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Deborah Denfeld
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January 28, 2025

Melanie A. Bachman, Esq.
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: **Petition No. 1649** – The Connecticut Light and Power d/b/a Eversource Energy petition for declaratory ruling for the proposed Falls Village Substation Modification Project, Canaan, Connecticut.

Responses to Council Interrogatories to Petitioner, dated January 7, 2025.

Dear Attorney Bachman:

This letter submittal provides an original and 15 copies of responses to Interrogatories, received on January 7, 2025: CSC-001-01 through CSC-001-37 for Petition No. 1649

Please contact me if you have any questions regarding this submittal.

Sincerely,

Deborah Denfeld

Deborah Denfeld
Team Lead – Transmission Siting
deborah.denfeld@eversource.com

Attachments:
Responses to Petition No. 1649 Set One Interrogatories 01-37

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 1
Referencing Petition p. 28, did the Town comment on the proposed project? If yes, what were the comments and were their concerns addressed?

Response:

Following Eversource's April 15, 2024 briefing with the Town of Canaan/Falls Village First Selectman with regards to the proposed Project the First Selectman has not provided any comments on the Project other than a request that Eversource continue to notify abutting property owners as to the status of the Project work. He also expressed his appreciation for the ongoing communications and requested the Project continue to maintain an open line of communication with the Town.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 2
Referencing Petition p. 28, what is the address of the abutting property owner that commented? Does the Petition Landscape Plan include plantings to address the concerns of the abutting property owner?

Response:

The address of the abutting property owner is 12 Warren Turnpike Road. The Petition Landscape Plan addresses the abutting property owner's concern regarding screening the view of the right-of way from his property. Eversource will continue to work with the property owner with respect to implementation of the Plan and any requested revisions to the Plan.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 3
Has Eversource directly received any comments since the Petition was submitted to the Council? If yes, summarize the comments and how these comments were addressed.

Response:

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

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 4
Referencing Map Sheet 1, Attachment A to the Petition, what is the total size (in acres) of Eversource's Easement Area on the existing facility site host parcel and what public utility uses/rights are identified under the associated easement?

Response:

The total size of Eversource's Substation Easement Area on the facility site host parcel which encompasses the modified Substation fenced areas of the existing 9A-1 Yard and the 9A-2 Yard is 2.19 acres.

The public utility uses and rights identified under the associated easement include:

- Exclusive rights to use and occupy designated substation areas for electrical and communication infrastructure, including constructing, maintaining, repairing, and operating equipment (e.g., poles, towers, transformers, conduits, etc.).
- Surface, subsurface, and air rights, as well as non-exclusive parking rights nearby (excluding storage).

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 5
What is the Town zoning designation of the existing facility site host parcel?

Response:

The Town zoning designation of the existing facility site host parcel is the Housatonic River Overlay Zone.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 6
What is the size (in acres) of the host parcel that is occupied by the existing transmission substation site?

Response:

The host parcel occupied by the existing Substation is 26.06 acres based on the current tax records.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 7
Referencing Petition p. 7, what is the address of the nearest residential property line that is located approximately 650 feet southeast of the facility site?

Response:

The address of the nearest residential property line (Line List 016-001), described above, is 12 Warren Turnpike Road, Falls Village, Connecticut 06031. Property owner information is provided in Attachment A of the Petition.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 8
What is the distance and address of the nearest abutting property line and residence from the proposed 9A expanded substation fence line?

Response:

The distance and address of the nearest abutting property line and residence from the proposed 9A expanded substation fence line is approximately 509 feet west at 212 Dugway Road, Salisbury.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 9
What is the tallest existing equipment associated with the existing substation and its height?

Response:

The tallest existing equipment associated with the existing substation are the 85 feet tall lightning masts.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 10
Approximately how often is the substation facility accessed for maintenance and inspection purposes?

Response:

The Substation is generally accessed monthly for maintenance and inspection purposes.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 11
Is Falls Village substation a bulk power supply substation?

Response:

Assuming that the question intends to ask whether Falls Substation is a "Bulk Power System" ("BPS"), rather than a "bulk power supply system", the answer is no. The North American Electric Reliability Corporation ("NERC") defines the bulk power system (BPS) as the facilities and control systems necessary for operating an interconnected electric energy transmission network (or any portion thereof); and electric energy from generation facilities needed to maintain transmission system reliability. The term does not include facilities used in the local distribution of electric energy. Therefore the 69-13.2kV transformer and 13.2kV equipment is not considered part of the Bulk Power System.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 12
Referencing Petition p. 1, what other upgrades to the existing transmission and distribution systems are part of the Northwest Reliability Project?

Response:

Other upgrades to the existing transmission and distribution systems which are part of the Northwest Reliability Project include:

- Petition No. 1575 – Salisbury Substation Transformer Replacement Project , 316 Indian Mountain Road, Salisbury, CT (Approved 8/31/2023); and

- Notice of Exempt Modification EM-EVER-100-241120e – North Canaan Substation, 60 East Man Street, North Canaan, CT (12/30/2024 Decision).

Future work associated with the Northwest Reliability Project may include the upgrade of two transformers at Franklin Drive Substation in Torrington. That proposed work may require the filing of a Notice of Exempt Modification, with construction planned between late 2025 and mid-2026.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 13
Is the proposed project identified in any ISO-New England, Inc. (ISO-NE) needs and solutions analyses? If yes, identify.

Response:

No, the project is not identified in an ISO-NE needs and solutions analysis. The project addresses local transmission and distribution reliability concerns identified by Eversource.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 14
Is the proposed project on the ISO-NE Regional System Plan (RSP), Project List and/or Asset Condition List? If yes, identify.

Response:

No, the Project is not reported on the ISO-NE Regional System Plan Project List or Asset Condition List. As the Project addresses local transmission and distribution reliability concerns, it is reported on the Eversource Local System Plan as the "Falls Village Substation – Reconfiguration", project ID ES-23-LSP-113.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 15
Are any generation facilities listed on the ISO-NE interconnection queue associated with the proposed project? If so, please identify the generation facilities and the queue position.

Response:

No, there are no generation facilities associated with the need for this Project. The Project is needed to address local transmission and distribution reliability concerns.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 16
What is the total estimated cost of the project? Of this total, what costs would be regionalized, and what costs would be localized? Estimate the percentages of the total cost that would be borne by Eversource ratepayers, Connecticut ratepayers, and the remainder of New England (excluding Connecticut) ratepayers, as applicable.

Response:

The total estimated cost of the project is $64.445 million. The purpose of the Falls Village Substation Modification Project is to improve the reliability of the local transmission and interconnected distribution systems. Accordingly, the entire cost will be allocated to customers of The Connecticut Light and Power Company d/b/a Eversource Energy.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 17
What is the estimated cost to implement the proposed landscaping plan?

Response:

The estimated cost to implement the proposed landscaping plan is approximately $75,000.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 18
How does the project relate to other proposed, planned or constructed Connecticut reliability and asset condition projects?

Response:

Other than the projects detailed in Eversource's response to interrogatory #12 there are no other proposed, planned, or constructed reliability or asset condition projects related to this Project.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 19
Please describe how the proposed project is consistent with the recommendations of the Federal Energy Regulatory Commission (FERC) and the North American Electric Reliability Corporation (NERC) Report on Transmission Facility Outages During the Northeast Snowstorm of October 29- 30, 2011 – Causes and Recommendations.

Response:

The referenced FERC and NERC reports relate to vegetation management associated with transmission lines. The proposed Project includes vegetation management and specific areas of tree clearing necessary for access and construction activities related to the proposed Substation modifications. Accordingly, the recommendations in the reports do not apply to those activities.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 20
Referencing Petition p. 2, what additional upgrades would be necessary to operate the substation at 115-kV?

Response:

This project plans to install new buss work and equipment that will facilitate conversion to 115kV operation in the future. The majority of the equipment is ready for conversion and will not require replacement when the conversion occurs. When the future conversion to 115kV is executed, a few pieces of equipment that are voltage-sensitive will be replaced such as lightning arresters and voltage sensing transformers (CCVT′s). During conversion, relays will not have to be replaced, but some relay settings will have to be changed. The power transformer has been specified with both 69kV and 115kV connections, so it would not require replacement but there would be a maintenance activity that would enable the 115kV connection internal to the transformer.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 21
Referencing Petition p. 9, what is the status of the water service tie-in review with FirstLight and what is the status of the final design plan review for the septic tanks with Torrington Area Health District?

Response:

Eversource has received authorization from FirstLight to install the water service line tie-in, as well as the septic holding tanks. With regard to the Torrington Health District's ("THD") review of the proposed septic holding tanks, Eversource submitted design plans to THD on November 11, 2024. Eversource is currently awaiting a response from THD on the proposed plans.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 22
Would Eversource replace landscaping in the event of die-off?

Response:

Landscape plantings that die within the first year will be replaced consistent with the supplier's one-year warranty.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 23
Would the substation modifications comply with the Institute of Electrical and Electronics Engineers ("IEEE") Standard 1264 - IEEE Guide for Animal Deterrents for Electric Power Supply Substations? What methods and/or designs could be incorporated into the project to mitigate wildlife intrusions into the fenced substation area?

Response:

To avoid or minimize the potential for animal-related issues, the proposed Project modifications to Falls Village Substation will conform to Eversource's standards, which are in accordance with the Institute of Electrical and Electronics Engineers ("IEEE") Standard 1264 - IEEE Guide for Animal Deterrents for Electric Power Supply Substations. In general, physical barriers will be installed that will minimize the possibility of wildlife contact that could result in outages. The Substation fence also acts as physical barrier to wildlife.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 24
Referencing Petition p. 29, when was the Housatonic River Commission consulted?

Response:

The Housatonic River Commission was consulted via e-mail by First Light in the Fall of 2023. The Commission was provided a copy of the "Non-Project Use Of Project Land Application" for review and comment.

A field visit was conducted on January 24, 2024, with all stakeholders including members of the Housatonic River Commission to review the overall project.

Following the field visit, Housatonic River Commission Chairman William Tingley, and Wild and Scenic Project Manager Madeline Scherff, issued a Memo dated February 1, 2024 to First Light confirming their support, appreciation, and approval of the project.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 25
Referencing Petition p. 17, the project is within New England Cottontail (NEC) focus area. What specific Best Management Practices (BMPs) would be implemented to minimize potential effects to NEC habitat? Provide a copy or weblink to Eversource's NEC BMPs document.

Response:

Eversource would implement applicable NEC BMPs during construction, such as using temporary matting for work and pull pads rather than constructing permanent gravel pads, as well as implementing time of year restrictions on vegetation work. Please see the attached "Eversource New England Cottontail Best Management Practices" document which is a voluntary set of practices developed with input from the Connecticut Department of Energy and Environmental Protection.

BMPs for NEC Focus Areas
1. Contractors shall be educated on NECs, their habitat preferences, and vegetation to be removed vs. remain, annually or prior to beginning work in NEC area.
2. Vegetation removal shall be limited to non-compatible species. Unless deemed necessary by the designated representative, all non-compatible vegetation shall be cut manually. Broad, non-selective mowing and the use of a feller-buncher or other mechanized land clearing equipment shall not be employed unless prior authorization is received from the designated representative.
3. Use of targeted, foliar herbicide and manual cutting are favored over mowing.
4. Unless suitable habitat is available elsewhere within the ROW, as verified by the designated representative, invasive shrubs that are designated as compatible species on transmission and distribution line corridors, e.g. multiflora rose, autumn olive, etc., may remain.
5. Green briar shall remain within the ROW as it provides valuable, native cover, unless it hinders access to facilities or travel down the ROW. In these instances, minimal removal, as deemed necessary by the designated representative, shall be completed to gain access or allow travel
6. In areas where clearing of shrubs in the managed ROW exceeds 50% of total vegetation cover, as determined by the designated representative, mitigation options such as brush piles, corridors and removal strategies shall be reviewed with Eversource Licensing & Permitting to minimize impact to NECs. Clearing extent shall be generally evaluated from Structure to Structure and not on an entire project basis.
7. Where not in conflict with any other permits, policies, or commitments, a portion of cut woody debris shall be left within the ROW to provide cover/structure for NECs.The portion of material to remain shall be determined by the designated representative on a project by project basis.
8. All wood chips shall be removed from the ROW unless otherwise approved by the designated representative.
9. Where not in conflict with other permits, agreements or listed species BMPs, vegetation removal activities shall be minimized from December 1 to March 1 in order to maintain protective cover during the non-growing season.
10. Stone work pad sizes shall be minimized to the extent practicable. Where topography, construction and safety permit, typical work pads shall consist of a 50' x 50'+ stone pad surrounded by temporary construction matting as necessary if a larger work pad is required.
11. Road width along straightaways should be minimized and not exceed 13 feet where possible. Road width can be widened at turns to accommodate equipment.
12. Further assistance can be provided by Eversource Licensing & Permitting contact Michelle Ford (p. 860-665-3183; e. michelle.ford@eversource.com).
Additional BMPs for Key Habitat Areas
1. When not in conflict with any other permits, policies, or commitments, new gravel roads and work pads that are to remain shall be seeded, post-construction, with an appropriate seed mix to re-establish herbaceous cover.
2. Eversource's NEC contact, Michelle Ford, Eversource Licensing & Permitting, shall be contacted in advance of activities requiring extensive (>50%) vegetation removal, as determined by the designated representative,
Acronyms
BMP: Best Management Practice
CT DEEP: Connecticut Dept. of Energy and Environmental Protection
Designated Representative: Eversource Project Manager or Designee Responsible for the Project
L&P: Eversource Environmental Licensing and Permitting Group
NDDB: Natural Diversity Database
NEC: New England Cottontail
ROW: Right-of-Way
VM: Eversource Vegetation Management
Eversource New England Cottontail Best Management Practices
Legend
2021 NEC Key Habitat Area - Transmission
NEC Focus Area (2020)
Transmission Line
Town
N
Notes:
1. Key habitat based on documented, 2020-2021 NEC locations and a 2km dispersal distance.
EVERSOURCE

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 26
Referencing Petition p. 17, "the Project is located within a NDDB buffered area, but it is not subject to an NDDB Review Request or consultation with the US Fish and Wildlife Service." Petition p. 27 states a DEEP NDDB Determination is associated with the Project. Explain.

Response:

There is no NDDB Determination required for this Project. The statement on page 27 of the Petition was an error.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 27
How would the project comply with the 2023 National Electrical Safety Code standards?

Response:

The Project will comply with the 2023 National Electrical Safety Code, effective February 1, 2023, by maintaining electrical clearances, and mitigating touch potential with a complete ground grid in the Substation and 3-feet beyond the grounded fence. The Project will also comply with other provisions of the 2023 NESC such as the various requirements for equipment and structural design.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 28
Identify the FERC physical security standards that apply to the substation.

Response:

There are no FERC physical security standards that apply to Falls Village Substation. FERC Physical Security Standard CIP-014 does not apply to substations operating at voltages less than 200-kV. Falls Village Substation complies with the National Electrical Safety Code requirements for physical security and employs other Company and industry standards to restrict entry by unauthorized personnel.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 29
Describe how the proposed project is consistent with the NERC Evaluation of the Physical Security Reliability Standard and Physical Security Attacks to the Bulk-Power System, dated April 14, 2023.

Response:

The referenced NERC report refers to Reliability Standard CIP-014 ("Physical Security Reliability Standard"). CIP-14 criteria focus on High and Medium Impact facilities and specifically the Bulk Power System (BPS). According to the criteria outlined in the standard, the Falls Village Substation is not classified as a BPS facility. The Falls Village Substation is classified as a Low Impact facility and therefore not subject to CIP-14 requirements and the provisions in the NERC report. However, the Falls Village Substation does employ standard security measures similar to other Eversource substations.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 30
Describe how the proposed project would comply with the Council's White Paper on the Security of Siting Energy Facilities.

Response:

The current physical security of the Falls Village Substation is consistent with the Council's *White Paper on the Security of Siting Energy Facilities,* which provides guidance to address the unpredictable intentional act of perpetrators designed to damage the physical structures of the certificated facilities. The Project modifications also will be consistent with the Council's *White Paper* guidance as follows:

PLANNING

Identify the physical vulnerabilities most likely to pose a security threat.

All substations are subject to attempted entry by unauthorized persons. Although the substation is accessible from public roads, it is fenced and monitored. There are existing security measures in place and the proposed Project improvements will not add any new vulnerabilities.

Identify the type and characteristics of the facility and any ways in which the facility's setting affects security concerns.

The Falls Village Substation is a 69kV facility which includes one 69- to 13.2-kV transformer and interconnects four 69-kV transmission lines and one generating station. The setting of the Falls Village Substation is in a rural area. The substation's setting poses no particular security concerns that would require the implementation of additional security measures due to its location.

Examine any pertinent ways in which the facility is linked to other facilities and systems and potential repercussions from a facility or system interruption. Examine whether the proximity of the facility to other electric facilities, either dependent or independent, presents security challenges.

Falls Village Substation interconnects four 69-kV transmission lines, two of which connect to Eversource's Torrington Terminal Substation, one of which connects to North Canaan Substation and the remaining line connecting to Salisbury Substation. Due to the interconnecting lines being 69-kV, the substation is determined to have low value as a target for system threats.

Examine if there is an established method to help regional, state and national security officials maintain situational awareness of this facility.

Eversource has established procedures to help regional, state and national security officials maintain situational awareness of its facilities. The Connecticut Valley Electric Exchange (CONVEX) monitors Eversource's transmission facilities and those of other member electric utilities in Connecticut and Western Massachusetts in real time, and Independent System Operator-New England similarly monitors the security status of the entire New England bulk power system.

The North American Electric Reliability Corporation (NERC) also has guidelines for transmission owners and operators to maintain and improve situational awareness".

PREPAREDNESS

Examine site security infrastructure, including site monitoring, physical and nonphysical barriers and access controls.

Falls Village Substation is enclosed with a 7-foot high chain link fence topped with an additional foot of 3 strands of barbed wire to discourage unauthorized entry and vandalism. The new fence

being added for the expanded area will also be consistent with this design . Access to the Substation is restricted through a locked gate and only authorized personnel are permitted to enter, with additional security measures at the Control House. Thus, the Falls Village Substation is secure, though classified as a "low" risk per the NERC Physical Security Standard. Security at low risk sites may include electronic access control and Closed Circuit TV. Additional security measures may be installed on a case by case basis.

Site security monitoring at the Substation will continue to be provided by Eversource Security's central monitoring station located in Berlin, Connecticut. NERC also provides guidelines for assessing the degree of protection each component of the grid should receive and recommends types of security measures that faculties should have in place, depending on their risk category.

PERSONNEL

Review any simulated exercises that include local police, fire, and other emergency response teams. Examine whether local law enforcement/emergency response liaison is in place and review mutual aid agreements between affected entities.

Eversource regularly consults with first responders across its service territory. The proposed modifications presented in the Petition will not call for any change in established procedures that are in place for local emergency response team notification and response. Eversource Community Relations personnel are available to act as liaisons between municipal officials and the Company through well-documented and exercised protocols.

Further, the Connecticut Department of Emergency Services and Public Protection (DESPP) Training and Exercise Division sponsors emergency preparedness training, seminars, exercises, and conferences for local first responders, as defined in Homeland Security Presidential Directive 8 (i.e., police, fire, emergency management, emergency medical services, public health, public works, private sector, non-governmental organizations and others). These presentations and seminars are designed to cover Planning, Preparedness, Response, and Recovery. Eversource is represented on the Private Sector Council of DESPP, which meets quarterly and more frequently as needed. Eversource has participated, and will continue to participate, in state and regional emergency exercises.

RESPONSE

Examine notification procedures to public and/or local officials, including the types of security issues that would warrant such notification.

Upon completion of construction, the proposed Project will not require any change in existing, pre- established public notification procedures. After the Project is constructed, Eversource will continue to adhere to NERC and CONVEX protocols and will coordinate further with these entities as well as public and/or local officials regarding the best mechanism for communicating incidents.

MITIGATION

Examine mitigation measures, including alternate routing of power, strategically located spares and mobile backup generation.

Eversource keeps an inventory of spare equipment to enable it to quickly restore facilities to service after most failures. For example, spare switching equipment is located in a central storage area to be deployed as may be required. Moreover, the Substation has a disconnect switch to facilitate the installation of a mobile transformer in case the permanently installed transformer is removed from service for a prolonged period of time. Since transformers could fail without warning, Eversource is prepared to quickly respond to a transformer failure. Distribution circuits have connections to circuits from other substations which would provide backup power to customers in the event of an outage at Falls Village. If necessary Eversource would dispatch mobile generation to maintain service to customers if other mitigation measures were insufficient.

RECOVERY

Identify measures that will be taken, if necessary, to restore natural resources at the site of the facility.

In the event of an incident, the first priority would be to eliminate any threat to public safety and then to repair the affected transmission facilities. During the response to an incident, natural resources at or adjacent to the site would be protected to the extent practical and subsequently restored to pre-incident conditions as practicable. In general, the resource protection and mitigation measures would be the same as those employed during Project construction. If wetlands or water resources are involved, mitigation protocols would be coordinated with the appropriate resource agencies, such as the Connecticut Department of Energy and Environmental Protection.

REPORTING

Determine whether reporting procedures are established to evaluate and improve the effectiveness of local emergency response teams, methods to limit negative impacts on neighboring electric facilities, and restoration of the natural environment.

Eversource will investigate and respond to any incident associated with its infrastructure. Depending on the magnitude of and resulting impacts from the incident, Eversource's after action reviews will evaluate what improvements may be needed to Eversource’s processes or physical security to minimize the potential for future adverse effects, including impacts to the environment or neighboring electric facilities, as well as improve the effectiveness of the interface with local emergency response teams.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 31
Referencing Petition pp. 9, 11 and 25, what permanent lighting improvements are proposed? Would the substation be illuminated at night for security purposes? If the lights only facilitate nighttime maintenance activities, are they on a timer or are they only operated by manual switch? Is it possible to operate the lights through a remote operations center?

Response:

The proposed plans for the Substation include the addition of lighting above the doors of the two control enclosures and throughout the substation yard. Such lighting will be manually activated if needed during nighttime operation and maintenance activities. The Substation would not be illuminated at night for security purposes. While it may be possible to operate the lights from a remote operations center, it is not necessary to do so given the limited purpose and use of lighting at the Substation.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 32
Referencing Petition p. 14, did the National Park Service provide any recommendations to date for trail restoration? What Eversource BMPs apply to trail restoration?

Response:

The National Park Service completed a thorough review of the "Non-Project Use of Project Lands Application" submitted by First Light on November 28, 2023. Kevin Mendik of the National Park Service issued the following response on February 1, 2024:

> "... Based on our review and information provided, the NPS has determined that the project as proposed and set out in the accompanying plans **Will Not** [sic] adversely impact the Appalachian Trail or its users..."

The National Park Service did not provide any recommendations for trail restoration.

The proposed project avoids construction access over the trail; however, if the trail was disturbed Eversource BMPs which apply to trail restoration would be implemented. These include reestablishing the trail surface, applying temporary E&S controls, and stabilizing the surface with vegetation or other measures.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 33
Referencing Petition p. 19, provide a copy of the Sound Impact Assessment.

Response:

Please see the attached 'Sound Impact Assessment' completed by TRC, dated January 30, 2024.

ES Falls Village Substation

Sound Impact Assessment

January 30, 2024

The Connecticut Light and Power Company d/b/a Eversource Energy

Prepared By:

TRC Environmental
404 Wyman Street Suite 375
Waltham, MA 0251

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TABLES

FIGURES

APPENDICES

1.0 Introduction

The Connecticut Light and Power Company d/b/a Eversource Energy (CL&P) is seeking to upgrade the Falls Village Substation on Water Street in Falls Village (Canaan), Connecticut as part of ongoing Line Rebuild Projects. The substation site is located within the existing Eversource electric transmission line right-of-way and on Eversource-owned property along the Housatonic River. Upgrades to the Falls Village Substation include the installation of a new transformer.

2.0 Concepts of Environmental Sound

Sounds are generated by a variety of sources (e.g., a musical instrument, a voice speaking, or an airplane that passes overhead). Energy is required to produce sound and this sound energy is transmitted through the air in the form of sound waves – tiny, quick oscillations of pressure just above and just below atmospheric pressure. These oscillations, or sound pressures, impinge on the ear, creating the sound we hear. The range of sound pressures that can be detected by a person with normal hearing is very wide, ranging from about 20 micro-pascals (µPa) for very faint sounds at the threshold of hearing to nearly 10 million µPa for extremely loud sounds, such as a jet during take-off at a distance of 300 feet. Because the range of human hearing is so wide, sound levels are reported using “sound pressure levels”, which are expressed in terms of decibels. The sound pressure level in decibels is the logarithm of the ratio of the sound pressure of the source to the reference sound pressure of 20 µPa, multiplied by 20.

Table 2.1 provides some examples of common sources of sound and their sound pressure levels. All sound levels in this assessment are provided in A-weighted decibels, abbreviated “dB(A)” or “dBA.” The A-weighted sound level reflects how the human ear responds to sound, by deemphasizing sounds that occur in frequencies at which the human ear is least sensitive to sound (at frequencies below about 100 hertz and above 10,000 hertz) and emphasizing sounds that occur in frequencies at which the human ear is most sensitive to sound (in the mid-frequency range from about 200 to 8,000 hertz). In the context of environmental sound, noise is defined as “unwanted sound.”

Table 2.1 Examples of Common Sound Pressure Levels

Sound Level dB(A)	Common Indoor Sounds	Common Outdoor Sounds
110	Rock Band	Jet Takeoff at 1000 feet
100	Inside NYC Subway Train	Chain Saw at 3 feet
90	Food Blender at 3 feet	Impact Hammer (Hoe Ram) at 50 feet
80	Garbage Disposal at 3 feet	Diesel Truck at 50 feet
70	Vacuum Cleaner at 10 feet	Lawn Mower at 100 feet
60	Normal Speech at 3 feet	Auto (40 mph) at 100 feet
50	Dishwasher in Next Room	Busy Suburban Area at night
40	Empty Conference Room	Quiet Suburban Area at night
25	Empty Concert Hall	Rural Area at night

Sound pressure levels are typically presented in community noise assessments utilizing the noise metrics described below and expressed in terms of A-weighted decibels.

- "L_{10}" is the sound level that is exceeded for 10 percent of the time. This metric is a measure of the intrusiveness of relatively short-duration noise events that occurred during the measurement period.
- "L_{50}" is the sound level that is exceeded for 50 percent of the measurement period.
- "L_{90}" is the sound level that is exceeded for 90 percent of the time and is a measure of the background or residual sound levels in the absence of recurring noise events.
- "L_{eq}" is the is the constant sound level which would contain the same acoustic energy as the varying sound levels during the time period and is representative of the average noise exposure level for that time period.
- "L_{MAX}" is the instantaneous maximum sound level for the time period.

It is often necessary to combine the sound pressure levels from one or more sources. Because decibels are logarithmic quantities, it is not possible to simply add the values of the sound pressure levels together. For example, if two sound sources each produce 70 dB and they are operated together, their combined impact is 73 dB – not 140 dB as might be expected. Four equal 70 dB sources operating simultaneously result in a total sound pressure level of 76 dB. In fact, for every doubling of the number of equal sources, the sound pressure level goes up another three decibels. A tenfold increase in the number of sources makes the sound pressure level increase by 10 dB, while a hundredfold increase makes the level increase by 20 dB. The logarithmic combination of *n* different sound levels is calculated by the following equation:

$$L_{total}=10*\log_{10}\left(10^{\frac{L_1}{10}}+10^{\frac{L_2}{10}}+\ldots+10^{\frac{L_n}{10}}\right)$$

Perceived changes in sound level can be slightly more subjective; the average person will not notice a change of 1-2 dB, a 3 dB increase is just barely perceptible, while a 5 dB change is clearly noticeable.

3.0 Noise Sensitive Areas

The facility is located on an industrial property fairly removed from any noise sensitive areas (NSAs) such as residences, schools, or hospitals. Table 3.1 lists the closest NSAs and their approximate distance and direction from the facility.

Table 3.1 Closest Noise Sensitive Areas

NSA	Description	Approximate Distance from Facility to NSA, feet	Direction to NSA
1	Residence	515	NW
2	Residence	530	E
3	Residence	690	SE

4.0 Applicable Noise Standards and Regulations

The Town of Canaan does not have any noise ordinances that would be applicable to this project.

The State of Connecticut has noise regulations that apply to the project. CTDEP Control of Noise Regulation The Eversource Falls Village 9A Substation upgrade falls within a Class C (Industrial) Noise Zone. Sec. 22a-69-3.5 limits the sound levels emitted from a Class C Noise Zone to receptors in other noise zones. Table 4.1 shows the A-weighted decibel (dBA) limit for each noise zone class, which should be measured from the nearest receptors.

Table 4.1 Noise Regulations Connecticut

Noise Zone Class	Description of Class	Sound Level Limit Day (dB)	Sound Level Limit Night (dB)
A	Residential area, hospitals, hotels, prisons	61	51
B	Commercial areas	66	66
C	Industrial areas	70	70

5.0 Short Term Ambient Sound Survey

A pre-construction ambient sound survey was conducted to characterize the existing sound levels at the Project property site and at its property lines. The pre-construction ambient sound survey was completed on December 21, 2023.

The long-term and short-term background sound level measurements were taken using sound level meters that meet the requirements of the American National Standards Institute (ANSI) Standards for Type I instruments. The sound level meters were field calibrated before and after each monitoring period using acoustic calibrators following procedures that are traceable to the National Institute of Standards and Technology (NIST).

Short term ambient sound level measurements were conducted on a weekday on a non-holiday week at two measurement points for a minimum of ten continuous minutes at approximately 10 AM.

The following measurement criteria are provided in Tables 7.1 and 7.2 for each measurement location and for each measurement period:

- LA_{EQ}, LC_{EQ}, LA_{10}, LA_{50}, and LA_{90}
- Unweighted octave-band analysis (16, 31.5, 63, 125, 250, 500, 1K, 2K, 4K, 8K Hz)

The short-term ambient sound level measurement points are listed below:

- ST-1: North area of site, close to Housatonic River
- ST-2: Center of the site

The proposed Project site layout, showing the location of the measurement points, is shown on Figure 1.

6.0 Long Term Ambient Sound Survey

One sound level meter was set up for unattended long-term background monitoring at a fixed location within the subject property to evaluate changes in sound levels over time. Sound level measurements were taken continuously for a 24-hour period.

The long-term meter was set up at a third measurement point, on the property but close to the Appalachian trail and water street. The meter was monitored remotely, and data was downloaded on December 21, 2023.

The results of long-term ambient sound level measurements are summarized on Tables 7.1 and 7.2.

7.0 Short Term and Long-Term Sound Monitoring Results

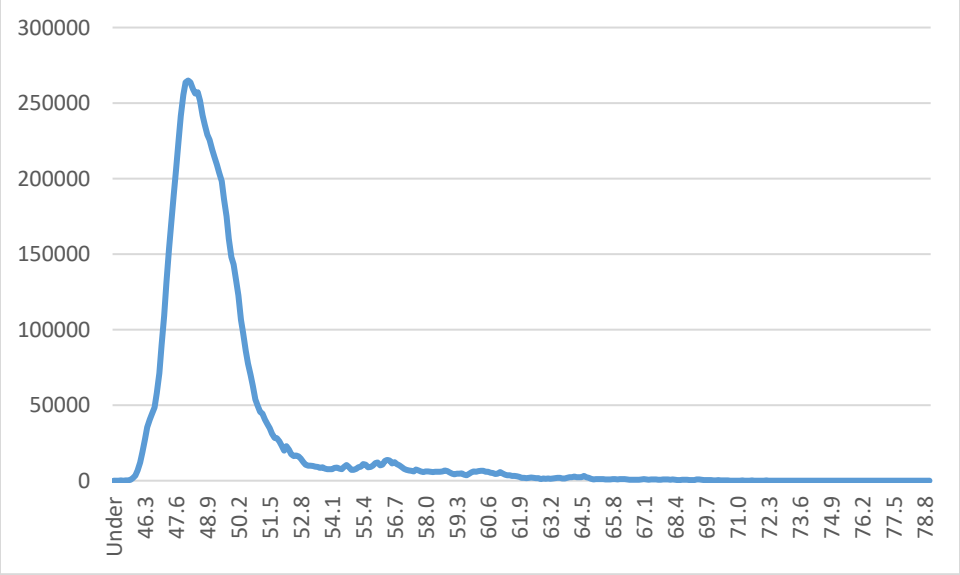
Table 7.1 Noise Monitoring Results Summary

Site ID	LA_{EQ}	LC_{EQ}	LA_{10}	LA_{50}	LA_{90}
Long Term Monitoring					
LT-1	52.1 dB	66.8 dB	52.2 dB	48.8 dB	47.4 dB
Short Term Monitoring					
ST-2	54.0 dB	71.4 dB	55.2 dB	53.5 dB	52.5 dB
ST-3	52.4 dB	67.5 dB	53.1 dB	52.2 dB	51.6 dB

Table 7.2 Octave Band Analysis Summary

Site ID	Octave Band Center Frequency (Hz)									
	16	31.5	63	125	250	500	1000	2000	4000	8000
Long Term Monitoring										
LT-1	59.7	58	62.5	59.7	48.7	41.4	41.8	38.8	31.5	22.7
Short Term Monitoring										
ST-2	67.5	62.4	56.2	67.5	47.2	43.6	41.8	37.4	32.1	30.2
ST-3	63.2	58.7	58.5	61.6	51.2	42.5	41.1	37.4	30.3	23

Table 7.3 Number of Long-Term Ambient Measurements Within Each dB Range



During the ambient noise measurements, staff took note of other noises that could be heard in the background. A summary of all the background noise sources is provided in Table 7.4.

Table 7.4 Background Noise Measurements Summary

Morning (10 AM –11 AM)	
LT-1	• People using trail • Occasional car on road
ST-2	• Occasional car on road • Housatonic River noise
ST-3	• Occasional car on road • Housatonic River noise

8.0 Predictive Modeling of Sound Impacts During Operation

This section describes the methods, assumptions, and results of the Cadna-A® noise modeling used to predict future sound levels resulting from the operation of the new transformer at the facility.

8.1 Noise Model

The Cadna-A® computer noise model was used to predict future sound pressure levels from the operation of the new transformer at the property line and at the nearest noise-sensitive areas. An industry standard, Cadna-A® was developed by DataKustik GmbH to provide an estimate of sound levels at distances from specific noise sources. This model takes into account:

- Sound power levels from stationary and mobile sources;
- The effects of terrain features including relative elevations of noise sources;
- Intervening objects including buildings and sound barrier walls; and
- Ground effects due to areas of pavement and unpaved ground.

Cadna-A® accounts for shielding and reflections due to intervening buildings or other structures in the propagation path, as well as diffracted paths around and over structures, which tend to reduce computed noise levels. The shielding effects due to intervening terrain are included in the model. The shielding effects due to existing on-site and off-site buildings and ground vegetation were excluded from the model to provide a level of conservatism to the analysis.

For ground effects, the reflectivity of the surface is described by a “ground factor” variable (G), which ranges from 0 for ‘hard’ ground (paved surfaces, concrete, etc.) and 1 for “porous” ground (grassland and other vegetated areas). The model used a “porous” ground absorption factor (G) of 0 to represent typical ground conditions, since the ground beneath and around the transformer will remain paved.

The International Standards Organization current standard for outdoor sound propagation (ISO 9613 Part 2 – “Attenuation of sound during propagation outdoors”) was used within Cadna-A®. This standard provides a method for calculating environmental noise in communities from a variety of sources with known emission levels. The method contained within the standard calculates the attenuation over the entire sound path under weather conditions that are favorable for sound propagation, such as for downwind propagation or “under a well-developed moderate

ground-based temperature inversion." Application of conditions that are favorable for sound propagation yields conservative estimates of operational noise levels in the surrounding area.

8.1.1 Modeling Inputs

Based on the proposed site design, the primary change to noise-producing sources on the site is the addition of the new transformer. The location of this source is shown on Figure 1.

The source model input was based on proposed electrical equipment specifications and testing data. The transformer location is based on TRC design drawings dated October 27, 2023. The transformer sound level is based testing data showing a maximum sound pressure level of 59.6 dB at 0.15 meters. This equates to an A-weighted source sound power level of 61.1 dBA. Since the transformer is assumed to be continuously operating, the L_{90} (background level) and L_{EQ} (equivalent constant level) of the proposed equipment are the same for the purposes of this assessment.

Table 8.1 Noise Source Inputs to the Cadna-A Model

Name	Source Height*	Octave Band Sound Power Levels (dBA)							Total (dBA)
		63	125	250	500	1000	2000	4000	
Transformer	1m	11.4	45.3	46.6	55.3	56.6	54.7	50.7	61.1

** Heights based on component dimensions and mounting orientation, assumed pad-mounted equipment. Source levels are extrapolated from manufacturer-provided sound pressure level testing data at 0.15 meters.*

The conceptual site layout and existing topography was used to create a terrain model that represents the topography of the facility. Figure 1 shows the topography within the site. The inputs to the model are 2-foot contours, based on USGS 3DEP topographic data. The model assumed continuous and simultaneous operation of all sound-producing equipment. This was a conservative assumption, since not all equipment will be operating continuously at full load. A search radius of 1 mile from each receptor was used in the model to ensure that all noise sources contributing to the predicted facility noise level were modeled at every noise-sensitive receptor.

8.1.2 Comparison to Estimated Baseline Noise Levels

Cadna-A® allows the user to place receptors at selected locations and predicts sound levels at those specific receptor locations. For this analysis, specific receptors were placed at the monitoring locations specified above.

Table 8.2 presents the predicted sound levels resulting solely from the operation of the new transformer The model also calculated sound levels for the surrounding area, using a 5-foot receptor grid, with a receptor height of 5.1 feet (representative of average ear height). This data is displayed in the isopleths on Figure 1, which show lines of equal sound level at the site and the surrounding area.

Table 8.2 Cadna-A Modeling Result Sound Levels

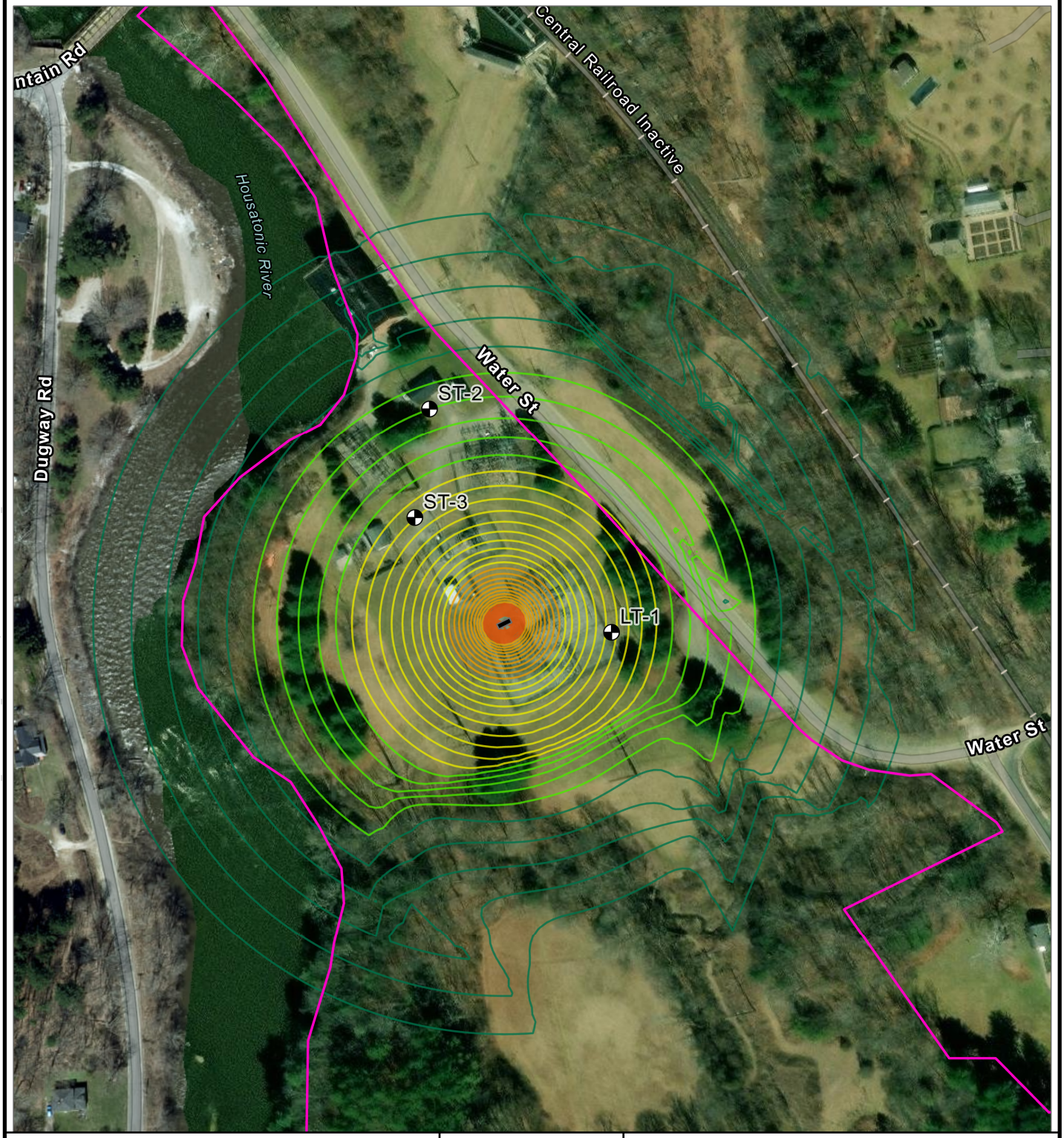
Site ID	Ambient Sound Level (LA_{90})	New Transformer Sound Level (dBA)	Combined Sound Level (dBA)	Sound Level Increase (dBA)
LT-1	47.4	14.4	47.4	< 0.1
ST-2	52.5	7.0	52.5	< 0.1
ST-3	51.6	11.9	51.6	< 0.1

9.0 Conclusion

Based on the results of this assessment, the sound levels due to the new transformer will not be perceptible above existing ambient sound levels at the property line or at any off-site location and the addition of the new transformer will not cause an exceedance of the CTDEP's noise zone standards for any class of receiving property.

10.0 References

CTDEP, 2015. Regulations of Connecticut State Agencies Title 22a. Environmental Protection, Control of Noise § 22a-69-1—22a-69-7.4

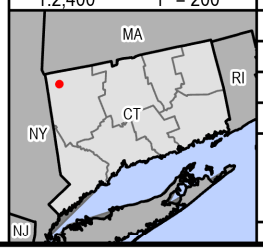


MONITORING LOCATION
NEW TRANSFORMER LOCATION
PROPERTY BOUNDARY
SOUND LEVEL (DBA)
< 5
5 - 10
10 - 20
20 - 30
> 30

BASEMAP ACQUIRED FROM ESRI/USGS "WORLD_IMAGERY_HYBRID" ONLINE SERVICE
LAYER AERIAL DATE: 3/22/2022

N

0 100 200
FEET
1:2,400 1" = 200'



CONNECTICUT LIGHT & POWER CO.
LITCHFIELD COUNTY, CT

TITLE:
FALLS VILLAGE SUBSTATION
NOISE ASSESSMENT

DRAWN BY:	M. ERNSTING	PROJ. NO.:	553027
CHECKED BY:	S. DEHAINAUT		
APPROVED BY:	M. FEINBLATT		**FIGURE 1**
DATE:	JANUARY 2024		

TRC
404 WYMAN STREET
SUITE 375
WALTHAM, MA
02451

FILE: 483808_FALLSVILLAGE_NOISE

COORDINATE SYSTEM: NAD 1983 2011 STATEPLANE CONNECTICUT FIPS 0600 FT US; MAP ROTATION: 0
...SAVED BY: MERNSTING ON 1/17/2024, 14:02:32 PM; FILE PATH: T:\1-PROJECTS\EVERSOURCE\483808 ES FALLS VILLAGE\2- APPRX\483808_FALLSVILLAGE_NOISE APRX; LAYOUT NAME: 483808_NOISERESULTS

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 34
What is the total disturbance area (in acres) for the proposed project?

Response:

The total disturbance area for the proposed Project is 0.99 acre.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 35
What is the cover material for the detention basins and swales? If these features are vegetated, what seed mix would be used?

Response:

The cover material for the detention basins/plunge pool is trap rock. The cover material for the swales would consist of topsoil and vegetation. The seed mix would consist of flowering herbaceous layer/northeast native pollinator seed mixes, as described in greater detail in Attachment E to the Petition.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 36
Would excavated soils be removed from the site? If yes, would the soils be assessed for hazardous materials prior to disposal?

Response:

Excavated soils from the Project that cannot be used as backfill inside the Substation will be tested and transported to an appropriate off-site disposal facility in accordance with Eversource BMPs and any applicable local, state, or federal laws.

Date Filed: January 27, 2025

Request from: Connecticut Siting Council

Question: 37
Referencing Petition p. 8, what is the approximate amount of clean fill needed for construction?

Response:

No clean fill from off-site sources will be needed for construction. The Project has been designed to balance cuts and fills to the extent possible. It is expected that there will be approximately 125 yards of surplus soil.