EVERSOURCE ENERGY

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Kathleen M. Shanley
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September 27, 2019

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

Re: 1505/1607 Line Structure Replacement Project

Dear Ms. Bachman:

Attached are an original and fifteen (15) copies of a petition on behalf of The Connecticut Light and Power Company doing business as Eversource Energy ("Eversource") requesting a Declaratory Ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed modifications to an existing 115-killovolt double-circuit transmission line, the 1505/1607 Structure Replacement Project in the Towns of Preston, Canterbury, Plainfield and Brooklyn Connecticut ("Petition").

Prior to submitting this Petition, representatives from Eversource briefed municipal officials in Preston, Canterbury, Plainfield and Brooklyn 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: 1505/1607 Structure Replacement Project – Aerial Maps.

A check in the amount of $625 for the required filing fee is also attached.

Sincerely,

Kathleen M. Shanley

Enclosure

cc: The Honorable Robert Congdon, First Selectman, Town of Preston
The Honorable Christopher Lippke, First Selectman, Town of Canterbury
The Honorable Cathy Tendrich, First Selectwoman, Town of Plainfield
The Honorable Richard Ives, First Selectman, Town of Brooklyn

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
1505/1607 LINE IN THE TOWNS OF PRESTON, CANTERBURY, PLAINFIELD AND BROOKLYN, 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 1505/1607 transmission line ("1505/1607 Line") a 115-kilovolt ("kV") double-circuit transmission line, located within existing transmission rights-of-way ("ROWs") in the Towns of Preston, Canterbury, Plainfield and Brooklyn, Connecticut ("Towns"), as described herein (the "Project"). Eversource submits that a Certificate is not required because the proposed modifications would not have a substantial adverse environmental effect.

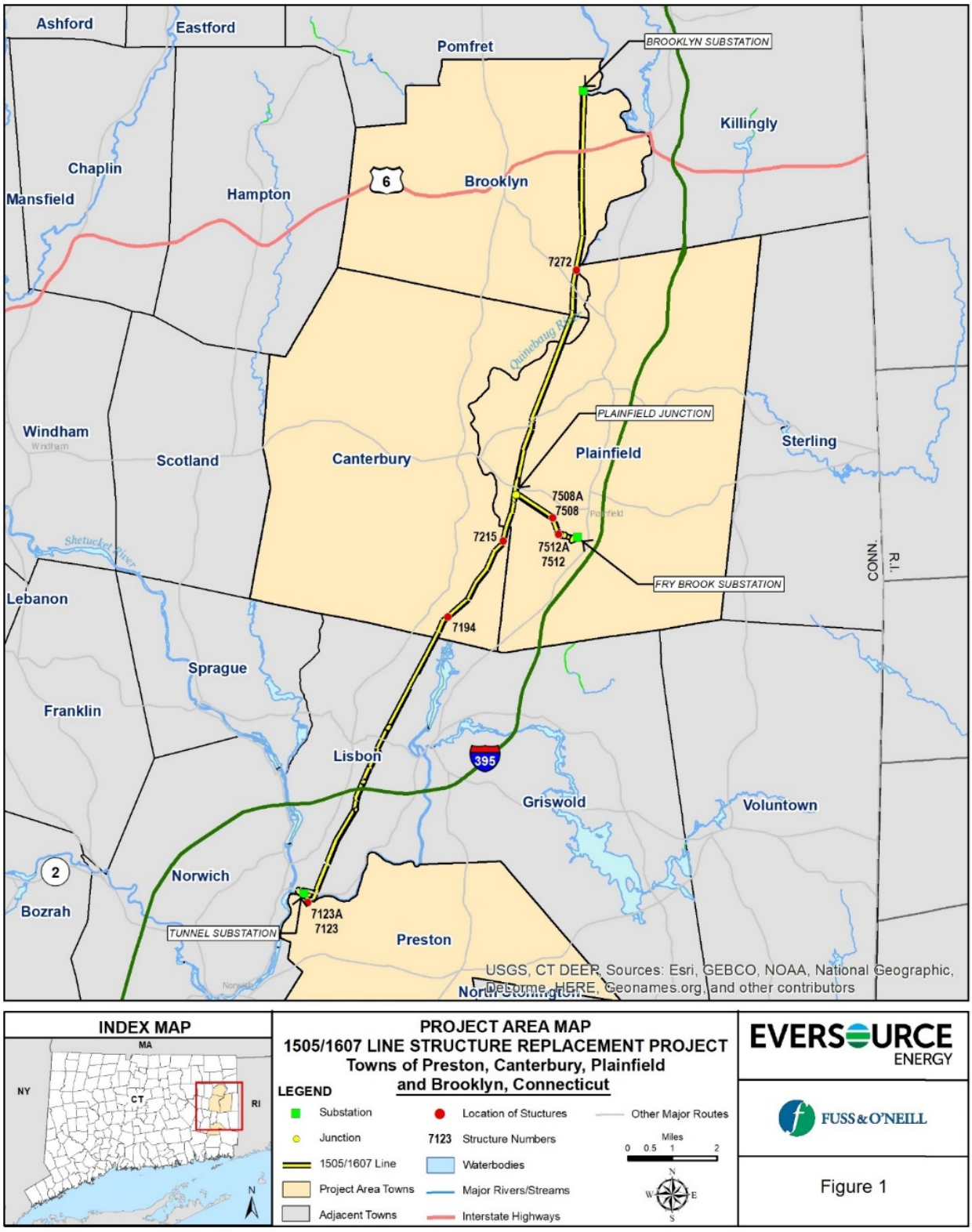
2. Purpose of the Project

The purpose of the Project is to replace nine existing structures on the existing 1505/1607 Line, extending from just east of Tunnel Substation, in Preston, to Robin Road in Plainfield and just north of Wauregan Road in Brooklyn.

The 1505/1607 Line in its entirety, extends approximately 25 miles and is located between Tunnel Substation in Preston, Fry Brook Substation in Plainfield and Killingly Substation in Killingly. The 1505/1607 Line was originally constructed in 1971 on mostly wood structures. Recent assessment of the line revealed that nine structures are in immediate need of replacement based on the following deficiencies: rotting, cracks, split tops and/or woodpecker damage.

Figure 1 illustrates the general location of the proposed Project.

Figure 1: Project Area Map



3. Project Description

The Project scope is to replace nine wood structures on the 115-kV 1505/1607 Line between Tunnel Substation, Fry Brook Substation and Brooklyn Substation, which is a distance of approximately 18 miles. The new structures would have direct embedded foundations and six of the structures would also be guyed.

The proposed scope of work is summarized as follows:

- Replace three double-circuit wood monopole structures (Structures: 7194, 7215 and 7272) with weathering steel monopole structures;
- Replace six single-circuit wood monopole guyed angle structures (Structures: 7123, 7123A, 7508, 7508A, 7512 and 7512A) with weathering steel monopole guyed angle structures;
- Install new hardware, insulators, counterpoise and lightning arresters.

Access roads and ROW improvements will be required to support the proposed scope of work. The Project work would require some tree clearing and vegetation removal/mowing to accommodate access road installations and improvements and work pads to facilitate structure replacement work. Construction is expected to begin in the fall of 2019 and the proposed in-service date is in Winter 2020.

The maps in Attachment A: “1505/1607 Line Structure Replacement Project – Aerial Maps” depicts the locations of existing and proposed structures and work pads to be used for the Project, wetland areas and other ROW features, access roads and other Project elements. The cross-section drawings in Attachment B – “Line 1505/1607 Right of Way Cross Section” depict typical views along the ROW of the existing and proposed structures and the existing and proposed limits of managed

and unmanaged ROW areas. Attachment C – "List of Structure Replacements" provides information on structure heights and the type of foundation for the replacement structures. The heights of the existing structures range from 74.5 to 88 feet above ground level and some of the replacement structures must be taller to meet current National Electrical Safety Code clearance requirements. The replacement structures would range in height from 88.5 feet to 107.5 feet above ground level.

4. Existing Environment, Environmental Effects and Mitigation

The Project would be constructed entirely within Eversource owned property and/or the existing transmission ROW between Tunnel Substation, Fry Brook Substation and Brooklyn Substation. No expansion of the existing ROW would be required for the Project. The Project would not have a substantial adverse environmental effect, for reasons explained below.

Land Use

Land uses in the vicinity of the Project area consist of a mix of rural, residential, industrial, recreational, agricultural lands, and undeveloped lands, such as forests, successional habitats and the riparian corridor associated with the Quinebaug River.

Though the Project would be traversing through some of these areas, it would not impact adjacent land uses. Eversource would work with any affected property owners on restoration upon completion of the Project.

Clearing and Vegetation Removal

The existing Project ROW width is 125 feet and is currently maintained to a cleared width of approximately 70 to 80 feet. The Project is not anticipated to require significant tree clearing; however, minor tree clearing and side trimming would be conducted in select areas where additional temporary workspace is necessary for construction of the Project, or to maintain the required safety setbacks from the 1505/1607 Line wire zone. Some vegetation removal

(including tree trimming) is required within the maintained ROW to accommodate access road installation and improvements or to remove incompatible species.

Scenic, Recreational and Cultural Resources

No local or state designated scenic or recreational resources were identified within the Project Area. The only adjacent recreational resource is the Quinebaug River; however, there would be no direct or indirect impact to that resource. No public open space properties or trails were identified through a desktop review of the Connecticut Department of Energy and Environmental Protection ("CT DEEP") GIS data and field investigations.

a) A Phase 1A assessment review of previously recorded cultural resources on file with the Connecticut State Historic Preservation Office conducted by Heritage Consultants, LLC ("Heritage") did not identify any National or State Register of Historic Places properties/districts (built or above ground resources) located within 500 feet of the Work Areas. Based on a review of historic maps, aerial photographs and available soil profiles, seven of the proposed work pad locations and two of the access road locations were identified to posses a potential for moderate to high archaeological sensitivity. These locations were evaluated in the field with a pedestrian survey by Heritage. Heritage confirmed that all the locations retained the potential for moderate to high archaeological sensitivity and completed a Phase 1B cultural reconnaissance survey (shovel pit testing) at the locations. The shovel pit testing found no physical evidence of archaeological significance, therefore, Heritage determined that no further investigation is warranted.

Wetlands, Watercourses, Waterbodies, Vernal Pools and Flood Zones

Eversource identified and delineated water resources in the vicinity of the Project area in the summers of 2017, 2018, and 2019 (see Attachment D: Wetlands and Watercourses Summary Report and Attachment E: Vernal Pools Summary Report). Water resources within the Project area include inland wetlands, watercourses (perennial and intermittent streams), potential vernal pools, ponds, and Federal Emergency Management Agency ("FEMA") Flood Zones. All work in or near these areas would be conducted in accordance with *Eversource's 2016 Construction & Maintenance Environmental Requirements, Best Management Practices Manual for Massachusetts and Connecticut* ("BMP Manual") and with the conditions of applicable regulatory permit conditions and approvals. Details on each of these resource areas is provided below.

Wetlands

Wetlands in the Project area were identified and delineated in accordance with industry standard methodology. A total of three wetlands were identified in or proximate to the Project area. There would be no temporary or permanent effects to these wetlands as a result of the Project.

Watercourses and Waterbodies

One watercourse, the Quinebaug River, was identified within the Project area. There will be no impact to the watercourse.

Vernal Pools

No vernal pools were identified within or adjacent to the existing maintained ROW; therefore, no adverse impact to vernal pools would result from the proposed Work Activities.

FEMA Flood Zones

The Project ROW extends across 100-year FEMA flood zones associated with the Quinebaug River. None of the replacement structures (7123, 7123A, 7194, 7215, 7272, 7508, 7508A, 7512, and 7512A) are proposed to be located within a 100-year flood zone. In addition, no work activities or materials would be located within 100-year flood zones.

Water Supply

Based on Aquifer Protection Areas ("APA") mapping maintained by CT DEEP, there are no APAs within or proximate to the Project ROW. In addition, no Public Water Supply Watersheds (as provided by Connecticut Department of Public Health) were identified within the project area. Residences within the Project area are generally served by private water supply wells.

Eversource would require its contractors to employ best 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 BMP Manual.

Wildlife and Habitat

As a result of Eversource's review of the Connecticut Department of Energy and Environmental Protection's (“CTDEEP”) Natural Diversity Database ("NDDB"), no Work Areas are proposed within a NDDB buffered area and wetland jurisdictional area; therefore, they would not be subject to a NDDB review request. Work would be conducted in accordance with Eversource’s BMPs to avoid or minimize impact to terrestrial habitats that may support rare species. Consequently, no adverse impact to rare species will result from activities proposed in the Work Areas.

Visual Effects

The Project will result in some change to the visual character of the line, though Eversource does not believe that the change will result in a significant impact. Minimal clearing is required within the ROW for the Project to meet operational clearance requirements and accommodate the installation of work pads. With the exception of Structure 7215, which is being relocated approximately 130 feet north along the ROW at a lower elevation, replacement structures would be located as close as possible to the existing structures in accordance with engineering design constraints. Structure 7215 is being relocated due to constructability constraints associated with its current location, which would limit the ability to construct a level/suitable work pad to facilitate structure replacement activities. Although the overall structure height would increase by 33 feet above ground level, the new structure location is at a lower elevation such that the overall conductor attachment elevation would remain the same and would not significantly alter the visual appearance of the ROW. Visual effects would be further mitigated by utilizing weathering steel for the new structures. As a result, the new structures would not change the existing visual character of the Project area.

Noise

The Project construction would result in short-term and localized noise, as is typical of any similar construction project, from the operation of equipment and other vehicles. There would be no permanent changes to the noise levels along the transmission ROW from the Project.

Air Quality

Short-term, localized effects on air quality may result from the Project construction work, primarily from fugitive dust and equipment emissions. Compliance with Eversource's "Dust Control" provisions within its BMP Manual would minimize the amount of dust generated by construction activities, in addition to following proper erosion and sediment (E&S) control practices. Temporary gravel anti-tracking pads would be installed at points of construction vehicle ingress/egress from the ROW to minimize the potential for equipment to 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. Vehicle emissions will 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 requirements[1].

Radio and Television Interference

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

[1] 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.

5. Traffic Management

Construction vehicles and equipment used for the work would include pickup trucks, bucket trucks, flat-bed trucks, concrete trucks, drill rigs, front loaders, bulldozers, wood chippers, forklifts, side booms, dump trucks and cranes.

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 ("ConnDOT") 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 245 Chapel Street in the Town of South Windsor and 252 Butlertown Road in Montville for the staging and laydown areas. The staging areas are approximately 6 and 4 acres, respectively, in size and located within the existing

cleared areas identified in Figures 2 and 3 below. Other staging areas may be identified by the contractors and Eversource would request Council authorization for any additional or alternative laydown areas for the Project.

The staging areas would be used for surface storage of construction materials, equipment, tools, and supplies (including, insulators, hardware, poles and mats) for the Project. Two 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 and/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 E&S controls would be installed and maintained until completion of the work in accordance with Project permits and Eversource's BMP Manual.

Figure 2: Proposed South Windsor Staging and Laydown Area

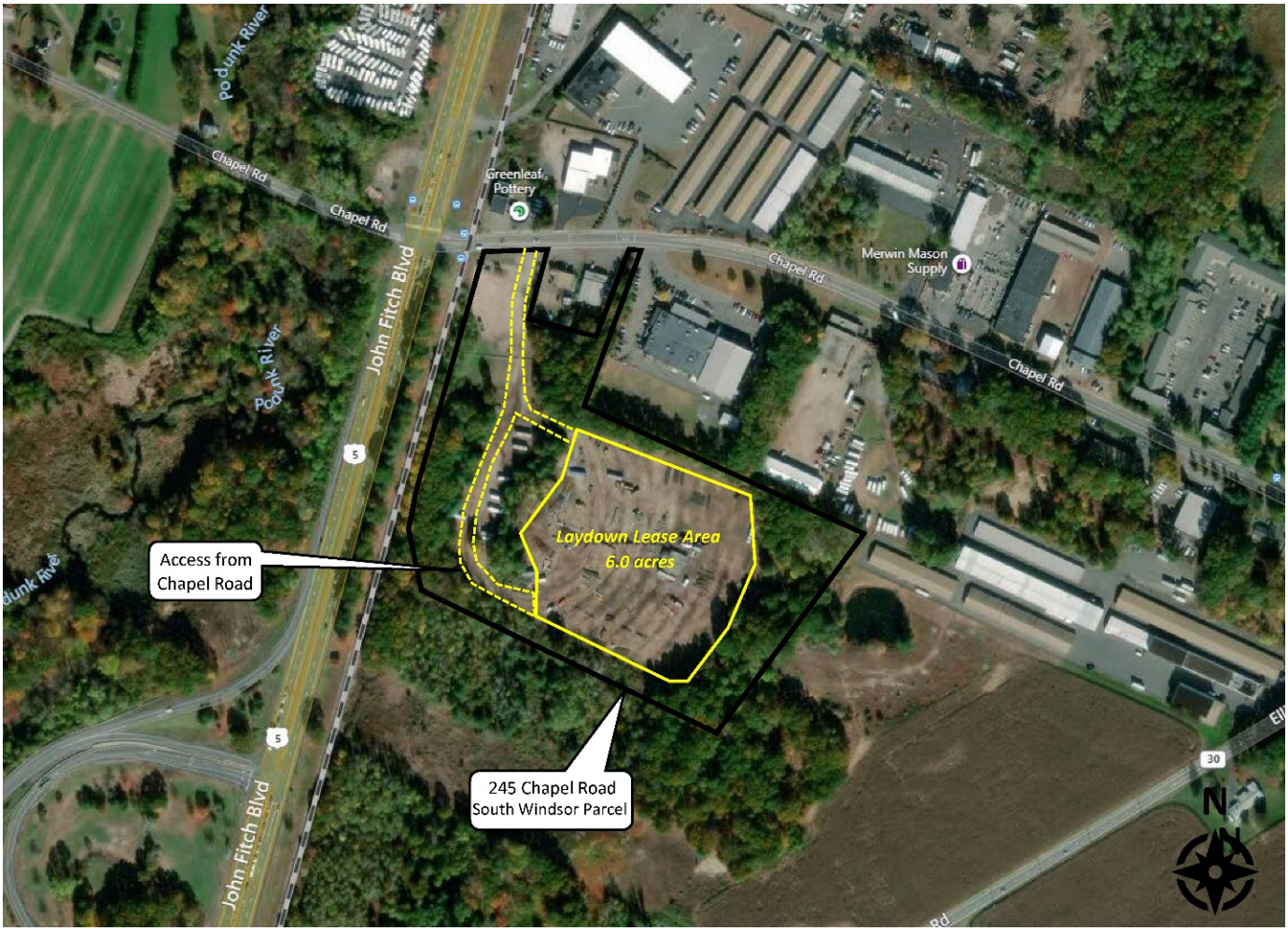
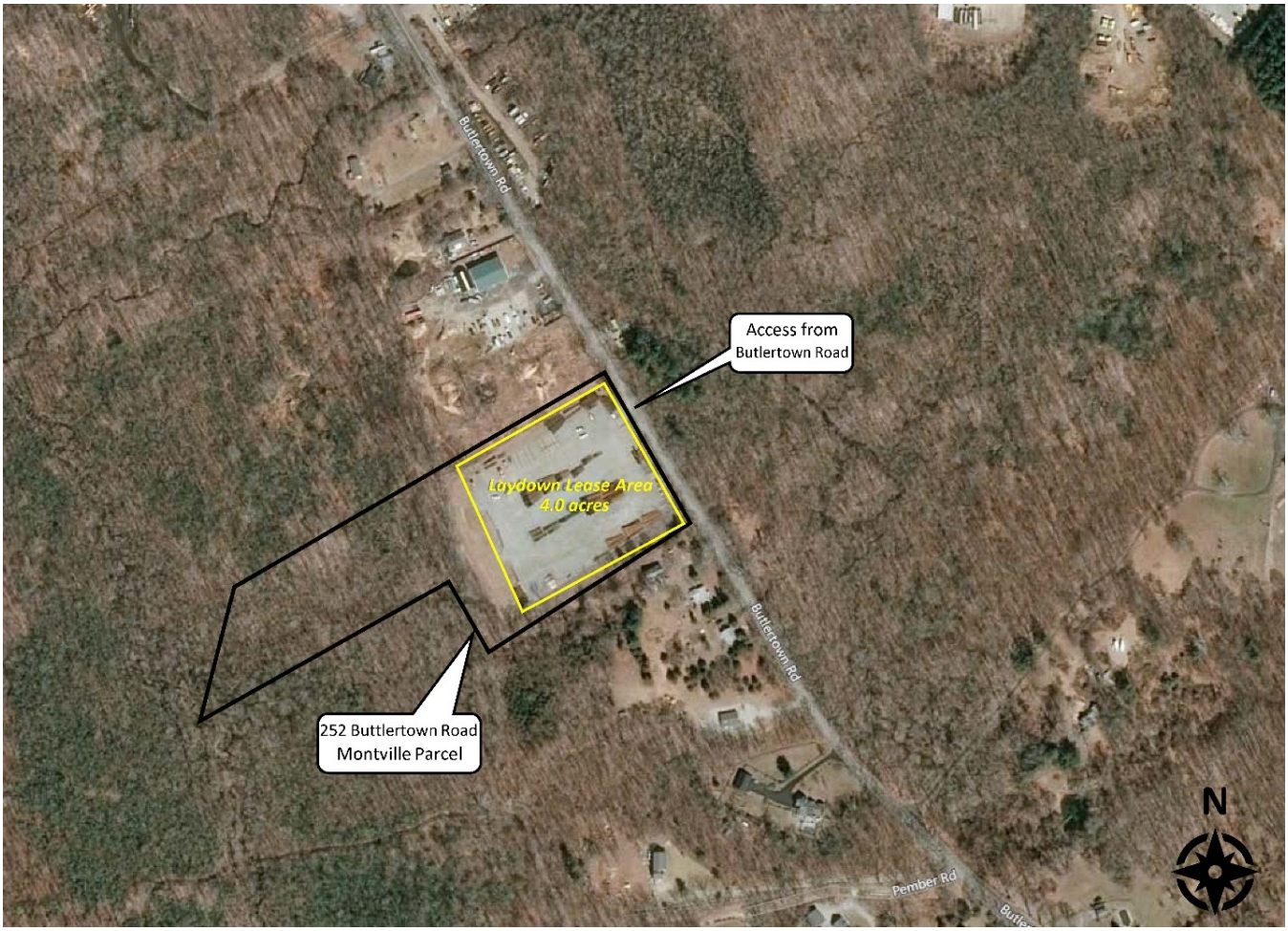


Figure 3: Proposed Montville Staging and Laydown Area



Clearing and Vegetation Removal

Clearing and vegetation removal would be accomplished using mechanical methods. This work typically requires the use of flat-bed trucks, brush hogs or other types of mowing equipment, skidders, forwarders, bucket trucks for canopy trimming, feller bunchers for mechanical tree cutting, wood chippers, log trucks, and chip vans. Eversource would conduct vegetation removal activities in accordance with its BMPs.

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 site-specific considerations:

- Take into consideration 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.
- Use appropriately sized equipment for the site conditions, where possible, to minimize impacts.
- Where practical, cut brush close to the ground, leaving root systems and stumps, to retain soil stability.

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 BMP Manual.

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 for the duration of the Project to ensure their integrity and effectiveness and for compliance with the Eversource BMP Manual. Following completion of construction, seeding and mulching or hydroseeding 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 are stabilized.

Access Roads and Work Pads

Access to each proposed transmission structure location will be required during Project construction. As a result of maintenance activities, some access roads are already established; Eversource will utilize these existing access roads to the extent possible. However, some new access roads will be required. None of these new roads would impact wetlands or watercourses. 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 minimum travel surface that is approximately 12 to 16 feet wide (additional width may be needed at turning or passing locations). Access roads would typically be graveled.

At each transmission line structure site, a work pad is required to stage material for final on-site assembly and/or removal, and to provide a safe, level work base for the construction equipment. Typical work pads would be approximately 100 feet by 100 feet.

A typical (upland) installation of a work pad at a structure location involves several steps: (1) removal of vegetation, (2) grading to create a level work area, and (3) removal of the upper three to six inches of topsoil (which is usually unsuitable to support the necessary construction activities). The removed topsoil would be temporarily stockpiled within the ROW, typically near the work pad. A rock base, which allows drainage, would be layered on top of filter fabric, if necessary. Additional layers of rock with dirt/rock fines (processed gravel) are typically placed over the rock base.

To facilitate future transmission line maintenance, access roads and structure work pads in uplands would be left in place, unless the property owner requests their removal. Access roads and work pads located within improved areas would typically be removed and the area restored, unless the property owner requests that they remain in place. No new permanent access roads or work pads are proposed in water resource areas.

The preliminary 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

All structures would have direct embedded foundations. Foundation installation work would require the use of equipment such as pneumatic hammers, augers, drill rigs, and dump trucks. If groundwater is encountered, 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 not be stored or stockpiled inside of a wetland, or adjacent to a watercourse. Materials that cannot be utilized as backfill would be disposed in accordance with applicable state and local regulations.

As needed, counterpoise installation would also take place at this time. Depending on site-specific soil conductivity, supplemental grounding will 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. Excavated soils will be spread in upland areas within the Project area, as needed.

Conductor and Shield Wire Transfer

The transfer of the conductor and shield wire from the existing structures to the new structures, would occur after the new structures have been erected. The equipment required for these activities would include cranes, bucket trucks and tensioning rigs.

Restoration

Once the new structures have been erected, the conductor and shield wire transferred, and the line is energized, the existing structures would be demolished and removed. ROW restoration activities would also include the removal of construction debris, signage, flagging, and temporary fencing, as well as the removal of construction mats and structure 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 will work with individual property owners for the restoration or permanent removal of any stone walls that would be impacted during construction.

Waste Management

Waste materials, such as structure components (i.e., wood and steel from the removed structures, 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. 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 construction in the fall of 2019. Normal work hours would be Monday through Saturday from 7:00 AM to 7:00 PM. Sunday work hours may be necessary due to delays caused by inclement weather and/or outage constraints. Multiple crews may work concurrently on different sections of the line.

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 circuits. The calculations apply at one meter (3.28 feet) above grade and assume that the lowest conductor for each 115-kV circuit would be 30 feet above grade.

For the 1505/1607 Line Structure Replacement Project, Eversource proposes to replace three double-circuit wood monopole structures with double-circuit tubular steel monopole structures and replace six single-circuit wood monopole structures with single-circuit tubular steel monopole structures. Any changes in Electric and Magnetic field levels inside or outside the ROW would be negligible.

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

Table 1 - Summary of Calculated Electric Fields

Electric Field Calculation Summary						
Line Section	South Edge of ROW		Max in ROW		North Edge of ROW	
	Existing	Proposed	Existing	Proposed	Existing	Proposed
Tunnel Substation to Brooklyn Substation	0.13	0.14	1.89	1.95	0.34	0.29

Table 2 summarizes the calculated magnetic fields at the ROW edges before and after the Project.

Table 2 - Summary of Calculated Magnetic Fields

Magnetic Field Calculation Summary						
Line Section	South Edge of ROW		Max in ROW		North Edge of ROW	
	Existing	Proposed	Existing	Proposed	Existing	Proposed
Tunnel Substation to Plainfield Junction	9.3	9.3	43.8	46.9	26.3	26.6
Plainfield Junction to Fry Brook Substation	7.6	7.7	36.1	38.7	21.7	22.0
Plainfield Junction to Brooklyn Substation	7.6	7.7	36.1	38.7	21.7	22.0

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

Comparison of Calculated Fields to International Guidelines

The anticipated fields resulting from the proposed Project would be well below the internationally established exposure limits for 60-Hz electric and magnetic fields. Specifically, these established exposure limits are the guideline limits identified by the International Council on Electromagnetic Safety ("ICES") and the International Council on Non-Ionizing Radiation Protection ("ICNIRP") as summarized below in Table 3.

Table 3 - International Guidelines for EMF Exposure

	EF (kV/m)	MF (mG)
ICES	5	9,040
ICNIRP	4.2	2000

9. Municipal and Property Owner Outreach

Beginning in the summer of 2019, Eversource provided municipal officials in the Towns with information on the proposed Project. Additionally, in September 2019, Eversource provided representatives of the Towns with written notice of the Petition filing.

Beginning in August 2019 Eversource conducted outreach to property owners proximate to where the work activities will take place. 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 will 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: 1505/1607 Line Structure Replacement Project – Aerial Maps
Attachment B: Line 1505/1607 – Right-of-Way Cross Sections
Attachment C: List of Structure Replacements
Attachment D: Wetlands and Watercourses Report
Attachment E: Vernal Pool Summary Report
Attachment F: EMF Graphs
Attachment G: Letter to the Abutters and Affidavit

Attachment A: 1505/1607 Line Structure Replacement Project – Aerial Maps

1505/1607 Line Structure Replacement Project

Towns of Preston, Canterbury, Plainfield, and Brooklyn, Connecticut

Aerial Map

September 18, 2019

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Franklin
Scotland
Sprague
Norwich
Canterbury
Brooklyn
Killing
Lisbon
Griswold
Preston
Plainfield
Sterling
Voluntown
TUNNEL SUBSTATION
PLAINFIELD JUNCTION
FRYBROOK SUBSTATION
1
2
3
4
5
6
WINDHAM CO
NEW LONDON CO
CONRAIL
PROVIDENCE

Index Map

Legend

- Junction
- Substation
- Map Sheet
- Existing Right-of-Way (ROW)
- Municipal Boundary

NO.	DATE	REVISIONS	BY	CHK	APP	APP

0 1 2 Miles

Index Map
1505/1607 Line Structure Replacement
Preston, Canterbury, Plainfield
& Brooklyn, CT

September 2019

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FUSS & O'NEILL

Mapsheet 1 of 6
Eversource 1505/1607 Line Structure Replacement Project
Access to Existing Structures 7123 and 7123A
Town of Preston, Connecticut

AREA DESCRIPTION
Existing Land Use & Resource Areas
• Eversource owned property
• Agricultural, pasture
• Undeveloped, forest
• Residential

RIGHT-OF-WAY DESCRIPTION
Right-of-Way Land Use & Resource Areas
• Driveway to Tunnel Substation
• Eversource-owned property from Roosevelt Avenue Ext. to structure 7123/7123A
• Natural Diversity Database Area along driveway to Tunnel Substation

Water Resources
• Wetland - None
• Wetland Cover Types - None
• Watercourses - None
• Vernal Pools - None

Wetland and Watercourse Crossings
• None

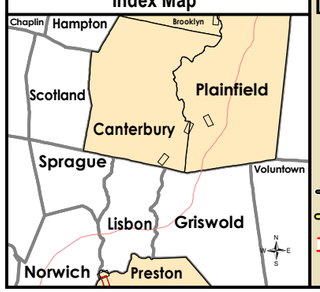
Right-of-Way Vegetation
• Scrub-shrub
• Forest

Access
• Structures 7123 and 7123A: Existing from Roosevelt Avenue Extension

Road Crossings
• None

ABUTTERS TO PROJECT RIGHT-OF-WAY				
Line List	Parcel Address	City	State	Owner Name
100	68 ROOSEVELT AVE EXT	PRESTON	CT	JOHN GOOD LIVING TRUST
100A	72A ROOSEVELT AVE EXT	PRESTON	CT	CONN LIGHT & POWER
102	76 ROOSEVELT AVE EXT	PRESTON	CT	JOHN & MARY PODURGIEL
103	74 ROOSEVLET AVE EXT	PRESTON	CT	ANTHONY GOOD
104	12 WHEELER FARM RD	PRESTON	CT	MARK & KYLIE DESJARDINS
105	14 WHEELER FARM RD	PRESTON	CT	JEFREY T & JOANNA LAME
106	16 WHEELER FARM RD	PRESTON	CT	RUSSELL M & REGINA A YOUNG

Index Map



Legend

- Proposed Structure
- Existing Structure
- Existing Structure to be Removed
- Gate
- Culvert
- Overhead Eversource Line
- Existing Access
- Proposed Access
- Access Road to be Improved
- Stone Work Pad
- Temporary Construction Matting
- Delineated Perennial Watercourse
- Delineated Intermittent Watercourse
- Delineated Wetland Boundary
- Field Delineated Wetland
- Approximate Wetland (not delineated)
- Watercourse (not delineated)
- FEMA 100-Year Flood Zone
- Natural Diversity Database Area
- Map Sheet Matchline
- Municipal Boundary
- Parcel Boundary
- Eversource Owned Property
- State-Owned Property
- Existing Right-of-Way (ROW)
- Open Water
- Fence
- 10 FT Contour
- 100 LLNs/Property Owner

0 100 200 Feet

1 inch = 200 feet

NO.	DATE	REVISIONS	BY	CHK	APP	APP

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1607/1505 Line Structure Replacement Project
Preston, Connecticut

MAP SHEET 1 of 6

Date: 9/18/2019

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Mapsheet 2 of 6
Eversource 1505/1607 Line Structure Replacement Project
Existing Structures 7123 and 7123A
Town of Preston, Connecticut

AREA DESCRIPTION

Existing Land Use & Resource Areas
- Eversource owned property, Tunnel Substation
- Agricultural, pasture
- Undeveloped, forest
- Natural Diversity Database Area
- 100-year Flood Zone of Quinebaug River

RIGHT-OF-WAY DESCRIPTION

Right-of-Way Land Use & Resource Areas
- Driveway to Tunnel Substation
- Eversource-owned property from Roosevelt Avenue Ext. to structure 7123/7123A
- Natural Diversity Database Area surrounding structure 7123/7123A

Water Resources
- Wetlands - None
- Wetland Cover Types - None
- Watercourses - S1, Quinebaug River
- Vernal Pools - None

Wetland and Watercourse Crossings
- None

Right-of-Way Vegetation
- Scrub-shrub
- Forest

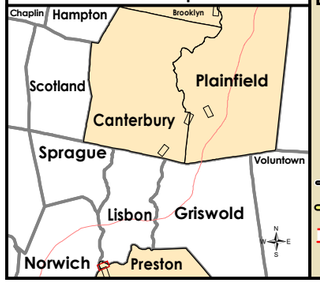
Access
- Structures 7123 and 7123A: Existing from Roosevelt Avenue Extension to Tunnel Substation

Road Crossings
- None

Existing Maintained Right-of-Way Width
- Utility ROW is approximately 125 feet

ABUTTERS TO PROJECT RIGHT-OF-WAY				
Line List	Parcel Address	City	State	Owner Name
100	68 ROOSEVELT AVE EXT	PRESTON	CT	JOHN GOOD LIVING TRUST
100A	72A ROOSEVELT AVE EXT	PRESTON	CT	CONN LIGHT & POWER
106	16 WHEELER FARM RD	PRESTON	CT	RUSSELL M & REGINA A YOUNG

Index Map



Legend

- Proposed Structure
- Existing Structure
- Existing Structure to be Removed
- Gate
- Culvert
- Overhead Eversource Line
- Existing Access
- Proposed Access
- Access Road to be Improved
- Stone Work Pad
- Temporary Construction Matting
- Delineated Perennial Watercourse
- Delineated Intermittent Watercourse
- Delineated Wetland Boundary
- Field Delineated Wetland
- Approximate Wetland (not delineated)
- Watercourse (not delineated)
- FEMA 100-Year Flood Zone
- Natural Diversity Database Area
- Map Sheet Matchline
- Municipal Boundary
- Parcel Boundary
- Eversource Owned Property
- State-Owned Property
- Existing Right-of-Way (ROW)
- Open Water
- Fence
- 10 FT Contour
- 100 LLNs/Property Owner

N

0 100 200 Feet

1 inch = 200 feet

NO.	DATE	REVISIONS	BY	CHK	APP	APP

EVERSOURCE ENERGY

1607/1505 Line Structure Replacement Project
Preston, Connecticut

MAP SHEET 2 of 6

Date: 9/18/2019

FUSS & O'NEILL

Document: K:\P99\99549\C45\MXD\2019 Full Petition Mapping\1607_1505Line_DRAFT_20190904_new.mxd

Mapsheet 3 of 6
Eversource 1505/1607 Line Structure Replacement Project
Existing Structure 7194
Town of Canterbury, Connecticut

AREA DESCRIPTION
Existing Land Use & Resource Areas
- Residential
- Eversource owned property
- Agricultural, pasture
- Undeveloped, forest
- Transportation, Railroad

RIGHT-OF-WAY DESCRIPTION
Right-of-Way Land Use & Resource Areas
- Maintained ROW
- Residential

Water Resources
- Wetlands - W1
- Wetland Cover Types - PFO
- Watercourses - S1, Quinebaug River
- Vernal Pools - None

Wetland and Watercourse Crossings
- None

Right-of-Way Vegetation
- Scrub-shrub
- Forest
- Houses/yards
- Pasture

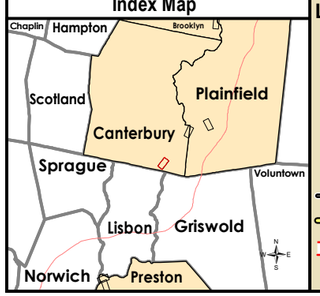
Access
- Structure 7194: Proposed access road from Shagbark Lane

Road Crossings
- Shagbark Lane
- Depot Road

Existing Maintained Right-of-Way Width
- Utility ROW is approximately 125 feet

ABUTTERS TO PROJECT RIGHT-OF-WAY				
Line List	Parcel Address	City	State	Owner Name
205	SHAGBARK LN	CANTERBURY	CT	TOWN OF CANTERBURY
206	3 SHAGBARK LN	CANTERBURY	CT	LAURIE L MOULIN
208	58 DEPOT RD	CANTERBURY	CT	ANDREW M II & KATHLEEN A AVERY

Index Map



Legend

- Proposed Structure
- Existing Structure
- Existing Structure to be Removed
- Gate
- Culvert
- Overhead Eversource Line
- Existing Access
- Proposed Access
- Access Road to be Improved
- Stone Work Pad
- Temporary Construction Matting
- Delineated Perennial Watercourse
- Delineated Intermittent Watercourse
- Delineated Wetland Boundary
- Field Delineated Wetland
- Approximate Wetland (not delineated)
- Watercourse (not delineated)
- FEMA 100-Year Flood Zone
- Natural Diversity Database Area
- Map Sheet Matchline
- Municipal Boundary
- Parcel Boundary
- Eversource Owned Property
- State-Owned Property
- Existing Right-of-Way (ROW)
- Open Water
- Fence
- 10 FT Contour
- 100 LLNs/Property Owner

0 100 200 Feet

1 inch = 200 feet

NO.	DATE	REVISIONS	BY	CHK	APP	APP

EVERSOURCE ENERGY

1607/1505 Line Structure Replacement Project
Canterbury, Connecticut

MAP SHEET 3 of 6

Date: 9/18/2019

FUSS & O'NEILL

Document: K:\P99\99549\C45\MXD\2019 Full Petition Mapping\1607_1505Line_DRAFT_20190904_new.mxd

Mapsheet 4 of 6
Eversource 1505/1607 Line Structure Replacement Project
Existing Structure 7215
Towns of Canterbury & Plainfield, Connecticut

AREA DESCRIPTION

Existing Land Use & Resource Areas
- Residential
- Eversource owned property
- Gravel mining
- Agricultural
- Undeveloped, forest
- Natural Diversity Database Area
- 100-year Flood Zone of Quinebaug River

RIGHT-OF-WAY DESCRIPTION

Right-of-Way Land Use & Resource Areas
- Maintained ROW
- Residential

Water Resources
- Wetlands - none
- Wetland Cover Types - none
- Watercourses - none
- Vernal Pools - None

Wetland and Watercourse Crossings
- None

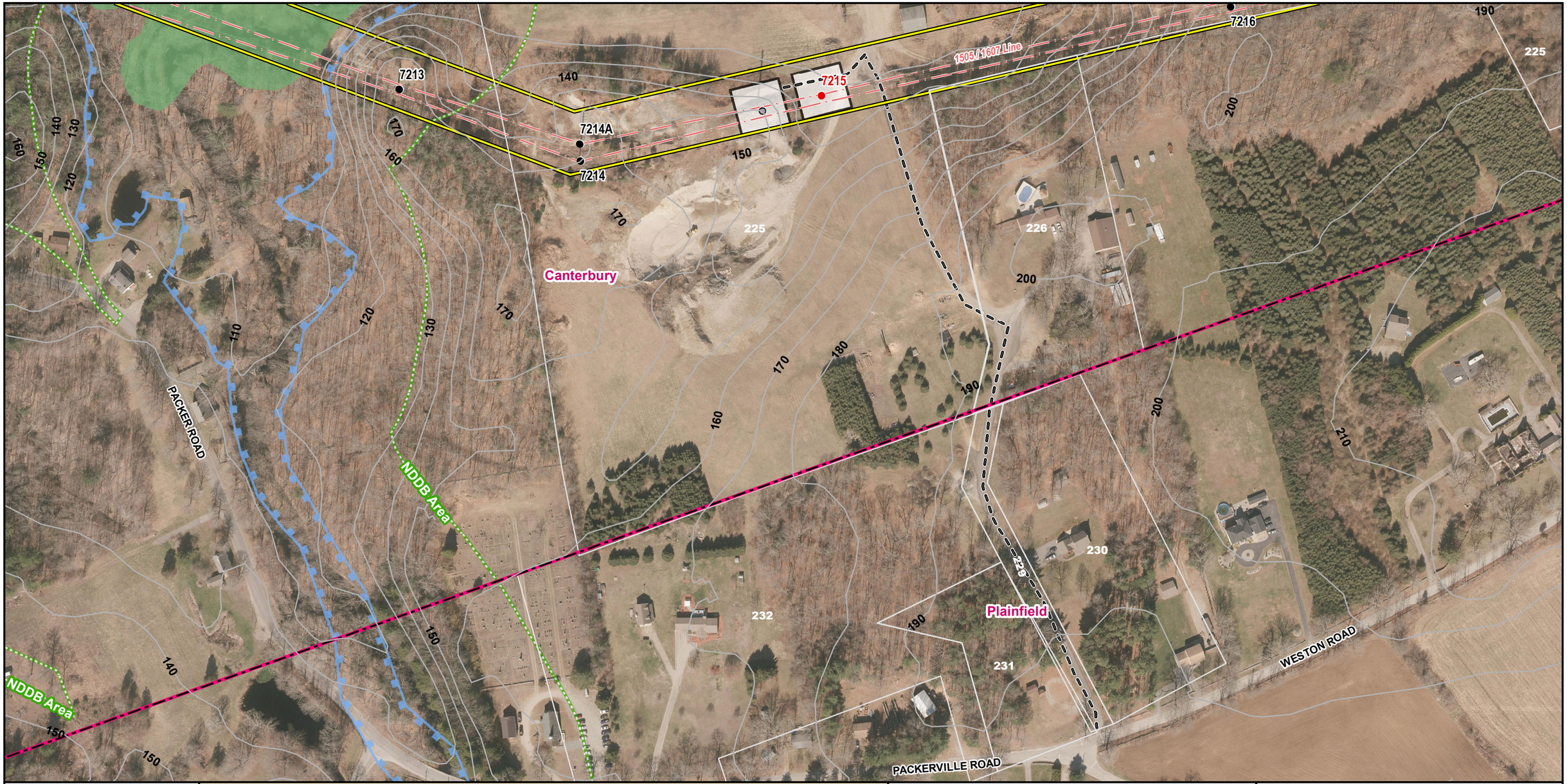
Right-of-Way Vegetation
- Scrub-shrub
- Forest
- Gravel mining facility

Access
- Structure 7215: Existing access road from Weston Road

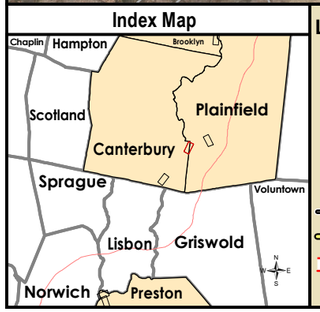
Road Crossings
- None

Existing Maintained Right-of-Way Width
- Utility ROW is approximately 125 feet

ABUTTERS TO PROJECT RIGHT-OF-WAY				
Line List	Parcel Address	City	State	Owner Name
225	PACKER RD	CANTERBURY	CT	THOMAS G & DARLENE E BUFFINGTON
226	180 PACKER RD	CANTERBURY	CT	THOMAS G & DARLENE E BUFFINGTON
229	0 WESTON RD	PLAINFIELD	CT	THOMAS G & DARLENE E BUFFINGTON
230	181 WESTON RD	PLAINFIELD	CT	JOCELYN N BUFFINGTON
231	0 PACKERVILLE RD	PLAINFIELD	CT	THOMAS G & DARLENE E BUFFINGTON
232	0 PACKERVILLE RD	PLAINFIELD	CT	THOMAS G & DARLENE E BUFFINGTON



Index Map



Legend

- Proposed Structure
- Existing Structure
- Existing Structure to be Removed
- Gate
- Culvert
- Overhead Eversource Line
- Existing Access
- Proposed Access
- Access Road to be Improved
- Stone Work Pad
- Temporary Construction Matting
- Delineated Perennial Watercourse
- Delineated Intermittent Watercourse
- Delineated Wetland Boundary
- Field Delineated Wetland
- Approximate Wetland (not delineated)
- Watercourse (not delineated)
- FEMA 100-Year Flood Zone
- Natural Diversity Database Area
- Map Sheet Matchline
- Municipal Boundary
- Parcel Boundary
- Eversource Owned Property
- State-Owned Property
- Existing Right-of-Way (ROW)
- Open Water
- Fence
- 10 FT Contour
- 100 LLNs/Property Owner

0 100 200 Feet

1 inch = 200 feet

NO.	DATE	REVISIONS	BY	CHK	APP	APP

EVERSOURCE ENERGY

1607/1505 Line Structure Replacement Project
Canterbury, Plainfield, Connecticut

MAP SHEET 4 of 6

Date: 9/18/2019

FUSS & O'NEILL

Document: K:\P99\99549\C45\MXD\2019 Full Petition Mapping\1607_1505Line_DRAFT_20190904_new.mxd

Mapsheet 5 of 6
Eversource 1505/1607 Line Structure Replacement Project
Existing Structures 7508, 7508A, 7512 and 7512A
Town of Plainfield, Connecticut

AREA DESCRIPTION
Existing Land Use & Resource Areas
- Residential
- Eversource owned property
- Natural Diversity Database Area

RIGHT-OF-WAY DESCRIPTION
Right-of-Way Land Use & Resource Areas
- Maintained ROW

Water Resources
- Wetlands - W2, W3, W4, W5, W6
- Wetland cover type - PEM1F, PEM5F, PFO1B, PEM1B, PSS1B
- Watercourses - None
- Vernal Pools - None

Wetland and Watercourse Crossings
- None

Right-of-Way Vegetation
- Scrub-shrub
- Forest

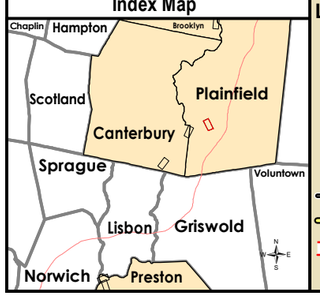
Access
- Structures 7508/7508A: Existing from Packerville Road
- Structures 7512/7512A: Existing from Robin Road

Road Crossings
- None

Existing Maintained Right-of-Way Width
- Utility ROW is approximately 125 feet

ABUTTERS TO PROJECT RIGHT-OF-WAY				
Line List	Parcel Address	City	State	Owner Name
257	37 PACKERVILLE RD	PLAINFIELD	CT	ROBERT H TAFF, TRUSTEE OF THE FAMILY TRUST
266	ROBIN RD	PLAINFIELD	CT	CONN LIGHT AND POWER

Index Map



Legend

- Proposed Structure
- Existing Structure
- Existing Structure to be Removed
- Gate
- Culvert
- Overhead Eversource Line
- Existing Access
- Proposed Access
- Access Road to be Improved
- Stone Work Pad
- Temporary Construction Matting
- Delineated Perennial Watercourse
- Delineated Intermittent Watercourse
- Delineated Wetland Boundary
- Field Delineated Wetland
- Approximate Wetland (not delineated)
- Watercourse (not delineated)
- FEMA 100-Year Flood Zone
- Natural Diversity Database Area
- Map Sheet Matchline
- Municipal Boundary
- Parcel Boundary
- Eversource Owned Property
- State-Owned Property
- Existing Right-of-Way (ROW)
- Open Water
- Fence
- 10 FT Contour
- 100 LLNs/Property Owner

0 100 200 Feet

1 inch = 200 feet

NO.	DATE	REVISIONS	BY	CHK	APP	APP

EVERSOURCE ENERGY

1607/1505 Line Structure Replacement Project
Plainfield, Connecticut

MAP SHEET 5 of 6

Date: 9/18/2019

FUSS & O'NEILL

Document: K:\P99\99549\C45\MXD\2019 Full Petition Mapping\1607_1505Line_DRAFT_20190904_new.mxd

Mapsheet 6 of 6
Eversource 1505/1607 Line Structure Replacement Project
Existing Structure 7272
Town of Brooklyn, Connecticut

AREA DESCRIPTION

Existing Land Use & Resource Areas
- Residential
- Eversource owned property
- Gravel mining
- 100-year Flood Zone of Quinebaug River

RIGHT-OF-WAY DESCRIPTION

Right-of-Way Land Use & Resource Areas
- Maintained ROW
- Gravel mining facility
- 100-year Flood Zone of Quinebaug River

Water Resources
- Wetlands - W7, W8
- Wetland cover type - PUBHx, PFO1E
- Watercourses - S1, Quinebaug River
- Vernal Pools - None

Wetland and Watercourse Crossings
- None

Right-of-Way Vegetation
- Scrub-shrub
- Forest

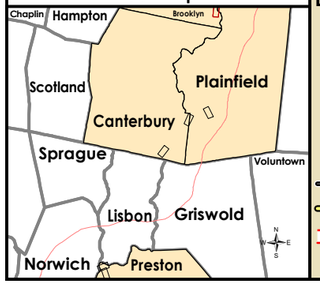
Access
- Existing from Wauregan Road

Road Crossings
- None

Existing Maintained Right-of-Way Width
- Utility ROW is approximately 125 feet

ABUTTERS TO PROJECT RIGHT-OF-WAY				
Line List	Parcel Address	City	State	Owner Name
308	WAUREGAN RD	BROOKLYN	CT	SHELLIE J & JOESPH P OGDEN
311	WAUREGAN RD	BROOKLYN	CT	WAYNE L & LESLIE A JOLLEY
312	530 WAUREGAN RD	BROOKLYN	CT	WAYNE L & LESLIE A JOLLEY

Index Map



Legend

- Proposed Structure
- Existing Structure
- Existing Structure to be Removed
- Gate
- Culvert
- Overhead Eversource Line
- Existing Access
- Proposed Access
- Access Road to be Improved
- Stone Work Pad
- Temporary Construction Matting
- Delineated Perennial Watercourse
- Delineated Intermittent Watercourse
- Delineated Wetland Boundary
- Field Delineated Wetland
- Approximate Wetland (not delineated)
- Watercourse (not delineated)
- FEMA 100-Year Flood Zone
- Natural Diversity Database Area
- Map Sheet Matchline
- Municipal Boundary
- Parcel Boundary
- Eversource Owned Property
- State-Owned Property
- Existing Right-of-Way (ROW)
- Open Water
- Fence
- 10 FT Contour
- 100 LLNs/Property Owner

0 100 200 Feet

1 inch = 200 feet

NO.	DATE	REVISIONS	BY	CHK	APP	APP

EVERSOURCE ENERGY

1607/1505 Line Structure Replacement Project
Brooklyn, Plainfield, Connecticut

MAP SHEET 6 of 6

Date: 9/18/2019

FUSS & O'NEILL

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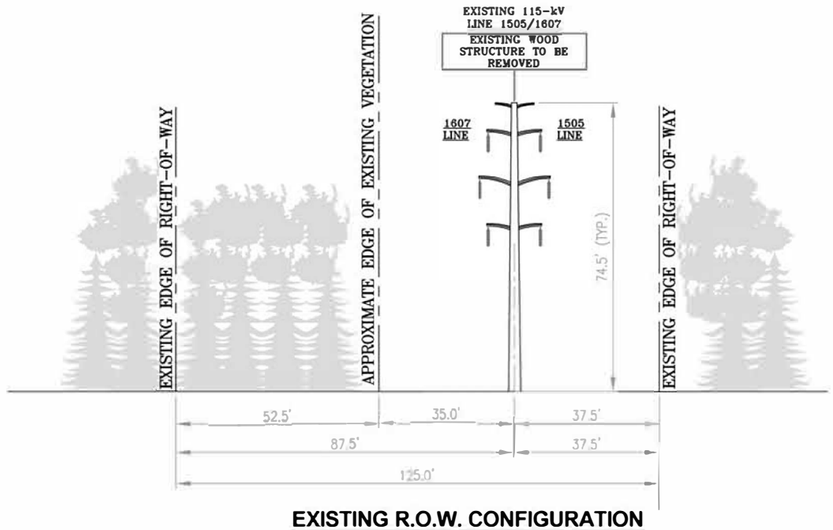
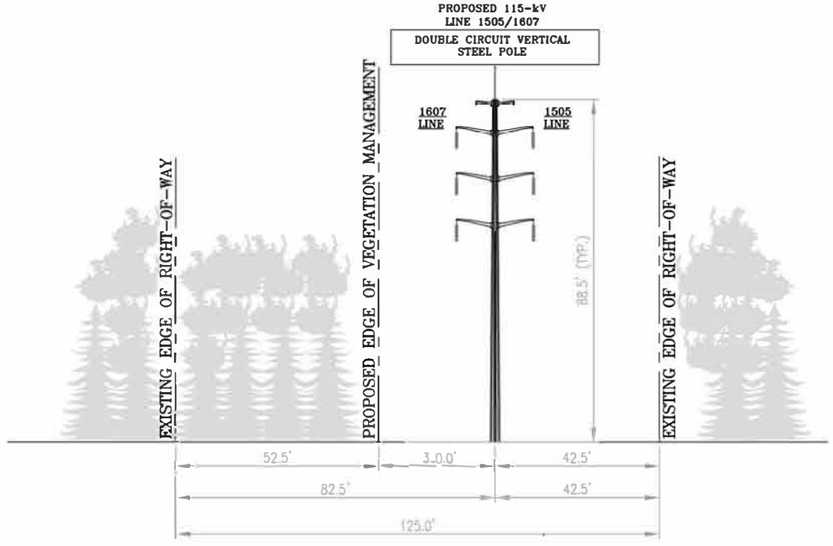
Attachment B: Line 1505/1607 – Right-of-Way Cross Sections



EXISTING R.O.W. CONFIGURATION
DOUBLE CIRCUIT VERTICAL LAMINATED WOOD POLE DESIGN
LOOKING FROM TUNNEL S/S TO BROOKLYN S/S
IN THE TOWNS OF PRESTON, LISBON, PLAINFIELD, CANTERBURY, & BROOKLYN, CT



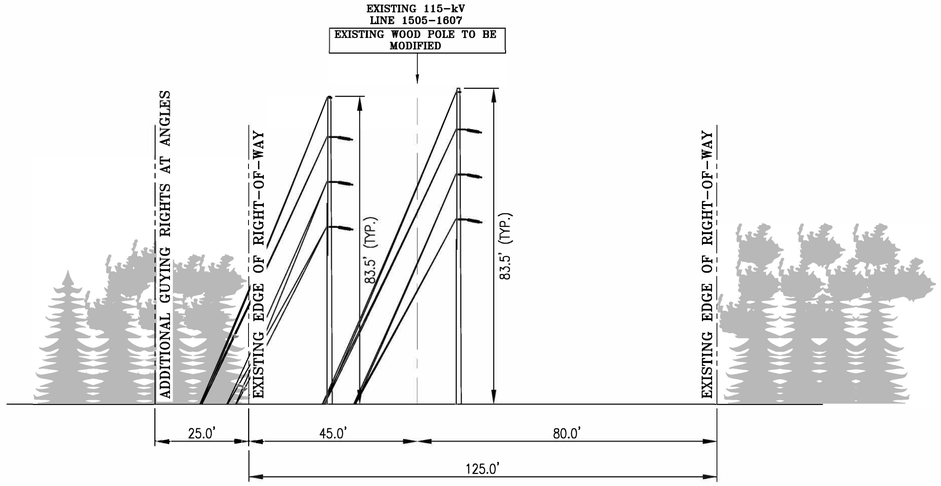
PROPOSED R.O.W. CONFIGURATION
NO ADDITIONAL RIGHT-OF-WAY REQUIRED
DOUBLE CIRCUIT STEEL POLE DESIGN
LOOKING FROM TUNNEL S/S TO BROOKLYN S/S
IN THE TOWNS OF PRESTON, LISBON, PLAINFIELD, CANTERBURY, & BROOKLYN, CT

EVERSOURCE ENERGY

TITLE
TUNNEL SUBSTATION TO BROOKLYN SUBSTATION
115-kV TRANSMISSION LINE
RIGHT OF WAY CROSS SECTION
PRESTON, LISBON, PLAINFIELD, CANTERBURY, & BROOKLYN, CT

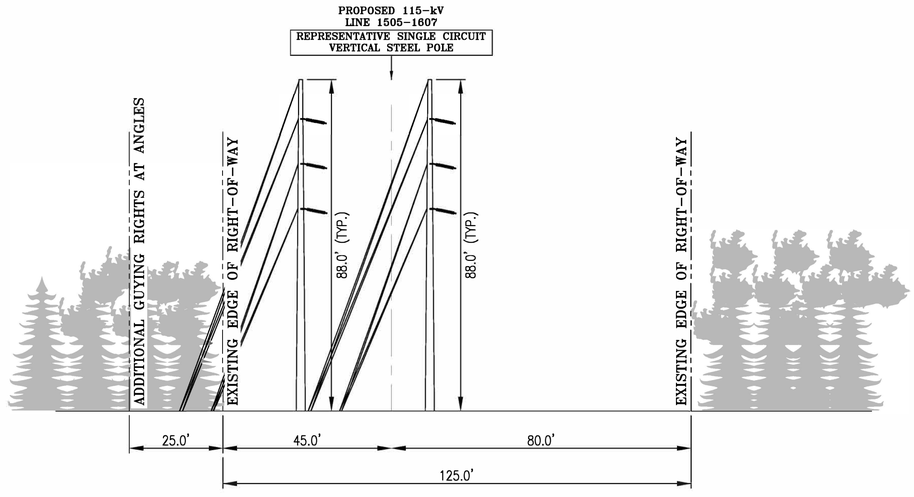
BY SAM	CHKD SAM	APP	APP
DATE 08/13/19	DATE 08/13/19	DATE	DATE
H-SCALE N.T.S.	SIZE D	FIELD BOOK # PAGES	
V-SCALE N.T.S.	Y.S.	R.E. DWG	
R.E. PROJ. NUMBER		DRG NO.	XS-1

ES VER: 05/2015



EXISTING R.O.W. CONFIGURATION

SINGLE CIRCUIT WOOD POLE DESIGN
LOOKING FROM PLAINFIELD JCT TO FRY BROOK SUBSTATION
IN THE TOWN OF PLAINFIELD, CT



PROPOSED R.O.W. CONFIGURATION

NO ADDITIONAL RIGHT-OF-WAY REQUIRED
SINGLE CIRCUIT STEEL POLE DESIGN
LOOKING FROM PLAINFIELD JCT TO FRY BROOK SUBSTATION
IN THE TOWN OF PLAINFIELD, CT

EVERSOURCE ENERGY

TITLE: PLAINFIELD JCT TO FRY BROOK S/S 115-kV TRANSMISSION LINE RIGHT OF WAY CROSS SECTION PLAINFIELD, CONNECTICUT				
BY NEB/TRC	CHKD SAL/TRC	APP GEL/TRC	APP	
DATE 09/03/19	DATE 09/03/19	DATE 09/03/19	DATE	
H-SCALE N.T.S.	SIZE D	FIELD BOOK & PAGES		
V-SCALE N.T.S.	V.S.	R.E. DWG		
R.E. PROJ. NUMBER 291082		DWG NO 291082-T0002-1505-1607-SH01		

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Attachment C: List of Structure Replacements

1505/1607 Line Structure Replacement Project					
STRUCTURE NUMBER	**EXISTING STRUCTURE TYPE**	**EXISTING HEIGHT (FEET AGL)**	**PROPOSED STRUCTURE TYPE**	**FOUNDATION TYPE**	**PROPOSED HEIGHT**
7123A	Wood Monopole	74.5	Steel Monopole	Direct Imbed	88.5
7123	Wood Monopole	74.5	Steel Monopole	Direct Imbed	88.5
7194	Wood Monopole	74.5	Steel Monopole	Direct Imbed	88.5
7215	Wood Monopole	74.5	Steel Monopole	Direct Imbed	107.5
7272	Wood Monopole	88	Steel Monopole	Direct Imbed	107.5
7508A	Wood Monopole	84	Steel Monopole	Direct Imbed	88.5
7508	Wood Monopole	84	Steel Monopole	Direct Imbed	88.5
7512	Wood Monopole	84	Steel Monopole	Direct Imbed	88.5
7512A	Wood Monopole	84	Steel Monopole	Direct Imbed	88.5

Attachment D: Wetlands and Watercourses Report

FUSS & O'NEILL

Wetland Delineation Summary Report

August 30, 2019

Prepared For:	Eversource Energy 61 Massirio Drive Berlin, Connecticut 06037 Attn: Jeff Bolton
Eversource Project Name:	1505/1607 Line Structure Replacement Project
Project Location:	Preston, Canterbury, Plainfield and Brooklyn, Connecticut
Date(s) of Investigations:	August 10, 2017, June 18, 2018, July 6, 2019
Field Conditions:	Weather: variable**,** 70s to 80s Soil Moisture: dry to moist
Wetland/Watercourse Delineation Methodology[1]:	☒Connecticut Inland Wetlands and Watercourses ☐Connecticut Tidal Wetlands ☐Massachusetts Wetlands ☒U.S. Army Corps of Engineers

The wetlands inspection was performed by[2]:

Fuss & O'Neill, Inc.

_____
Professional Soil Scientist
Professional Wetland Scientist

[1] *Wetlands and watercourses were delineated in accordance with applicable local, state and federal statutes, regulations and guidance.*

[2] *Wetlands were delineated by Fuss & O'Neill, Inc. in August of 2017 and June of 2018 and Davison Environmental Professional Soil Scientists Eric and Matthew Davison on July 6, 2019.*

REGULATORY CONTEXT

Inland wetlands and watercourses are regulated in the State of Connecticut by Connecticut General Statutes, Inland Wetlands and Watercourses Act, Chapter 440, sections 22a-36 to 22a-45. Wetlands are defined as "soil types designated as poorly drained, very poorly drained, alluvial, and floodplain by the
National Cooperative Soils Survey." Watercourses are defined as "rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private." Intermittent watercourses are identified by "a defined permanent channel and bank and the occurrence of two or more of the following characteristics: (a) Evidence of scour or deposits of recent alluvium or detritus, (b) the presence of standing or flowing water for a duration longer than a particular storm incident, and (c) the presence of hydrophytic vegetation. "

Federal jurisdictional wetland boundaries are defined by 33 CFR 328-329. Federal jurisdictional wetlands are "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Federal wetlands were delineated in accordance with the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0, January 2012). Activities occurring within Inland Waters and Wetlands within the State of Connecticut are subject to approval by the US Army Corps of
Engineers, New England District.

SUMMARY OF WETLANDS AND WATERCOURSES

S1 – *Map Sheets 2, 3 & 7, Structures 7123, 7123A, 7194, 7272*

The Quinebaug River is identified as Watercourse 1 (S1) and is classified as estuarine (E1UBL3) by the United States Fish and Wildlife Service near structures 7123 and 7123A. The Quinebaug River near structure 7272 can be described as riverine (R2UBHb).

W1 – *Map Sheet 3, Structure 7194*

Wetland 1 (W1) can be described as forested wetland (PFO) near structure 7194. It is associated with an unnamed intermittent watercourse which drains to the Quinebaug River.

W2 – *Map Sheet 5, Structures 7508, 7508A, 7512 & 7512A*

Wetland 2 (W2) can be described as emergent marsh and forested wetland (PEM1F, PEM5F, and PFO1B) near structures 7508 and 7508A. It is associated with an unnamed pond and intermittent watercourse which ultimately drain to the Quinebaug River.

W3 – *Map Sheet 5, Structures 7508, 7508A, 7512 & 7512A*

Wetland 3 (W3) can be described as emergent marsh and forested wetland (PEM1F and PFO1B) near structure 7510 (not proposed for replacement). It is associated with an unnamed intermittent watercourse which drains to the Mill Brook and ultimately the Quinebaug River.

W4 – *Map Sheet 5, Structures 7508, 7508A, 7512 & 7512A*

Wetland 4 (W4) can be described as shrub swamp (PSS1B) near structure 7510 (not proposed for replacement). It is associated with an unnamed intermittent watercourse which drains to the Mill Brook and ultimately the Quinebaug River.

W5 – *Map Sheet 5, Structures 7508, 7508A, 7512 & 7512A*

Wetland 5 (W5) can be described as emergent marsh (PEM1F) near structure 7510 (not proposed for replacement). It is associated with an unnamed intermittent watercourse which drains to the Mill Brook and ultimately the Quinebaug River.

W6 – *Map Sheet 5, Structures 7508, 7508A, 7512 & 7512A*

Wetland 6 (W6) can be described as emergent marsh (PEM1B) near structure 7513 (not proposed for replacement). It is associated with Horse Brook, which drains to the Mill Brook and ultimately the Quinebaug River.

Attachment E: Vernal Pool Summary Report

FUSS & O'NEILL

Vernal Pool Survey Summary Report

August 30, 2019

Prepared For:	Eversource Energy 61 Massirio Drive Berlin, Connecticut 06037 Attn: Jeff Bolton
Eversource Project Name:	1505/1607 Line Structure Replacement Project
Project Location:	Preston, Canterbury, Plainfield and Brooklyn, Connecticut
Date(s) of Investigations:	August 10, 2017, June 18, 2018, July 6, 2019
Survey Methodology:	Visual Survey

The vernal pool surveys were performed by:

Fuss & O'Neill, Inc. and Davison Environmental, LLC

_____
Professional Soil Scientist
Professional Wetland Scientist

INTRODUCTION

The following details vernal pool surveys conducted by Fuss & O'Neill and Davison Environmental in support of The Connecticut Light and Power Company doing business as Eversource Energy's ("Eversource") petition to the Connecticut Siting Council for the 1505/1607 Line Structure Replacement Project within an existing transmission line right-of-way ("ROW") in Preston, Canterbury, Plainfield and Brooklyn, Connecticut ("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 (Rana 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[1] vernal pool species, and their presence in a temporary wetland

[1] Calhoun and Klemens (2002) argue that "indicator" species is a better word than the commonly used "obligate" species, as they will occasionally breed in roadside ditches and small ponds that are not vernal pools.

during the breeding season helps to identify that area as a vernal pool. Indicator species present in Connecticut include the following:

- Blue-spotted salamander *(Ambystoma laterale)*;
- Wood frog *(Rana sylvatica)*;
- Spotted salamander *(Ambystoma maculatum)*;
- Jefferson salamander *(Ambystoma jeffersonianum)*;
- Marbled salamander *(Ambystoma opacum)*; and
- Fairy shrimp *(Branchiopoda anostraca)*.

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.

TIME OF YEAR RESTRICTIONS

It is standard practice for field assessments conducted along the Eversource ROW to include a review of potential vernal pool habitat. If pools are located on the Eversource ROW which are observed to contain obligate vernal pool species, they are designated on the map as "Vernal Pool" or "VP". Field investigations conducted during those times when obligate vernal pool species are absent from the pool will only be identified as potential and will be labeled on the map as "Potential Vernal Pool" or "PVP."

Field investigations which confirm the presence of a vernal pool are restricted to those times when obligate vernal pool species or other evidence (e.g., egg masses and/or breeding chorus) are observed/documented in the pool. Obligate vernal pool species in CT include spotted salamander, blue-spotted salamander, Jefferson salamander, marbled salamander, eastern spadefoot, wood frog and fairy shrimp. In Connecticut, vernal pool verification surveys are typically conducted between late March and early May, depending on temperature and precipitation.

Since none of the field assessments were conducted at a time of year when obligate vernal pool species would be breeding, the presence of obligate vernal pool species could not be confirmed. However, it is the professional opinion of Fuss & O'Neill and Davison Environmental that cryptic vernal pools do not exist within the proposed project area.

EXISTING WETLANDS ALONG THE PROJECT ROW

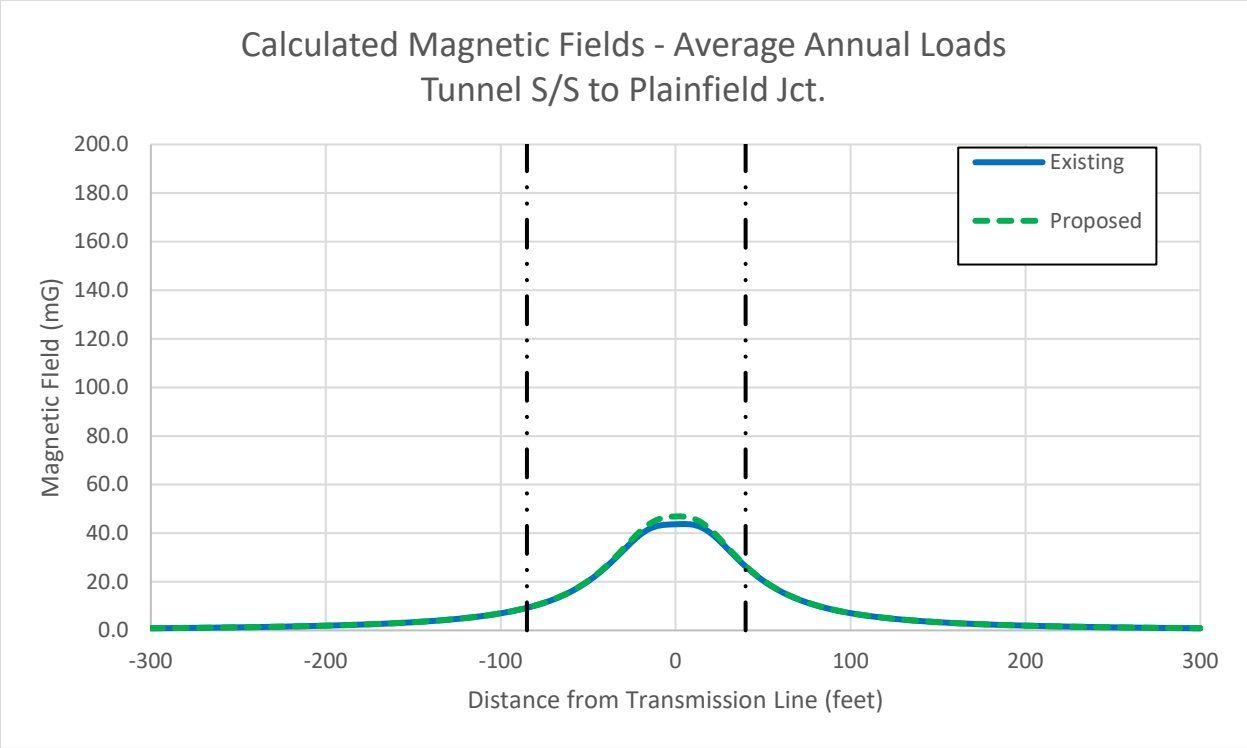
Project wetlands are predominantly characterized as riparian areas and are generally lacking suitable vernal pool hydrology and morphology (seasonally flooded wetland depressions). Wetland hydrology within Project wetlands is typically associated with intermittent watercourses, which may be seasonally flooded, but can have significant flows during heavy rain events. Water tables are be variable and may be well below the ground surface during dry conditions. These hydrologic regimes are not conducive to providing productive vernal pool habitat.

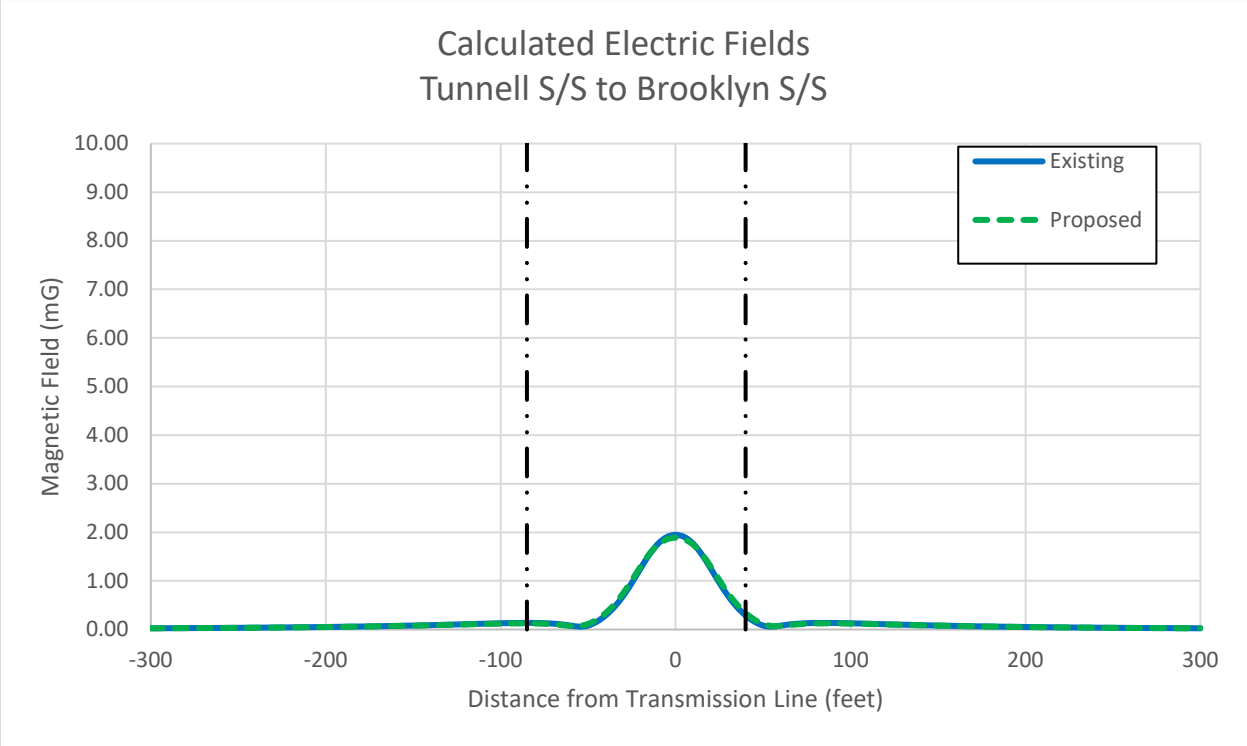
Permanently flooded wetland areas (e.g. portions of Wetlands W2, W3, W4, W5, and W6), while possessing a sufficient hydroperiod to support indicator species, are often inhabited by predatory species such as fish, green frog *(Lithobates clamitans)*, and American bullfrog *(Lithobates catesbeianus)* which can limit the productivity of these areas. Furthermore, these areas are not identified as "cryptic" vernal pools.

VERNAL POOL SURVEY & RESULTS

No potential vernal pools were observed during the wetland assessments conducted for this project by Fuss & O'Neill, Inc. and Davison Environmental in August 2017, June 2018, and July 2019.

Attachment F: EMF Graphs


Calculated Magnetic Fields - Average Annual Loads
Tunnel S/S to Plainfield Jct.
Magnetic Field (mG)
200.0
180.0
160.0
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
-300
-200
-100
0
100
200
300
Distance from Transmission Line (feet)
Existing
Proposed


Calculated Electric Fields
Tunnell S/S to Brooklyn S/S
Magnetic Field (mG)
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
-300
-200
-100
0
100
200
300
Distance from Transmission Line (feet)
Existing
Proposed

Attachment G: Letter to the Abutters and Affidavit

EVERSOURCE ENERGY

56 Prospect Street
Hartford, CT 06103

September 26, 2019

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 transmission upgrade project in your area.

Proposed Project Information
The upgrade, called the 1505/1607 Structure Replacement Project, involves replacing the existing wood structures on the 1505/1607 lines with weathering steel structures. These are steel poles with a finish that "weathers" or darkens over time. We are also upgrading the communication/ground wire associated with each structure. Due to the age and condition of the existing wood structures, they need to be replaced to provide continued reliability of the transmission line and maintain the integrity of the transmission system.

The project construction will be located entirely within existing rights-of-way (power line corridors) between the Tunnel Substation, located off Roosevelt Avenue Extension in Preston, and the Brooklyn Substation , located off Day Street in Brooklyn, Conn. Other towns along the transmission rights-of-way are Lisbon, Canterbury and Plainfield.

If the CSC approves this proposed work, construction is expected to begin in the fall of 2019. We anticipate restoration of any affected areas will be completed by spring 2020.

Contact Information
Eversource is committed to being a good neighbor and doing our work with respect for you and your community. For more information please call 1-800-793-2202 or send an email to TransmissionInfo@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

Thank you.

Sincerely,

Brian Ragozzine

Brian Ragozzine
Eversource Project Manager

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:

Robert Gongdon, First Selectman
Town of Preston
Preston Town Hall
389 Route 2
Preston, CT 06365

Cathy Tendrich, First Selectwoman
Town of Plainfield
Plainfield Town Hall
8 Community Avenue
Plainfield, CT 06374

Christopher Lippke, First Selectman
Town of Canterbury
Canterbury Town Hall
1 Municipal Drive
Canterbury, CT 06331

Richard Ives, First Selectman
Town of Brooklyn
Brooklyn Town Hall
4 Wolf Den Road
P.O. Box 356
Brooklyn, CT 06234

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 the maps in Attachment A to the Petition.

James L. Smith
Transmission Siting Specialist

On this the 26th day of September 2019, before me, the undersigned representative, personally appeared, James Smith, 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: April 30, 2024

BRIE NICKERSON
Notary Public, State Of Connecticut
My Commission Expires April 30, 2024