EVERSOURCE

247 Station Drive
Westwood, MA 02090

April 26, 2023

Sarah A. Lewis, RA, LEED-AP, CNUa
Director of Planning & Zoning
Mayor's Office of Strategic Planning & Community Development
City of Somerville
93 Highland Avenue,
Somerville, MA 02143

Re: Third Transformer at Somerville Substation #402
Project Narrative

Dear Ms. Lewis,

This revised project narrative is being submitted in support of Eversource's (the "Company") application to the City of Somerville Planning Board (the "Board") for a special permit for a Minor Utility Facility for the proposed installation of a third 62.5 MVA transformer and enclosure wall, along with associated switchgear, capacitor banks, lightning masts and wiring and cabling at the Company's existing 115-kV/14-kV distribution substation known Somerville Substation #402 ("Substation") located at 51 Prospect Street, Somerville, Massachusetts. Along with this narrative, the Company has provided the following items as part of its application to the Board:

- Project Plans:

  Cover Page with Locus Map
  Lot Consolidation Plan
  Existing Conditions Plan
  Site Plan
  Illustrative Site Plan – location of new equipment and other site improvements
  Landscape Plan
  Abutting Context Plan
  Architectural Elevations
  Detail Sheets – Equipment cross sections, sidewalk/ramp/apron details, planting specs, perimeter and interior fencing, wall enclosure details, lighting specs etc.

- Photo renderings;
- Certified Abutters List – project is greater than 300' from Cambridge municipal boundary;
- Neighborhood Meeting Reports; and
- Property Deeds.

In response to recommendations received from the Planning Board staff and comments received at the April 11, 2023 neighborhood meeting, the site plan, landscape plan, elevations and project renderings have also been updated, primarily to reflect changes to the location, design and height of the proposed perimeter fencing and the species used for the on-site landscaping. These revisions are reflected in the accompanying renderings and the latest plan set dated April 26, 2023.

Project Overview

Somerville Substation #402, located between Prospect Street and Newton Street in Union Square, is a distribution substation consisting of two transformers, two sections of switchgear, a control house, heat exchanger, and other smaller, yet essential pieces of electrical equipment. The substation was constructed circa 1960 and is served by the Mystic generating facility located in Everett. The Substation is an essential part of Eversource's (the "Company") larger distribution network and currently supplies a large critical customer in Somerville (MassDOT), as well as being the primary supply to the Prospect Street Substation #819 in Cambridge. The proposed project is to add a third transformer (35' L x 20' H x 20' W), along with associated switchgear (20' W x 10' H x 53' L), capacitor banks, a breaker, a riser, lightning masts and associated wiring and cabling (the "Project"). The vast majority of the proposed construction will occur on vacant Eversource owned land located immediately adjacent but outside the existing Substation fence. Once complete, the new construction will be enveloped within the existing station using both perimeter walls and fencing. The Substation will remain unoccupied after the work is completed and employees will only visit as needed for maintenance and repair work.

This Project is an extremely high priority for Eversource. Adding a third transformer is essential for reliably meeting the City's future electrical load (demand). The third transformer is urgently needed and will be used to serve development that is either planned, already approved, or under construction, in areas such as Boynton Yards, Union Square, and the future Somerville Gateway Innovation Center. Eversource continually tracks and forecasts load growth over a 10-year horizon. Forecasting by the Company using the existing electrical load, along with these new and projected developments, shows the capacity of the Substation being exceeded in the summer

of 2024, jeopardizing the Company's ability to provide reliable electric service and introducing the possibility of a temporary solution being required, such as mobile generators.

To resolve capacity constraints at the Substation and at the distribution system level, the Company first introduced the project to city staff in late 2020 and was originally targeting construction to commence in the spring of 2022, with the transformer placed in service in the summer of 2023. Working with the staff, neighbors, and elected officials over the last 2+ years, the Company is now growing increasingly anxious about its ability to commence construction and being able to meet the projected load. With construction anticipated to take about 14 months, the Company needs to start construction as soon as possible to minimize potential disruptions to service.

The third transformer will increase the capacity of the substation by 62% percent and provide the needed additional capacity to support immediate and projected future load growth in the city. The design of the overall transmission system allows for this and other area stations to be responsive to load growth in the local area. The long-term solution for supplying upcoming large developments in the greater Union Square area involves the construction of a new East Cambridge Substation #8025, referred to as the Greater Cambridge Energy Project, which has an estimated in-service date in 2028. The Greater Cambridge Energy Project does not offset the need for the third transformer at Substation #402, but it will provide even more capacity to serve Somerville load over the longer-term.

System outages will be scheduled and coordinated to facilitate the work, but this should not result in existing customer outages. Prior to the commencement of construction, the selected contractor will work with Eversource on a construction management plan. This management plan, which will also include input from the city staff, will include those measures that will be necessary to address construction related concerns, such as typical work hours, contractor parking, the loading, unloading, and storage of construction materials, pest/rodent control, traffic management plans and police details, and the handling and disposal of regulated materials, dust and noise control.

The special permit being sought under this application is solely for the work at the substation. In addition to the work at the substation, new transmission and distribution lines will also be installed under separate projects. The street openings and installation of these new lines are being coordinated and permitted separately with both the City of Somerville and the City of Cambridge. The Company is also currently working with US2 on the construction of new lines through their redevelopment parcels located adjacent to the Union Square MBTA station and across to Boynton Yards, to serve future load growth in that area.

As confirmed by the Planning staff and Zoning Review Planner at Inspectional Services, the project requires a Special Permit for a Minor Utility Facility for the new transformer and related equipment. A Minor Utility Facility use is permissible in all zoning districts, but only upon the grant of a Special Permit.

Special Permit Review Criteria

The Planning Board is the permit granting authority for the requested special permit and the special permit should be granted by the Board based on satisfaction of the standards set forth in Section 9.2.5.d of the Zoning Ordinance. All such findings are more specifically satisfied for the reasons stated herein:

> Somerville Zoning Ordinance §9.2.5.d.i.a.
> Need for a facility at the proposed site taking into consideration the proximity of the area of service of the utility.

A Minor Utility Facility needs to be located in the area where the service is to be provided, sometimes referred to as the load pocket. As mentioned previously, Substation #402 is located close to the municipal boundary with Cambridge and this distribution substation provides service to both Somerville and East Cambridge. The addition of the third transformer at Substation #402 is urgently needed and will be used to serve development that is either already approved or planned for Boynton Yards, Union Square, and the future Somerville Gateway Innovation Center.

Somerville Zoning Ordinance §9.2.5.d.i.b.

Visual impact and quality of screening from abutting thoroughfares and surrounding properties.

The size, type, design, color, height, materials, and location of the equipment are consistent with industry and Company standards, designs and practices applicable to unmanned electric substation facilities, and will adequately provide for all proposed and appropriate operations of the public utility use. Upgrades to the Substation are in part dictated by the equipment and conduit (existing and proposed) within the Substation yard, both above ground and underground, as well as various easements, which limit the location and types of upgrades that are feasible, including landscaping options around the Substation. Even with these limitations, the Company is proposing substantial site improvements, which will help further screen the equipment within the yard and significantly improve the appearance of the site perimeter.

Within the existing Substation, the existing and very prominent lattice tower structure that supports a dish antenna will be removed in its entirety. Also, the rusting metal shields located atop the existing equipment wall enclosures will be removed. New metal shields will only replace a section of those that are to be removed from the wall enclosures, next to the MBTA right-of-way (ROW). Rust stains from the existing shields will also be removed from the wall enclosures. Along Prospect Street, and wrapping around to the MBTA ROW, a new semi-opaque fence will be added to further block the view of existing equipment within the Substation yard. Two small existing buildings within the Substation yard will also be cleaned and painted to improve their appearance.

Along Newton Street, the intent is to remove the existing chain-link fence and replace it with a new, more opaque fence and wall. To comply with security standards, most of the fence along Newton Street needs to be eight feet in height, but opposite Emerson Street and next to the abutting CrossFit gym,

the fence height can be reduced to six feet, since the wall at this location will provide a secure perimeter. The fence along Newton Street would be consistent in design and materials with the fencing proposed elsewhere at the substation and the Company will to work with the city staff and abutters on the final fence design. The wall, which would wrap around three sides of the proposed transformer, would not only effectively screen equipment, as required by §10.8.4 c. of the Zoning Ordinance, but it also serves as a safety barrier, directly blocking the equipment from the neighboring street and the abutting property owner. The wall will be constructed of precast concrete panels that will be finished with brick veneer panels. The height along Newton Street will vary between approx. 13' and 17' feet due to the existing grade change along the street and will be approximately 62' in length. Next to the abutting CrossFit property, the wall will have a height of approx. 18' to 24' feet and will be about 52' in length. As it wraps around the front of the station facing Prospect Street, the wall will be approximately 24' in height and about 80' in length. A larger rendering of the fence and wall is included in Attachment B.

A further advantage of the wall enclosure is that it better confines any sounds that might be generated within this area of the Substation. The transformer proposed for the project is designed to have the lowest sound levels achievable and the Company has prior experience with these units having used them elsewhere. A sound consultant was retained by the Company to characterize the existing ambient sound levels and determine what, if any, added acoustical management measures are needed to ensure the new transformer complies with the City's Noise Ordinance and MassDEP standards. With the three-sided enclosure, no additional measures were determined to be needed.

The wraparound design of the wall provides a more solid building appearance and has architectural design details incorporated into it, improving the overall aesthetic. The final design, along with the finish materials and color of the wall, can be further refined in consultation with the city staff and neighbors. The Company is also receptive

to incorporating a mural at a suitable location on the wall, should it be the desire of the neighborhood and city staff. The Company would cover reasonable costs associated with the installation of the mural and would work with the Arts Council on a suitable agreement for its installation and maintenance.

In prior discussions held with the Massachusetts Department of Transportation (MassDOT), Eversource learned that additional improvements along Newton Street, including the repaving of Newton Street between the Webster Street bridge and Emerson Street, as well as new pavement markings and new guardrails, are being installed as part of the Webster Street Bridge Replacement project. That project is now in the design stage and the selected consultant (CHA Consulting, Inc.) has been advancing that design work.

As previously mentioned, opportunities to install new landscaping at the Substation are extremely limited and dictated by above and underground equipment and conduit. Various easements within the substation yard further constrain opportunities for landscaping. At the driveway entrance to the Substation, landscaping has been incorporated into the design to introduce greenery to the site and to help the overall appearance at the Substation entrance.

Sheet C3.1 of the submitted plan set includes a landscape plan signed and stamped by a MA registered Landscape Architect, showing a planting plan, plant schedule, plant list, and paving materials. The Project site provides significant constraints in developing a robust landscape plan: including limited physical space, underground utility conflicts, substation security considerations, urban microclimate, and public safety and sightlines. Accordingly, the proposed species were selected specifically to be species that are tolerant of urban environmental conditions, narrow in growth habit so as not to encroach over the substation wall or block sightlines to and from the property, and a combination of deciduous and evergreen species to offer visual interest in all seasons. Not all species proposed are native to Massachusetts or the eastern United States, however none are considered invasive species. During the April 11, 2023 remote neighborhood meeting, a comment was made indicating an interest in utilization of all native species. As outlined above, there are significant challenges in selecting species that meet the needs of this site, resulting in a relatively short list of appropriate plants, made even shorter

when required to be native. However, the landscape plan has been revised to include a select list of alternate native species that we recommend. The Company is committed to working with the City and the abutters to develop an appropriate landscape plan and will consider any alternate appropriate plant species recommendations.

The landscape plan also identifies the species and DBH of existing trees at the perimeter of the site and on or near the common lot line that are to be removed. The Company will work with the abutting property owner who has expressed an interest in having the trees removed, which is shown on the landscape plan. The Company does not plan to keep any of the existing trees, which are all considered invasive under the City's Tree Ordinance.

> Somerville Zoning Ordinance §9.2.5.d.i.c.
> Impact and mitigation of offensive noise, vibration, smoke, dust or other particulate matter, heat, humidity, glare or other objectionable effects.

The environmental impacts of the Project are negligible. No vibration, smoke, dust or other particulate matter, heat, humidity, glare or other objectionable effects will result from this project. The substation operations will continue to produce low levels of noise that should not be noticeable due to limited sound sources at the Substation, mitigation through the wraparound walled enclosure, existing ambient noise levels in the immediate area, and the limited number of visitors to the site. There will be no deleterious effect on neighboring properties as a result of the proposed lighting for the Project. Only downward facing wall pack lighting will be affixed to the new switchgear building. This wall pack lighting will be mounted at less than 10' in height but will be sufficient to provide efficient light coverage for safety and security purposes and it may be left on overnight for safety and to deter trespassing. A typical detail for wall pack lighting is included in the plan set (Sheet C6.2 of Attachment A). Some additional lighting will be required at the transformer and capacitor banks, but this would only be switched on if needed for repair work or if needed by personnel in the yard – this lighting would not be used on a nightly basis. An existing utility pole near the driveway entrance with a floodlight fixture will be removed as part of the project. Other than the proposed wall pack lighting, the only additional lighting being proposed is at the request of the city staff. The opportunity to install additional

lighting as a decorative feature that illuminates the existing Substation yard in a sensitive, yet interesting way is being explored further, while there may also be a way to add, if requested or desired by the city staff, additional fixtures around the wraparound wall enclosure.

The only signage proposed at the Substation are small warning signs that will be posted on the main gate of the substation and at regular intervals on the fence or wall around the perimeter of the substation. A typical detail for warning signs on the main gate is included in the plan set (Sheet C6.2 of Attachment A).

Somerville Zoning Ordinance §9.2.5.d.i.d.
Location of access for servicing the facility.

No new driveways or curb cuts are proposed, the existing driveway and curb cut on Prospect Street will continue to allow for safe and efficient vehicular traffic flow to and from the Substation. This existing driveway entrance will be improved through the replacement of the existing sidewalk ramps with new ADA accessible ramps and the existing crosswalk updated in consultation with the City staff as to the desired finish standards. Curbing along the driveway will be removed and reset and new paving installed.

Substation #402 will continue to be an unmanned facility, and, therefore, the transformer and associated equipment will not result in increases in traffic volumes or negative impacts on adjacent streets and ways. Traffic generated will be limited to service vehicles performing routine inspections, testing and equipment maintenance, as necessary, and, therefore, no parking or loading spaces are required. However, there will continue to be adequate areas for parking, loading and unloading within the Substation yard. The Project will not create any line-of-sight hazards along streets, and there will be no traffic backing up onto public ways.

Just like today, the Somerville Fire Department will access the station from Prospect Street. In front of the Substation yard will be a sliding access gate, while a roll up door has been included in the wall design. Fire fighters will only access a substation during an emergency event when Eversource personnel are present and have provided the all-clear to enter.

Somerville Zoning Ordinance §15.2.1.e.a.

The comprehensive plan and existing policy plans and standards established by the City.

Because a substation use currently exists, there will not be substantial harm to the neighborhood, including residences, or derogation from the purpose and intent of the Zoning Ordinance, nor undermine the goals of the Comprehensive Plan – SomerVision 2040. The nature and purpose of the substation use is directly for the public good and benefit. Union Square is identified within Somervision 2040 as an area to Enhance, and the improvements proposed at the Substation will directly benefit the neighborhood through landscaping, perimeter fencing with high quality finish materials, and other site improvements.

> ***Collaborate with public entities and private companies. This includes gas, electric, and cellular, to provide reliable and consistent services.***
> SomerVision 2040 – Page 53

The Project will encourage the most appropriate use of land and support, enhance and promote the health, welfare, safety, economic vitality and growth of the city by providing necessary and critical electric infrastructure to ensure reliable electric service to residents, businesses and institutions. The project will also generate additional real estate tax revenues for the city.

Somerville Zoning Ordinance §15.2.1.e.b.

The intent of the zoning district where the property is located.

As previously mentioned, the 51 Prospect Street parcel is partially located in the Mid-Rise 4 (MR4) district, and the Commercial Core (CC) district. The general intent for all three districts is to implement the objectives of the Comprehensive Plan, but more specific intentions are also identified for each district.

In the MR4 district the intent is "To create, maintain, and enhance areas appropriate for smaller scale, multi-use and mixed-use buildings and neighborhood serving uses." As mentioned previously in this narrative, Somerville Substation #402 is a distribution substation and the addition of the third transformer at Substation #402 will allow Eversource to meet new load

projected for Boynton Yards, Union Square, and the future Somerville Gateway Innovation Center. This project will help provide reliable electric service that is critical to the future growth and redevelopment of the neighborhood, meeting the needs of the mixed-use and neighborhood serving uses targeted for the MR4 district.

In the Commercial Core district the intent is "To create, maintain, and enhance areas appropriate for moderately-scaled single- and multi-use commercial buildings; neighborhood-, community-, and region serving uses; and a wide variety of employment opportunities." As mentioned above, the third transformer at Substation #402 will allow Eversource to meet new load projections for the immediate neighborhood and beyond. This project will help provide reliable electric service that is critical to the future growth and redevelopment in the area, supporting the mix of use types contemplated in the Commercial Core district.

Should you have additional questions about this project, or the materials provided, please call me at 857-523-0811 or email me at eamon.mcgilligan@eversource.com. Thank you.

Sincerely,

Eamon McGilligan
Eversource Siting Specialist