DRAFT

Petition No. 1649
The Connecticut Light and Power Company d/b/a Eversource Energy
Falls Village Substation Modification Project
Canaan, Connecticut

Staff Report
February 28, 2025

Notice

On November 13, 2024, the Connecticut Siting Council (Council) received a 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 Falls Village Substation Modification Project (Petition or Project) at its existing Falls Village Substation facility site located at 35 Water Street, Canaan, Connecticut.

The Project consists of an expansion of the fenced substation facility site, reconfiguration and installation of substation associated equipment, and replacement of two adjacent electric transmission line structures.

On November 7, 2024, in compliance with Regulations of Connecticut State Agencies (RCSA) §16-50j-40, Eversource provided notice of the proposed Project to the Town of Canaan (Town) and abutting property owners.

On November 15, 2024, the Council sent correspondence to the Town stating that the Council has received the Petition and invited the municipality to contact the Council with any questions or comments by December 13, 2024. No comments were received from the Town.

Under RCSA §16-50j-40, neither Eversource nor the Council is required to provide notice to the state agencies listed in CGS §16-50j(i) when a petition for a declaratory ruling for modifications to an ***existing facility*** is submitted to the Council. On November 20, 2024, the Council on Environmental Quality submitted comments on the Project.[1]

Under CGS §16-50x, the Council retains exclusive jurisdiction over the existing substation facility site. 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.[2]

Pursuant to CGS §4-176(e) of the Uniform Administrative Procedure Act, an administrative agency is required to take action on a petition for a declaratory ruling within 60 days of receipt. During a regular meeting held on December 19, 2024, 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 12, 2025, which is the 180-day statutory deadline for a final decision under CGS §4-176(i).

The Council submitted interrogatories to Eversource on January 7 and February 6, 2025. Eversource submitted responses to the interrogatories on January 28 and February 19, 2025, respectively.

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[1] https://portal.ct.gov/-/media/csc/3_petitions-medialibrary/petitions_medialibrary/mediapetitionnos1601-1700/pe1649/sac_official_municipal_comments/ceq-comments-for-pet-1649-11-20-2024f.pdf?rev=c4a96027686d4d229b6589fd7c4ec5e1&hash=95E0C5A467B90C785E57048784B5A48C

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

Community Outreach

Eversource provided an initial briefing on the Project to the Town on April 15, 2024. The Town requested Eversource notify abutting property owners as to the status of the Project and maintain an open line of communication with the Town.

Eversource initiated outreach to property owners abutting the substation in January 2024. 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. Eversource received comment from one abutter to Eversource's right-of-way (ROW) east of the substation regarding screening the view of the ROW from the property at 12 Warren Turnpike. The nearest portion of the construction area, a transmission tower replacement, is approximately 330 feet from the 12 Warren Turnpike Road property line. A 260-foot vegetative buffer exists between the construction area and the property, and the Project landscape plan would further mitigate visibility of the ROW.

Eversource has not received any comments since the Petition was submitted to the Council.

During the construction phase of the Project, Eversource would maintain contact with the Town and abutting property owners to inform them of construction activities and restoration work.

Existing Facility Site

Falls Village Substation is located on a 2.19-acre site within a 26.0-acre host parcel at 35 Water Street, Canaan owned by FirstLight CT Housatonic LLC (FirstLight). FirstLight operates the Falls Village hydroelectric generating facilities that are located to the north of the Falls Village Substation site. Eversource has an easement on the FirstLight-owned host parcel to use and occupy the site for constructing, maintaining, repairing and operating a substation along with surface, subsurface, air and parking rights.

The host parcel is located in the Town's Housatonic River Overlay Zone. It consists of fields and woodland and contains the substation, FirstLight hydroelectric generating facilities, a section of the Appalachian Trail to the north and an electric transmission line ROW to the east. The Housatonic River abuts the site to the west. The floodway is located approximately 150 feet from the existing facility site.

The substation was constructed in 1954 and consists of four separate, fenced substation yards: the 4L Distribution Yard and the 9A-1, 9A-2, and 9A-3 Yards. An existing paved drive extends from Water Street to the substation yards. A second gravel drive extends from Water Street to the 9A-1 Yard. The substation is accessed monthly for maintenance and inspection purposes.

The surrounding area consists of local roads, the Housatonic Railroad rail line, residential properties, and undeveloped forested lands. The nearest residential property line from the existing 9A-1 Yard fence line is located approximately 470 feet to the southeast at 12 Warren Turnpike Road in Canaan. The nearest developed residential property line from the proposed 9A Yard expanded fence line is located approximately 580 feet to the west across the Housatonic River at 212 Dugway Road in Salisbury.

The tallest existing equipment associated with the facility site are the 69-foot tall lightning masts and 69-foot tall transmission terminal structures.

The substation connects to the 69-kilovolt (kV) 693 and 689 Lines extending to Torrington Terminal Substation in Torrington, the 69-kV 667 Line extending to Salisbury Substation in Salisbury and the 69-kV 694 Line extending to North Canaan Substation in North Canaan. Falls Village Substation is not considered ~~as~~ a bulk power supply (BPS) substation under North American Electric Reliability Corporation criteria as it is not necessary to operate an interconnected electric transmission network. Falls Village Substation operates a 69-13.2kV transformer and 13.2kV equipment that is utilized in the local electric distribution system.

Project Need

The Project is proposed to address identified reliability deficiencies in northwest Connecticut and improve Eversource's local transmission and distribution system reliability between Falls Village Substation, North Canaan Substation, and Salisbury Substation by replacing and installing new equipment at the substation to eliminate the risk of single line loss and to allow for automatic restoration capabilities under fault conditions. It is part of Eversource's Northwest Reliability Project, and is related to the declaratory ruling issued by the Council in Petition No. 1575 and the acknowledgment issued by the Council in Exempt Modification -EM-EVER-021-230906e. Future work associated with the Northwest Reliability Project may include the upgrade of two transformers at Franklin Drive Substation in Torrington.

The 693 and 689 Lines extending from Torrington Terminal Substation are vulnerable to a simultaneous trip of both lines if a fault occurs on one of the lines, resulting in an immediate supply interruption to the Salisbury Substation and North Canaan Substation. The proposed modifications would reduce the risk and duration of outages by eliminating simultaneous trips of the 693/694 Lines and the 689/667 Lines.

The Project is identified in the 2024 Eversource Forecast of Loads and Resources Report and Eversource's Local System Plan.[3] The Project is not identified in an Independent System Operator-New England, Inc. (ISO-NE) needs assessment or solutions study, and it is not included in the ISO-NE Regional System Plan Project List or Asset Condition List. No generation facilities listed on the ISO-NE interconnection queue are associated with the proposed Project.

Cost

The total estimated cost of the Project is approximately $64.4M. The proposed Project is not eligible for regional cost allocation because the substation and associated lines are not Pool Transmission Facilities.[4] The entire Project cost would be collected via Local Service charges would be borne by Eversource customers.

Proposed Project

Eversource proposes to consolidate the separate 9A-1 and 9A-2 substation yards by expanding the substation fence line to create a single yard, to be designated as the 9A Yard, and replace, modify and install new equipment. Additionally, two transmission line structures will be replaced to accommodate the new alignment of substation equipment. Due to the yard consolidation, two lines would transition to an underground configuration within the fenced substation to avoid crossing an energized bus.

The existing 9A-1 Yard is approximately 140 feet by 160 feet in size and contains the 3X transformer mobile position, circuit switchers, and termination structures for the 693/689 Lines and the 667 Line along with other ancillary equipment. The total area of the fenced 9A-1 Yard is approximately 0.51 acre.

The existing 9A-2 Yard is irregularly shaped, approximately 60 feet by 120 feet in size, and contains the 5X transformer. An adjoining 40-foot by 40-foot area contains the 69-kV transmission relay and control building. The total area of the fenced 9A-2 Yard is approximately 0.20 acre.

The modified substation and electric transmission lines would operate at 69-kV but would include the installation of new bus work and circuit switchers that would facilitate the operation of the substation at 115-kV in the future. When the conversion to 115-kV is implemented, the following equipment would need to be replaced: 24 capacity coupled voltage transformers; 3 arrestors and internal taps at the existing transformer, and 6 line arrestors.

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[3] The Project ID is ES-23-LSP-113.

[4] 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.

Conversion of the substation to 115-kV operation is not planned at this time because the Torrington Terminal Substation would need to be converted to 115-kV operation, and the Central Hudson of New York portion of the 690 Line and associated substation facilities would need to be converted to 115-kV operation.

Consolidation of the substation yards would change the angle of conductors leaving the substation and cause stress on three transmission structures. To reduce the risk of failure of the wires and/or structures, two existing transmission line structures would need to be replaced, and the guy wires for the third transmission line structure would be modified.

Project work consists of the following:

Substation Modifications

a) Expand the substation fence line to consolidate the 9A-1 and 9A-2 yards to approximately 200 feet by 300 feet in size, increasing the size from approximately 0.7 acres to 1.38 acres;
b) Install a seven foot tall perimeter chain link fence with one foot of three-stranded barbed wire on top, including two 20 feet wide vehicle access gates;
c) Install a new control house (28 feet wide, 50 feet long, and 11 feet tall);
d) Install an underground water connection from Water Street and underground septic storage tanks to serve the control house bathroom facility;
e) Install an 8-breaker ring bus that will be operated at 69 kV, but with the capability of operating at 115-kV;
f) Install two circuit switchers, that will be operated at 69 kV but with the capability of operating at 115-kV;
g) Add two circuit breaker isolating switches on existing steel structures;
h) Add fourteen circuit breaker isolating switches on new steel structures;
i) Install eight, 3-phase sets of coupling capacitor voltage transformers (CCVTs);
j) Install four sets of lightning arrestors adjacent to the CCVT equipment;
k) Install 13.2-kV circuit reclosers, and circuit breaker station service equipment, steel structures, and underground cable feed to the 4L Distribution Yard;
l) Install four new 85 feet tall lightning masts;
m) Install four new A-frame takeoff (terminal) structures for the existing transmission lines, spaced around the perimeter of the proposed consolidated yard;
n) Install two 20 feet tall riser structures for the 693 and 667 Lines;
o) Install two short segments of underground 115-kV solid dielectric insulated cross linked polyethylene (XLPE) 3-phase cables, one for the 667 Line and one for the 693 Line;
p) Install new substation lighting;
q) Relocate the 3X mobile transformer connection position from the 9A-2 Yard to the new 9A Yard;
r) Relocate the 5X transformer from the 9A-2 Yard to its proposed position within the new 9A Yard;
s) Remove terminal structure for the 694 Line from the 9A-3 Yard;
t) Remove terminal structures for the 689/693 lines and for the 667 Line from the 9A-1 Yard;
u) Remove equipment from the relay and control distribution enclosure; and
v) Resurface the consolidated yard with gravel.

Transmission Line Modifications

a) Replace Structure #17000 supporting the 694 Line with a weathering steel 3-pole single-circuit structure approximately 12 feet to the northeast of the existing structure.
b) Replace Structure #2001, a double-circuit steel pole supporting the 689/693 Lines with two single circuit steel monopoles, Structures # 2001A and #2001B, approximately 26 feet from the existing structure;
c) Modify the guy anchor locations of Structure #1002A, a 3-pole single-circuit structure supporting the 667 Line;
d) Reconductor the first span of the 667 Line with 1272 aluminum conductor steel support (ACSS), replace Optical Ground Wire (OPGW) with new OPGW, and install alumoweld grounding wire;

e) Reconductor the first span of the 689 Line with 1272 ACSS, replace OPGW with new OPGW, and install alumoweld grounding wire;
f) Reconductor the first span of the 693 Line with 1272 ACSS, replace the alumoweld with OPGW, and install a new span of alumoweld grounding wire; and
g) Reconductor the first span of the 694 Line with 1272 ACSS, replace OPGW with new OPGW.

Public Health and Safety

The Project would comply with the current National Electrical Safety Code (NESC) by maintaining electrical clearances, and mitigating touch potential with a complete ground grid within the substation and 3-feet beyond the grounded fence, and by adhering to requirements for equipment and structural design. 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.

The proposed modifications will be designed in accordance with the Institute of Electrical and Electronics Engineers (IEEE) Standard 1264 - IEEE Guide for Animal Deterrents for Electric Power Supply Substations.

There would be no permanent changes to existing substation sound levels after completion of the Project. Noise from operation of the 5X transformer would increase by <0.1 dBA at the boundaries of the site. Substation equipment noise will comply with DEEP Noise Control Regulations at all property boundaries. Noise levels 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 the facility site.

Project equipment and structures would not require a Federal Aviation Administration obstruction evaluation.

Electric and magnetic field levels at the boundaries of the substation site would not change as a result of the Project.

The Project would adhere to the Council's *White Paper on the Security of Siting Energy Facilities*, by including perimeter security fencing, remote monitoring and security lighting. The substation would not be illuminated at night. Lighting would be installed throughout the substation and above the control room door and would be manually activated on an as needed basis.

Environmental Effects and Mitigation Measures

Construction of the expansion area would require 0.1 acre of shrub clearing and the removal of three trees. Vegetation outside the substation compound and in the transmission line work areas would be removed/ trimmed as necessary. Vegetation removal/trimming would be accomplished using bucket trucks, woodchippers, chainsaws, and other mechanical methods. Stumps left in place would be cut close to the ground. Vegetation removal activities would be performed in accordance with Eversource's April 2022 *Best Management Practices Manual for Massachusetts and Connecticut* (BMPs).[5] Woody and vegetative debris would be disposed of off-site.

Construction would conform to the *Connecticut Guidelines for Soil Erosion and Sediment Control* (E&S Guidelines) and Eversource's BMPs with the stabilization of areas of soil disturbance to minimize the potential for soil erosion and the discharge of sediment into nearby resource areas. Following completion of construction, seeding and mulching or finished surface treatments would be completed to permanently stabilize the areas disturbed by the work outside of the substation fence. Temporary E&S control measures would remain in place until project work is complete, and all disturbed areas have been stabilized.

[5] 2022 Eversource Best Management Practices MA_CT

A portion of the Project is located within a Federal Emergency Management Agency-designated 100-year flood zone for the Housatonic River, located south and west of the 9A-1 Yard. Project work includes minor regrading in the flood zone along the southern and western sides of the new substation fence line. The re-grading plan would not cause an increase in the base flood elevation in the 100-year flood zone through the creation of 16 cubic yards of additional flood storage capacity in the flood zone and an additional 218 cubic yards of flood storage capacity outside and adjacent to the flood zone.

The Project is not located within a Department of Energy and Environmental Protection (DEEP)-designated Aquifer Protection Area. The Project would not affect groundwater or surface water resources. The host parcel is not located within a public water supply watershed.

Stormwater control would include establishing two detention basins along the east fence line, on either side of the existing access road extending to Water Street to manage additional stormwater runoff from impervious surfaces. The basins would be lined with traprock and would feature an underground pipe that discharges to a swale on the south side of the substation. Two drainage swales on the southern and western side of the substation would allow flows to discharge overland towards the Housatonic River.

The Project would not require a DEEP-issued Stormwater Permit.

No wetlands or watercourses are within or adjacent to Project work areas or access roads. The Housatonic River is approximately 150 feet to the west of the project site and would not be affected.

The facility site is located within a DEEP Natural Diversity Database (NDDB) buffer area. Previous surveys identified state-listed plants near the Project site. These areas would be protected through the installation of orange construction fencing prior to the start of construction activities.

The Project is located within a New England Cottontail (NEC) Focus Area, established by DEEP, the United States Fish and Wildlife Service and other conservation groups to preserve NEC habitat. Construction work and site restoration would be performed in accordance with Eversource's NEC BMPs. Such measures include the use of temporary matting for work and pull pads, as well as implementing time of year restrictions on vegetation work to protect NEC habitat.

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.

A Phase IA Cultural Resources Assessment was conducted in October 2023 that concluded there were two previously identified archaeological sites in the Eversource easement but these sites were subsequently disturbed and therefore no longer retain potential to yield intact cultural deposits. A portion of the Project (replacement Structure #17000) is within the Falls Village Historic District but there would be no adverse effect on the district. By letter dated February 1, 2024, the State Historic Preservation Office determined the Project, as proposed, would not affect historic or archeological resources. No comments were received from Tribal Historic Preservation Offices.

The Appalachian Trail extends between the 9A-1 Yard and Structure #2001. A gravel parking area for the trail is located along Water Street, east of the 9A-1 Yard. No Project work would directly disturb the trail. Protective temporary safety fencing would be installed to keep trail users from accidentally entering the construction work area.

Both the trail and the parking area are managed by the National Park Service (NPS). At the request of the NPS, Eversource developed a landscaping plan to screen the parking area and an adjacent section of the trail from the substation fence line. Landscaping includes 3 evergreen trees, 37 shrubs and a wildflower area. The landscaping is subject to a one-year warranty. The estimated cost of the landscaping is $75,000.

The Housatonic River is designated as a National Wild and Scenic River[6]. The Housatonic River Commission, designated by the NPS as the Housatonic River Program manager, reviewed the Project in January 2024 and had no comments.

There are no state designated scenic roadways adjacent to the site.

The Project would not result in a substantial change to the visual character of the substation. The new equipment is similar in appearance to existing substation equipment. The height of the tallest equipment within the substation are four new 85-foot tall lightning masts. The new 69-foot tall terminal structures will be the same height as existing terminal structures.

Replacement Structure #17000 would be approximately 60 feet tall, which is 13.5 feet higher than the existing structure. Replacement Structure #2001 would be approximately 85 feet tall, which is 5 feet taller than the existing structure.

Project Construction

Eversource would establish a temporary staging area west of the construction area for Project equipment, vehicles and office trailers. The staging area would consist of temporary matting within a field area, enclosed by fencing. Eversource would conduct work in accordance with its BMPs which include provisions for the proper storage, secondary containment, and handling of diesel fuel, motor oil, grease, and other lubricants, to protect subsurface water quality.

Eversource would utilize the existing substation access drive that extends east from Water Street to the substation yards for substation construction access. Access to transmission Structure #1700 would be from an existing access drive extending north from Water Street and Eversource would utilize temporary matting to install a pull pad off the access drive. Access to transmission Structure #2001 would utilize temporary matting extending west from Water Street across a field.

Construction areas would be isolated by establishing erosion and sedimentation (E&S) controls in accordance with the E&S Guidelines and Eversource's BMPs.

Typical E&S control measures include, but are not limited to, straw blankets and bales, silt fencing, gravel anti-tracking pads, and soil and slope protection.

The proposed expansion area would be leveled and graded with crushed stone to match the existing substation yards. The Project has been designed to balance cuts and fills to the extent possible, with approximately 125 yards of net cut. Excavated soils from the Project that cannot be used as backfill would be tested and transported to an appropriate off-site disposal facility in accordance with Eversource BMPs and applicable regulations. An approximate 0.99-acre area would be disturbed by the Project.

Final grading would generally match the grade of the existing yards but would be sloped at the edges to direct surface runoff away from the substation. A finished surface of 3/4-inch stone cover would be applied to the entire substation yard. Disturbed and graded areas outside the substation fence would be seeded with a mixture of annual and perennial grasses to prevent erosion.

Eversource has received authorization from FirstLight to install the water service line tie-in, as well as the septic holding tanks associated with the control house bathroom. The Torrington Health District has issued a preliminary approval for the septic tank design.

Decommissioned equipment would be reused, recycled or disposed of in accordance with Eversource BMPs and applicable regulations.

[6] https://www.rivers.gov/river/housatonic

Project-related traffic would be expected to be temporary and highly localized in the vicinity of the substation. Eversource would work with the Town to develop and implement traffic management procedures, if necessary. Construction warning signs along public roads would be installed near work sites and flaggers or police personnel would be used to direct traffic, if necessary.

Once constructed, the substation would generally be accessed on a monthly basis for maintenance and inspection purposes.

Project construction is expected to begin in mid-2025 with all construction activities and site restoration work completed by the end of 2026. Normal work hours would be Monday through Saturday from 7:00 a.m. to 7:00 p.m. Sunday work hours or hours beyond normal work hours may be required for time sensitive work, delays caused by weather, and line outages. Eversource would seek approval from the Council prior to any required extended or Sunday work hours.

Additionally, during an outage switching, in order to re-energize or de-energize a line, access to Project-related substations may be required outside of typical work hours. These substations include, but are not limited to, Eversource's Torrington Substation, Salisbury Substation, and North Canaan Substation.

Conclusion

If approved, staff recommends the following conditions:

1) Approval of any project changes be delegated to Council staff;
2) Establish erosion and sedimentation (E&S) controls at the perimeter of the staging area location prior to commencement of construction;
3) Incorporate pollinator habitat in the restoration of disturbed areas consistent with CGS §16-50hh, where feasible; and
4) Use of meshless or natural fiber erosion control blankets/netting to reduce the potential for wildlife entanglement.

Figure 1: Project Location

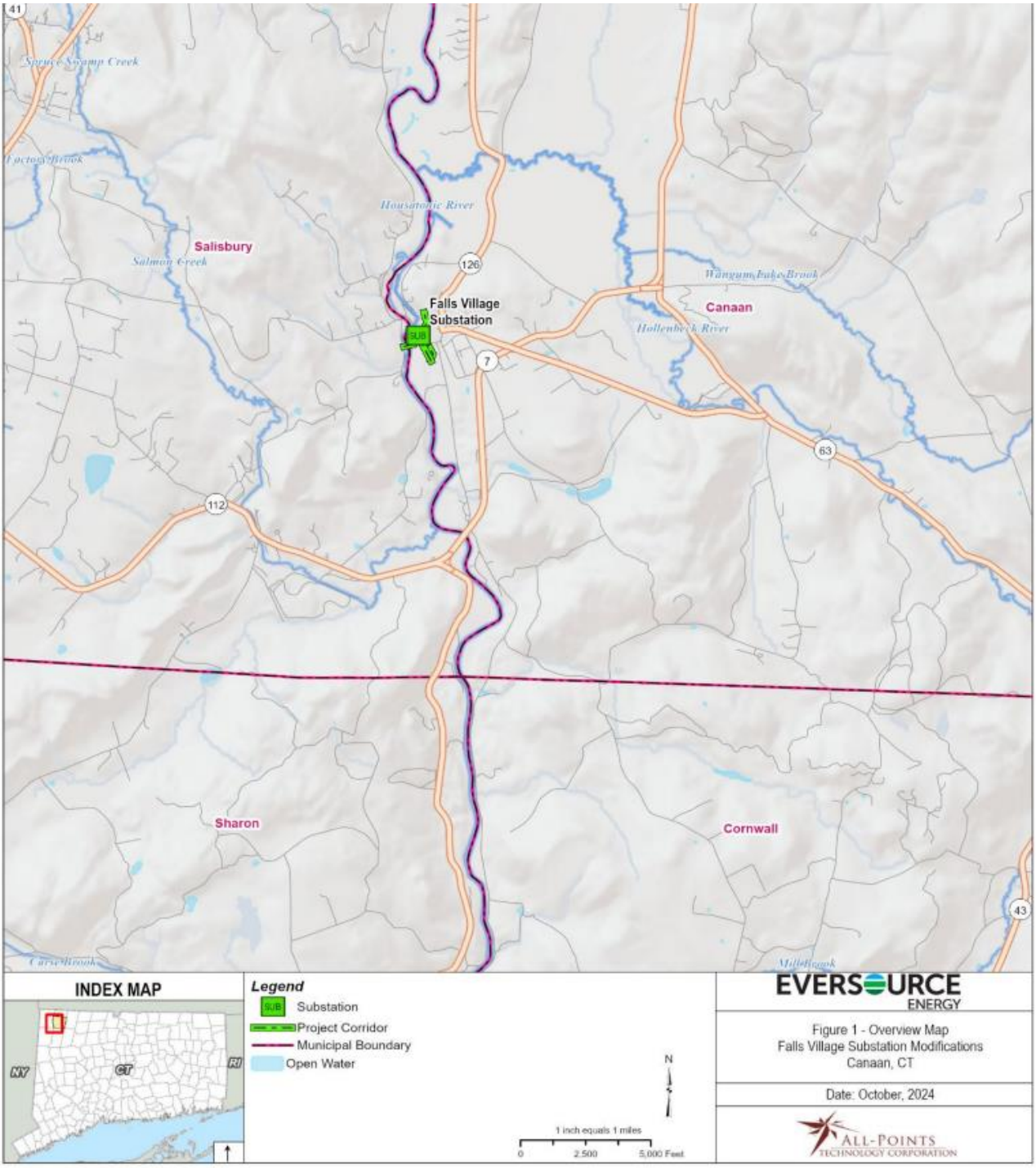


Figure 2: Line Configuration Diagram

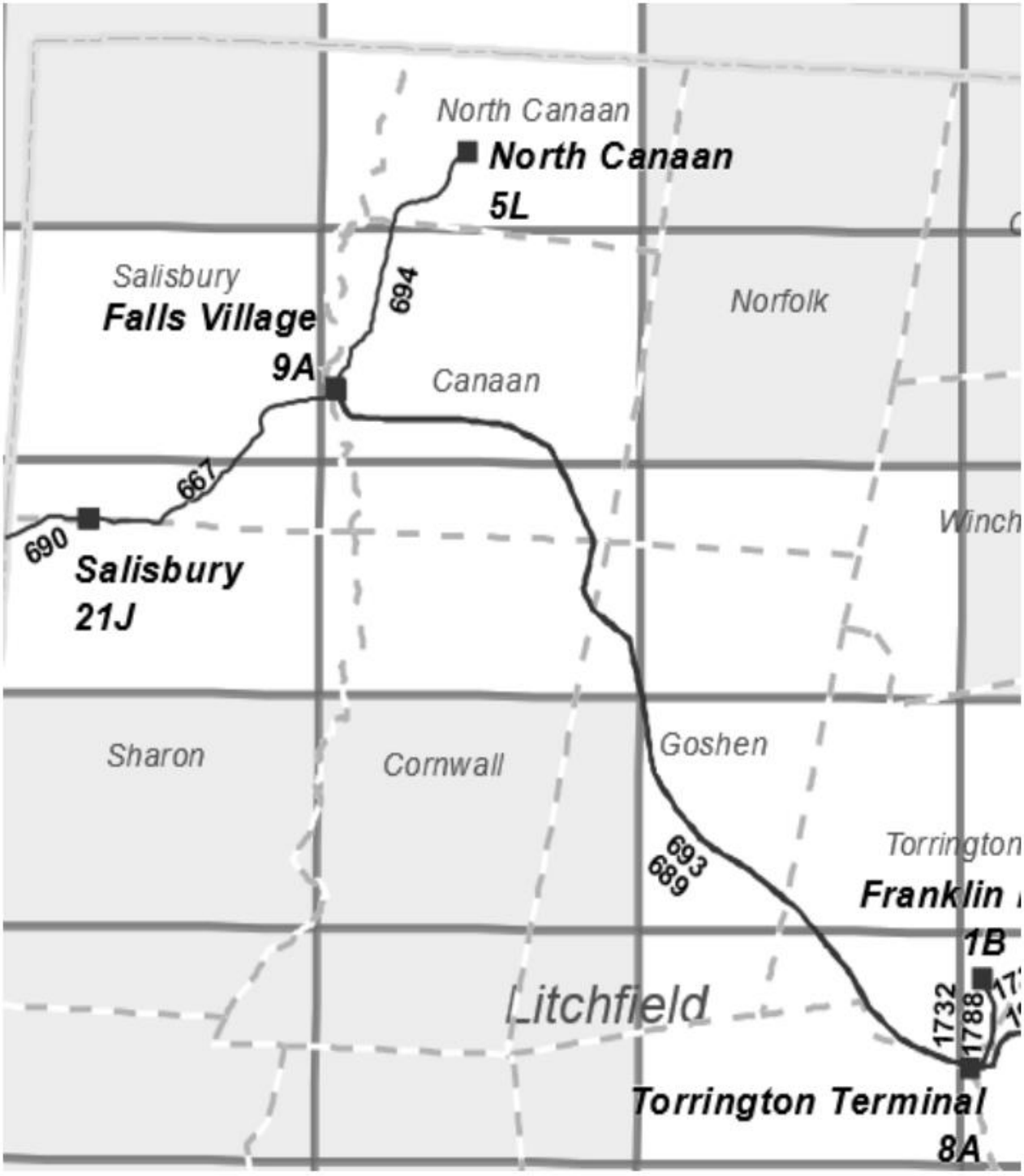


Figure 3: Existing Conditions

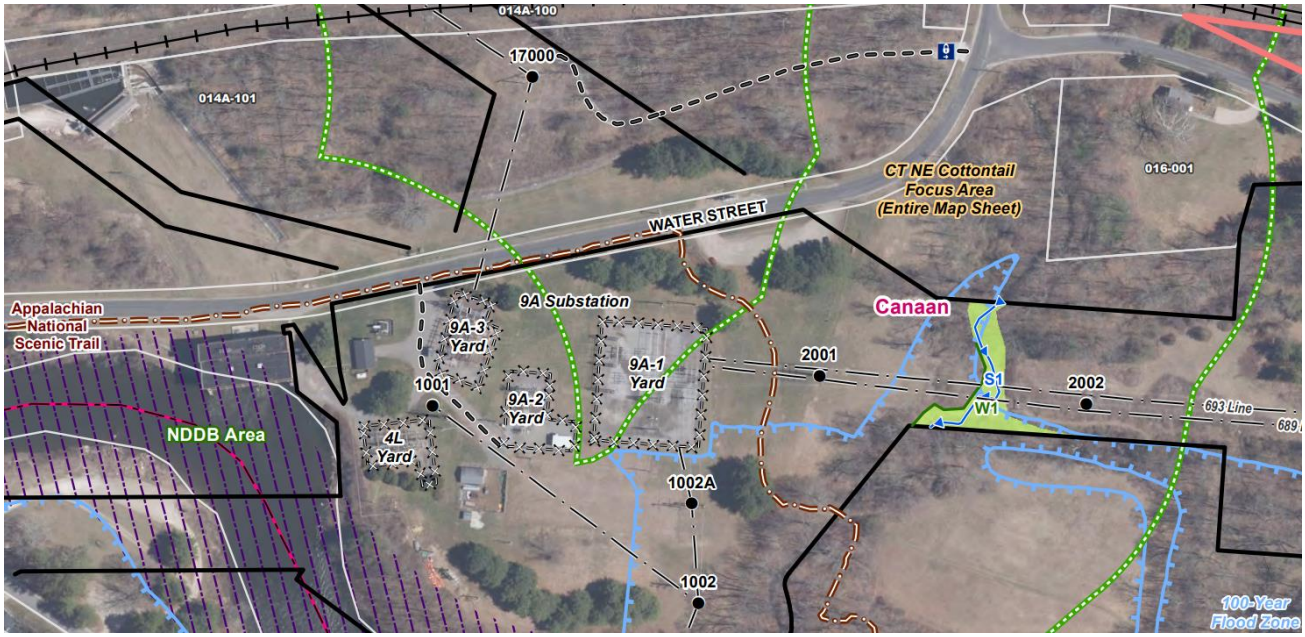
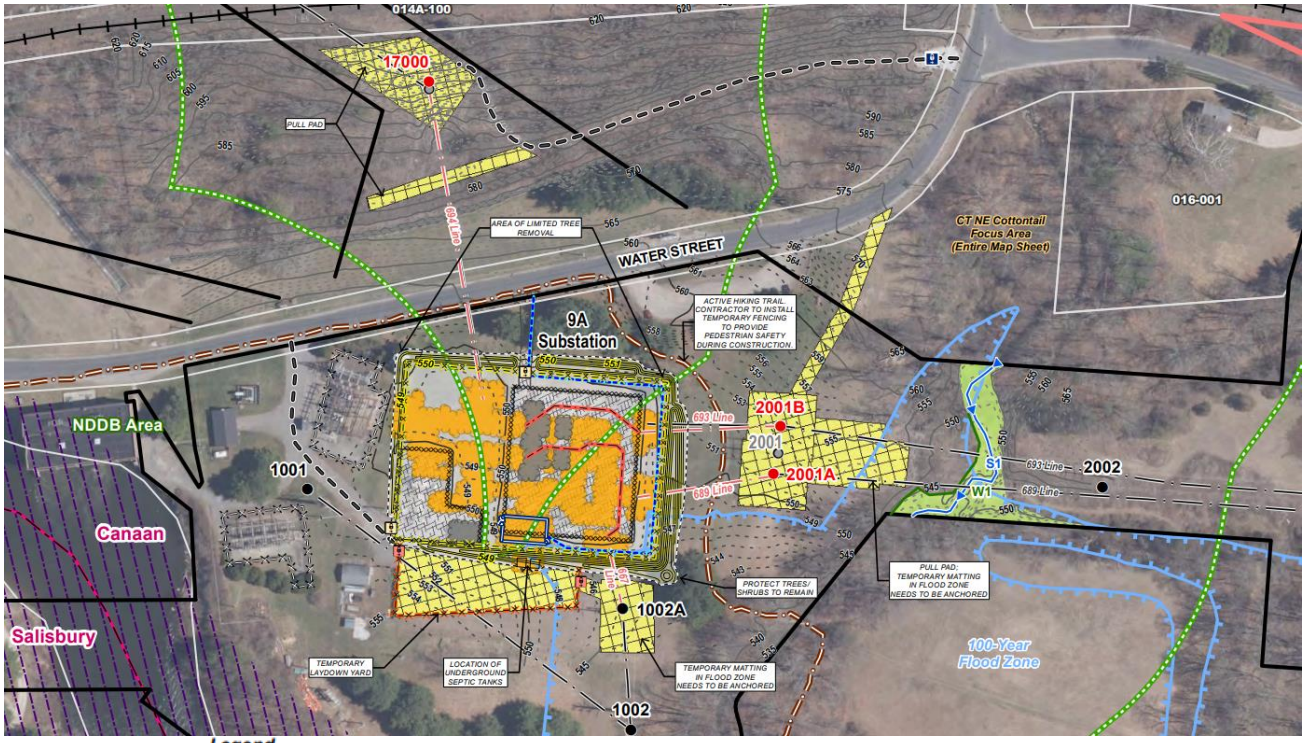


Figure 4- Proposed Construction



Proposed Layout