampling Point: W-2 Up

Investigator(s): GZA Section, Township, Range:

Landform (hillside, terrace, etc.): valley Local relief (concave, convex, none): concave Slope (%):

Subregion (LRR or MLRA): LRR R, MLRA 145 Lat: 42.479339 Long: -72.518280 Datum: WGS84

Soil Map Unit Name: Swansea muck, 0 to 1 percent slopes NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation X , Soil X , or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	**Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)
Utility right-of-way.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: W-2 Up

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus strobus*	15	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	15	=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. *Rubus flagellaris*	15	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	15	=Total Cover	
Herb Stratum (Plot size:)			
1. *Achillea millefolium*	5	Yes	FACU
2. *Taraxacum sp.*	15	Yes	FACU
3. *Verbascum lychnitis*	2	No	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	22	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	50	x 4 =	200
UPL species	2	x 5 =	10
Column Totals:	52 (A)		210 (B)

Prevalence Index = B/A = 4.04

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W-2 Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/2	100					Loamy/Clayey	Fine sandy loam
6-8	10YR 4/4	100					Loamy/Clayey	Fine sandy loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock

Depth (inches): 8

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Eversource Transmission Line 1044/1113 City/County: Leverett / Franklin Sampling Date: 4/25/2019

Applicant/Owner: Eversource Energy State: MA Sampling Point: W-2 Wet

Investigator(s): GZA Section, Township, Range:

Landform (hillside, terrace, etc.): valley Local relief (concave, convex, none): concave Slope (%):

Subregion (LRR or MLRA): LRR R, MLRA 145 Lat: 42.479008 Long: -72.518183 Datum: WGS84

Soil Map Unit Name: Swansea muck, 0 to 1 percent slopes NWI classification: PEM1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes No X

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No	**within a Wetland?** **Yes** X **No**
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
Utility right-of-way.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X No	Depth (inches):	2
Water Table Present?	Yes X No	Depth (inches):	0
Saturation Present? (includes capillary fringe)	Yes X No	Depth (inches):	0

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: W-2 Wet

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	5	=Total Cover	
Sapling/Shrub Stratum (Plot size:)			
1. *Spiraea alba*	5	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	5	=Total Cover	
Herb Stratum (Plot size:)			
1. *Onoclea sensibilis*	75	Yes	FACW
2. *Carex stricta*	15	No	OBL
3. *Solidago gigantea*	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	90	x 2 =	180
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		210 (B)

Prevalence Index = B/A = 1.91

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W-2 Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/2	85	7.5YR 4/6	15	C	M	Loamy/Clayey	Fine sandy loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock

Depth (inches): 12

Hydric Soil Present? **Yes** X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Eversource Transmission Lines 1044/1113 City/County: Montague to Fairmont Sampling Date: 4/25/2019

Applicant/Owner: Eversource Energy State: MA Sampling Point: W3 Up

Investigator(s): GZA Section, Township, Range:

Landform (hillside, terrace, etc.): valley hillslope Local relief (concave, convex, none): hillslope Slope (%): 3

Subregion (LRR or MLRA): LRR R, MLRA 145 Lat: 42.475720 Long: -72.517918 Datum: WGS84

Soil Map Unit Name: Yalesville-Holyoke complex, 3 to 8 percent slopes, rocky NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation X , Soil X , or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No X	**within a Wetland?**	**Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)
Utility right-of-way.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: W3 Up

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. *Kalmia latifolia*	20	Yes	FACU
2. *Rubus sp.*	10	Yes	
3.			
4.			
5.			
6.			
7.			
	30 =Total Cover		
Herb Stratum (Plot size:)			
1. *Solidago altissima*	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	5 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	25 (A)		100 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W3 Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/4	100					Loamy/Clayey	Fine sandy loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock

Depth (inches): 4

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Eversource Transmission Lines 1044/1113 City/County: Montague to Fairmont Sampling Date: 4/25/2019

Applicant/Owner: Eversource Energy State: MA Sampling Point: W-3 Wet

Investigator(s): GZA Section, Township, Range:

Landform (hillside, terrace, etc.): valley Local relief (concave, convex, none): concave/hilly Slope (%):

Subregion (LRR or MLRA): LRR R, MLRA 145 Lat: 42.475754 Long: -72.517861 Datum: WGS84

Soil Map Unit Name: Yalesville-Holyoke complex, 3 to 8 percent slopes, rocky NWI classification: PEM1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes No X

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No	**within a Wetland?** **Yes** X **No**
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
Utility right-of-way.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No X	Depth (inches):
Water Table Present?	Yes X	No	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes X	No	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: W-3 Wet

Tree Stratum (Plot size: 30ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15ft)			
1. *Spiraea alba*	5	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	5 =Total Cover		
Herb Stratum (Plot size: 5ft)			
1. *Symplocarpus foetidus*	30	Yes	OBL
2. *Solidago gigantea*	10	No	FACW
3. *Onoclea sensibilis*	10	No	FACW
4. *Scirpus cyperinus*	20	Yes	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	70 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	25	x 2 =	50
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		100 (B)

Prevalence Index = B/A = 1.33

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W-3 Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 2/1	100	5YR 4/6	2	C	PL	Mucky Loam/Clay	mucky very fine sandy loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock

Depth (inches): 5

Hydric Soil Present? **Yes** X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Eversource Transmission Lines 1044/1113 City/County: Leverett, Franklin Sampling Date: 4/25/2019

Applicant/Owner: Eversource Energy State: MA Sampling Point: W-4 Up

Investigator(s): GZA Section, Township, Range:

Landform (hillside, terrace, etc.): valley Local relief (concave, convex, none): concave Slope (%):

Subregion (LRR or MLRA): LRR R, MLRA 145 Lat: 42.473871 Long: -72.517655 Datum: WGS84

Soil Map Unit Name: Yalesville-Holyoke complex, 25 to 50 percent slopes, rocky NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation X , Soil X , or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____	No ____	**within a Wetland?**	**Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____	No ____	If yes, optional Wetland Site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)
Utility right-of-way.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: W-4 Up

Tree Stratum (Plot size: 30ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		=Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft.)			
1. *Kalmia latifolia*	20	Yes	FACU
2. *Juniperus communis*	5	Yes	FACU
3.			
4.			
5.			
6.			
7.			
	25	=Total Cover	
Herb Stratum (Plot size: 5ft.)			
1. *Erythronium americanum*	20	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	20	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	25	x 4 =	100
UPL species	20	x 5 =	100
Column Totals:	45 (A)		200 (B)

Prevalence Index = B/A = 4.44

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W-4 Up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 2/2	100					Loamy/Clayey	Very fine sand loam
1-10	10YR 3/6	100					Loamy/Clayey	Very fine sand loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock

Depth (inches): 10

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Eversource Transmission Lines 1044/1113 City/County: Leverett / Franklin Sampling Date: 4/25/2019

Applicant/Owner: Eversource Energy State: MA Sampling Point: W-4 Wet

Investigator(s): GZA Section, Township, Range:

Landform (hillside, terrace, etc.): valley Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR or MLRA): LRR R, MLRA 145 Lat: 42.473873 Long: -72.517797 Datum: WGS84

Soil Map Unit Name: Swansea muck, 0 to 1 percent slopes NWI classification: PEM1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation X , Soil X , or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	**Yes** X **No** ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)
Utility right-of-way.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	3
Water Table Present?	Yes X	No ____	Depth (inches):	12
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	0

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: W-4 Wet

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1. *Spiraea alba*	15	Yes	FACW
2. *Acer rubrum*	5	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	20 =Total Cover		
Herb Stratum (Plot size:)			
1. *Onoclea sensibilis*	50	Yes	FACW
2. *Symplocarpus foetidus*	30	Yes	OBL
3. *Carex sp.*	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	75	x 2 =	150
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		195 (B)

Prevalence Index = B/A = 1.77

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

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Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W-4 Wet

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 3/1	95	5YR 3/4	5	C	M	Loamy/Clayey	very fine sandy loam
11-20	10YR 4/1	100					Sandy	loamy sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: rock

Depth (inches): 20

Hydric Soil Present? **Yes** X **No** ___

Remarks:

APPENDIX D

SITE PHOTOGRAPHS

Photographic Log

Client Name: Eversource	**Site Location:** Montague to Fairmont Structure Replacement Project (MFRP) – Leverett	**Project No.** 15.0166637.09

Photo No.	**Date:**
1	04/25/19

Direction Photo Taken:
Northeast

Description:
Leverett Wetland W-2

Photo No.	**Date:**
2	07/08/19

Direction Photo Taken:
North

Description:
Leverett Wetland W-4

Photographic Log

Client Name: Eversource	**Site Location:** Montague to Fairmont Structure Replacement Project (MFRP) – Leverett	**Project No.** 15.0166637.09

Photo No.	**Date:**
3	07/09/19

Direction Photo Taken:
North

Description:
Leverett Wetland W-52

Photo No.	**Date:**
4	07/09/19

Direction Photo Taken:
Northwest

Description:
Leverett Wetland W-54

Photographic Log

Client Name: Eversource	Site Location: Montague to Fairmont Structure Replacement Project (MFRP) – Leverett	Project No. 15.0166637.09

Photo No.	Date:
5	07/10/19

Direction Photo Taken:
South

Description:
Leverett Wetland W-64

Photo No.	Date:
6	07/25/19

Direction Photo Taken:
North

Description:
Leverett Wetland W-65

Photographic Log

Client Name: Eversource	Site Location: Montague to Fairmont Structure Replacement Project (MFRP) – Leverett	Project No. 15.0166637.09

Photo No.	Date:
7	07/25/19

Direction Photo Taken:
Southeast

Description:
Leverett Wetland W-66

Photo No.	Date:
8	07/22/19

Direction Photo Taken:
North

Description:
Leverett Wetland W-67

Photographic Log

Client Name: Eversource	Site Location: Montague to Fairmont Structure Replacement Project (MFRP) – Leverett	Project No. 15.0166637.09

Photo No.	Date:
9	07/22/19

Direction Photo Taken:
Northwest

Description:
Leverett Wetland W-68

Photo No.	Date:
10	07/22/19

Direction Photo Taken:
East Northeast

Description:
Leverett Wetland W-69

Photographic Log

Client Name: Eversource	**Site Location:** Montague to Fairmont Structure Replacement Project (MFRP) – Leverett	**Project No.** 15.0166637.09

Photo No.	**Date:**
11	07/22/19

Direction Photo Taken:
North northwest

Description:
Leverett Wetland W-70

Photo No.	**Date:**
12	07/22/19

Direction Photo Taken:
East

Description:
Leverett Wetland W-71

Photographic Log

Client Name: Eversource	Site Location: Montague to Fairmont Structure Replacement Project (MFRP) – Leverett	Project No. 15.0166637.09

Photo No.	Date:
13	08/09/19

Direction Photo Taken:
East

Description:
Leverett Wetland W-73

Photo No.	Date:
14	07/10/19

Direction Photo Taken:
South

Description:
Leverett Wetland W-74

Photographic Log

Client Name: Eversource	**Site Location:** Montague to Fairmont Structure Replacement Project (MFRP) – Leverett	**Project No.** 15.0166637.09

Photo No.	**Date:**
15	7/18/2019

Direction Photo Taken: North

Description: Watercourse associated with Leverett Wetland W-51

Photo No.	**Date:**
16	4/25/2019

Direction Photo Taken: Northwest

Description: Long Plain Brook located within Leverett Wetland W-2.

Photographic Log

Client Name: Eversource	**Site Location:** Montague to Fairmont Structure Replacement Project (MFRP) – Leverett	**Project No.** 15.0166637.09

Photo No.	**Date:**
17	8/12/20

Direction Photo Taken:

Description: Existing gravel to be removed as part of wetland mitigation at Structure 10127.

Photo No.	**Date:**
18	8/12/20

Direction Photo Taken:

Description: Existing gravel to be removed as part of wetland mitigation at Structure 10128.

Photographic Log

Client Name: Eversource

Site Location: Montague to Fairmont Structure Replacement Project (MFRP) – Leverett

Project No. 15.0166637.09

Photo No.	**Date:**
19	8/12/20

Direction Photo Taken:

Description: Existing gravel to be removed as part of wetland mitigation at Structure 10128.

Photo No.	**Date:**
20	8/12/20

Direction Photo Taken:

Description: Existing gravel to be removed as part of wetland mitigation at Structure 10129.

APPENDIX E

ABUTTERS LIST AND NOTICE

Map	Block	Lot	Town_Parce	Site_Addre	Site_Town	State	Owner_Name	Mailing_Ad	Mailing_To	Mailing_St	Zip_Code
1	0	39	1-0-39	470 LONG PLAIN ROAD	LEVERETT	MA	BRYANT FUNDING TRUST C/O ROBERTA BRYANT	470 LONG PLAIN ROAD	LEVERETT	MA	01054
3	0	11	3-0-11	REAR LONG PLAIN ROAD	LEVERETT	MA	COMMONWEALTH OF MASSACHUSETTS DERAPTMENT OF NATURAL RESOURCES	100 CAMBRIDGE STREET	BOSTON	MA	02202
3	0	12E	3-0-12E	400 LONG PLAIN ROAD	LEVERETT	MA	CHRISTIAN BOYSEN & JANE SCOTT	493 FEDERAL STREET	MONTAGUE	MA	01351
3	0	12C	3-0-12C	REAR LONG PLAIN ROAD	LEVERETT	MA	JEFFREY B BROWN	391 BAY ROAD	AMHERST	MA	01002
3	0	15	3-0-15	336 LONG PLAIN ROAD	LEVERETT	MA	ROBERT A & KATHLEEN J WELLER, TR KATHLEEN J WELLER REVOC TR	PO BOX 411	MONTAGUE	MA	01351
3	0	15A	3-0-15A	334 LONG PLAIN ROAD	LEVERETT	MA	ROBERT A & KATHLEEN J WELLER	PO BOX 411	MONTAGUE	MA	01351
3	0	15B	3-0-15B	332 LONG PLAIN ROAD	LEVERETT	MA	PIONEER VALLEY REDEVELOPERS LLC	PO BOX 411	MONTAGUE	MA	01351
3	0	15C	3-0-15C	330 LONG PLAIN ROAD	LEVERETT	MA	JONATHON P & SUSANNA H THOMPSON	330 LONG PLAIN ROAD	LEVERETT	MA	01054
5	0	2	5-0-2	LONG PLAIN ROAD	LEVERETT	MA	ALAN R & CORY A SHUMWAY	625 EAST PLEASANT STREET	AMHERST	MA	01002
3	0	85	3-0-85	REAR LONG PLAIN ROAD	LEVERETT	MA	COMMONWEALTH OF MASSACHUSETTS DIVISION OF FISHERIES AND WILDLIFE	100 CAMBRIDGE STREET	BOSTON	MA	02202
5	0	7B	5-0-7B	298 LONG PLAIN ROAD	LEVERETT	MA	DAVID & AMY RICE	298 LONG PLAIN ROAD	LEVERETT	MA	01054
5	0	7C	5-0-7C	LONG PLAIN ROAD	LEVERETT	MA	DAVID & AMY RICE	298 LONG PLAIN ROAD	LEVERETT	MA	01054
5	0	7A	5-0-7A	LONG PLAIN ROAD	LEVERETT	MA	TRACEY E FIELD	268 LONG PLAIN ROAD	LEVERETT	MA	01054
5	0	6	5-0-6	264 LONG PLAIN ROAD	LEVERETT	MA	JEFFREY A & JENNIFER D FIELD	264 LONG PLAIN ROAD	LEVERETT	MA	01054
5	0	7	5-0-7	268 LONG PLAIN ROAD	LEVERETT	MA	TRACEY L FIELD	268 LONG PLAIN ROAD	LEVERETT	MA	01054
5	0	8	5-0-8	260 LONG PLAIN ROAD	LEVERETT	MA	LINDA J & ROBERT R JABLONSKI	260 LONG PLAIN ROAD	LEVERETT	MA	01054
5	0	9	5-0-9	256 LONG PLAIN ROAD	LEVERETT	MA	ELIZABETH A MOULDER & MARY J RAWLS LE	122 SOUTH PROSPECT STREET	MILLERS FALLS	MA	01349
5	0	10	5-0-10	254 LONG PLAIN ROAD	LEVERETT	MA	ALICE FIELD	254 LONG PLAIN ROAD	LEVERETT	MA	01054
5	0	56	5-0-56	101 LONG HILL ROAD	LEVERETT	MA	SHARON HOWARD	101 LONG HILL ROAD	LEVERETT	MA	01054
5	0	58	5-0-58	247 LONG PLAIN ROAD	LEVERETT	MA	PATRICK J GERYK	247 LONG PLAIN ROAD	LEVERETT	MA	01054
5	0	14	5-0-14	246 LONG PLAIN ROAD	LEVERETT	MA	MARJORIE P HERBERT	246 LONG PLAIN ROAD	LEVERETT	MA	01054
5	0	37	5-0-37	LONG PLAIN ROAD	LEVERETT	MA	MARJORIE P HERBERT	246 LONG PLAIN ROAD	LEVERETT	MA	01054
5	0	36	5-0-36	104 LONG HILL ROAD	LEVERETT	MA	ROBERT M HERONEMUS	104 LONG HILL ROAD	LEVERETT	MA	01054
5	0	33	5-0-33	LONG HILL ROAD	LEVERETT	MA	MARCIA HERONEMUS-PATE TRUSTEE, PHYLLIS R HERONEMUS TRUST	3420 E 76TH STREET	TULSA	OK	74136
5	0	53	5-0-53	91 LONG HILL ROAD	LEVERETT	MA	CHRISTOPHER J & MOLLY B KUSEK	91 LONG HILL ROAD	LEVERETT	MA	01054
5	0	38C	5-0-38C	82 LONG HILL ROAD	LEVERETT	MA	WILLIAM & JANE RATHBUN	82 LONG HILL ROAD	LEVERETT	MA	01054
5	0	39	5-0-39	REAR DEPOT ROAD	LEVERETT	MA	NEW ENGLAND POWER COMPANY PROPERTY TAX DEPARTMENT	40 SYLVAN ROAD	WALTHAM	MA	02451-2286
7	0	111	7-0-111	DEPOT ROAD	LEVERETT	MA	KRISPI, LLC	294 ALBION ROAD	LINCOLN	RI	02865
7	0	110E	7-0-110E	60 DEPOT ROAD	LEVERETT	MA	SUSAN C WALKER	60 DEPOT ROAD	LEVERETT	MA	01054
7	0	116	7-0-116	DEPOT ROAD	LEVERETT	MA	TOWN OF LEVERETT	TOWN HALL	LEVERETT	MA	01054
7	0	120	7-0-120	92 AMHERST ROAD	LEVERETT	MA	RICHARD E & MARY HANKINSON	92 AMHERST ROAD	LEVERETT	MA	01054
7	0	83	7-0-83	76 JUGGLER MEADOW ROAD	LEVERETT	MA	NANCY STOCKWELL, DONNA & JAMES RIVERS	76 JUGGLER MEADOW ROAD	LEVERETT	MA	01054
7	0	126	7-0-126	92 JUGGLER MEADOW ROAD	LEVERETT	MA	EDWIN A GERE	92 JUGGLER MEADOW ROAD	LEVERETT	MA	01054
7	0	82	7-0-82	82 JUGGLER MEADOW ROAD	LEVERETT	MA	MARY JO KORFHAGE	82 JUGGLER MEADOW ROAD	LEVERETT	MA	01054
7	0	127	7-0-127	JUGGLER MEADOW ROAD	LEVERETT	MA	MEADOW NOMINEE TRUST, KENNETH A BERGERON TRUSTEE	PO BOX 52570	BOSTON	MA	02205
7	0	129	7-0-129	109 JUGGLER MEADOW ROAD	LEVERETT	MA	MICHAEL J KITTREDGE	PO BOX 52570	BOSTON	MA	02205
7	0	81	7-0-81	89 JUGGLER MEADOW ROAD	LEVERETT	MA	PETER MAY	89 JUGGLER MEADOW ROAD	LEVERETT	MA	01054
7	0	145	7-0-145	6 AMHERST ROAD	LEVERETT	MA	WINTER HARBOR NOMINEE TRUST, KENNETH A BERGERON TRUSTEE	PO BOX 52570	BOSTON	MA	02205
7	0	35A	7-0-35A	10 LAWTON ROAD	LEVERETT	MA	GAY HAPGOOD	10 LAWTON ROAD	LEVERETT	MA	01054
1	0	32	1-0-32	REAR JACKSON HILL ROAD	LEVERETT	MA	STELLA STRYSKO ESTATE C/O RICHARD STRYSKO EXECUTOR	262 BEAN ROAD	WARNER	NH	03278

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F: 413.732.1249
www.gza.com

August 28, 2020
GZA File No: 15.0166637.09

To: Project Abutters

From: GZA GeoEnvironmental, Inc. (GZA)

Re: Notice of Filing a Notice of Intent Application
Eversource Montague-Fairmont Structure Replacement Project (MFRP)
Leverett, Massachusetts

Dear Project Abutter:

On behalf of Eversource, the Applicant, GZA has submitted a Notice of Intent (NOI) application to the Leverett Conservation Commission for the above-referenced project. The application has been filed for replacement of transmission structures and associated activities within Riverfront Area and Bordering Vegetated Wetlands.

Pursuant to the Wetlands Protection Act Regulations, 310 CMR 10.00, all abutters within 100' to the project location must be notified of the Notice of Intent application (via certified mail, certificate of mailing, or hand delivery).

The public hearing to discuss this application is scheduled for **September 14, 2020 at 7 PM**. The meeting will be virtual and can be accessed via Go-to-Meeting at https://global.gotomeeting.com/join/415447301. The call-in number is 1-786-535-3211 and the access code is 415-447-301.

Additional information about this application can be obtained by contacting the Leverett Conservation Commission (413-548-1022 x 3), located at 9 Montague Road, Leverett, MA. The application is available for review in the Leverett Conservation Commission's office by appointment only.

Very truly yours,
GZA GeoEnvironmental, Inc.

Mary J. Brittain

Mary J. Brittain, LSP
Senior Project Manager

GZA GeoEnvironmental, Inc.