



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

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**VIA ELECTRONIC MAIL & CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

February 16, 2023

Kathleen M. Shanley
Manager-Transmission Siting
Eversource Energy
P.O. Box 270
Hartford, CT 06103
Kathleen.shanley@eversource.com

RE: **PETITION NO. 1549** – The Connecticut Light and Power Company d/b/a Eversource Energy petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed 1714 Line Rebuild Project consisting of the replacement and reconductoring of approximately 9.4 miles of its existing Nos. 1714, 1720, and 1222 115-kilovolt (kV) electric transmission lines and one structure along its 1637 line within existing Eversource electric transmission right-of-way between Eversource's Weston Substation, 85 Weston Street in Weston and the United Illuminating Company's Old Town Substation, 122 Kaechele Place in Bridgeport, Connecticut traversing Weston, Fairfield, Easton and Bridgeport and related electric transmission line and substation improvements.

Dear Kathleen Shanley:

At a public meeting held on February 16, 2023, the Connecticut Siting Council (Council) considered and ruled that the above-referenced proposal would not have a substantial adverse environmental effect, and pursuant to Connecticut General Statutes § 16-50k, would not require a Certificate of Environmental Compatibility and Public Need with the following conditions:

1. Approval of any project changes be delegated to Council staff;
2. Identification of staging areas and provisions for erosion and sedimentation (E&S) controls, if necessary, at the staging area locations prior to the commencement of construction;
3. Relocate Structure No. 19763 to the east and outside of the 100-foot vernal pool envelope associated with Vernal Pool 1;
4. Incorporate pollinator habitat in the restoration of disturbed areas consistent with CGS §16-50hh, where feasible;
5. An environmental monitor shall oversee construction activities in sensitive resource areas;
6. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed within three years from the date of the mailing of the Council's decision, this decision shall be void, and the facility owner/operator shall dismantle the facility and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the

Executive Director. The facility owner/operator shall provide written notice to the Executive Director of any schedule changes as soon as is practicable;

7. The Council shall be notified in writing at least two weeks prior to the commencement of site construction activities;
8. Any request for extension of the time period to fully construct the facility shall be filed with the Council not later than 60 days prior to the expiration date of this decision and shall be served on all parties and intervenors, if applicable, and the City of Bridgeport and the Towns of Easton, Fairfield and Weston;
9. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
10. The facility owner/operator shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v; and
11. This Declaratory Ruling may be transferred or partially transferred, provided both the facility owner/operator/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. The Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the facility within 30 days of the sale and/or transfer. Both the facility owner/operator/transferor and the transferee shall provide the Council with a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility, including contact information for the individual acting on behalf of the transferee.

This decision is under the exclusive jurisdiction of the Council and is not applicable to any other modification or construction. All work is to be implemented as specified in the petition dated November 14, 2022 and additional information dated February 1, 2023.

Enclosed for your information is a copy of the staff report on this project.

Sincerely,



Melanie A. Bachman
Executive Director

MAB/RDM/laf

Enclosure: Staff Report dated February 16, 2023

- c: The Honorable Joseph P. Ganim, Mayor, City of Bridgeport (mayor@bridgeportct.gov)
The Honorable David Bindelglass, First Selectperson, Town of Easton (dbindelglass@eastonct.gov)
The Honorable Brenda L. Kupchick, First Selectperson, Town of Fairfield (firstselectmanffd@fairfieldct.org)
The Honorable Samantha Nestor, First Selectperson, Town of Weston (snestor@westonct.gov)
Deborah Denfeld, Team Lead – Transmission Siting, Eversource Energy
(deborah.denfeld@eversource.com)

STATE OF CONNECTICUT)

: ss. Southington, Connecticut February 16, 2023

COUNTY OF HARTFORD)

I hereby certify that the foregoing is a true and correct copy of the Decision and Staff Report in Petition No. 1549 issued by the Connecticut Siting Council, State of Connecticut.

ATTEST:



Melanie A. Bachman
Executive Director
Connecticut Siting Council

STATE OF CONNECTICUT)

: ss. New Britain, Connecticut February 16, 2023

COUNTY OF HARTFORD)

I certify that a copy of the Connecticut Siting Council Decision and Staff Report in Petition No. 1549 has been forwarded by Certified First Class Return Receipt Requested mail, on February 16, 2023, to all parties and intervenors of record as listed on the attached service list, dated December 22, 2022.

ATTEST:



Lisa Fontaine
Fiscal Administrative Officer
Connecticut Siting Council

LIST OF PARTIES AND INTERVENORS
SERVICE LIST

Status Granted	Document Service	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Petitioner	<input checked="" type="checkbox"/> E-mail	The Connecticut Light and Power Company d/b/a Eversource Energy	Kathleen M. Shanley Manager-Transmission Siting Eversource Energy P.O. Box 270 Hartford, CT 06103 Phone: (860) 728-4527 Kathleen.shanley@eversource.com
Party <i>(granted on 12/22/22)</i>	<input checked="" type="checkbox"/> E-mail	The United Illuminating Company	Bruce L. McDermott, Esq. Murtha Cullina LLP 265 Church Street New Haven, CT 06510 Phone: (203) 772-7787 bmcdermott@murthalaw.com Renni Pavolini The United Illuminating Company 100 Marsh Hill Road Orange, CT 06477 rpavolini@uinet.com



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Petition No. 1549
The Connecticut Light and Power Company d/b/a Eversource Energy
1714 Line Rebuild Project
Bridgeport, Easton, Weston, and Fairfield
Staff Report
February 16, 2023

Introduction

On November 15, 2022, the Connecticut Siting Council (Council) received a petition (Petition) from The Connecticut Light and Power Company d/b/a Eversource Energy (Eversource) for a declaratory ruling pursuant to Connecticut General Statutes (CGS) §4-176 and §16-50k, for the 1714 Line Rebuild Project (Project) within existing Eversource electric transmission line right-of-way (ROW) in the City of Bridgeport and Towns of Easton, Weston, and Fairfield (municipalities).

The Project consists of replacement and reconductoring of 115-kilovolt (kV) electric transmission line structures on the Nos. 1714/1720 and 1714/1222 Lines and the replacement of one structure on the No. 1637/1720 Line, along approximately 9.4 miles of existing ROW between Eversource's Weston Substation in Weston and the United Illuminating Company's (UI) Old Town Substation in Bridgeport, and related transmission line and substation improvements.

On November 10, 2022, in compliance with Regulations of Connecticut State Agencies (RCSA) §16-50j-40, Eversource provided notice of the proposed Project to the municipalities and abutting property owners.

On November 17, 2022, the Council sent correspondence to the municipalities stating that the Council has received the Petition and invited the municipalities to contact the Council with any questions or comments by December 15, 2022. On November 21, 2022, the Town of Weston requested an extension of time to submit comments, which was granted to January 4, 2023. No comments were received from any of the municipalities.

On December 8, 2022, UI requested party status. The Council granted UI party status during a public meeting held on December 22, 2022.

Under RCSA §16-50j-40, neither Eversource nor the Council is required to provide notice to the state agencies listed in CGS §16-50j(g) when a petition for a declaratory ruling for modifications to an *existing facility* is submitted to the Council. On December 16, 2022, the Council on Environmental Quality submitted comments on the Project.¹

Under CGS §16-50x, the Council retains exclusive jurisdiction over the existing electric transmission line and substation facility sites. Under RCSA §16-50j-2a(29), "site" means a contiguous parcel of property with specified boundaries, including, but not limited to, the leased area, right-of-way, access and easements on which a facility and associated equipment is located, shall be located or is proposed to be located. The Council cannot delegate its statutory authority to any other entity and it is not required to abide by comments from state agencies.²

The Council submitted interrogatories to Eversource on January 11, 2023. Eversource submitted responses to the interrogatories on February 1, 2023.

¹ [CEQ Comments](#)

² *Corcoran v. Connecticut Siting Council*, 284 Conn. 455 (2007)

Pursuant to CGS §4-176(e) of the Uniform Administrative Procedure Act, an administrative agency is required to take action on a petition within 60 days of receipt. On December 22, 2022, pursuant to CGS §4-176(e), the Council voted to set the date by which to render a decision on the Petition as no later than May 14, 2023, which is the 180-day statutory deadline for a final decision under CGS §4-176(i).

The purpose of the proposed Project is to improve system reliability on the Nos. 1714/1720, 1714/1222 and 1637/1720 lines by replacing and/or reconductoring electric transmission line structures that are at the end of their service life and to meet National Electrical Safety Code (NESC) standards, including, but not limited to, conductor clearance requirements. Additionally, the Project entails realignment of the existing structure configuration to maintain consistent electrical clearances, installation of new mid-span structures to reduce span widths and mitigate conductor blowout and coordination with UI on modifications at its Hawthorne and Old Town Substation facilities.³

The design of the Project is not dependent upon the design of any UI projects.

Municipal and Abutter Notice

Eversource initiated outreach to the municipalities in March and April 2022. During this outreach, the Town of Weston requested more information regarding the Petition process and inquired as to the capability of the Project to meet future electrical needs. No other municipality commented on the Project.

In early to mid-2022, Eversource initiated outreach to property owners along the Project route. All abutting property owners were notified of the Project and provided information on how to obtain additional information, as well as how to submit comments to the Council. The Project includes the installation of new midspan structures in 16 locations. Eight of the structures would be on properties (excluding Eversource-owned property) that do not currently host a structure. Several abutters contacted Eversource with concerns about visibility, restoration, and property value. During the construction phase of the Project, Eversource would maintain contact with property owners to inform them of construction activities.

Existing Project Area

The existing Project area includes approximately 9.4 miles of existing Eversource ROW that extends through residential, recreational, and undeveloped areas between Eversource's Weston Substation and UI's Old Town Substation.

The ROW was acquired in 1923 and 1924. Eversource's easement for the existing ROW grants Eversource rights to *"enter upon the subject land and erect, install, inspect, operate, replace, repair and patrol, and permanently maintain on the right of way, poles and towers, with necessary conductors, wired, cross arms, guy wires and other usual fixtures and appurtenances used or adapted for the transmission of electric current for light, heat, power or any other purpose, and used and adapted for telephone purposes."*

Easements along Eversource ROWs also grant rights to *"trim, cut, and remove at any and all times such trees, parts of tree, limbs, branches, underbrush within or projecting into the ROW which may interfere with or endanger said poles, towers and wires or their operation or with any of their appurtenances when erected."*

The ROW is approximately 80 feet wide, with two segments in the Town of Weston that are 175 feet wide. No expansion of the ROW is proposed. Vegetation maintenance was performed in September 2020 and December 2020 to remove incompatible tree species and to trim trees along the edge of the maintained ROW.

³ Council Docket No. 490.

Proposed Project

The Project is proposed to address identified asset condition deficiencies by replacement of deteriorated structures, conductors and static wire on the Nos. 1714/1720 and 1714/1222 Lines and the replacement of one deteriorated structure on the Nos. 1637/1720 Line west of Weston Substation. The existing conductors have exceeded their planned service life and are at risk of failure. The existing structures supporting the conductors require replacement due to degradation, limited structural capacity to support new conductors, and compliance with new conductor clearance requirements.

The Project entails a total of 114 replacement and new mid-span structures. The majority of the replacement structures would be of double-circuit design. However, in some locations, two single-circuit monopoles would be used to support each line. The single circuit poles would be “dead-end” or “angle” structures that are typically installed at ROW angle points to meet horizontal electrical clearances and/or provide for safe conductor pulling locations.

The Project requires taller structures to meet NESC standards, including, but not limited to, conductor clearance requirements. The NESC is the authoritative code for ensuring the continued practical safeguarding of persons and utility facilities during the installation, operation and maintenance of electric power and communications utility systems, including substations, overhead lines and underground lines.

Due to the narrow ROW, taller structures would also be installed to increase the distance of the conductors to adjacent vegetation. The Nos. 1714 and 1720 Lines have recorded higher than acceptable flashover rates due to vegetation contact. A flashover rate is a measure of a transmission line’s performance due to certain events causing a disturbance. Flashover analysis indicates 115-kV lines typically have an average rate of 3 flashovers/100miles/year, and with an action level for additional study if rates exceed 4.5 flashovers/100 miles/year.

The flashover rate for the Nos. 1714 and 1720 Lines due to vegetation contact is approximately 10.7 flashovers/100 miles/year and, together with related weather events, approximately 19.1 flashovers/100 miles/year. To further reduce flashover events, Eversource applied a structure height increase of 5 to 10 feet above the NESC design criteria for structures that were identified in areas where adjacent trees were at a height that could cause unacceptable flashover conditions. The Project, designed to current NESC clearance standards and Eversource vegetation design criteria, is anticipated to reduce the flashover rate to 3 flashovers/100 miles/year.

NESC clearance requirements for conductor sway due to wind (blowout) are based on established horizontal clearance requirements during specific wind events to buildings (9.1 feet of clearance to the ROW edge for 115-kV conductors). Transmission lines are designed with the assumption that a building could be erected at any location along the ROW edge. To provide a buffer for construction tolerance, Eversource typically designs transmission corridors to have 11 feet of clearance to the ROW edge during specific wind events. For this Project, Eversource is replacing the existing conductors with larger capacity conductors mainly to reduce the potential for blowout. Eversource typically replaces conductors in narrow ROW, such as the ROW for this Project, with larger conductors to reduce conductor blowout and meet the NESC clearance standards.

Eversource proposes to install new mid-span structures along the ROW to restrain the conductors and fiber optic ground wire (OPGW) from blowout caused by wind conditions. Typical conductor span lengths on Eversource 115-kV lines are 800 feet or less.⁴ The number of new mid-span structures cannot be further reduced using anti-galloping devices or other design options given the narrowness of the existing ROW and the hilly terrain.

⁴ Petition 1527, response to Council interrogatory 19.

The Project was presented to the Independent System Operator -New England (ISO) Planning Advisory Committee on November 15, 2022. It will be added to ISO's Asset Condition List in March 2023.

Structure Replacement and Reconductoring of Nos. 1637/1720 Lines

The Nos. 1637/1720 Lines extend west from Weston Substation and consist of 556 kcmil Aluminum Conductor Steel Reinforced (ACSR) conductors supported by steel lattice structures. The conductors are approximately 50 years old.

Project work consists of the following:

- a) Replace one double-circuit steel lattice structure west of the Weston Substation with two single-circuit weathering steel monopoles installed side by side;
- b) Replace existing 556 kcmil ACSR conductor with 1590 kcmil Aluminum Conductor Steel Supported (ACSS) conductor from the new structures to the Weston Substation;
- c) Install new all dielectric self-supporting cable (ADSS) on the 1637 and 1720 Lines to the Weston Substation control enclosure; and
- d) Transfer existing OPGW to the replacement structures.

Structure Replacement and Reconductoring of Nos. 1714/1720 Lines

The Nos. 1714/1720 Lines extend east from Eversource's Weston Substation in Weston to UI's Hawthorne Substation in Fairfield. The ROW segment is paralleled by 45-90 foot vegetation and among the worst-performing Eversource circuits in the state due to vegetation-related disturbances. The Nos. 1714/1720 consist of 556 kcmil ACSR conductors supported by steel lattice and monopole structures. The conductors are approximately 50 years old.

Project work consists of the following:

- a) Replace 51 double-circuit steel lattice structures with 40 new double-circuit weathering steel monopoles and 22 single-circuit weathering steel monopoles installed in pairs side by side;
- b) Replace two single-circuit steel lattice structures with two single-circuit steel monopoles;
- c) Replace three single-circuit steel monopoles with three new single-circuit weathering steel monopoles;
- d) Replace one double-circuit steel monopole with two new single-circuit weathering steel monopoles;
- e) Replace one triple-circuit steel lattice structure with two double-circuit weathering steel monopoles;
- f) Install 11 new mid-span double-circuit weathering steel monopoles and six new mid-span single-circuit weathering steel monopoles (single circuit poles to be installed in pairs side by side);
- g) Replace existing 556 kcmil ACSR conductor with 1590 kcmil ACSS conductor. New conductor will be installed to the terminal structure within UI's Hawthorne Substation (and may require UI to install new tap conductors);
- h) Transfer existing OPGW on the 1720 Line to the replacement structures;
- i) Replace the existing copperweld overhead shield wire on the 1714 Line with OPGW;
- j) Install new ADSS on the 1714 Line to the Weston Substation control enclosure; and
- k) Install a new cabinet, patch panel and communications equipment within the existing Weston Substation control enclosure.

Structure Replacement and Reconductoring of Nos. 1714/1222 Lines

The Nos. 1714/122 Lines extend from UI's Hawthorne Substation in Fairfield to UI's Old Town Substation in Bridgeport and consist of 556 kcmil ACSR conductors supported by steel lattice and monopole structures. The conductors are approximately 50 years old.

Project work consists of the following;

- a) Replace 14 existing double-circuit lattice structures with nine new double-circuit weathering steel monopoles and 10 new single-circuit weathering steel monopoles installed in pairs side by side;
- b) Replace one single-circuit steel monopole with one new single-circuit weathering steel monopole;
- c) Replace one double-circuit steel monopole with two new single-circuit weathering steel monopoles;
- d) Install two new mid-span double-circuit weathering steel monopoles;
- e) Replace existing 556 kcmil ACSR conductor with 1590 kcmil ACSS conductor. New conductor will be installed to the terminal structure within UI's Hawthorne Substation (and may require UI to install new tap conductors);
- f) Transfer the existing OPGW on the 1714 Line to the new structures;
- g) Relocate existing fiber line from UI's Hawthorne Substation to Structure 19717; and
- h) Replace the existing 1222 Line copperweld overhead shield wire with new OPGW.

Cost

The total estimated cost of the Project is approximately \$124.29M. The entire Project cost would be eligible for regional cost allocation as it is associated with Pool Transmission Facilities.⁵ Pending a final determination from ISO-NE, total costs are expected to be allocated⁶ as follows:

Eversource Connecticut ratepayers ⁷	19.1%	(23.74M)
Other Connecticut ratepayers ⁸	5.9%	(\$7.33M)
<u>Other New England ratepayers⁹</u>	<u>75.0%</u>	<u>(\$93.22M)</u>
Cost Total	100%	(\$124.29M)

The Project is the first part of a two-part project to rebuild the ROW corridor from Norwalk Junction Substation in Wilton to UI's Old Town Substation in Bridgeport. The second part of the project, the 1637/1720 Lines Rebuild Project, from Norwalk Junction Substation to the Weston Substation, would be submitted to the Council at a later date.

In addition, the Project is being coordinated with UI's Old Town Substation Rebuild Project, approved by the Council on January 28, 2021 in Docket 490. After Eversource replaces its structures located on UI's Old Town Substation property, Eversource would reconductor from Structure No. 19701/ Structure No. 19701A west of the substation to the new structures on the substation property.

Project Construction and Work Procedures

Eversource would establish temporary equipment staging areas near the Project site prior to construction. The staging areas would contain Project equipment, vehicles and office trailers.

Eversource would utilize existing ROW access roads to the extent possible during construction. Where existing access roads are not present, new permanent gravel roads would be established. Multiple access roads are required so that equipment can access various construction zones along the ROW without relying on one point of access for long ROW segments. Construction matting would be utilized to install temporary access roads to protect sensitive areas (e.g. wetlands, lawn, meadow) to reach certain structure locations.

⁵ ISO-NE defines Pool Transmission Facilities as facilities rated 69-kV or above owned by the participating transmission owners over which ISO-NE has operating authority in accordance with the terms set forth in the Transmission Operating Agreements.

⁶ These allocations are estimates based on 2021 actual loads.

⁷ Electrical service customers of Eversource and located within Connecticut.

⁸ Electrical service customers located within Connecticut but outside of Eversource's service territory.

⁹ Electrical service customers located within New England but outside of Connecticut.

Eversource would obtain a Department of Transportation Encroachment Permit to cross five state routes (Routes 15, 57, 58, 59 and 136) within the Project area.

Construction areas would be isolated by establishing erosion and sedimentation (E&S) controls in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control* and Eversource's April 2022 Best Management Practices Manual for Massachusetts and Connecticut (BMPs).¹⁰ 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.

A project-specific Stormwater Pollution Control Plan (SWPCP) would be developed for registration under a DEEP General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (General Permit). The General Permit requires the designing qualified professional to conduct the SWPCP Implementation Inspection that confirms compliance with the General Permit and the initial implementation of all SWPCP control measures for the initial phase of construction. The SWPCP also requires a qualified inspector to inspect the work areas at least once per week and within 24-hours after a rain event that meets certain permit criteria.

The Project is eligible for certification through the US Army Corps of Engineers/DEEP Self-Verification Notification process in regard to wetland impact. The self-verification notification forms would be submitted to the U.S. Army Corps of Engineers - New England District (USACE) and DEEP prior to the start of project construction as required by the SWPCP.

At each transmission line structure location, a work pad would be constructed, if necessary, 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 construction equipment. Work pads for the project would typically range from 80 feet by 100 feet. For areas where machinery is needed for pulling conductors through an angled structure, work pads of approximately 80 feet by 150 feet would be required. Larger pads would be used for structures where the ROW is wider. Most of the work pads would be composed of gravel. Temporary work pads would be used in sensitive areas such as wetlands, lawns and agricultural land.

The proposed structures would have drilled (caisson) foundations. Foundation installation work would require the use of equipment such as drill rigs, pneumatic hammers, augers, dump trucks, concrete trucks, grapple trucks, and light duty trucks. If groundwater is encountered, pumping trucks or other equipment would be utilized. The water would then be discharged in accordance with local, state and federal requirements. New structure sections, components and hardware would be delivered by flatbed truck to the structure locations for assembly by crane and bucket trucks.

New conductors and OPGW would be installed after the structures are installed. The required equipment would include cable reels, pulling and tensioning rigs, and bucket trucks. The removal of the existing conductor and static 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.

After the new structures/conductors/OPGW are installed, the lines are re-energized and the existing structures are removed, ROW restoration activities would commence. Restoration work would include the removal of construction debris, signage, flagging, temporary fencing, and construction mats and work pads that are designated for removal. Affected areas would be re-graded as practical and stabilized via revegetation or other measures before removing temporary E&S controls. ROW restoration would be performed in accordance with Eversource BMPs and in consultation with affected property owners.

¹⁰ [2022 Eversource Best Management Practices MA CT](#)

Upon completion of the project, access roads and work pads located in uplands would be left in place to facilitate future transmission line maintenance. If a property owner requests their removal, Eversource would work with such property owner regarding mitigation options which could include, but not limited to, covering with topsoil/seeding. Eversource would restore stone walls that were affected by the Project if requested by the property owner.

Except for concrete trucks, no construction equipment or vehicle washing would be allowed in the ROW. Concrete truck wash-out would occur only in upland areas of the ROW (a minimum of 50 feet from wetlands) to avoid or minimize the potential for impacts to water resources. All wash-out areas would include measures to control and contain wash-water and collect the cement wash-off for off-site disposal.

Project-related traffic would be expected to be temporary and highly localized in the vicinity of ROW access points along public roads and at the staging area. Due to the phasing of construction work, project-related traffic is not expected to significantly affect transportation patterns or levels of service on public roads. Traffic management procedures would be developed, if necessary.

Environmental Effects and Mitigation Measures

Most of the work would occur within a maintained 80-foot-wide ROW and thus, no tree clearing will occur for the proposed structure replacements except for the portion of ROW at Structures 19783 and 19783A, near Good Hill Road in Weston, where the ROW is 175 feet wide. Approximately 0.6 acre of tree clearing would occur to facilitate work at these two structures, with vegetation cut to an above ground height of 6-8 inches to limit soil disturbance.

For other areas, tree trimming, minor vegetation removal and/or mowing within the managed transmission line ROW corridor may be required to improve work site access, and to develop and/or restore off-ROW access roads and to meet NESC and Eversource conductor clearance standards. Hazard trees located in un-managed areas outside of the ROW would be removed after approval from the affected landowner.

Vegetation removal/tree trimming would be accomplished using mechanical methods using flat-bed trucks, brush hogs or other types of mowing equipment, skidders, forwarders, bucket trucks for canopy trimming, and chippers. Vegetation removal activities would be performed in accordance with Eversource BMPs.

A total of 43 wetland areas and 23 watercourses occur along the ROW or in off-ROW areas. Temporary wetland impacts related to project construction matting would total approximately 72,425 square feet (1.66 acres). The Project would require 11 temporary watercourse crossings, using wood matting, for work pads and access roads. Construction activities within wetlands and over watercourses would be conducted in accordance with Eversource's BMPs.

Approximately 320 square feet of permanent wetland impacts would result from the replacement of two lattice structures within wetlands and two new mid-span structures installed within wetlands. In addition, a new permanent access road to one structure would result in approximately 100 square feet of permanent wetland impact.

A total of 6 vernal pools (VP) were identified in the Project area. No temporary construction matting would be placed within any VP. As proposed, temporary matting would be installed within the vernal pool envelope (100 feet from VP edge) of four vernal pools. At the request of the Council, Eversource would be willing to shift the work area for Structure No. 19763 in Weston eastward to avoid work within a vernal pool envelope.

Eversource would conduct work in this area in accordance with Eversource's BMPs as well as Project specific VP protective measures, which include, but are not limited to, selective tree/shrub vegetation clearing with hand tools where necessary, use of temporary matting, avoid removing shrub vegetation within 25 feet of a VP, avoid the use of E&S controls with plastic meeting, and installation of E&S controls that does not restrict movement of VP obligate species.

The DEEP-approved SWPCP contains details regarding the E&S control measures that would be implemented to protect wetlands and vernal pools. E&S controls would also be inspected weekly by a qualified inspector, as required by the SWPCP. The Project would comply with the SWPCP, ACOE self-verification procedures, and Eversource's BMPs.

Invasive species mitigation measures would be conducted in accordance with Eversource's BMPs. Measures include the cleaning of temporary mats to prevent the introduction of invasive species into wetlands, the cleaning of vehicles, equipment, materials, gear, footwear or clothing of all visible soil and plant material on site known to contain invasives or as near as practical to the invasive area, prior to leaving the Project site.

The Project ROW extends across 100-year and 500-year Federal Emergency Management Agency-designated flood zones associated with the six watercourses. Work associated with five structures would occur within designated 100-year and/or 500-year flood zones. Eversource would utilize Secured temporary matting for work pads/access roads within these flood zone. No permanent fill would be used in these areas to prevent alteration of flood zone characteristics.

The ROW crosses a DEEP-designated Aquifer Protection Area (APA) near Timber Mill Lane in Weston. The Project ROW is partially located within the Hemlocks Reservoir System Public Water Supply Watershed operated by Aquarion Water Company of CT (Aquarion), a subsidiary of Eversource. Eversource would conduct work in accordance with its BMPs as well as practices recommended by Aquarion. Provisions are included for the proper storage, secondary containment, and handling of diesel fuel, motor oil, grease and other lubricants, to protect water quality in these areas.

A portion of the Project is within DEEP Natural Diversity Database (NDDDB) areas. A DEEP NDDDB Determination is a requirement of the DEEP General Permit application. Eversource reviewed a NDDDB Determination from DEEP dated February 22, 2022. Eversource would implement DEEP recommended species-specific protection measures during construction, which include, but are not limited to, providing contractor training, time of year best management practices, monitoring, and installation of exclusionary fencing.

Eversource also consulted with the U.S. Fish & Wildlife Service's (USFWS) Information, Planning and Consultation (IPaC) service regarding federally-listed species that may be present within the project area. The IPaC report identified the northern long-eared bat (NLEB), a federally-listed and state-listed Endangered Species and the Bog Turtle, a federally-listed Threatened Species, and state-listed Endangered Species as occurring proximate to the Project. There are no known NLEB maternity roost trees within 150 feet of the Project area, and no known NLEB hibernaculum is located within the municipalities; thus, no Project-related impacts to NLEB are expected. Although historic records of the bog turtle occur from northern Fairfield County, the turtle is considered extirpated from the area, and therefore, the Project would have no effect on the bog turtle.

A Phase 1A Cultural Resources Assessment (Phase 1A) of the Project area determined that three previously identified archaeological sites; and two Historic Districts and one Scenic Byway (Merritt Parkway) listed on the National Register of Historic Places (NRHP) are located within 500 feet of the Project. The Phase 1A determined that the Project would not affect the three archaeological sites or the two NRHP-listed Historic Districts. One new midspan structure would be visible from the Merritt Parkway but the visual impact would be minimal.

The Phase 1A indicated that 131 work locations possessed a potential for moderate to high archaeological sensitivity. A subsequent Phase 1B Cultural Resources Reconnaissance Survey found no archaeological significance at these locations and no further action was recommended. SHPO reviewed the Phase 1A/1B survey and sent correspondence to Eversource on January 30, 2023 indicating the Project would have no effect on historic properties.

A portion of the Project ROW traverses or is adjacent to several public recreational resource areas including open space areas, state forest, a golf course, and a developed recreational park. Eversource would consult with representatives of these resources to coordinate construction activities and implement measures to maintain public safety and access during Project construction. Upon Project completion, restoration in these areas would be in accordance with the BMPs and the property owners/managers. For example, the Town of Fairfield requested that gravel roads established within Brett Woods Conservation area remain in place post-construction to act as hiking trails.

After construction, gravel work pad restoration measures would be implemented to mitigate construction related disturbance. Mitigation includes the application of stockpiled topsoil or fine process grave followed by application of a native warm season grass mix and habitat enhancements to benefit pollinator species. Upon restoration, the ROW would continue to be maintained as early successional habitat which would benefit the New England Cottontail and other species that rely on shrub habitats.

Disturbed areas would be stabilized using temporary erosion and sediment controls such as straw mulch, compost filters, and biodegradable erosion control blankets until final stabilization has been achieved. In accordance with the SWPCP, monthly inspections would be conducted to monitor stabilization measures. A qualified soil erosion and sediment control professional or a qualified professional engineer would inspect the areas and confirm compliance with the post-construction stormwater management requirements.

The replacement and reconductoring of the lines would require increases in structure heights to meet NESC clearance requirements within the existing ROW. Existing structures on the lines range from 55 to 115 feet above ground level. The replacement structures on the lines would range from 58 feet to 132 feet above ground level, with increases in height ranging from one foot to 43 feet. Four replacement structures would increase in height by 40 feet or more. The new mid span structures would range in height from 106 feet to 132 feet, with an average height of approximately 117 feet.

Due to the increase in structure heights to comply with NESC clearance criteria, there would be indirect visual impacts to the surrounding area. The use of weathering steel replacement structures would blend in with the surrounding wooded landscape.

A large gravel work pad is proposed within the ROW for Structures No. 19719, 19718, 19717, and 19717A, between Hawthorne Substation and residential yards. Work preparation would include the removal of 3 to 5 trees and mowing prior to pad installation. The Council's interrogatories requested Eversource examine the feasibility of using temporary matting in this area to reduce disturbance; however, due to variable topography, temporary matting is not possible.

Public Safety

There would be no permanent changes to existing ROW sound levels after completion of the Project. Noise associated with construction activities is exempt from DEEP Noise Control Regulations. Notwithstanding, any construction-related noise would be short-term and localized in the vicinity of work sites.

Notice to the Federal Aviation Administration would not be required for any of the proposed structures.

Electric fields (EF) are produced whenever voltage is applied to electrical conductors and equipment. Electric fields are typically measured in units of kilovolts/meter (kV/m). As the weight of scientific evidence indicates that exposure to electric fields, beyond levels traditionally established for safety, does not cause adverse health effects, and as safety concerns for electric fields are sufficiently addressed by adherence to the NESC, as amended, health concerns regarding Electric and Magnetic Fields (EMF) focus on MF rather than EF. The International Commission on Non-Ionizing Radiation Protection (ICNIRP) has established a guideline of 4.2 kV/m.

The Project route contains an existing transmission line that emits magnetic fields (MF). In the United States, no state or federal exposure standards for 60-Hertz MF based on demonstrated health effects have been established, nor are there any such standards established worldwide. However, the ICNIRP has established a level of 2,000 milliGauss (mG), based on extrapolation from scientific experimentation, and the International Committee on Electromagnetic Safety (ICES) has calculated a guideline of 9,040 mG for exposure to workers and the general public, and recognized in the Council’s *Electric and Magnetic Field Best Management Practices for the Construction of Electric Transmission Lines in Connecticut*.

Eversource reviewed EMF levels associated with the Project. Pre- and post-construction EMF levels* for double circuit structures are presented in the tables below:

Weston Substation- Hawthorne Substation (Annual Average Loads)		North ROW Edge	Max in ROW	South ROW Edge
Magnetic Fields (mG)	Existing	16.7	28.8	14.2
	Proposed	17.6	32.0	15.4
Electric Fields (kV/m)	Existing	0.23	0.71	0.23
	Proposed	0.24	0.80	0.24

Hawthorne Substation- Old Town Substation (Average Annual Loads)		North ROW Edge	Max in ROW	South ROW Edge
Magnetic Fields (mG)	Existing	21.3	39.1	22.8
	Proposed	22.8	44.6	24.1
Electric Fields (kV/m)	Existing	0.23	0.71	0.23
	Proposed	0.24	0.80	0.24

*based on average annual loads

In areas where single circuit structures are installed, such as angle structures, MF levels would increase by an additional 5 mG to 11 mG, depending on location. All EF and MF values would be below the ICNIRP exposure guidelines of 4.2 kV/m and 2,000 mG, respectively.

Construction Schedule

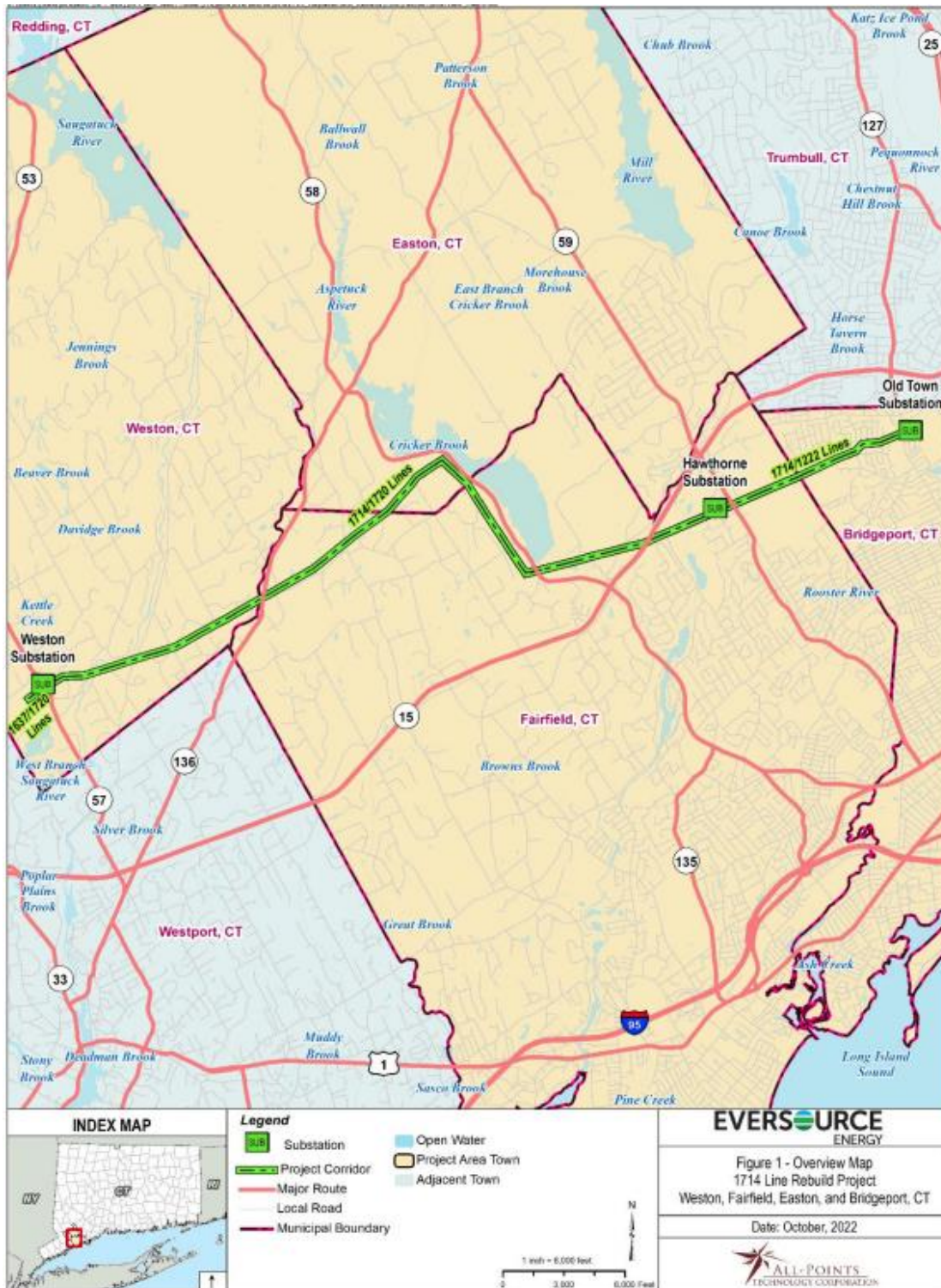
Construction is expected to begin in April 2023 with an anticipated completion by September 2024. Normal work hours would be Monday through Saturday from 7:00 a.m. to 7:00 p.m. Evening work hours may be required based on DOT permits for pulling conductor and OPGW over Route 15. Sunday work hours or evening work (i.e. after 7:00 p.m.) may be necessary due to unforeseen circumstances, delays caused by inclement weather and/or outage constraints.

Conclusion

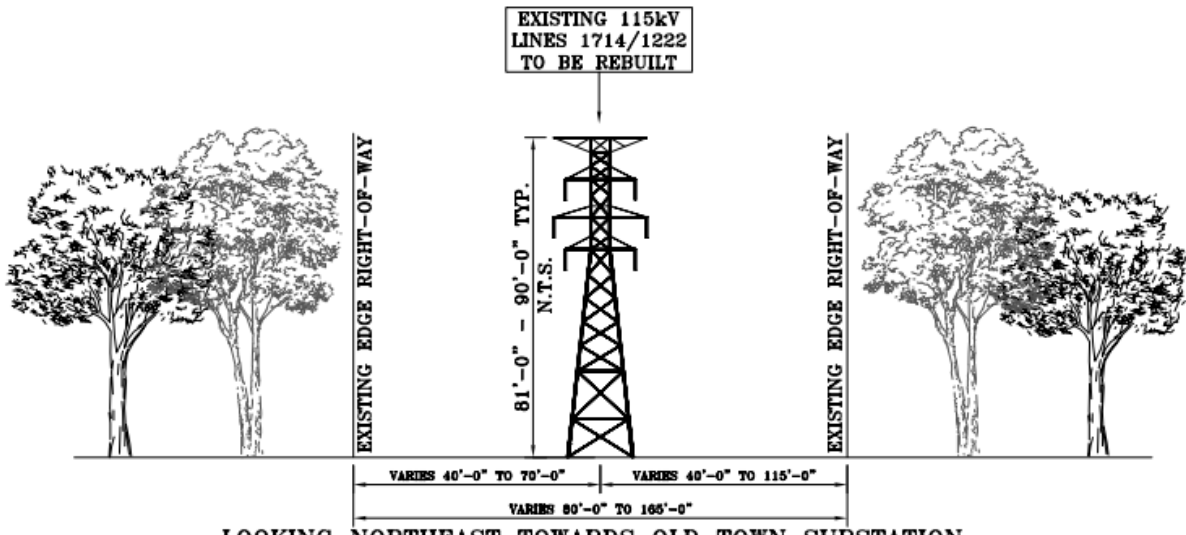
If approved, staff recommends the following conditions:

- 1) Approval of any project changes be delegated to Council staff;
- 2) Identification of staging areas and provisions for erosion and sedimentation (E&S) controls, if necessary, at the staging area locations prior to the commencement of construction;
- 3) Relocate Structure No. 19763 to the east and outside of the 100-foot vernal pool envelope associated with Vernal Pool 1;
- 4) Incorporate pollinator habitat in the restoration of disturbed areas consistent with CGS §16-50hh, where feasible; and
- 5) An environmental monitor shall oversee construction activities in sensitive resource areas.

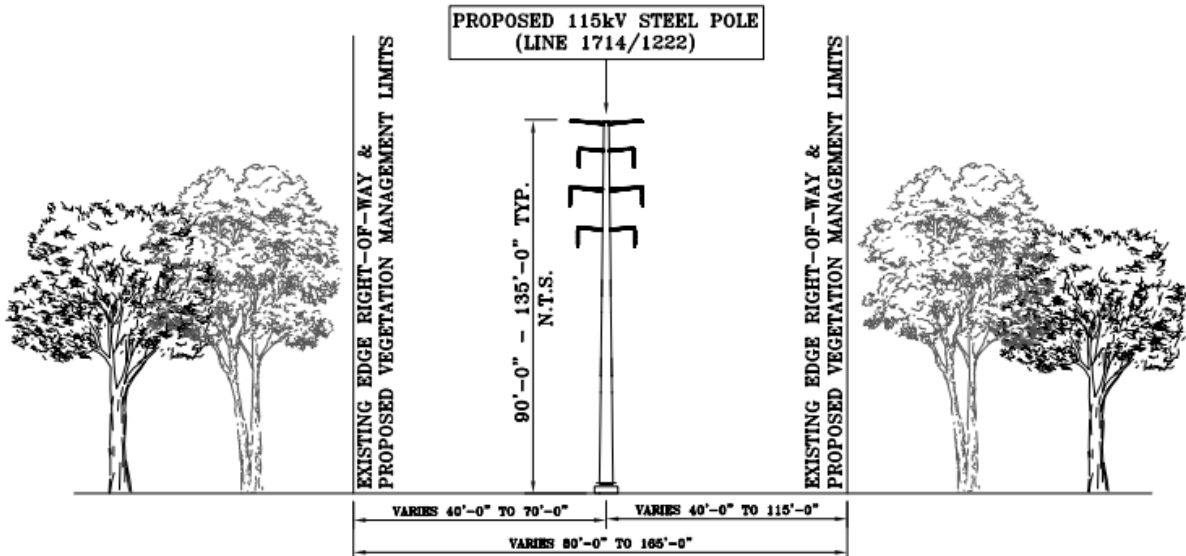
Project Location



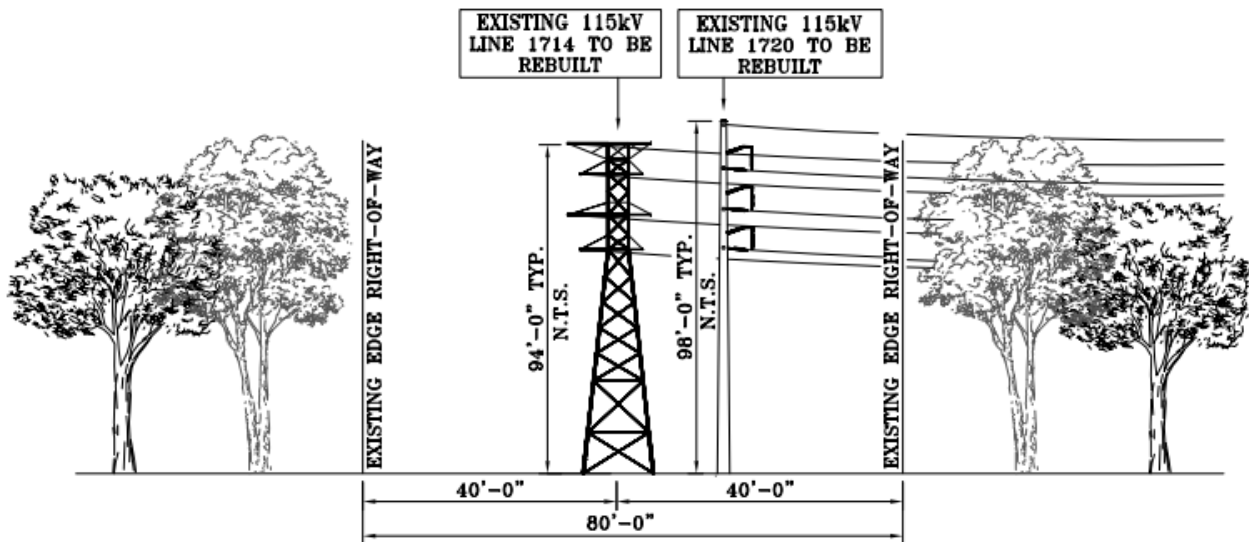
Project ROW Profiles



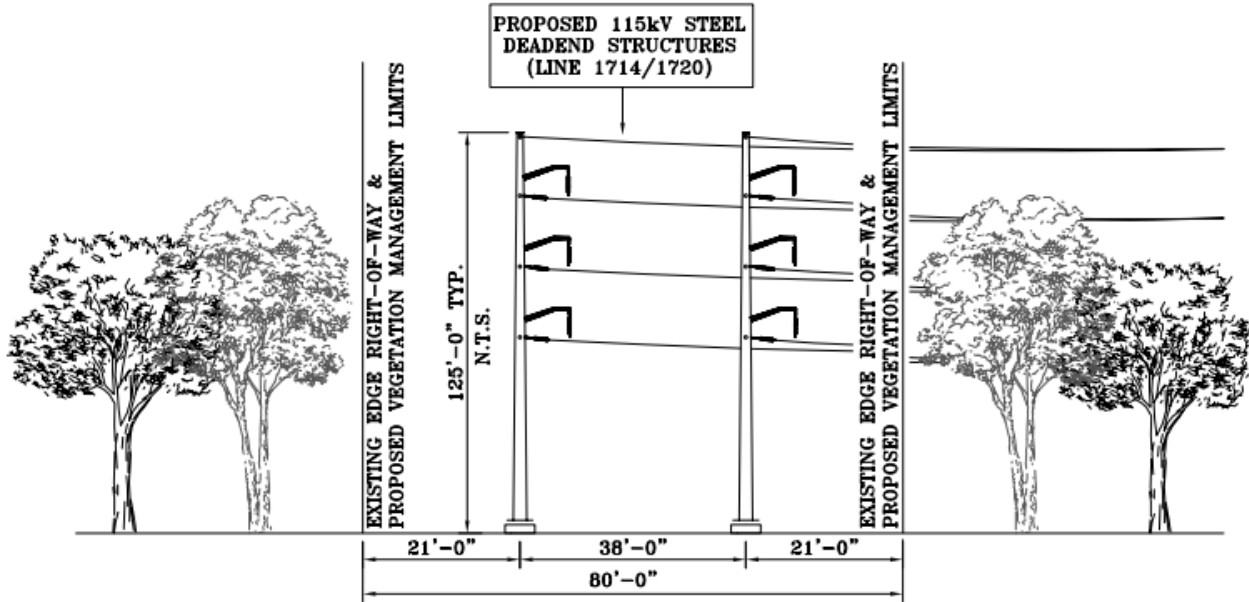
LOOKING NORTHEAST TOWARDS OLD TOWN SUBSTATION
IN THE TOWN OF FAIRFIELD: EXISTING



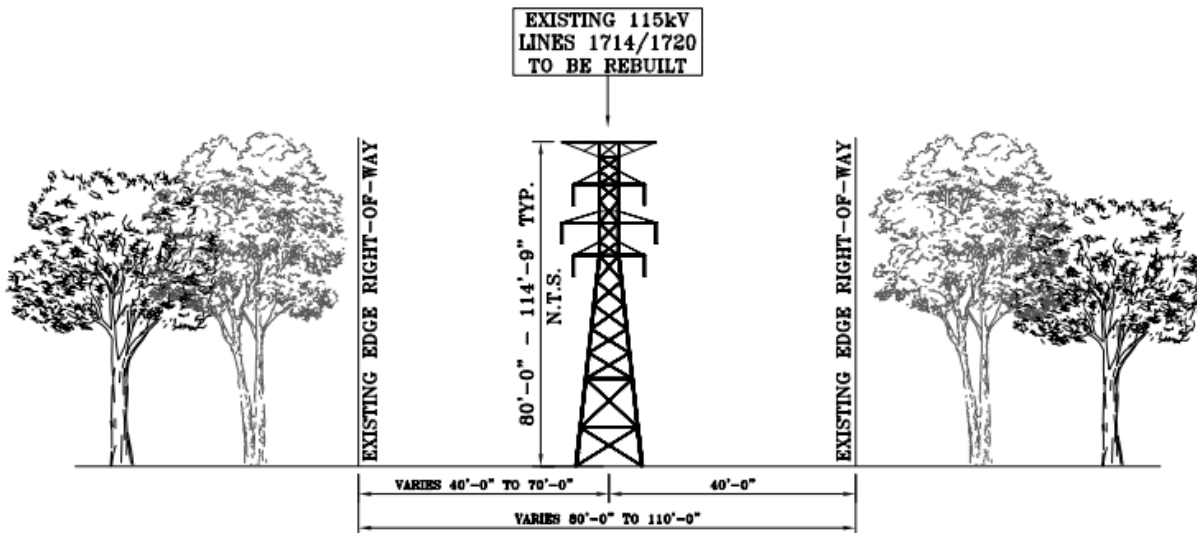
LOOKING NORTHEAST TOWARDS OLD TOWN SUBSTATION
IN THE TOWN OF FAIRFIELD: PROPOSED



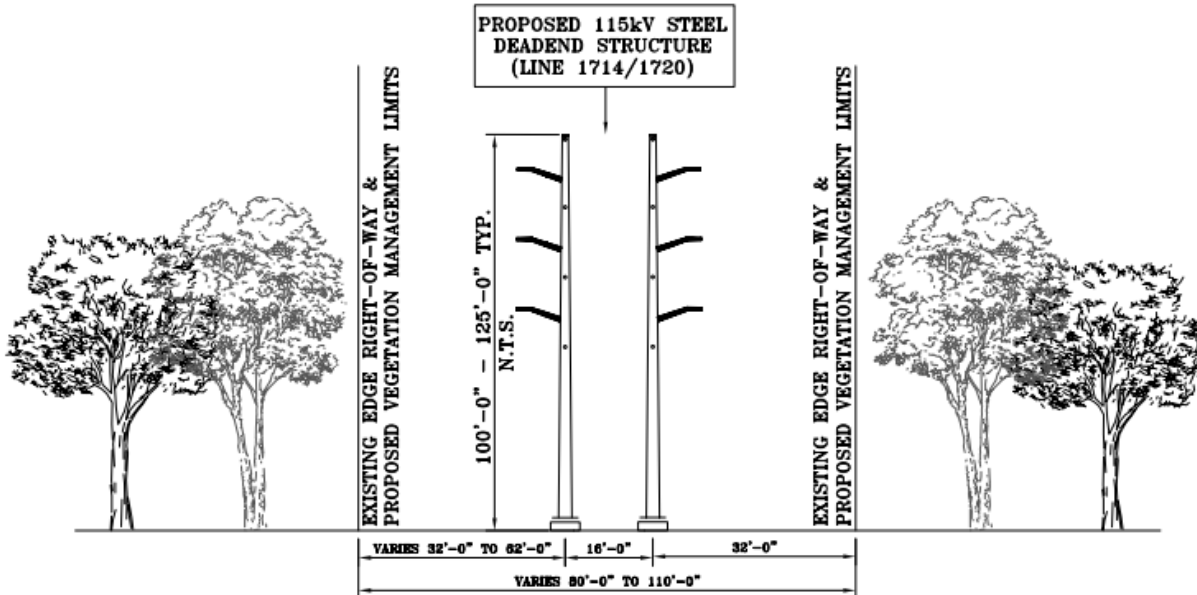
LOOKING NORTHEAST BETWEEN WESTON AND HAWTHORNE SUBSTATIONS
IN THE TOWN OF EASTON: EXISTING



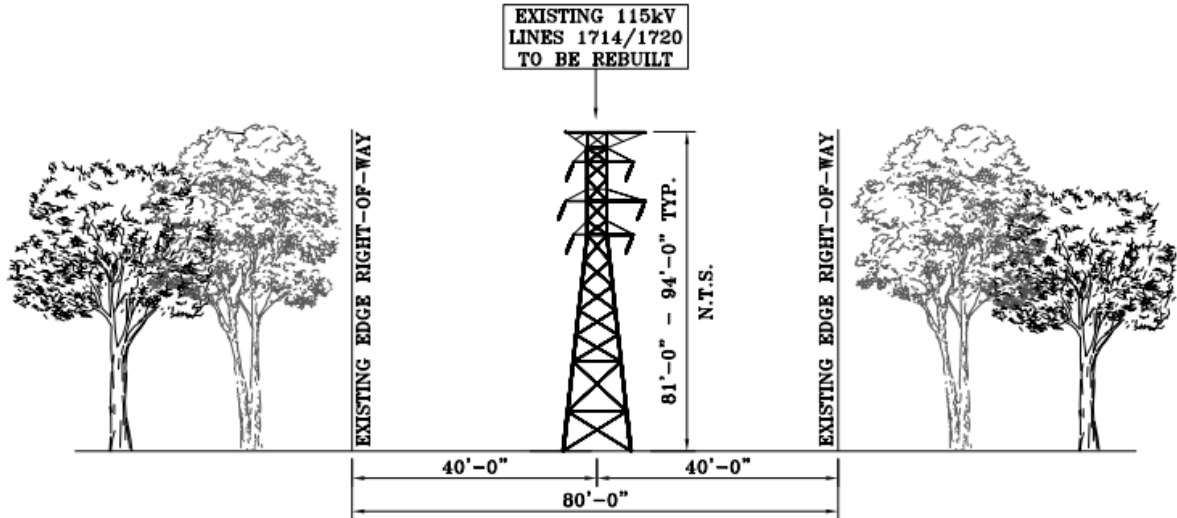
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IN THE TOWN OF EASTON: PROPOSED



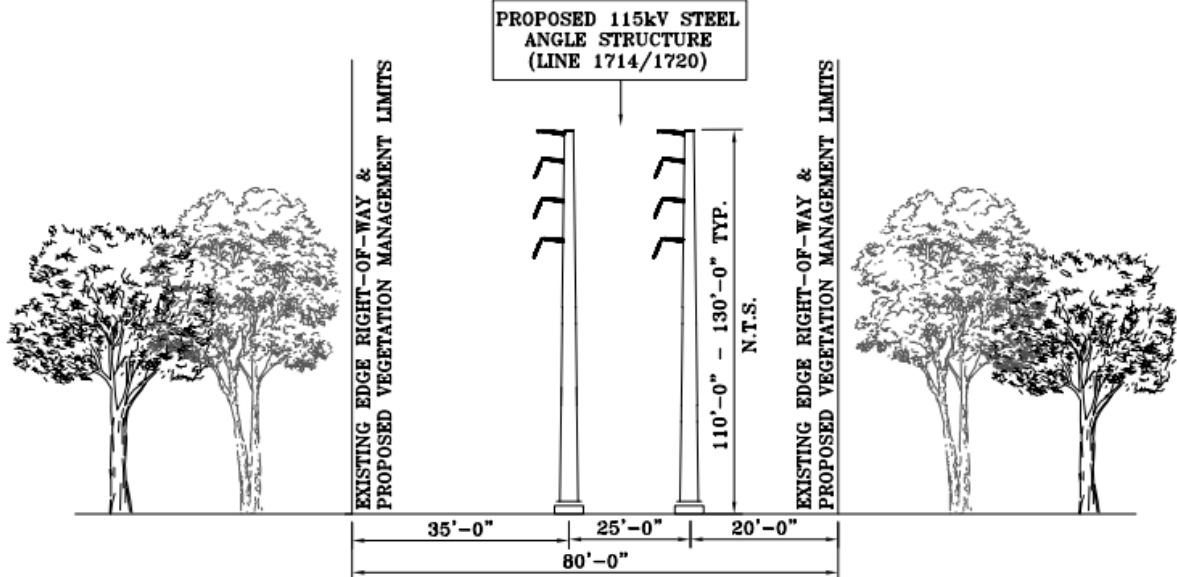
LOOKING NORTHEAST TOWARDS OLD TOWN SUBSTATION
IN THE TOWN OF FAIRFIELD: EXISTING



LOOKING NORTHEAST TOWARDS OLD TOWN SUBSTATION
IN THE TOWN OF FAIRFIELD: PROPOSED



LOOKING SOUTHWEST TOWARDS WESTON SUBSTATION
IN THE TOWN OF WESTON: EXISTING



LOOKING SOUTHWEST TOWARDS WESTON SUBSTATION
IN THE TOWN OF WESTON: PROPOSED