

November 4, 2021

Melanie Bachman, Esq.  
Executive Director  
Connecticut Siting Council  
Ten Franklin Square  
New Britain, CT 0605

Re: The Connecticut Light and Power Company's Notice of Exempt Modification Pursuant to RCSA § 16-50j-57(a) to Existing Energy Facility Site at 332 Clough Road in the City of Waterbury, Connecticut ("Notice of Exempt Modification")

Dear Ms. Bachman.

The Connecticut Light and Power Company doing business as Eversource Energy ("Eversource") hereby gives notice to the Connecticut Siting Council ("Council") of its intent to undertake an exempt modification in accordance with Section 16-50j-57(a) of the Regulations of Connecticut State Agencies ("RCSA") for the modifications to Eversource's Bunker Hill Substation (the "Project") described herein.

The purpose of the proposed work is to improve local distribution system reliability, the potential loss of load, by reconfiguring Eversource's Bunker Hill Substation ("Substation") into a six-breaker ring bus to meet Eversource's current bulk distribution substation design standards and the relocation of line terminals to connect to the ring bus. The proposed Substation configuration would require the 1029 Line<sup>1</sup> to be rerouted on three new structures around the Substation perimeter, on Eversource Property, to connect to the new ring bus configuration. In addition, the

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<sup>1</sup> The 115-kV 1029 and 1789 lines are shared on a double-circuit tower ("DCT") which is susceptible to a loss of load.

existing 115-kV 1721 Line wood H-frame structure, located within the Substation, is is deteriorated and requires replacement.

## **Proposed Modifications**

The proposed modifications would take place solely on Eversource property at the Substation, located at 332 Clough Road in the City of Waterbury. The Substation is a 115-/13.8-kV bulk substation with four 115-kV lines (1029, 1789, 1272, 1668 lines), two 115-/13.8-kV transformers to serve the local area and Substation load and one mobile transformer. The proposed modifications to the Substation are shown on Attachment A: Drawing No. 25105-92001- Bunker Hill Substation General Arrangement - Plan & Sections – Connecticut Siting Council, Attachment B: Aerial Map, and Attachment C: Proposed and Existing.

Detail of the proposed scope of work is as follows:

- a) Removal of the existing bus between the 1789 terminal position and circuit breaker and the existing 4x transformer and existing mobile transformer to accommodate the new equipment.
- b) Installation of a new 115-kV line terminal structure for the 1029 Line.
- c) Installation of three 115-kV sulfur hexafluoride (“SF<sub>6</sub>”) circuit breakers.
- d) Installation of seven 115-kV manual disconnect switches.
- e) Installation of two 115-kV cable potheads.
- f) Installation of two 115-kV motor-operated disconnect switches.
- g) Installation of fifteen 115-kV lightning arresters.
- h) Installation of seven 115-kV capacitive coupling voltage transformers (“CCVTs”).
- i) Installation of station service voltage transformer feeders on the ring bus.
- j) Relocation of the existing mobile transformer to position previously occupied by 1029 line.
- k) Relocation of 1029 Line terminal approximately 110 feet from its existing location to a new position in the northern side of the ring bus between the 4T and 5T breakers.

- l) Installation of one 115-kV ballistic rated, metal-clad (ash gray color) relay and control house, house battery systems and related protection and control equipment. The dimensions of the enclosure would be approximately 60 feet long by 28 feet wide by 13 feet high on a new foundation.
- m) Installation of 600 feet long, single-circuit underground 115-kV line, consisting of three 1000 kcmil copper ethylene propylene rubber (“EPR”) cables per phase encased in a polyvinyl chloride conduit, from bus between the 115-kV circuit breakers 3T and 4T to connect the distribution transformer (3X).
- n) Replacement of two existing wood pole switch support structures with galvanized steel support structures. The height of the structures will remain approximately 18 feet above ground level.
- o) Installation of foundations, lightning masts, bus supports and bus connections for the equipment and structures listed above.
- p) Installation of underground conduits and cable, relay/controls to accommodate the new equipment.

In addition to the Substation work described above, the work would also entail:

- q) Replacement of the existing wood H-frame Structure 150 on the 1721 line located within the existing Substation fence, with a weathering steel H-frame structure, also to be located within the Substation fence. The height of the new structure will be approximately 70 feet above ground, five feet taller than the existing structure.
- r) Installation of three new single-circuit galvanized steel dead-end structures (1500-1, 1500-2 and 1500-3) on caisson foundations to extend the 1029 Line from the south side of the Substation to the northern side of the proposed ring bus.  
  
The heights of structures 1500-1 and 1500-2 would be approximately 90 feet above ground level. The height of the structure 1500-3 would be approximately 85 feet above ground level. The tallest existing structure (Structure 1501) within the adjacent Eversource right-of-way (“ROW”), near structure 1500-3, is approximately 102 feet above ground level.
- s) Replacement of approximately 285 feet of 556 kcmil aluminum conductor steel supported (“ACSS”) phase conductor, located between the existing Structure 1500 and the Substation line terminal structure (1029 Line terminal structure), with 1166 feet<sup>2</sup> of 1272 kcmil ACSS phase conductor.

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<sup>2</sup> The increase in distance is the result of the 1029 Line terminal structure relocation.

- t) Replacement of shield wire of approximately 1375 feet between existing Structure 1500 and the new Substation line terminal structure with optical ground wire (“OPGW”) on the northern side of the proposed ring bus.
- u) Installation of a new splice box at Structure 1500 and another splice box at the new Substation line terminal structure on the northern side of the proposed ring bus.
- v) Installation of a temporary 20-foot-wide gate on the existing fence at the southern side of the Substation to accommodate the safe construction of Structure 1500-1. The gate would be removed and the continuous section of the fence restored after construction.

The Project would be constructed, operated, and maintained in accordance with established industry practices and in accordance with Eversource’s 2016 *Best Management Practices Manual for Massachusetts and Connecticut* (“BMPs”). Construction-related vehicular traffic would utilize the existing Substation access. Project-related traffic is expected to be temporary and highly localized in the vicinity of the Substation.

### **Environmental Effects and Mitigation**

The proposed modifications would not have a substantial adverse environmental effect or cause a significant adverse change or alteration in the physical or environmental characteristics for the reasons explained more fully below:

#### Clearing and Vegetation Removal

Some tree clearing and vegetation removal is required to accommodate the three new structures required to relocate/extend the 1029 Line. Eversource would clear approximately 13,700 square feet (0.37 acre) of trees and vegetation on Eversource property. The proposed clearing/vegetation removal activity would not impact abutters to Eversource’s property, or the wetland located on Eversource property.

Clearing would be accomplished using mechanical methods and typically requires the use of flatbed trucks, brush hogs or other similar types of equipment, skidders, forwarders, bucket trucks for canopy trimming, feller bunchers for mechanical tree cutting, woodchippers, log trucks, and chip vans. Eversource would conduct vegetation removal activities in accordance with the BMPs.

Erosion and sedimentation controls will be installed and maintained in accordance with the BMPs. Silt fencing would be installed prior to construction to demarcate the line of construction and prevent migration of sediment or construction materials into wetlands.

### Environmental Effects

- There will be no impacts to environmental resource areas as a result of the Project.
- Eversource's review of the Connecticut Department of Energy and Environmental Protection's Natural Diversity Data Base did not identify any state-listed endangered, threatened, or special concern species within the Project area.
- The proposed modifications are not located within a 500- or 100-year flood zone.
- The Project is not located within an aquifer protection area.
- Electric and magnetic field levels would not change at the property line as a result of the proposed modifications.

### Radio and Television Interference

There would be no change to the existing television or radio interference caused by the Substation.

### Sound Pressure

Sound-pressure levels at all points along properties lines would continue to meet state regulations set out in Regulations of Connecticut State Agencies §§ 22a-69-1 et seq.

### Visual Effects

The new Substation equipment and structures would be shorter than the tallest existing monopole transmission structure (approximately 105 feet above ground) within the Substation. The new equipment to be installed would not cause any significant adverse change in the physical or environmental characteristics of the Substation. The proposed

control house would be on the north side of the Substation facing Eversource's ROW and would not result in a significant change in views of the facility.

#### Security Measures and Lighting

The Substation has existing security measures including security cameras, an alarm system and lighting for safety and security purposes. Additional lighting (total of 12 new LED lights) would be installed on the new equipment within the Substation. The additional lighting would be photo control and motion-sensors.

#### **Access Roads and Work Pads**

Construction-related vehicular traffic would utilize the existing access roads to access the Substation and Eversource property. An additional gravel road would be installed on Eversource property to access the three new structure locations.

At each of the three new structures, a construction pad is required to stage material for final on-site assembly of the structures, and to provide a safe, level work base for the construction equipment. The work pads for the Project would be approximately 100 feet by 100 feet. The approximate locations and configuration of construction work pads are shown on Attachment B.

#### **Foundation and Structure Installation**

Structures would have concrete drilled foundations. The foundation installation work would require the use of equipment such as a mechanical excavator (drill rigs), pneumatic hammers, augers, drill rigs, dump trucks, concrete trucks, grapple trucks and light duty trucks. If groundwater were encountered, pumping (vacuum) trucks or other suitable equipment would be used to pump water from the excavated areas. The water would then be discharged in accordance with applicable local, state and federal requirements.

Structure sections, structure components and hardware would be delivered to the structure locations using flat-bed trucks and assembled on-site using a crane, bucket trucks and excavator.

Depending on site-specific soil conductivity, supplemental grounding (counterpoise) would be installed. A quad “ditch-witch” plow-cable trencher, or equivalent/similar type of equipment, would be used to install the counterpoise after the proposed structures are constructed.

Excavated soils that are generated during construction activities would be stored or spread in an upland area on Eversource property, to the extent practicable. Materials that cannot be utilized as back fill would be disposed of in accordance with applicable regulations.

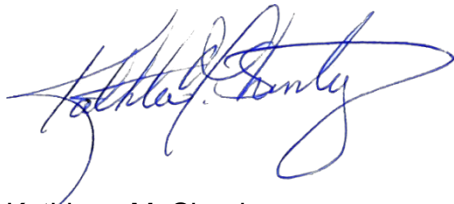
### **Schedule**

Eversource proposes to begin construction in December 2021 and would expect to complete construction by the spring of 2023.

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

A notice has been provided to the Mayor of Waterbury.

Sincerely,



Kathleen M. Shanley  
Manager – Transmission Siting

### **List of Attachments**

Attachment A: Drawing No. 25105-92001- Bunker Hill Substation, General Arrangement - Plan & Sections – Connecticut Siting Council.

Attachment B: Bunker Hill Substation Petition Map

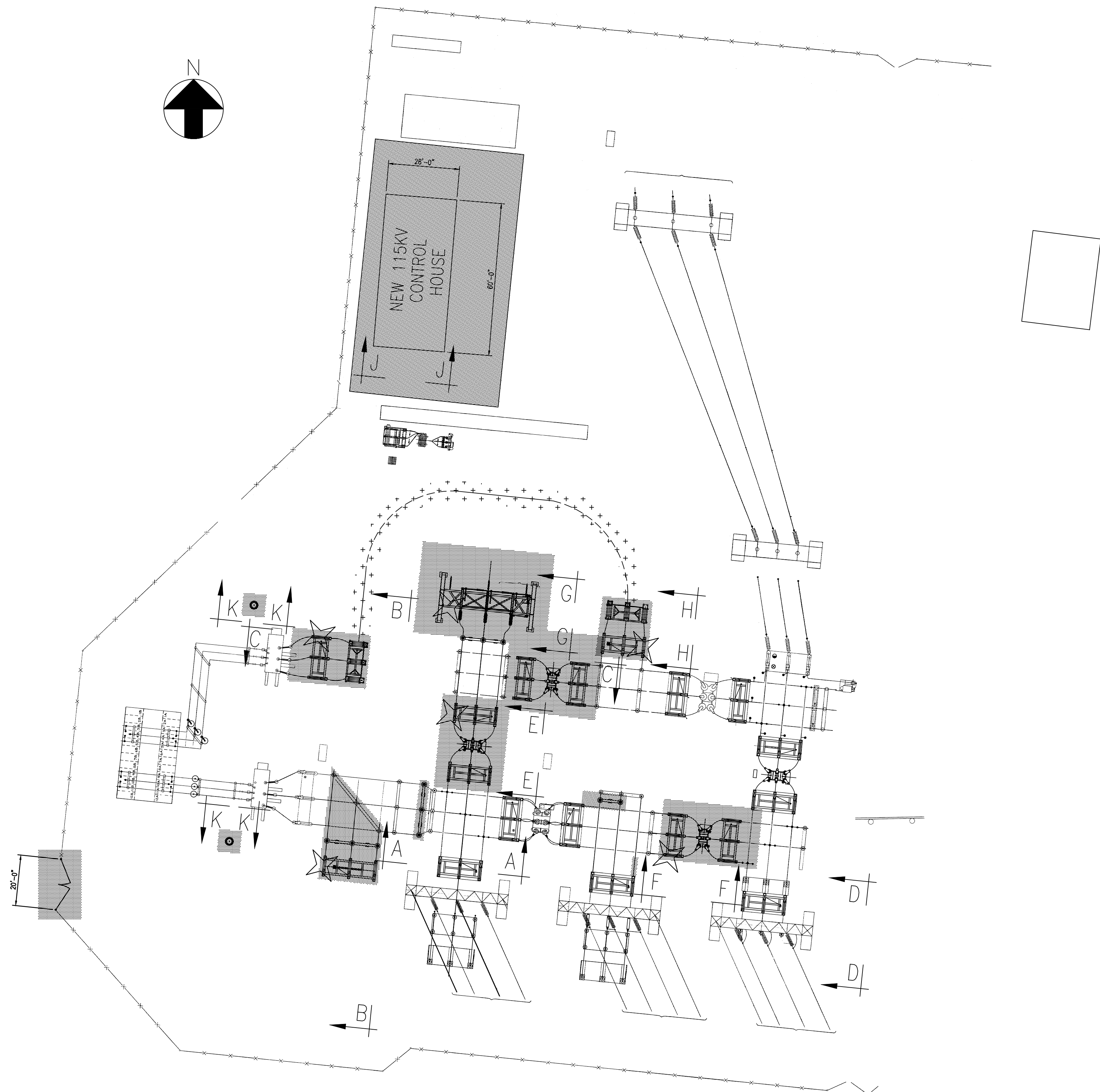
Attachment C: Bunker Hill Substation - Proposed and Existing



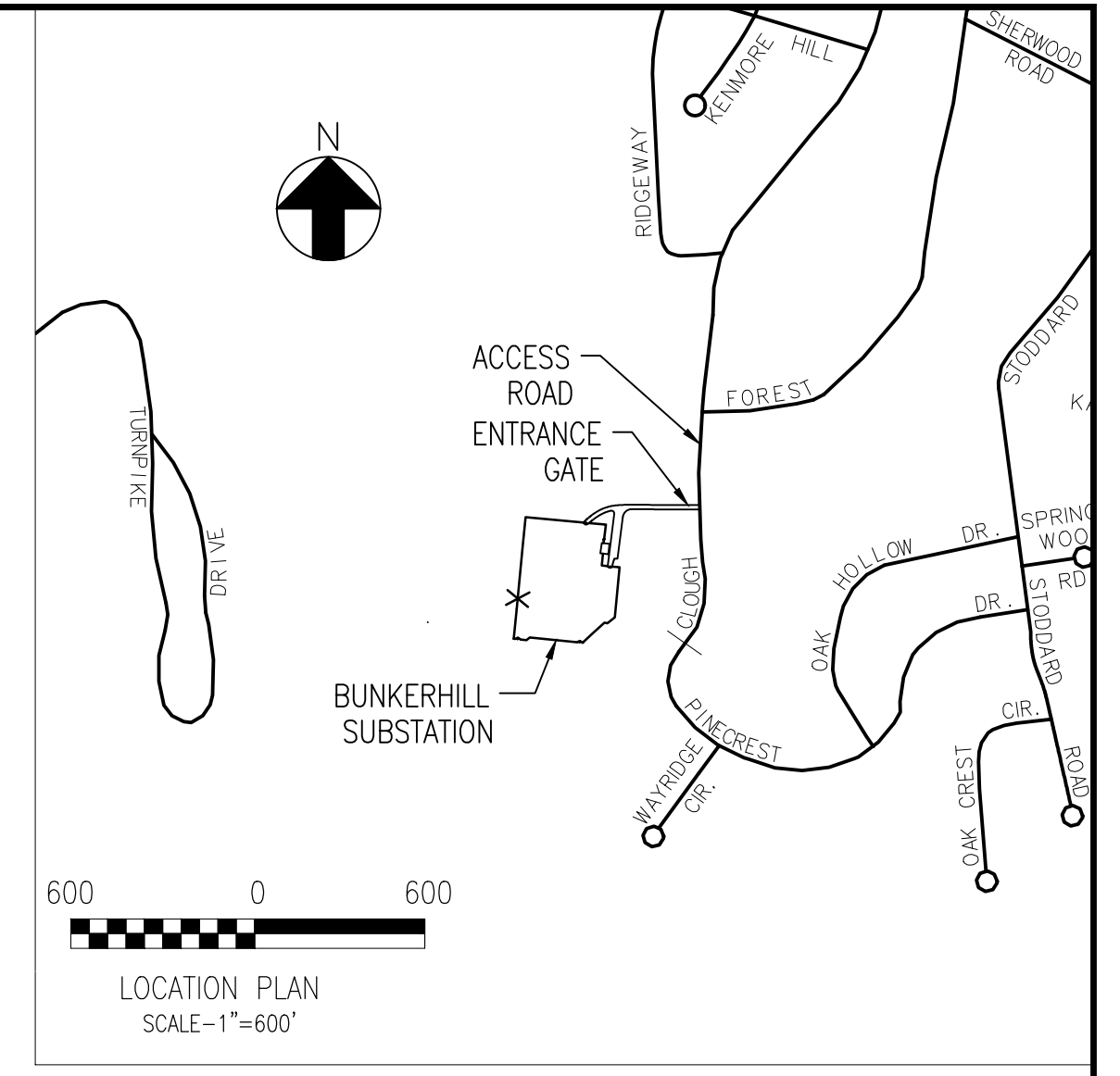


# ATTACHMENT A





PLAN VIEW  
2021 PROPOSED  
ADDITIONS  
SCALE: 1" = 25'-0"

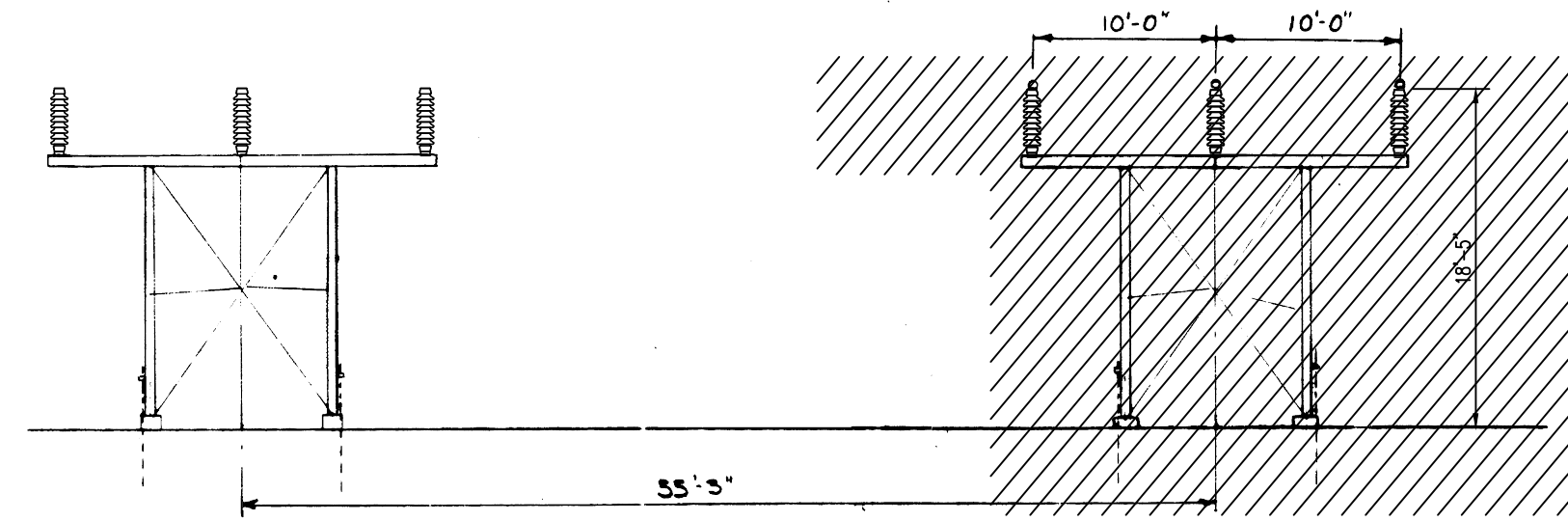


	2021 PROPOSED ABOVE GRADE ADDITION		2021 PROPOSED BELOW GRADE ADDITION		2021 PROPOSED REMOVALS		NEW PROPOSED LIGHTING
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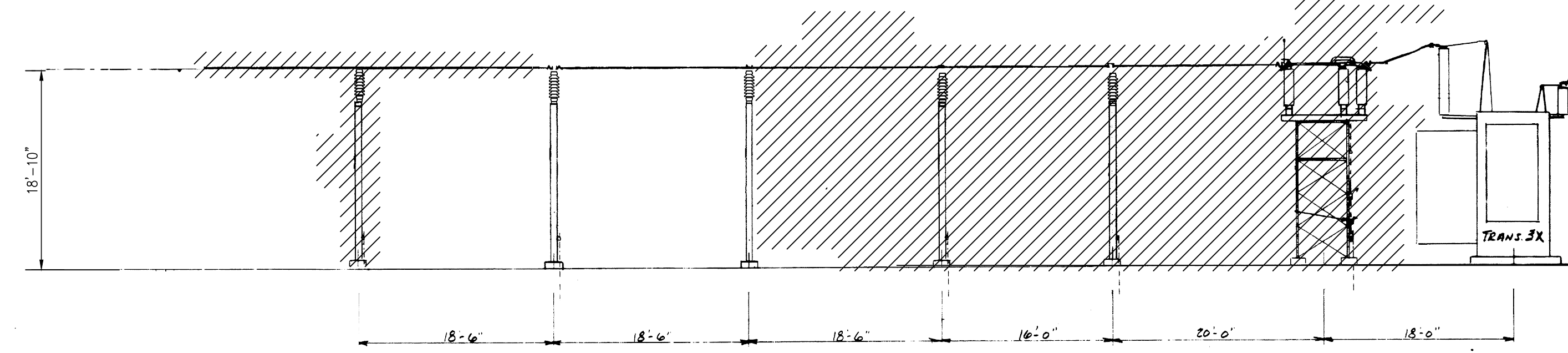
# EVERSOURCE ENERGY

**BUNKER HILL SUBSTATION**  
YARD ARRANGEMENT - PLAN & SECTIONS  
CONNECTICUT SITING COUNCIL  
WATERBURY, CT

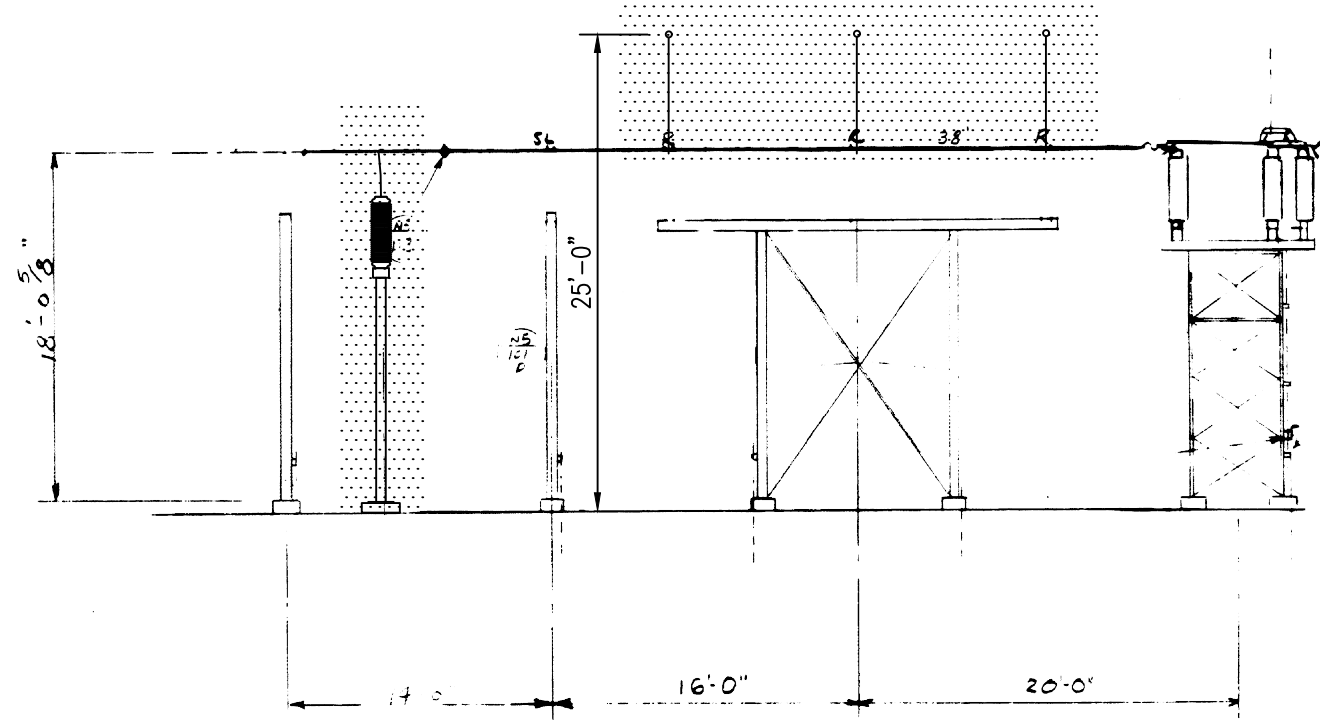
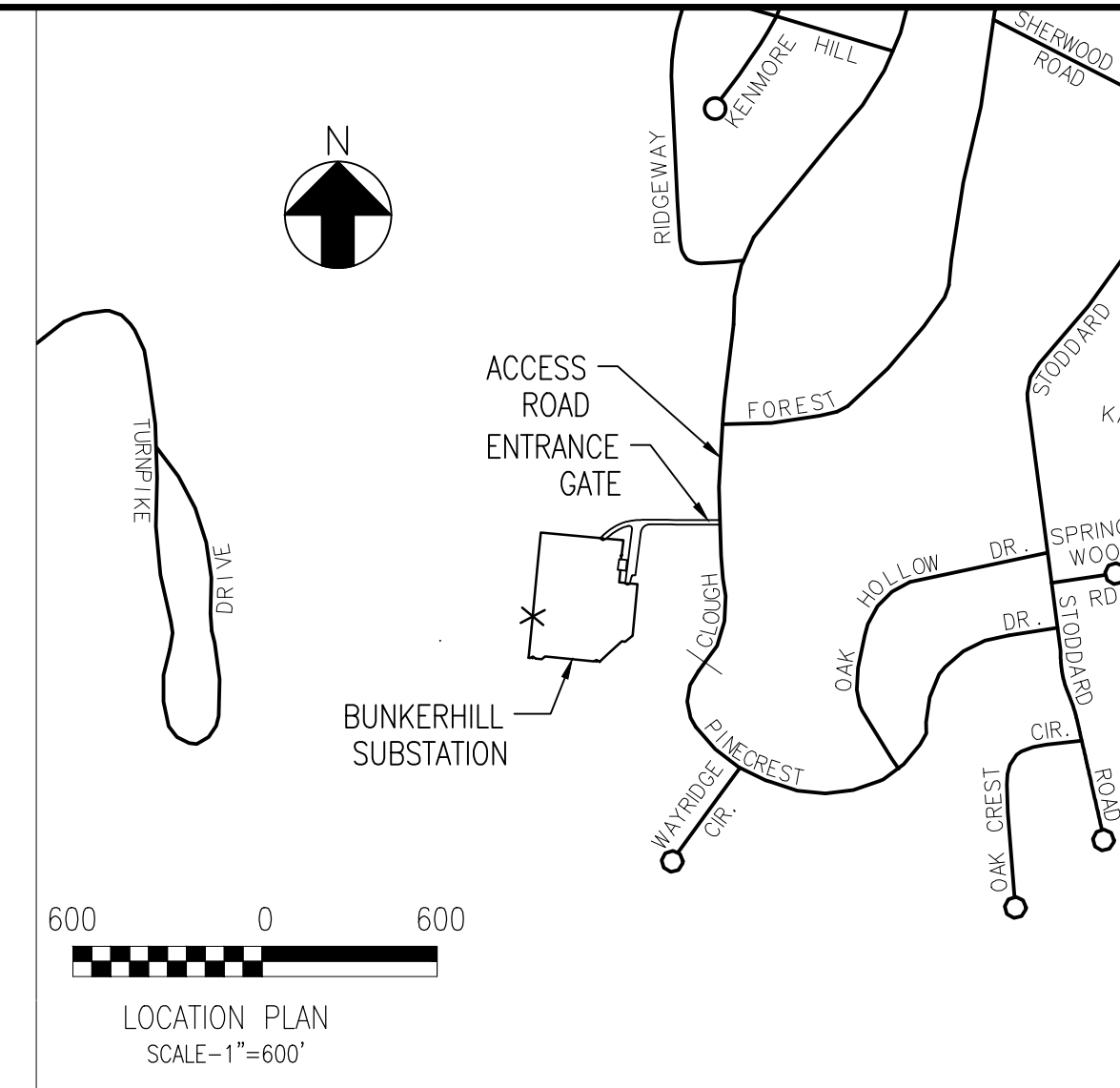
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V-SCALE: AS NOTED	V.S.	R.E. DWG	
R.E. PROJ. NUMBER:	DWG NO.:		25105-92001



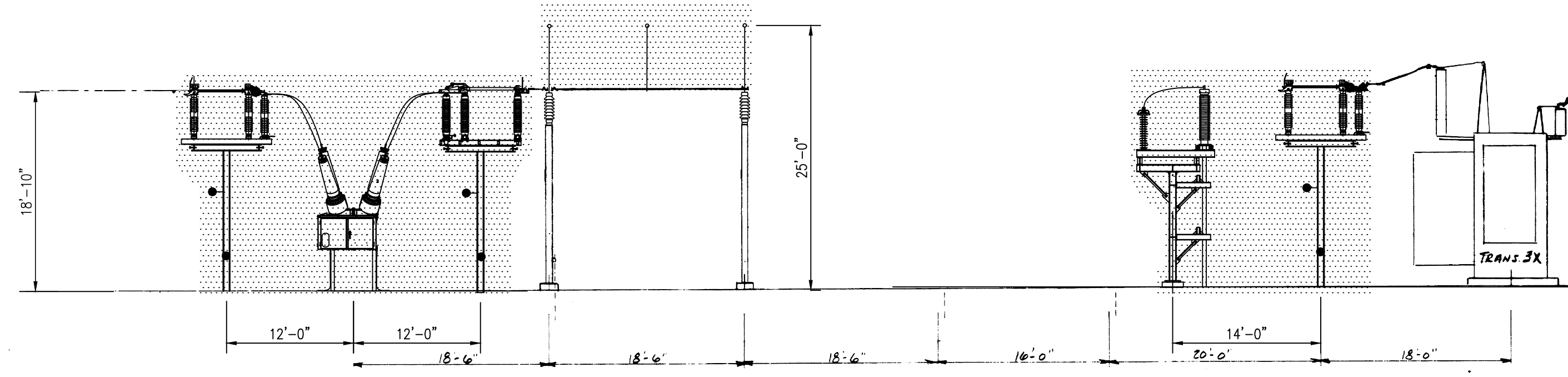
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(115KV)  
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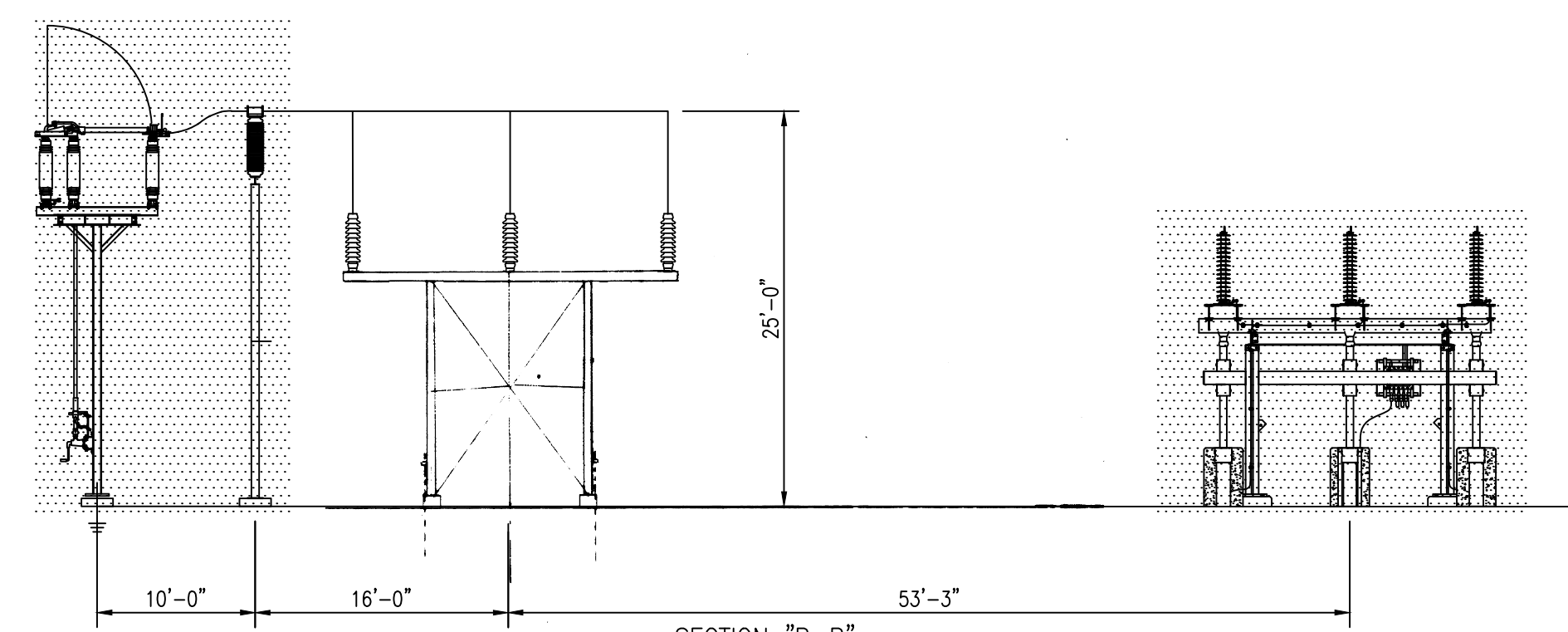
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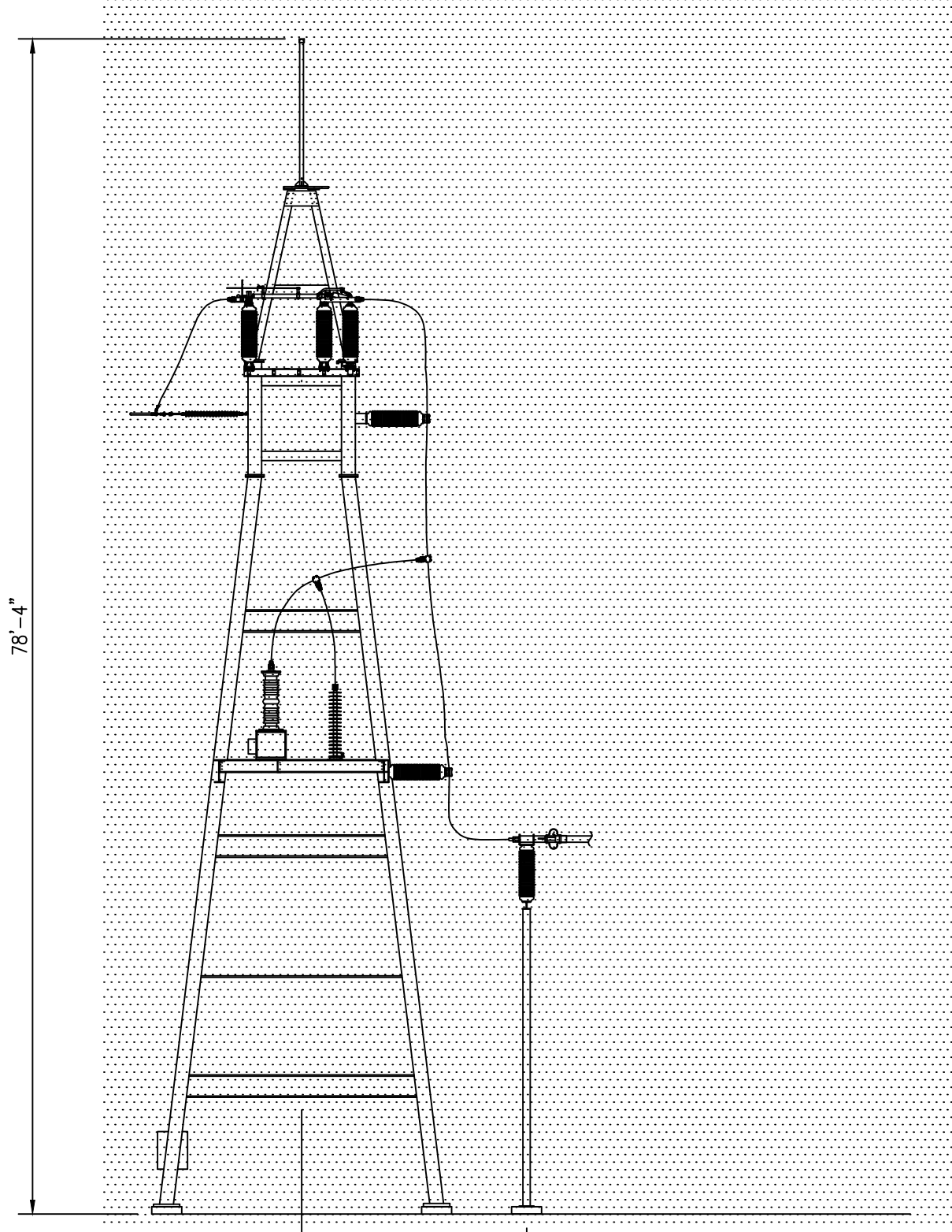
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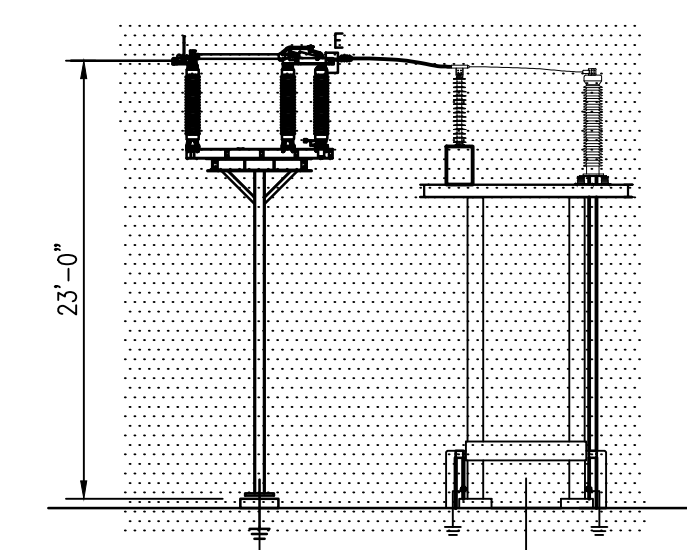
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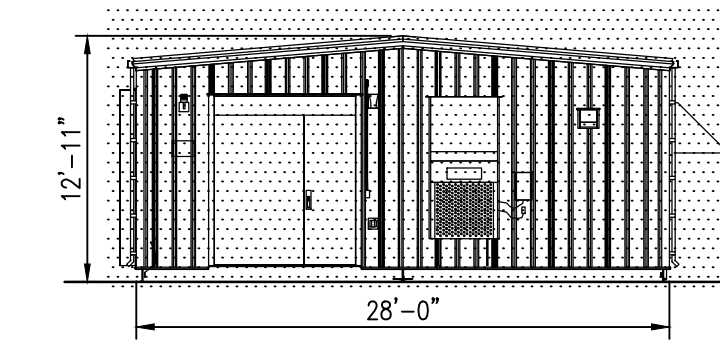
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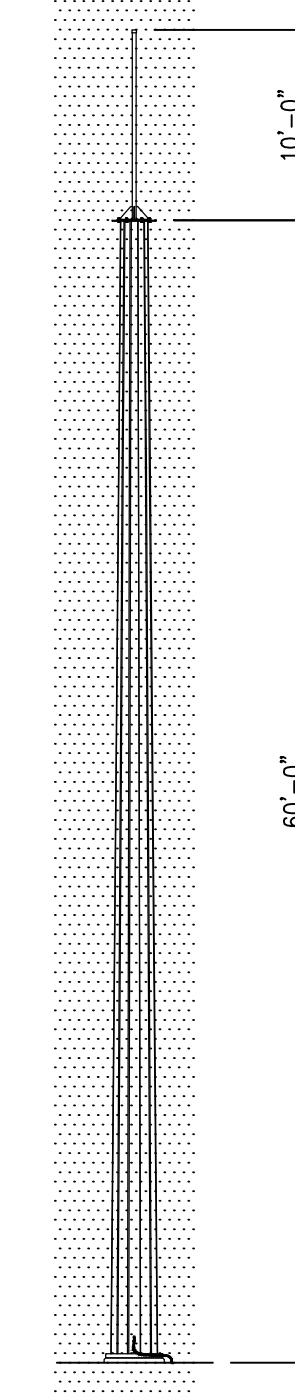
SECTION "G-G"  
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(115KV) 1029 TERMINATION  
STRUCTURE  
SCALE: 1" = 10'-0"



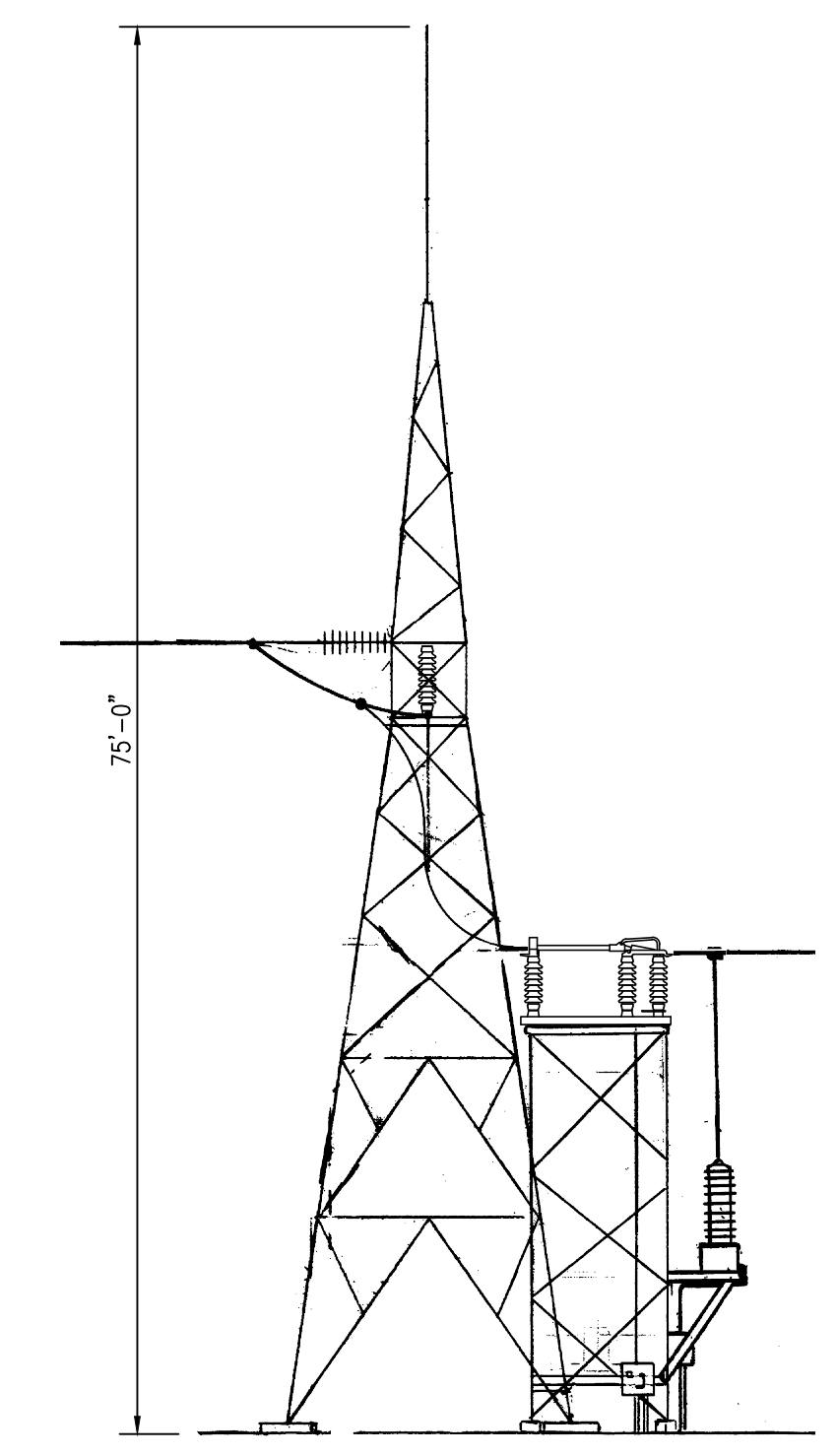
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(115KV)  
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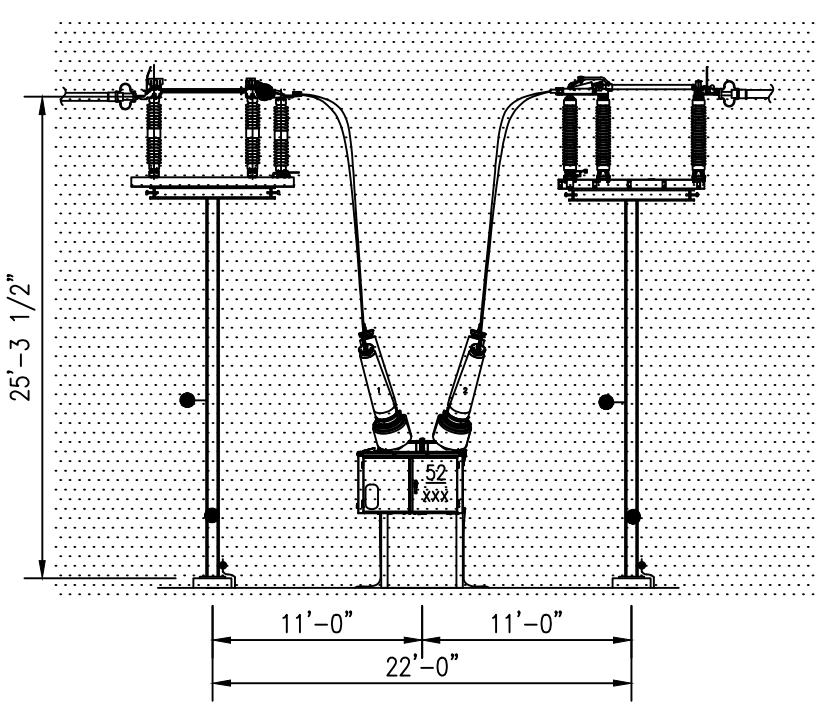
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(115KV)  
SCALE: 1" = 10'-0"



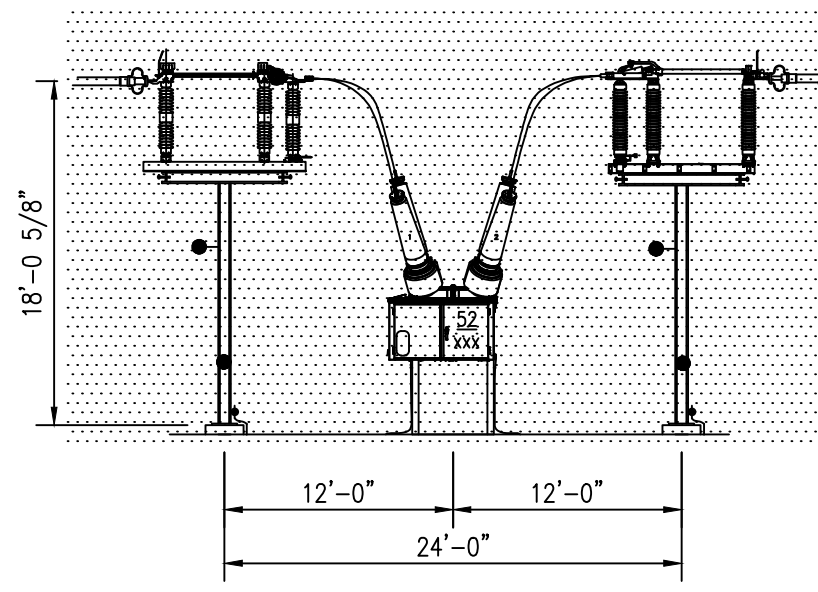
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(115KV)  
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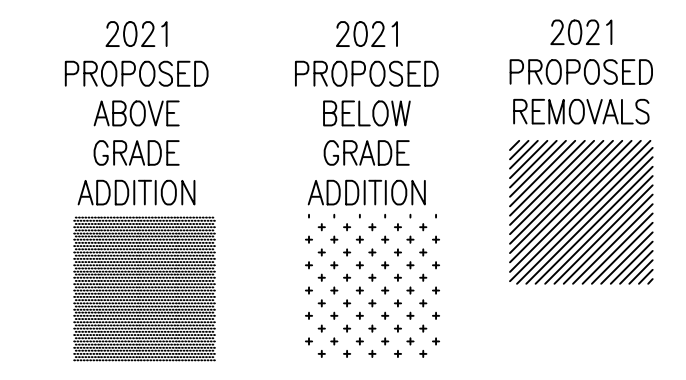
SECTION "D-D"  
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(115KV)  
SCALE: 1" = 10'-0"



SECTION "E-E"  
2021 PROPOSED ADDITIONS  
(115KV)  
SCALE: 1" = 10'-0"



SECTION "F-F"  
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(115KV)  
SCALE: 1" = 10'-0"



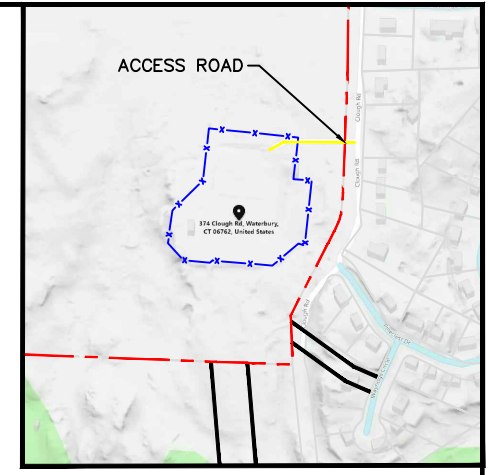
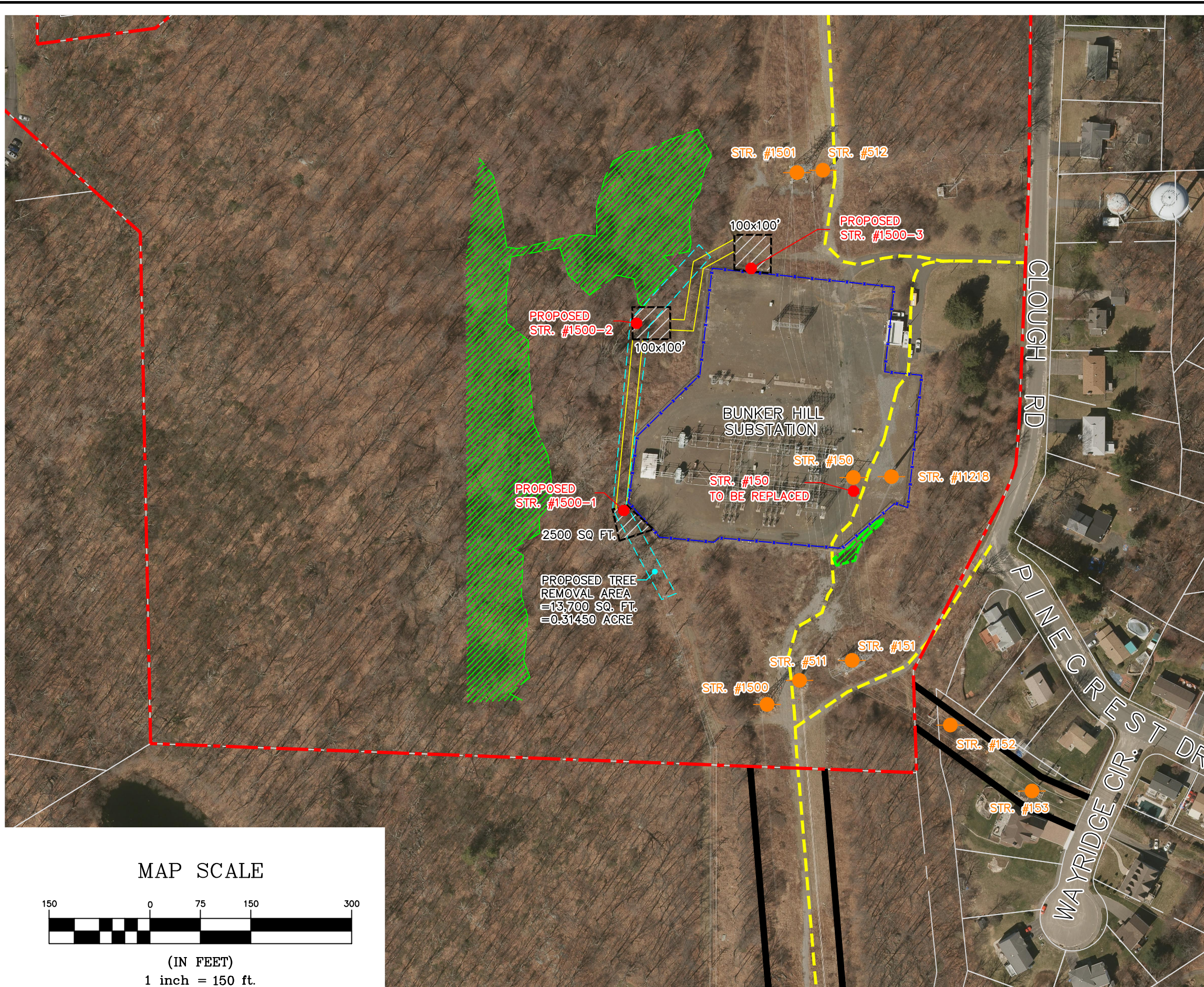
**EVERSOURCE ENERGY**

**BUNKER HILL SUBSTATION  
YARD ARRANGEMENT - PLAN & SECTIONS  
CONCEPTUAL LAYOUT  
WATERBURY, CT**

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V-SCALE	AS NOTED	V.S.		R.E. DWG		
R.E. PROJ. NUMBER		DWG NO.		25105-92001		

# ATTACHMENT B





**LEGEND**

- WETLANDS
- CL&P RIGHT OF WAY
- GRAVEL ROAD
- TREE REMOVAL
- EXISTING STRUCTURE
- PROPOSED STRUCTURE
- ADJACENT PROPERTY
- CL&P PROPERTY
- TEMP MATTING
- SUBSTATION FENCE

**EVERSOURCE ENERGY**

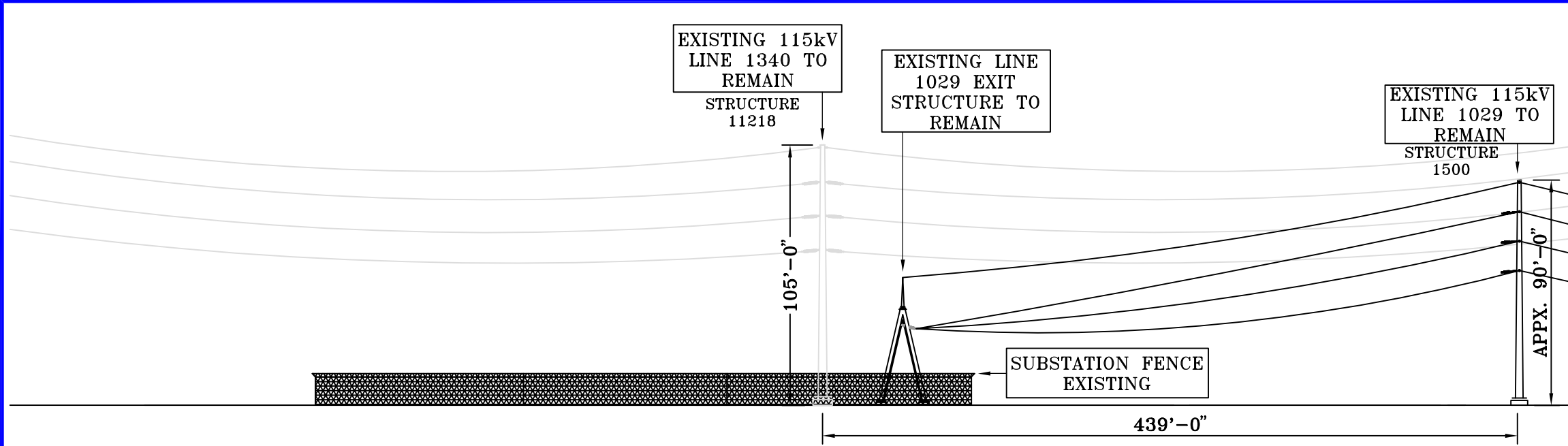
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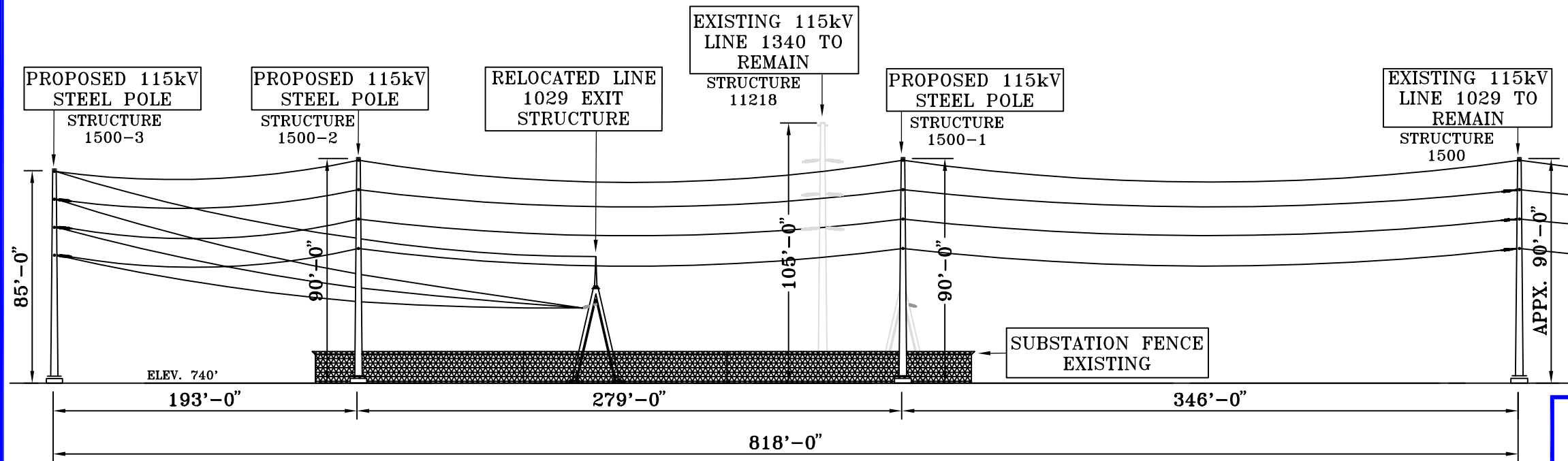


# ATTACHMENT C

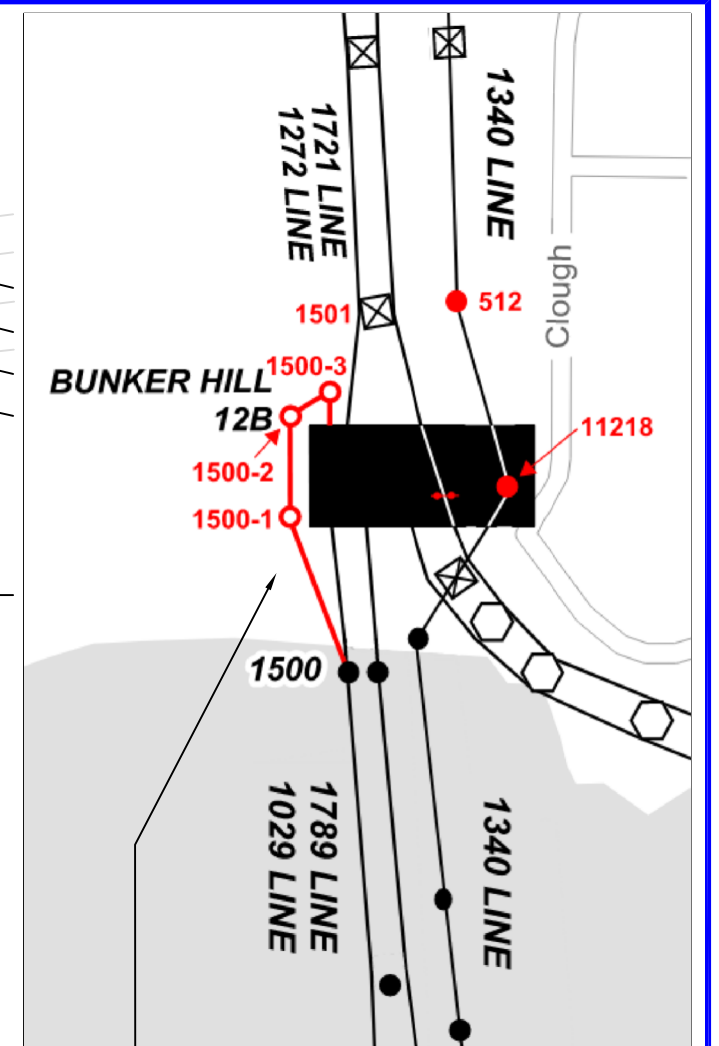




LOOKING EAST AT BUNKER HILL SUBSTATION  
IN THE TOWN OF WATERBURY: EXISTING



LOOKING EAST AT BUNKER HILL SUBSTATION  
IN THE TOWN OF WATERBURY: PROPOSED



KEY MAP  
NOT TO SCALE

BUNKER HILL  
SUBSTATION  
RE-CONFIGURATION



TITLE							
BUNKER HILL SUBSTATION PROJECT EXISTING AND PROPOSED WATERBURY, CT.							
BY	GJG	CHKD	JFAP	APP	JFAP	APP	PE
DATE	10/22/21	DATE	10/22/21	DATE		DATE	
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