

**Petition No. 1445**  
**Connecticut Light and Power Company d/b/a Eversource Energy**  
**Colony Substation to North Wallingford Substation #1588 Line Rebuild Project**  
**Wallingford, Connecticut**  
**DRAFT Staff Report**  
**June 11, 2021**

**Introduction**

On March 18, 2021, 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 §4-176 and §16-50k, for the proposed #1588 Line Rebuild Project within existing Eversource electric transmission right-of-way (ROW) between Wallingford Electric's Colony Substation at 15 Old Colony Road and Wallingford Electric's North Wallingford Substation at 130 Thorpe Avenue in Wallingford, Connecticut. The Project consists of line reconductoring and the replacement of all but one of the electric transmission line structures along approximately 2.65 miles of Eversource's existing #1588 115-kilovolt (kV) single-circuit electric transmission line.

On March 19, 2021, the Council sent correspondence to the Town of Wallingford (Town) stating that the Council has received the Petition and invited the Town to contact the Council with any questions or comments by April 17, 2021. No comments have been received.

On April 15, 2021, the Department of Energy and Environmental Protection (DEEP) submitted comments on the proposed project. Eversource must register for a Stormwater Permit for the proposed modifications to the existing electric transmission line facility.

The Council submitted interrogatories to Eversource on May 14, 2021. Eversource submitted responses to the interrogatories on June 2, 2021.

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, and therefore, May 17, 2021 was the deadline for action on this Petition. In response to the Coronavirus pandemic, Governor Lamont issued Executive Order No. 7, as subsequently extended, that provides for a 90-day extension of statutory and regulatory deadlines for administrative agencies. Thus, the deadline under CGS §4-176(e) is extended to August 15, 2021.

The purpose of the proposed project is to ensure both the structures and conductor meet the latest National Electrical Safety Code (NESC) and Eversource design standards; replace the existing shield wires with optical ground wire (OPGW) to increase communication bandwidth and security; and replace many of the structures due to asset condition issues and over stress due to the replacement of OPGW and new conductor.

**Municipal and Abutter Notice**

In January 2021, Eversource consulted with the Town regarding the proposed project and provided a briefing on the project. In January/February 2021, Eversource provided written notice of the Petition filing to the Town.

From mid-summer 2020 through mid-winter 2021, Eversource conducted 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. No comments have been received to date.

For the construction phase of the project, Eversource will inform adjacent property owners prior to construction as well as during construction and restoration.

### **Existing Project Area**

The existing project area is an approximately 2.65 mile portion of the existing Eversource ROW that contains the 115-kV #1588 Line from Colony Substation to North Wallingford Substation. The #1588 Line was originally constructed in 1946 on single-circuit wood H-frame structures. Modifications to this line were performed in 1984 and 1994 for the construction of Colony Substation and North Wallingford Substation including the construction of the steel monopole Structure No. 3645 which would not be replaced. The width of the existing ROW from Colony Substation to Structure No. 3625 (near the western edge of Interstate 91) is approximately 125 feet. The width of the existing ROW east of Interstate 91 to North Wallingford Substation is approximately 300 feet.

### **Proposed Project**

The rebuild project consists of conductor, shield wire and structure replacements on the #1588 Line. The rebuilt line would be located within the same ROW but shifted about 45 feet to the south of its current location to meet the latest NESC and Eversource design standards. This shift in location for the rebuilt line would enable the existing line to remain in service until the rebuilt line is energized. The project is identified in the March 1, 2021 Eversource Ten-Year Forecast of Electric Loads and Resources and in the March 2021 ISO-NE Regional System Plan Asset Condition List.

The Project entails the following:

- a) Replace 21 single-circuit wood H-frame structures with weathering steel H-frame structures;
- b) Replace one single-circuit wood H-frame structure with a weathering steel monopole structure;
- c) Replace one single-circuit weathering steel H-frame structure with a new weathering steel H-frame structure;
- d) Replace 2.54 miles of 4/0 copper conductor with 2.54 miles of 1272 kcmil aluminum conductor steel supported (ACSS) conductor, 0.04 mile of 954 kcmil aluminum conductor steel reinforcement (ACSR) and 0.02 mile of 556 kcmil ACSR;
- e) Replace two 11/32-inch copperweld shield wires with two new 0.646 inch 48-fiber optical ground wire (OPGW);
- f) Install new hardware, insulators, lightning arresters and counterpoise; and
- g) Improve and/or install access roads and work pads to support the proposed scope of work.

The heights of the existing structures range from 48 to 66 feet above ground level (agl). The proposed replacement structures would range in height from 56 to 103 feet agl.

### **Project Construction and Work Procedures**

Eversource would utilize its Southington Substation at 297 Bellevue Avenue in Southington for a staging/laydown area. The staging area is approximately 2.87 acres in size. Eversource would utilize existing access off of Peters Circle. The staging area would be used for storage of construction materials, equipment, tools and supplies. Office trailers and storage containers may also be located at the staging area, and the staging area may also include parking for construction vehicles and construction crews' personal vehicles. Appropriate erosion and sedimentation (E&S) controls would be installed and maintained until completion of construction in accordance with Project permitting and Eversource Best Management Practices (BMPs).

Eversource would utilize existing access roads to the extent possible. However, some new access roads would be required. Construction matting would be utilized to install temporary access roads through wetland areas to reach certain structure locations.

Existing access roads may require improvement (e.g. grading, widening and/or reinforcement). Access road improvements may require trimming adjacent vegetation and widening as necessary to provide a maximum travel surface of about 16 feet wide (or greater at turning or passing locations) for construction equipment.

Construction areas (including access roads to be constructed and/or improved) would be isolated by establishing E&S controls in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control* and Eversource BMPs. Typical E&S control measures include, but are not limited to, straw blankets, straw 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 Stormwater Permit.

At each transmission line structure location, a work pad would be constructed 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 be 100 feet by 100 feet, but may vary due to terrain, spacing between existing and proposed structures and in areas where machinery is necessary for pulling conductors. Most work pads would be graveled, though some would use temporary matting to protect sensitive areas such as wetlands.

With the exception of Structure No. 3644, which would have a drilled (caisson) foundation, the remainder of the proposed structures would have direct embedded foundations. Installation work would require the use of equipment such as augers, drill rigs, pneumatic hammers, dump trucks, concrete trucks, grapple trucks, and light duty trucks. If groundwater is encountered, pumping (vacuum) 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. After assembly, the area around the direct embed foundations would be backfilled with processed gravel.

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

The removal of the existing structures, conductor and shield wire would take place after the installation of the new structures, conductor and OPGW. This sequence would allow the existing #1588 Line to remain energized throughout the construction of the rebuilt #1588 Line.

After the new structures are installed, the rebuilt line is 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/pull pads/work pads. 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.

Upon completion of the project, access roads and work/pull 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, including removal.

Construction-related traffic would utilize public roads in the project area to access the ROW. However, generally, project-related traffic would be expected to be temporary and highly localized in the vicinity of ROW access points and at the staging area. Thus, project-related traffic is not expected to significantly affect transportation patterns or levels of service on public roads.

Construction is expected begin in August 2021. Normal work hours would be Monday through Saturday from 7:00 a.m. to 7:00 p.m. Sunday work hours or evening work (i.e. after 7:00 p.m.) may be necessary due to delays caused by inclement weather and/or outage constraints; in the event that this is necessary, Eversource would provide notice to the Council and the Town.

### Environmental Considerations

Tree clearing for the project would be performed within the Eversource ROW near Colony Substation and North Wallingford Substation. Approximately 3.85 acres of upland habitat and 0.32 acre of wetland habitat would have tree clearing. Thus, this would result in an estimated total permanent conversion of approximately 4.17 acres of forest habitat to scrub-shrub or herbaceous habitat areas. Given the overall limited extent of forest conversion to shrubland or emergent vegetation, this is not expected to result in a significant adverse impact to forested habitat. Additionally, the 0.32 acre of tree removal in wetlands, resulting in the conversion of existing palustrine forested cover to palustrine scrub shrub habitat, would be a cover type change to wetland habitat, not a net loss of wetlands.

A total of 11 wetland areas and 5 watercourses/waterbodies are located along the ROW. No transmission structures would be located within these areas. The total temporary impacts to these resource areas due to the use of temporary matting would be approximately 0.53 acre. See table below.

Wetland / Watercourse ID	200 Scale Petition Mapping Sheet No.	Wetland / Watercourse Effects (± square feet)		
		Temporary (Matting)	Permanent (Structures)	Secondary (Selective Tree Removal)
W1/S1	01	455	0	2,464
W2/S3	02	0	0	207
S2	02	228	0	0
W4	02, 03	0	0	2,367
W5/S4	03	0	0	1,657
S5	03	581	0	581
W6	03	0	0	447
W7	04	4,327	0	3,630
W8	04	10,189	0	0
W10	05	7,441	0	2,050
W11	05	0	0	519
TOTAL		23,221 (0.53 acre)	0 (0.00 acre)	13,922 (0.32 acre)

Of the 0.53 acre total, the largest temporary impact area would be approximately 0.23 acre of Wetland 8. Eversource is unable to avoid this temporary impact area by relocating its pull pad outside of Wetland 8 and accessing adjacent Structure Nos. 3627 and 3628 from opposite directions. This would necessitate the crossing of Wetland 9 and its associated pond. Eversource was also unable to secure off-ROW access from the property owner.

All construction mats would be removed upon project completion, and wetland areas would be restored in accordance with Eversource BMPs.

The project area was surveyed for potential vernal pools in August and September of 2020. One potential vernal pool (PVP1) was identified within Wetland 10. A follow-up survey was conducted on May 14, 2021 that confirmed the presence of vernal pool species. The project construction would not occur within the 750-foot vernal pool Critical Terrestrial Habitat or the 100-foot Vernal Pool Envelope.

None of the proposed replacement structures would be located within a Federal Emergency Management Agency-designated 100-year or 500-year flood zone.

A proposed pull pad located immediately south of Colony Substation would be located within the DEEP designated Oak Street, Level A, Aquifer Protection Area. Structure No. 3622B is located within a public water supply watershed area for Wallingford Reservoirs. No public water supply reservoirs are located within the project area. No active public water supply wells were observed within the project area during field investigations. To be protective of water quality, 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. Construction activities would conform to Eversource BMPs; a SWPCP; and a Spill Prevention and Control Plan.

On January 8, 2021, Eversource submitted a Natural Diversity Database (NDDB) review request to DEEP for the proposed structure replacement activities within the buffered NDDB habitat area. As of May 14, 2021, Eversource has not yet received a response. Notwithstanding, Eversource plans to adhere to recommendations and/or protection plans that may be identified by DEEP.

The northern long-eared bat (NLEB), a federally-listed Threatened Species and state-listed Endangered species, may occur in the vicinity of the project area. However, there no known roost trees within 150 feet of the project area, and the nearest NLEB hibernaculum is located approximately 7.2 miles from the project area. Eversource submitted its consultation filing to the U.S. Fish & Wildlife Service on December 18, 2020. USFWS did not notify Eversource within 30 days of a potential conflict; thus, no adverse impacts to NLEB are anticipated, and Eversource has satisfied its obligations under Section 7 of the Endangered Species Act.

The nearest publicly-accessible recreational resource is the Wallingford Land Trust (WLT) Orchard Glen Hiking Trail (OGHT). OGHT is an approximately two-mile long trail in Wallingford that currently passes beneath and along the transmission line for a distance of approximately 200 feet near Structure Nos. 3638 and 3639. Eversource has discussed the project with the WLT and would continue to work closely with WLT before, during and after construction to manage any impacts to the trail and plan restoration activities that might be necessary.

A Phase 1A Cultural Resources Assessment (Phase 1A Assessment) was conducted in November 2020 and determined that no National Register of Historic Places, state or locally-listed historic properties or historic districts are located within 500 feet of the Project ROW. The Phase 1A Assessment identified 13 locations within the Project area that have a moderate to high potential for archaeological sensitivity. A Phase 1B Assessment consisting of shovel tests was performed in December 2020, and it indicated that there would be no effect on cultural resources; thus, no additional investigation of these areas is warranted. By letter dated February 9, 2021, the State Historic Preservation Office (SHPO) notes that it has reviewed the Phase 1B Assessment and concurs that no historic properties would be affected and no additional investigations are warranted. The Tribal Historic Preservation Offices of the Connecticut Tribe of Mohegan Indians and the Mashantucket Pequot Tribal Nation were also in receipt of the Phase 1B Assessment results but did not comment.

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.

The Project ROW does not cross a locally or state designated scenic roadway.

The project would result in some minor changes to the visual character of the transmission line, but the changes are not expected to be significant. While the relocation of the structures within the ROW would slightly change the viewsheds from abutments and street crossings, the replacement structures would be primarily of the same design and of similar appearance to the corresponding existing structures, except for Structure No. 3644. Structure No. 3644 would change from a wood H-frame to a weathering steel monopole; however, the weathering steel finish is intended to be a closer match to the surroundings than galvanized gray.

The proposed project would not significantly change the visibility from the OGHT. The only visible difference would be the shift of the line within the ROW and the removal of vegetation for construction and to maintain the proper clearances. Eversource would remain in consultation with WLT to address any impacts.

### **Magnetic Fields**

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 International Commission on Non-Ionizing Radiation Protection (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 MF levels associated with the Project. Pre- and post-construction MF levels (based on average annual loads) are presented in the table below.

Distance from Proposed Transmission Line (feet)	Magnetic Fields (mG)	
	Existing	Proposed
-300	0.1	0.1
-275	0.1	0.1
-250	0.2	0.1
-225	0.2	0.2
-200	0.3	0.2
-175	0.4	0.3
-150	0.7	0.4
-125	1.2	0.6
-100	2.6	0.9
-75	5.7	1.7
-50	6.3	3.8
-25	3.1	7.3
0	1.4	6.8
25	0.7	3.2
50	0.5	1.5
75	0.3	0.8
100	0.2	0.5
125	0.2	0.4
150	0.1	0.3
175	0.1	0.2
200	0.1	0.2
225	0.1	0.1
250	0.1	0.1
275	0.1	0.1
300	0.0	0.1

All MF values would be well below the ICNIRP exposure guideline of 2,000 mG.

### **Aviation Safety**

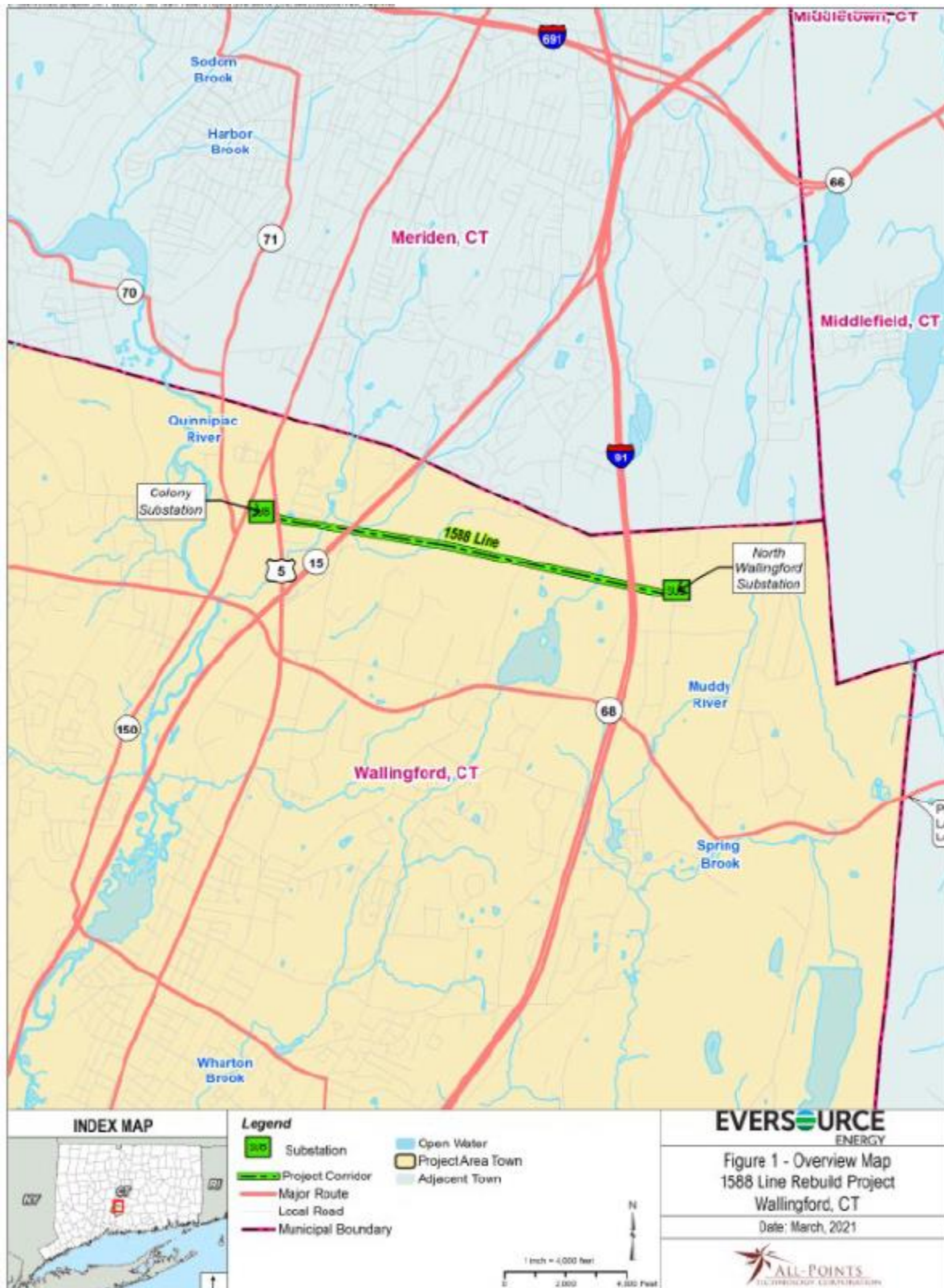
Eversource filed requests for obstruction evaluation with the Federal Aviation Administration (FAA) for all proposed transmission structures for this project. The FAA determined that no marking and/or lighting would be required for any of the proposed replacement structures.

### **Staff Recommendation**

If approved, staff recommends the following condition:

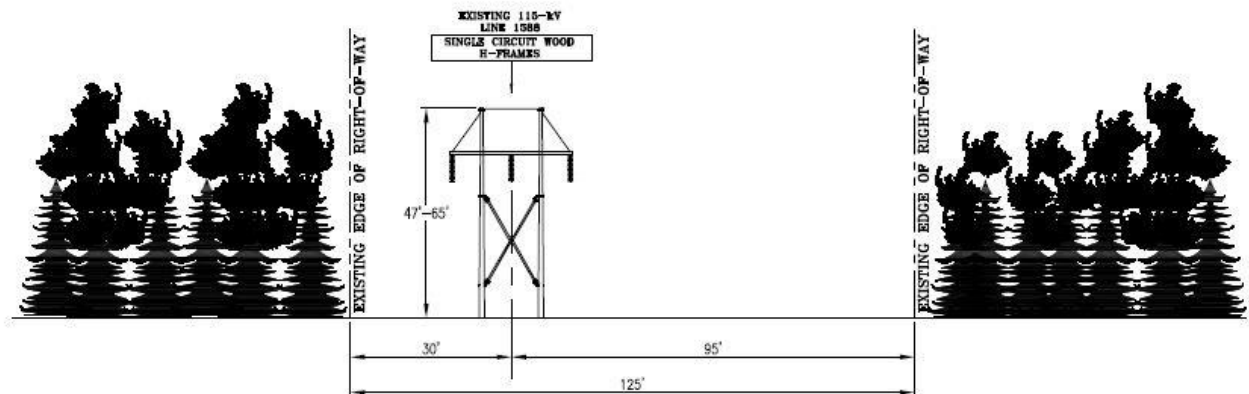
1. Approval of any project changes be delegated to Council staff.

## Project Location

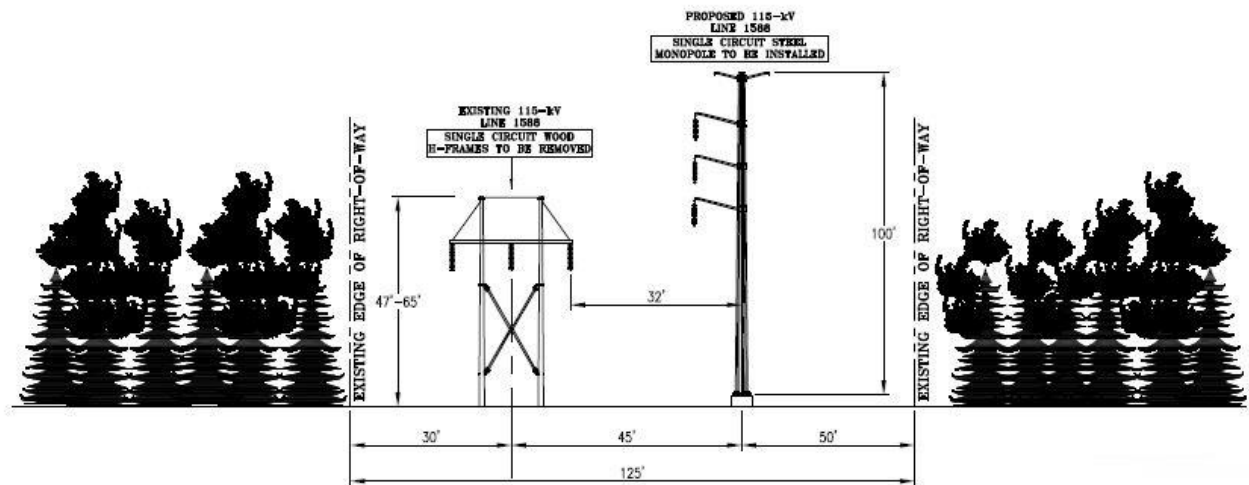




**ROW Profiles – 1 of 3**

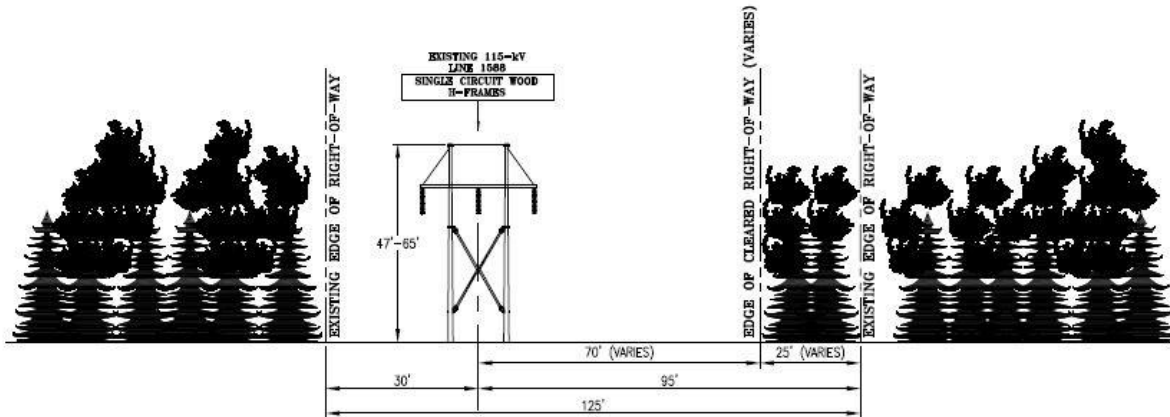


**EXISTING R.O.W. CONFIGURATION  
SINGLE CIRCUIT WOOD H-FRAMES  
LOOKING FROM COLONY S/S TO N. WALLINGFORD S/S  
IN THE TOWN OF WALLINGFORD, CT  
0.12 MILES BETWEEN COLONY S/S TO STRUCTURE 3644**

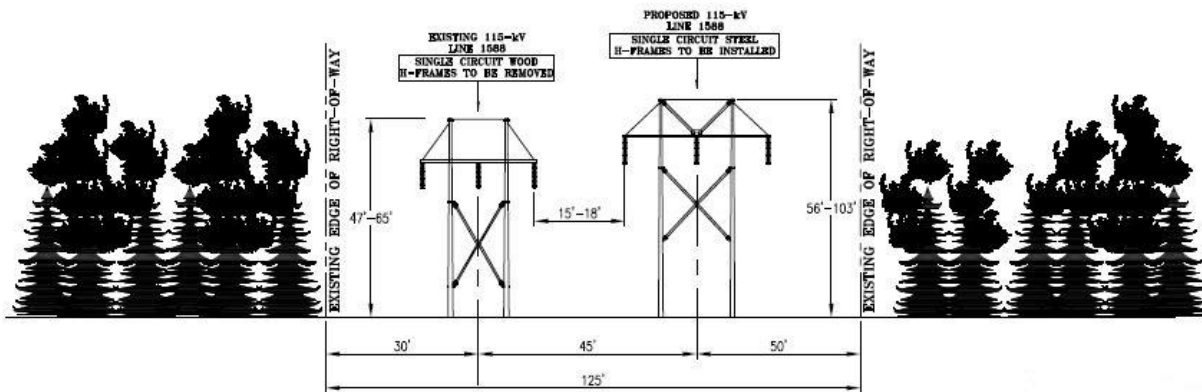


**PROPOSED R.O.W. CONFIGURATION  
SINGLE CIRCUIT VERTICAL STEEL MONOPOLE  
LOOKING FROM COLONY S/S TO N. WALLINGFORD S/S  
IN THE TOWN OF WALLINGFORD, CT  
0.12 MILES BETWEEN COLONY S/S TO STRUCTURE 3644**

**ROW Profiles – 2 of 3**

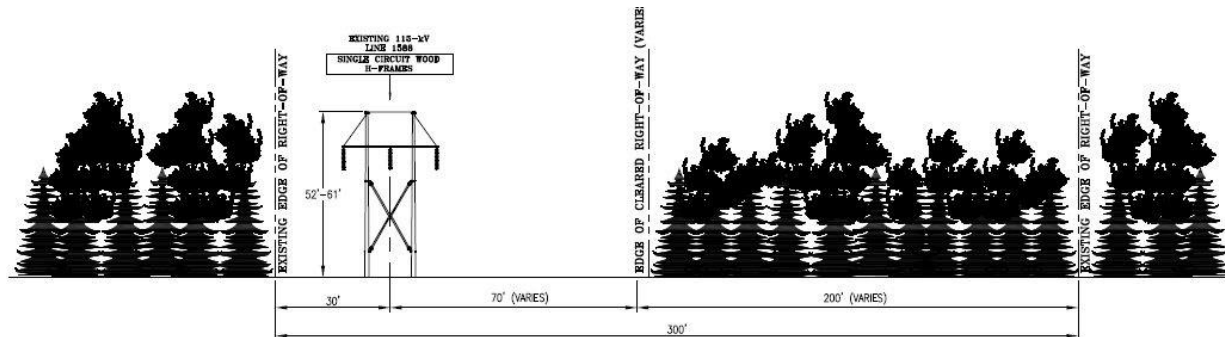


**EXISTING R.O.W. CONFIGURATION**  
**SINGLE CIRCUIT WOOD H-FRAMES**  
**LOOKING FROM COLONY S/S TO N. WALLINGFORD S/S**  
**IN THE TOWN OF WALLINGFORD, CT**  
**2.25 MILES BETWEEN STRUCTURE 3644 TO STRUCTURE 3624**

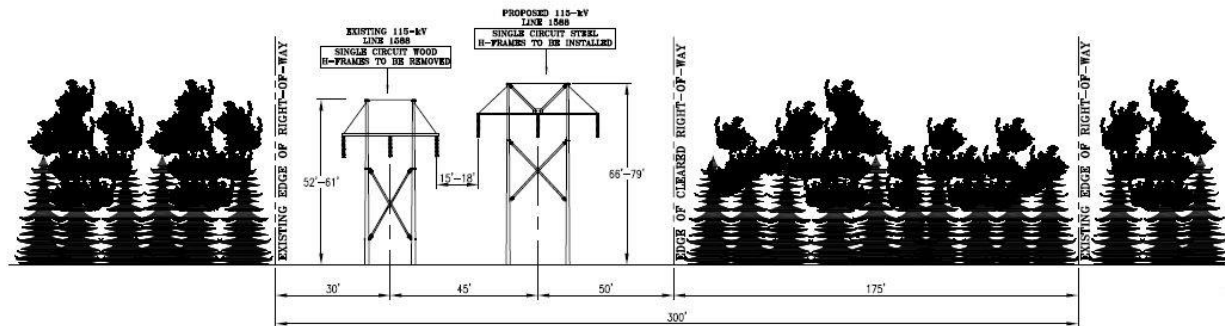


**PROPOSED R.O.W. CONFIGURATION**  
**SINGLE CIRCUIT STEEL H-FRAMES**  
**LOOKING FROM COLONY S/S TO N. WALLINGFORD S/S**  
**IN THE TOWN OF WALLINGFORD, CT**  
**2.25 MILES BETWEEN STRUCTURE 3644 TO STRUCTURE 3624**

### ROW Profiles – 3 of 3



**EXISTING R.O.W. CONFIGURATION  
SINGLE CIRCUIT WOOD H-FRAMES  
LOOKING FROM COLONY S/S TO N, WALLINGFORD S/S  
IN THE TOWN OF WALLINGFORD, CT  
0.23 MILES BETWEEN STRUCTURE 3624 TO N, WALLINGFORD S/S**



**PROPOSED R.O.W. CONFIGURATION  
SINGLE CIRCUIT STEEL H-FRAMES  
LOOKING FROM COLONY S/S TO N, WALLINGFORD S/S  
IN THE TOWN OF WALLINGFORD, CT  
0.23 MILES BETWEEN STRUCTURE 3624 TO N, WALLINGFORD S/S**