

Exh. Petitioner MJB-2

VELCO St. Johnsbury Substation Project

Town of St. Johnsbury, Vermont

Aesthetic Analysis Report

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I. Introduction

T. J. Boyle Associates, LLC, a landscape architecture and planning firm located in Burlington, Vermont, was retained by Vermont Transco LLC, and Vermont Electric Power Company, Inc. (collectively “VELCO”), to conduct a visual analysis to evaluate potential impacts due to proposed upgrades to an existing substation in the Town of St. Johnsbury, Vermont (referred to as the “St. Johnsbury Substation Project” or “Project”).

T. J. Boyle Associates has conducted field investigations, analyzed geographic information system (“GIS”) data, USGS maps, aerial photography, detailed design plans, and used the latest computer technologies to best understand the Project and how it would alter the visual character of the landscape in which it is located. This aesthetic analysis determines whether changes to the landscape’s visual character attributable to the proposed Project would be adverse, and if so, whether these changes would also be undue.

II. Methodology

Section 248(b)(5) of Title 30 of the Vermont Statutes Annotated requires that the Vermont Public Utility Commission find a proposed project will not have an “undue adverse effect” on a proposed project site’s aesthetics. This requirement is outlined in the Quechee Lakes Decision (Quechee Lakes Corporation, #3EW0411-EB and #30349-EB [1986]). As explained in the Public Utility Commission’s order in Docket No. 6860, this Commission applies the Quechee Test in Section 248 proceedings, as follows:

The Public [Utility Commission] has adopted the Environmental Board’s Quechee analysis for guidance in assessing the aesthetic impacts of proposed projects under Section 248. We have previously explained the components of the Quechee analysis as follows:

In order to reach a determination as to whether the project will have undue adverse effect on the aesthetics of the area, the [Commission] employs the two-part test first outlined by the Vermont Environmental Board in Quechee, and further defined in numerous other decisions.

Pursuant to this procedure, first a determination must be made as to whether a project will have an adverse impact on aesthetics and the scenic and natural beauty. In order to find that it will have an adverse impact, a project must be out of character with its surroundings. Specific factors used in making this evaluation include the nature of the project’s surroundings, the compatibility of the project’s design with those surroundings, the suitability of the project’s colors and materials with the immediate environment, the visibility of the project, and the impact of the project on open space.

The next step in the two-part test, once a conclusion as to the adverse effect of the project has been reached, is to determine whether the adverse effect of the project is “undue.” The adverse effect is considered undue when a positive finding is reached regarding any one of the following factors:

1. Does the project violate a clear, written community standard intended to preserve the aesthetics or scenic beauty of the area?



2. Have the applicants failed to take generally available mitigating steps which a reasonable person would take to improve the harmony of the project with its surroundings?
3. Does the project offend the sensibilities of the average person? Is it offensive or shocking because it is out of character with its surroundings or significantly diminishes the scenic qualities of the area?

Our analysis, however, does not end with the results of the Quechee test. Instead, our assessment of whether a particular project will have an “undue” adverse effect on aesthetics and scenic or natural beauty is “significantly informed by overall societal benefits of the project.”

Petitions of the Vermont Electric Power Company, Inc. (VELCO), Vermont Transco, Docket No. 6860, Vt. Pub. Util. Comm’n (Jan. 28, 2005) at 79 (footnotes omitted).

T. J. Boyle Associates interprets the first prong of the Quechee test to first require an assessment of the project’s visibility. Visibility establishes the underlying method for which all visual aesthetics are evaluated to comply with the purpose of the Quechee Test. For instance, a project’s design, materials and colors may be completely out of character with its surroundings, but if such project is not visible to the general public (or “average person”), then there would be no adverse visual effect. Likewise, when a project is determined to be out of character with its surroundings, one solution that the Quechee Test offers to mitigate this is to visually obscure the project with landscape mitigation or other screening, which itself is a simple reduction or occlusion of project visibility. In this way, T. J. Boyle Associates interprets the first prong of the Quechee Test to be asking, “What is the project’s visibility, and is that visibility out of character with its surroundings?” In our experience, if the Quechee Test were not interpreted in this way then a given project could be considered adverse even if it was completely invisible to surrounding areas, which would be an unreasonable interpretation and inconsistent with the purpose of the test.

Our study area for visibility of transmission facilities tends to extend approximately two miles from a project location. This distance tells us whether a given project is, or is not, visible from prominent or protected locations in the study area, or, perhaps more importantly, if a project itself is in a prominent or highly visible location. We may find that a project has an adverse effect on a particular viewpoint, but that the project does not have an adverse impact on the surrounding area as a whole.

In conducting the Quechee Analysis and preparing this report, the following three methods have been used: (1) background data collection, (2) GIS viewshed analysis mapping, and (3) field investigation. The background data and field investigation are used to characterize the study area. The GIS viewshed mapping and field investigation are used to identify areas with potential visibility of the Project. All three methods are used to evaluate whether there are in fact “adverse” impacts, and if so, whether those impacts could be considered “undue.”

- (1) **Background Data Collection.** Standard data that can help describe the landscape of the Project site, the surrounding area, and the Project are assembled. These data include available Project plans and details, aerial photography, topographical maps, Geographical Information System (“GIS”) data including digital elevation model data, water and land cover information, transportation data and primary building data (public, commercial, residential), and applicable regulations such as the town plan, zoning ordinances, sub-division regulations, and the regional plan. As part of the background data collection, an “Aerial Context Map” is created using aerial photos as the base (see Appendix A, Map 1), which provides an overview of the general context around the Project site.



(2) **GIS Viewshed Analysis.** Following the background data collection, ESRI ArcView software is used to calculate a GIS viewshed analysis of potential visibility of the Project. Viewshed analysis mapping can identify areas that may have potential views of a project by utilizing a line-of-sight method from a prescribed point or points (such as the top of substation equipment), representing the Project to all other locations within a designated study area. Figure 1 illustrates how line of sight is determined in the viewshed analysis. The analysis results (portrayed as two viewshed maps), and background data review form the basis for organizing the field investigation.

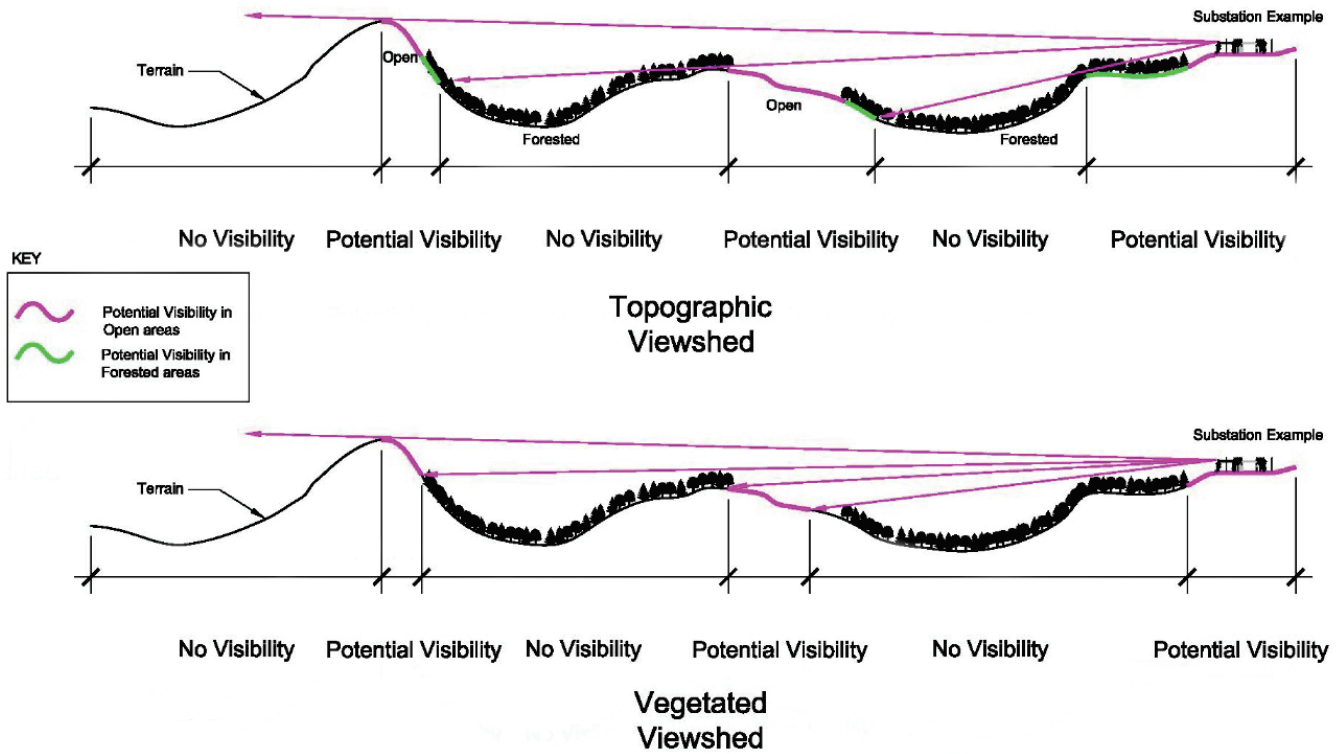


Figure 1: Terrain Viewshed and Vegetated Viewshed Diagrams. (Please note this diagram is to illustrate the results of a GIS Viewshed analysis and is not representative of the proposed Project.)

- a. First, a “Terrain Viewshed” map (see Appendix A, Map 2) is created to evaluate how the landform may block views of Project upgrades. The map differentiates potential viewing areas as “open” areas without forest cover or areas within forest cover. However, this analysis only accounts for intervening landform and does not incorporate how vegetation, buildings, hedgerows, street trees or any other vegetation or buildings would screen visibility of the Project. This map represents the maximum potential area from which the Project could be visible.
- b. Next, a second map (see Appendix A, Map 3) is created to represent a “Vegetated Viewshed.” This map shows how forest trees, in addition to landform, may block views of the Project. The data used to identify forested areas is based on the 2012 National Land Cover Database (NLCD). This analysis reflects a conservative assumption that the forest canopy is only 40 feet high, even though the canopy in the study area is typically between 50 feet and 80 feet high. The screening effect of non-forest land cover (buildings, residential landscaping, hedgerows,

street trees, and other roadside vegetation) is not included in this analysis. This map represents a more likely potential area from which the Project could be visible than the Terrain Viewshed.

When properly reviewed, these maps indicate areas most likely to have views, emphasizing areas vulnerable to the greatest impacts while also identifying areas that are unlikely to have views. The assumptions used to calculate these maps are conservative and tend to over-estimate Project visibility. Rather than serving as a final result, these maps are primarily used in preparation of the field investigation, which more fully evaluates the landscape context, views, and potential impacts based on the visibility indicated on the maps. Therefore, it is inappropriate to use these maps as the only basis to evaluate visual extent and impacts. Figure 2 illustrates the difference between the Terrain Viewshed and the Vegetated Viewshed maps.

- (3) **Field Investigation.** The viewshed maps are used to focus the field investigation on areas most likely to have views of the Project. The purpose of the field investigation is to:
- a. Verify potential visibility as indicated on the viewshed maps
 - b. Photograph views toward the Project from these and any other sensitive areas (parks, public facilities, etc.)
 - c. Photographically document the landscape’s visual character within the study area
 - d. Record notes concerning each viewpoint where photographs are taken
 - e. Identify location of photograph viewpoints using a global positioning system (“GPS”) unit

On completion of the field investigation, the GPS data is transferred to a GIS database and synchronization of the data and photograph locations are verified. Documentation of the field investigation is then prepared, which includes: (1) mapping of the routes traveled and locations of photograph viewpoints (Appendix A, Maps 1-3), and (2) a catalog of photographs or photographic inventory (Appendix B). The maps and photographic inventory are coordinated through indexed viewpoint numbers. Unless specified otherwise, all single-frame photos included in Appendix B are captured with a ‘normal lens’ or a focal length equivalent to 50mm on a full frame camera, to most accurately replicate a person’s field of view.

TJB evaluates data from the steps above and compares existing conditions with plans for the proposed Project. The following sections of this report describe in detail the collection and evaluation of data and the resulting conclusions.

III. Project Description

The VELCO St. Johnsbury Substation (the “substation”) is connected to the VELCO 115 kV electric transmission network, Eversource’s 115 kV transmission network, and the Green Mountain Power (“GMP”) sub-transmission in the St. Johnsbury area. GMP distribution systems are fed from the sub-transmission system and in turn serve GMP customers.

The VELCO St. Johnsbury Substation was originally built in 1972, with various modifications and improvements occurring over the subsequent nearly fifty years of service. VELCO conducted a condition assessment of the Substation and identified the need to replace some of the equipment due to condition.

Deficiencies were identified in equipment such as the control building, 220 circuit switcher, 34.5 kV circuit breakers, protection and control relays, and the substation fence.

VELCO proposes to address most of the substation concerns by replacing the existing control building with a larger control building, replacing the existing 220 circuit switcher with a new K220 SF6 gas circuit breaker, replacing the existing 34.5 kV breakers with new vacuum 34.5 kV breakers, replacing the protection and control panels with the construction of a new control building, and replacing the substation fence with an expanded fence. VELCO also plans to reconstruct and widen the existing driveway as well as establish a location along the driveway to provide power during Project construction.

The Project consists of the following primary components:

- Replace the existing 25' x 31' VELCO control building with a new, approximately 32' x 70' control building that will accommodate the protection and control system, redundant AC & DC station services, communication equipment, and security systems. The new control building will be located on the southern side of the substation.
- Replace the existing 220 circuit switcher with a new K220 SF6 gas circuit breaker that meets VELCO's design standards.
- Expand the fence to accommodate the new control building, and to improve access to equipment for maintenance. The substation fence expansion will be approximately 15 feet to the north, 15 feet to the west, and 55 feet to the south.
- Reconstruct and widen driveway to 20 feet with turn-around.
- Improve site drainage.
- Perform tree clearing to accommodate the temporary infrastructure, temporary substation/construction area support area, expanded substation yard and driveway improvements.
- Install a temporary substation and associated temporary driveway, poles and conductors, to maintain electrical transmission for the Project's duration.

The Project will require VELCO to install a temporary configuration to maintain service to the GMP sub-transmission system. VELCO will create a temporary substation location as well as a construction support area to the west of the existing substation. VELCO will also install a temporary driveway that is required to access the construction support area and temporary substation area. Additionally, VELCO will need to install a temporary 115 kV transmission line tap to supply the temporary substation. VELCO will remove the temporary substation components, and the temporary 115 kV lines, within twelve months after commissioning the permanent substation. The temporary substation area, construction support area, and the temporary driveway will be layered with the native topsoil removed, seeded, and mulched.

GMP will need to install temporary and permanent components. The Project requires temporary GMP 34.5 kV lines to connect the temporary substation to the existing GMP 34.5 kV lines. To aid in construction of the temporary substation, one of the GMP 34.5 kV lines will be permanently rerouted along the western side of the temporary substation and various GMP poles will be replaced to maintain clearance for the temporary access road and site grading. Additionally, a GMP 12.47 kV distribution line will be permanently extended along the western edge of the existing driveway providing station service during construction. This extension consists of two poles and associated wire. The temporary electric lines will be removed within one year of commissioning the permanent substation.

A diagram of proposed upgrades to the VELCO St. Johnsbury Substation is provided in Figure 2. Figure 3 is an oblique aerial view of the existing substation, including the adjacent overhead transmission and distribution facilities.



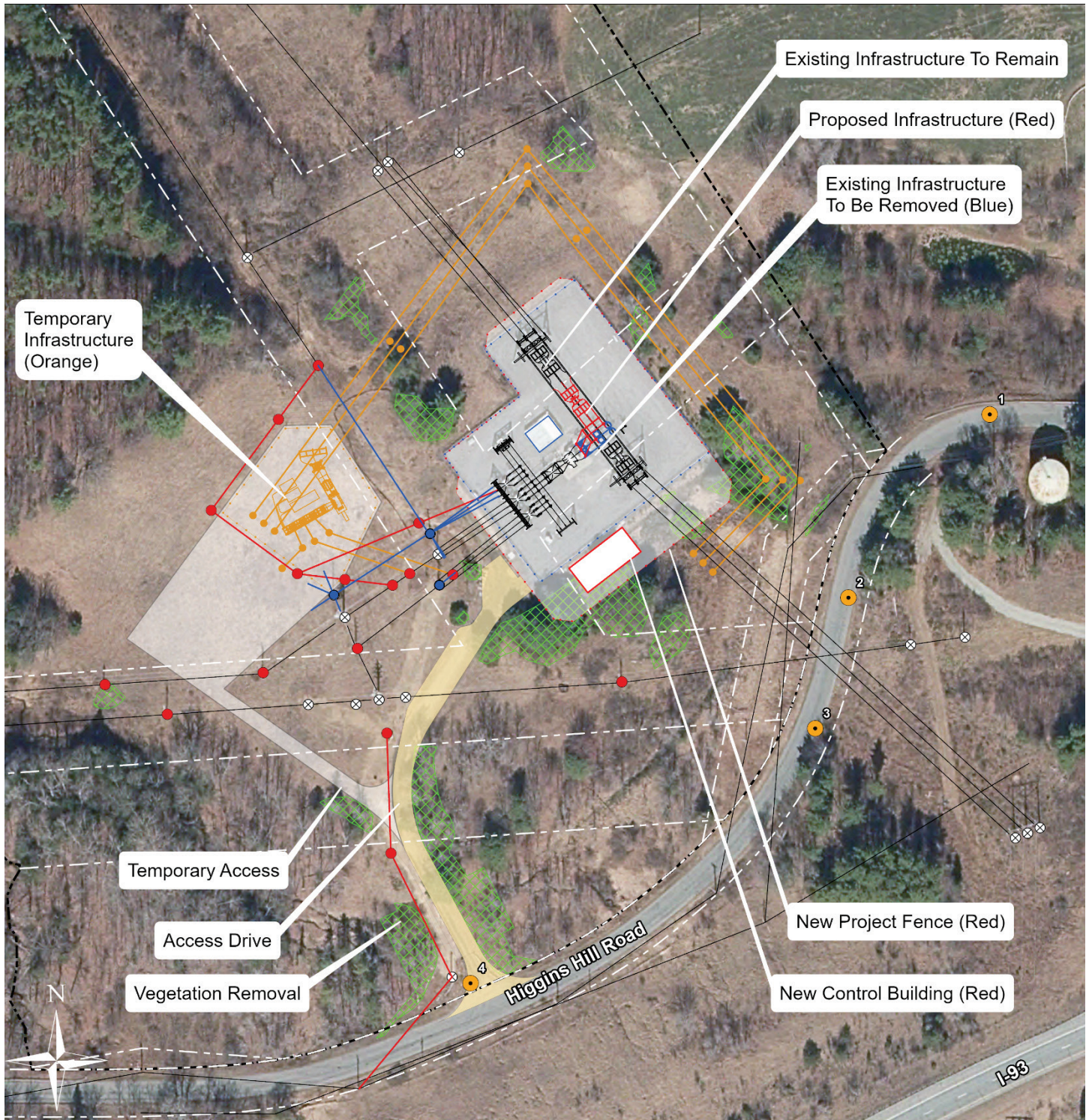


Figure 2: Proposed Substation Improvements





Figure 3: Oblique aerial view of the existing substation and surrounding overhead transmission and distribution facilities. This view is looking roughly south from the north, with Higgins Hill Road visible in the upper left side of the image.

IV. Evaluation of Adverse Impacts

The VELCO St. Johnsbury Substation is located towards the southern edge of St. Johnsbury, west of the downtown area. St. Johnsbury is within the Northern Vermont Piedmont physiographic region, east of the Green Mountains. The area is a hilly region, bisected by many rivers, with rich soils and includes several farms and small villages which tend to fragment large forest and habitat blocks. The Project site has been previously developed with the existing substation and several existing overhead transmission and distribution lines.

Although the Project site is located relatively close to downtown St. Johnsbury, the area near the Project is relatively rural character. The substation is accessed from Higgins Hill Road which passes south of the Project and Interstate 93 is further south. The terrain slopes up from the substation towards the south. There are single family residences east and west along Higgins Hill Road, which are largely buffered by intervening wooded areas. There is a large, what appears to be water storage tank, immediately southeast of the Project, and adjacent to the road. There are noncontiguous stands of woods all the way around the Project, broken up by several electrical transmission and distribution corridors, as well as several open fields. North of the substation, the terrain slopes down over 800 feet to the Moose River. North of the Moose River is US Route 2 and the terrain begins to slope up. Appendix A, Map 1 provides an Aerial Context Map within a one-mile radius of the Project.

Visibility

The attached Photographic Inventory (see Appendix B) includes Viewpoints that were documented during field investigation and represent locations with the highest potential for visibility of the Project. Images include a series of 180-degree panoramic images to provide context and character of the surrounding area and single-frame photos, captured with a 50mm equivalent focal length, to illustrate views towards the Project.

Overall, visibility of Project upgrades would be limited. As noted in the methodology sections, GIS viewshed analyses were used to identify areas from which Project upgrades would most likely be visible from. Field investigation found the GIS viewshed mapping to be closely accurate. Visibility of the Project site was primarily observed from locations on Higgins Hill Road immediately adjacent to the substation. To a lesser extent, views were also observed from further west along Higgins Hill Road near Concord Avenue, Daniels Farm Road, and adjacent properties, and also south of the Project from Interstate 93. The following section describes anticipated visibility and evaluates potential aesthetic effects under the first part of the Quechee Test.

Higgins Hill Road

Higgins Hill Road is a paved surface class 3 town highway in the vicinity of the Project. It begins west of the Project at the intersection with Concord Avenue, which continues west to connect with US Route 2 and downtown St. Johnsbury. To the east it ends at Vermont Route 18, near Interstate 93 Exit 1. Higgins Hill Road provides access to residential and agricultural properties east of downtown and south of the Moose River. Near the Project, the roadway is shaped in an S curve south of the Project and is largely separated from the substation by existing vegetation.

Viewpoints 1 through 4 (see Appendix B) are taken from the stretch of road immediately adjacent to the substation. Viewpoint 1 is taken when approaching the Project from the east. The large storage tank is immediately south of the road, and although several electrical transmission and distribution lines are visible, the substation is not. Viewpoint 2 is taken south of the substation within the VELCO corridor crossing, which opens views of the substation. The Project upgrade would expand the fenced yard towards the road and the



proposed control building would be on the south side of the substation. Viewpoint 3 is taken from slightly west of the 115 kV corridor crossing at Higgins Hill Road with views of the substation, and Viewpoint 4 is taken from further west at the access road where existing woods screen views of the substation. A large portion of the surrounding vegetation is deciduous and it's likely that views from these locations would have increased visibility of the substation and Project upgrades during leaf-off conditions. Project upgrades would result in vegetation clearing south of the Project, which would increase views from these locations, although large portions of vegetation would also be retained.

Higgins Hill Road / Concord Avenue / Daniels Farm Road

Additional visibility of the Project site was observed starting roughly 1,400 feet west of the substation on Higgins Hill Road and from the surrounding area near the intersection of Higgins Hill Road, Concord Avenue, and Daniels Farm Road. This is largely possible due to the GMP corridor that heads west from the substation. Viewpoints 5 through 7 represent views from this area. Visibility is most prominent from Viewpoint 5. Visibility is primarily of the western and northern portions of the substation and will have limited effects from the new control building and clearing. Temporary Project infrastructure, required during construction will likely have some visibility from these locations, but will be removed after completion. Most notable, the existing control building, visible from Viewpoint 7, will be removed.

Interstate 93

Visibility of the existing substation was also observed from the northbound lanes of Interstate 93 (although technically oriented to the southwest). The southbound lanes, which are further from the Project site, are screened by the northbound lanes, which are at a higher elevation. Views are represented by Viewpoints 9 and 10. Visibility is limited to isolated locations within the stretch of interstate near Viewpoints 9 and 10. The substation is not overly prominent in these views, which is downhill from the interstate and outside the general cone of vision of travelers. However, the relocated control building, associated clearing, and expansion of the fenced yard will create marginal increases to visibility of electrical transmission infrastructure from Interstate 93.

Other Roads and Surrounding Areas

Field investigation also reviewed potential visibility from other potential locations, including other locations on Higgins Hill Road, Concord Avenue, and Interstate 93 as well as from US Route 2, downtown St. Johnsbury, and Leonard Field on Almshouse Road (see Viewpoint 8). Views of the existing substation from these locations were either not observed during field investigation or either extremely limited. Visibility of Project upgrades from these locations are unlikely.

Private Residences

The closest residence is located slightly over 500 feet southeast of the substation. It appears a combination of landform and vegetation screen views from the residence to the Project site. Residences east of the substation are well screened by existing vegetation and landform. Residences with the most direct views of the Project are near the intersection of Higgins Hill Road and Concord Avenue, west of the Project, and described above.

Suitability of Colors and Materials

The Project consists of upgrades to the existing VELCO St. Johnsbury Substation. In locations where proposed upgrades would be visible, there are existing views of electrical transmission infrastructure including



limited views of the existing substation and transmission lines. Proposed improvements would include colors, materials, and textures that would be similar and within the immediate context of similar existing components.

Open Space

Previous Act 250 and Section 248 decisions do not clearly define what is meant by the term “open space”. Similarly, regional plans and town plans have differing definitions of open space, if they are defined at all. The Regional Plan for the Northeast Kingdom 2015-2023, re-adopted and updated on July 29, 2023^{1,2} (the “Regional Plan”) does not specifically define open space. There is a short discussion of Open Space in Chapter Seven: Natural Resources that states the following:

The Northeast Kingdom is composed of rolling hills, farmlands, lakes and rivers, forests, country roads, and compact village centers. These areas combined create an open, picturesque landscape unlike any other. Open space provides not only scenic beauty and wildlife habitat, but is necessary for the numerous outdoor activities enjoyed by the region’s residents and visitors, and is key to the agricultural and forestry traditions of the region. (Regional Plan at p. 187)

The above description that “rolling hills, farmlands, lakes and rivers, forests, country roads, and compact village centers” combine to create open space would essentially mean that most of the Northeast Kingdom is considered open space. Such a description lacks specificity and provides little guidance for clearly identifying what constitutes open space and where it is located.

The Regional Plan’s Current Land Use Map, which maps the region using land cover classes, appears to show the Project site as within the “Open/Agricultural” category.

The 2017 St. Johnsbury Town Plan³ (the “Town Plan”) does not use the term open space.

The United States Environmental Protection Agency, Region 1, New England provides the following description of ‘What is Open Space / Green Space’.

Open space is any open piece of land that is undeveloped (has no buildings or other built structures) and is accessible to the public. Open space can include:

- Green space (land that is partly or completely covered with grass, trees, shrubs, or other vegetation). Green space includes parks, community gardens, and cemeteries.
- Schoolyards
- Playgrounds
- Public seating areas
- Public plazas
- Vacant lots

Open space provides recreational areas for residents and helps to enhance the beauty and environmental quality of neighborhoods. But with this broad range of recreational sites comes an equally broad range of environmental issues. Just as in any other land uses, the way parks are managed can have good or bad

¹ <https://www.nvda.net/nvda-regional-plan/2018FullPlan.pdf>

² <https://www.nvda.net/files/AssessmentReport.pdf>

³ <https://docs.stjvt.com/index.php/planning-documents/town-plans/2017-town-plan/67-2017-town-plan-final/file>



environmental impacts, from pesticide runoff, siltation from overused hiking and logging trails, and destruction of habitat.⁴

If the Project location were to be considered open space for the purposes of this review, it should be noted that the Project site is not open to the public. It is already the site of the existing Substation and other electrical transmission and distribution infrastructure. Furthermore, there is limited visibility from the surroundings area onto the Project site.

Summary

Review under the first part of the Quechee Test found that the proposed Project would have limited visibility. Where visibility is likely, only partial views of Project upgrades would be possible, and views already contain visibility of existing electrical transmission infrastructure, including the existing St. Johnsbury Substation and associated transmission and distribution lines. Visibility of Project upgrades would be most prominent from a short section of Higgins Hill Road immediately adjacent to the Project, and to a lesser extent, further west on Higgins Hill Road / Concord Avenue, and for a short stretch on Interstate 93. At the closest location, the fenced yard of the Project would be setback at a minimum of approximately 130 feet from Higgins Hill Road, which is a relatively low volume, local roadway. Project's colors, materials, and textures would be similar to existing components immediately in the same context. However, the Project would include an expansion of the fenced yard, and placement of the proposed control building closer to Higgins Hill Road. The expansion would also require grading and clearing of vegetation towards Higgins Hill Road that currently helps to screen the substation. Although limited, these changes would likely increase the visibility of the substation and proposed upgrades. As a result, the Project would result in an adverse effect to the aesthetics. The level of adversity would be considered minor.

Since the Project was found to result in an adverse effect, the following section reviews the Project under the second step of the Quechee Analysis.

V. Evaluation of Undue Adverse Impacts

The following section reviews the Project under the second part of the Quechee Test.

A. Community Standards

Although Section 248 projects are exempt from municipal zoning and related permits, local plans and regulations are reviewed under the second prong of the Quechee test where it has been determined that a project may have a potential adverse visual impact. Under Quechee, this involves an assessment as to whether or not a project violates a clear, written community standard intended to preserve the aesthetics or scenic beauty of the area. In Docket No. 7508, the Public Utility Commission held that “[i]n order for a provision to be considered a clear, written community standard, it must be ‘intended to preserve the aesthetics or scenic beauty of the area’ where the proposed project is located and must apply to specific resources in the proposed project area.”⁵ The Commission clarified that generalized statements and general scenic resource policies that are not focused on a particular scenic resource or that fail to offer specific guidance or measures to protect

⁴ <https://www3.epa.gov/region1/eco/uep/openspace.html>

⁵ Petition of Georgia Mountain Community Wind, LLC, Docket No. 7508 at p. 52



the resource cannot be considered “clear written community standards.”⁶ The Commission has further clarified that any such standard must expressly “designate the [project] parcel as a scenic resource worthy of protection.”⁷

For the St. Johnsbury Substation Project, available local and regional planning documents were reviewed to determine if the Project would violate a clear written community standard. These include the Regional Plan and the Town Plan. A review of these plans pertaining to aesthetics, or the Project site are as follows:

REGIONAL PLAN

CHAPTER FOUR: HISTORIC, CULTURAL & SCENIC RESOURCES

Historic & Scenic Resources

Preserving historic, archeological, and scenic resources enables communities to retain links to their past, maintain their traditions (including quality of life), and can bring economic benefits through increased property values and tourism. Indeed, there are federal and state programs to assist communities with preservation. Tourism has been increasingly beneficial for much of the New England region, and particularly for Vermont due to its abundance of scenic resources.

(Regional Plan at p. 124)

Goals And Strategies For Historic, Cultural & Scenic Resources

Historic, Cultural & Scenic Resource Goals

- Future development should follow traditional development patterns, while providing for economic development opportunities and livable communities.
- Significant historic, cultural, and scenic resources within the region should be identified and preserved.

Historic, Cultural & Scenic Resource Strategies

- Promote local and regional tourism, since it is an important part of our economic base.
- Assist communities to preserve and maintain historic downtowns, village centers, buildings, and rural and scenic landscapes.

(Regional Plan at p. 129)

CHAPTER SIX: ECONOMIC DEVELOPMENT

II. Regional Economic Sectors

Visitor and Tourism (Star)

Recognized water trails located within the Northeast Kingdom include the Passumpsic Valley Riverway, a 20-mile water trail from East Burke to Barnet; the Northern Forest Canoe Trail, a 723-mile historic trail, follows a route used by native Americans to move from Lake Champlain to the Connecticut River Watershed; and the recently designated Connecticut River Water Trail are all popular canoeing waters. In the northwest part of the region, the Missisquoi River was recently designated as Wild & Scenic River by the federal government.

⁶ Id. at 53.

⁷ Petition of Rutland Renewable Energy, LLC, Docket No. 8188, Order of 3/11/15 at 85-86.



(Regional Plan at pgs. 164-165)

CHAPTER SEVEN: NATURAL RESOURCES

I. Overview

The Northeast Kingdom is recognized for its diverse wildlife, large undeveloped areas, and vast woodlands. The region's natural resources (depicted in Figure 7.1 on the following page) provide residents and others a variety of benefits. The largest source of revenue in the region is from outdoor recreation, and much of the tourism industry relies on the healthy and scenic environment to remain viable.

Therefore, the natural resources in the Northeast Kingdom have intrinsic scenic and economic values that require careful consideration when making planning decisions. The overarching goal for the region is to balance local economic needs with the protection of the resources that so many of region's residents enjoy and depend upon.

(Regional Plan at p. 172)

V. Wildlife Habitats

Open Space

The Northeast Kingdom is composed of rolling hills, farmlands, lakes and rivers, forests, country roads, and compact village centers. These areas combined create an open, picturesque landscape unlike any other. Open space provides not only scenic beauty and wildlife habitat, but is necessary for the numerous outdoor activities enjoyed by the region's residents and visitors, and is key to the agricultural and forestry traditions of the region.

(Regional Plan at p. 187)

Goals and Strategies for Natural Resources

Natural Resource Goals

- Private, public and community interests should be considered in matters affecting local recreation and open space.

(Regional Plan at p. 189)

In general, the Regional Plan (including the 2023 update) covers a wide range of topics for the region including land use, housing, economics, cultural resources, energy generation and consumption, as well as other community issues. The Regional Plan recognizes the importance of scenic resources within the region but does not specifically call out the Project site itself for scenic protection. The Regional Plan was amended in 2018 to incorporate Chapter 2, which was certified by the Vermont Public Service Department as an Enhanced Energy Plan. Chapter 2 includes limited siting policies for solar and wind generation, but these do not directly address scenic quality or scenic resources and do not include siting standards for electrical transmission infrastructure.

Based on our review, the Regional Plan does not provide clear written standards intended to preserve the aesthetics or scenic beauty of the area, either for the Project site or the area surrounding the Project. The Regional Plan provides general statements and offers support, recommendations, and guidance for its member municipalities to implement scenic resource protection within their communities, but these do not rise to the level of a clear written community standard intended to preserve the aesthetics or scenic, natural beauty of the area.



A review of the various Regional Plan maps did not reveal any protections or significant scenic resources at the proposed Project location.

TOWN PLAN

HISTORY

St. Johnsbury is surrounded by natural beauty complemented by agriculture. Our farmer's market is thriving. Named the best small town for adventure by National Geographic for our access to a diversity of outdoor recreation — street and off-road cycling, hiking, canoeing and kayaking, mountain biking, skiing —St. Johnsbury attracts tourists and vacationers year-round.

(Town Plan at 10)

GOAL 1.0: Maintain and protect St. Johnsbury's assets so as to enable and sustain economic growth through new business, tourism, and creative endeavors.

1.9 Preservation and Conservation Policy: Protect the buildings, waterways, wetlands, valleys, hillsides, and historic sites that represent our natural resources, history, heritage, and scenic beauty.

B. Maintain and protect our natural landscapes and historic buildings, waterways and hillsides, preserving our scenic resources.

(Town Plan at 19-20)

GOAL 2.0 Position the Town for economic growth: target strong businesses and industry that advance the policies of the town; diversify our workforce; increase our housing stock for young professionals, established retirees, young families, second home owners, and residents requiring supported housing; and increase our tourism market share.

2.9 Preservation and Conservation Policy: Protect the buildings, waterways, wetlands, valleys, hillsides, and historic sites that represent our natural resources, history, heritage, and scenic beauty.

(Town Plan at 25)

GOAL 3.0 Execute plans that will transform our standard of health and well-being while supporting town policies and measuring for success and sustainability.

3.9 Preservation and Conservation Policy: Protect the buildings, waterways, wetlands, valleys, hillsides, and historic sites that represent our natural resources, history, heritage, and scenic beauty.

(Town Plan at 29)

Preferred Siting Criteria:

SOLAR:

Ensure that alternative and renewable energy generator fields (i.e.: solar) are placed so as to maintain and preserve the historic character of the compact village and views of rural countryside and preserve any site of scenic value to the community

(Town Energy Plan at 22)



Similar to the Regional Plan, within the Town Plan, St. Johnsbury acknowledges the presence of scenic resources within the town and the importance of those resources for tourism, conservation, and the well-being of the residents. However, the Town Plan does not identify specific scenic resources nor does the Town Plan provide guidance on how to protect scenic resources. On September 30, 2021, St. Johnsbury received a Certificate of Energy Compliance for the St. Johnsbury Enhanced Energy Plan, adopted August 9, 2021⁸ (the “Town Energy Plan”). The Town Energy Plan focuses on the conservation and generation of energy and how to meet goals for the town as required by the State of Vermont with guidance from the Northeastern Vermont Development Association. The Town Energy Plan does not provide guidance regarding aesthetic or scenic impacts other than a brief statement in association with the siting of solar generation projects.

In review, both the Regional and Town Plan recognize the importance and value of scenic resources within the area. The Project site is not in a designated scenic resource or visible from an identified scenic resource from either plan. Neither plan provides a clear written community standard which would apply to the Project. In review of the Regional and Town Plans, the Project would not violate a clear, written community standard intended to preserve the aesthetics or scenic beauty of the area.

B. Mitigating Elements

The Project incorporates several mitigating elements to help significantly reduce potential adverse aesthetic impacts. Mitigation for the Project includes:

- Most importantly, the Project consists of upgrades to an existing transmission substation. The Project site is currently characterized by electrical transmission, sub-transmission, and distribution infrastructure. The Project does not introduce electrical transmission infrastructure into new areas. Upgrades would result in modest changes to the amount of infrastructure visible within the surrounding area.
- The Project is setback from nearby roads and residences and takes advantage of surrounding landform and vegetation to screen the Project from the surrounding area. The Project will retain the majority of the surrounding features that screen it from the adjacent landscape.
- Where the Project does result in regrading of landform and vegetation clearing along the south of the substation, landscape mitigation plantings are proposed to reestablish similar screening to what currently exists. The Landscape Mitigation Plan is attached as Appendix C to this report and specifies the location, type, size, and quantity of proposed landscape plantings. Proposed plantings incorporate a mix of evergreen trees, and deciduous and evergreen shrubs. In time, the proposed plantings will strengthen year-round screening of transmission infrastructure from the surrounding area.

Mitigation incorporated with the Project would reduce and limit the extent of potential adverse impacts and in time, would further reduce visibility of the substation. These efforts represent generally available mitigating steps which a reasonable person would take to improve the harmony of the Project with its surroundings.

C. Shocking and Offensive

When evaluating whether a project would offend the sensibilities of the average person, the criteria to make this assessment is related back to the first part of the *Quechee* Test; how the project ‘fits’ within its surroundings. An ‘average person’ is considered a disinterested party, not an affected neighbor. The threshold for a project

⁸ <https://docs.stjvt.com/index.php/planning-documents/town-plans/2017-town-plan/738-st-johnsbury-enhanced-energy-plan-adopted-2021-08-09/file>



to be shocking or offensive is high, and a project would need to be entirely inconsistent with the surrounding land uses or exceptionally out of scale with the surroundings.

The overall finding is that the Project would result in an adverse impact to the aesthetics of the area. However, the level of adversity would be very minor. The proposed Project upgrades would not offend the sensibilities of the average person; it would not be offensive or shocking. This determination is based on a number of factors that were assessed during the aesthetic analysis:

- The Project consists of upgrades to existing electrical transmission facilities that are an established component of the visual landscape.
- Proposed upgrades would not substantially increase the amount or extent of visible transmission infrastructure from the surrounding area.
- Project upgrades would incorporate similar colors, materials, and the general appearance of components which they are replacing.
- Existing vegetation surrounding the substation would largely be retained that would continue to screen visibility of the existing substation and Project upgrades from the surrounding area.
- Where clearing is proposed, landscape mitigation plantings are proposed that would replace and in time reinforce vegetative screening of transmission infrastructure within the area.

Again, the Project proposes upgrades to an existing substation that is an established component of the visual landscape within the area. Based on these facts the Project would not be shocking or offensive.



VI. Findings and Conclusions

In review of upgrades proposed as part of the VELCO St. Johnsbury Substation Project, we conclude that the Project would result in an adverse impact to the aesthetics and scenic and natural beauty of the area in which the Project is located. This determination is largely based on limited expansion of the substation yard to the south and associated grading and clearing. However, the level of adversity would be minor. Under the second part of the Quechee Test, a positive finding was NOT determined for any of the three criteria.

- 1) The conformance review found that the Project did not violate a clear, written community standard intended to preserve the aesthetics or scenic beauty of the area. Review of the Regional Plan and Town Plan did not find standards that specifically designated the Project site as a scenic resource or provided other scenic standards applicable to the Project.
- 2) VELCO has incorporated generally available mitigating steps which a reasonable person would take to improve the harmony of the Project with its surroundings. The Project utilizes an existing facility, is setback from nearby locations with potential visibility, and utilizes existing vegetation to screen and soften potential views. Additionally, landscape mitigation is proposed along the southern edge of the substation where clearing and grading would likely result in limited increased visibility.
- 3) The Project would not be shocking or offensive. Although the Project was found to result in adverse impacts, the level of adversity would be minor. Project upgrades include limited incremental expansion of transmission infrastructure at an existing substation, which is part of the established visual landscape. It would not shock or offend the sensibilities of an average person.

In conclusion, the VELCO St. Johnsbury Substation Project meets the Quechee Test insofar as its impact on aesthetics would NOT be UNDULY ADVERSE.



Appendix A

Project Maps 1-3





Appendix B

Photographic Inventory of Existing Conditions





Appendix C

Landscape Mitigation Plan



