

February 8, 2022

Melanie Bachman, Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Eastern Connecticut Reliability Project – 400/500 Lines Rebuild Project

Dear Ms. Bachman:

The Connecticut Light and Power Company doing business as Eversource Energy (“Eversource”) is requesting a Declaratory Ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed modifications to two existing 115-kilovolt transmission lines, (“400/500 Lines Rebuild Project”) in the Towns of Ledyard and Preston, Connecticut (“Petition”).

Prior to submitting this Petition, representatives from Eversource briefed municipal officials in Ledyard and Preston about the Project. Eversource provided written notice of the proposed work to all abutters and of the filing of this Petition with the Council. Maps and line lists identifying the abutting property owners who were notified of the Project are provided in the Petition as Attachment A: 400/500 Lines Rebuild Project – Aerial Maps.

Eversource is submitting this filing electronically and will deliver an original and 15 copies, along with a check for the \$625 filing, to the Council

Sincerely,



Kathleen M. Shanley

Enclosure

cc: Mr. Fred Allyn, III, Mayor, Town of Ledyard
Ms. Sandra L. Allyn-Gauthier, First Selectwoman, Town of Preston

THE CONNECTICUT LIGHT AND POWER COMPANY

doing business as

EVERSOURCE ENERGY

PETITION TO THE CONNECTICUT SITING COUNCIL
FOR A DECLARATORY RULING OF
NO SUBSTANTIAL ADVERSE ENVIRONMENTAL EFFECT
FOR THE PROPOSED MODIFICATIONS TO THE EXISTING
400 and 500 LINES IN THE TOWNS OF LEDYARD AND PRESTON, CONNECTICUT

1. Introduction

The Connecticut Light and Power Company doing business as Eversource Energy (“Eversource” or the “Company”) hereby petitions the Connecticut Siting Council (“Council”) for a Declaratory Ruling that no Certificate of Environmental Compatibility and Public Need (“Certificate”) is required pursuant to Section 16-50g et seq. of the Connecticut General Statutes for the modifications to the 400 and 500 Lines, 69-kilovolt (“kV”) transmission lines, located within existing transmission rights-of-way (“ROWS”) and on Eversource owned property in the Towns of Ledyard and Preston, Connecticut (“Towns”), as described herein (the “Project”) (See Figure 1, below). Eversource submits that a Certificate is not required because the proposed modifications would not have a substantial adverse environmental effect.

2. Purpose of the Project

The purpose of the proposed Project is to further implement components of the system solution as determined by the Independent System Operator – New England (“ISO-NE”) in the “2027 Eastern Connecticut Reliability Needs Assessment” conducted by ISO-NE in 2018 (“Needs Study”) and the “Eastern Connecticut (ECT) 2029 Solutions Study – Final (“Solutions Study”)” conducted by ISO-NE in June 2020. The Needs Study identified multiple thermal overloads and low voltage violations in the Montville to Card and Montville to Killingly corridors, and low and high voltage violations in the Mystic to Kent Corridor (Kent is a National Grid substation in Rhode

Island). The solution selected to address these needs, as outlined in the Solutions Study included the following components:

- converting the 100 Line from Montville Substation to Gales Ferry Substation¹ from 69- to 115-kilovolt (“kV”) operation;
- converting the 400 Line from Gales Ferry Substation to Tunnel Substation and to Buddington Substation (a Groton Utilities facility) from 69- to 115-kV operation;
- upgrading and expanding the Gales Ferry Substation to facilitate the operation of the 100 and 400 Lines at 115 kV, and
- upgrading the Tunnel Substation to facilitate the operation of the 400 Line at 115 kV.²

In addition to the Project, the complete solution includes modifications to six other Eversource substations: Killingly, Montville, Shunock, Mystic, Card, and Tunnel.³

The status of the Eversource components of the determined overall system solution are as follows:

- Montville Substation (EM-EVER-086-21039e, acknowledged on April 13, 2021)
- Card Substation (Petition No. 1448, approved June 3, 2021)
- Killingly Substation (Petition No. 1453, approved July 29, 2021)
- Mystic Substation (Petition No. 1455, approved July 29, 2021)
- Shunock Substation (Petition No. 1459, approved October 7, 2021)

¹ The 100 Line and 400 Lines cannot be energized at 115-kV until the entire line and all terminals are converted to 115 kV. This Project is one component of the line upgrades. As part of this Project, Eversource is not seeking approval to energize the rebuilt portion of the 100 and 400 Lines at 115 kV. That request will be the subject of a subsequent petition filing.

² Upon completion of all of the upgrades needed to facilitate the conversion of the 100 and 400 Lines from 69- operation to 115-kV operation, the 100 Line will be redesignated as the 1787 Line and the 400 Line would be redesignated as the 1911 Line.

³ The solution also requires improvements to Buddington Substation and associated transmission lines (Petition No.1436, approved February 25, 2021).

- Reconductor 100 Line – Montville Substation to Horton Cove (Petition No. 1468, approved January 27, 2022)
- Reconductor 100 and 400 Lines – Montville Junction to Ledyard Junction (Petition No. 1475, filed December 28, 2021, pending)
- Gales Ferry (Petition No. 1484, filed February 3, 2022, pending)
- Rebuild 400 Line – Ledyard Junction to Tunnel Substation (subject of this petition).

Together, these components of the determined solution will help address the noted violations, allow power to flow more easily into Connecticut and better accommodate future renewable energy interconnections.

The Project consists of rebuilding the 400 Line from Ledyard Junction to Tunnel Substation and modifying the Tunnel Substation to facilitate the conversion of the 400 Line from 69- to 115-kV operation. Completion of this Project will constitute the final component of the ECT Solution and would allow the conversion of the 100 and 400 Lines from 69-kV operation to 115-kV operation. Accordingly, the request to energize these lines at 115-kV is part of this Petition.

In addition to the foregoing, although not a component of the ECT Solution, the Project would include the rebuild of the 69-kV 500 Line, which occupies the same transmission corridor as the 400 Line between Hallville Junction in Ledyard and Tunnel Substation in Preston. The 500 Line will continue to operate at 69 kV, but the structures and conductors would be designed to be capable of 115-kV operation; however, there are no current plans to operate the line at 115 kV. The rebuild of the 500 Line would improve system reliability by replacing old and degraded structures and upgrading the current copper conductor and Copperweld shield wire to current Eversource and National Electrical Safety Code (“NESC”) standards.

Figure 1: Project Overview Map



3. Project Description

As mentioned above, the proposed modifications to the 400 Line are necessary to help address high and low voltage violations identified in the “2029 Eastern Connecticut Reliability Needs Assessment” conducted by Independent System Operator - New England ISO-NE in 2018 and the “Eastern Connecticut (ECT) 2029 Solutions Study – Final” conducted by ISO-NE in June 2020. The Project work begins at a point near Ledyard Junction, just east of Whalehead Road in Ledyard and extends northerly to Hallville Junction in Ledyard and then to the northern terminus at Tunnel Substation in Preston, just south of the Quinebaug River (refer to Figure 1 – Project Overview, below). From Ledyard Junction to Hallville Junction, the Project corridor contains the 400 Line on the west and an abandoned segment of the 500 Line on the south. At Hallville Junction, there is an Underground to Overhead Transition Structure, where an underground segment of the 500 Line joins the corridor.⁴ From Hallville Junction to Tunnel Substation, the 400 Line occupies the western side of the corridor and the 500 Line occupies the eastern side. The corridor is generally comprised of an approximately 160 feet wide ROW, but smaller segments are approximately 200 feet wide or occupy Eversource-owned parcels. The configuration of the lines is illustrated in Attachment A – Aerial Maps.

The proposed Project components specific to each line are described in the subsections, below. Vegetation management activities would serve the entire Project. Project details are provided in the following attachments:

⁴ In approximately 1990, a new 69-kV underground transmission cable was constructed to interconnect the Southeast Connecticut Regional Resources Recovery facility in Preston to the transmission grid at Hallville Junction in Ledyard. Upon completion of this interconnection, the section of the then designated 100 Line between Gales Ferry Substation and Tunnel Substation was re-designated as the 500 Line and the portion of the line between Gales Ferry Substation and Hallville Junction was de-energized and abandoned in place.

- Attachment A contains maps that depict the locations of existing and proposed structures and lines, the Tunnel Substation, existing and proposed access roads, and work pads to be used for the Project, as well as environmental resources, other ROW features, and Project elements.
- Attachment B includes typical cross-sections of the existing and proposed transmission line structures and the limits of the ROW.
- Attachment C lists the heights and configurations of the existing and proposed replacement structures. The heights of the existing structures range from 38 to 80 feet above ground level and many of the replacement structures would be taller due to the proposed vertical configuration needed to meet current NESC clearance requirements. The replacement structures would range in height from 80 feet to 125 feet above ground level. Replacement structures would be taller than the corresponding existing structures by an average of 45 feet on the 400 Line and 44 feet on the 500 Line.

A. Rebuild and Convert the 400 Line to be 115-kV Operational

The 400 Line is a three-terminal line that runs from Gales Ferry Substation to Ledyard Junction and at Ledyard Junction turns north to Tunnel Substation and south to Buddington Substation. The proposed Project work would be focused on the segment between Ledyard Junction and Tunnel Substation. The segment of the 400 Line from Ledyard Junction to Buddington Substation does not require any upgrades at this time.

The current 400 Line conductor consists of 2/0 and 4/0 copper conductor in a horizontal configuration supported by wood H-frame structures. The line has two Copperweld shield wires. The existing conductor would be replaced with 1272-kcmil aluminum conductor steel supported (“ACSS”) and the shield wire(s) would be replaced with one 48-fiber

optical ground wire (“OPGW”). In addition to the reconductoring, all of the 84 existing H-frame structures (and one lattice structure) between Ledyard Junction and Tunnel Substation would be replaced with weathering steel monopoles with the conductors in a vertical configuration. South of Hallville Junction, the replacement structures would be re-aligned closer to the western edge of the ROW in order to limit required clearing on the east side of the ROW. North of Hallville Junction the replacement structures would be re-aligned closer to the eastern edge of the ROW to avoid constructability conflicts with the 500 Line. The use of monopoles in a vertical configuration would provide sufficient clearance between the 400 Line and the 500 Line to allow construction and future maintenance work to proceed without simultaneous outages on both lines, thus ensuring uninterrupted supply to Tunnel Substation and Gales Ferry Substation. In addition, the vertical configuration would maximize the efficient use of the ROW and would potentially allow sufficient space for another line in the future, although there are no current plans to do so.

The 400 Line wood pole H-frame structures were originally erected in 1942, with selective structure replacements in subsequent years due to age related degradation. The existing aged wood pole structures would not be able to safely support the new conductors and would not meet the NESC clearance standards for 115-kV operation and would need to be replaced.

Details of the proposed scope of work are summarized as follows:

- replace the existing wood pole structures with 85 weathering steel monopoles;
- replace approximately 8.6 miles of the existing 2/0 and 4/0 conductors on the 400 Line with 1272-kcmil aluminum conductor steel supported (“ACSS”) conductor and convert

the line to be capable of operation at 115 kV and replace the existing Copperweld shield wires with 48-fiber OPGW;

- replace all attachment hardware and insulators and install all required structure grounding and counterpoise;
- improve or construct access roads and work pads; and
- remove or trim trees and vegetation to accommodate the work or to meet the required conductor clearances.

B. Re-terminate the 400 Line at Tunnel Substation

Details of the proposed scope of work for the re-termination of the 400 Line at Tunnel Substation are summarized as follows:

- install a new 115-kV, 40-kiloampere circuit breaker, at the Tunnel Substation;
- remove the 400 Line from the 69-kV terminal structure and re-terminate the new 400 line conductors into the new 115-kV bus position between the new circuit breaker and the existing circuit breakers. The 400 Line would share the same terminal as the existing 3X transformer;
- install three 115-kV cable potheads; install new line terminal equipment (i.e., motor-operated disconnect switch, capacitor coupled voltage transformers and lightning arresters);
- install new bus, cable and connectors as needed to facilitate the connection between the new line terminal equipment and 115-kV bus;

- install approximately 250 feet of 3500-kcmil 115-kV underground cable per phase within the substation yard to connect the reconductored 400 Line to the proposed 115-kV bus position;
- install necessary grounding connections and ground grid repairs in disturbed areas; and,
- complete above- and below-grade civil work required to support the above-mentioned scope. (i.e., grading, conduit, foundations, and support steel).

C. Rebuild the 500 Line

The Project entails rebuilding (replacing conductors and structures) and re-aligning the approximately 4.9-mile overhead segment of the 69-kV 500 Line between Hallville Junction and Tunnel Substation. The 500 Line is supported on wood H-frame structures that were constructed in and 1952, with selective structure replacements for asset condition purposes in subsequent years. The line consists of 2/0 and 4/0 copper conductor and two Copperweld shield wires. The 500 line is included in Eversource's Copper Retirement Program, the purpose of which is to retire all of the remaining copper conductor and Copperweld shield wire on the Eversource system as the existing conductor and shield wires line are obsolete and susceptible to failure due to thermal rating degradation, as well as degradation due to environmental factors such as wind, ice, and ambient temperature. Equipment and parts for the repair of this conductor and shield wire are no longer manufactured. The existing wood H-frame structures supporting the 500 Line need to be replaced due to degraded conditions (e.g., rot, cracks, woodpecker holes, corroded hardware), structure loading deficiencies and to meet current clearance requirements.

Details of the proposed scope of work are summarized as follows:

- replace all 50 single circuit wood H-frame structures with single-circuit weathering steel monopole structures;
- reconductor the existing 2/0 and 4/0 copper conductor with Eversource standard 1272 ACSS conductor in a vertical configuration;
- replace the two existing Copperweld overhead shield wires with OPGW;
- install lightning arrestors on approximately every 5th structure; and,
- remove 13 remaining structures that supported the abandoned 500 Line between Ledyard Junction and Hallville Junction.

D. Energize the 100 and 400 Lines at 115 kV

Upon the receipt of all necessary regulatory authorizations and the completion of the physical upgrades to the Montville, Gales Ferry and Tunnel substations and the completion of construction of all requested line modifications, Eversource proposes to operate the 100 and 400 Lines at 115 kV⁵. The segment of the 400 Line from Ledyard Junction to Buddington Substation does not require new conductors to operate at 115 kV.

⁵ The necessary modifications include: modifications to the 400 Line and the Buddington Substation within Groton Facilities territory (Petition No. 1436, approved on February 25, 2021); modifications to the Montville Substation and the 100 Line from Montville Substation to Horton Cove (Petition No. 1468, approved January 27, 2022); modifications to the 100 and 400 Lines from Montville Junction to Ledyard Junction (Petition No. 1475, pending); and modifications to the Gales Ferry substation (Petition No. 1484, pending).

Construction is scheduled to begin in the second quarter of 2022 with a proposed in-service date in the third quarter of 2023, provided that all necessary permits and authorizations are received according to schedule.

4. Existing Environment, Environmental Effects and Mitigation

Project construction would be performed entirely within the existing transmission ROW or on Eversource owned property. No expansion of the existing ROW would be required for the Project work. The Project would not have a substantial adverse environmental effect, as explained more fully below.

Land Use

The Project area is located in the eastern portions of the Towns of Preston and Ledyard, originating at Ledyard Junction in Ledyard, and running in a northerly direction to Eversource's Tunnel Substation, which is just south of the confluence of the Quinebaug and Shetucket Rivers. Land use along the Project is primarily a mix of residential, undeveloped, and agricultural lands with additional residential and commercial developments becoming more prevalent farther to the east and west of the ROW. Hallville Pond (Preston), Billing Avery Pond (Ledyard), and the Quinebaug and Shetucket Rivers are noted area water features, while Eversource's Tunnel Substation, along with the Eversource 400/500-line ROW are the predominant industrial or utility uses within this area. Eversource's underground to overhead transition station at Hallville Junction is also located within the ROW near Structure 7072.

The majority of Project construction activities, including improvements to access roads, would be confined to the Eversource ROW or within Eversource-owned property at Tunnel Substation. Construction activities and modifications associated with the Tunnel Substation

would be performed within the Substation's fenced area. As a result, the Project would have minimal impacts to adjacent land uses.

Tree Removal and Vegetation Management

The Project ROW is generally 160 to 200 feet wide, from Ledyard Junction to Tunnel Substation with a maintained width that varies along the corridor. While the majority of the Project would be located within the currently maintained portion of the ROW, some tree removal/vegetation management would be required in select areas to meet required safety clearances and to remove incompatible and/or hazard trees from the ROW. Additionally, trees within 35 feet of the relocated conductors (wire) would be removed from the ROW due to the realignment of the transmission lines.

The majority of tree removal/vegetation management from Ledyard Junction to Hallville Junction is required to accommodate the relocation of the 400 Line to the west and the removal of the abandoned 500 line. From Hallville Junction to Tunnel Substation, the majority of tree removal/vegetation management is required to allow for the relocation of the 400 and 500 lines to the east and closer to the edge of the ROW. Additional clearing and selective tree removal/vegetation management work along the length of the ROW would be required to accommodate the development of new access roads and improvements to existing access roads, as well as work pad installation, removal of incompatible vegetative species, and where conductor clearance needs to be improved to meet current NESC and Eversource standards. Outside of the ROW, some tree and vegetation removal would be required to allow for improvements to existing off-ROW access roads. Areas that require tree removal and/or vegetation management are identified within Attachment A: 400/500 Lines Rebuild Project – Aerial Map.

In most locations, vegetation removal would be accomplished using mechanical methods. This work typically requires the use of flat-bed trucks, mowers, brush hogs or other types of mowing equipment, skidders, forwarders, bucket trucks for canopy trimming, and chippers.

In limited areas, Eversource would require the clearing contractor to use low-impact clearing methods to remove brush vegetation to protect wetlands, watercourses, state-listed species and their habitats, and cultural resources. Low-impact clearing incorporates a variety of approaches, techniques, and equipment to minimize site disturbance.

Eversource would require the contractor to use some or all of the following low impact clearing methods, depending on the specific settings and situations:

- Consider soil and weather conditions when scheduling vegetation removal activities, such as during periods of heavy rainfall;
- Maximize the use of uplands for clearing access routes;
- Utilize hand clearing methods for vegetation removal work within sensitive wetland and vernal pool areas;
- Use appropriately sized equipment for site conditions, where possible, to minimize impacts; and,
- Where practical, cut brush close to the ground, leaving root systems and stumps, to retain soil stability.

It is estimated that the tree removal/vegetation management work associated with the Project would result in a total permanent conversion of 18.6 acres of upland forest habitat to scrub-shrub or herbaceous habitat areas. Given the Project's overall extent of forest conversion to shrubland, or emergent vegetation, to allow for proper clearances of conductors and access

road development, there would be no significant adverse effect to forested habitat. Further, providing additional shrubland and early successional habitat (and the preservation of such existing habitat) along the ROW or access roads is beneficial for many species of wildlife because shrubland habitat is otherwise declining in New England⁶.

In addition to the effects described above, the Project would result in approximately 3.4 acres of secondary effects to wetlands due to the conversion of forested canopy cover to scrub-shrub habitat from the removal of trees from wetlands and from the construction of temporary work pads and access roads in wetlands. Select tree removal and side trimming work would also provide 25-foot clearance from the outside conductor (wire) within an Atlantic White Cedar swamp and a vernal pool located near Structure 7064, while reducing impacts in the sensitive area. This change in habitat represents a cover type change to wetland habitat, but not a loss of wetlands.

Temporary construction mats would be used to provide a stable base for equipment to cross watercourses or wetlands where hand clearing work is not feasible. Such temporary support would minimize disturbances to wetland soils, and the mats would be removed after the activities are complete. Work activities in wetlands, including the proposed tree removal work, would be conducted in accordance with Eversource's 2016 *Construction & Maintenance Environmental Requirements, Best Management Practices Manual for Massachusetts, and Connecticut* ("BMPs") and comply with Project permits and approvals.

⁶ Connecticut's Wildlife Action Plan has identified 47 wildlife species of Greatest Conservation Need as being associated with shrubland habitat and in need of active management.

After the installation of the rebuilt line, Eversource would perform ROW restoration in accordance with the protocols specified in the BMPs and based on consultations with any property owners affected by the Project.

Scenic, Recreational and Cultural Resources

The Project is not anticipated to have a substantial adverse effect to scenic, recreational, and cultural resources. No portion of the ROW traverses or is located near a locally or state designated scenic roadway⁷. The nearest state designated scenic roadway is Connecticut Route 164 N located approximately 3 miles to the east of the ROW in the town of Preston.

A desktop review of the Connecticut Department of Energy and Environmental Protection's ("CT DEEP") GIS and field investigations data was conducted to identify where portions of the ROW traverse or are adjacent to public open space property or trails. These areas provide a variety of recreational opportunities. Eversource would coordinate with the owners or managers of the public recreational areas listed below to develop and implement measures to maintain public safety and access during Project construction, while also avoiding or minimizing short-term impacts to recreational users.

These resources include:

- Ledyard Glacial Park is a Town owned and managed recreational area that the ROW traverses (see Attachment A, Map Sheets 1 – LLN 225A-012). Allowed uses within this recreational area are hiking and nature study. The proposed construction would not prevent access to the park.

⁷ Connecticut Department of Transportation (CTDOT), October 1, 2019 Connecticut State Scenic Roads. Accessed October 18, 2021, 2020. Available URL: <https://portal.ct.gov/DOT/Programs/Connecticut-Scenic-Roads>. The Towns of Preston or Ledyard do not have any listed scenic roads in proximity to the Project.

- Preston Community Park and Tri-Town Trail. The Preston Community Park is a Town managed facility that offers access to a seasonal skating pond, athletic fields, and picnic areas (see Attachment A, Map Sheets 7 – LLN 225A-050 and 051). The Tri-Town Trail (see Attachment A, Map Sheets 7 – LLN 225A-046) is a 14-mile recreational multi-use trail connecting Bluff Point State Park to Ledyard and Preston.
- The Pequot Trail is an 8.0-mile CT Blue Blaze Hiking Trail that runs from Preston, CT to the Ledyard, CT. This north-south trail starts off paralleling the ROW to the east of Colonel Ledyard Highway (CT 117) and the Preston Community Park near the Preston/Ledyard municipal boundary before eventually crossing and following the ROW at several other locations within the Project area (see Attachment A, Map Sheets 7 - 14).
- The Rose Hill Wildlife Area is a state managed area located in Preston and Ledyard, CT (see Attachment A, Map Sheets 6 - 8). This parcel encompasses over 600 acres and is managed by CT DEEP to provide habitat for regulated hunting activities and hiking.

A Phase 1A Cultural Resources Assessment Survey (“Phase 1A”) review was conducted by Heritage Consultants, LLC (“Heritage”) in June of 2021 to evaluate the potential presence of archaeological and historic resources within or proximate to the Project area. This assessment included a review of previously recorded cultural resources on file with the Connecticut State Historic Preservation Office (“SHPO”). The Phase 1A determined that seven previously identified archaeological sites and three properties/districts listed on the National Register of Historic Places are located within 500 feet of the Project Area⁸. No properties listed on the State Register of Historic Places are located in the vicinity of the Project area.

⁸ A portion of the Hallville Mill Historic District is located within the ROW near Structures 7068 – 7071.

Based on a review of historic maps, aerial photographs, available soil profiles, and a pedestrian survey completed in July of 2021, Heritage identified 46 structure replacement areas and pull pads, 51 access roads and 16 non-work areas within the ROW as having a moderate to high potential for archaeological sensitivity, prompting further investigation via the execution of a Phase 1B Cultural Resources Reconnaissance Survey (shovel pit testing). The Phase 1B Survey for the locations mentioned above were completed in November 2021. These investigations determined that nine locations within the Project area (five structure areas and four access roads) contained archeological deposits that warranted further investigation via Phase II Archeological Testing. The Phase II testing of these nine locations is underway and expected to be completed in February.

Once completed, the results of the Phase II testing and Eversource's proposed protection strategy would be provided to the SHPO and the Tribal Historic Preservation Offices ("THPO") of the Mohegan Tribe of Native Americans of Connecticut, the Mashantucket Pequot Tribal Nation, and the Wampanoag Tribe of Gay Head-Aquinnah for review. Any recommendations for protection measures would be implemented during construction.

Project activities at 38 structures are located within proximity to known historic districts, properties, and/or resources. As several of the proposed replacement structures would increase in height, visual impacts to National Register of Historic Places/Properties within and beyond 500 feet may be possible. A visual impact assessment was conducted to determine if visual effects to historic resources would occur. Results of the assessment found that 8 of the 38 structures would have the potential for visual impacts on historic resources from the Project. Of these 8 structures, visibility at 2 structures would be reduced due to the relocation of the line and 3 structures would only be seen in the winter, when the leaves are not on the trees. Only 3 structures will have increased visibility from the change in height and/or location within the ROW. Coordination with the SHPO is underway to determine if the visual changes

create an adverse effect to historical resources and require mitigation. Any mitigation or compensation measures for visual impacts to historic resources recommended by the SHPO in regard to the height increases of the proposed structures would be incorporated into Eversource's BMPs for construction.

Wetlands, Watercourses, Waterbodies and Flood Zones

Eversource identified and delineated water resources within the Project area during October-December of 2020 and June and September of 2021 (see Attachment D: Wetlands and Watercourses Report). The map sheets provided in Attachment A depict these water resources, which include inland wetlands, watercourses (perennial and intermittent streams), a pond, vernal pools, and Federal Emergency Management Agency ("FEMA") Flood Zones. All work in or near these areas would be conducted in accordance with Eversource's BMPs and applicable conditions imposed by regulatory agencies in permit conditions and approvals. Details regarding each of these resource areas are summarized below.

Wetlands

Wetlands in the Project area were identified and delineated in accordance with industry standard methodology. A total of 41 wetlands were identified in the Project area. Seventeen wood H-frame structures are currently located within wetlands. Five of these structures, which formerly supported the abandoned 500 Line, will be removed, and would not be replaced. Nine of the twelve existing structures will be replaced with weathering steel monopole structures within their respective wetlands. Three structures will be relocated from wetlands to upland areas. In addition, four structures currently located in upland areas would be relocated in wetland areas to accommodate the re-alignment of the 400 line. The net result would be fourteen replacement structures located in wetlands after construction, as compared to the 17 that are currently located in wetlands.

The fourteen replacement structures installed in wetlands would result in approximately 1,120 square feet of permanent wetland effects⁹. The Project would also result in approximately 10.1 acres of temporary effects to wetlands due to the placement of construction mats for access roads and work pads. All matting would be promptly removed upon Project completion and wetland areas would be restored in accordance with Eversource's BMPs.

Anticipated effects to wetlands from the Project are detailed on Table W-1.

Watercourses and Waterbodies

A total of nine watercourses and waterbodies were delineated within the Project area. These include three perennial streams and six intermittent streams. Named watercourses and waterbodies include the Billings Avery Brook, Joe Clark Brook, and Poquetanuck Brook. Hallville Pond is directly adjacent to the ROW near Hallville Junction but is located outside of the Project area.

A total of 13 temporary watercourse crossings would be required during construction, including five for work pads and eight for access roads. Each of these crossings would be spanned using temporary construction mats. All construction mats would be promptly removed upon Project completion and wetland areas would be restored in accordance with Eversource's BMPs.

⁹ Based on a ground disturbance of 80 square feet for each structure.

Table W-1 provides a summary of Project effects to wetlands and watercourses:

Table W-1: Summary of Project Effects to Wetlands and Watercourses

Wetland/Watercourse ID	200 Scale Petition Mapping Sheet No.	Wetland/Watercourse Effects (± square feet)		
		Temporary (Matting)	Permanent (Structures)	Secondary (Tree Removal)
W2	01	0	0	710
W5, S1	02, 03	0	0	0
W9	03	3,135	80	4,575
W10	03	2,270	0	2,445
W11	04	19,175	80	21,055
W13, S2	04, 05	44,925	80	1,145
W15, S3, S4, S5, S6	05, 06, 07	123,830	240	38,730
W16 (Adjacent S7)	07, 08	17,600	0	7,490
W17	08	0	0	720
W18	09	940	0	1,240
W21	09	3,980	0	575
W22	09	9,470	0	1,680
W23	10	1,110	0	2,195
W24	10	0	0	485
W25	10, 11	27,735	80	31,650
W28	11	0	0	140
W29	11	0	0	145
W30	11	0	0	570
W32	12, 13	9,875	80	18,435
W33, S8	13	1,015	0	2,430
W34	13, 14	17,280	80	10,605
W37	14, 15	99,550	160	0
W38	14, 15	13,155	0	1,930
W39	15	3,135	0	0
W40	15	39,795	240	0
TOTALS		437,975 (10.05 acres)	1,120 (0.03 acres)	148,950 (3.42 acres)

Vernal Pools

Nine vernal pools were verified within the ROW or within 100 feet of the ROW (VP 1 through VP 6 and VP 10 through 12) on May 20, 2021. Four additional vernal pools (VP 1A and VP 7 through 9) were additionally evaluated on October 4, 2021. In May 2021, survey methods used included visual assessments of breeding evidence and dipnet surveys to identify adults, larvae, and egg masses of amphibian indicator species. The four vernal pools observed out of season (October 4, 2021) were also assessed by reviewing site conditions including basin size, depth of flooding, connectedness to other wetland areas, and hydrological indicators. Dipnet surveys were completed in pools with standing water. A total of thirteen vernal pools were identified and delineated with four located within the ROW and nine located at the edge or off-ROW. Vernal pools and vernal pool envelopes (areas within 100 feet of a vernal pool depression) are shown in Attachment A.

Several of the proposed structures, work areas and/or access roads would be located in close proximity to vernal pools or vernal pool envelopes. This work would include tree clearing/vegetation management, access road development and work pad/pull pad installation (See Attachment A). No new structures or construction matting would be located directly within a vernal pool. However, due to the realignment, tree removal from vernal pools and vernal pool envelopes is required. Please refer to Tables W-2 and W-3 below on the proposed vernal pool and vernal pool envelope impacts from the Project.

Minimization of impacts and protective measures to be employed by the Project include evaluation of constructability alternatives with the Project team and in coordination with CT DEEP. Measures include the following: air bridge matting (elevated/stacked matting to offer a “bridge” under temporary the access roads allowing for animal travel from vernal pools to surrounding habitat, selective silt fence installation to offer openings/access away from work

zones as well as barriers into work zones, and hand cutting of trees in the vernal pool depression.

To minimize potential effects to vernal pools, Eversource would implement and follow the best management practices outlined in Attachment E: Vernal Pool Survey Report. In addition, the work within the vernal pool and the vernal pool envelopes would require approval from CT DEEP and the US Army Corps of Engineers. Eversource would adopt the recommended protection measures as required by the agencies during the course of their review and approval of the Project.

Table W-2. Summary of Project Effects to Vernal Pools

Vernal Pool ID #s	Associated Wetland ID Number	200 Scale Petition Mapping Sheet No.	Direct Vernal Pool Effects (± square feet)		
			Temporary (Matting)	Permanent (Structures)	Secondary (Tree Removal)
VP3	N/A	09	0	0	3,665
VP5	W21	09	0	0	2,755
VP6	N/A	09	0	0	2,560
VP7	W28	11	0	0	115
TOTALS			0	0	9,095 (0.2 acre)

Table W-3. Summary of Project Effects to Vernal Pool Envelopes

Envelope for Vernal Pools ID #s	Associated Wetland ID Number(s)	200 Scale Petition Mapping Sheet No.	Vernal Pool Envelope Only Effects (± square feet)						
			Temporary Wetland Matting	Temporary Upland Matting	Gravel Workpads	Access Road Improvements	New Access Roads	Secondary (Tree Removal)	Permanent (Structures)
VP1A	W15	06	7,850	0	0	0	0	690	0
VP1	W20	09	0	1,572	1,611	3,981	0	600	80
VP2	W19	09	0	3,655	4,124	374	0	8,650	80
VP3, VP4, VP5	W21, W22	09	8,940	10,305	21,850	15,350	12,710	44,283	480
VP6	W22	09	140	23,495	0	1,185	0	7,215	160
VP7	W25, W28	11	0	9,670	0	0	0	11,755	0
VP8	W28B	11	0	3,015	0	0	0	5,655	0
VP9	N/A	11	0	4,135	0	0	0	7,820	0
VP10	W30A	12	0	0	0	0	0	5,239	0
VP11	N/A	12	0	0	7,790	0	5,330	907	0
TOTALS			16,930 (0.39 acre)	55,847 (1.28 acres)	35,375 (0.81 acre)	20,890 (0.47 acre)	18,040 (0.41 acre)	92,814 (2.13 acres)	800 (0.02 acre)

FEMA Flood Zones

The Project area extends across FEMA-designated 100-year flood zones associated with Billings Avery Brook (Map Sheet 2 and 3; designated as S1) and Joe Clark Brook (Map Sheet 5 and 6; designated as S4) in Ledyard and Poquetanuck Brook (Map Sheet 7 and 8; designated as S10) in Preston. There are no FEMA-designated 500-year flood zones located within the Project area.

One transmission line structure (Structure 7063 – Map Sheet 6) is proposed within the 100-year flood zone. Additional work proposed within the 100-year flood zone is associated with temporary work pad and access road matting for Structures 7046 (Map Sheet 3), 7063 (Map Sheet 6), and 7072/7072A (Map Sheets 7 and 8). This work is not anticipated to have any significant impacts on the flood zones and will not affect flood storage.

Water Supply

Based on Aquifer Protection Areas (“APA”) mapping maintained by CT DEEP, there are no APAs within or proximate to the Project ROW. A portion of the Project ROW crosses the Groton Reservoir System Public Water Supply Watershed (Map Sheets 1-2). Eversource has coordinated with the Groton Utilities (“GU”) and have incorporated their recommended BMPs (e.g., erosion control, spill prevention, coordination with GU staff concerning construction schedule) that are consistent with Eversource’s BMPs. No public water supply reservoirs or public water supply wells are located within the Project area. No private water supply wells were observed within the Project area during field investigation activities.

Eversource would require its contractors to employ best management practices for the proper storage, secondary containment, and handling of diesel fuel, motor oil, grease, and other lubricants, to protect water quality within the Project area. Construction activities would conform

to Eversource's BMPs, as well as to the requirements of Project-specific plans (e.g., Stormwater Pollution Control Plan; Spill Prevention and Control Plan), which would be prepared prior to the commencement of construction.

Wildlife and Habitat

The Project area extends through the Southeast Hills and Eastern Coastal ecoregions of the state and includes a variety of habitat types, including managed shrubland, forest edge, emergent marsh, wet meadow, and scrub-shrub wetland habitat types. Notable habitats present within the ROW include areas of Atlantic White Cedar Swamp and cryptic and classic vernal pools.

The southern end of the ROW includes the Ledyard Glacial Park (Map Sheet 1), which includes recreational trails through preserved glacial moraine remains of the Wisconsin glacier. Along with the ridge of large boulders spanning across several miles, the glacier also created a number of kettle holes in the area.

The habitats within the Project area are capable of supporting a variety of shrubland and woodland birds typical to the managed ROW and surrounding forested areas. In general, the ROW also provides varying amounts of berry and nut producing species, woody debris, and shrub stands which are considered features important to wildlife. Due to the proximity to wetland and vernal pools, nesting habitat for amphibians such as aquatic turtles, salamanders and some species of frogs may be present. The Project activities are not anticipated to have a substantial adverse environmental effect on wildlife habitat.

In November 2021, Eversource submitted a Natural Diversity Database ("NDDB") State-listed Species Review request to the CT DEEP for the proposed work activities on the 400 and 500 Lines within the NDDB-mapped habitat area and is currently awaiting a response.

The 400 and 500 Line ROW contains mapped areas of known State- and Federally-protected rare species. Specifically, three mapped locations of state-listed rare plants and animals are located within the ROW¹⁰. One of the state-listed species, a plant considered to be of Special Concern by CT DEEP NDDDB, was previously known to occur within the Project area. As a result, Eversource conducted an updated survey for this rare plant to confirm its presence/absence within the Project Area and recorded observations within the ROW. Results of this survey confirmed the presence of the rare plant within the Project construction areas and could result in impacts to the protected plant species. To mitigate these impacts to the extent possible, Eversource would transplant individual plants away from the construction area to a nearby suitable habitat. The proposed mitigation plan provided to CT DEEP NDDDB specifically included the following:

- Under supervision of a botanist, the plants within the proposed impact area would be transplanted during the growing season when the plants are visibly identifiable;
- Plants would be relocated to suitable locations away from invasive or aggressive non-native species; and
- After transplant, the relocation areas would be monitored by a botanist to review the health of transplants and hand-pull any invasive plants or other vegetation that could appear restrictive of the transplant's' growth.

The survey information and mitigation plan were provided to CT DEEP NDDDB in the Review request and Eversource is waiting for a response and determination of potential Project effects

¹⁰ To protect the state listed rare, threatened, and special concern species and their habitats, no details are included in this Petition regarding species/habitat types, names, or locations. The Attachment A mapping provides only general areas of the Project area as identified publicly by NDDDB

on state-listed species and concurrence with the proposed mitigation. Eversource would continue to consult with CT DEEP NDDDB and would commit to addressing appropriate recommendations and implementing the appropriate species-specific avoidance and mitigation measures and BMPs for this species.

Eversource also consulted with the U.S. Fish & Wildlife Service's ("USFWS") through the Information, Planning, and Consultation ("IPaC") System regarding Federally listed species that may be present within the Project area. The IPaC report indicated one Federally listed species; the Northern Long-eared Bat ("NLEB"; *Myotis septentrionalis*). NLEB roost in certain trees in the warmer months of the year and, at other times, hibernate in caves and/or mines ("hibernacula"). According to the NLEB Areas of Concern in Connecticut map (dated February 2016), there are no known roost trees within 150 feet of the Project area with the nearest hibernacula located over 45 miles from the Project area (East Branford, CT). No work is proposed that would affect any known hibernacula, and therefore, no impacts to this species are anticipated. As a part of Eversource's required U.S. Army Corps of Engineers authorizations for the Project, an online USFWS consultation for NLEB was completed to confirm that NLEB would not be adversely affected. No further response was received by USFWS within 30 days of submittal. Please refer to Attachment F for the USFWS Letter that verifies Eversource's responsibility under the Endangered Species Act is concluded. Therefore, no effects to Federally listed species are expected from the Project.

Visual Effects

The replacement structures and conductors, while taller and of a different design than the existing structures they are replacing, would be located entirely within the existing ROW or on Eversource-owned property. With a few exceptions, the 400/500 corridor traverses through undeveloped heavily wooded mature forest and very few homes would have views of the new

structures. In the limited open areas, such as agricultural lands, the existing structures are currently prominent features. The Project would result in some change to the visual character of the line; however, the weathering steel monopole replacement structures will resemble the appearance of the existing wood structures and will blend in with the predominantly wooded surrounding landscape.

The heights of the existing structures range from 38 to 80 feet above ground level and many of the replacement structures will be taller due to the change in design from a horizontal to a vertical configuration. The replacement structures for the 400/500 Lines would range in height from 85 feet to 125 feet above ground level. Replacement structures for the 400/500 Lines will be taller than the corresponding existing structures by between approximately 15 and 68 feet. The average height increase of the replacement structures is approximately 45 feet.

Due to the height increases associated with some of the proposed structures, the Project would change some views from select locations along the ROW. It is not expected that the height increases would result in a detrimental change to the existing visual character of the line from nearby residences and publicly accessible land within proximity to the Project. Coordination with the SHPO is underway to determine if height increases would create an adverse effect to the existing visual character of the line from National Register of Historic Places/Properties¹¹ located in proximity to the Project. Any mitigation or compensation measures for visual impacts to historic resources recommended by the SHPO in response to

¹¹ As noted in the Scenic, Recreational and Cultural Resources section, above, because the Project includes height increases of the replacement structures, limited indirect visual impacts to inventoried historical structures and/or National/State Register of Historic Places located within and beyond 500 feet from the Project area may be possible.

the height increases of the proposed structures would be incorporated into Eversource's BMPs for construction.

Sound Levels

The construction of the Project would result in short-term and localized noise, as is typical of similar construction projects. The temporary increases in noise would likely raise ambient sound levels immediately surrounding the work areas due to the operation of standard types of construction equipment. (e.g., backhoe, bulldozer, crane, trucks, etc.)¹². Upon completion of construction and during operation, the proposed Project would not have any effect on noise or sound pressure levels. Once in service, the rebuilt lines would continue to comply with Connecticut's noise regulations in RCSA § 22a-69 et seq.

Air Quality

Short-term, localized effects on air quality may result from the Project construction work, primarily from fugitive dust and equipment emissions. To minimize the amount of dust generated by construction activities, the extent of exposed/disturbed areas at any one time would be minimized. Vehicle emissions would be limited by requiring contractors to properly maintain construction equipment and vehicles, and by minimizing the idling time of equipment and vehicles, including diesel construction equipment, in accordance with Connecticut regulatory requirements¹³. Temporary gravel tracking pads would be installed at points of construction vehicle ingress/egress from the ROW to minimize the potential for equipment to

¹² Construction noise is exempted under the Connecticut regulations for the control of noise, RCSA Section 22a-69-1.8(h).

¹³ Regulations of Connecticut State Agencies (RCSA) Section 22a-174-18(b)(3)(C) generally prohibits the idling of motor vehicles for more than three consecutive minutes when not in motion.

track dirt onto local roads. To further minimize dust, water may be used to wet down disturbed soils or work areas with heavy tracking as needed.

Radio and Television Interference

There would be no increase in radio interference or audible noise from the operation of the new transmission facilities.

5. Traffic Management

Construction vehicles and equipment associated with the work would include, but are not limited to, pickup trucks, bucket trucks, flat-bed trucks, excavators, concrete trucks, drill rigs, front loaders, reel trailers, bulldozers, woodchippers, brush hogs/mowers, forklifts, side booms, dump trucks and cranes. Pullers and tensioners would be used for the line work. Guard trucks and/or temporary guard structures would be used for protection of roads during the line work.

Construction-related vehicular and equipment movements would utilize public roads in the Project area to access the ROW. However, the Project-related traffic is generally expected to be temporary and highly localized in the vicinity of the ROW access points and at the staging areas. Due to phasing of construction work, these Project-related traffic movements are not expected to significantly affect transportation patterns or levels of service on public roads.

To safely move construction vehicles and equipment onto and off of the ROW while minimizing disruptions to vehicular traffic along public roads, Eversource or its Project contractor would, as appropriate, work with the Towns and the Connecticut Department of Transportation to develop and implement traffic management procedures, as needed. The construction contractor is typically responsible for posting and maintaining construction warning signs

along public roads near work sites and for coordinating the use of flaggers or police personnel to direct traffic, as necessary.

6. Construction Sequence

Project construction would include the following activities:

Establishing Staging Areas

The Project is proposing to utilize properties located at 82 Depot Road in Uncasville (Montville) and at 54 Route 12 in Preston for staging/laydown areas. The staging areas are approximately 3 and 6.8 acres in size, respectively (See Figures 2 and 3 below).

The staging areas would be used for surface storage of construction materials, equipment, tools, and supplies (including conductors, cable reels, insulators, hardware, poles, and mats) for the Project. Office trailers and Conex storage containers may be located at the staging areas. Components removed during the work (structures, conductor, hardware, and insulators) may be temporarily accumulated and stored at the staging areas prior to removal off-site for salvage or disposal. The staging areas may also be used by construction crews for parking personal vehicles as well as for construction vehicles and equipment storage, and for performing minor maintenance, when needed, on construction equipment. Appropriate erosion and sedimentation (“E&S”) controls would be installed and maintained until completion of the work in accordance with Project permits and Eversource’s BMPs.

Figure 2: Staging and Laydown Area at 82 Depot Road Uncasville, CT

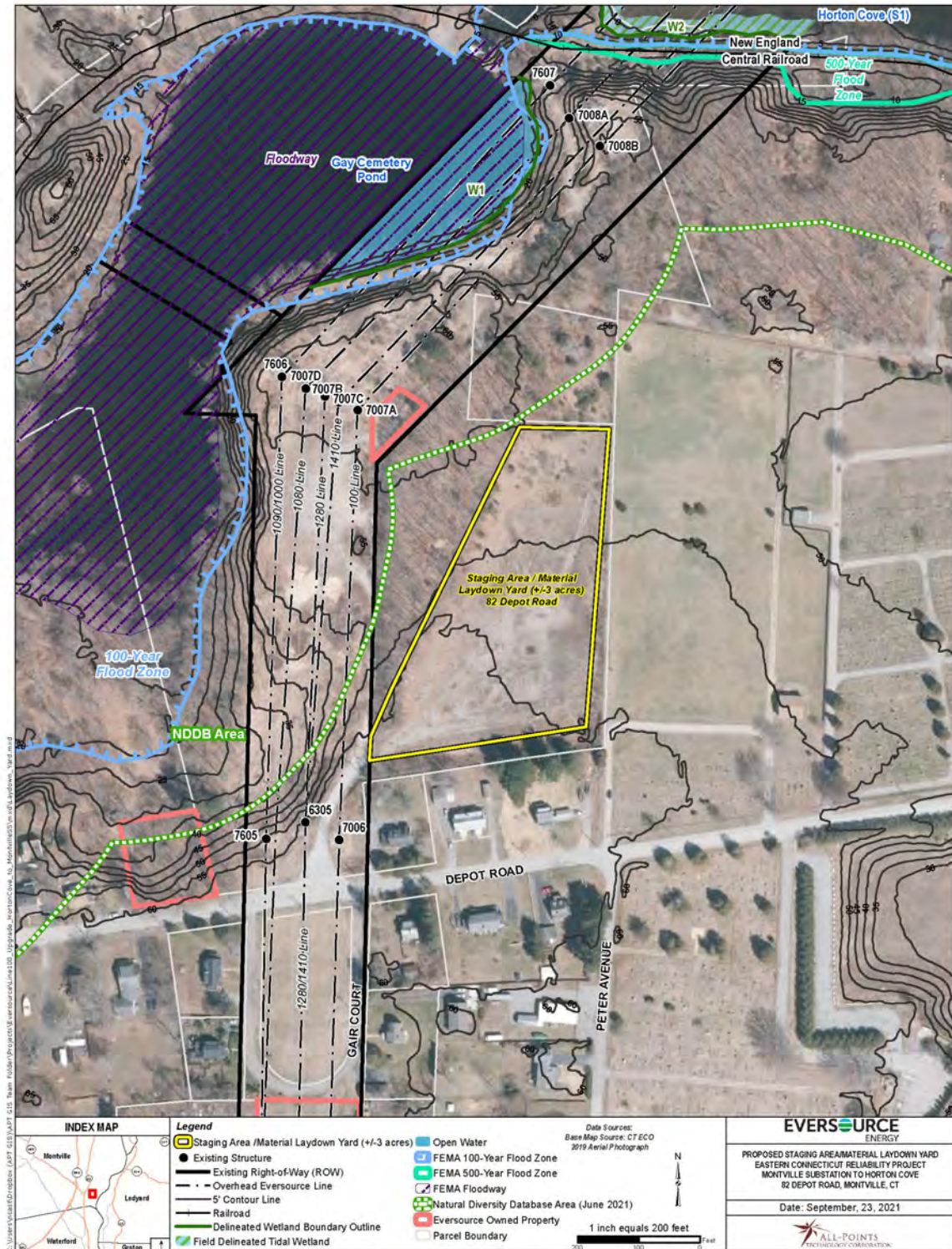
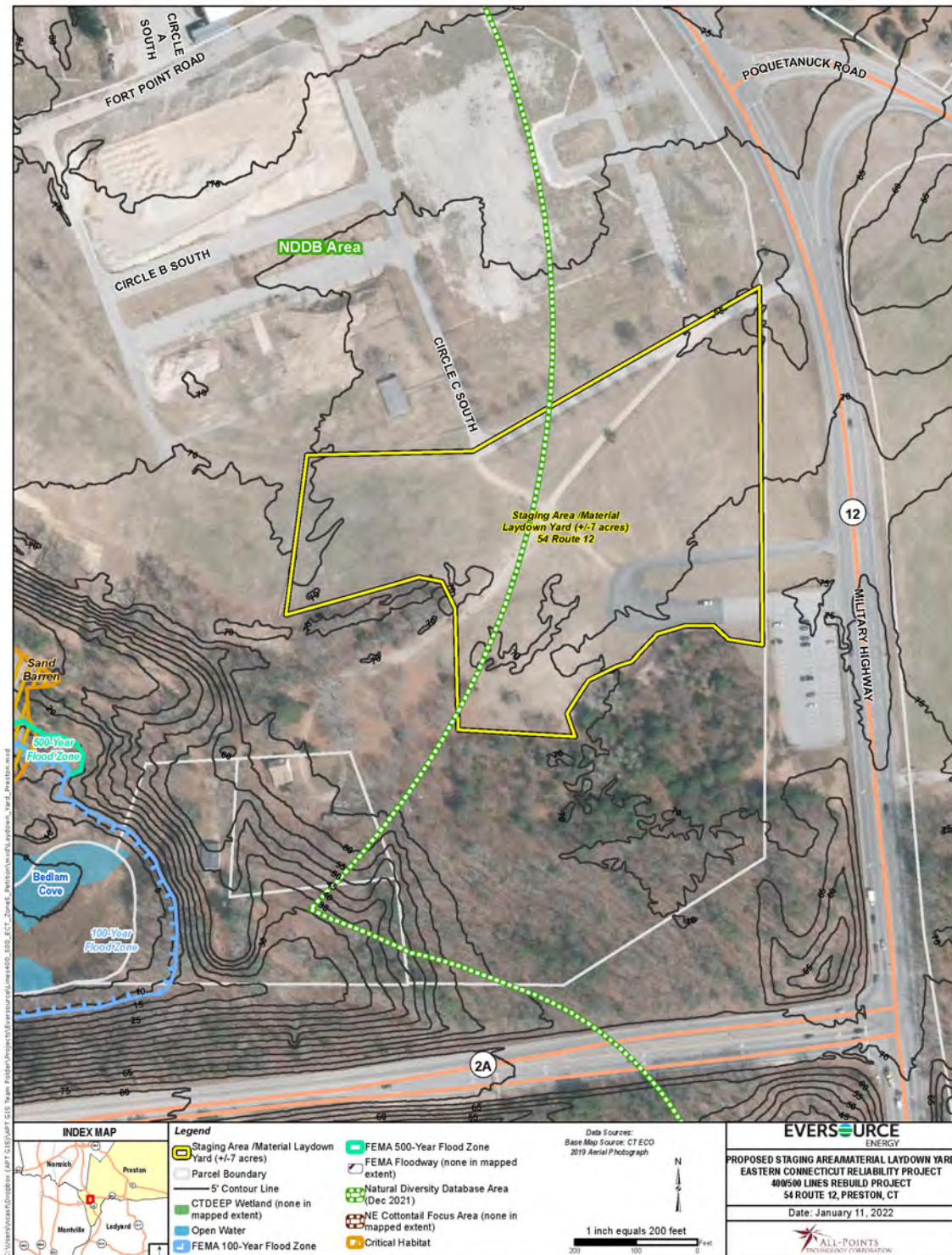


Figure 3: Staging and Laydown Area at 54 Route 12, Preston, CT



Soil Erosion and Sediment Control Installation

Project construction would conform to best management practices for E&S control, including those provided in the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control* (“*Connecticut Guidelines*”) and Eversource’s BMPs. This would include the development of a project specific Stormwater Pollution Control Plan (“SWPCP”) and registration under CT DEEP’s *General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities*, DEEP-WPED-GP-015, effective December 31, 2020 (“General Permit”).

Typical E&S control measures include, but are not limited to, straw blankets, hay bales, silt fencing, gravel anti-tracking pads, soil and slope protection, water bars, check dams, berms, swales, plunge pools, and sediment basins. Silt fence would be installed prior to construction to intercept and retain sediment and/or construction materials from disturbed areas and prevent such materials from discharging to water resources or off ROW. Temporary E&S control measures would be maintained and inspected throughout the Project to ensure their integrity and effectiveness and for compliance with the General Permit. The SWPCP inspections would be in accordance with the General Permit requirements. Following completion of the rebuilt line facilities, seeding and mulching would be completed to permanently stabilize the areas disturbed by the work. The temporary E&S control measures would remain in place until the Project work is complete and all disturbed areas have been deemed and remain stabilized.

Access Roads and Work Pads

Access to each transmission structure proposed for removal or installation would be required during Project construction. As a result of the operation and maintenance of the existing lines within this ROW, some access roads are already established and Eversource would utilize

these existing access roads to the extent possible. However, some new access roads would be required. Construction matting would be utilized to install temporary access roads through wetland areas to reach certain structure locations. The access roads expected to be used for the proposed Project are illustrated on the maps in Attachment A.

Existing access roads may need to be improved (graded, widened, and/or reinforced) with additional stone material in order to accommodate the safe passage of construction vehicles and equipment. Access road improvements typically include trimming adjacent vegetation and widening roads, as needed, to provide a maximum travel surface that is approximately 16 feet wide (additional width may be needed at turning or passing locations). Access roads would typically be graveled; however, where access roads traverse streams or wetlands, temporary construction mats or temporary bridges would be used. E&S controls would be installed as necessary before the commencement of any improvements to or development of access roads.

At each transmission line structure location, a work pad is required to stage material for final on-site assembly and/or removal of structures, to pull conductors and to provide a safe, level work base for the construction equipment. At some existing structure locations, existing gravel work pads are already established and Eversource would utilize these existing work pads to the extent possible. However, some new work pads would be needed. Work pads are typically 100 feet by 100 feet but, due to terrain and spacing between the existing and proposed structures, the work pads may be up to approximately 150 feet by 200 feet. In locations where the structure is just being removed, work pads may be slightly smaller. In areas where machinery is needed for pulling conductors through an angled structure, work pads of approximately 100 feet by 150 feet would be required. Generally, work pads in upland areas would be graveled, though temporary matting would be used as necessary to protect sensitive

resource areas (i.e., lawn, meadow and identified cultural resource areas) or where work pads are located in wetlands.

To facilitate future transmission line maintenance, access roads, structure work pads in uplands would be left in place (refer to attachment A). If an individual property owner requests their removal, the Project representatives would work with the property owner on mitigation options. No new permanent access roads or work pads are proposed in water resource areas.

The proximate locations and configuration of the work pads, as determined based on the environmental field studies and constructability reviews, are shown on Attachment A.

Foundation Installation

The proposed structures would have either drilled (caisson) foundations or direct embed foundations. Foundation installation work would require the use of equipment such as augers, drill rigs, pneumatic hammers, augers, dump trucks, concrete trucks, grapple trucks and light duty trucks. If groundwater is encountered, and when working within wetlands, pumping (vacuum) trucks or other suitable equipment would be used to pump water from the excavated areas as the shaft is being drilled or as the structure is being set. The water would then be discharged in accordance with applicable local, state, and federal requirements.

Excavated soils that are generated during construction activities would be stored or spread in an upland area within the ROW, to the extent practicable. Materials that cannot be utilized as backfill would be disposed in accordance with applicable regulations.

As needed, counterpoise installation may also be completed at this time. Depending on site-specific soil conductivity, supplemental grounding would be installed. A quad "ditch-witch" plow-cable trencher would be used to install the counterpoise.

Structure Assembly/Installation

Structure sections, structure components and hardware would be delivered to the individual structure locations using flat-bed trucks and assembled on-site using a crane and bucket trucks. After assembly, the area around direct embed foundations would be backfilled with processed gravel.

Conductor and OPGW Installation

The installation of the new conductors and OPGW would occur after the new structures have been erected. The equipment required for these activities would include conductor reels, conductor pulling and tensioning rigs and bucket trucks. It may also be necessary to utilize helicopters to install conductors and OPGW.

Structure, Conductor and Static Wire Removal

The removal of the existing conductor and shield wire would take place during the active installation of the new conductor and OPGW because the existing conductor and shield wire would be used as pulling lines, if possible. Conductor dead-ending and splicing would be accomplished with pressed hardware.

The existing structures would be removed after the new conductor and OPGW are installed.

Restoration

Once the new structures are erected, the line is energized and the existing structures have been demolished and removed, ROW restoration activities would commence. Restoration activities would include the removal of construction debris, signage, flagging, and temporary fencing, as well as the removal of construction mats and work pads that are designated for removal. Areas affected by construction would be re-graded as practical and stabilized using

revegetation or other measures before removing temporary E&S controls. Eversource would perform ROW restoration in accordance with the protocols specified in Eversource's BMPs and in consultation with affected property owners.

Waste Management

Waste materials, such as structure components (i.e., materials from the removed structures, conductor, shield wire, associated hardware, etc.) and any other construction debris would be disposed of in accordance with Eversource's BMPs, applicable regulations or recycled consistent with applicable rules and regulations and Eversource policies. As described above, excess soils would be managed in accordance with the Company's BMPs, applicable regulations and disposal facility policies. Dewatering during construction activities would be conducted in accordance with the *Connecticut Guidelines*, Eversource's BMPs and applicable regulations.

7. Construction Schedule and Work Hours

Eversource proposes to begin Project construction work in May 2022 and anticipates that such work would be completed by the end of June 2023. Normal work hours would be Monday through Saturday from 7:00 AM to 7:00 PM. Sunday work hours or evening work hours past 7:00 PM may be necessary due to delays caused by inclement weather or outage constraints. In the event this is necessary, the Council, Town(s) and abutters would be provided notice of the proposed Sunday and/or evening work hours.

8. Electric and Magnetic Fields

Eversource prepared calculations of the existing and post-Project Electric and Magnetic fields ("EMF"). The calculations were based on average annual loading conditions because these are most representative of typical conditions. The calculations are made relative to the

centerline of the proposed, modified transmission lines. The calculations apply at one meter (3.28 feet) above grade and assume that the lowest point of the lowest conductor for each 115-kV circuit is 30 feet above grade.

Eversource’s proposed design for the Project employs a single-circuit vertical configuration of three phase conductors supported on tubular steel poles, in contrast to the existing horizontal configuration on wood H-frame structures. Magnetic fields at and beyond the edges of the ROW would be essentially unchanged.

Electric fields at the western edge of the ROW are expected to increase slightly. The maximum fields in the ROW and at the southern edge would be essentially unchanged.

Table 1 summarizes the calculated electric and magnetic fields at the ROW edges before and after the modifications.

Table 1 - Summary of Calculated Electric and Magnetic Fields

Ledyard Junction - Hallville Junction (Annual Average Loads)		West ROW Edge	Max in ROW	East ROW Edge
Magnetic Fields (mG)	Existing	4.1	36.1	4.1
	Proposed	24.4	49.2	3.8
Electric Fields (kV/m)	Existing	0.06	0.47	0.06
	Proposed	0.16	1.20	0.06

Hallville Junction - Structure 7079 (Annual Average Loads)		West ROW Edge	Max in ROW	East ROW Edge
Magnetic Fields (mG)	Existing	5.1	35.6	4.3
	Proposed	5.2	49.0	14.4
Electric Fields (kV/m)	Existing	0.30	0.54	0.08
	Proposed	0.07	1.21	0.06

Structure 7079 - Structure 7111 (Annual Average Loads)		West ROW Edge	Max in ROW	East ROW Edge
Magnetic Fields (mG)	Existing	5.1	35.6	4.3
	Proposed	5.2	49.0	14.4
Electric Fields (kV/m)	Existing	0.29	0.57	0.08
	Proposed	0.07	1.21	0.06

Structure 7111 - Tunnel Substation (Annual Average Loads)		West ROW Edge	Max in ROW	East ROW Edge
Magnetic Fields (mG)	Existing	5.1	35.6	4.3
	Proposed	5.2	49.0	14.4
Electric Fields (kV/m)	Existing	0.30	0.55	0.08
	Proposed	0.07	1.21	0.06

The results of the calculations show that the proposed modifications would not substantially increase electric or magnetic fields at the edges of the ROW. See Attachment G: EMF Graphs.

Comparison of Calculated Fields to International Guidelines

The anticipated fields resulting from the proposed Project are well below the internationally established exposure limits for 60-Hz electric and magnetic fields, specifically, the limits identified by the International Council on Electromagnetic Safety (“ICES”) and the International Council on Non-Ionizing Radiation Protection (“ICNIRP”). These standards are summarized below in Table 2.

Table 2 - International Guidelines for EMF Exposure

	Magnetic Field (mG)	Electric Field (kV/m)
ICNIRP	2000	4.2
ICES	9040	5 (in General)
		10 (on ROW)

9. Municipal and Property Owner Outreach

In October 2021, Eversource consulted with the municipal officials in the Towns of Ledyard and Preston to brief them on the proposed Project. Additionally, in February 2022, Eversource provided representatives of the Towns with written notice of the Petition filing.

During the fall of 2021, Eversource conducted outreach to property owners located along the ROW. In conjunction with the submission of this Petition, all abutting property owners were notified of the filing and provided information on how to obtain additional information on the Project, as well as how to submit comments to the Council. Eversource representatives will continue contact with adjacent property owners to provide advance notification as to the start of construction activities and would continue to update property owners throughout construction and restoration.

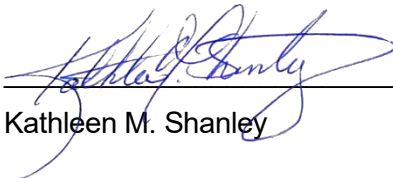
10. Conclusion

Based on the foregoing, Eversource respectfully submits that the proposed modifications would not result in a substantial adverse effect on the environment, nor would they damage existing scenic, historical, or recreational values. Accordingly, Eversource requests that the Council issue a declaratory ruling that the proposed modifications would have no substantial adverse environmental effect.

Communications regarding this Petition for a Declaratory Ruling should be directed to:

Kathleen M. Shanley
Manager – Transmission Siting
Eversource Energy
PO Box 270
Hartford, CT 06141-0270
Telephone: (860) 728-4527

By:

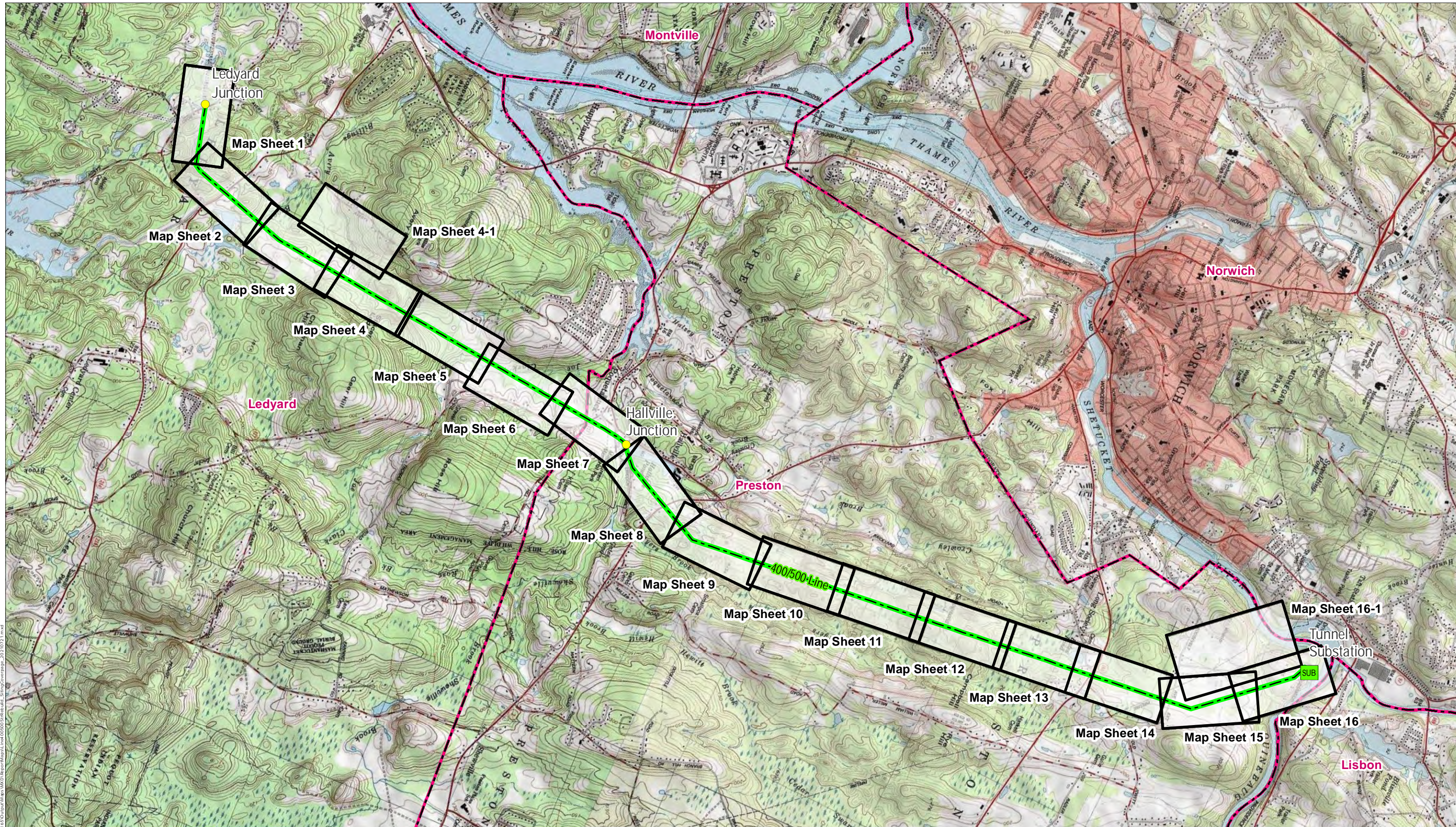


Kathleen M. Shanley

List of Attachments

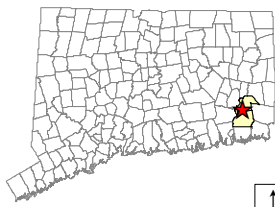
Attachment A: 400/500 Line Rebuild Project – Aerial Maps
Attachment B: 400/500 Line – Right-of-Way Cross Sections
Attachment C: List of Structure Replacements
Attachment D: Wetlands and Watercourses Report
Attachment E: Vernal Pool Survey
Attachment F: EMF Graphs
Attachment G: Letter to the Abutters and Affidavit

Attachment A: 400/500 Lines Rebuild Project – Aerial Maps



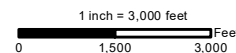
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INDEX MAP



Legend

- Junction
 Project Corridor
 Municipal Boundary
- Substation
 Map Sheet



NO.	DATE	REVISIONS

EVERSOURCE

**400/500 Line Rebuild Project
Petition Index Map**

Ledyard & Preston, CT

Date: February, 2022



MAP SHEET 01

400/500 Line Rebuild Project Structures 7036-7040 Town of Ledyard, Connecticut

AREA DESCRIPTION

Existing Land Use & Resource Areas

- Undeveloped, forest
- Residential
- Eversource Owned Property
- Town of Ledyard – Glacial Park
- Groton Reservoir System Public Watershed
- New England Cottontail Focus Area

RIGHT-OF-WAY DESCRIPTION

Right-of-Way (“ROW”) Land Use & Resource Areas

- Maintained ROW – 400 Line
- Eversource Owned Property at Structure 7036
- Ledyard Junction for 1410, 1280, and 400 Transmission Lines
- Town of Ledyard – Glacial Park near Structure 7037
- Groton Reservoir System Public Watershed (All structure locations on the page)
- New England Cottontail Focus Area (Entire Page)

Water Resources

- Wetlands: W1, W2, W3
- Wetland Cover Types: PSS, PFO
- Watercourses: None.

Wetland and Watercourse Crossings

- None.

Right-of-Way Vegetation

- Scrub-shrub
- Forested edges

Access

- Structure 7036-7038: Existing access off Whalehead Road

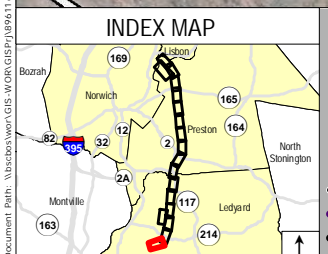
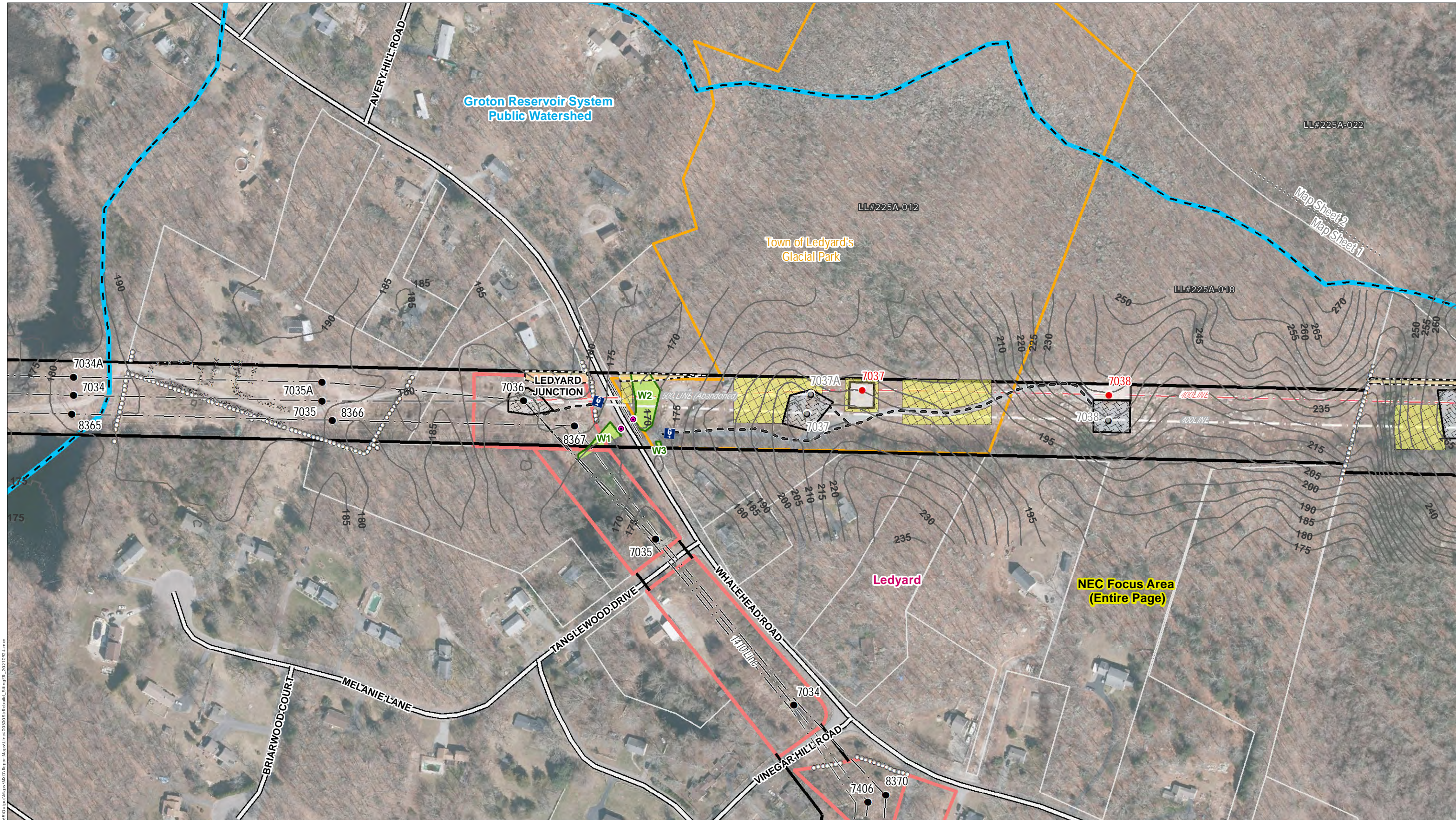
Road Crossings

- Whalehead Road

Existing Maintained Right-of-Way Width / Proposed Right-of-Way Clearing

- 160 feet/Varies

ABUTTERS TO THE PROJECT RIGHT-OF-WAY			
<u>LLN Number</u>	<u>Parcel Address</u>	<u>Town</u>	<u>Owner Name</u>
225A-012	92 WHALEHEAD ROAD	LEDYARD	TOWN OF LEDYARD – GLACIAL PARK
225A-018	60 WHALEHEAD RD	LEDYARD	ROBERT CRAIG AND DAWN A VAN GELDER
225A-022	153R STODDARDS WHARF RD	LEDYARD	ANDREW M PROPER



Legend	
● Existing Structure	○ Existing Structure to be Removed
— Existing Eversource OH Line	— Proposed OH Line
— OH Line to be Removed	— Existing Access Road
— Off-ROW Access Rights Pending	— Proposed Road
— Hiking Trail	— Stone Work Pad
— Existing Gravel	— Temporary Construction Matting
— Delineated Intermittent Watercourse	— Delineated Drainage Basin
— Delineated Lake/Pond/Pool	— Delineated Perennial Watercourse
— Watercourse (not delineated)	— Open Water
— Field Delineated Wetland Boundary	— Field Delineated Wetland
— Approximate Wetland (not delineated)	— Delineated Edge of Vernal Pool
— Confirmed Vernal Pool Extent	— Potential Vernal Pool Extent
— 100' Vernal Pool Envelope	— FEMA Floodway
— FEMA 100-Year Flood Zone	— NE Cottontail Focus Area
— Natural Diversity Database Area (Dec 2021)	— Critical Habitat Polygon
— Groton Reservoir System Public Watershed	— Town of Ledyard's Glacial Park
— Eversource Owned Property	— Existing Right-of-Way (ROW)
— Line List Parcel	— Line List Label
— Municipal Boundaries	— Gate
— Culvert	— Area of Limited Tree Removal
— Turn Around Location	— Proposed Parking Lot
— 5' Contour Line	— Guardrail
— Stone Wall	— Fence

NO.	DATE	REVISIONS

EVERSOURCE

400/500 Line Rebuild Project

Ledyard, CT MAP SHEET 1 of 16

Date: February, 2022

BSC GROUP

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MAP SHEET 02

400/500 Line Rebuild Project Structures 7039-7045 Town of Ledyard, Connecticut

AREA DESCRIPTION

Existing Land Use & Resource Areas

- Undeveloped, forest
- Residential
- Eversource Owned Property
- Groton Reservoir System Public Watershed
- 100-year Flood Zone
- New England Cottontail Focus Area

RIGHT-OF-WAY DESCRIPTION

Right-of-Way ("ROW") Land Use & Resource Areas

- Maintained ROW
- Eversource Owned Property south of Stoddards Wharf Road (CT 214)
- Groton Reservoir System Public Watershed between Structures 7039 and 7043
- 100-year Flood Zone between Structure 7045 and 7046
- New England Cottontail Focus Area (Entire Page)

Water Resources

- Wetlands: W4, W5, W6
- Wetland Cover Types: PSS, PFO
- Watercourses: S1 (Billings Avery Brook)

Wetland and Watercourse Crossings

- None.

Right-of-Way Vegetation

- Scrub-shrub
- Forest

Access

- Structures 7039-7042: Existing access off Stoddards Wharf Road (CT 214)
- Structures 7043-7045: Daniels Lane

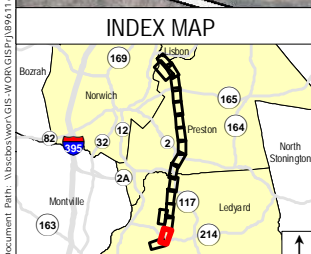
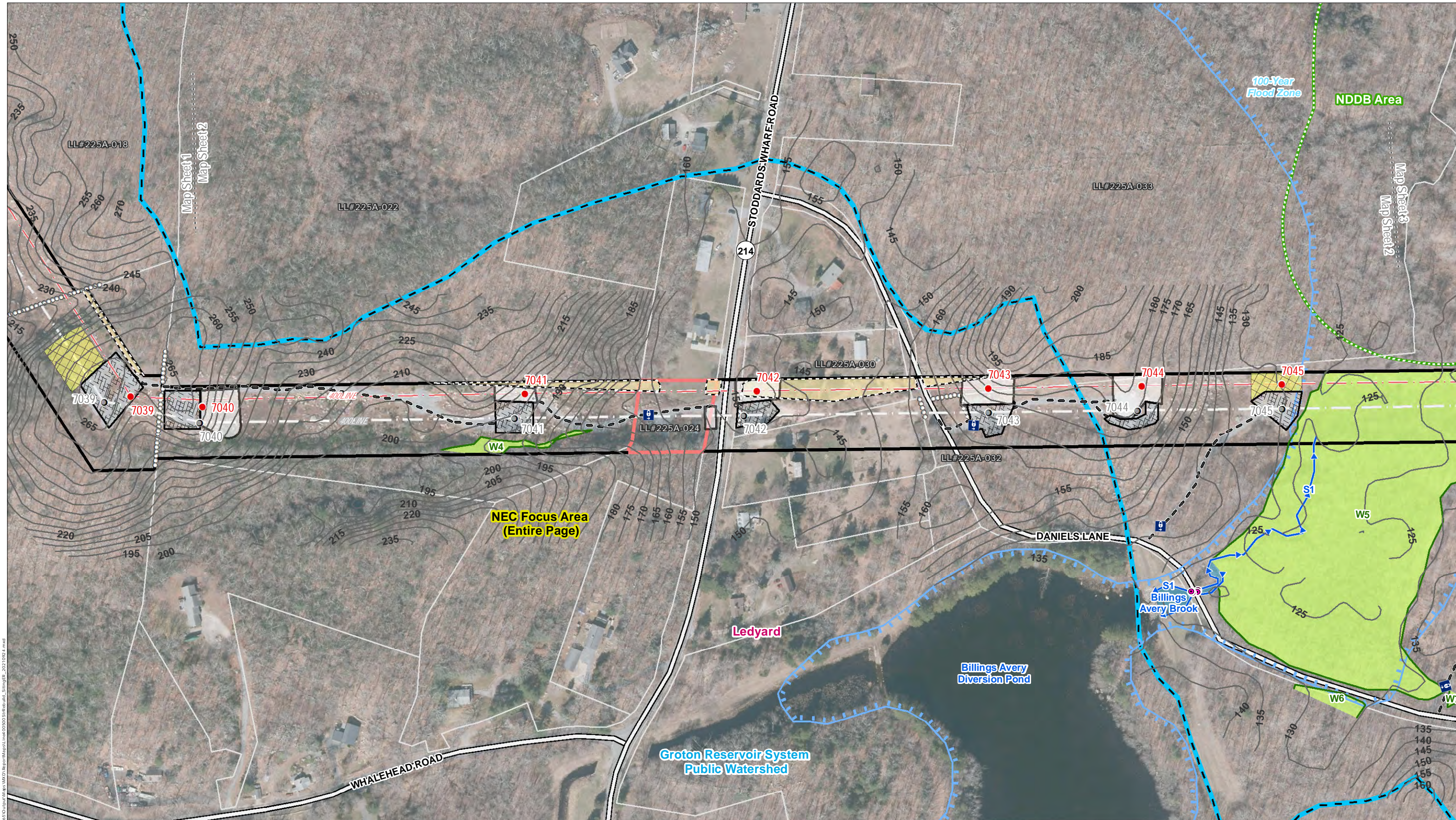
Road Crossings

- Stoddards Wharf Road (CT 214)
- Daniels Lane

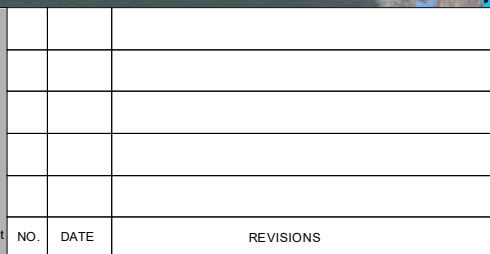
Existing Maintained Right-of-Way Width / Proposed Right-of-Way Clearing

- Varies/Varies

ABUTTERS TO THE PROJECT RIGHT-OF-WAY			
<u>LLN Number</u>	<u>Parcel Address</u>	<u>Town</u>	<u>Owner Name</u>
225A-018	60 WHALEHEAD ROAD	LEDYARD	ROBERT CRAIG AND DAWN A VAN GELDER
225A-022	153R STODDARDS WHARF ROAD	LEDYARD	ANDREW M PROPER
225A-024	135 STODDARDS WHARF ROAD	LEDYARD	CONN LIGHT AND POWER CO
225A-030	138 STODDARDS WHARF ROAD	LEDYARD	ARLENE DENISE ALLARD
225A-032	148 STODDARDS WHARF ROAD	LEDYARD	KEVIN L AND IRENE D M ROWLEY
225A-033	154 STODDARDS WHARF ROAD	LEDYARD	PFIZER INC



Legend	
● Existing Structure	○ Existing Structure to be Removed
— Existing Eversource OH Line	— Proposed OH Line
— OH Line to be Removed	— Existing Access Road
— Off-ROW Access Rights Pending	— Proposed Road
— Hiking Trail	— Stone Work Pad
— Existing Gravel	— Temporary Construction Matting
— Delineated Intermittent Watercourse	— Delineated Drainage Basin
— Delineated Lake/Pond/Pool	— Delineated Perennial Watercourse
— Watercourse (not delineated)	— Open Water
— Field Delineated Wetland Boundary	— Field Delineated Wetland
— Approximate Wetland (not delineated)	— Delineated Edge of Vernal Pool
— Confirmed Vernal Pool Extent	— Potential Vernal Pool Extent
— 100' Vernal Pool Envelope	— FEMA Floodway
— FEMA 100-Year Flood Zone	— NE Cottontail Focus Area
— Natural Diversity Database Area (Dec 2021)	— Critical Habitat Polygon
— Groton Reservoir System Public Watershed	— Town of Ledyard's Glacial Park
— Eversource Owned Property	— Existing Right-of-Way (ROW)
— Line List Parcel	— Line List Label
— Municipal Boundaries	— Gate
— Culvert	— Area of Limited Tree Removal
— Guardrail	— Stone Wall
— Fence	— Turn Around Location
— Proposed Parking Lot	— 5' Contour Line



EVERSOURCE

400/500 Line Rebuild Project

Ledyard, CT MAP SHEET 2 of 16

Date: February, 2022

NO.	DATE	REVISIONS

BSC GROUP

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MAP SHEET 03

400/500 Line Rebuild Project Structures 7046-7051 Town of Ledyard, Connecticut

AREA DESCRIPTION

Existing Land Use & Resource Areas

- Undeveloped, forest
- 100-year Flood Zone
- Natural Diversity Database Area
- New England Cottontail Focus Area

RIGHT-OF-WAY DESCRIPTION

Right-of-Way ("ROW") Land Use & Resource Areas

- Maintained ROW
- 100-year Flood Zone between Structure 7045 and 7046
- New England Cottontail Focus Area (Entire Page)

Water Resources

- Wetlands: W5, W7, W8, W9, W10
- Wetland Cover Types: PSS, PEM, PFO
- Watercourses: None.

Wetland and Watercourse Crossings

- Wetland W9 – Construction mats for work pad and tree clearing
- Wetland W10 – Construction mats for tree clearing

Right-of-Way Vegetation

- Scrub-shrub
- Forest

Access

- Structures 7046-7049: Daniels Lane
- Structures 7043-7045: Avery Hill Road

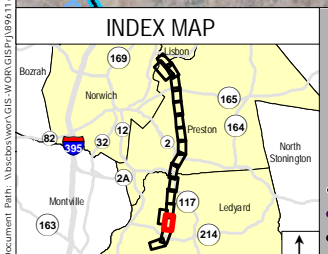
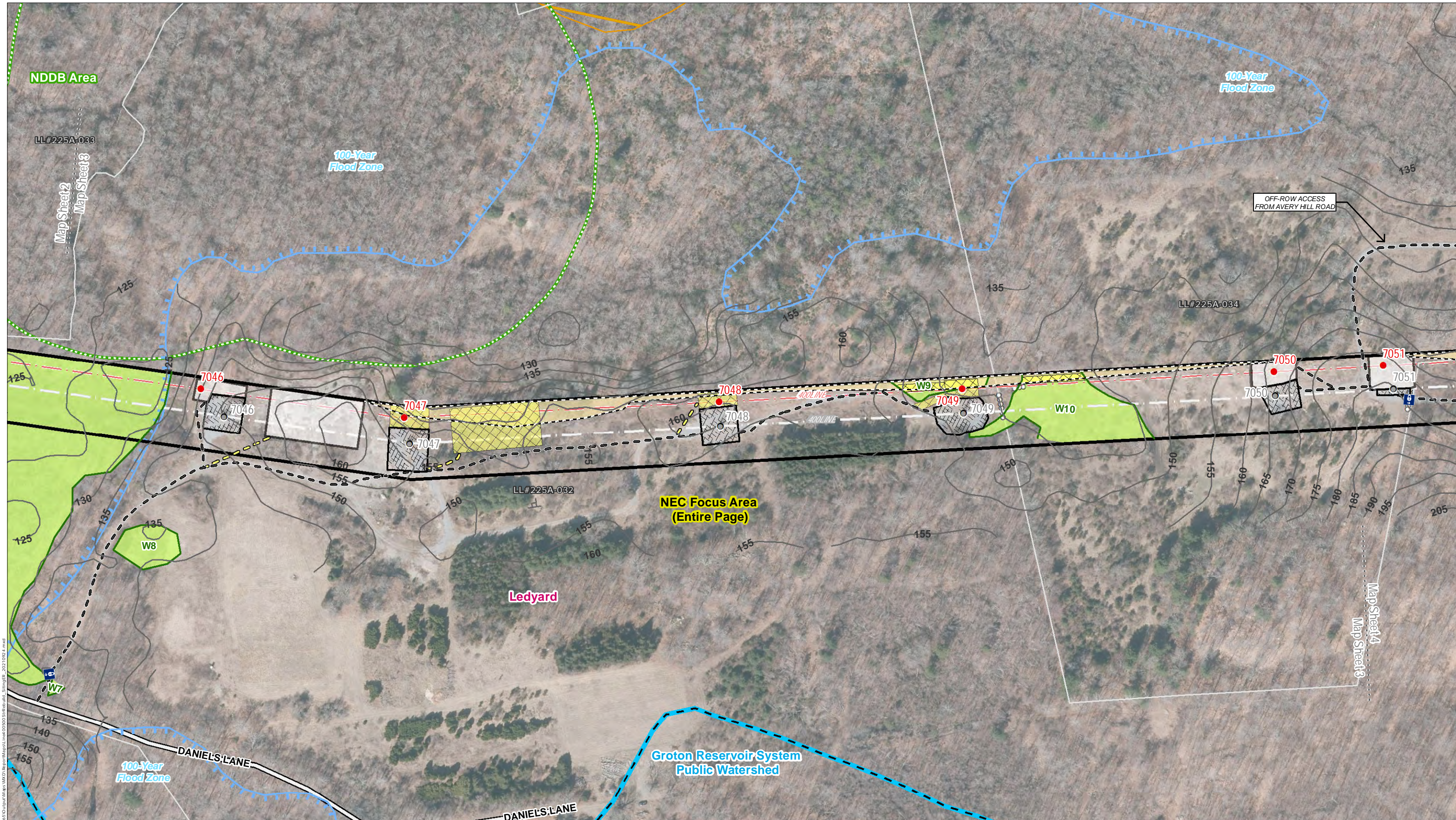
Road Crossings

- None.

Existing Maintained Right-of-Way Width / Proposed Right-of-Way Clearing

- 160 feet/Varies

ABUTTERS TO THE PROJECT RIGHT-OF-WAY			
<u>LLN Number</u>	<u>Parcel Address</u>	<u>Town</u>	<u>Owner Name</u>
225A-032	148 STODDARDS WHARF ROAD	LEDYARD	KEVIN L AND IRENE D M ROWLEY
225A-033	154 STODDARDS WHARF ROAD	LEDYARD	PFIZER INC
225A-034	46 AVERY HILL ROAD	LEDYARD	PHOENIX FARMS LLC



Legend	
● Existing Structure	○ Existing Structure to be Removed
— Existing Eversource OH Line	— Proposed OH Line
— OH Line to be Removed	— Existing Access Road
— Off-ROW Access Rights Pending	— Proposed Road
— Hiking Trail	— Stone Work Pad
— Existing Gravel	— Temporary Construction Matting
— Delineated Intermittent Watercourse	— Delineated Drainage Basin
— Delineated Lake/Pond/Pool	— Delineated Perennial Watercourse
— Watercourse (not delineated)	— Open Water
— Field Delineated Wetland Boundary	— Field Delineated Wetland
— Approximate Wetland (not delineated)	— Delineated Edge of Vernal Pool
— Confirmed Vernal Pool Extent	— Potential Vernal Pool Extent
— 100' Vernal Pool Envelope	— FEMA Floodway
— FEMA 100-Year Flood Zone	— NE Cottontail Focus Area
— Natural Diversity Database Area (Dec 2021)	— Critical Habitat Polygon
— Groton Reservoir System Public Watershed	— Town of Ledyard's Glacial Park
— Eversource Owned Property	— Existing Right-of-Way (ROW)
— Line List Parcel	— Line List Label
— Municipal Boundaries	— Gate
— Culvert	— Area of Limited Tree Removal
— Guardrail	— Stone Wall
— Fence	— Turn Around Location
— Proposed Parking Lot	— 5' Contour Line

NO.	DATE	REVISIONS

EVERSOURCE

400/500 Line Rebuild Project

Ledyard, CT MAP SHEET 3 of 16

Date: February, 2022

BSC GROUP

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MAP SHEET 04

400/500 Line Rebuild Project Structures 7050-7055 Town of Ledyard, Connecticut

AREA DESCRIPTION

Existing Land Use & Resource Areas

- Undeveloped, forest
- Natural Diversity Database Area
- New England Cottontail Focus Area

RIGHT-OF-WAY DESCRIPTION

Right-of-Way ("ROW") Land Use & Resource Areas

- Maintained ROW
- Natural Diversity Database Area (Structures 7052 – 7055)
- New England Cottontail Focus Area (Entire Page)

Water Resources

- Wetlands: W11, W12, W13
- Wetland Cover Types: PSS, PFO
- Watercourses: S2

Wetland and Watercourse Crossings

- Wetland W11 – Construction mats for work pads and tree clearing; Structure Replacement

Right-of-Way Vegetation

- Scrub-shrub
- Forest

Access

- Structures 7050-7055: Avery Hill Road

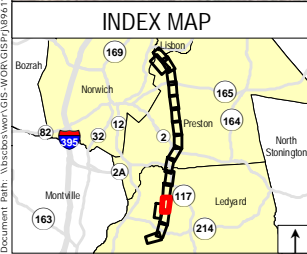
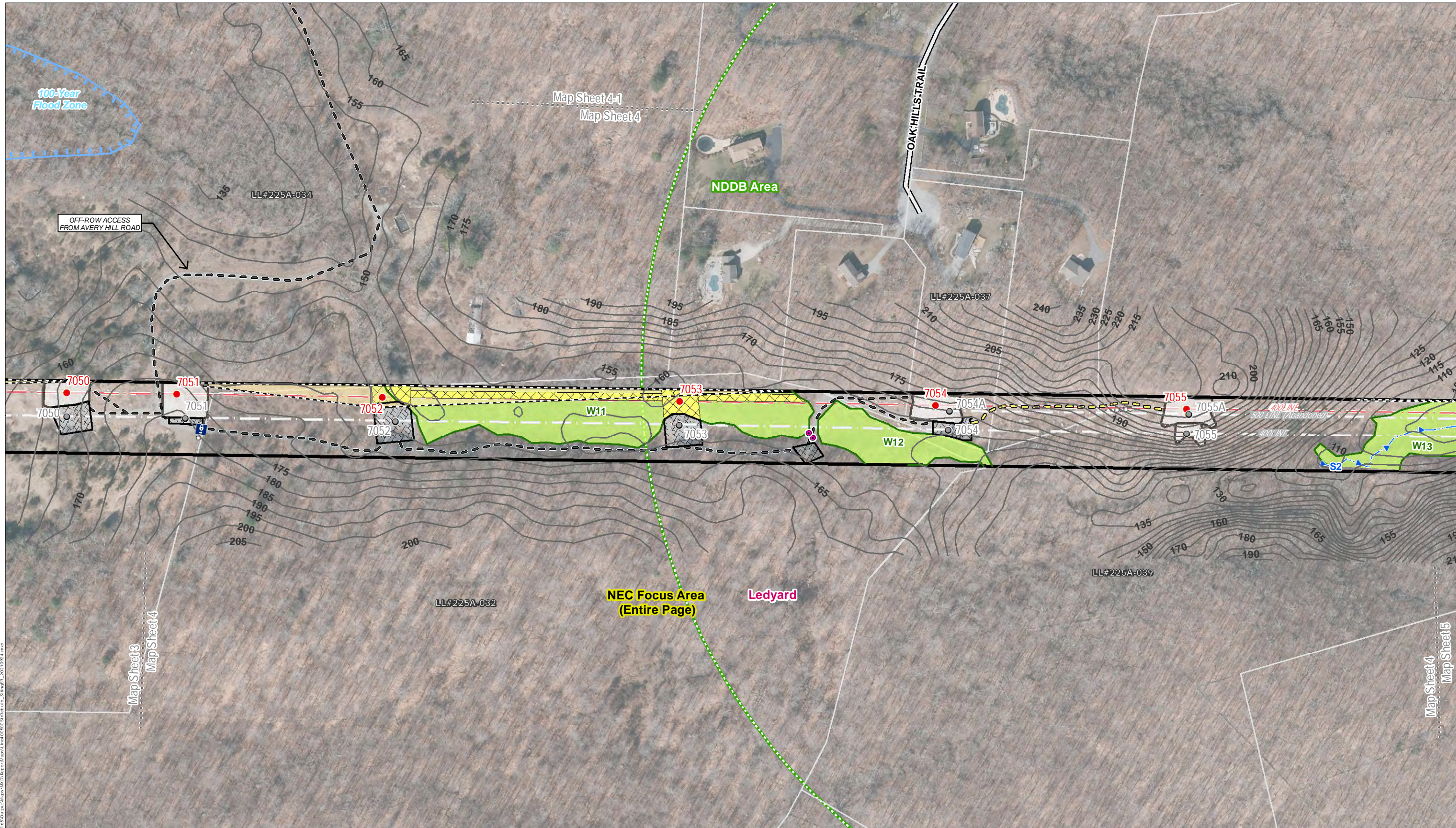
Road Crossings

- None.

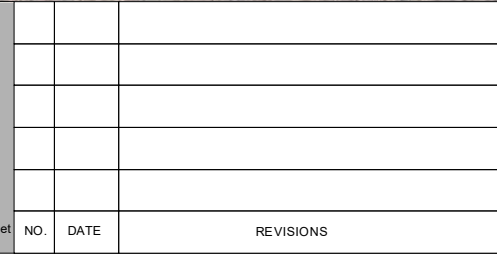
Existing Maintained Right-of-Way Width / Proposed Right-of-Way Clearing

- 160 feet/Varies

ABUTTERS TO THE PROJECT RIGHT-OF-WAY			
<u>LLN Number</u>	<u>Parcel Address</u>	<u>Town</u>	<u>Owner Name</u>
225A-032	148 STODDARDS WHARF ROAD	LEDYARD	KEVIN L AND IRENE D M ROWLEY
225A-034	46 AVERY HILL ROAD	LEDYARD	PHOENIX FARMS LLC
225A-037	17 OAK HILLS TRAIL	LEDYARD	ISABELLE M TEXIER AND CHRISTOPHER P ALLAIS
225A-039	170R AVERY HILL ROAD	LEDYARD	JEFFREY GILBERT AND ARTHUR JAMES HAGEN JR; ELAINE SEDERQUINE LLC ET AL



Legend	
● Existing Structure	○ Existing Structure to be Removed
— Existing Eversource OH Line	— Proposed OH Line
— OH Line to be Removed	— Existing Access Road
— Off-ROW Access Rights Pending	— Proposed Road
— Hiking Trail	— Stone Work Pad
— Existing Gravel	— Temporary Construction Matting
— Delineated Intermittent Watercourse	— Delineated Drainage Basin
— Delineated Lake/Pond/Pool	— Delineated Perennial Watercourse
— Watercourse (not delineated)	— Open Water
— Field Delineated Wetland Boundary	— Field Delineated Wetland
— Approximate Wetland (not delineated)	— Delineated Edge of Vernal Pool
— Confirmed Vernal Pool Extent	— Potential Vernal Pool Extent
— Delineated Lake/Pond/Pool	— 100' Vernal Pool Envelope
— FEMA Floodway	— FEMA 100-Year Flood Zone
— NE Cottontail Focus Area	— Natural Diversity Database Area (Dec 2021)
— Critical Habitat Polygon	— Groton Reservoir System Public Watershed
— Town of Ledyard's Glacial Park	— Eversource Owned Property
— Existing Right-of-Way (ROW)	— Line List Parcel
— Line List Label	— Municipal Boundaries
— Gate	— Culvert
— Area of Limited Tree Removal	— Guardrail
— Stone Wall	— Turn Around Location
— Fence	— Proposed Parking Lot
	— 5' Contour Line



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400/500 Line Rebuild Project

Ledyard, CT MAP SHEET 4 of 16

Date: February, 2022

NO.	DATE	REVISIONS

BSC GROUP

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MAP SHEET 04-1

400/500 Line Rebuild Project Off-ROW Access to Structures 7050-7055 Town of Ledyard, Connecticut

AREA DESCRIPTION

Existing Land Use & Resource Areas

- Undeveloped, forest
- 100-Year Flood Zone
- Natural Diversity Database Area
- Critical Habitat – Atlantic White Cedar Swamp
- New England Cottontail Focus Area

OFF - RIGHT-OF-WAY DESCRIPTION

Off - Right-of-Way ("ROW") Land Use & Resource Areas

- Existing, maintained access road

Water Resources

- None.

Wetland and Watercourse Crossings

- None.

Off - Right-of-Way Vegetation

- None.

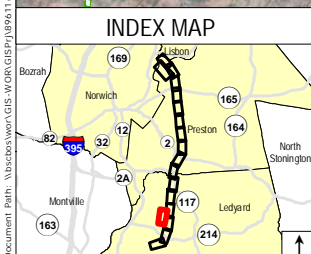
Access

- To Structures 7050-7055 from Avery Hill Road

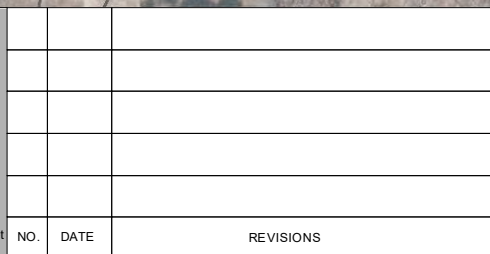
Road Crossings

- None.

ABUTTERS TO THE PROJECT RIGHT-OF-WAY			
<u>LLN Number</u>	<u>Parcel Address</u>	<u>Town</u>	<u>Owner Name</u>
225A-032	148 STODDARDS WHARF ROAD	LEDYARD	KEVIN L AND IRENE D M ROWLEY
225A-034	46 AVERY HILL ROAD	LEDYARD	PHOENIX FARMS LLC



Legend	
● Existing Structure	○ Existing Structure to be Removed
— Existing Eversource OH Line	— Proposed OH Line
— OH Line to be Removed	— Existing Access Road
— Off-ROW Access Rights Pending	— Proposed Road
— Hiking Trail	— Stone Work Pad
— Existing Gravel	— Temporary Construction Matting
— Delineated Intermittent Watercourse	— Delineated Drainage Basin
— Delineated Lake/Pond/Pool	— Delineated Perennial Watercourse
— Watercourse (not delineated)	— Open Water
— Field Delineated Wetland Boundary	— Field Delineated Wetland
— Approximate Wetland (not delineated)	— Delineated Edge of Vernal Pool
— Confirmed Vernal Pool Extent	— Potential Vernal Pool Extent
— 100' Vernal Pool Envelope	— FEMA Floodway
— FEMA 100-Year Flood Zone	— NE Cottontail Focus Area
— Natural Diversity Database Area (Dec 2021)	— Critical Habitat Polygon
— Groton Reservoir System Public Watershed	— Town of Ledyard's Glacial Park
— Eversource Owned Property	— Existing Right-of-Way (ROW)
— Line List Parcel	— Line List Label
— Municipal Boundaries	— Gate
— Culvert	— Area of Limited Tree Removal
— Guardrail	— Proposed Parking Lot
— Stonewall	— 5' Contour Line
— Fence	— Turn Around Location



EVERSOURCE

400/500 Line Rebuild Project

Ledyard, CT MAP SHEET 4-1 of 16

Date: February, 2022

NO.	DATE	REVISIONS

BSC GROUP

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MAP SHEET 05

400/500 Line Rebuild Project Structures 7056-7061 Town of Ledyard, Connecticut

AREA DESCRIPTION

Existing Land Use & Resource Areas

- Undeveloped, forest
- Natural Diversity Database Area
- New England Cottontail Focus Area

RIGHT-OF-WAY DESCRIPTION

Right-of-Way ("ROW") Land Use & Resource Areas

- Maintained ROW
- Natural Diversity Database Area (Structures 7061 - 7061A)
- New England Cottontail Focus Area (Entire Page)

Water Resources

- Wetlands: W13, W14, W15
- Wetland Cover Types: PSS, PFO
- Watercourses: S2, S3 (Joe Clark Brook), S4

Wetland and Watercourse Crossings

- Wetland W13 – Construction mats for access and work pads; Structure Removal and Installation
- Wetland W15 – Construction mats for access and work pad
- Stream S2 – Construction mats to span for access, work pads, and tree clearing
- Stream S3 (Joe Clark Brook) – Construction mats to span for access
- Stream S4 – Construction mats to span for access

Right-of-Way Vegetation

- Scrub-shrub
- Forest

Access

- Structures 7056-7061: Colonel Ledyard Highway (CT 117)

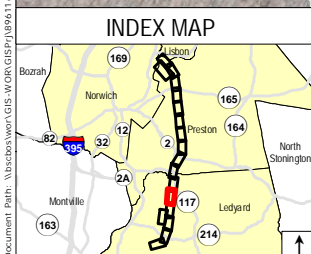
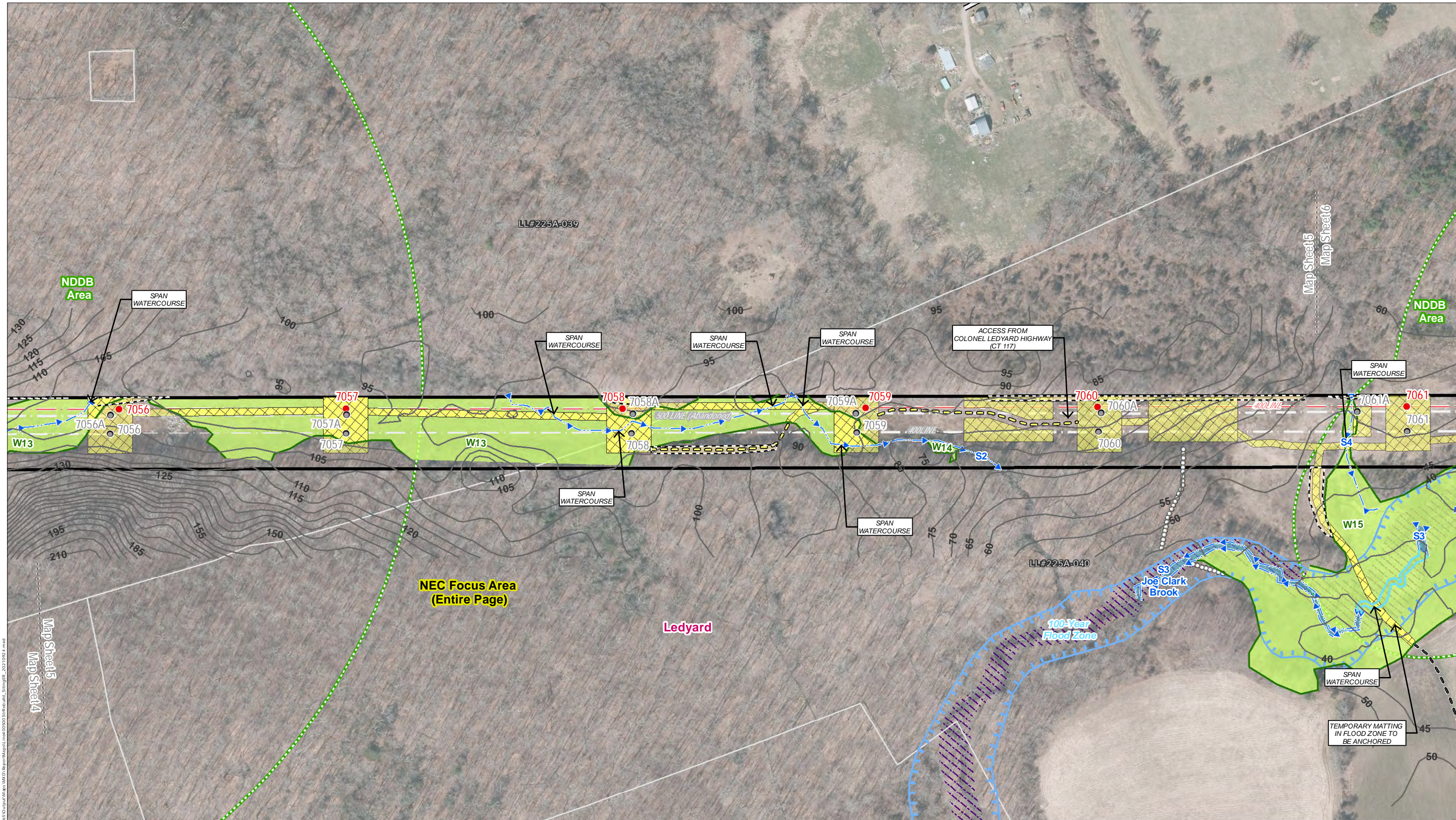
Road Crossings

- None.

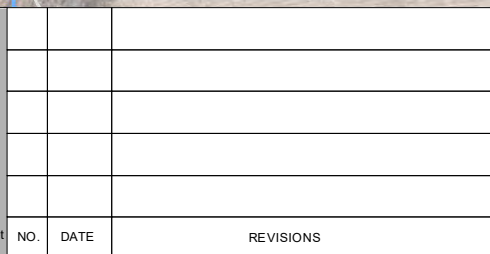
Existing Maintained Right-of-Way Width / Proposed Right-of-Way Clearing

- 160 feet/Varies

ABUTTERS TO THE PROJECT RIGHT-OF-WAY			
<u>LLN Number</u>	<u>Parcel Address</u>	<u>Town</u>	<u>Owner Name</u>
225A-039	170R AVERY HILL ROAD	LEDYARD	JEFFREY GILBERT AND ARTHUR JAMES HAGEN JR; ELAINE SEDERQUINE LLC ET AL
225A-040	1025 COLONEL LEDYARD HIGHWAY	LEDYARD	TOWN OF LEDYARD



Legend	
● Existing Structure	○ Existing Structure to be Removed
— Existing Eversource OH Line	— Proposed OH Line
— OH Line to be Removed	— Existing Access Road
— Off-ROW Access Rights Pending	— Proposed Road
— Hiking Trail	— Stone Work Pad
— Existing Gravel	— Temporary Construction Matting
— Delineated Intermittent Watercourse	— Delineated Drainage Basin
— Delineated Lake/Pond/Pool	— Delineated Perennial Watercourse
— Watercourse (not delineated)	— Open Water
— Field Delineated Wetland Boundary	— Field Delineated Wetland
— Approximate Wetland (not delineated)	— Delineated Edge of Vernal Pool
— Confirmed Vernal Pool Extent	— Potential Vernal Pool Extent
— 100' Vernal Pool Envelope	— FEMA Floodway
— FEMA 100-Year Flood Zone	— NE Cottontail Focus Area
— Natural Diversity Database Area (Dec 2021)	— Critical Habitat Polygon
— Groton Reservoir System Public Watershed	— Town of Ledyard's Glacial Park
— Eversource Owned Property	— Existing Right-of-Way (ROW)
— Line List Parcel	— Line List Label
— Municipal Boundaries	— Gate
— Culvert	— Area of Limited Tree Removal
— Guardrail	— Turn Around Location
— Stonewall	— Proposed Parking Lot
— Fence	— 5' Contour Line



EVERSOURCE

400/500 Line Rebuild Project

Ledyard, CT MAP SHEET 5 of 16

Date: February, 2022

NO.	DATE	REVISIONS

BSC GROUP

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MAP SHEET 06

400/500 Line Rebuild Project Structures 7061-7066 Town of Ledyard, Connecticut

AREA DESCRIPTION

Existing Land Use & Resource Areas

- Undeveloped, forest
- Residential
- Agricultural
- 100-year Flood Zone
- Natural Diversity Database Area
- New England Cottontail Focus Area

RIGHT-OF-WAY DESCRIPTION

Right-of-Way ("ROW") Land Use & Resource Areas

- Maintained ROW
- Joe Clark Brook between Structures 7062 and 7063)
- 100-year Flood Zone between Structures 7062 and 7064
- Natural Diversity Database Area (Structures 7061A – north of Structure 7064)
- New England Cottontail Focus Area (Entire Page)

Water Resources

- Wetlands: W15
- Wetland Cover Types: PSS, PFO
- Watercourses: S3 (Joe Clark Brook), S4, S5, S6

Wetland and Watercourse Crossings

- Wetland W15 – Construction mats for access, work pads and tree clearing; Structure Removal and Installation
- Stream S3 (Joe Clark Brook) – Construction mats for access and tree clearing
- Stream S4 – Construction mats to span for access
- Stream S5 – Construction mats to span for work pad
- Stream S6 – Construction mats to span for access and work pad

Right-of-Way Vegetation

- Scrub-shrub
- Agricultural
- Forest

Access

- Structures 7061-7062: Colonel Ledyard Highway (CT 117)
- Structures 7063-7066: Foundry Road (CT 117) in Preston

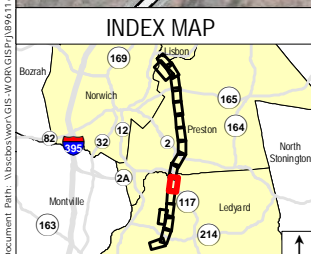
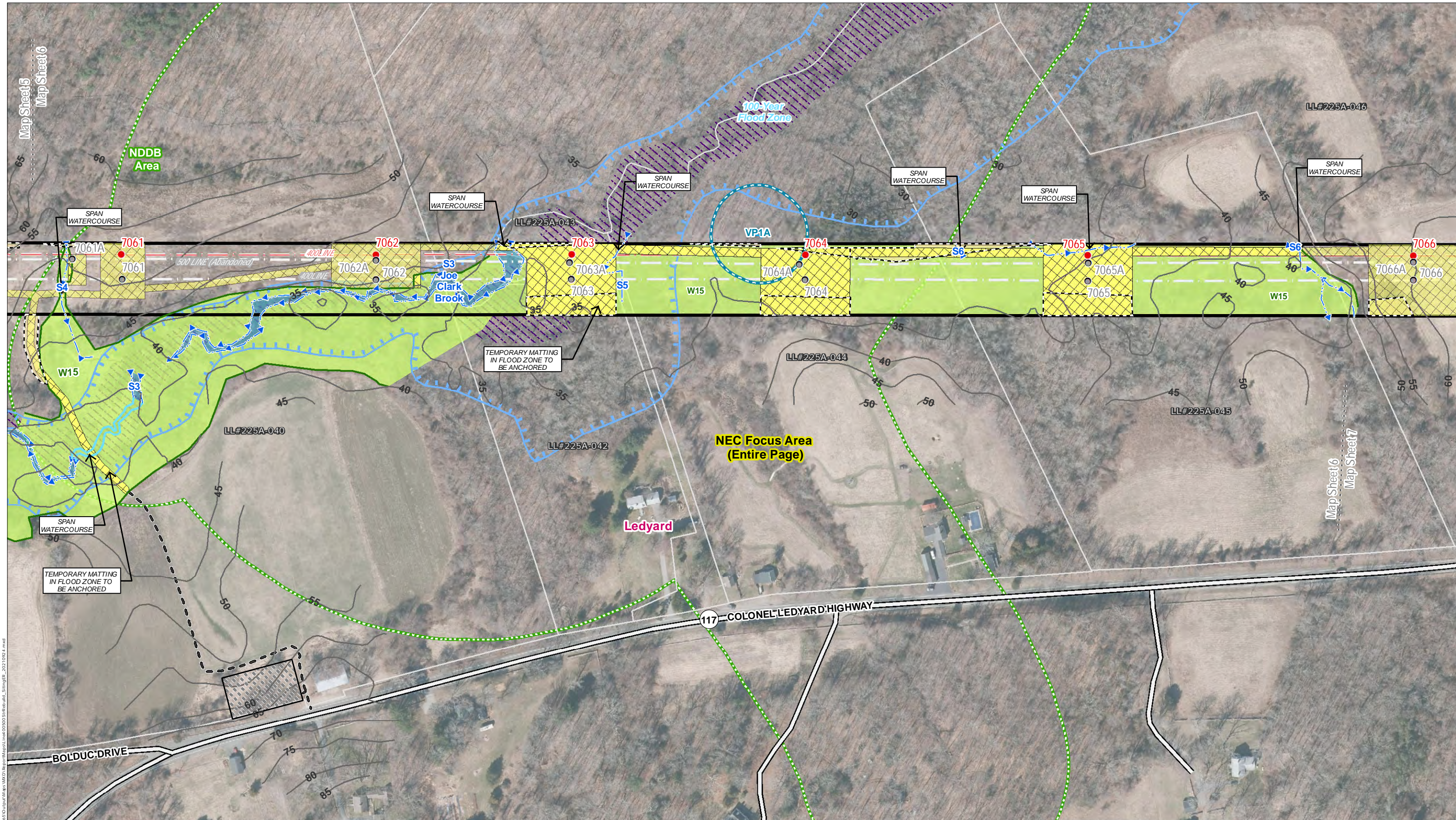
Road Crossings

- None.

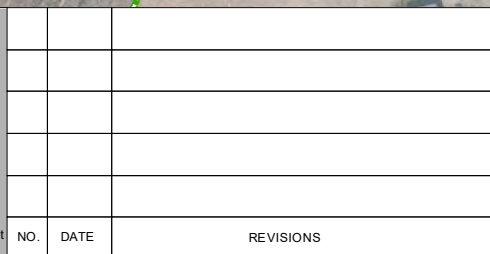
Existing Maintained Right-of-Way Width / Proposed Right-of-Way Clearing

- 160 feet/Varies

ABUTTERS TO THE PROJECT RIGHT-OF-WAY			
<u>LLN Number</u>	<u>Parcel Address</u>	<u>Town</u>	<u>Owner Name</u>
225A-040	1025 COLONEL LEDYARD HIGHWAY	LEDYARD	TOWN OF LEDYARD
225A-042	1043 COLONEL LEDYARD HIGHWAY	LEDYARD	EDWARD R III AND MICHELE M AHLBORN
225A-043	1041 COLONEL LEDYARD HIGHWAY	LEDYARD	JACOB K GEER
225A-044	1055 COLONEL LEDYARD HIGHWAY	LEDYARD	JOHN D AND DEBORAH H VESSELS
225A-045	1069 COLONEL LEDYARD HIGHWAY	LEDYARD	CHARLES DAVID UWG GEER TRUST; MICHAEL COLONESE TRUSTEE
225A-046	1087 COLONEL LEDYARD HIGHWAY	LEDYARD	TOWN OF LEDYARD



Legend	
● Existing Structure	○ Proposed Structure
○ Existing Structure to be Removed	— Existing Eversource OH Line
— Proposed OH Line	— OH Line to be Removed
— Existing Access Road	— Off-ROW Access Rights Pending
— Proposed Road	— Hiking Trail
— Stone Work Pad	— Existing Gravel
— Temporary Construction Matting	— Delineated Intermittent Watercourse
— Delineated Drainage Basin	— Delineated Lake/Pond/Pool
— Delineated Perennial Watercourse	— Watercourse (not delineated)
— Open Water	— Field Delineated Wetland Boundary
— Field Delineated Wetland	— Approximate Wetland (not delineated)
— Delineated Edge of Vernal Pool	— Confirmed Vernal Pool Extent
— Potential Vernal Pool Extent	— 100' Vernal Pool Envelope
— FEMA Floodway	— FEMA 100-Year Flood Zone
— NE Cottontail Focus Area	— Natural Diversity Database Area (Dec 2021)
— Critical Habitat Polygon	— Groton Reservoir System Public Watershed
— Town of Ledyard's Glacial Park	— Eversource Owned Property
— Existing Right-of-Way (ROW)	— Line List Parcel
— Line List Label	— Municipal Boundaries
— Gate	— Culvert
— Area of Limited Tree Removal	— Guardrail
— Turn Around Location	— Proposed Parking Lot
— 5' Contour Line	— Stonewall
— Fence	



EVERSOURCE

400/500 Line Rebuild Project

Ledyard, CT MAP SHEET 6 of 16

Date: February, 2022

NO.	DATE	REVISIONS

BSC GROUP

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MAP SHEET 07

400/500 Line Rebuild Project Structures 7066-7072/7072A Town of Ledyard and Preston, Connecticut

AREA DESCRIPTION

Existing Land Use & Resource Areas

- Undeveloped, forest
- Residential
- Agricultural
- Recreational (Preston Community Park, Tri-Town Trail, Pequot Trail)
- Commercial
- Eversource Owned Property
- New England Cottontail Focus Area

RIGHT-OF-WAY DESCRIPTION

Right-of-Way ("ROW") Land Use & Resource Areas

- Maintained ROW
- Eversource Owned Property (Structures 7071-7072)
- Agricultural (South of Structure 7066 to CT 117)
- Recreational (Preston Community Park, Tri-Town Trail)
- New England Cottontail Focus Area (Structures 7066 - 7068)

Water Resources

- Wetlands: W15, W16
- Wetland Cover Types: PSS
- Watercourses: S6

Wetland and Watercourse Crossings

- Wetland W15 – Construction mats for access
- Wetland 16 – Construction mats for work pad and tree clearing
- Stream S6 – Construction mats to span for access

Right-of-Way Vegetation

- Scrub-shrub
- Agricultural
- Forest

Access

- Structures 7066-7068: Foundry Road (CT 117) in Preston
- Structures 7069-7070: Lincoln Park Road
- Structures 7071-7072: Hallville Poquetanuck Road (CT 2A)

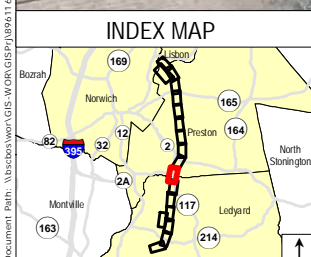
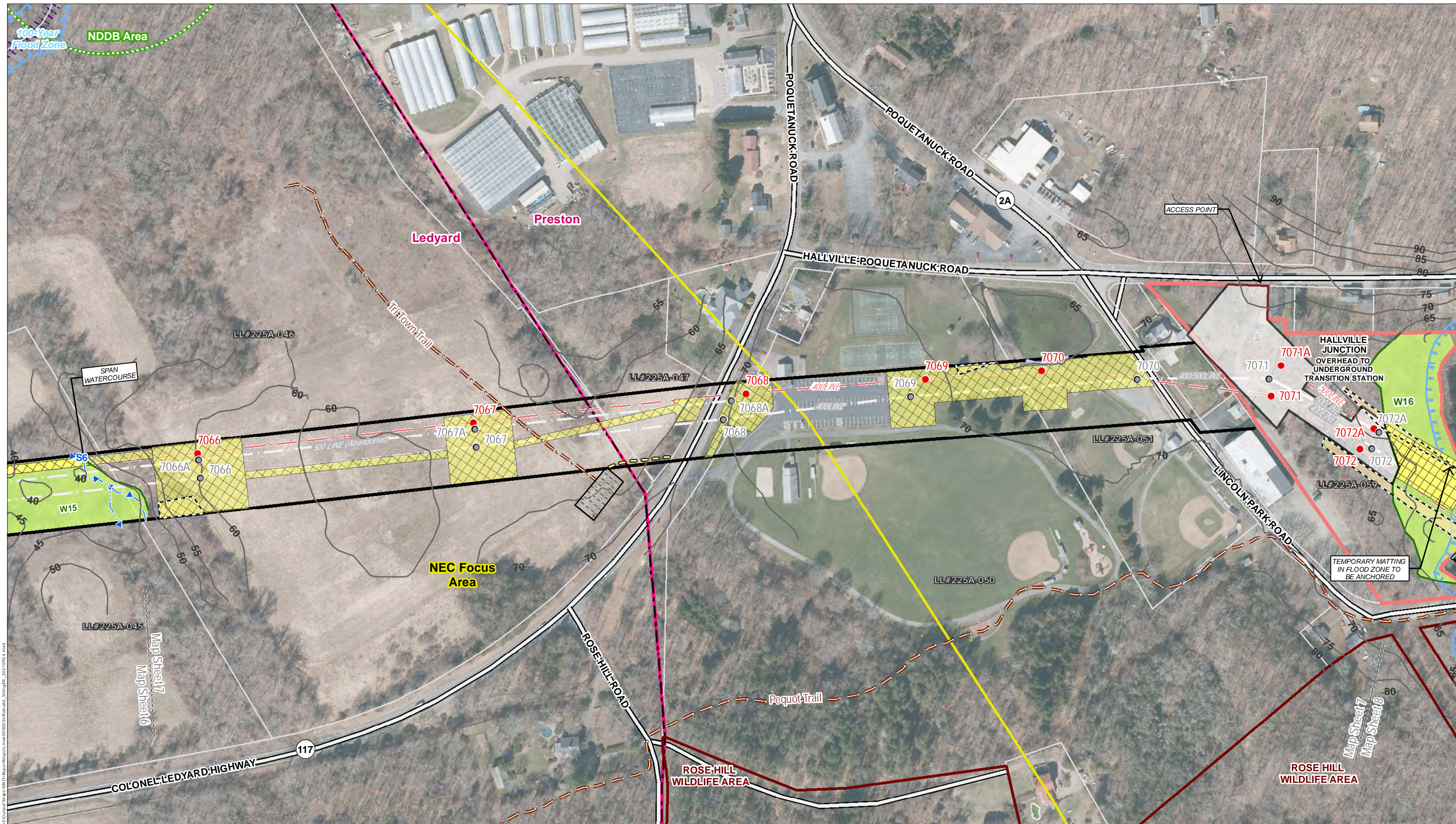
Road Crossings

- CT 117
- Lincoln Park Road

Existing Maintained Right-of-Way Width / Proposed Right-of-Way Clearing

- Varies/Varies

ABUTTERS TO THE PROJECT RIGHT-OF-WAY			
<u>LLN Number</u>	<u>Parcel Address</u>	<u>Town</u>	<u>Owner Name</u>
225A-045	1069 COLONEL LEDYARD HIGHWAY	LEDYARD	CHARLES DAVID UWO GEER TRUST; MICHAEL COLONESE TRUSTEE
225A-046	1087 COLONEL LEDYARD HIGHWAY	LEDYARD	TOWN OF LEDYARD
225A-047	20 ROUTE 117	PRESTON	STATE OF CONNECTICUT
225A-050	13 ROUTE 117	PRESTON	TOWN OF PRESTON-COMMUNITY PARK
225A-051	10 LINCOLN PARK ROAD	PRESTON	TOWN OF PRESTON-PARKS REC
225A-059	21 LINCOLN PARK ROAD	PRESTON	CONNECTICUT LIGHT AND POWER CO. (EVERSOURCE)
225A-064	11 LINCOLN PARK ROAD	PRESTON	TOWN OF PRESTON- HOUSING AUTHORITY



Legend	
● Existing Structure	— Hiking Trail
○ Proposed Structure	■ Stone Work Pad
○ Existing Structure to be Removed	■ Existing Gravel
— Existing Eversource OH Line	■ Temporary Construction Matting
— Proposed OH Line	— Delineated Intermittent Watercourse
— OH Line to be Removed	— Delineated Drainage Basin
— Existing Access Road	— Delineated Lake/Pond/Pool
— Off-ROW Access Rights Pending	— Delineated Perennial Watercourse
— Proposed Road	— Watercourse (not delineated)
■ Open Water	■ Field Delineated Wetland Boundary
■ Field Delineated Wetland	■ Field Delineated Wetland
■ Approximate Wetland (not delineated)	■ Delineated Edge of Vernal Pool
■ Delineated Vernal Pool	■ Confirmed Vernal Pool Extent
■ Potential Vernal Pool Extent	■ Delineated Lake/Pond/Pool
■ 100' Vernal Pool Envelope	■ FEMA Floodway
■ FEMA 100-Year Flood Zone	■ NE Cottontail Focus Area
■ Natural Diversity Database Area (Dec 2021)	■ Critical Habitat Polygon
■ Groton Reservoir System Public Watershed	■ Town of Ledyard's Glacial Park
■ Eversource Owned Property	■ Existing Right-of-Way (ROW)
■ Line List Parcel	■ Line List Label
■ Municipal Boundaries	■ Gate
■ Culvert	■ Area of Limited Tree Removal
■ Guardrail	■ Turn Around Location
■ Stonewall	■ Proposed Parking Lot
■ Fence	■ 5' Contour Line

NO.	DATE	REVISIONS

EVERSOURCE

400/500 Line Rebuild Project

Ledyard & Preston, CT MAP SHEET 7 of 16

Date: February, 2022

BSC GROUP

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MAP SHEET 08

400/500 Line Rebuild Project Structures 7072/7072S-7077/7077A Town of Preston, Connecticut

AREA DESCRIPTION

Existing Land Use & Resource Areas

- Undeveloped, forest
- Residential
- Eversource Owned Property
- Poquetanuck Brook
- Hallville Pond
- 100-year Flood Zone

RIGHT-OF-WAY DESCRIPTION

Right-of-Way ("ROW") Land Use & Resource Areas

- Maintained ROW
- Eversource Owned Property (Structures 7072/7072A)
- Poquetanuck Brook between Structures 7072 and 7073
- 100-year Flood Zone between Structures 7072 and 7073

Water Resources

- Wetlands: W16, W17
- Wetland Cover Types: PSS, PFO
- Watercourses: S7 (Poquetanuck Brook)

Wetland and Watercourse Crossings

- Wetland W16 – Construction mats for work pad and tree clearing

Right-of-Way Vegetation

- Scrub-shrub
- Forest
- Maintained lawn

Access

- Structures 7072/7072A: Hallville Poquetanuck Road (CT 2A)
- Structures 7073/7073S – 7074/7074A: Lincoln Park Road Extension
- Structures 7075/7075A: Norwich-Westerly Road (CT 2)
- Structures 7076/7076A – 7077A/7077: Paster Road

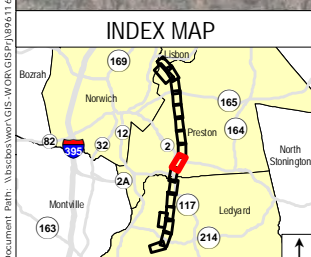
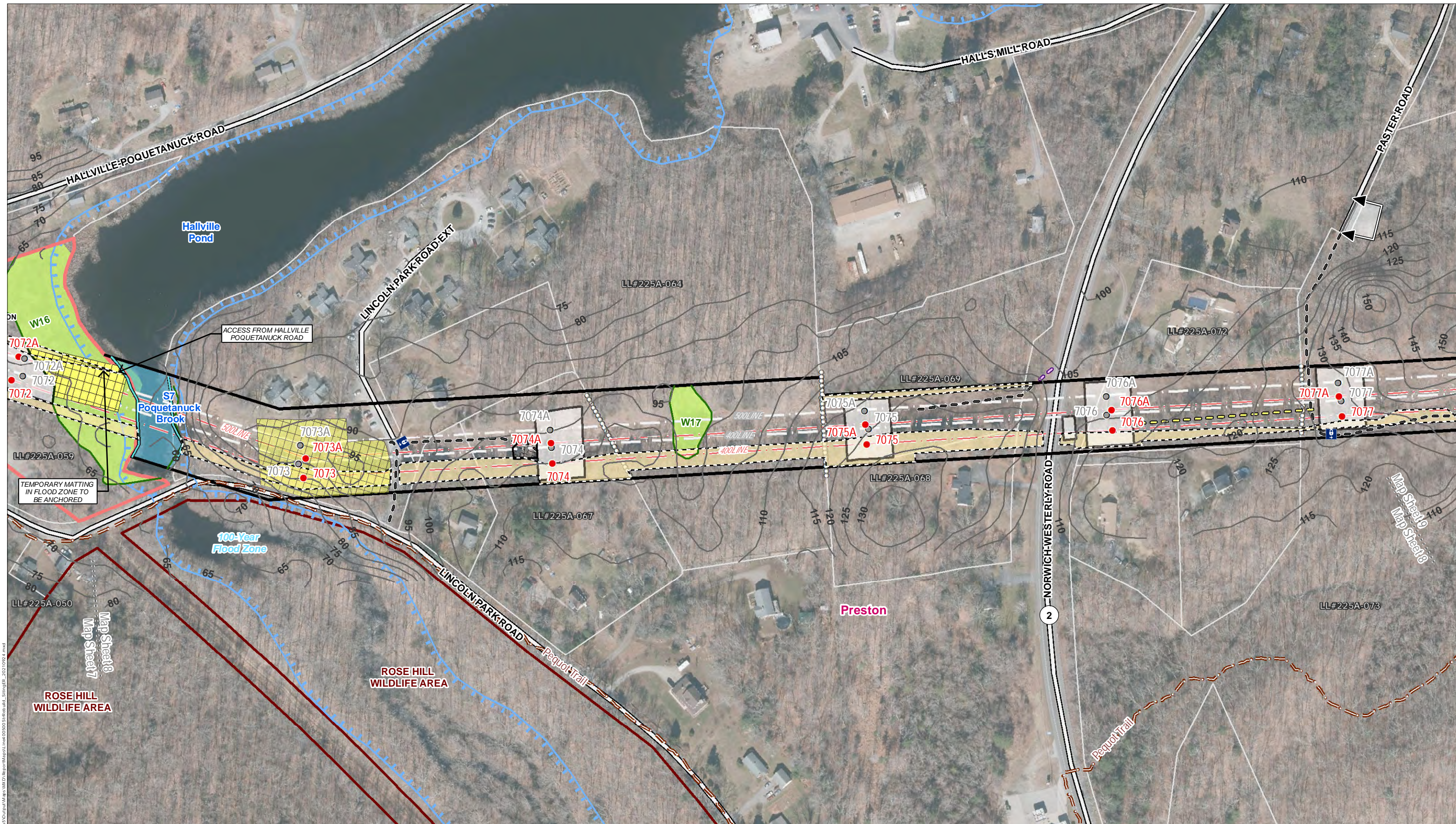
Road Crossings

- Lincoln Park Road Extension
- Norwich-Westerly Road (CT 2)

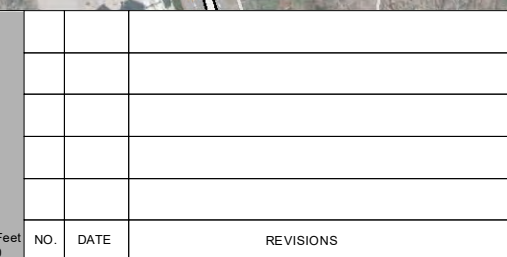
Existing Maintained Right-of-Way Width / Proposed Right-of-Way Clearing

- Varies/Varies

ABUTTERS TO THE PROJECT RIGHT-OF-WAY			
<u>LLN Number</u>	<u>Parcel Address</u>	<u>Town</u>	<u>Owner Name</u>
225A-050	13 ROUTE 117	PRESTON	TOWN OF PRESTON-COMMUNITY PARK
225A-059	21 LINCOLN PARK ROAD	PRESTON	CONNECTICUT LIGHT AND POWER CO. (EVERSOURCE)
225A-064	11 LINCOLN PARK ROAD	PRESTON	TOWN OF PRESTON- HOUSING AUTHORITY
225A-067	43 LINCOLN PARK ROAD	PRESTON	LISA COOPER
225A-068	198 ROUTE 2	PRESTON	MICHAEL AND STEPHANIE FERENDO
225A-069	180 ROUTE 2	PRESTON	MOLLIE GROSSMAN
225A-072	191 ROUTE 2	PRESTON	MICHAEL CHAN
225A-073	207 ROUTE 2	PRESTON	TOWN OF PRESTON



Legend	
● Existing Structure	— Hiking Trail
○ Proposed Structure	■ Stone Work Pad
○ Existing Structure to be Removed	▨ Existing Gravel
— Existing Eversource OH Line	▨ Temporary Construction Matting
— Proposed OH Line	— Delineated Intermittent Watercourse
— OH Line to be Removed	— Delineated Drainage Basin
— Existing Access Road	— Delineated Lake/Pond/Pool
— Off-ROW Access Rights Pending	— Delineated Perennial Watercourse
— Proposed Road	— Watercourse (not delineated)
■ Open Water	— Field Delineated Wetland Boundary
■ Field Delineated Wetland	■ Field Delineated Wetland
■ Approximate Wetland (not delineated)	— Delineated Edge of Vernal Pool
■ Delineated Vernal Pool	■ Confirmed Vernal Pool Extent
■ Potential Vernal Pool Extent	■ 100' Vernal Pool Envelope
■ FEMA Floodway	■ FEMA 100-Year Flood Zone
■ NE Cottontail Focus Area	■ Natural Diversity Database Area (Dec 2021)
■ Critical Habitat Polygon	■ Groton Reservoir System Public Watershed
■ Town of Ledyard's Glacial Park	■ Eversource Owned Property
■ Existing Right-of-Way (ROW)	■ Line List Parcel
— Line List Label	— Municipal Boundaries
— Gate	— Culvert
— Area of Limited Tree Removal	— Guardrail
— Stone Wall	— Fence
— Turn Around Location	— Proposed Parking Lot
— 5' Contour Line	



EVERSOURCE

400/500 Line Rebuild Project

Preston, CT MAP SHEET 8 of 16

Date: February, 2022

NO.	DATE	REVISIONS

BSC GROUP

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MAP SHEET 09

400/500 Line Rebuild Project Structures 7077/7077A-7084/7084A Town of Preston, Connecticut

AREA DESCRIPTION

Existing Land Use & Resource Areas

- Undeveloped, forest
- Recreational (Pequot Trail)
- Vernal Pools

RIGHT-OF-WAY DESCRIPTION

Right-of-Way ("ROW") Land Use & Resource Areas

- Maintained ROW
- Recreational (Pequot Trail)
- Vernal Pools near Structures 7079-7083A

Water Resources

- Wetlands: W18, W20, W21, W22, VP3, VP5, VP6
- Wetland Cover Types: PSS, PFO
- Watercourses: None.

Wetland and Watercourse Crossings

- Wetland W18 – Construction mats for work pad and tree clearing
- Wetland W21 – Construction mats for access, work pad, and tree clearing
- Wetland W22 – Construction mats for access, work pad, and tree clearing

Right-of-Way Vegetation

- Scrub-shrub
- Forest

Access

- Structures 7077A/7077- 7084/7084A: Paster Road

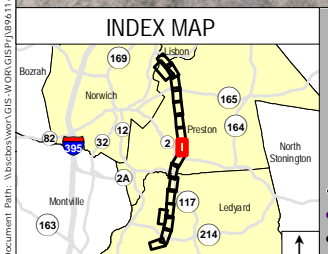
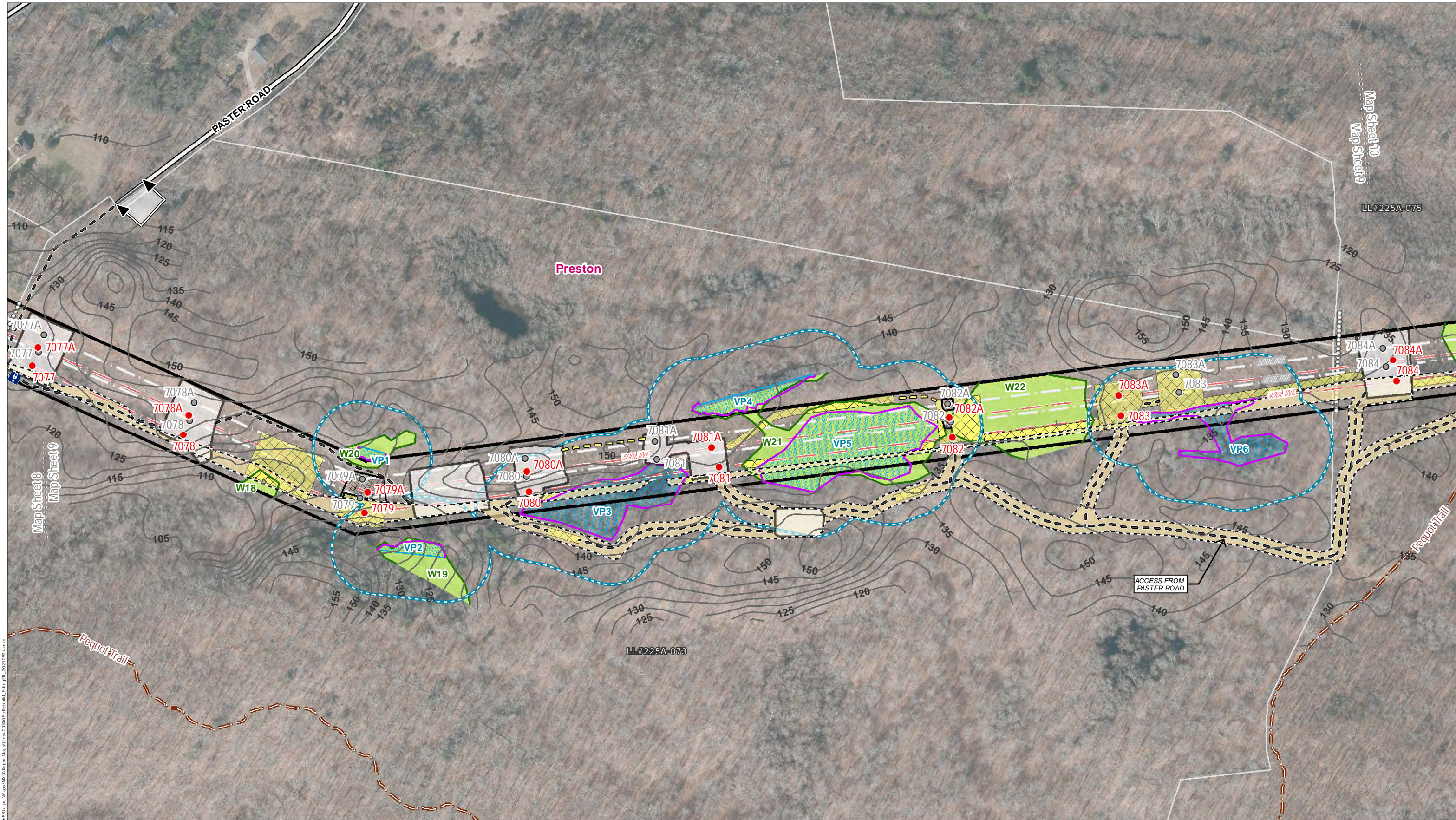
Road Crossings

- None.

Existing Maintained Right-of-Way Width / Proposed Right-of-Way Clearing

- 160 feet/Varies

ABUTTERS TO THE PROJECT RIGHT-OF-WAY			
<u>LLN Number</u>	<u>Parcel Address</u>	<u>Town</u>	<u>Owner Name</u>
225A-073	207 ROUTE 2	PRESTON	TOWN OF PRESTON
225A-075	173 BRICKYARD ROAD	PRESTON	JOHN C JR & JOANNA S MAJCHER TRUSTEES



Legend	
● Existing Structure	○ Existing Structure to be Removed
— Existing Eversource OH Line	— Proposed OH Line
— OH Line to be Removed	— Existing Access Road
— Off-ROW Access Rights Pending	— Proposed Road
— Hiking Trail	— Stone Work Pad
— Existing Gravel	— Temporary Construction Matting
— Delineated Intermittent Watercourse	— Delineated Drainage Basin
— Delineated Lake/Pond/Pool	— Delineated Perennial Watercourse
— Watercourse (not delineated)	— Open Water
— Field Delineated Wetland Boundary	— Field Delineated Wetland
— Approximate Wetland (not delineated)	— Delineated Edge of Vernal Pool
— Confirmed Vernal Pool Extent	— Potential Vernal Pool Extent
— 100' Vernal Pool Envelope	— FEMA Floodway
— FEMA 100-Year Flood Zone	— NE Cottontail Focus Area
— Natural Diversity Database Area (Dec 2021)	— Critical Habitat Polygon
— Groton Reservoir System Public Watershed	— Town of Ledyard's Glacial Park
— Eversource Owned Property	— Existing Right-of-Way (ROW)
— Line List Parcel	— Line List Label
— Municipal Boundaries	— Gate
— Culvert	— Area of Limited Tree Removal
— Guardrail	— Stonewall
— Fence	— Turn Around Location
— Proposed Parking Lot	— 5' Contour Line

NO.	DATE	REVISIONS

EVERSOURCE

400/500 Line Rebuild Project

Preston, CT MAP SHEET 9 of 16

Date: February, 2022

BSC GROUP

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MAP SHEET 10

400/500 Line Rebuild Project Structures 7084/7084A-7089/7089A Town of Preston, Connecticut

AREA DESCRIPTION

Existing Land Use & Resource Areas

- Undeveloped, forest
- Recreational (Pequot Trail)

RIGHT-OF-WAY DESCRIPTION

Right-of-Way ("ROW") Land Use & Resource Areas

- Maintained ROW
- Recreational (Pequot Trail)

Water Resources

- Wetlands: W23, W24, W25
- Wetland Cover Types: PFO
- Watercourses: None.

Wetland and Watercourse Crossings

- Wetland W23 – Construction mats for access and tree clearing
- Wetland W25 – Construction mats for access

Right-of-Way Vegetation

- Scrub-shrub
- Forest

Access

- Structures 7084/7084A-7089/7089A: Paster Road

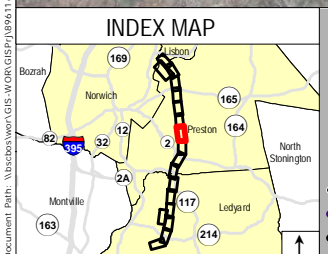
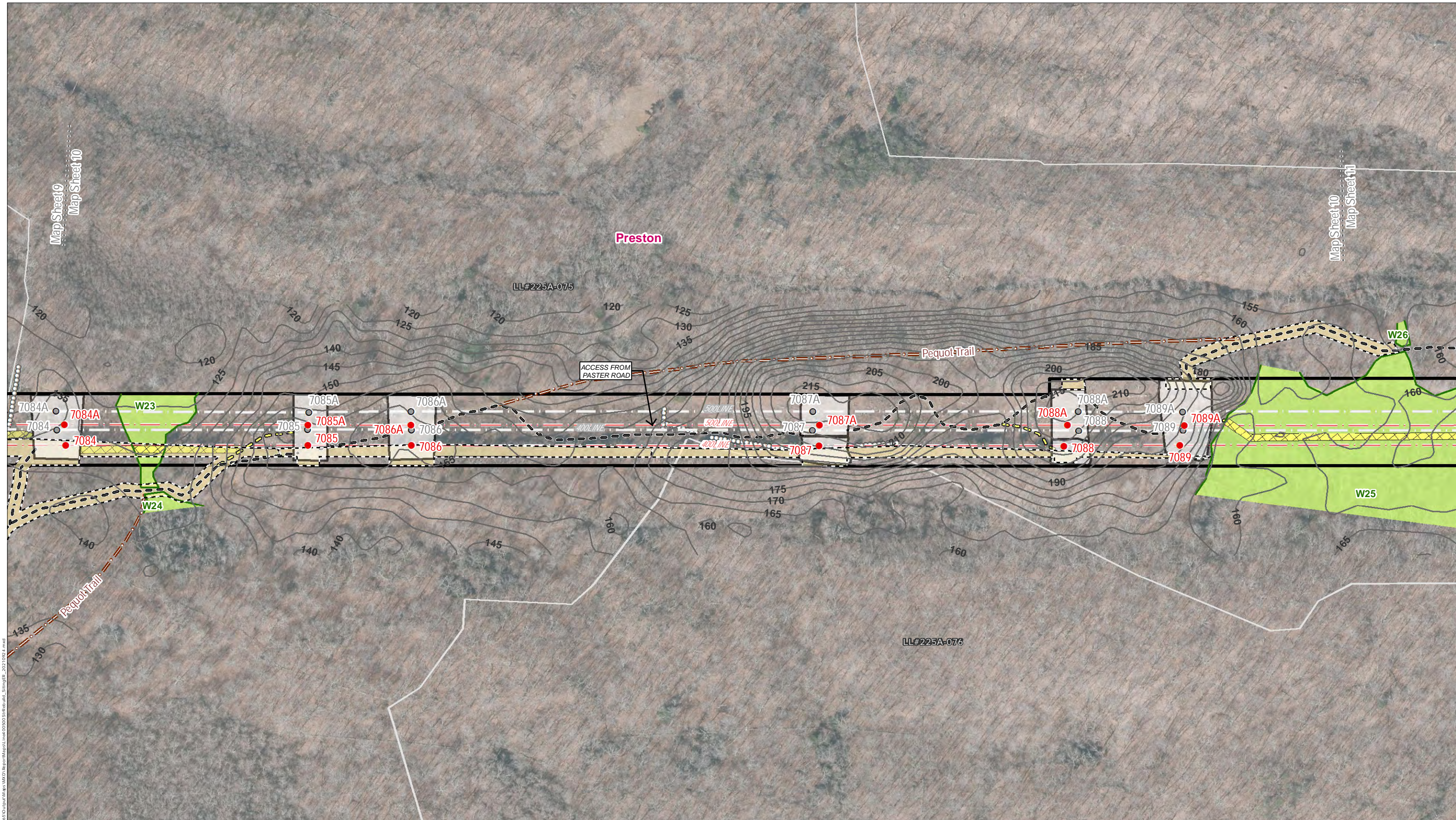
Road Crossings

- None.

Existing Maintained Right-of-Way Width / Proposed Right-of-Way Clearing

- Varies/Varies

ABUTTERS TO THE PROJECT RIGHT-OF-WAY			
<u>LLN Number</u>	<u>Parcel Address</u>	<u>Town</u>	<u>Owner Name</u>
225A-075	173 BRICKYARD ROAD	PRESTON	JOHN C JR & JOANNA S MAJCHER TRUSTEES
225A-076	124 MILLER ROAD	PRESTON	FAY PISZCZEK – LIFE USE



Legend	
● Existing Structure	○ Existing Structure to be Removed
— Existing Eversource OH Line	— Proposed OH Line
— OH Line to be Removed	— Existing Access Road
— Off-ROW Access Rights Pending	— Proposed Road
— Hiking Trail	— Stone Work Pad
— Existing Gravel	— Temporary Construction Matting
— Delineated Intermittent Watercourse	— Delineated Drainage Basin
— Delineated Lake/Pond/Pool	— Delineated Perennial Watercourse
— Watercourse (not delineated)	— Open Water
— Field Delineated Wetland Boundary	— Field Delineated Wetland
— Approximate Wetland (not delineated)	— Delineated Edge of Vernal Pool
— Confirmed Vernal Pool Extent	— Potential Vernal Pool Extent
— Delineated Lake/Pond/Pool	— 100' Vernal Pool Envelope
— FEMA Floodway	— FEMA 100-Year Flood Zone
— NE Cottontail Focus Area	— Natural Diversity Database Area (Dec 2021)
— Critical Habitat Polygon	— Groton Reservoir System Public Watershed
— Town of Ledyard's Glacial Park	— Eversource Owned Property
— Existing Right-of-Way (ROW)	— Line List Parcel
— Line List Label	— Municipal Boundaries
— Gate	— Culvert
— Area of Limited Tree Removal	— Guardrail
— Stone Wall	— Fence
— Turn Around Location	— Proposed Parking Lot
— 5' Contour Line	

NO.	DATE	REVISIONS

EVERSOURCE

400/500 Line Rebuild Project

Preston, CT MAP SHEET 10 of 16

Date: February, 2022

BSC GROUP

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MAP SHEET 11

**400/500 Line Rebuild Project
Structures 7090/7090A-7094/7094A
Town of Preston, Connecticut**

AREA DESCRIPTION

Existing Land Use & Resource Areas

- Undeveloped, forest
- Recreational (Pequot Trail)
- Vernal pools

RIGHT-OF-WAY DESCRIPTION

Right-of-Way (“ROW”) Land Use & Resource Areas

- Maintained ROW
- Recreational (Pequot Trail)
- Vernal Pools between Structures 7090 and 7091; off-ROW access

Water Resources

- Wetlands: W25, W26, W27, W28, W28B, W29, W30, VP7, VP8, VP9
- Wetland Cover Types: PSS, PFO
- Watercourses: None.

Wetland and Watercourse Crossings

- Wetland W25 – Construction mats for access, work pads, and tree clearing; Structure Removal and Installation

Right-of-Way Vegetation

- Scrub-shrub
- Forest

Access

- Structures 7090/7090A-7094/7094A: Paster Road

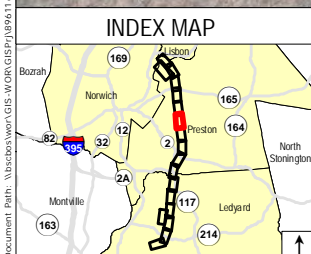
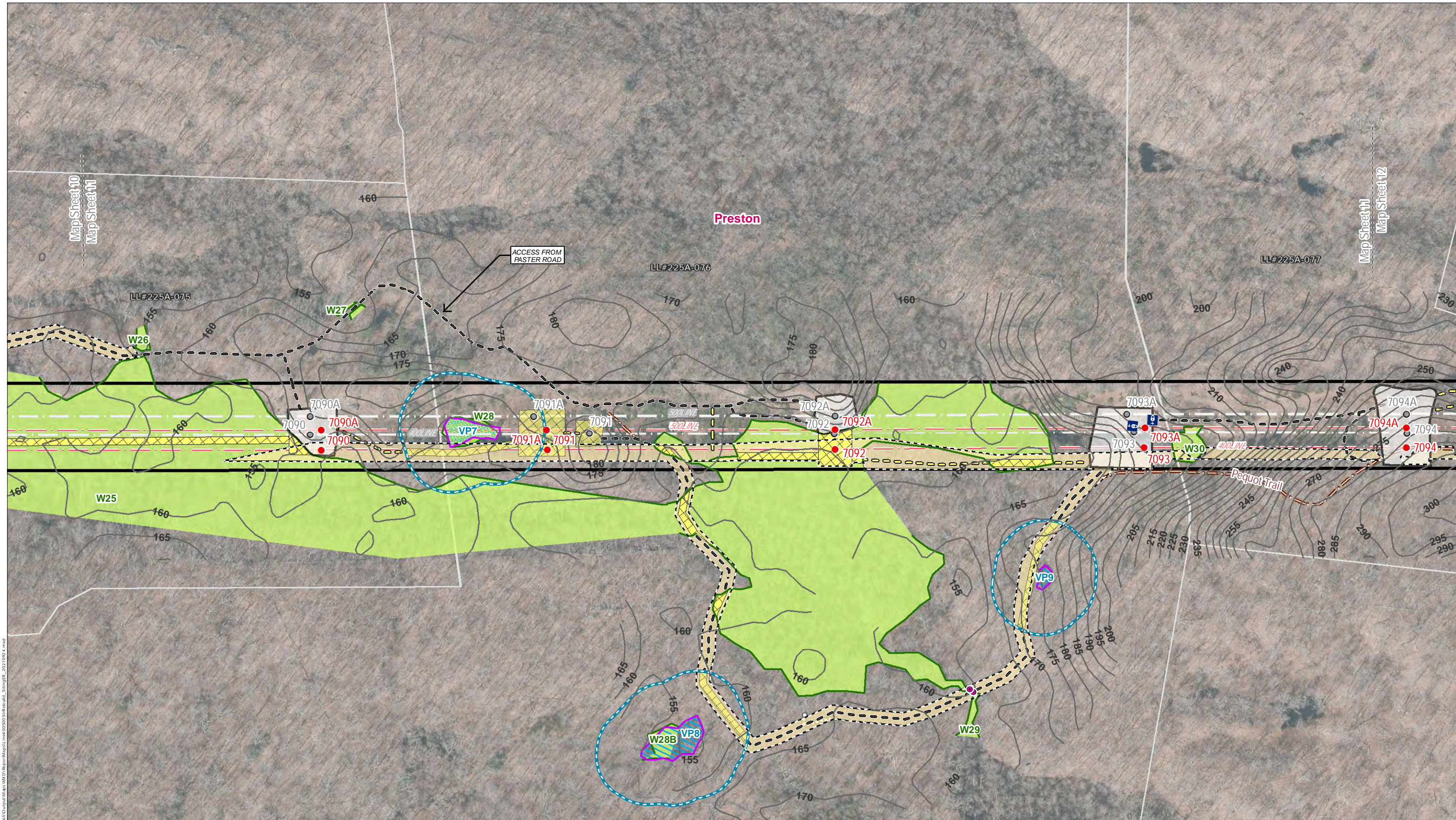
Road Crossings

- None.

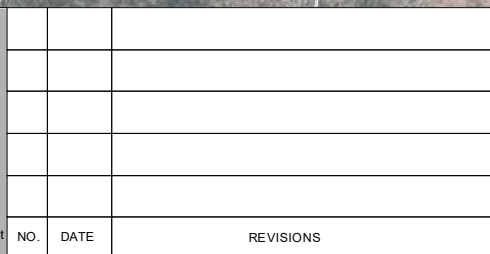
Existing Maintained Right-of-Way Width / Proposed Right-of-Way Clearing

- 200 feet/Varies

ABUTTERS TO THE PROJECT RIGHT-OF-WAY			
<u>LLN Number</u>	<u>Parcel Address</u>	<u>Town</u>	<u>Owner Name</u>
225A-075	173 BRICKYARD ROAD	PRESTON	JOHN C JR & JOANNA S MAJCHER TRUSTEES
225A-076	124 MILLER ROAD	PRESTON	FAY PISZCZEK – LIFE USE
225A-077	103 BRICKYARD ROAD	PRESTON	ALTON P AND DOROTHY C LEWIS



Legend	
● Existing Structure	○ Existing Structure to be Removed
— Existing Eversource OH Line	— Proposed OH Line
— OH Line to be Removed	— Existing Access Road
— Off-ROW Access Rights Pending	— Proposed Road
— Hiking Trail	— Stone Work Pad
— Existing Gravel	— Temporary Construction Matting
— Delineated Intermittent Watercourse	— Delineated Drainage Basin
— Delineated Lake/Pond/Pool	— Delineated Perennial Watercourse
— Watercourse (not delineated)	— Open Water
— Field Delineated Wetland Boundary	— Field Delineated Wetland
— Approximate Wetland (not delineated)	— Delineated Edge of Vernal Pool
— Confirmed Vernal Pool Extent	— Potential Vernal Pool Extent
— 100' Vernal Pool Envelope	— FEMA Floodway
— FEMA 100-Year Flood Zone	— NE Cottontail Focus Area
— Natural Diversity Database Area (Dec 2021)	— Critical Habitat Polygon
— Groton Reservoir System Public Watershed	— Town of Ledyard's Glacial Park
— Eversource Owned Property	— Existing Right-of-Way (ROW)
— Line List Parcel	— Line List Label
— Municipal Boundaries	— Gate
— Culvert	— Area of Limited Tree Removal
— Guardrail	— Turn Around Location
— Stone Wall	— Proposed Parking Lot
— Fence	— 5' Contour Line



EVERSOURCE

400/500 Line Rebuild Project

Preston, CT MAP SHEET 11 of 16

Date: February, 2022

NO.	DATE	REVISIONS

BSC GROUP

THIS MAPPING PRODUCT HAS BEEN CREATED TO COMPLY WITH SUBMITTAL REQUIREMENTS TO OBTAIN CERTAIN REGULATORY APPROVALS AND, AS SUCH, THERE IS NO RELIANCE ON THE INFORMATION CONTAINED HEREIN FOR ANY OTHER PURPOSE.

MAP SHEET 12

400/500 Line Rebuild Project Structures 7094/7094A-7100/7100A Town of Preston, Connecticut

AREA DESCRIPTION

Existing Land Use & Resource Areas

- Undeveloped, forest
- Recreational (Pequot Trail)
- Vernal pools
- Eversource Owned Property

RIGHT-OF-WAY DESCRIPTION

Right-of-Way ("ROW") Land Use & Resource Areas

- Maintained ROW
- Recreational (Pequot Trail)
- Vernal Pool between Structures 7095A and 7096A
- Eversource Owner Property (Structures 7097A-7098A)

Water Resources

- Wetlands: W32, VP11
- Wetland Cover Types: PSS, PFO
- Watercourses: None.

Wetland and Watercourse Crossings

- Wetland W32 – Construction mats for access, work pads, and tree clearing

Right-of-Way Vegetation

- Scrub-shrub
- Forest

Access

- Structures 7094/7094A-7100/7100A: Paster Road

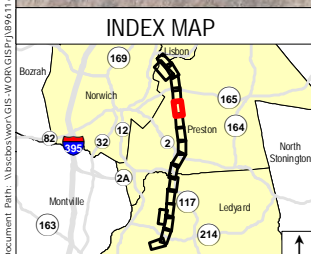
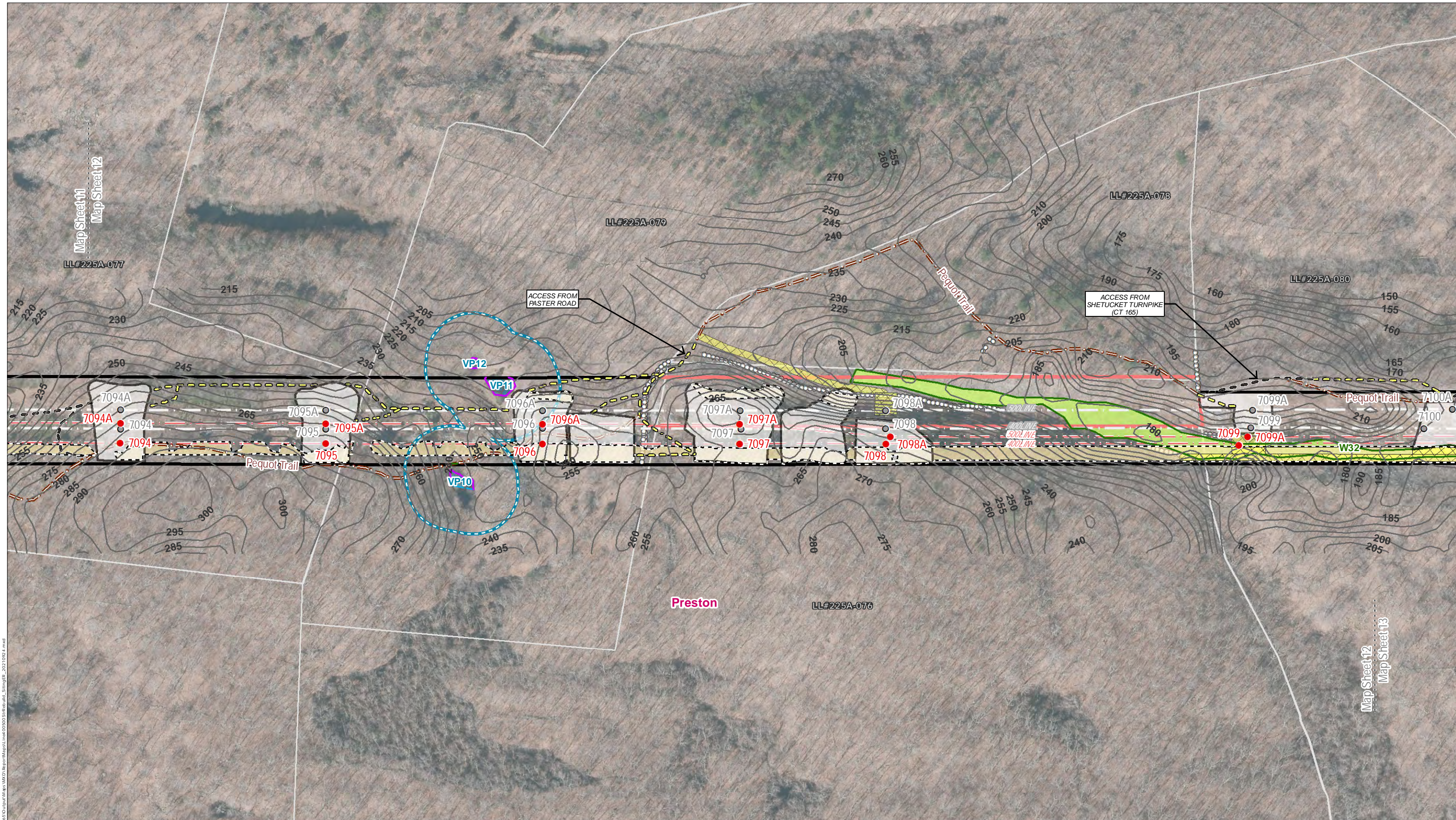
Road Crossings

- None.

Existing Maintained Right-of-Way Width / Proposed Right-of-Way Clearing

- Varies/Varies

ABUTTERS TO THE PROJECT RIGHT-OF-WAY			
<u>LLN Number</u>	<u>Parcel Address</u>	<u>Town</u>	<u>Owner Name</u>
225A-076	124 MILLER ROAD	PRESTON	FAY PISZCZEK – LIFE USE
225A-077	103 BRICKYARD ROAD	PRESTON	ALTON P AND DOROTHY C LEWIS
225A-078	29 BRICKYARD RD	PRESTON	AMERICAN TECHNICAL CONTRACTORS
225A-079	33 BRICKYARD ROAD	PRESTON	DIANE E COURNOYER
225A-080	31 BRICKYARD ROAD	PRESTON	CHRISTOPHER D HAYES



Legend	
● Existing Structure	○ Existing Structure to be Removed
— Existing Eversource OH Line	— Proposed OH Line
— OH Line to be Removed	— Existing Access Road
— Off-ROW Access Rights Pending	— Proposed Road
— Hiking Trail	— Stone Work Pad
— Existing Gravel	— Temporary Construction Matting
— Delineated Intermittent Watercourse	— Delineated Drainage Basin
— Delineated Lake/Pond/Pool	— Delineated Perennial Watercourse
— Watercourse (not delineated)	— Open Water
— Field Delineated Wetland Boundary	— Field Delineated Wetland
— Approximate Wetland (not delineated)	— Delineated Edge of Vernal Pool
— Confirmed Vernal Pool Extent	— Potential Vernal Pool Extent
— 100' Vernal Pool Envelope	— FEMA Floodway
— FEMA 100-Year Flood Zone	— NE Cottontail Focus Area
— Natural Diversity Database Area (Dec 2021)	— Critical Habitat Polygon
— Groton Reservoir System Public Watershed	— Town of Ledyard's Glacial Park
— Eversource Owned Property	— Existing Right-of-Way (ROW)
— Line List Parcel	— Line List Label
— Municipal Boundaries	— Gate
— Culvert	— Area of Limited Tree Removal
— Guardrail	— Stone Wall
— Fence	— Turn Around Location
— Proposed Parking Lot	— 5' Contour Line

NO.	DATE	REVISIONS

EVERSOURCE

400/500 Line Rebuild Project

Preston, CT MAP SHEET 12 of 16

Date: February, 2022

BSC GROUP

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MAP SHEET 13

400/500 Line Rebuild Project Structures 7100/7100A-7104/7104A Town of Preston, Connecticut

AREA DESCRIPTION

Existing Land Use & Resource Areas

- Undeveloped, forest
- Residential
- Recreational (Pequot Trail)

RIGHT-OF-WAY DESCRIPTION

Right-of-Way ("ROW") Land Use & Resource Areas

- Maintained ROW
- Recreational (Pequot Trail)

Water Resources

- Wetlands: W32, W33, W34, W35
- Wetland Cover Types: PEM, PSS, PFO
- Watercourses: S8

Wetland and Watercourse Crossings

- Wetland W32 – Construction mats for access, work pads, and tree clearing
- Wetland W33 – Construction mats for tree clearing
- Wetland W34 – Construction mats for access, work pads, and tree clearing; Structure Installation
- Stream S8 – Construction mats to span for access

Right-of-Way Vegetation

- Scrub-shrub
- Forest

Access

- Structures 7100/7100A-7104/7104A: Long Society Road

Road Crossings

- Long Society Road

Existing Maintained Right-of-Way Width / Proposed Right-of-Way Clearing

- 160 feet/Varies

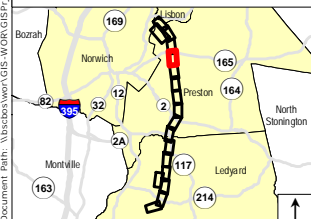
ABUTTERS TO THE PROJECT RIGHT-OF-WAY			
<u>LLN Number</u>	<u>Parcel Address</u>	<u>Town</u>	<u>Owner Name</u>
225A-079	33 BRICKYARD ROAD	PRESTON	DIANE E COURNOYER
225A-080	31 BRICKYARD ROAD	PRESTON	CHRISTOPHER D HAYES
225A-081	144 ROUTE 165	PRESTON	JEFFREY D PARKHURST
225A-088	79 ROUTE 165	PRESTON	STELLA M CRAMER
225A-095	59 ROOSEVELT AVE EXT	PRESTON	JOHN JORSZ



Map Sheet 12
Map Sheet 13

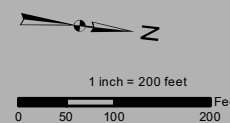
Map Sheet 13
Map Sheet 14

INDEX MAP



Legend

- | | | | | | |
|------------------------------------|---------------------------------------|--------------------------------------|--|--------------------------------|------------------------|
| ● Existing Structure | — Hiking Trail | Open Water | — FEMA 100-Year Flood Zone | — Line List Label | ↔ Turn Around Location |
| ○ Proposed Structure | — Stone Work Pad | Field Delineated Wetland Boundary | — NE Cottontail Focus Area | — Municipal Boundaries | — Proposed Parking Lot |
| ○ Existing Structure to be Removed | — Existing Gravel | Field Delineated Wetland | — Natural Diversity Database Area (Dec 2021) | — Gate | — 5' Contour Line |
| — Existing Eversource OH Line | — Temporary Construction Matting | Approximate Wetland (not delineated) | — Critical Habitat Polygon | — Culvert | |
| — Proposed OH Line | — Delineated Intermittent Watercourse | Delineated Edge of Vernal Pool | — Groton Reservoir System Public Watershed | — Area of Limited Tree Removal | |
| — OH Line to be Removed | — Delineated Drainage Basin | Confirmed Vernal Pool Extent | — Town of Ledyard's Glacial Park | — Guardrail | |
| — Existing Access Road | — Delineated Lake/Pond/Pool | Potential Vernal Pool Extent | — Eversource Owned Property | — Stone Wall | |
| — Off-ROW Access Rights Pending | — Delineated Perennial Watercourse | 100' Vernal Pool Envelope | — Existing Right-of-Way (ROW) | — Fence | |
| — Proposed Road | — Watercourse (not delineated) | FEMA Floodway | — Line List Parcel | | |



EVERSOURCE

400/500 Line Rebuild Project

Preston, CT MAP SHEET 13 of 16

Date: February, 2022



NO.	DATE	REVISIONS

MAP SHEET 14

400/500 Line Rebuild Project Structures 7104/7104A-7108/7108A Town of Preston, Connecticut

AREA DESCRIPTION

Existing Land Use & Resource Areas

- Undeveloped, forest
- Residential
- Recreational (Pequot Trail)

RIGHT-OF-WAY DESCRIPTION

Right-of-Way ("ROW") Land Use & Resource Areas

- Maintained ROW
- Agricultural

Water Resources

- Wetlands: W34, W35, W36, W37, W38
- Wetland Cover Types: PSS, PFO, PEM
- Watercourses: None.

Wetland and Watercourse Crossings

- Wetland W34 – Construction mats for access, work pads, and tree clearing; Structure Installation
- Wetland W37 – Construction mats for access and work pads; Structure Removal and Installation
- Wetland W38 – Construction mats for work pads

Right-of-Way Vegetation

- Scrub-shrub
- Forest

Access

- Structures 7104/7104A: Long Society Road
- Structures 7105/7105A - 7108/7108A: Shetucket Turnpike (CT 165)

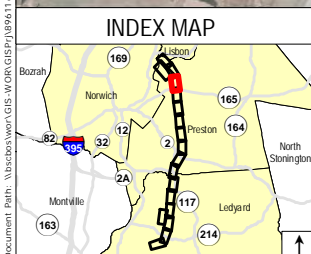
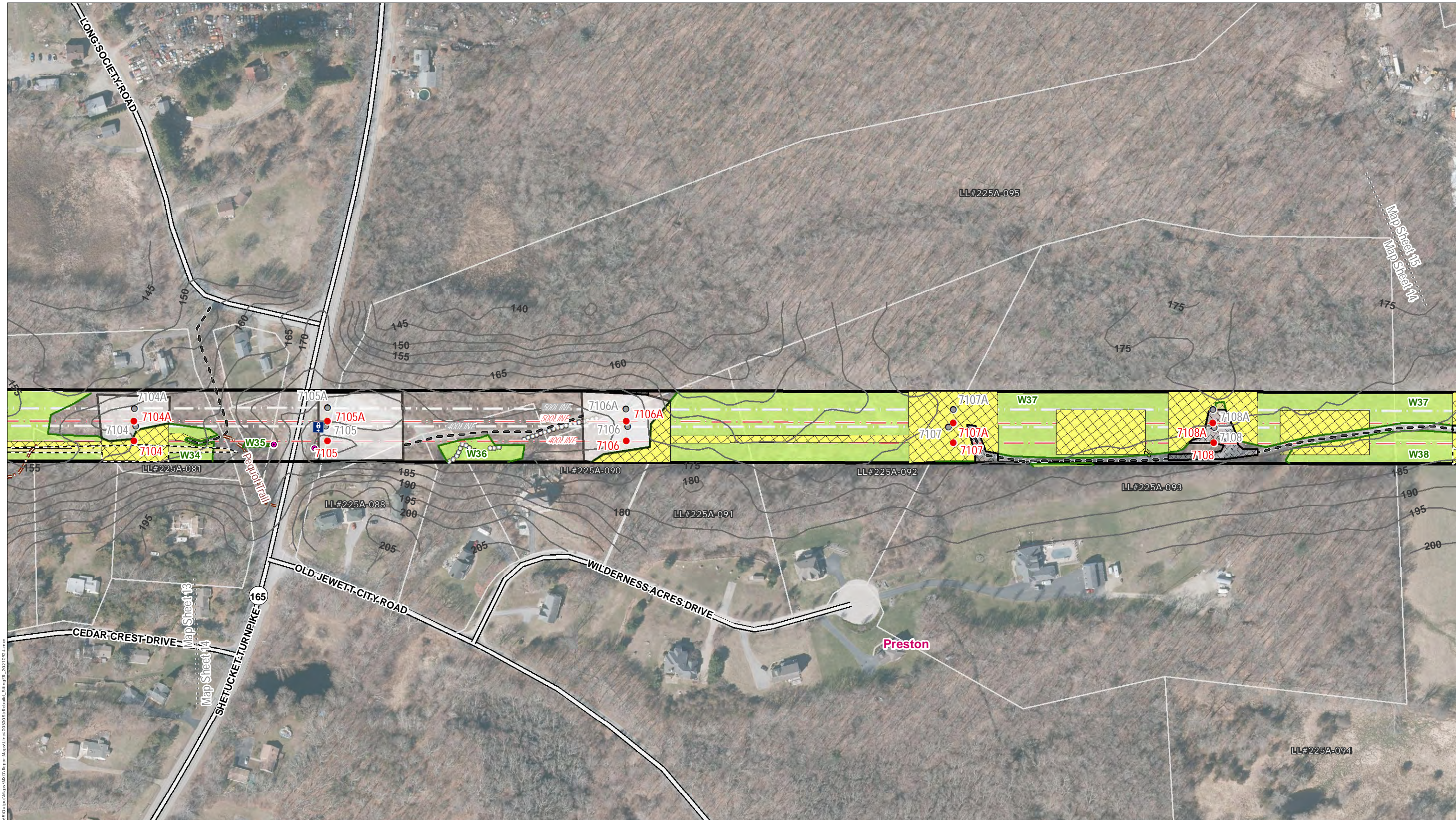
Road Crossings

- Shetucket Turnpike (CT 165)

Existing Maintained Right-of-Way Width / Proposed Right-of-Way Clearing

- 160 feet/Varies

ABUTTERS TO THE PROJECT RIGHT-OF-WAY			
<u>LLN Number</u>	<u>Parcel Address</u>	<u>Town</u>	<u>Owner Name</u>
225A-081	144 ROUTE 165	PRESTON	JEFFREY D PARKHURST
225A-088	79 ROUTE 165	PRESTON	STELLA M CRAMER
225A-090	3 WILDERNESS ACRES DRIVE	PRESTON	YAN QIONG LI AND HAI HUA WEN
225A-091	5 WILDERNESS ACRES DRIVE	PRESTON	TIMOTHY BARTHA
225A-092	7 WILDERNESS ACRES DRIVE	PRESTON	MICHAEL S AND PAMELA S KUBA
225A-093	9 WILDERNESS ACRES DRIVE	PRESTON	GASTON AND HOLLY B CYR
225A-094	29 ROOSEVELT AVENUE EXTENSION	PRESTON	HEINZ M AND PAULINE R SELIGMAN
225A-095	59 ROOSEVELT AVENUE EXTENSION	PRESTON	JOHN JORSZ



Legend	
● Existing Structure	○ Existing Structure to be Removed
— Existing Eversource OH Line	— Proposed OH Line
— OH Line to be Removed	— Existing Access Road
— Off-ROW Access Rights Pending	— Proposed Road
— Hiking Trail	— Stone Work Pad
— Existing Gravel	— Temporary Construction Matting
— Delineated Intermittent Watercourse	— Delineated Drainage Basin
— Delineated Lake/Pond/Pool	— Delineated Perennial Watercourse
— Watercourse (not delineated)	— Open Water
— Field Delineated Wetland Boundary	— Field Delineated Wetland
— Approximate Wetland (not delineated)	— Delineated Edge of Vernal Pool
— Confirmed Vernal Pool Extent	— Potential Vernal Pool Extent
— 100' Vernal Pool Envelope	— FEMA Floodway
— FEMA 100-Year Flood Zone	— NE Cottontail Focus Area
— Natural Diversity Database Area (Dec 2021)	— Critical Habitat Polygon
— Groton Reservoir System Public Watershed	— Town of Ledyard's Glacial Park
— Eversource Owned Property	— Existing Right-of-Way (ROW)
— Line List Parcel	— Line List Label
— Municipal Boundaries	— Gate
— Culvert	— Area of Limited Tree Removal
— Guardrail	— Turn Around Location
— Stonewall	— Proposed Parking Lot
— Fence	— 5' Contour Line

NO.	DATE	REVISIONS

EVERSOURCE

400/500 Line Rebuild Project

Preston, CT MAP SHEET 14 of 16

Date: February, 2022

BSC GROUP

THIS MAPPING PRODUCT HAS BEEN CREATED TO COMPLY WITH SUBMITTAL REQUIREMENTS TO OBTAIN CERTAIN REGULATORY APPROVALS AND, AS SUCH, THERE IS NO RELIANCE ON THE INFORMATION CONTAINED HEREIN FOR ANY OTHER PURPOSE.

MAP SHEET 15

**400/500 Line Rebuild Project
Structures 7109/7109A-7115/7115A
Town of Preston, Connecticut**

AREA DESCRIPTION

Existing Land Use & Resource Areas

- Agricultural
- Residential

RIGHT-OF-WAY DESCRIPTION

Right-of-Way (“ROW”) Land Use & Resource Areas

- Maintained ROW

Water Resources

- Wetlands: W37, W38, W39, W40
- Wetland Cover Types: PSS, PEM
- Watercourses: None.

Wetland and Watercourse Crossings

- Wetland W37 – Construction mats for work pad
- Wetland W38 – Construction mats for work pads and tree clearing
- Wetland W39 – Construction mats for work pad
- Wetland W40 – Construction mats for access and work pad; Structure Removals and Installations

Right-of-Way Vegetation

- Agricultural
- Scrub-shrub

Access

- Structures 7109/7109A – 7115/7115A: Roosevelt Avenue

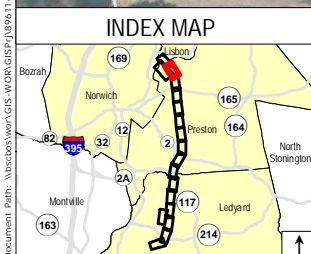
Road Crossings

- Roosevelt Avenue

Existing Maintained Right-of-Way Width / Proposed Right-of-Way Clearing

- 160 feet/Varies

ABUTTERS TO THE PROJECT RIGHT-OF-WAY			
<u>LLN Number</u>	<u>Parcel Address</u>	<u>Town</u>	<u>Owner Name</u>
225A-093	9 WILDERNESS ACRES DRIVE	PRESTON	GASTON AND HOLLY B CYR
225A-094	29 ROOSEVELT AVENUE EXTENSION	PRESTON	HEINZ M AND PAULINE R SELIGMAN
225A-095	59 ROOSEVELT AVENUE EXTENSION	PRESTON	JOHN JORSZ
225A-100	72A ROOSEVELT AVENUE EXTENSION	PRESTON	CONNECTICUT LIGHT AND POWER CO. (EVERSOURCE)
225A-103	68 ROOSEVELT AVENUE EXTENSION	PRESTON	JOHN GOOD LIVING TRUST AND JOAN M GOOD
225A-104	32 ROOSEVELT AVENUE EXTENSION	PRESTON	HEINZ M AND PAULINE SELIGMAN



Legend	
● Existing Structure	○ Existing Structure to be Removed
— Existing Eversource OH Line	— Proposed OH Line
— OH Line to be Removed	— Existing Access Road
— Off-ROW Access Rights Pending	— Proposed Road
— Hiking Trail	— Stone Work Pad
— Existing Gravel	— Temporary Construction Matting
— Delineated Intermittent Watercourse	— Delineated Drainage Basin
— Delineated Lake/Pond/Pool	— Delineated Perennial Watercourse
— Watercourse (not delineated)	— Open Water
— Field Delineated Wetland Boundary	— Field Delineated Wetland
— Approximate Wetland (not delineated)	— Delineated Edge of Vernal Pool
— Confirmed Vernal Pool Extent	— Potential Vernal Pool Extent
— 100' Vernal Pool Envelope	— FEMA Floodway
— FEMA 100-Year Flood Zone	— NE Cottontail Focus Area
— Natural Diversity Database Area (Dec 2021)	— Critical Habitat Polygon
— Groton Reservoir System Public Watershed	— Town of Ledyard's Glacial Park
— Eversource Owned Property	— Existing Right-of-Way (ROW)
— Line List Parcel	— Line List Label
— Municipal Boundaries	— Gate
— Culvert	— Area of Limited Tree Removal
— Guardrail	— Stone Wall
— Fence	— Turn Around Location
— Proposed Parking Lot	— 5' Contour Line

NO.	DATE	REVISIONS

EVERSOURCE

400/500 Line Rebuild Project

Preston, CT MAP SHEET 15 of 16

Date: February, 2022

BSC GROUP

THIS MAPPING PRODUCT HAS BEEN CREATED TO COMPLY WITH SUBMITTAL REQUIREMENTS TO OBTAIN CERTAIN REGULATORY APPROVALS AND, AS SUCH, THERE IS NO RELIANCE ON THE INFORMATION CONTAINED HEREIN FOR ANY OTHER PURPOSE.

MAP SHEET 16

400/500 Line Rebuild Project Structures 7115/7115A-7119.5/7119.5A Town of Preston, Connecticut

AREA DESCRIPTION

Existing Land Use & Resource Areas

- Agricultural
- Undeveloped, forest
- Tunnel Substation
- Eversource Owned Property
- Quinebaug River
- 100-year Flood Zone

RIGHT-OF-WAY DESCRIPTION

Right-of-Way ("ROW") Land Use & Resource Areas

- Maintained ROW
- Agricultural (South of Structure 7115/7115A to 7116/7116A)
- Eversource Owned Property (Structures 7119/7119A – 7120; Tunnel Substation)
- Tunnel Substation

Water Resources

- Wetlands: W41
- Wetland Cover Types: PSS
- Watercourses: S9

Wetland and Watercourse Crossings

- None.

Right-of-Way Vegetation

- Agricultural
- Scrub-shrub

Access

- Structures 7115/7115A – 7119.5/7119.5A: Roosevelt Avenue

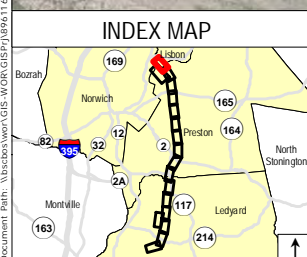
Road Crossings

- Roosevelt Avenue

Existing Maintained Right-of-Way Width / Proposed Right-of-Way Clearing

- Varies/Varies

ABUTTERS TO THE PROJECT RIGHT-OF-WAY			
<u>LLN Number</u>	<u>Parcel Address</u>	<u>Town</u>	<u>Owner Name</u>
225A-100	72A ROOSEVELT AVENUE EXTENSION	PRESTON	CONNECTICUT LIGHT AND POWER CO. (EVERSOURCE)
225A-103	68 ROOSEVELT AVENUE EXTENSION	PRESTON	JOHN GOOD LIVING TRUST AND JOAN M GOOD



Legend	
● Existing Structure	○ Existing Structure to be Removed
— Existing Eversource OH Line	— Proposed OH Line
— OH Line to be Removed	— Existing Access Road
— Off-ROW Access Rights Pending	— Proposed Road
— Hiking Trail	— Stone Work Pad
— Existing Gravel	— Temporary Construction Matting
— Open Water	— Field Delineated Wetland Boundary
— Field Delineated Wetland	— Approximate Wetland (not delineated)
— Delineated Edge of Vernal Pool	— Confirmed Vernal Pool Extent
— Potential Vernal Pool Extent	— Delineated Lake/Pond/Pool
— 100' Vernal Pool Envelope	— Delineated Perennial Watercourse
— Watercourse (not delineated)	— Delineated Intermittent Watercourse
— Delineated Drainage Basin	— Delineated Lake/Pond/Pool
— FEMA 100-Year Flood Zone	— NE Cottontail Focus Area
— Natural Diversity Database Area (Dec 2021)	— Critical Habitat Polygon
— Groton Reservoir System Public Watershed	— Town of Ledyard's Glacial Park
— Eversource Owned Property	— Existing Right-of-Way (ROW)
— Line List Parcel	— Line List Label
— Municipal Boundaries	— Gate
— Culvert	— Area of Limited Tree Removal
— Guardrail	— Turn Around Location
— Stone Wall	— Proposed Parking Lot
— Fence	— 5' Contour Line

400/500 Line Rebuild Project

Preston, CT MAP SHEET 16 of 16

Date: February, 2022

NO.	DATE	REVISIONS

THIS MAPPING PRODUCT HAS BEEN CREATED TO COMPLY WITH SUBMITTAL REQUIREMENTS TO OBTAIN CERTAIN REGULATORY APPROVALS AND, AS SUCH, THERE IS NO RELIANCE ON THE INFORMATION CONTAINED HEREIN FOR ANY OTHER PURPOSE.

MAP SHEET 16-1

400/500 Line Rebuild Project Off-ROW Access to Structures 7117/7117A – 7119.5/7119.5A Town of Preston, Connecticut

AREA DESCRIPTION

Existing Land Use & Resource Areas

- Undeveloped, forest
- Residential
- Agriculture
- Eversource Owned Property
- 100-Year Flood Zone
- Natural Diversity Database Area

OFF - RIGHT-OF-WAY DESCRIPTION

Off-Right-of-Way ("ROW") Land Use & Resource Areas

- Existing, maintained access road
- Eversource Owned Property
- Natural Diversity Database Area

Water Resources

- None.

Wetland and Watercourse Crossings

- None.

Off-Right-of-Way Vegetation

- None.

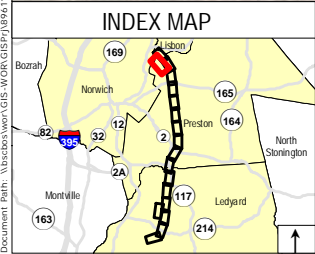
Access

- To Structures 7117/7117A – 7119.5/7119.5A from Roosevelt Avenue

Road Crossings

- None.

ABUTTERS TO THE PROJECT RIGHT-OF-WAY			
<u>LLN Number</u>	<u>Parcel Address</u>	<u>Town</u>	<u>Owner Name</u>
225A-095	59 ROOSEVELT AVENUE EXTENSION	PRESTON	JOHN JORSZ
225A-100	72A ROOSEVELT AVENUE EXTENSION	PRESTON	CONNECTICUT LIGHT AND POWER CO. (EVERSOURCE)
225A-103	68 ROOSEVELT AVENUE EXTENSION	PRESTON	JOHN GOOD LIVING TRUST AND JOAN M GOOD



Legend	
● Existing Structure	○ Existing Structure to be Removed
— Existing Eversource OH Line	— Proposed OH Line
— OH Line to be Removed	— Existing Access Road
— Off-ROW Access Rights Pending	— Proposed Road
— Hiking Trail	— Stone Work Pad
— Existing Gravel	— Temporary Construction Matting
— Delineated Intermittent Watercourse	— Delineated Drainage Basin
— Delineated Lake/Pond/Pool	— Delineated Perennial Watercourse
— Watercourse (not delineated)	—
— Open Water	— Field Delineated Wetland Boundary
— Field Delineated Wetland	— Approximate Wetland (not delineated)
— Delineated Edge of Vernal Pool	— Confirmed Vernal Pool Extent
— Potential Vernal Pool Extent	— 100' Vernal Pool Envelope
— FEMA Floodway	—
— FEMA 100-Year Flood Zone	— NE Cottontail Focus Area
— Natural Diversity Database Area (Dec 2021)	— Critical Habitat Polygon
— Groton Reservoir System Public Watershed	— Town of Ledyard's Glacial Park
— Eversource Owned Property	— Existing Right-of-Way (ROW)
— Line List Parcel	—
— Line List Label	— Municipal Boundaries
— Gate	— Culvert
— Area of Limited Tree Removal	— Guardrail
— Stone Wall	— Fence
— Turn Around Location	— Proposed Parking Lot
— 5' Contour Line	—

NO.	DATE	REVISIONS

EVERSOURCE

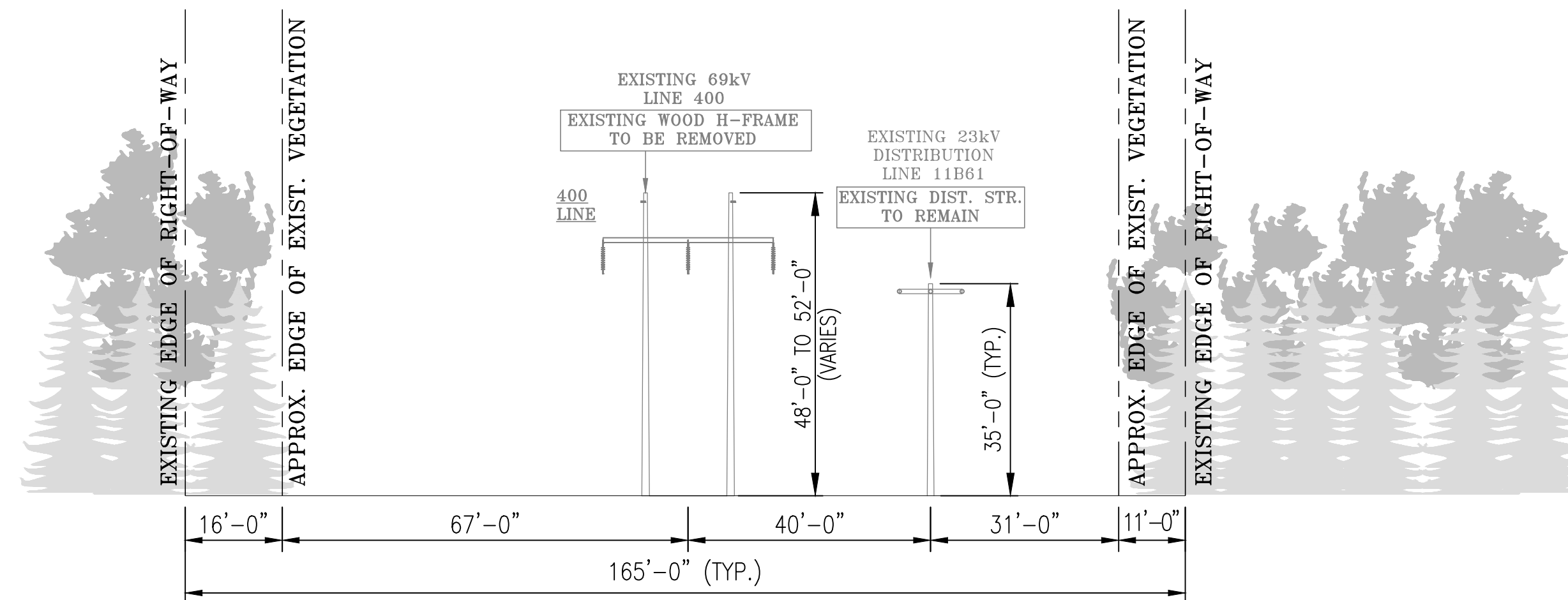
400/500 Line Rebuild Project

Preston, CT MAP SHEET 16-1 of 16

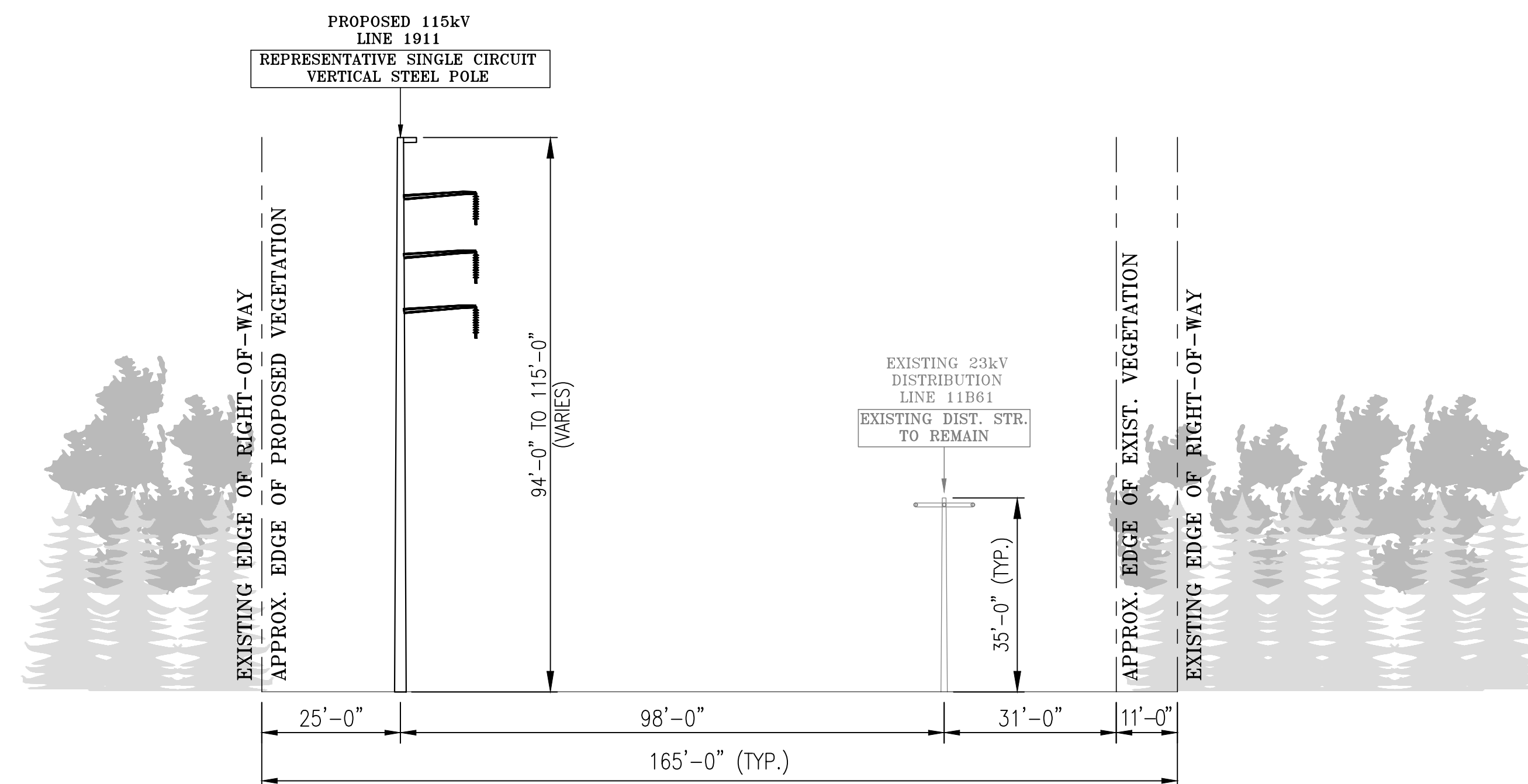
Date: February, 2022

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Attachment B: 400/500 Lines – Right-of-Way Cross Sections



**EXISTING R.O.W. CONFIGURATION
SINGLE CIRCUIT HORIZONTAL DESIGN
LOOKING FROM LEDYARD JUNCTION TO TUNNEL SUBSTATION
IN THE TOWN OF LEDYARD, CT
0.29 MILES, STR. #7037 - STR. #7039**

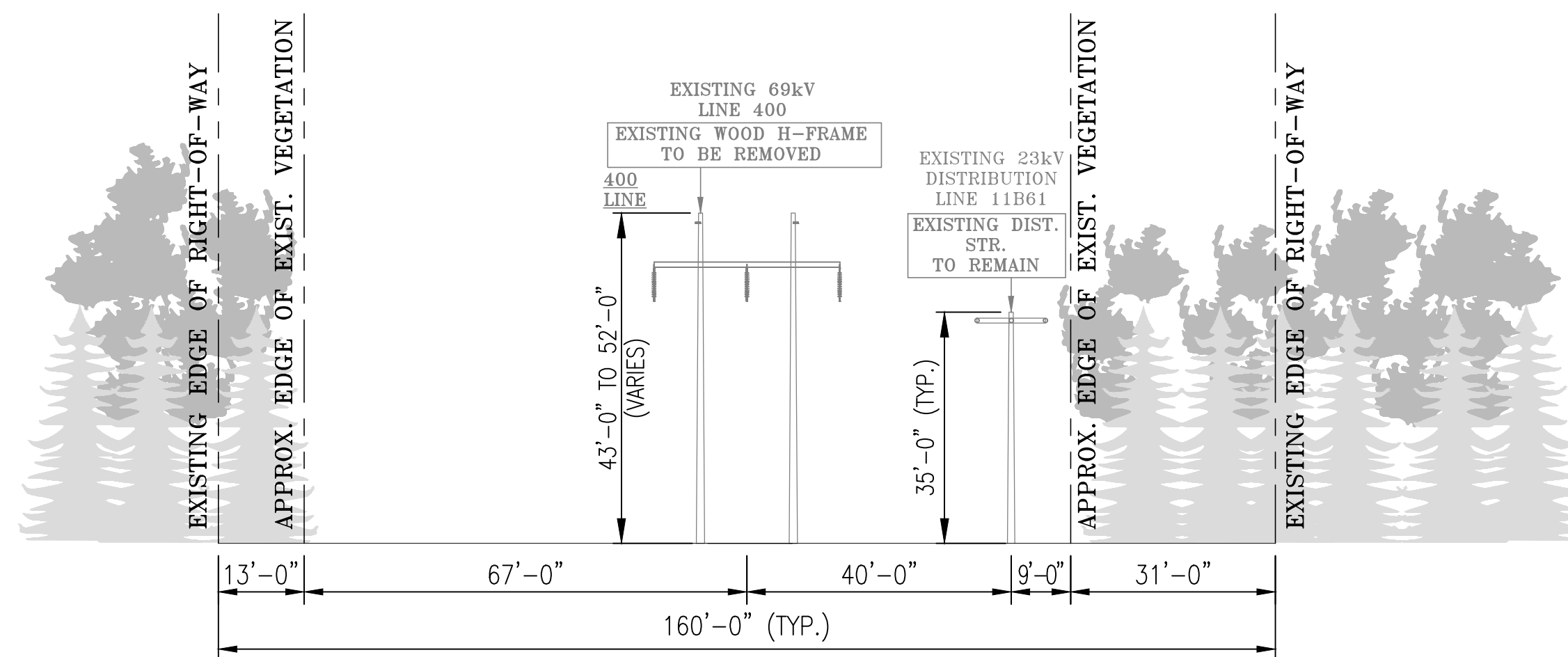


**PROPOSED R.O.W. CONFIGURATION
NO ADDITIONAL RIGHT-OF-WAY REQUIRED
SINGLE CIRCUIT VERTICAL DESIGN
LOOKING FROM LEDYARD JUNCTION TO TUNNEL SUBSTATION
IN THE TOWN OF LEDYARD, CT
0.29 MILES, STR. #7037 - STR. #7039**

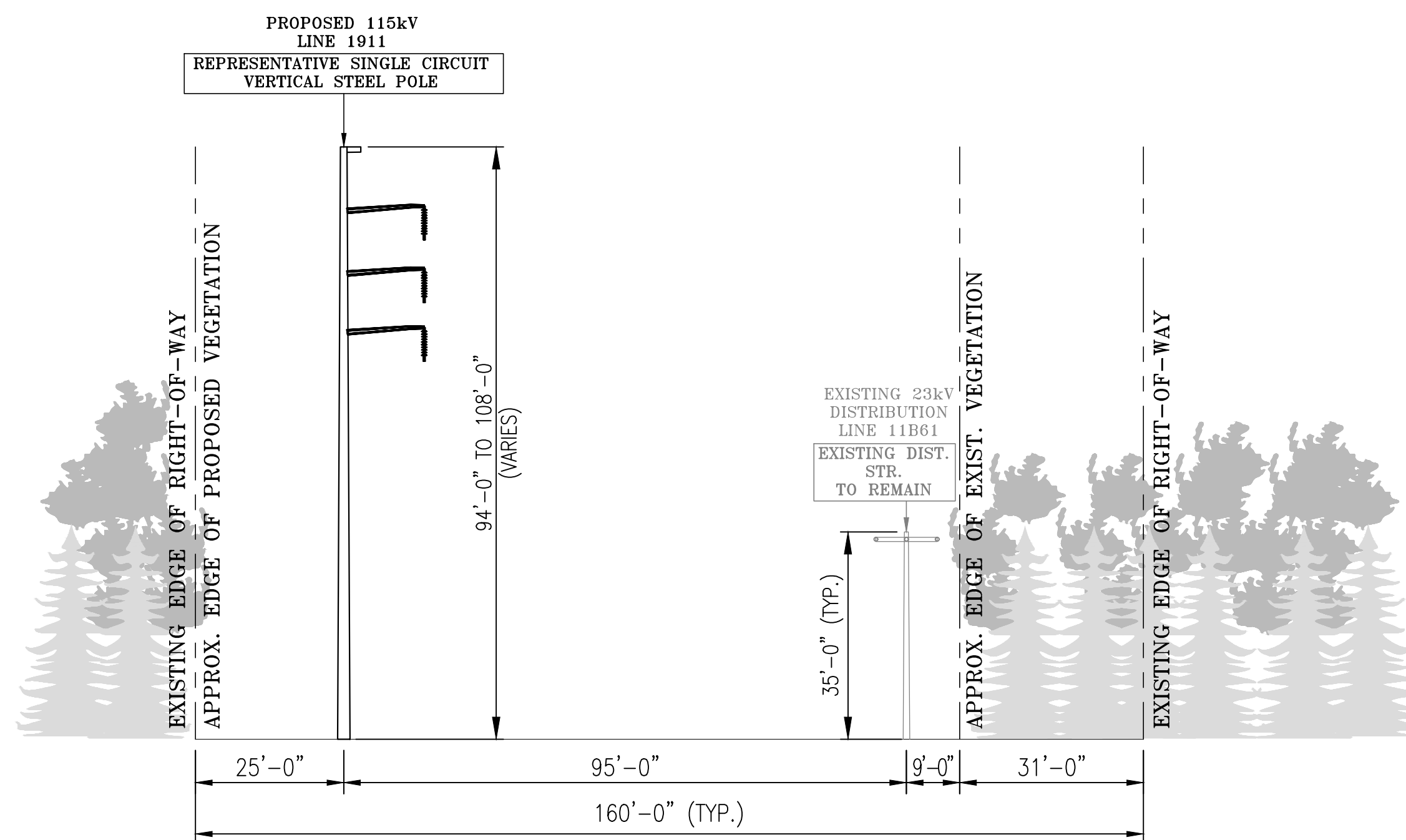
XS-1

**EVERSOURCE
ENERGY**

TITLE				LEDYARD JCT. - TUNNEL S/S 115kV TRANSMISSION LINE ROW CROSS SECTION STR. #7037 - STR. #7039 LEDYARD, CONNECTICUT			
BY	GEB	CHKD	MIG	APP	DWW	APP	TJJ
DATE	09/30/21	DATE	09/30/21	DATE	09/30/21	DATE	09/30/21
H-SCALE	N.T.S.	SIZE	D	FIELD BOOK & PAGES			
V-SCALE	N.T.S.	V.S.		R.E. DWG			
R.E. PROJ. NUMBER	40513301 / 40520701			DWG. NO.	01062-85007p001		



**EXISTING R.O.W. CONFIGURATION
SINGLE CIRCUIT HORIZONTAL DESIGN
LOOKING FROM LEDYARD JUNCTION TO TUNNEL SUBSTATION
IN THE TOWN OF LEDYARD, CT
0.33 MILES, STR. #7040 - STR. #7042**

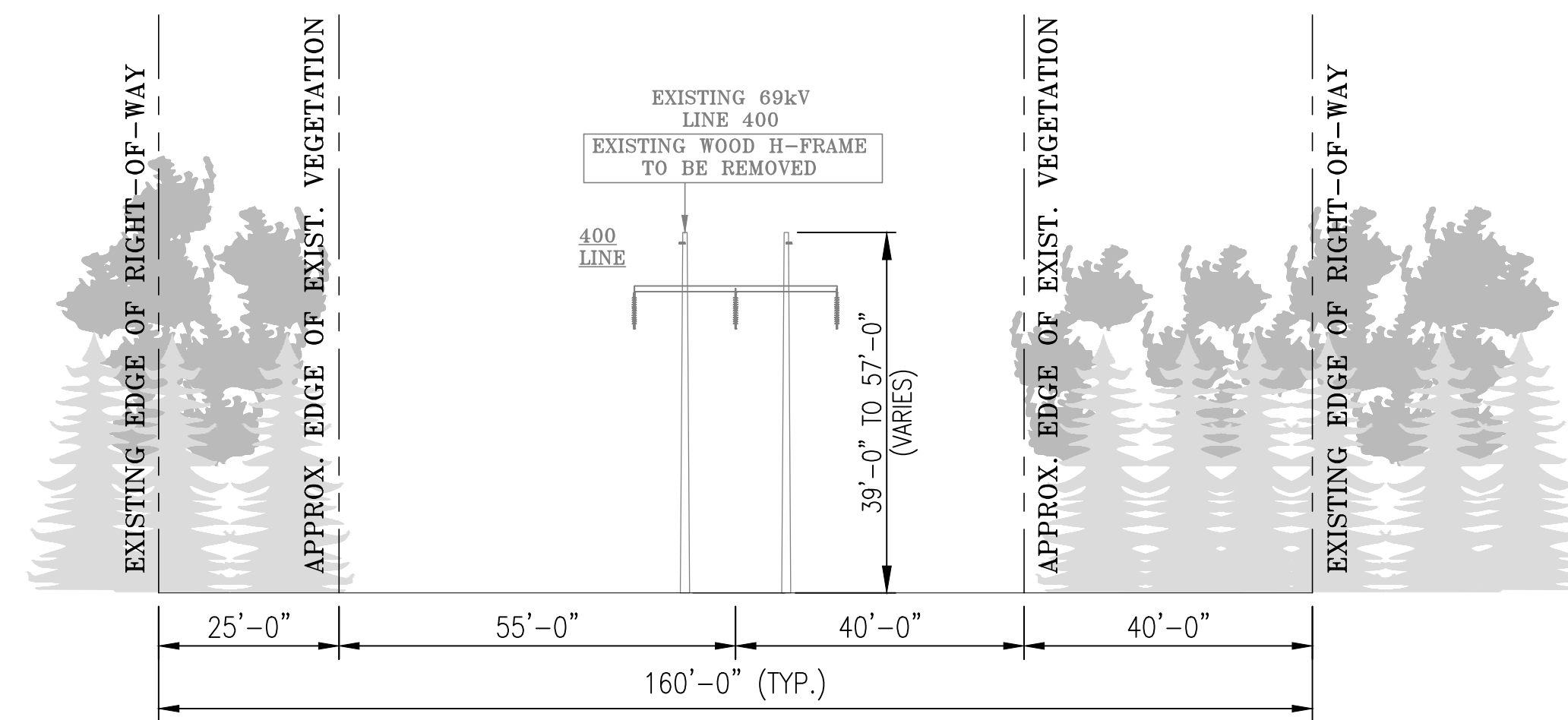


**PROPOSED R.O.W. CONFIGURATION
NO ADDITIONAL RIGHT-OF-WAY REQUIRED
SINGLE CIRCUIT VERTICAL DESIGN
LOOKING FROM LEDYARD JUNCTION TO TUNNEL SUBSTATION
IN THE TOWN OF LEDYARD, CT
0.33 MILES, STR. #7040 - STR. #7042**

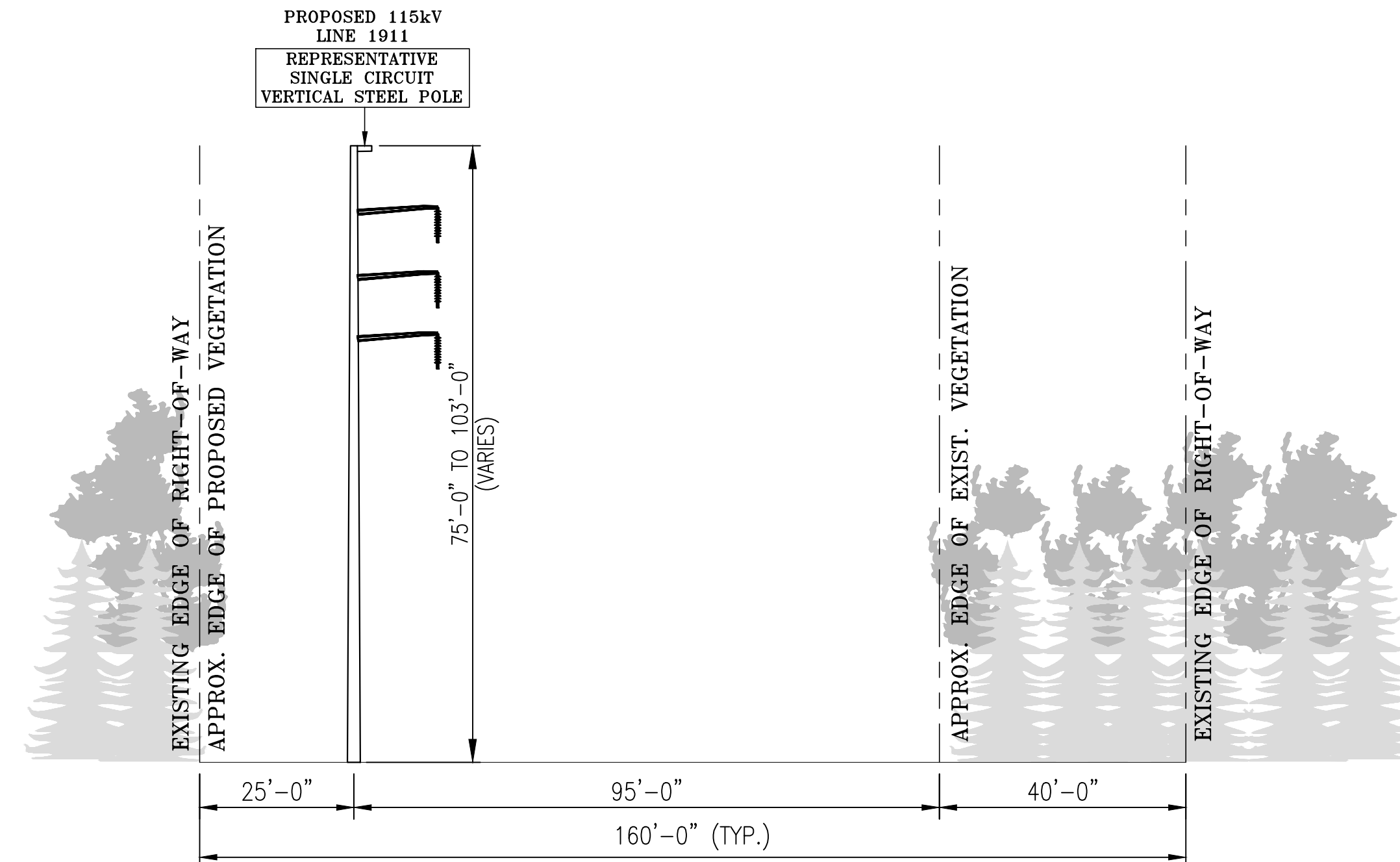
XS-2

**EVERSOURCE
ENERGY**

TITLE				LEDYARD JCT. - TUNNEL S/S 115kV TRANSMISSION LINE ROW CROSS SECTION STR. #7040 - STR. #7042 LEDYARD, CONNECTICUT			
BY	GEB	CHKD	MIG	APP	DWW	APP	TJJ
DATE	09/30/21	DATE	09/30/21	DATE	09/30/21	DATE	09/30/21
H-SCALE	N.T.S.	SIZE	D	FIELD BOOK & PAGES			
V-SCALE	N.T.S.	V.S.		R.E. DWG			
R.E. PROJ. NUMBER	40513301 / 40520701			DWG NO.	01062-85007p002		



**EXISTING R.O.W. CONFIGURATION
SINGLE CIRCUIT HORIZONTAL DESIGN
LOOKING FROM LEDYARD JUNCTION TO TUNNEL SUBSTATION
IN THE TOWN OF LEDYARD, CT
1.05 MILES, STR. #7043 - STR. #7053**

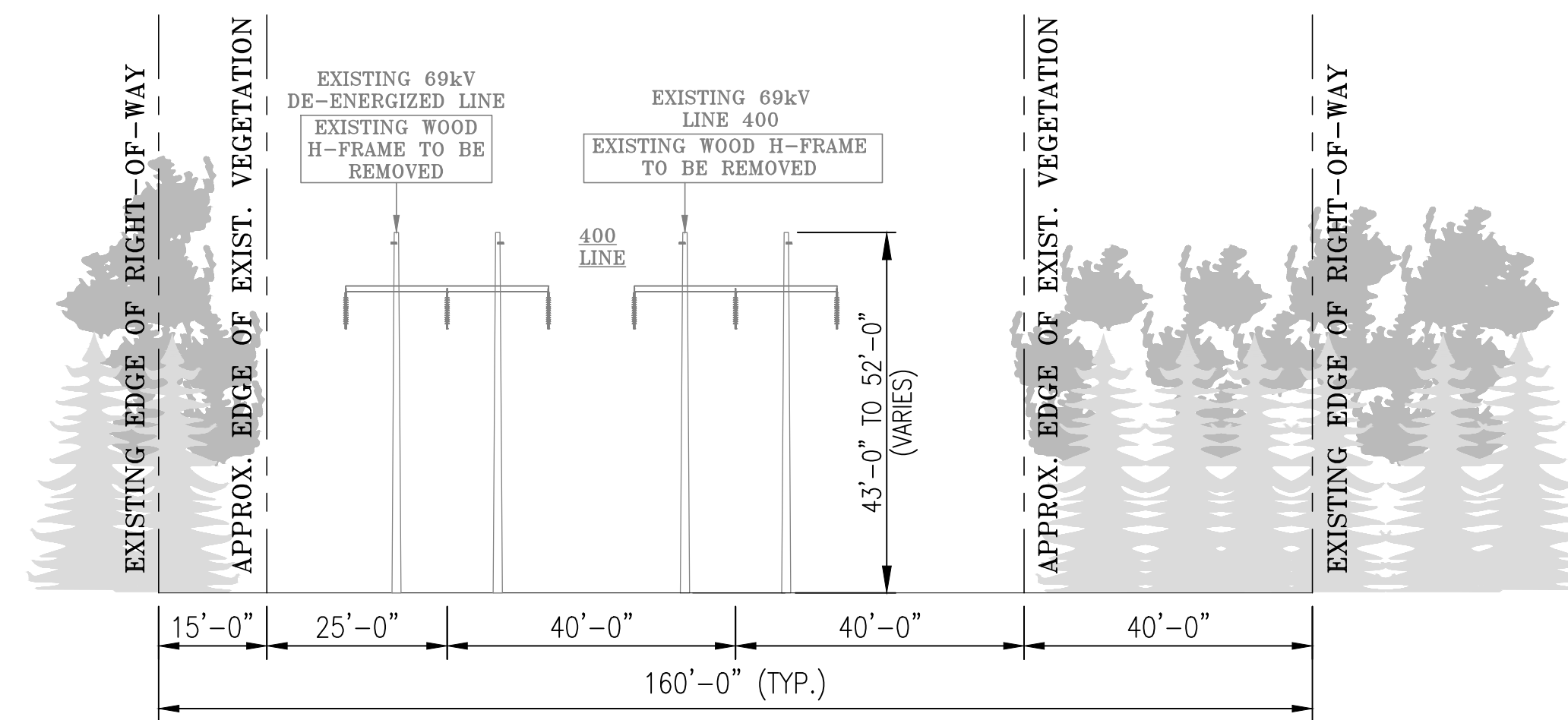


**PROPOSED R.O.W. CONFIGURATION
NO ADDITIONAL RIGHT-OF-WAY REQUIRED
SINGLE CIRCUIT VERTICAL DESIGN
LOOKING FROM LEDYARD JUNCTION TO TUNNEL SUBSTATION
IN THE TOWN OF LEDYARD, CT
1.05 MILES, STR. #7043 - STR. #7053**

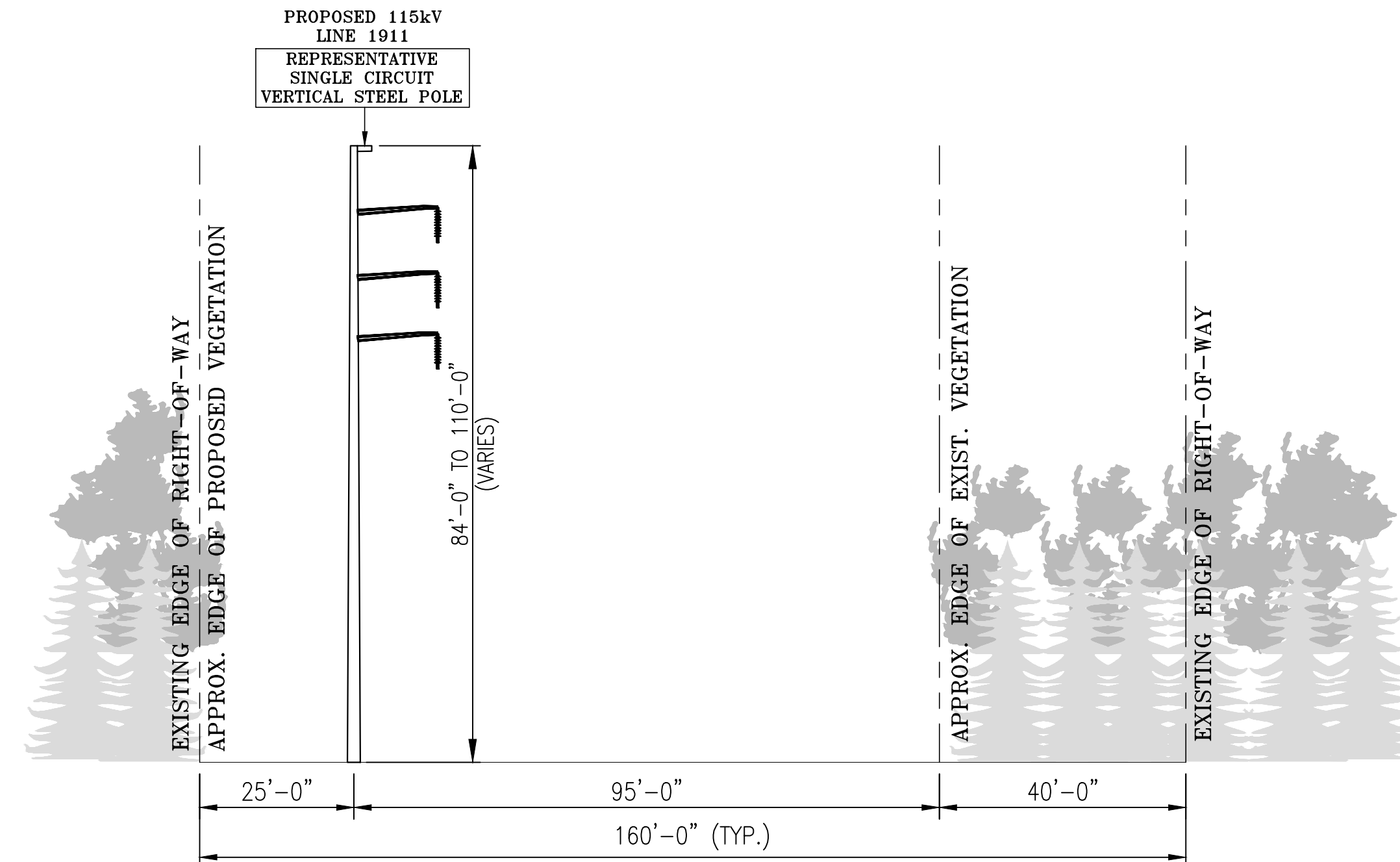
XS-3

**EVERSOURCE
ENERGY**

TITLE				LEDYARD JCT. - TUNNEL S/S 115kV TRANSMISSION LINE ROW CROSS SECTION STR. #7043 - STR. #7053 LEDYARD, CONNECTICUT			
BY	GEB	CHKD	MIG	APP	DWW	APP	TJJ
DATE	09/30/21	DATE	09/30/21	DATE	09/30/21	DATE	09/30/21
H-SCALE	N.T.S.	SIZE	D	FIELD BOOK & PAGES			
V-SCALE	N.T.S.	V.S.		R.E. DWG			
R.E. PROJ. NUMBER	40513301 / 40520701			DWG. NO.	01062-85007p003		



**EXISTING R.O.W. CONFIGURATION
SINGLE CIRCUIT HORIZONTAL DESIGN
LOOKING FROM LEDYARD JUNCTION TO TUNNEL SUBSTATION
IN THE TOWN OF LEDYARD, CT
1.81 MILES, STR. #7054 - STR. #7070**

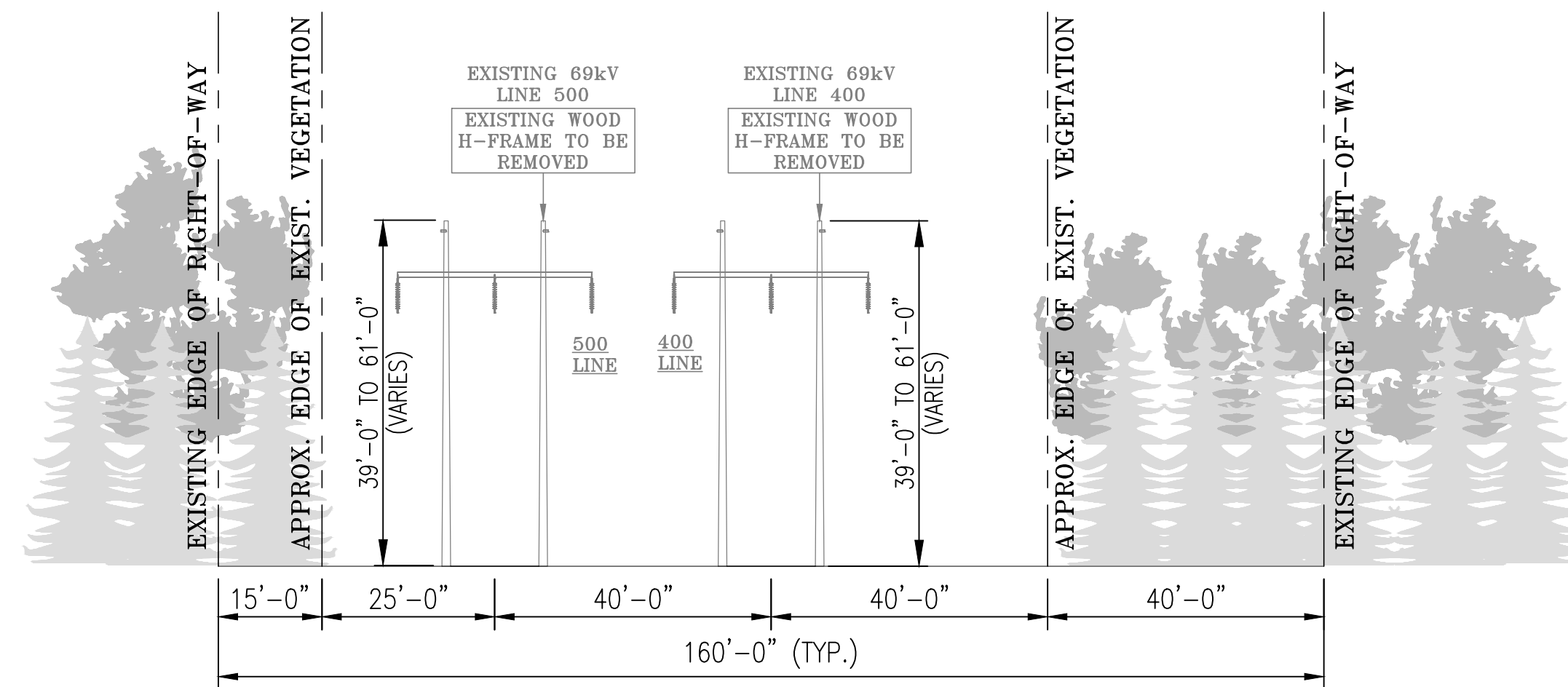


**PROPOSED R.O.W. CONFIGURATION
NO ADDITIONAL RIGHT-OF-WAY REQUIRED
SINGLE CIRCUIT VERTICAL DESIGN
LOOKING FROM LEDYARD JUNCTION TO TUNNEL SUBSTATION
IN THE TOWN OF LEDYARD, CT
1.81 MILES, STR. #7054 - STR. #7070**

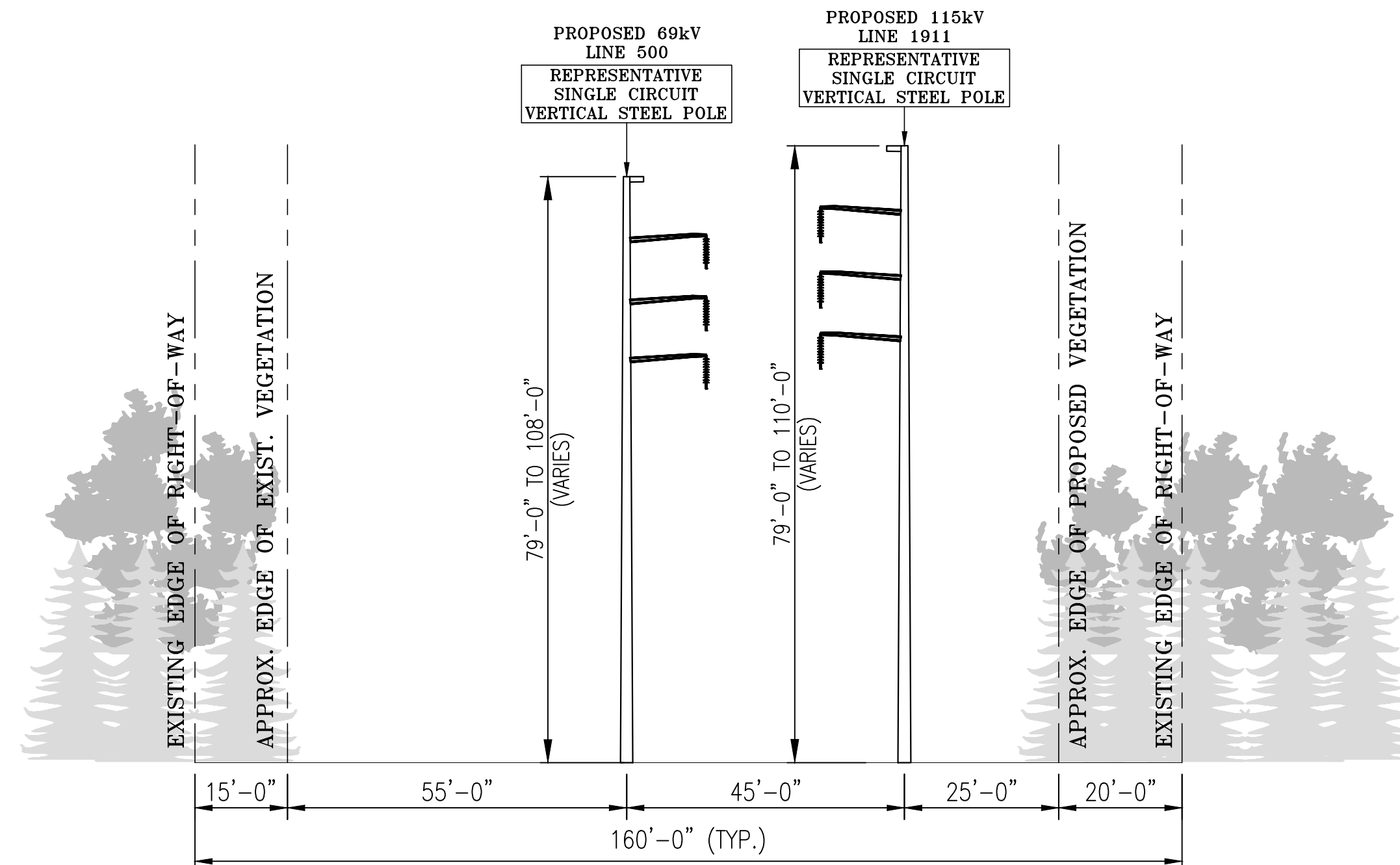
XS-4

**EVERSOURCE
ENERGY**

TITLE						LEDYARD JCT. - TUNNEL S/S 115kV TRANSMISSION LINE ROW CROSS SECTION STR. #7054 - STR. #7070 LEDYARD, CONNECTICUT					
BY	GEB	CHKD	MIG	APP	DWW	APP	TJJ	DATE	09/30/21	DATE	09/30/21
H-SCALE	N.T.S.	SIZE	D	FIELD BOOK & PAGES							
V-SCALE	N.T.S.	V.S.		R.E. DWG							
R.E. PROJ. NUMBER	40513301 / 40520701				DWG NO.	01062-85007p004					



**EXISTING R.O.W. CONFIGURATION
SINGLE CIRCUIT HORIZONTAL DESIGN
LOOKING FROM LEDYARD JUNCTION TO TUNNEL SUBSTATION
IN THE TOWN OF PRESTON, CT
3.57 MILES, STR. #7071 - STR. #7105**

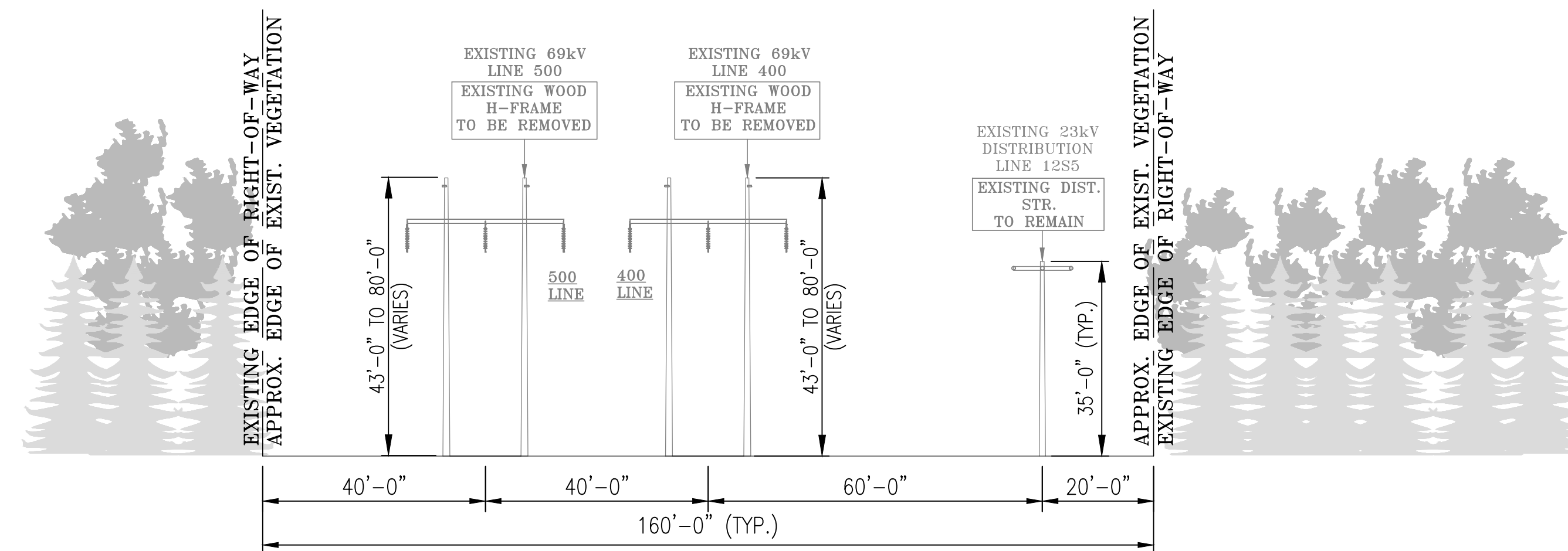


**PROPOSED R.O.W. CONFIGURATION
NO ADDITIONAL RIGHT-OF-WAY REQUIRED
SINGLE CIRCUIT VERTICAL DESIGN
LOOKING FROM LEDYARD JUNCTION TO TUNNEL SUBSTATION
IN THE TOWN OF PRESTON, CT
3.57 MILES, STR. #7071 - STR. #7105**

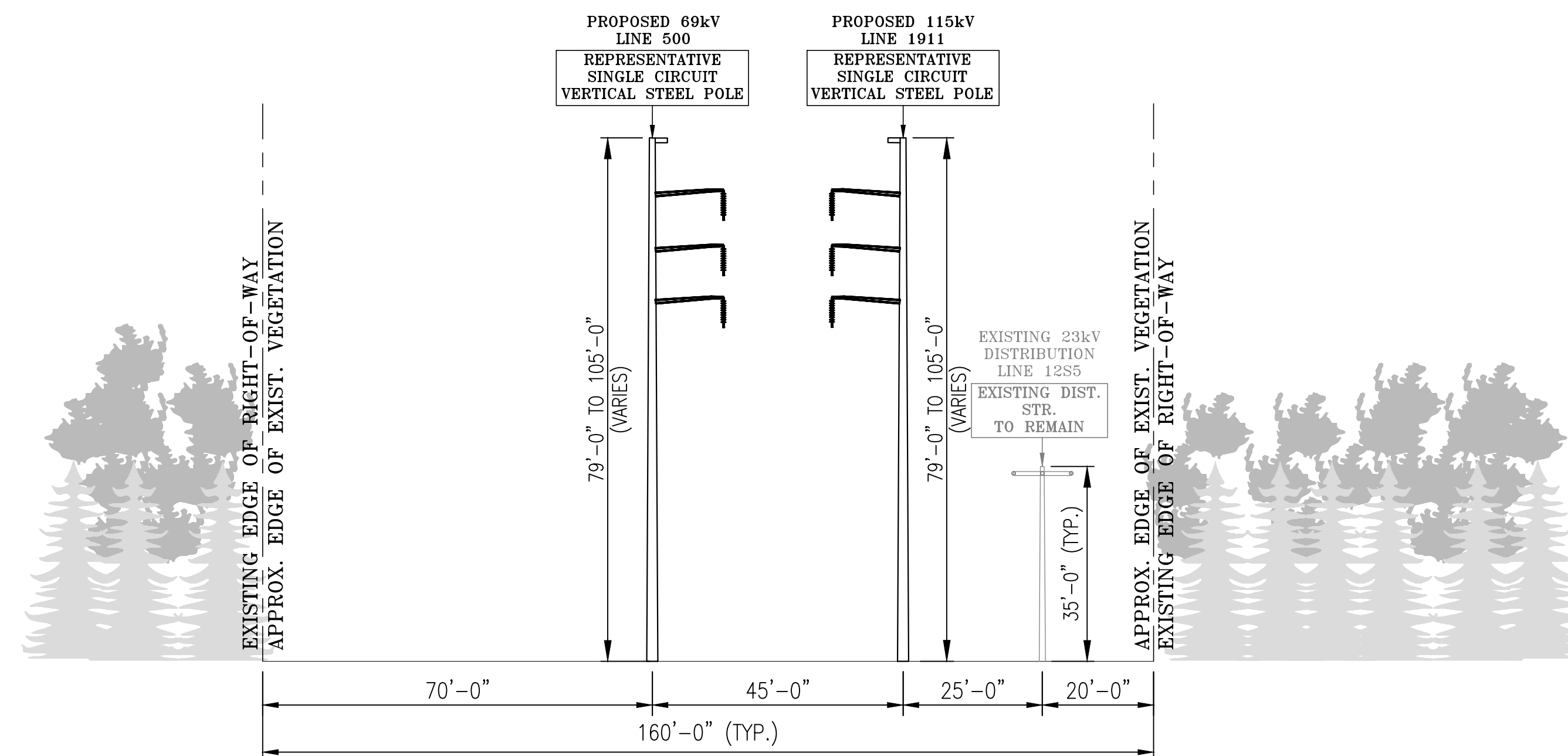
XS-5

EVERSOURCE ENERGY

TITLE						LEDYARD JCT. - TUNNEL S/S 115kV TRANSMISSION LINE ROW CROSS SECTION STR. #7071 - STR. #7105 PRESTON, CONNECTICUT									
BY	GEB	CHKD	MIG	APP	DWW	APP	TJJ	DATE	09/30/21	DATE	09/30/21	DATE	09/30/21	DATE	09/30/21
H-SCALE	N.T.S.	SIZE	D	FIELD BOOK & PAGES											
V-SCALE	N.T.S.	V.S.		R.E. DWG											
R.E. PROJ. NUMBER	40513301 / 40520701			DWG NO.		01062-85007p005									



**EXISTING R.O.W. CONFIGURATION
SINGLE CIRCUIT HORIZONTAL DESIGN
LOOKING FROM LEDYARD JUNCTION TO TUNNEL SUBSTATION
IN THE TOWN OF PRESTON, CT
1.33 MILES, STR. #7106 - STR. #7119**

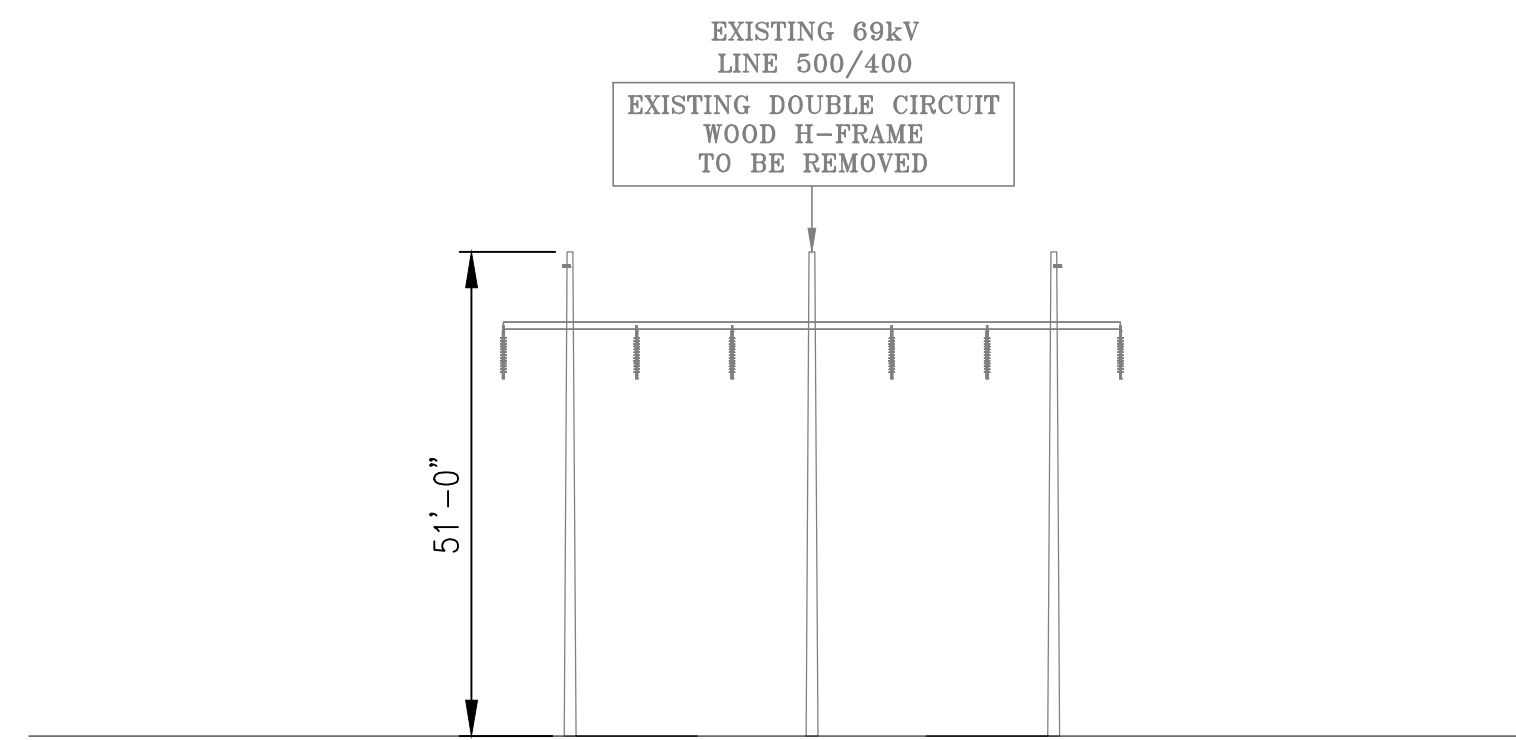


**PROPOSED R.O.W. CONFIGURATION
NO ADDITIONAL RIGHT-OF-WAY REQUIRED
SINGLE CIRCUIT VERTICAL DESIGN
LOOKING FROM LEDYARD JUNCTION TO TUNNEL SUBSTATION
IN THE TOWN OF PRESTON, CT
1.33 MILES, STR. #7106 - STR. #7119**

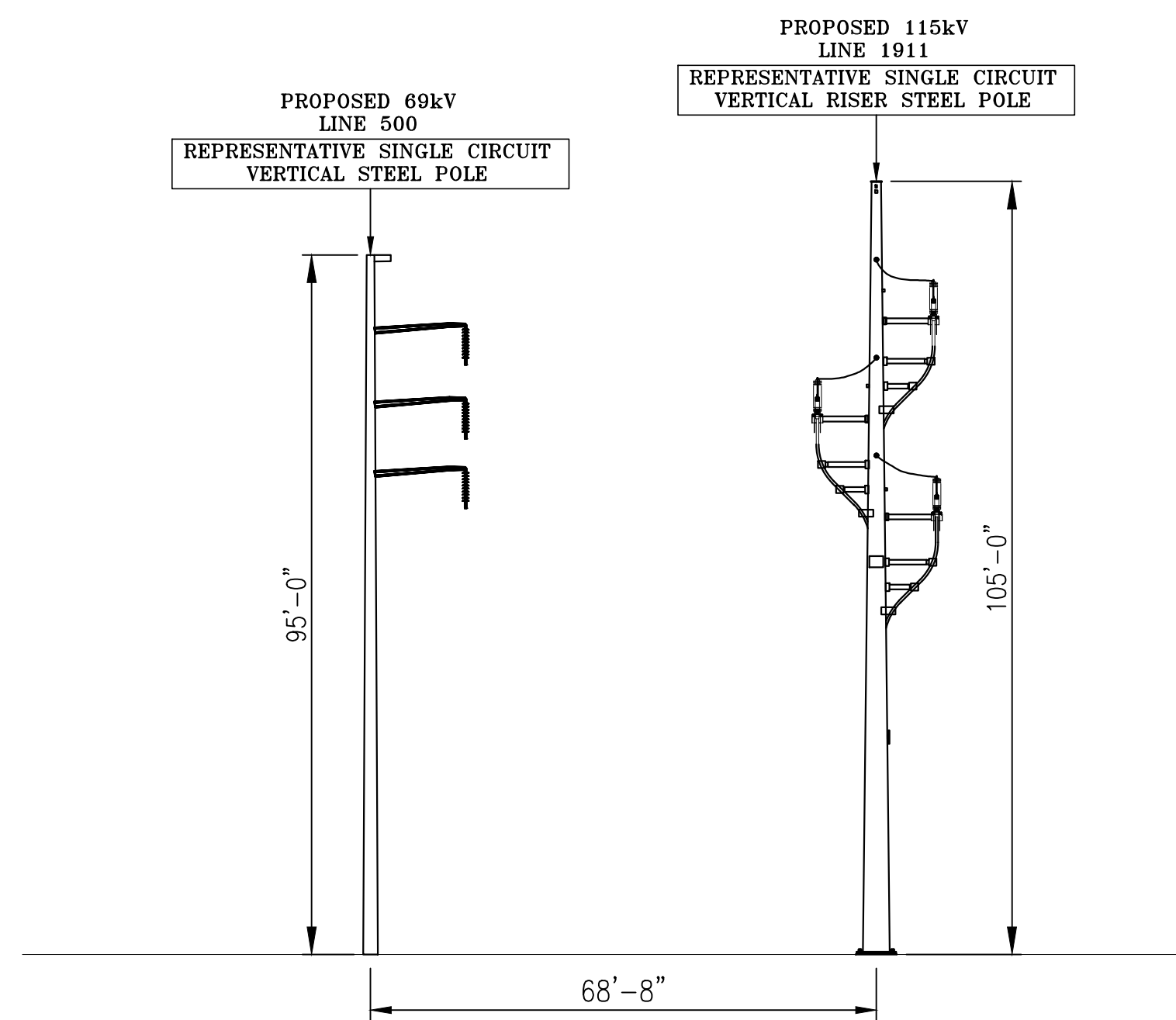
XS-6

**EVERSOURCE
ENERGY**

TITLE						LEDYARD JCT. - TUNNEL S/S 115kV TRANSMISSION LINE ROW CROSS SECTION STR. #7106 - STR. #7119 PRESTON, CONNECTICUT									
BY	GEB	CHKD	MIG	APP	DWW	APP	TJJ	DATE	09/30/21	DATE	09/30/21	DATE	09/30/21	DATE	09/30/21
H-SCALE	N.T.S.					SIZE	D					FIELD BOOK & PAGES			
V-SCALE	N.T.S.					V.S.						R.E. DWG			
R.E. PROJ. NUMBER	40513301 / 40520701					DWG. NO.	01062-85007p006								



**EXISTING CONFIGURATION
DOUBLE CIRCUIT HORIZONTAL DESIGN
LOOKING FROM LEDYARD JUNCTION TO TUNNEL SUBSTATION
IN THE TOWN OF PRESTON, CT
STR. #7119.5**



**PROPOSED CONFIGURATION
SINGLE CIRCUIT VERTICAL DESIGN
LOOKING FROM LEDYARD JUNCTION TO TUNNEL SUBSTATION
IN THE TOWN OF PRESTON, CT
STR. #7119.5 & STR. #7119.5A**

XS-7

EVERSOURCE
ENERGY

TITLE						LEDYARD JCT. - TUNNEL S/S 115kV TRANSMISSION LINE ROW CROSS SECTION STR. #7119.5 & STR. #7119.5A PRESTON, CONNECTICUT									
BY	GEB	CHKD	MIG	APP	DWW	APP	TJJ	DATE	09/30/21	DATE	09/30/21	DATE	09/30/21	DATE	09/30/21
H-SCALE	N.T.S.	SIZE	D	FIELD BOOK & PAGES											
V-SCALE	N.T.S.	V.S.		R.E. DWG											
R.E. PROJ. NUMBER	40513301 / 40520701				DWG NO.	01062-85007p007									

Attachment C: List of Structure Replacements

Line 400 - Work List
400/500 Rebuild
Rev.1
2021-09-07

		Existing	Proposed	
Str #	Town	Nominal Ht AGL (feet)	Nominal Height AGL	Delta
7037	Ledyard	52	95	43
7038	Ledyard	47.5	93	45.5
7039	Ledyard	52	115	63
7040	Ledyard	43	100	57
7041	Ledyard	47.5	93	45.5
7042	Ledyard	52	106.5	54.5
7043	Ledyard	43	75	32
7044	Ledyard	38.5	75	36.5
7045	Ledyard	52	102	50
7046	Ledyard	47.5	88.5	41
7047	Ledyard	56.5	100	43.5
7048	Ledyard	56.5	93	36.5
7049	Ledyard	56.5	97.5	41
7050	Ledyard	43	84	41
7051	Ledyard	38.5	75	36.5
7052	Ledyard	52	93	41

7053	Ledyard	52	93	41
7054	Ledyard	52	97.5	45.5
7055	Ledyard	43	88.5	45.5
7056	Ledyard	43	102	59
7057	Ledyard	52	88.5	36.5
7058	Ledyard	52	88.5	36.5
7059	Ledyard	47.5	88.5	41
7060	Ledyard	47.5	110	62.5
7061	Ledyard	52	93	41
7062	Ledyard	43	84	41
7063	Ledyard	43	84	41
7064	Ledyard	52	88.5	36.5
7065	Ledyard	52	97.5	45.5
7066	Ledyard	52	93	41
7067	Ledyard	47.5	84	36.5
7068	Preston	47.5	97.5	50
7069	Preston	43	102	59
7070	Preston	43	110	67
7071	Preston	47.5	110	62.5
7072	Preston	52	106.5	54.5
7073	Preston	47.5	110	62.5
7074	Preston	52	93	41
7075	Preston	56.5	88.5	32

7076	Preston	61	97.5	36.5
7077	Preston	52	79.5	27.5
7078	Preston	38.5	79.5	41
7079	Preston	47.5	90	42.5
7080	Preston	43	84	41
7081	Preston	43	84	41
7082	Preston	47.5	88.5	41
7083	Preston	43	97.5	54.5
7084	Preston	47.5	93	45.5
7085	Preston	52	84	32
7086	Preston	47.5	97.5	50
7087	Preston	47.5	106.5	59
7088	Preston	47.5	97.5	50
7089	Preston	47.5	110	62.5
7090	Preston	52	106.5	54.5
7091	Preston	52	102	50
7092	Preston	52	102	50
7093	Preston	43	106.5	63.5
7094	Preston	47.5	88.5	41
7095	Preston	52	88.5	36.5
7096	Preston	43	102	59
7097	Preston	47.5	100	52.5

7098	Preston	52	106.5	54.5
7099	Preston	47.5	106.5	59
7100	Preston	47.5	97.5	50
7101	Preston	52	102	50
7102	Preston	43	84	41
7103	Preston	38.5	84	45.5
7104	Preston	52	97.5	45.5
7105	Preston	56.5	102	45.5
7106	Preston	56.5	97.5	41
7107	Preston	52	97.5	45.5
7108	Preston	52	105	53
7109	Preston	52	97.5	45.5
7110	Preston	52	84	32
7111	Preston	52	85	33
7112	Preston	47.5	79.5	32
7113	Preston	47.5	84	36.5
7114	Preston	56.5	93	36.5
7115	Preston	56.5	97.5	41
7116	Preston	56.5	97.5	41
7117	Preston	52	84	32
7118	Preston	43	95	52
7119	Preston	80	95	15

7120	Preston	43	105	62
Tunnel S/S	Preston	N/A	N/A	
AVERAGE				45.3

Line 500 - Work List
400/500 Rebuild
Rev.0
2021-09-07

		Existing	Proposed	
Str #	Town	Nominal Height AGL	Nominal Height AGL	Delta
7071A	Preston	47.5	80	32.5
7072A	Preston	52	80	28
7073A	Preston	52	105	53
7074A	Preston	52	97.5	45.5
7075A	Preston	56.5	88.5	32
7076A	Preston	61	97.5	36.5
7077A	Preston	52	84	32
7078A	Preston	43	79.5	36.5
7079A	Preston	47.5	80	32.5
7080A	Preston	43	88.5	45.5
7081A	Preston	43	84	41
7082A	Preston	52	84	32
7083A	Preston	43	93	50
7084A	Preston	38.5	97.5	59
7085A	Preston	47.5	88.5	41
7086A	Preston	43	97.5	54.5
7087A	Preston	52	97.5	45.5

7088A	Preston	43	84	41
7089A	Preston	52	102	50
7090A	Preston	52	106.5	54.5
7091A	Preston	52	102	50
7092A	Preston	47.5	102	54.5
7093A	Preston	52	106.5	54.5
7094A	Preston	43	88.5	45.5
7095A	Preston	47.5	88.5	41
7096A	Preston	47.5	102	54.5
7097A	Preston	47.5	100	52.5
7098A	Preston	38.5	106.5	68
7099A	Preston	47.5	106.5	59
7100A	Preston	47.5	102	54.5
7101A	Preston	52	106.5	54.5
7102A	Preston	43	84	41
7103A	Preston	43	84	41
7104A	Preston	52	97.5	45.5
7105A	Preston	52	102	50
7106A	Preston	56.5	97.5	41
7107A	Preston	56.5	93	36.5
7108A	Preston	52	105	53
7109A	Preston	52	97.5	45.5
7110A	Preston	52	93	41

7111A	Preston	52	85	33
7112A	Preston	47.5	79.5	32
7113A	Preston	47.5	84	36.5
7114A	Preston	56.5	93	36.5
7115A	Preston	56.5	97.5	41
7116A	Preston	56.5	102	45.5
7117A	Preston	52	84	32
7118A	Preston	47.5	95	47.5
7119A	Preston	80	95	15
7120A	Preston	43	95	52
Tunnel S/S	Preston	N/A	N/A	
AVERAGE				43.93

Attachment D: Wetlands and Watercourses Report



Inland Wetlands and Watercourses Report

Prepared:	September 30, 2021
Prepared for:	Eversource Energy 107 Selden Street Berlin, CT 06037 Attn: Andrew Lord
Eversource Project Name:	400/500 Line Rebuild Project
Project Location:	Preston and Ledyard, Connecticut
Survey Dates:	October – December 2020; June and September 2021

Wetland and watercourse delineation performed by¹:

BSC Group, Inc.

Jake Bartha
Qualified Soil Scientist

¹Wetlands and watercourses were delineated by BSC soil scientists Jake Bartha and Ethan Sneesby, assisted by wetland scientists Marc Smith, Kira McCall, Truman Cavallaro, Conor Gilbertson, and Samantha Walker

Executive Summary:

On behalf of Eversource Energy (Eversource), BSC Group, Inc. (BSC) conducted inland wetland and watercourse delineations within an existing right-of-way between the Ledyard Junction in Preston, Connecticut, the Hallville Junction in Ledyard, Connecticut, and the Tunnel Substation in Ledyard, Connecticut. The delineations were conducted in October, November, and December 2020 and in support of Eversource's 400/500 Line Structure Replacement and OPGW Rebuild Project (Project).

BSC Group identified the following inland wetlands and watercourses within the Project area during the delineation surveys:

- 9 watercourses, consisting of:
 - 6 intermittent streams, and
 - 3 perennial streams.
- 42 inland wetlands, consisting of:
 - 19 palustrine scrub/shrub wetlands,
 - 19 palustrine forested wetlands, and
 - 4 palustrine emergent wetlands.

Resources delineated for the Project area are described in **Table 1** and **Table 2**. The pond identified during investigations is the Hallville Pond. Wetland Determination Data Forms for resources delineated in October, November, and December 2020 are appended.

Field Conditions:

The state of Connecticut was experiencing a documented drought during the time of the investigations. Drought conditions at the Project area were classified as D3 – Extreme Drought, D2 – Severe Drought, D1 – Moderate Drought, and D0 – Abnormally Dry, according to the National Integrated Drought Information System (www.drought.gov) over the course of the investigation period. No precipitation occurred within 48 hours prior to the investigation.

Delineation Methodology:

Wetlands and watercourses were delineated in accordance with state and/or federal wetland criteria pursuant to the Connecticut Inland Wetlands and Watercourses Act: Section 22a-36 through Section 22a-45, the Corps of Engineers Wetlands Delineations Manual (Environmental Laboratory, 1987), and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0) (USACE, 2012). The limits of streams were established based on the USACE's definition of the ordinary high-water mark provided at 33CFR 328.3. Vernal Pools were identified during field work in May 2021 using aural and visual methods including dip net surveys. Vernal pools were assessed using both the Connecticut Department of Energy and Environmental Protection (CT DEEP) and USACE definitions as guidance. Obligate vernal pool species were documented and released when encountered during the vernal pool surveys. The results of the Vernal Pool survey can be found in Table 1 within the vernal pool report.

Results:

Table 1: Delineated Wetlands Within the 400/500 Line Structure Replacement and OPGW Rebuild Project Area

WetlandName ¹	NWI Classification ²	Associated Watercourses ³	Soil Map Units Within Delineated Wetland	CT Inland Wetland Soil ⁴
W1, W2	PSS1	-	Ridgebury, Leicester, and Whitman soils, extremely stony	CT non-wetland
W3	PFO1	-	Narragansett silt loam, 3 to 15 percent slopes, extremely stony	CT non-wetland
W4	PSS1	-	Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes	CT non-wetland
W5, W10	PSS1	Billings Avery Brook	Scarboro muck	CT wetland
W6, W7, W9	PFO1	Billings Avery Brook	Scarboro muck	CT wetland
W8	PEM1	-	Agawam fine sandy loam, 3 to 8 percent slopes	CT non-wetland
W11	PSS1	-	Ridgebury, Leicester, and Whitman soils, extremely stony	CT wetland
W12, W13, W14	PFO1/ PSS1	Unnamed tributary to Joe Clark Brook	Ridgebury, Leicester, and Whitman soils, extremely stony	CT wetland
W15	PFO1	Joe Clark Brook	Rippowan fine sandy loam	CT wetland
W16	PFO1	Poquetanuck Brook	Rippowan fine sandy loam	CT wetland
W17, W20, W21, W22, W23, W25, W28, W34, W35, W36, W37, W38	PSS1	-	Charlton-Chatfield complex, 3 to 15 percent slopes, very rocky	CT non-wetland
W18, W19	PFO1	-	Charlton-Chatfield complex, 3 to 15 percent slopes, very rocky	CT non-wetland
W24, W26, W27, W28B, W29, W30, W31, W32	PFO1	-	Narragansett-Hollis complex, 3 to 15 percent slopes	CT non-wetland

W33, W39	PEM1	Unnamed tributary to Poquetanuck Brook	Timakwa and Natchaug soils	CT wetland
W40	PEM1	-	Ninigret and Tisbury soils, 0 to 5 percent slopes	CT wetland
W41	PSS1	Unnamed tributary to Quinebaug River	Ridgebury, Leicester, and Whitman soils, extremely stony	CT wetland

NOTES

¹Wetland name is a BSC Group generated naming convention during the 2020 field survey within the 400/500 Line Structure Replacement and OPGW Rebuild Project area.

²Wetlands classified according to *Classification of Wetlands and Deepwater Habitats of the United States, Second Edition* (FGDC, 2013); PSS1 = Palustrine Scrub/Shrub Broad-Leaved Deciduous; PEM1 = Palustrine Emergent Persistent; PFO1 = Palustrine Forested Broad-Leaved Deciduous

³Associated Watercourse refers to the name and stream type assigned during the 2020 field survey within the 400/500 Line Structure Replacement Project area.

⁴CT Inland Wetland Soil status is based upon GIS data maintained by the Connecticut branch of the Natural Resources Conservation Service (NRCS), accessible here: [Connecticut Inland Wetland Soils | NRCS Connecticut \(usda.gov\)](https://www.nrcs.usda.gov/wetlands/inland-wetland-soils)

Table 2: Delineated Watercourses Within the 400/500 Line Structure Replacement and OPGW Rebuild Project Area

Stream Name ¹	Flow Regime	NWI Classification ²	Stream Name	Ordinary High Water MarkWidth (ft)
S1	Perennial	R2UB1	Billings Avery Brook	7
S2	Intermittent	R4SB3	Unnamed tributary to Joe Clark Brook	4.5
S3	Perennial	R2UB1	Joe Clark Brook	12
S4	Intermittent	R4SB3	Unnamed tributary to Joe Clark Brook	4
S5	Intermittent	R4SB3	Unnamed tributary to Joe Clark Brook	2.5
S6	Intermittent	R4SB3	Unnamed tributary to Joe Clark Brook	2.5
S7	Perennial	R2UB1	Poquetanuck Brook	35
S8	Intermittent	R4SB3	Unnamed tributary to Bates Pond	6
S9	Intermittent	R4SB3	Unnamed tributary to Quinebaug River	2.5

NOTES

¹Stream name is a BSC generated naming convention during the 2020 field survey within the 400/500 Line Structure Replacement and OPGW Rebuild Project area.

²Streams classified according to *Classification of Wetlands and Deepwater Habitats of the United States, Second Edition* (FGDC, 2013); R4SB3 = Riverine Intermittent Streambed Cobble-Gravel; R2UB1 = Riverine Lower Perennial Unconsolidated Bottom Cobble-Gravel.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 400/500 Line Structure and OPGW Rebuild Project City/County: Ledyard/New London County Sampling Date: 10/21/2020-6/24/2021
 Applicant/Owner: Eversource Energy State: CT Sampling Point: W1, W2
 Investigator(s): BSC Wetland Scientists Section, Township, Range: NA
 Landform (hillside, terrace, etc.): Basin Local relief (concave, convex, none): Concave Slope (%): 0-5
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.440707 Long: -72.049417 Datum: WGS 1984
 Soil Map Unit Name: Ridgebury, Leicester, and Whitman soils, extremely stony NWI classification: PSS/PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation NO, Soil NO, or Hydrology NO 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>W1, W2</u>
Remarks: (Explain alternative procedures here or in a separate report.) Sampling point is representative of W2	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> </u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: W1, W2

	Absolute % Cover	Dominant Species?	Indicator Status																																	
Tree Stratum (Plot size: <u>30ft radius</u>)																																				
1. <u>Red maple</u>	<u>5</u>	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80.0%</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
<u>5</u> =Total Cover																																				
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)																																				
1. <u>Lonicera japonica</u>	<u>15</u>	Yes	FACU	Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="border-bottom: 1px solid black; width: 50px;"></td> <td style="text-align:right;">Multiply by:</td> <td style="border-bottom: 1px solid black; width: 50px;"></td> </tr> <tr> <td>OBL species</td> <td style="text-align:center;"><u>3</u></td> <td>x 1 =</td> <td style="text-align:center;"><u>3</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align:center;"><u>45</u></td> <td>x 2 =</td> <td style="text-align:center;"><u>90</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align:center;"><u>5</u></td> <td>x 3 =</td> <td style="text-align:center;"><u>15</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align:center;"><u>20</u></td> <td>x 4 =</td> <td style="text-align:center;"><u>80</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align:center;"><u>0</u></td> <td>x 5 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align:center;"><u>73</u></td> <td>(A)</td> <td style="text-align:center;"><u>188</u> (B)</td> </tr> <tr> <td colspan="4" style="text-align:right;">Prevalence Index = B/A = <u>2.58</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>3</u>	x 1 =	<u>3</u>	FACW species	<u>45</u>	x 2 =	<u>90</u>	FAC species	<u>5</u>	x 3 =	<u>15</u>	FACU species	<u>20</u>	x 4 =	<u>80</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>73</u>	(A)	<u>188</u> (B)	Prevalence Index = B/A = <u>2.58</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>3</u>	x 1 =	<u>3</u>																																	
FACW species	<u>45</u>	x 2 =	<u>90</u>																																	
FAC species	<u>5</u>	x 3 =	<u>15</u>																																	
FACU species	<u>20</u>	x 4 =	<u>80</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>73</u>	(A)	<u>188</u> (B)																																	
Prevalence Index = B/A = <u>2.58</u>																																				
2. <u>Vaccinium corymbosum</u>	<u>15</u>	Yes	FACW																																	
3. <u>Rosa multiflora</u>	<u>5</u>	No	FACU																																	
4. <u>Ilex verticillata</u>	<u>15</u>	Yes	FACW																																	
5. <u>Lyonia ligustrina</u>	<u>10</u>	No	FACW																																	
6. <u>Cephalanthus occidentalis</u>	<u>3</u>	No	OBL																																	
7. _____	_____	_____	_____																																	
<u>63</u> =Total Cover																																				
Herb Stratum (Plot size: <u>5ft radius</u>)																																				
1. <u>Onoclea sensibilis</u>	<u>5</u>	Yes	FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	_____	_____	_____																																	
11. _____	_____	_____	_____																																	
12. _____	_____	_____	_____																																	
<u>5</u> =Total Cover																																				
Woody Vine Stratum (Plot size: <u>15ft</u>)																																				
1. _____	_____	_____	_____	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.																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
_____ =Total Cover																																				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____																																				

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

SOIL

Sampling Point: W1, W2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 3/1	90	10YR 5/8	10	C	M	Sandy	Organic material
10-20	10YR 2/1	95	7.5YR 4/6	5	C	M	Loamy/Clayey	Redox

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

- 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)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 400/500 Line Structure and OPGW Rebuild Project City/County: Ledyard/New London County Sampling Date: 10/21/2020-6/24/2021
 Applicant/Owner: Eversource Energy State: CT Sampling Point: W3
 Investigator(s): BSC Wetland Scientists Section, Township, Range: NA
 Landform (hillside, terrace, etc.): Toe of slope Local relief (concave, convex, none): Concave Slope (%): 3-10
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.440918 Long: -72.048975 Datum: WGS 1984
 Soil Map Unit Name: Narragansett silt loam, 3 to 15 percent slopes, extremely stony NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation NO, Soil NO, or Hydrology NO 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>W3</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: W3

	Absolute % Cover	Dominant Species?	Indicator Status																																	
Tree Stratum (Plot size: <u>30ft radius</u>)																																				
1. <u><i>Acer rubrum</i></u>	<u>65</u>	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
<u>65</u> =Total Cover																																				
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)																																				
1. <u><i>Ilex verticillata</i></u>	<u>10</u>	Yes	FACW	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30%;"></td> <td style="width:20%; text-align:center;">Total % Cover of:</td> <td style="width:20%;"></td> <td style="width:30%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td style="text-align:center;"><u>0</u></td> <td>x 1 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align:center;"><u>45</u></td> <td>x 2 =</td> <td style="text-align:center;"><u>90</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align:center;"><u>70</u></td> <td>x 3 =</td> <td style="text-align:center;"><u>210</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align:center;"><u>5</u></td> <td>x 4 =</td> <td style="text-align:center;"><u>20</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align:center;"><u>0</u></td> <td>x 5 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align:center;"><u>120</u></td> <td>(A)</td> <td style="text-align:center;"><u>320</u> (B)</td> </tr> <tr> <td colspan="4" style="text-align:center;">Prevalence Index = B/A = <u>2.67</u></td> </tr> </table>		Total % Cover of:		Multiply by:	OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>45</u>	x 2 =	<u>90</u>	FAC species	<u>70</u>	x 3 =	<u>210</u>	FACU species	<u>5</u>	x 4 =	<u>20</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>120</u>	(A)	<u>320</u> (B)	Prevalence Index = B/A = <u>2.67</u>			
	Total % Cover of:		Multiply by:																																	
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
FACW species	<u>45</u>	x 2 =	<u>90</u>																																	
FAC species	<u>70</u>	x 3 =	<u>210</u>																																	
FACU species	<u>5</u>	x 4 =	<u>20</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>120</u>	(A)	<u>320</u> (B)																																	
Prevalence Index = B/A = <u>2.67</u>																																				
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
<u>10</u> =Total Cover																																				
Herb Stratum (Plot size: <u>5ft radius</u>)																																				
1. <u><i>Impatiens capensis</i></u>	<u>20</u>	Yes	FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																
2. <u><i>Onoclea sensibilis</i></u>	<u>15</u>	Yes	FACW																																	
3. <u><i>Poa annua</i></u>	<u>5</u>	No	FACU																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	_____	_____	_____																																	
11. _____	_____	_____	_____																																	
12. _____	_____	_____	_____																																	
<u>40</u> =Total Cover																																				
Woody Vine Stratum (Plot size: <u>15ft</u>)																																				
1. <u><i>Smilax rotundifolia</i></u>	<u>5</u>	Yes	FAC	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.																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
<u>5</u> =Total Cover																																				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____																																				

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

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 400/500 Line Structure and OPGW Rebuild Project City/County: Ledyard/New London County Sampling Date: 10/21/2020-6/24/2021
 Applicant/Owner: Eversource Energy State: CT Sampling Point: W4
 Investigator(s): BSC Wetland Scientists Section, Township, Range: NA
 Landform (hillside, terrace, etc.): Hillside Local relief (concave, convex, none): Concave Slope (%): 15
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.445263 Long: -72.041222 Datum: WGS 1984
 Soil Map Unit Name: Hollis-Chatfield-Rock outcrop complex, 15 to 45 percent slopes NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation NO, Soil NO, or Hydrology NO 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>W4</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> </u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: W4

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30ft radius</u>)																				
1. <u>Red maple</u>	<u>2</u>	No	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
			<u>2</u> =Total Cover	Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>6</u></td> <td>x 1 = <u>6</u></td> </tr> <tr> <td>FACW species <u>36</u></td> <td>x 2 = <u>72</u></td> </tr> <tr> <td>FAC species <u>7</u></td> <td>x 3 = <u>21</u></td> </tr> <tr> <td>FACU species <u>3</u></td> <td>x 4 = <u>12</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>52</u></td> <td>(A) <u>111</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>2.13</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>6</u>	x 1 = <u>6</u>	FACW species <u>36</u>	x 2 = <u>72</u>	FAC species <u>7</u>	x 3 = <u>21</u>	FACU species <u>3</u>	x 4 = <u>12</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>52</u>	(A) <u>111</u> (B)	Prevalence Index = B/A = <u>2.13</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>6</u>	x 1 = <u>6</u>																			
FACW species <u>36</u>	x 2 = <u>72</u>																			
FAC species <u>7</u>	x 3 = <u>21</u>																			
FACU species <u>3</u>	x 4 = <u>12</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>52</u>	(A) <u>111</u> (B)																			
Prevalence Index = B/A = <u>2.13</u>																				
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)																				
1. <u>Lyonia ligustrina</u>	<u>8</u>	No	FACW																	
2. <u>Vaccinium corymbosum</u>	<u>15</u>	Yes	FACW																	
3. <u>Rosa multiflora</u>	<u>3</u>	No	FACU																	
4. <u>Ilex verticillata</u>	<u>10</u>	Yes	FACW																	
5. <u>Filipendula ulmaria</u>	<u>5</u>	No	FAC																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
			<u>41</u> =Total Cover																	
Herb Stratum (Plot size: <u>5ft radius</u>)																				
1. <u>Onoclea sensibilis</u>	<u>3</u>	Yes	FACW																	
2. <u>Juncus effusus</u>	<u>6</u>	Yes	OBL																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
			<u>9</u> =Total Cover																	
Woody Vine Stratum (Plot size: <u>15ft</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
			_____ =Total Cover																	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators 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: W4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 2/1	100					Sandy	Organic, mucky
8-20	10YR 4/2	90	10YR 7/1	10	D	M	Loamy/Clayey	Silt loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

- 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)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 400/500 Line Structure and OPGW Rebuild Project City/County: Ledyard/New London County Sampling Date: 10/21/2020-6/24/2021
 Applicant/Owner: Eversource Energy State: CT Sampling Point: W5, W10
 Investigator(s): BSC Wetland Scientists Section, Township, Range: NA
 Landform (hillside, terrace, etc.): Floodplain basin Local relief (concave, convex, none): Concave Slope (%): 0-3
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.455769 Long: -72.038304 Datum: WGS 1984
 Soil Map Unit Name: Scarboro muck NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation NO, Soil NO, or Hydrology NO 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>W5, W10</u>
Remarks: (Explain alternative procedures here or in a separate report.) Sample point is representative of W10	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> </u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W5, W10

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30ft radius</u>)																				
1. <u>Red maple</u>	<u>5</u>	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. <u>Carpinus caroliniana</u>	<u>2</u>	Yes	FAC																	
3. <u>Fraxinus pennsylvanica</u>	<u>2</u>	Yes	FACW																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>9</u>	=Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)																				
1. <u>Toxicodendron vernix</u>	<u>2</u>	No	OBL	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>17</u></td> <td>x 1 = <u>17</u></td> </tr> <tr> <td>FACW species <u>52</u></td> <td>x 2 = <u>104</u></td> </tr> <tr> <td>FAC species <u>38</u></td> <td>x 3 = <u>114</u></td> </tr> <tr> <td>FACU species <u>3</u></td> <td>x 4 = <u>12</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>110</u> (A)</td> <td><u>247</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>2.25</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>17</u>	x 1 = <u>17</u>	FACW species <u>52</u>	x 2 = <u>104</u>	FAC species <u>38</u>	x 3 = <u>114</u>	FACU species <u>3</u>	x 4 = <u>12</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>110</u> (A)	<u>247</u> (B)	Prevalence Index = B/A = <u>2.25</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>17</u>	x 1 = <u>17</u>																			
FACW species <u>52</u>	x 2 = <u>104</u>																			
FAC species <u>38</u>	x 3 = <u>114</u>																			
FACU species <u>3</u>	x 4 = <u>12</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>110</u> (A)	<u>247</u> (B)																			
Prevalence Index = B/A = <u>2.25</u>																				
2. <u>Vaccinium corymbosum</u>	<u>10</u>	No	FACW																	
3. <u>Kalmia latifolia</u>	<u>3</u>	No	FACU																	
4. <u>Ilex verticillata</u>	<u>25</u>	Yes	FACW																	
5. <u>Clethra alnifolia</u>	<u>25</u>	Yes	FAC																	
6. _____																				
7. _____																				
	<u>65</u>	=Total Cover																		
Herb Stratum (Plot size: <u>5ft radius</u>)																				
1. <u>Onoclea sensibilis</u>	<u>10</u>	Yes	FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Solidago rugosa</u>	<u>3</u>	No	FAC																	
3. <u>Osmunda spectabilis</u>	<u>15</u>	Yes	OBL																	
4. <u>Impatiens capensis</u>	<u>5</u>	No	FACW																	
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	<u>33</u>	=Total Cover																		
Woody Vine Stratum (Plot size: <u>15ft</u>)																				
1. <u>Smilax rotundifolia</u>	<u>3</u>	No	FAC	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.																
2. _____																				
3. _____																				
4. _____																				
	<u>3</u>	=Total Cover																		
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																				

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

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 400/500 Line Structure and OPGW Rebuild Project City/County: Ledyard/New London County Sampling Date: 10/21/2020-6/24/2021
 Applicant/Owner: Eversource Energy State: CT Sampling Point: W6, W7, W9
 Investigator(s): BSC Wetland Scientists Section, Township, Range: NA
 Landform (hillside, terrace, etc.): Basin Local relief (concave, convex, none): Concave Slope (%): 0-3
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.455769 Long: -72.038304 Datum: WGS 1984
 Soil Map Unit Name: Scarboro muck NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation NO, Soil NO, or Hydrology NO 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>W6, W7, W9</u>
Remarks: (Explain alternative procedures here or in a separate report.) Sample point is representative of W6, W7, W9	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W6, W7, W9

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30ft radius</u>)																				
1. <u>Red maple</u>	60	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. <u>Carpinus caroliniana</u>	3	No	FAC																	
3. <u>Fraxinus pennsylvanica</u>	20	Yes	FACW																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	83	=Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)																				
1. <u>Lindera benzoin</u>	10	Yes	FACW	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%; text-align:center;">Total % Cover of:</th> <th style="width:50%; text-align:center;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>15</u></td> <td>x 1 = <u>15</u></td> </tr> <tr> <td>FACW species <u>55</u></td> <td>x 2 = <u>110</u></td> </tr> <tr> <td>FAC species <u>69</u></td> <td>x 3 = <u>207</u></td> </tr> <tr> <td>FACU species <u>3</u></td> <td>x 4 = <u>12</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>142</u> (A)</td> <td><u>344</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>2.42</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>15</u>	x 1 = <u>15</u>	FACW species <u>55</u>	x 2 = <u>110</u>	FAC species <u>69</u>	x 3 = <u>207</u>	FACU species <u>3</u>	x 4 = <u>12</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>142</u> (A)	<u>344</u> (B)	Prevalence Index = B/A = <u>2.42</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>15</u>	x 1 = <u>15</u>																			
FACW species <u>55</u>	x 2 = <u>110</u>																			
FAC species <u>69</u>	x 3 = <u>207</u>																			
FACU species <u>3</u>	x 4 = <u>12</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>142</u> (A)	<u>344</u> (B)																			
Prevalence Index = B/A = <u>2.42</u>																				
2. <u>Vaccinium corymbosum</u>	10	Yes	FACW																	
3. <u>Kalmia latifolia</u>	3	No	FACU																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	23	=Total Cover																		
Herb Stratum (Plot size: <u>5ft radius</u>)																				
1. <u>Onoclea sensibilis</u>	10	Yes	FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Solidago rugosa</u>	3	No	FAC																	
3. <u>Osmunda spectabilis</u>	15	Yes	OBL																	
4. <u>Impatiens capensis</u>	5	No	FACW																	
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	33	=Total Cover																		
Woody Vine Stratum (Plot size: <u>15ft</u>)																				
1. <u>Smilax rotundifolia</u>	3	No	FAC	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.																
2. _____																				
3. _____																				
4. _____																				
	3	=Total Cover																		

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

SOIL

Sampling Point: W6, W7, W9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 2/1	95	10R 4/8	5	C	PL	Mucky Sand	Redox

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> High Chroma Sands (S11) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input checked="" type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Red Parent Material (F21)	
<input checked="" type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Marl (F10) (LRR K, L)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Dark Surface (S7)			

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

Restrictive Layer (if observed):	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Type: _____	
Depth (inches): _____	

Remarks:
 This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 400/500 Line Structure and OPGW Rebuild Project City/County: Ledyard/New London County Sampling Date: 10/21/2020-6/24/2021
 Applicant/Owner: Eversource Energy State: CT Sampling Point: W8
 Investigator(s): BSC Wetland Scientists Section, Township, Range: NA
 Landform (hillside, terrace, etc.): Basin Local relief (concave, convex, none): Concave Slope (%): 0-2
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.450285 Long: -72.037893 Datum: WGS 1984
 Soil Map Unit Name: Agawam fine sandy loam, 3 to 8 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation NO, Soil NO, or Hydrology NO 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>W8</u>
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: W8

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30ft radius</u>)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
6.	_____	_____	_____	
7.	_____	_____	_____	
	_____ =Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
6.	_____	_____	_____	
7.	_____	_____	_____	
	_____ =Total Cover			
Herb Stratum (Plot size: <u>5ft radius</u>)				
1.	<u>Solidago rugosa</u>	10	No	FAC
2.	<u>Phragmites australis</u>	85	Yes	FACW
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
8.	_____	_____	_____	_____
9.	_____	_____	_____	_____
10.	_____	_____	_____	_____
11.	_____	_____	_____	_____
12.	_____	_____	_____	_____
	95 =Total Cover			
Woody Vine Stratum (Plot size: <u>15ft</u>)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
	_____ =Total Cover			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (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 <u>0</u>	x 1 = <u>0</u>
FACW species <u>85</u>	x 2 = <u>170</u>
FAC species <u>10</u>	x 3 = <u>30</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>95</u> (A)	<u>200</u> (B)
Prevalence Index = B/A = <u>2.11</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators 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: W8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 3/1	90	10YR 5/2	10	RM	M	Loamy/Clayey	Depletions

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)	
<input type="checkbox"/> Histic Epipedon (A2)		<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> High Chroma Sands (S11) (LRR K, L)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input checked="" type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Marl (F10) (LRR K, L)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Dark Surface (S7)			

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____
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Remarks:
This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 400/500 Line Structure and OPGW Rebuild Project City/County: Ledyard/New London County Sampling Date: 10/21/2020-6/24/2021
 Applicant/Owner: Eversource Energy State: CT Sampling Point: W11
 Investigator(s): BSC Wetland Scientists Section, Township, Range: NA
 Landform (hillside, terrace, etc.): Basin Local relief (concave, convex, none): Concave Slope (%): 0-5
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.456307 Long: -72.038108 Datum: WGS 1984
 Soil Map Unit Name: Ridgebury, Leicester, and Whitman soils, extremely stony NWI classification: PSS/PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation NO, Soil NO, or Hydrology NO 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>W11</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> </u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: W11

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30ft radius</u>)																				
1. <u>Red maple</u>	<u>5</u>	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. <u>Alnus incana</u>	<u>5</u>	Yes	FACW																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>10</u>	=Total Cover		Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>15</u></td> <td>x 1 = <u>15</u></td> </tr> <tr> <td>FACW species <u>83</u></td> <td>x 2 = <u>166</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>6</u></td> <td>x 4 = <u>24</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>119</u> (A)</td> <td><u>250</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>2.10</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>15</u>	x 1 = <u>15</u>	FACW species <u>83</u>	x 2 = <u>166</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>6</u>	x 4 = <u>24</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>119</u> (A)	<u>250</u> (B)	Prevalence Index = B/A = <u>2.10</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>15</u>	x 1 = <u>15</u>																			
FACW species <u>83</u>	x 2 = <u>166</u>																			
FAC species <u>15</u>	x 3 = <u>45</u>																			
FACU species <u>6</u>	x 4 = <u>24</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>119</u> (A)	<u>250</u> (B)																			
Prevalence Index = B/A = <u>2.10</u>																				
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)																				
1. <u>Clethra alnifolia</u>	<u>10</u>	No	FAC																	
2. <u>Ilex verticillata</u>	<u>5</u>	No	FACW																	
3. <u>Kalmia latifolia</u>	<u>3</u>	No	FACU																	
4. <u>Lonicera japonica</u>	<u>3</u>	No	FACU																	
5. <u>Alnus incana</u>	<u>55</u>	Yes	FACW																	
6. _____																				
7. _____																				
	<u>76</u>	=Total Cover																		
Herb Stratum (Plot size: <u>5ft radius</u>)																				
1. <u>Onoclea sensibilis</u>	<u>10</u>	Yes	FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Impatiens capensis</u>	<u>5</u>	No	FACW																	
3. <u>Osmunda spectabilis</u>	<u>15</u>	Yes	OBL																	
4. <u>Carex alopecoidea</u>	<u>3</u>	No	FACW																	
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	<u>33</u>	=Total Cover																		
Woody Vine Stratum (Plot size: <u>15ft</u>)																				
1. _____				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.																
2. _____																				
3. _____																				
4. _____																				
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																

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

SOIL

Sampling Point: W11

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10YR 3/1	90	10R 4/8	10	C	M	Sandy	Redox

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

- 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)

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <u>X</u> No _____
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Remarks:
 This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 400/500 Line Structure and OPGW Rebuild Project City/County: Ledyard/New London County Sampling Date: 10/21/2020-6/24/2021
 Applicant/Owner: Eversource Energy State: CT Sampling Point: W12, W13, W14
 Investigator(s): BSC Wetland Scientists Section, Township, Range: NA
 Landform (hillside, terrace, etc.): Basin Local relief (concave, convex, none): Concave Slope (%): 0-5
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.460924 Long: -72.037646 Datum: WGS 1984
 Soil Map Unit Name: Ridgebury, Leicester, and Whitman soils, extremely stony NWI classification: PFO/PSS
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation NO, Soil NO, or Hydrology NO 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u> If yes, optional Wetland Site ID: <u>W12, W13, W14</u>
Remarks: (Explain alternative procedures here or in a separate report.) Point is representative of W13 and W14	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> Water Table Present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Contains unnamed tributary to Joe Clark Brook	

VEGETATION – Use scientific names of plants.

Sampling Point: W12, W13, W14

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30ft radius</u>)																				
1. <u>Red maple</u>	35	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>87.5%</u> (A/B)																
2. <u>Cornus alba</u>	10	No	FACW																	
3. <u>Alnus incana</u>	10	No	FACW																	
4. <u>Quercus palustris</u>	10	No	FACW																	
5. _____																				
6. _____																				
7. _____																				
	65	=Total Cover		Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>8</u></td> <td>x 1 = <u>8</u></td> </tr> <tr> <td>FACW species <u>70</u></td> <td>x 2 = <u>140</u></td> </tr> <tr> <td>FAC species <u>45</u></td> <td>x 3 = <u>135</u></td> </tr> <tr> <td>FACU species <u>3</u></td> <td>x 4 = <u>12</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>131</u> (A)</td> <td><u>320</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>2.44</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>8</u>	x 1 = <u>8</u>	FACW species <u>70</u>	x 2 = <u>140</u>	FAC species <u>45</u>	x 3 = <u>135</u>	FACU species <u>3</u>	x 4 = <u>12</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>131</u> (A)	<u>320</u> (B)	Prevalence Index = B/A = <u>2.44</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>8</u>	x 1 = <u>8</u>																			
FACW species <u>70</u>	x 2 = <u>140</u>																			
FAC species <u>45</u>	x 3 = <u>135</u>																			
FACU species <u>3</u>	x 4 = <u>12</u>																			
UPL species <u>5</u>	x 5 = <u>25</u>																			
Column Totals: <u>131</u> (A)	<u>320</u> (B)																			
Prevalence Index = B/A = <u>2.44</u>																				
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)																				
1. <u>Acer rubrum</u>	10	Yes	FAC																	
2. <u>Vaccinium corymbosum</u>	5	Yes	FACW																	
3. <u>Kalmia latifolia</u>	3	No	FACU																	
4. <u>Ilex verticillata</u>	5	Yes	FACW																	
5. <u>Alnus incana</u>	5	Yes	FACW																	
6. _____																				
7. _____																				
	28	=Total Cover																		
Herb Stratum (Plot size: <u>5ft radius</u>)																				
1. <u>Onoclea sensibilis</u>	10	Yes	FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Carex lurida</u>	3	No	OBL																	
3. <u>Phragmites australis</u>	15	Yes	FACW																	
4. <u>Juncus effusus</u>	5	No	OBL																	
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	33	=Total Cover																		
Woody Vine Stratum (Plot size: <u>15ft</u>)																				
1. <u>Celastrus orbiculatus</u>	5	Yes	UPL																	
2. _____																				
3. _____																				
4. _____																				
	5	=Total Cover																		
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 <input checked="" type="checkbox"/> No <input type="checkbox"/>																				

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

SOIL

Sampling Point: W12, W13, W14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10YR 2/1	90	10R 4/8	5	C	M	Loamy/Clayey	Redox
			10R 3/6	5	C	PL		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

- 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)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 400/500 Line Structure and OPGW Rebuild Project City/County: Ledyard/New London County Sampling Date: 10/21/2020-6/24/2021
 Applicant/Owner: Eversource Energy State: CT Sampling Point: W15
 Investigator(s): BSC Wetland Scientists Section, Township, Range: NA
 Landform (hillside, terrace, etc.): Floodplain basin Local relief (concave, convex, none): Concave Slope (%): 0-5
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.474076 Long: -72.035024 Datum: WGS 1984
 Soil Map Unit Name: Rippowan fine sandy loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation NO, Soil NO, or Hydrology NO 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u> If yes, optional Wetland Site ID: <u>W15</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
---	---

Field Observations: Surface Water Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> Water Table Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
---	---

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W15

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30ft radius</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>8</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
1. <u>Acer rubrum</u>	<u>25</u>	Yes	FAC																	
2. <u>Chamaecyparis thyoides</u>	<u>10</u>	No	OBL																	
3. <u>Fraxinus pennsylvanica</u>	<u>25</u>	Yes	FACW																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>60</u>	=Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)																				
1. <u>Ulmus americana</u>	<u>5</u>	No	FACW																	
2. <u>Cornus alba</u>	<u>10</u>	Yes	FACW																	
3. <u>Lyonia ligustrina</u>	<u>15</u>	Yes	FACW																	
4. <u>Cornus amomum</u>	<u>5</u>	No	FACW																	
5. _____																				
6. _____																				
7. _____																				
	<u>35</u>	=Total Cover																		
Herb Stratum (Plot size: <u>5ft radius</u>)																				
1. <u>Onoclea sensibilis</u>	<u>5</u>	No	FACW																	
2. <u>Typha latifolia</u>	<u>30</u>	Yes	OBL																	
3. <u>Impatiens pallida</u>	<u>10</u>	Yes	FACW																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	<u>45</u>	=Total Cover																		
Woody Vine Stratum (Plot size: <u>15ft</u>)																				
1. <u>Vitis riparia</u>	<u>15</u>	Yes	FAC																	
2. <u>Smilax rotundifolia</u>	<u>10</u>	Yes	FAC																	
3. _____																				
4. _____																				
	<u>25</u>	=Total Cover																		
				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>40</u></td> <td>x 1 = <u>40</u></td> </tr> <tr> <td>FACW species <u>75</u></td> <td>x 2 = <u>150</u></td> </tr> <tr> <td>FAC species <u>50</u></td> <td>x 3 = <u>150</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>165</u> (A)</td> <td><u>340</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>2.06</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>40</u>	x 1 = <u>40</u>	FACW species <u>75</u>	x 2 = <u>150</u>	FAC species <u>50</u>	x 3 = <u>150</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>165</u> (A)	<u>340</u> (B)	Prevalence Index = B/A = <u>2.06</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>40</u>	x 1 = <u>40</u>																			
FACW species <u>75</u>	x 2 = <u>150</u>																			
FAC species <u>50</u>	x 3 = <u>150</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>165</u> (A)	<u>340</u> (B)																			
Prevalence Index = B/A = <u>2.06</u>																				
				Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> 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 <input checked="" type="checkbox"/> No <input type="checkbox"/>																

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

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 400/500 Line Structure and OPGW Rebuild Project City/County: Preston/New London County Sampling Date: 10/21/2020-6/24/2021
 Applicant/Owner: Eversource Energy State: CT Sampling Point: W16
 Investigator(s): BSC Wetland Scientists Section, Township, Range: NA
 Landform (hillside, terrace, etc.): Floodplain basin Local relief (concave, convex, none): Concave Slope (%): 0-5
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.489655 Long: -72.033088 Datum: WGS 1984
 Soil Map Unit Name: Rippowan fine sandy loam NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation NO, Soil NO, or Hydrology NO 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>W16</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: W16

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30ft radius</u>)																				
1. <u>Acer rubrum</u>	<u>55</u>	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>85.7%</u> (A/B)																
2. <u>Fraxinus pennsylvanica</u>	<u>10</u>	No	FACW																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>65</u>	=Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)																				
1. <u>Hamamelis virginiana</u>	<u>5</u>	Yes	FACU	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>10</u></td> <td>x 1 = <u>10</u></td> </tr> <tr> <td>FACW species <u>55</u></td> <td>x 2 = <u>110</u></td> </tr> <tr> <td>FAC species <u>70</u></td> <td>x 3 = <u>210</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>140</u> (A)</td> <td><u>350</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>2.50</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>55</u>	x 2 = <u>110</u>	FAC species <u>70</u>	x 3 = <u>210</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>140</u> (A)	<u>350</u> (B)	Prevalence Index = B/A = <u>2.50</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>10</u>	x 1 = <u>10</u>																			
FACW species <u>55</u>	x 2 = <u>110</u>																			
FAC species <u>70</u>	x 3 = <u>210</u>																			
FACU species <u>5</u>	x 4 = <u>20</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>140</u> (A)	<u>350</u> (B)																			
Prevalence Index = B/A = <u>2.50</u>																				
2. <u>Cornus amomum</u>	<u>5</u>	Yes	FACW																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>10</u>	=Total Cover																		
Herb Stratum (Plot size: <u>5ft radius</u>)																				
1. <u>Impatiens capensis</u>	<u>20</u>	Yes	FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Onoclea sensibilis</u>	<u>15</u>	Yes	FACW																	
3. <u>Dichanthelium clandestinum</u>	<u>5</u>	No	FACW																	
4. <u>Typha latifolia</u>	<u>10</u>	Yes	OBL																	
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	<u>50</u>	=Total Cover																		
Woody Vine Stratum (Plot size: <u>15ft</u>)																				
1. <u>Vitis riparia</u>	<u>15</u>	Yes	FAC	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.																
2. _____																				
3. _____																				
4. _____																				
	<u>15</u>	=Total Cover																		

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

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 400/500 Line Structure and OPGW Rebuild Project City/County: Preston/New London County Sampling Date: 10/21/2020-6/24/2021
 Applicant/Owner: Eversource Energy State: CT Sampling Point: W17, W20-W23, W28, W30, W34-W38, VP1, VP7, VP11, VP12
 Investigator(s): BSC Wetland Scientists Section, Township, Range: NA
 Landform (hillside, terrace, etc.): Floodplain basin Local relief (concave, convex, none): Concave Slope (%): 0-5
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.489655 Long: -72.033088 Datum: WGS 1984
 Soil Map Unit Name: Charlton-Chatfield complex, 3 to 15 percent slopes, very rocky NWI classification: PSS
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation NO, Soil NO, or Hydrology NO 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u> If yes, optional Wetland Site ID: <u>W17, W20, W21, W22, W23, W25, W28, W30, W34, W35, W36, W37, W38, VP7, VP11, VP12</u>
Remarks: (Explain alternative procedures here or in a separate report.) Sampling point is representative of W17, W20, W21, W22, W23, W25, W28, W30, W34, W35, W36, W37, W38, VP1, VP7, VP11, VP12	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> Water Table Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: _____

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30ft radius</u>)																				
1. <u><i>Acer rubrum</i></u>	<u>5</u>	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. <u><i>Fraxinus pennsylvanica</i></u>	<u>2</u>	Yes	FACW																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>7</u> =Total Cover																			
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)																				
1. <u><i>Hamamelis virginiana</i></u>	<u>5</u>	No	FACU	Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>10</u></td> <td>x 1 = <u>10</u></td> </tr> <tr> <td>FACW species <u>92</u></td> <td>x 2 = <u>184</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>127</u> (A)</td> <td><u>274</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>2.16</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>92</u>	x 2 = <u>184</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>127</u> (A)	<u>274</u> (B)	Prevalence Index = B/A = <u>2.16</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>10</u>	x 1 = <u>10</u>																			
FACW species <u>92</u>	x 2 = <u>184</u>																			
FAC species <u>20</u>	x 3 = <u>60</u>																			
FACU species <u>5</u>	x 4 = <u>20</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>127</u> (A)	<u>274</u> (B)																			
Prevalence Index = B/A = <u>2.16</u>																				
2. <u><i>Cornus amomum</i></u>	<u>5</u>	No	FACW																	
3. <u>Highbush Blueberry</u>	<u>45</u>	Yes	FACW																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>55</u> =Total Cover																			
Herb Stratum (Plot size: <u>5ft radius</u>)																				
1. <u><i>Impatiens capensis</i></u>	<u>20</u>	Yes	FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u><i>Onoclea sensibilis</i></u>	<u>15</u>	Yes	FACW																	
3. <u><i>Dichanthelium clandestinum</i></u>	<u>5</u>	No	FACW																	
4. <u><i>Typha latifolia</i></u>	<u>10</u>	Yes	OBL																	
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	<u>50</u> =Total Cover																			
Woody Vine Stratum (Plot size: <u>15ft</u>)																				
1. <u><i>Vitis riparia</i></u>	<u>15</u>	Yes	FAC	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.																
2. _____																				
3. _____																				
4. _____																				
	<u>15</u> =Total Cover																			

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

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 400/500 Line Structure and OPGW Rebuild Project City/County: Preston/New London County Sampling Date: 10/21/2020-6/24/2021
 Applicant/Owner: Eversource Energy State: CT Sampling Point: W18, W19, VP3 & VP6

Investigator(s): BSC Wetland Scientists Section, Township, Range: NA

Landform (hillside, terrace, etc.): Basin, toe-of-slope Local relief (concave, convex, none): Concave Slope (%): 0-10

Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.498721 Long: -72.025995 Datum: WGS 1984

Soil Map Unit Name: Charlton-Chatfield complex, 3 to 15 percent slopes NWI classification: PFO

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

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

Are Vegetation NO, Soil NO, or Hydrology NO 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u> If yes, optional Wetland Site ID: <u>W18, W19, W39A, VP3 & VP6</u>
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Remarks: (Explain alternative procedures here or in a separate report.)
 Sampling point representative of W18, W19, W39A, VP3, VP6

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> Water Table Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
---	---

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

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W18, W19, VP3, VP6

	Absolute % Cover	Dominant Species?	Indicator Status																									
Tree Stratum (Plot size: <u>30ft radius</u>)																												
1. <u><i>Acer rubrum</i></u>	<u>30</u>	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																								
2. <u><i>Tsuga canadensis</i></u>	<u>5</u>	No	FACU																									
3. <u><i>Carpinus caroliniana</i></u>	<u>20</u>	Yes	FAC																									
4. _____																												
5. _____																												
6. _____																												
7. _____																												
	<u>55</u>	=Total Cover																										
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)																												
1. <u><i>Vaccinium corymbosum</i></u>	<u>20</u>	Yes	FACW	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:40%;">Total % Cover of:</th> <th style="width:20%;"></th> <th style="width:40%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>32</u></td> <td></td> <td>x 1 = <u>32</u></td> </tr> <tr> <td>FACW species <u>65</u></td> <td></td> <td>x 2 = <u>130</u></td> </tr> <tr> <td>FAC species <u>55</u></td> <td></td> <td>x 3 = <u>165</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>157</u></td> <td>(A)</td> <td><u>347</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A =</td> <td style="text-align:center;"><u>2.21</u></td> </tr> </tbody> </table>	Total % Cover of:		Multiply by:	OBL species <u>32</u>		x 1 = <u>32</u>	FACW species <u>65</u>		x 2 = <u>130</u>	FAC species <u>55</u>		x 3 = <u>165</u>	FACU species <u>5</u>		x 4 = <u>20</u>	UPL species <u>0</u>		x 5 = <u>0</u>	Column Totals: <u>157</u>	(A)	<u>347</u> (B)	Prevalence Index = B/A =		<u>2.21</u>
Total % Cover of:		Multiply by:																										
OBL species <u>32</u>		x 1 = <u>32</u>																										
FACW species <u>65</u>		x 2 = <u>130</u>																										
FAC species <u>55</u>		x 3 = <u>165</u>																										
FACU species <u>5</u>		x 4 = <u>20</u>																										
UPL species <u>0</u>		x 5 = <u>0</u>																										
Column Totals: <u>157</u>	(A)	<u>347</u> (B)																										
Prevalence Index = B/A =		<u>2.21</u>																										
2. <u><i>Cornus amomum</i></u>	<u>10</u>	Yes	FACW																									
3. <u><i>Viburnum dentatum</i></u>	<u>5</u>	No	FAC																									
4. <u><i>Cephalanthus occidentalis</i></u>	<u>7</u>	No	OBL																									
5. _____																												
6. _____																												
7. _____																												
	<u>42</u>	=Total Cover																										
Herb Stratum (Plot size: <u>5ft radius</u>)																												
1. <u><i>Impatiens capensis</i></u>	<u>20</u>	Yes	FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																								
2. <u><i>Onoclea sensibilis</i></u>	<u>15</u>	Yes	FACW																									
3. <u><i>Osmunda spectabilis</i></u>	<u>5</u>	No	OBL																									
4. <u><i>Scirpus cyperinus</i></u>	<u>20</u>	Yes	OBL																									
5. _____																												
6. _____																												
7. _____																												
8. _____																												
9. _____																												
10. _____																												
11. _____																												
12. _____																												
	<u>60</u>	=Total Cover																										
Woody Vine Stratum (Plot size: <u>15ft</u>)																												
1. _____				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.																								
2. _____																												
3. _____																												
4. _____																												
				Hydrophytic Vegetation Present? Yes <u>X</u> No _____																								

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

SOIL

Sampling Point: W18, W19, VP3, VP6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 2/1	90	10R 5/8	10	C	M, PL	Loamy/Clayey	Prominent redox concentrations

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

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR R, MLRA 149B)	<input type="checkbox"/> 2 cm Muck (A10) (LRR K, L, MLRA 149B)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR R, MLRA 149B)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> High Chroma Sands (S11) (LRR K, L)	<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR K, L)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR K, L)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR K, L)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149B)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Mesic Spodic (TA6) (MLRA 144A, 145, 149B)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Red Parent Material (F21)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Marl (F10) (LRR K, L)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Stripped Matrix (S6)		<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Dark Surface (S7)			

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____
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Remarks:
 This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 400/500 Line Structure and OPGW Rebuild Project City/County: Preston/New London County Sampling Date: 10/21/2020-6/24/2021
 Applicant/Owner: Eversource Energy State: CT Sampling Point: W24, W26, W27, W28B, W29, W30, W30A, W31, W32, VP8, VP9
 Investigator(s): BSC Wetland Scientists Section, Township, Range: NA
 Landform (hillside, terrace, etc.): Basin Local relief (concave, convex, none): Concave Slope (%): 0-5
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.535946 Long: -72.031447 Datum: WGS 1984
 Soil Map Unit Name: Narragansett-Hollis complex, 3 to 15 percent slopes NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation NO, Soil NO, or Hydrology NO 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u> If yes, optional Wetland Site ID: <u>W24, W26, W27, W28B, W29, W30A, W31, W32, VP8, VP9</u>
Remarks: (Explain alternative procedures here or in a separate report.) Sampling point is also representative of W24, W26, W27, W28B, W29, W30A, W31, W32, VP8 & VP9	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u> </u> i Surface Water (A1) <u> </u> X Water-Stained Leaves (B9) <u> </u> X High Water Table (A2) <u> </u> Aquatic Fauna (B13) <u> </u> X Saturation (A3) <u> </u> Marl Deposits (B15) <u> </u> Water Marks (B1) <u> </u> Hydrogen Sulfide Odor (C1) <u> </u> Sediment Deposits (B2) <u> </u> X Oxidized Rhizospheres on Living Roots (C3) <u> </u> Drift Deposits (B3) <u> </u> Presence of Reduced Iron (C4) <u> </u> Algal Mat or Crust (B4) <u> </u> Recent Iron Reduction in Tilled Soils (C6) <u> </u> Iron Deposits (B5) <u> </u> Thin Muck Surface (C7) <u> </u> Inundation Visible on Aerial Imagery (B7) <u> </u> Other (Explain in Remarks) <u> </u> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <u> </u> Surface Soil Cracks (B6) <u> </u> X Drainage Patterns (B10) <u> </u> Moss Trim Lines (B16) <u> </u> Dry-Season Water Table (C2) <u> </u> Crayfish Burrows (C8) <u> </u> Saturation Visible on Aerial Imagery (C9) <u> </u> Stunted or Stressed Plants (D1) <u> </u> X Geomorphic Position (D2) <u> </u> Shallow Aquitard (D3) <u> </u> Microtopographic Relief (D4) <u> </u> X FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u>X</u> No <u> </u> Depth (inches): <u> 0 </u> Water Table Present? Yes <u>X</u> No <u> </u> Depth (inches): <u> 0 </u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u> 0 </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: W24, W26, W27, W28B, W29, W30, W30A, W31, W32, VP8, VP9

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30ft radius</u>)																				
1. <u>Cornus amomum</u>	2	No	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>83.3%</u> (A/B)																
2. <u>Fraxinus pennsylvanica</u>	10	No	FACW																	
3. <u>Acer rubrum</u>	25	Yes	FAC																	
4. <u>Tsuga canadensis</u>	20	Yes	FACU																	
5. _____																				
6. _____																				
7. _____																				
	57	=Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)																				
1. <u>Viburnum dentatum</u>	7	Yes	FAC	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%; text-align:center;">Total % Cover of:</th> <th style="width:50%; text-align:center;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>5</u></td> <td>x 1 = <u>5</u></td> </tr> <tr> <td>FACW species <u>62</u></td> <td>x 2 = <u>124</u></td> </tr> <tr> <td>FAC species <u>40</u></td> <td>x 3 = <u>120</u></td> </tr> <tr> <td>FACU species <u>20</u></td> <td>x 4 = <u>80</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>127</u> (A)</td> <td><u>329</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>2.59</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>5</u>	x 1 = <u>5</u>	FACW species <u>62</u>	x 2 = <u>124</u>	FAC species <u>40</u>	x 3 = <u>120</u>	FACU species <u>20</u>	x 4 = <u>80</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>127</u> (A)	<u>329</u> (B)	Prevalence Index = B/A = <u>2.59</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>5</u>	x 1 = <u>5</u>																			
FACW species <u>62</u>	x 2 = <u>124</u>																			
FAC species <u>40</u>	x 3 = <u>120</u>																			
FACU species <u>20</u>	x 4 = <u>80</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>127</u> (A)	<u>329</u> (B)																			
Prevalence Index = B/A = <u>2.59</u>																				
2. <u>Vaccinium corymbosum</u>	10	Yes	FACW																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	17	=Total Cover																		
Herb Stratum (Plot size: <u>5ft radius</u>)																				
1. <u>Onoclea sensibilis</u>	25	Yes	FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Juncus effusus</u>	5	No	OBL																	
3. <u>Impatiens capensis</u>	15	Yes	FACW																	
4. <u>Osmunda claytoniana</u>	8	No	FAC																	
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	53	=Total Cover																		
Woody Vine Stratum (Plot size: <u>15ft</u>)																				
1. _____				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.																
2. _____																				
3. _____																				
4. _____																				
				Hydrophytic Vegetation Present? Yes <u>X</u> No _____																

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

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 2/1	0	10YR 4/6	2	D	M	Loamy/Clayey	
10-12+	10YR 2/2	0	7.5YR 4/6	5	C	M, PL	Loamy/Clayey	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

- 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)

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 400/500 Line Structure and OPGW Rebuild Project City/County: Preston/New London County Sampling Date: 10/21/2020-6/24/2021
 Applicant/Owner: Eversource Energy State: CT Sampling Point: W33, W39
 Investigator(s): BSC Wetland Scientists Section, Township, Range: NA
 Landform (hillside, terrace, etc.): Basin Local relief (concave, convex, none): Concave Slope (%): 0-2
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.530252 Long: -72.030507 Datum: WGS 1984
 Soil Map Unit Name: Timakwa and Natchaug soils NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation NO, Soil NO, or Hydrology NO 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u> If yes, optional Wetland Site ID: <u>W33 & W39</u>
Remarks: (Explain alternative procedures here or in a separate report.) Sampling point is representative of W39	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> Water Table Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> Saturation Present? Yes <u>X</u> No <u> </u> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No <u> </u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: W33, W39

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30ft radius</u>)																				
1. <u><i>Acer rubrum</i></u>	<u>5</u>	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
	<u>5</u>	=Total Cover		Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>35</u></td> <td>x 1 = <u>35</u></td> </tr> <tr> <td>FACW species <u>53</u></td> <td>x 2 = <u>106</u></td> </tr> <tr> <td>FAC species <u>5</u></td> <td>x 3 = <u>15</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>93</u></td> <td>(A) <u>156</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>1.68</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>35</u>	x 1 = <u>35</u>	FACW species <u>53</u>	x 2 = <u>106</u>	FAC species <u>5</u>	x 3 = <u>15</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>93</u>	(A) <u>156</u> (B)	Prevalence Index = B/A = <u>1.68</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>35</u>	x 1 = <u>35</u>																			
FACW species <u>53</u>	x 2 = <u>106</u>																			
FAC species <u>5</u>	x 3 = <u>15</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>93</u>	(A) <u>156</u> (B)																			
Prevalence Index = B/A = <u>1.68</u>																				
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)																				
1. <u><i>Salix alba</i></u>	<u>10</u>	Yes	FACW																	
2. <u><i>Cornus amomum</i></u>	<u>8</u>	Yes	FACW																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
	<u>18</u>	=Total Cover																		
Herb Stratum (Plot size: <u>5ft radius</u>)																				
1. <u><i>Phragmites australis</i></u>	<u>15</u>	Yes	FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u><i>Typha latifolia</i></u>	<u>20</u>	Yes	OBL																	
3. <u><i>Osmundastrum cinnamomeum</i></u>	<u>10</u>	No	FACW																	
4. <u><i>Onoclea sensibilis</i></u>	<u>10</u>	No	FACW																	
5. <u><i>Scirpus cyperinus</i></u>	<u>15</u>	Yes	OBL																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
	<u>70</u>	=Total Cover																		
Woody Vine Stratum (Plot size: <u>15ft</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
	_____	=Total Cover																		
Hydrophytic Vegetation Present? Yes <u>X</u> No _____																				

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

SOIL

Sampling Point: W33, W39

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 2/1	90	10YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations
10-12	10YR 2/2	90	10R 4/6	10	C	M	Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

- 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)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 400/500 Line Structure and OPGW Rebuild Project City/County: Preston/New London County Sampling Date: 10/21/2020-6/24/2021
 Applicant/Owner: Eversource Energy State: CT Sampling Point: W40
 Investigator(s): BSC Wetland Scientists Section, Township, Range: NA
 Landform (hillside, terrace, etc.): Basin Local relief (concave, convex, none): Concave Slope (%): 0-2
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.546379 Long: -72.032838 Datum: WGS 1984
 Soil Map Unit Name: Ninigret and Tisbury soils, 0 to 5 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation NO, Soil NO, or Hydrology NO 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>W34</u>
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: W40

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30ft radius</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
		=Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)				
1.	<u>10</u>	Yes	FACW	
2.				
3.				
4.				
5.				
6.				
7.				
	10	=Total Cover		
Herb Stratum (Plot size: <u>5ft radius</u>)				
1.	<u>60</u>	Yes	FACW	
2.	<u>30</u>	Yes	OBL	
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	90	=Total Cover		
Woody Vine Stratum (Plot size: <u>15ft</u>)				
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 <u>30</u>	x 1 = <u>30</u>
FACW species <u>70</u>	x 2 = <u>140</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>170</u> (B)
Prevalence Index = B/A = <u>1.70</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators 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.)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 400/500 Line Structure and OPGW Rebuild Project City/County: Ledyard/New London County Sampling Date: 10/21/2020-6/24/2021
 Applicant/Owner: Eversource Energy State: CT Sampling Point: W41
 Investigator(s): BSC Wetland Scientists Section, Township, Range: NA
 Landform (hillside, terrace, etc.): Toe of slope Local relief (concave, convex, none): Concave Slope (%): 0-5
 Subregion (LRR or MLRA): LRR R, MLRA 144A Lat: 41.445263 Long: -72.041222 Datum: WGS 1984
 Soil Map Unit Name: Ridgebury, Leicester, and Whitman soils, extremely stony NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation NO, Soil NO, or Hydrology NO significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation NO, Soil NO, or Hydrology NO 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>W35</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> </u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: W41

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30ft radius</u>)																				
1. <u>Swamp White Oak</u>	<u>5</u>	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>8</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. <u>Nyssa sylvatica</u>	<u>2</u>	Yes	FAC																	
3. <u>Carpinus caroliniana</u>	<u>2</u>	Yes	FAC																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>9</u>	=Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15ft radius</u>)																				
1. <u>Lyonia ligustrina</u>	<u>8</u>	No	FACW	Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>6</u></td> <td>x 1 = <u>6</u></td> </tr> <tr> <td>FACW species <u>46</u></td> <td>x 2 = <u>92</u></td> </tr> <tr> <td>FAC species <u>12</u></td> <td>x 3 = <u>36</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>64</u></td> <td>(A) <u>134</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>2.09</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>6</u>	x 1 = <u>6</u>	FACW species <u>46</u>	x 2 = <u>92</u>	FAC species <u>12</u>	x 3 = <u>36</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>64</u>	(A) <u>134</u> (B)	Prevalence Index = B/A = <u>2.09</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>6</u>	x 1 = <u>6</u>																			
FACW species <u>46</u>	x 2 = <u>92</u>																			
FAC species <u>12</u>	x 3 = <u>36</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>64</u>	(A) <u>134</u> (B)																			
Prevalence Index = B/A = <u>2.09</u>																				
2. <u>Vaccinium corymbosum</u>	<u>15</u>	Yes	FACW																	
3. <u>Carpinus caroliniana</u>	<u>3</u>	No	FAC																	
4. <u>Ilex verticillata</u>	<u>10</u>	Yes	FACW																	
5. <u>Filipendula ulmaria</u>	<u>5</u>	No	FAC																	
6. _____																				
7. _____																				
	<u>41</u>	=Total Cover																		
Herb Stratum (Plot size: <u>5ft radius</u>)																				
1. <u>Onoclea sensibilis</u>	<u>3</u>	Yes	FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Juncus effusus</u>	<u>6</u>	Yes	OBL																	
3. <u>Impatiens capensis</u>	<u>5</u>	Yes	FACW																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	<u>14</u>	=Total Cover																		
Woody Vine Stratum (Plot size: <u>15ft</u>)																				
1. _____				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.																
2. _____																				
3. _____																				
4. _____																				
				Hydrophytic Vegetation Present? Yes <u>X</u> No _____																

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

SOIL

Sampling Point: W41

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-15	10YR 2/1	100					Sandy	Organic, mucky
15-20	10YR 4/2	90	10YR 7/1	10	D	M	Loamy/Clayey	Silt loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

- 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)

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
 This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Attachment E: Vernal Pool Survey

Vernal Pool Survey Report

Prepared:

October 6, 2021

Prepared for:

Eversource Energy
107 Selden Street
Berlin, CT 06037
Attn: Andrew Lord

Eversource Project Name:

400/500 Line Rebuild Project

Project Location:

Preston and Ledyard, Connecticut

Survey Dates:

May 20, 2021 and October 4, 2021

Vernal pool survey was performed by¹:

BSC Group, Inc.



Matt Burne, PWS
Senior Ecologist
Professional Wetland Scientist

¹Vernal pools were surveyed by BSC vernal pool expert Matt Burne, assisted by wetland scientists Marc Smith and Jonathan Kuziel

INTRODUCTION

The following details vernal pool surveys conducted by BSC Group in support of the Connecticut Light and Power Company doing business as Eversource Energy's ("Eversource") petition to the Connecticut Siting Council for structure replacements and Optical Ground Wire (OPGW) installation along the 400/500 transmission line within an existing right-of-way ("ROW") in Preston and Ledyard, Connecticut (the "Project").

VERNAL POOL DEFINITION

Several vernal pool definitions have been developed by both regulatory authorities and conservation organizations. The Connecticut Department of Energy and Environmental Protection (CT DEEP) generally describes vernal pools on its website but cautions that the data provided is informational in nature and should not supplant regulations of municipal inland wetlands agencies. CT DEEP describes vernal pools as "*small bodies of standing fresh water found throughout the spring*" that are "*usually temporary*" and "*result from various combinations of snowmelt, precipitation and high water tables associated with the spring season.*"

Calhoun and Klemens (2002) *Best development practices: Conserving pool-breeding amphibians in residential and commercial developments in the northeastern United States* (BDP Manual) provides the following operational definition of vernal pools:

*Vernal pools are seasonal bodies of water that attain maximum depths in the spring or fall and lack permanent surface water connections with other wetlands or water bodies. Pools fill with snowmelt or runoff in the spring, although some may be fed primarily by groundwater sources. The duration of surface flooding, known as hydroperiod, varies depending upon the pool and the year; vernal pool hydroperiods range along a continuum from less than 30 days to more than one year. Pools are generally small in size (<2 acres), with the extent of vegetation varying widely. They lack established fish populations, usually as a result of periodic drying, and support communities dominated by animals adapted to living in temporary, fishless pools. In the region, they provide essential breeding habitat for one or more wildlife species including Ambystomid salamanders (*Ambystoma* spp., called "mole salamanders" because they live in burrows), wood frogs (*Lithobates sylvatica*), and fairy shrimp (*Eubranchipus* spp.).*

Vernal pool physical characteristics can vary widely while still providing habitat for indicator species. "Classic" vernal pools are natural depressions in a wooded upland with no permanent hydrologic connection to other wetland systems. Anthropogenic depressions such as quarry holes, old farm ponds and borrow pits can also provide similar habitat. Often, vernal pools are depressions or impoundments embedded within larger wetland systems. These vernal pool habitats are commonly referred to as "cryptic" vernal pools.

Several species of amphibians depend on vernal pools for reproduction and development. These species are referred to as indicator (a.k.a. obligate) vernal pool species, and the presence of breeding adults, egg masses or larvae within a seasonally flooded wetland provides confirmation of a vernal pool.

Facultative vernal pool species are fauna that utilize but do not necessarily require vernal pools for reproductive success. Examples of facultative species include spotted turtles (*Clemmys guttata*) and four-toed salamander (*Hemidactylium scutatum*). These species may breed or feed in vernal pools but are also capable of carrying out all phases of their lifecycle in other types of wetlands or water bodies. Evidence of breeding by facultative species alone is not considered indicative of the presence of a vernal pool.

EXISTING WETLANDS ALONG THE PROJECT ROW

Project wetlands are predominantly characterized by wetlands with a “saturated” hydrology. Mitsch and Gosselink (2007)¹ defines a saturated hydrology as a wetland with a substrate that is saturated for extended periods during the growing season, but standing water is rarely present. Wetlands with a saturated hydrology are not capable of supporting breeding by vernal pool indicator species, as they lack prolonged standing water. In order for successful breeding by vernal pool amphibians to occur, a wetland must have standing water from approximately March through June for most indicator species². Such wetlands, referred to as seasonally flooded wetlands, provide optimal habitat for vernal pool indicator species and often fit the definition of “classic” vernal pool described above. Additionally, while seasonally flooded conditions are optimal, permanently (or semi-permanently) flooded wetlands can also provide suitable breeding habitat for vernal pool dependent wildlife, particularly if they occur in a forested landscape and contain shallow water with emergent and/or submergent vegetation. The predominantly saturated hydrology wetlands may also have embedded deeper-water pockets that support seasonal or semi-permanent flooding conditions which may meet the definition of “cryptic” vernal pools.

VERNAL POOL SURVEY

Following initial wetland delineation work, vernal pool surveys were conducted within the Project area on May 20, 2021 by a BSC Senior Ecologist with vernal pool expertise (Matt Burne). Ten vernal pools were verified within the project Right of Way (ROW) or within 100 feet of the ROW and have been labeled VP 1 through VP 6, VP 10 through 13 on the Project mapping. Four additional vernal pools, labeled VP 1A, and VP 7 through 9 were subsequently identified by BSC ecologists and added to Project mapping after additional investigations located them. VP1A, and 7 through 9 were evaluated by BSC’s vernal pool expert on October 4, 2021.

In May 2021, vernal pool habitat function was verified by direct observation of breeding evidence of amphibian indicator species collected by visual encounter survey (VES) and dipnet survey. Larvae of three obligate vernal pool amphibian species were encountered during field surveys, including the marbled salamander (*Ambystoma opacum*), spotted salamander (*A. maculatum*), and wood frog (*Lithobates sylvaticus*), as were egg masses of the spotted salamander.

The four potential vernal pools observed out of season were also assessed by reviewing site conditions including basin size, depth of flooding, connectedness to other wetland areas, and hydrological indicators. Dipnet surveys were completed in pools with standing water (VP 1A, 7 and 8). Macroinvertebrates consistent with typical New England vernal pools were found. No amphibians were found, per expectations. Based on these assessments conducted on October 4, 2021, vernal pools VP 1A, 7 and 8 were very distinctly probable vernal pool habitat. Vernal Pool VP 9 showed evidence of extended saturation in a confined basin but seemed less likely to pond long enough to support breeding by vernal pool dependent wildlife. It is less likely to function as a vernal pool. VP 9 therefore could not be certified as a vernal pool at this time.

Using the Calhoun and Klemens distinction between “classic” and “cryptic” vernal pools, seven (7) pools are of the “classic” type; two (2) pools are “classic” type with variable amount of “fringe” wetland vegetation outside of the delineated seasonal high water line; and four (4) are “cryptic” type pools where a basin supporting seasonal flooding (ponding) is contained within a matrix of scrub-shrub or forested wetland with saturated hydrology. Among the cryptic pools, one (1), VP 3 is a very large wetland feature with forested overstory, open canopy areas, and variable

¹Mitsch, W.J. and Gosselink, J.G. 2007. Wetlands, fourth edition. John Wiley and Sons, Inc.

²The indicator species marbled salamander (*Ambystoma opacum*) breeds in late-summer and fall, with larval development throughout the winter and spring.

vegetation characteristics throughout the basin. The entire wetland feature was observed with ponded water in early spring, so this vernal pool does not fit clearly in either of the two aforementioned classes. Most of the vernal pools exhibit emergent and scrub-shrub cover types where they exist within the maintained ROW but are forested where they extend beyond the maintained ROW.

No Decoy Vernal Pools were encountered during vernal pool evaluations by BSC.

Please refer to Table 1 below for a summary of the thirteen (13) vernal pools found and the attached representative photographs of some of the vernal pools and species observed during the survey.

Pool #	Associated Wetland #	Page #	Type	Description	Species	Evidence
VP1A	W15	6	Cryptic	Off-ROW; Within a Forested Wetland	Out of season	
VP1	W20	9	Cryptic	Off-ROW; Within a Scrub-Shrub Wetland	Wood Frog	Tadpoles
2	W19	9	Classic	Off-ROW; Open Canopy with Forested Wetland Fringe	Wood Frog Spotted Salamander	Tadpoles Larvae
3	W21	9	Cryptic*	Edge of ROW; Within Forested Upland and Forested Wetland Fringe	Marbled Salamander Spotted Salamander Wood Frog	Larvae Egg masses Tadpoles
4	W22; Connects to VP5	9	Classic	Off-ROW; Open Canopy with Forested Wetland Fringe with Scrub-Shrub Wetland Connection to VP5	Spotted Salamander Wood Frog	Larvae Tadpoles
5	W22	9	Cryptic	In-ROW; Within a Scrub-Shrub/Forested Wetland	Spotted Salamander	Egg masses
6	N/A	9	Classic	Edge of ROW; Open Canopy with an Indistinct Basin	Marbled Salamander	Larvae
7	W28A	11	Cryptic	In-ROW; Within a Scrub-Shrub Wetland	Out of season	
8	N/A	11	Classic	Adjacent to off-ROW Access Road; Open Canopy with Forested Upland Fringe and portions a Forested Wetland	Out of season Invertebrates	
9	N/A	11	Potential Classic	Adjacent to off-ROW Access Road; Dry Shallow Basin, Open Canopy in Upland Forest	Out of season No water	
10	W31	12	Classic	Off-ROW; Open Canopy surrounded by Scrub-Shrub mixed with Trees	Spotted Salamander Wood Frog	Egg masses Larvae Tadpoles
11	N/A	12	Classic	In-ROW; Open Canopy (appears excavated); Deep with sand bottom and Emergent Vegetation	Spotted Salamander	Egg masses
12	N/A	12	Classic	Off-ROW; Open Canopy in Upland Forest	Marbled Salamander	Larvae

*Note: VP3 exhibits traits of both a Classic and Cryptic vernal pool types.

Table 2. Comprehensive Vernal Pool Species List throughout Project Site		
Common Name	Scientific Name	Life Stage/Observation
Marbled Salamander	<i>Ambystoma opacum</i>	Larvae
Spotted Salamander	<i>Ambystoma maculatum</i>	Adult, larvae, egg masses
Wood Frog	<i>Lithobates sylvaticus</i>	Adult, tadpolesB
Bull Frog	<i>Lithobates catesbeianus</i>	Adult

RECOMMENDED BEST MANAGEMENT PRACTICES

The following measures are recommended to avoid or minimize impacts on the above-referenced vernal pools during construction:

- A. Gravel fill required for access roads to Structures 7081/7081A, 7082/7082A, 7084/7084A, 7091/7091A, 7093/7093A, and 7096/7096A and work pads at Structures 7080/7080A, 7081/7081A, 7083/7083A, 7084/7084A, 7091/7091A, and 7096/7096A should be minimized to the greatest extent practicable within the vernal pool envelope (0-100 feet);
- B. Existing scrub-shrub vegetation within 25 feet of the vernal pool should be maintained, consistent with ROW vegetation management requirements. If low growing (scrub-shrub) vegetation must be removed adjacent to the vernal pool, the cut vegetation (slash) will be left in place to serve as recruitment for leaf litter and coarse woody debris;
- C. Where feasible in areas proximate to vernal pools, adhere to the seasonal windows for matting and tree clearing to avoid adverse effects on amphibians during migration periods;
- D. Install appropriate erosion and sediment controls around distinct work sites and access roads to minimize the potential for sediment deposition into vernal pools, and remove such controls promptly after final site stabilization;
- E. Keep temporary timber mat access roads swept and sediment free to avoid impacts to the vernal pools;
- F. For Project activities that must occur within and adjacent to vernal pools during amphibian migration periods, implement measures on a site-specific basis as necessary to facilitate unencumbered amphibian access to and from vernal pools. Mitigation measures will be identified after taking into consideration site-specific conditions, including the type of construction activity in proximity to a vernal pool, the amphibian species known to occur in the vernal pool, and seasonal conditions. Options to allow amphibian access to vernal pools may include, but not be limited to: syncopated silt fencing in the immediate vicinity of vernal pools; elevated construction matting; and aligning erosion and sedimentation controls to avoid bifurcating vernal pool habitat.

Attachment:
Photographs of vernal pools



Photo #1: View of VP1, a cryptic vernal pool embedded within wetland W20.



Photo #2: VP2 is a classic vernal pool under dense forest cover.



Photo #3: View of VP3, a cryptic vernal pool with a forest overstory at the southern end and an open canopy with scrub-shrub and emergent vegetation to the north where the pool lies partly within the ROW.

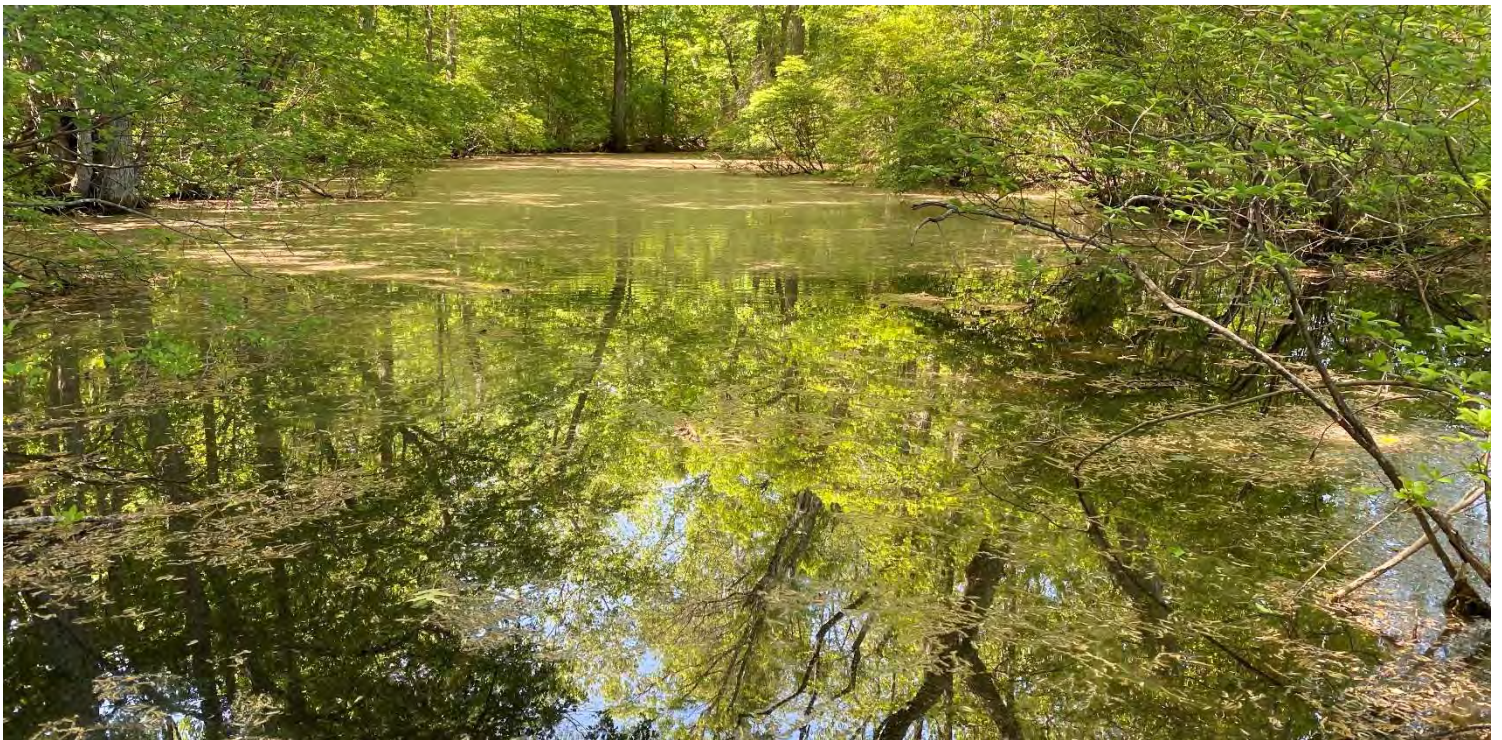


Photo #4: VP 4 is a classic vernal pool with deep standing water. On its east side, there is a vegetated, saturated scrub-shrub wetland connection to W22/VP5.



Photo #5: View of VP5, a cryptic vernal pool located within the ROW and imbedded within a scrub-shrub/forested wetland.



Photo #6: View of VP7, a cryptic vernal pool embedded within a scrub-shrub wetland within the ROW.



Photo #7: VP8 is a classic vernal pool with deep standing water and is seasonally to semi-permanently flooded. Visited in October 2021, so not evaluated for indicator species.



Photo #8: View of VP10, a classic vernal pool with an open canopy within a scrub-shrub/forested upland.



Photo #9: VP11 is a classic vernal pool located within the ROW. It appears to have been dug, is very deep with sand bottom and emergent vegetation growing in the pool.



Photo #10 and #11: View of ambystomatid salamander larvae observed within the vernal pools during the survey.



Photos 12 and 13: View of spotted salamander egg masses and wood frog tadpole observed during the vernal pool survey in May 2021.



Photo 14: Wood frog observed during the May 2021 Vernal Pool survey



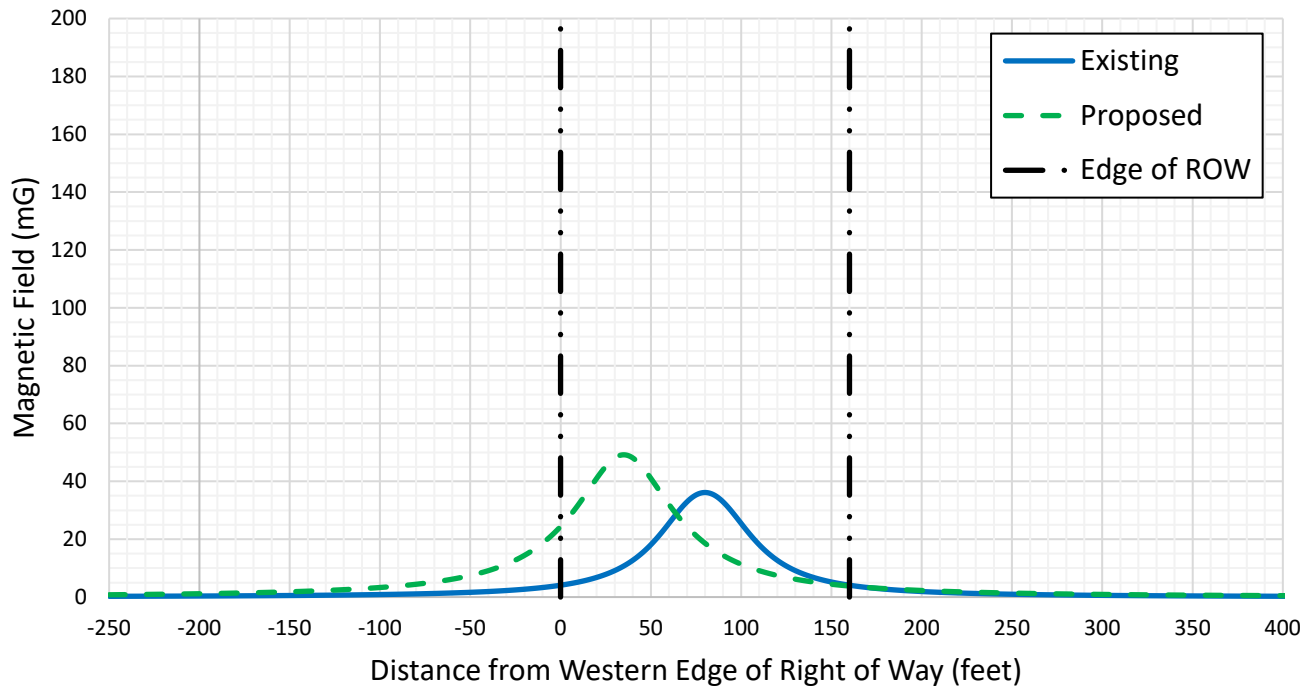
Photos 12 and 13: View of spotted salamander egg masses and wood frog tadpole observed during the vernal pool survey in May 2021.



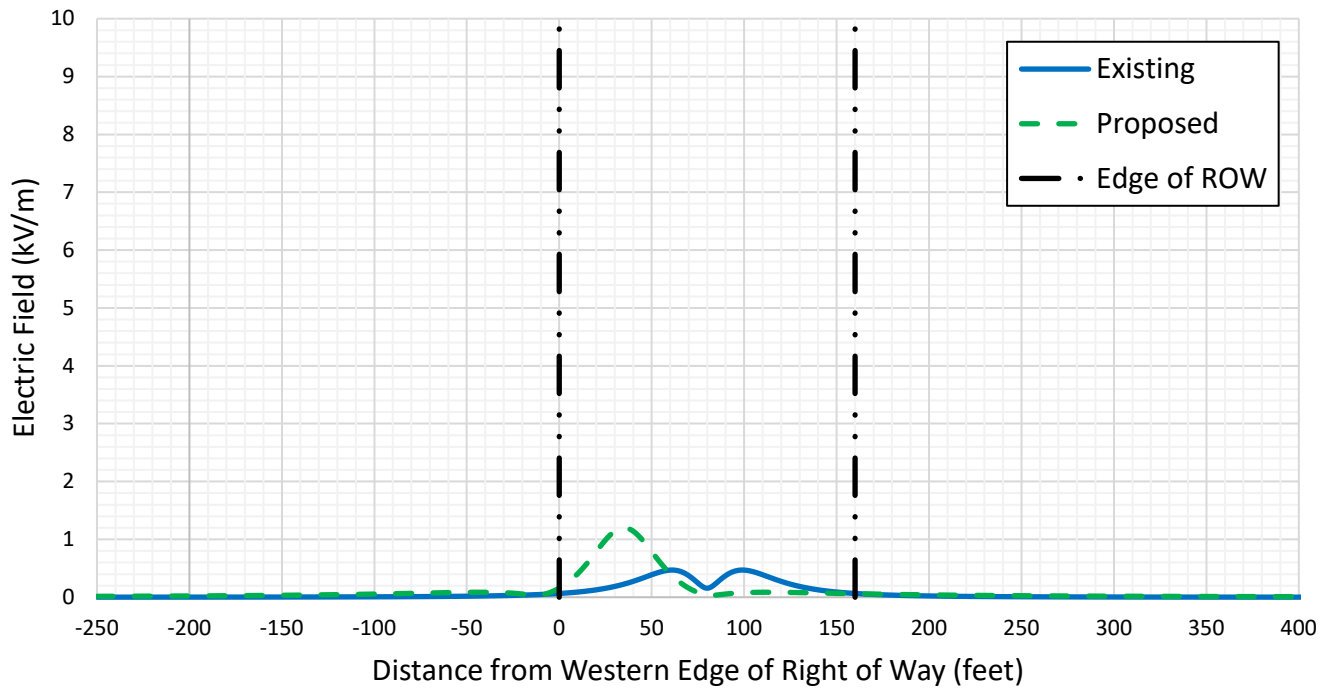
Photo 14: Wood frog observed during the May 2021 Vernal Pool survey

Attachment F: EMF Graphs

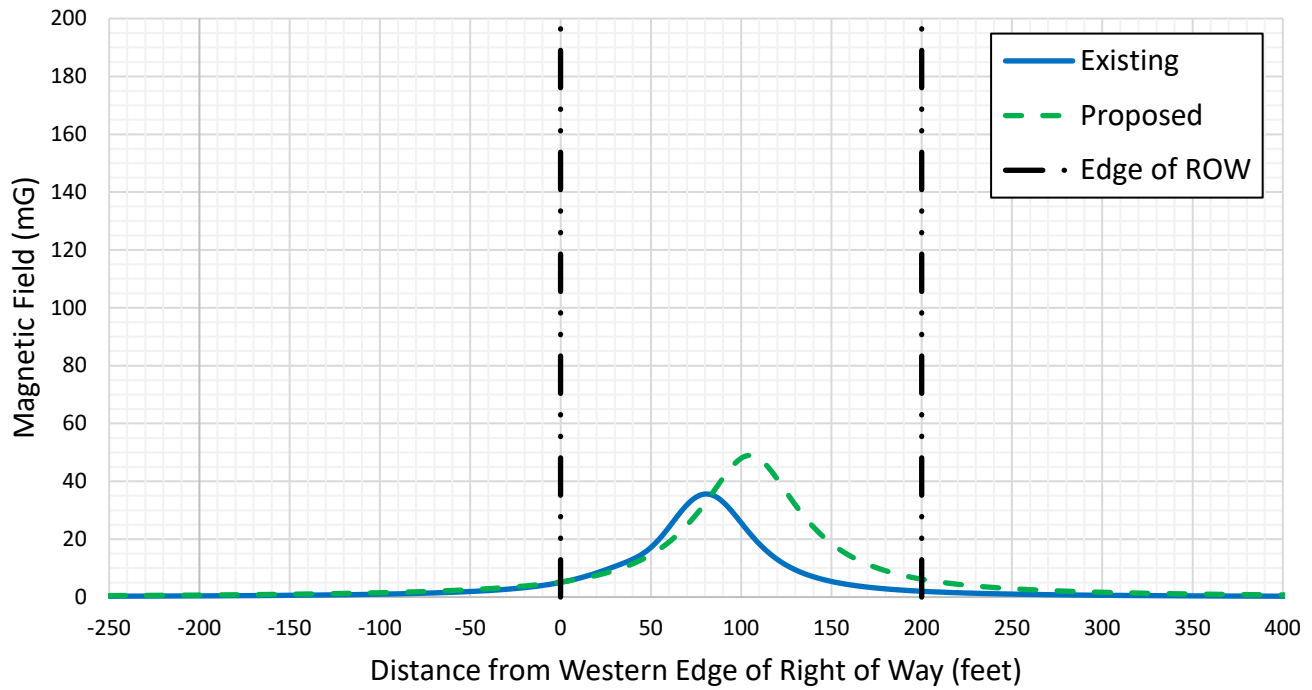
Calculated Magnetic Fields (AAL) Ledyard Junction - Hallville Junction



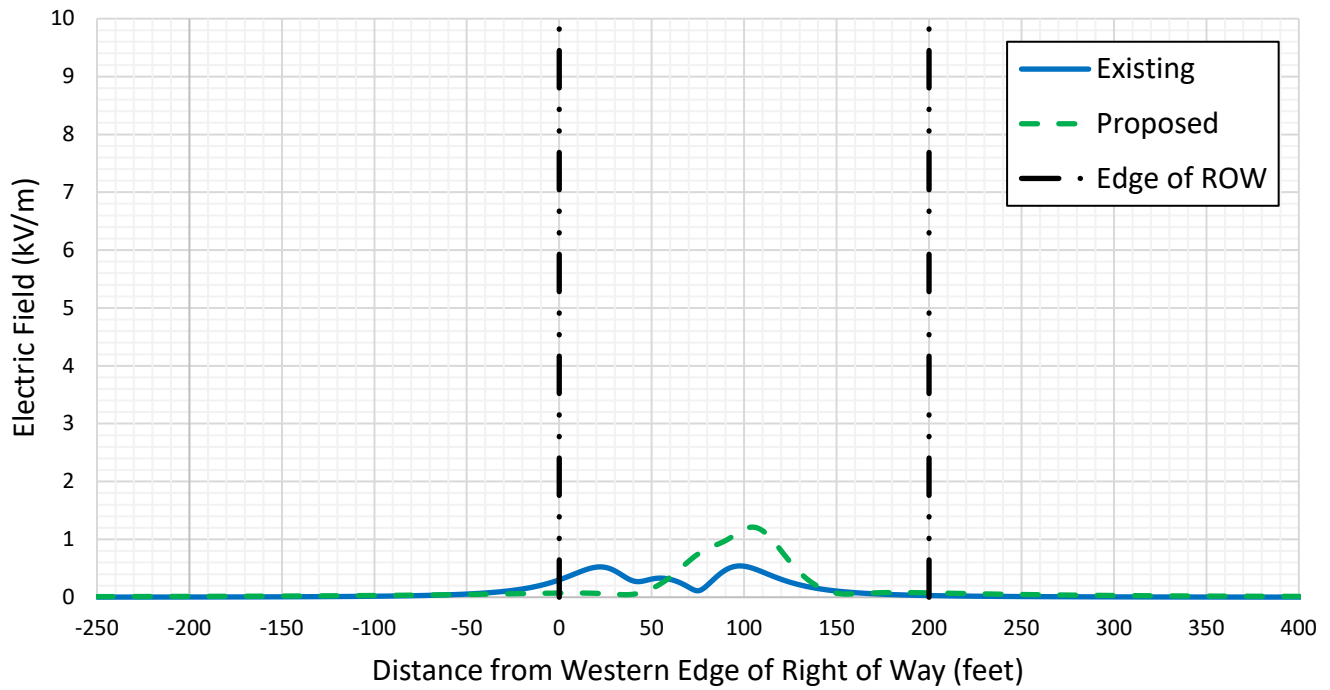
Calculated Electric Fields (AAL) Ledyard Junction - Hallville Junction



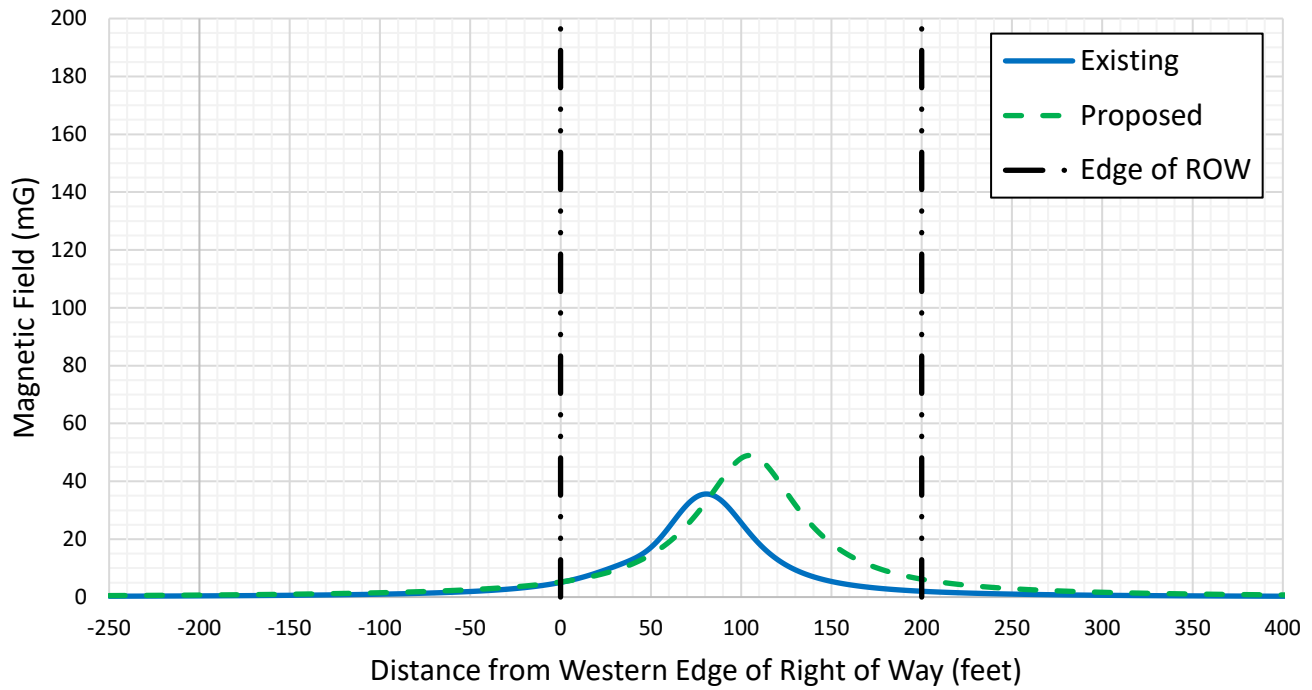
Calculated Magnetic Fields (AAL) Hallville Junction - Structure 7079



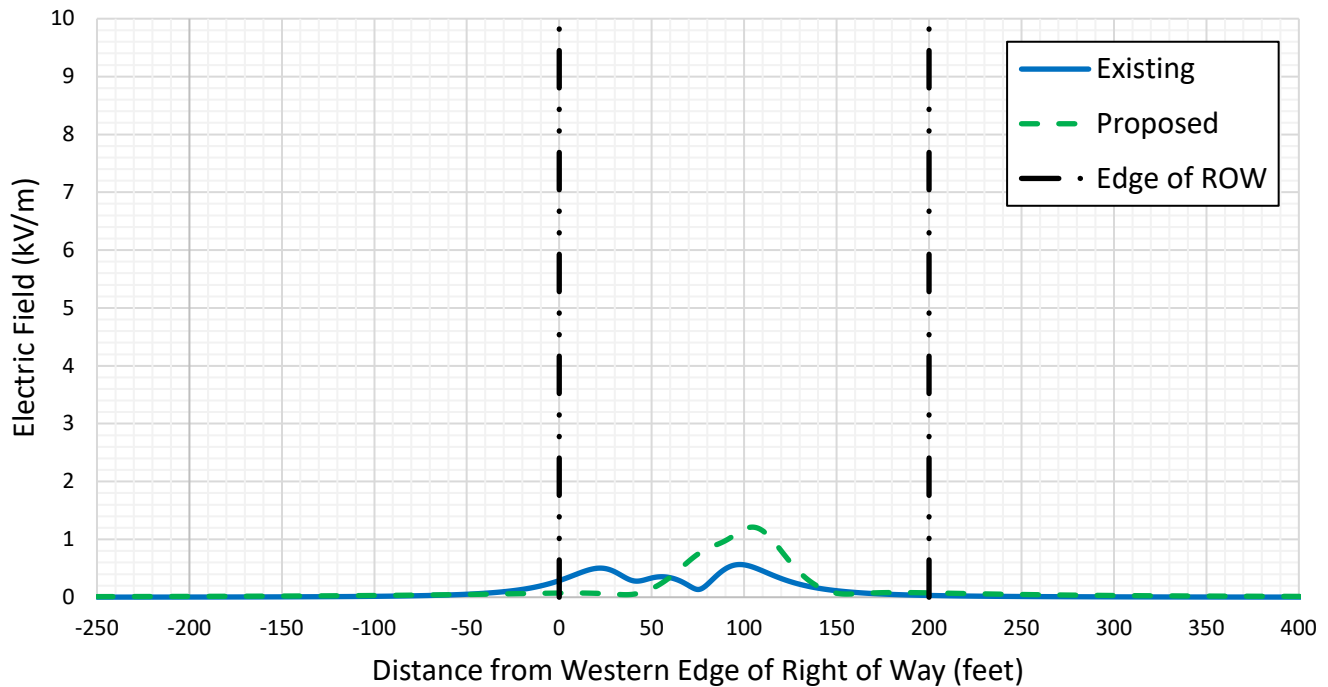
Calculated Electric Fields (AAL) Hallville Junction - Structure 7079



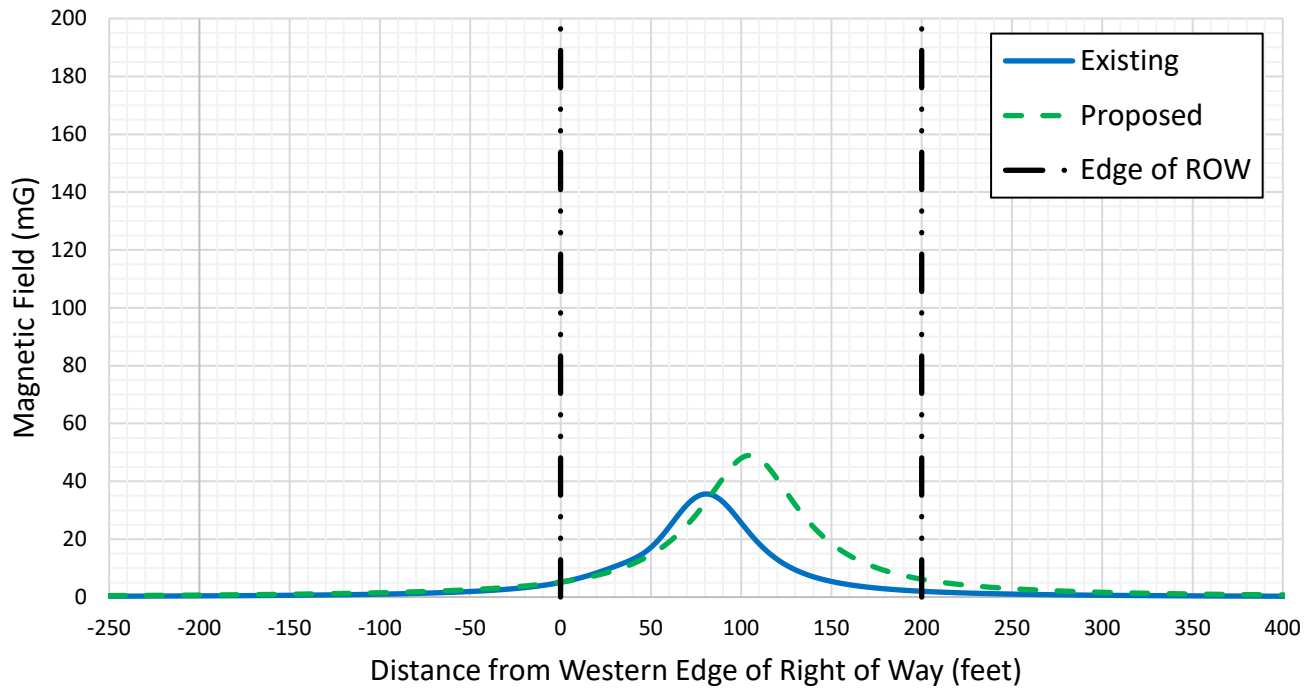
Calculated Magnetic Fields (AAL) Structure 7079 - Structure 7111



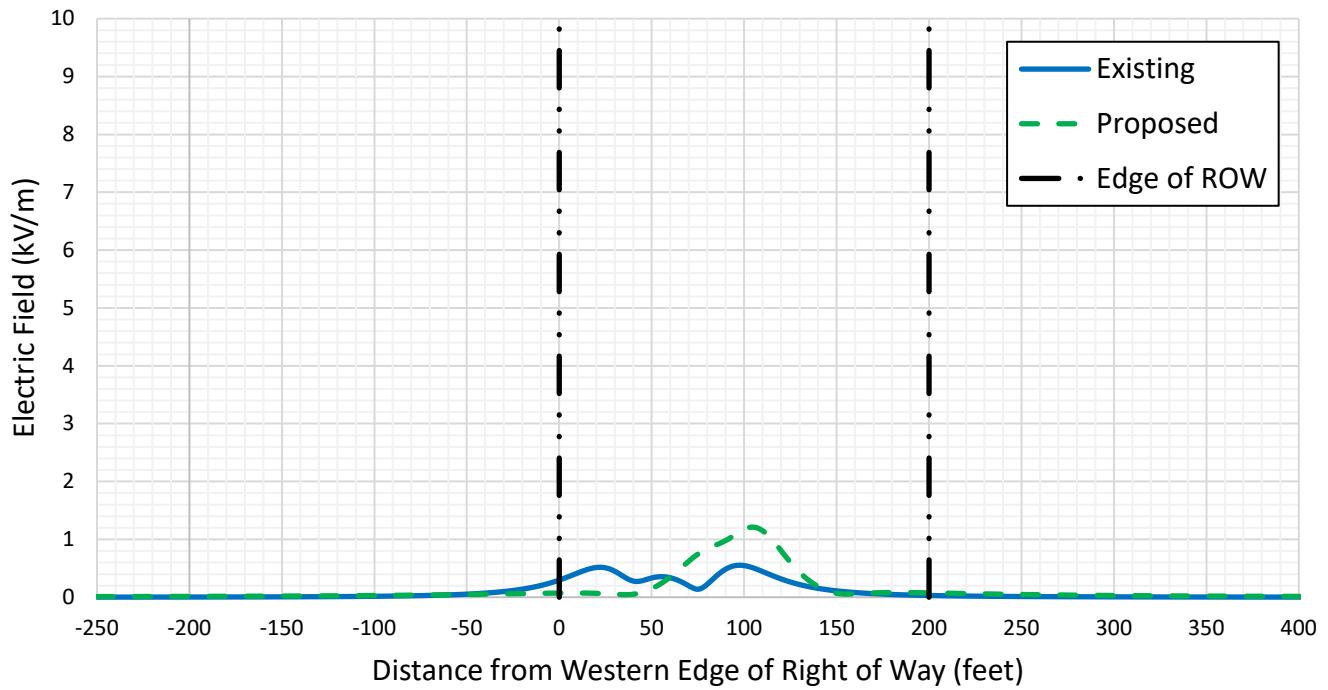
Calculated Electric Fields (AAL) Structure 7079 - Structure 7111



Calculated Magnetic Fields (AAL) Structure 7111 - Tunnel Substation



Calculated Electric Fields (AAL) Structure 7111 - Tunnel Substation



Attachment G: Letter to the Abutters and Affidavit

February 2022

Dear Neighbor,

At Eversource, we're always working to serve you better. We are submitting a petition to the Connecticut Siting Council (CSC) for a proposed reliability project in your area.

Proposed Project Information

The Project, called the Ledyard to Tunnel Substation Reliability Project ("Project"), is one of several Projects designed to support the continued reliability of the transmission system in Eastern Connecticut. The Project work would be located within the existing Eversource right-of-way. The proposed modifications include:

- Rebuild two transmission lines and reconfiguring the right of way (powerline corridor) for approximately nine miles of the 400 line between Ledyard Junction and Tunnel Substation in Preston, and the five-mile overhead section of the 500 line between Hallville Junction to Tunnel Substation in Preston.
- Replace approximately 83 existing wood pole structures with weathering steel monopoles and replace the existing double circuit lattice tower with one single circuit steel monopole structure on the 400 Line from Ledyard Junction and Tunnel Substation in Preston; and replace approximately 49 wood pole structures with weathering steel vertical monopole structures (two structures will remain a horizontal three pole configuration in order to maintain the existing underground/overhead transition at Hallville Junction).
- Replace existing conductors, or overhead wires that make up the transmission lines, with new, thicker wires. This will include increasing the voltage of the 400 line from 69-kV to 115-kV.
- Replace the shield wire on the structures with Optical Ground Wire (OPGW). With these improvements, Eversource will improve electric reliability by enabling communication between substations.
- Remove selective tree and vegetation within the right of way to comply with updated electrical standards.
- Re-terminate the converted 115kV line at and perform modifications within the Tunnel Substation.

What You Can Expect

Pending receipt of the necessary approvals for this proposed work, construction is expected to begin in the second quarter of 2022. We anticipate to complete construction, including restoration of affected areas, by the end of 2023.

Contact Information

Eversource is committed to being a good neighbor and doing our work with respect for you and your property. For more information, please call our projects hotline at 1-800-793-2202 or send an email to ProjectInfo@eversource.com.

If you would like to send comments regarding Eversource's petition to the CSC, please send them via email to siting.council@ct.gov or send a letter to the following address: Melanie Bachman, Executive Director, Connecticut Siting Council, Ten Franklin Square, New Britain, CT 06051.

Sincerely,



Taylor LaPierre
Project Manager on Behalf of Eversource - Transmission

AFFIDAVIT OF SERVICE OF NOTICE

STATE OF CONNECTICUT)
) ss. Berlin
COUNTY OF HARTFORD)

Sec. 16-50j-40 of the Regulations of Connecticut State Agencies (“RCSA”) provides that proof of notice to the affected municipalities, property owners and abutters shall be submitted with a petition for declaratory ruling to the Connecticut Siting Council (“Council”). In accordance with that RCSA section, I hereby certify that I caused notice of the petition for a declaratory ruling of The Connecticut Light and Power Company doing business as Eversource Energy to be served by mail or courier upon the following municipal officials:

- Fred Allyn, III
Mayor
Ledyard Town Hall
741 Colonel Ledyard Highway
Ledyard, CT 06339

- Sandra L. Allyn-Gauthier
First Selectwoman
Preston Town Hall
389 Route 2
Preston, CT 06365

I also certify that I caused notice of the proposed modifications to be served by mail or courier upon owners of abutting properties shown on Attachment A to the Petition.

Taylor LaPierre
Taylor LaPierre
Project Manager

On this the 8th day of February 2022, before me, the undersigned representative, personally appeared, Taylor LaPierre, known to me (or satisfactorily proven) to be the person whose name is subscribed to the foregoing instrument and acknowledged that he executed the same for the purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.

Notary Public/My Commission expires: _____

Officer of the Superior Court/ Juris No.: *Andrew W. Sol* 413393