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# Memorandum

**To:** Vermont Public Utility Commission Case No. 20-1261-NMP  
**From:** Matthew Robinson, Department of Public Service Consultant  
**Date:** 12/29/2020  
**Reference:** Richville Road Solar Aesthetics Review

## Comments:

### I. Project Description

The Vermont Department of Public Service (the "Department") retained Environmental Design and Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. ("EDR") to perform an independent aesthetic review of a proposed 500 kW MW solar electric generation facility in the Town of Manchester, Bennington County, Vermont. The Richville Road Solar Project (the "Project") is proposed for development by MHG Solar, LLC on a parcel of land on the northwest side of Richville Road. The Project will occupy approximately 3.2 acres of a 5 +/- acre leased area, within an 8.2-acre parcel.

The panels will be mounted on rack systems supported by pile-driven posts. The ground mounted photovoltaic system will include approximately 15 rows of panels with a fixed tilt angle of 25 degrees oriented to the south. The total height of the panels will not exceed 9.5 ft. in height above ground level, and they will be approximately 4 ft. off the ground to allow for flood conditions. In addition to the non-reflective photovoltaic modules, Project components will include inverters and MDP banks located on a rack system at the south end of the panels. The AC power will tie into three pole mounted transformers. The PV arrays, transformer, and inverters will be enclosed by a 7-foot-tall agricultural style fence. The Project will connect to the grid through underground 480v feeders at the southern end of the Project array. The Project will connect to the overhead power through one new above-ground utility pole that will be located on the Project parcel. The new utility pole is proposed at the southern end of the Project array and will connect to an existing Green Mountain Power 3-phase utility line that runs north-south along the west side of Richville Road.

Some site clearing is proposed for the construction of the Project array and to limit shading of panels primarily along the western side of the Project. Tree and vegetation removal will be limited to what is required for site preparation and functional operation of the array. No site grading is proposed. The site will be accessed from Richville Road and enter the site from the south end of the Project array.

## II. Methodology - Quechee Test

At the time the Petitioner filed for a Certificate of Public Good, it was anticipated that the Vermont Public Utility Commission (the "PUC" or "Commission")<sup>1</sup> would utilize the principals outlined in the Quechee Analysis to determine whether the Project will be in harmony with its surroundings and fit into the landscape context in which it is being proposed. The Commission applies the Quechee Analysis in Section 248 proceedings in the following manner:

In order to reach a determination as to whether the Project will have undue adverse effect on the aesthetics of the area, the Commission employed a 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 scenic and natural beauty. For a project to have an adverse impact, it must be out of character with its surroundings. The evaluation examines the following specific factors to help make this determination: 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.

Once a conclusion as to the adverse effect of a project is reached, step two is to determine whether any adverse effect of the project is considered to be "undue." An adverse effect is considered to be 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 of scenic beauty of the area?
2. 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?
3. Has the Petitioner failed to take generally available mitigation steps which a reasonable person would take to improve the harmony of the project with its surroundings?

The analysis, however, does not end with the results of the Quechee test. Instead, the 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. Serv. Bd. (Jan. 28, 2005) at 79 (footnotes omitted).

In the case of the Richville Road Solar Project, the Petitioner's consultant, Trudell Consulting Engineers ("TCE"), answers the first question of the Quechee test by breaking it down into the following components;

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<sup>1</sup> Formerly the Vermont Public Service Board. The Vermont Public Service Board's name was changed to the Vermont Public Utility Commission, effective July 1, 2017. For clarity, and consistent with the Commission's own guidance, orders and actions of and references to the Vermont Public Service Board occurring before the name change will be referred to as activities of or references to the Commission.

- *What is the nature of the Project's surroundings?*
- *Is the Project's design compatible with its surroundings?*
- *Are the colors and materials selected for the Project suitable for the context within which it is located?*
- *From where can the Project be seen?*
- *What is the Project's impact on open space in the area?*
- *Conclusion of step one of the Quechee Analysis*

In EDR's opinion, this approach is consistent with the intent of the Quechee Analysis and provides an acceptable means of determining whether the Project could have adverse visual impacts and whether those impacts could potentially be considered undue adverse visual impacts.

*What is the nature of the Project surroundings?*

The Petitioner described the surrounding landscape within an approximately 0.5-mile radius, including the location and types of residences and businesses within the vicinity of the Project. A photographic inventory is provided to show context of the site and surrounding areas. A description of the land uses within the 0.5-mile radius Project vicinity are also described. The Petitioner provided a description of the vegetation and landscape on-site and within the immediate (0.5-mile radius) vicinity of the Project, as well as where the site sits and the vegetation within a broader landscape. A description of the scenic value of the area is also provided.

Overall, the Petitioner provided a detailed description of the landscape found within 0.5 mile of the Project, with a general description of the area beyond 0.5 mile, including the current zoning districts and the existing natural and built features in proximity to the site, as well as the scenic value of the area, that adequately described the character of the Project surroundings.

*Is the Project's design compatible with its surroundings?*

Based on its compatibility with adjacent land use, and the Project's lack of excessive exterior lighting, traffic, noise, odors and dust, EDR agrees with the findings of the Petitioner's report that the size and scale of this Project is compatible with its surroundings.

*Are the colors and materials selected for the Project suitable for the context within which the Project will be located?*

The Petitioner states that the colors and materials of the photovoltaic arrays and perimeter agricultural style fence are suitable for the context of the area, which EDR agrees with these findings.

*From where can the Project be seen?*

The Petitioner conducted a 2-mile radius viewshed analysis, as well as a site visit to determine Project visibility. A viewshed analysis map is provided as Figure 1 in the Appendix of the Aesthetic Assessment. The viewshed analysis considered both topography and tree cover. Based on the viewshed analysis the Petitioner concluded that the Project site had potential to be seen from limited portions of the surrounding areas due to the varied terrain of this region. During the site visit the Petitioner concluded that the eastern, northeastern, and southeastern side of the Project array will be visible from public viewpoints within an

approximately 0.25-mile area along Richville Road. More specifically, at the intersections of Richville Road and Green Mountain Road, Richville Road and East Manchester Road, and Natural Form Way and Richville Road, as well as along limited areas of Valley Pass. The Project is not expected to be visible from residential subdivisions or properties at higher elevations to the west, the Town Center district, Manchester Village, US Route 7A, US Route 7, or the Lye Brook Falls Trailhead and Trail.

The Petitioner also concluded that there are approximately ten residences or businesses near or adjacent to the Project site that will have visibility of the Project, some of which will have direct views. These residences or businesses will have varying degrees of visibility. Some are expected to have partial, filtered, and limited visibility of the Project because of existing intervening vegetation, structures, and buildings. The proposed visual mitigation plan is anticipated to further mitigate the views and reduce Project visibility from these residences, as well as Richville Road, Green Mountain Road, East Manchester Road, and Natural Form Way. Most residences along Green Mountain Road and Valley Pass are not expected to have views of the Project due to their orientation, and the intervening structures and existing vegetation that will block potential views.

The Petitioner determined that public views along public roads, such as Richville Road, Green Mountain Road, Valley Pass, East Manchester Road, and Natural Form Way, are not considered adverse, because with the addition of the proposed landscape mitigation plan and relatively short duration of viewing time while traveling these roads within the limited viewshed area. However, in the case of private residences and businesses that will have direct views of the Project, the Project visibility could potentially be considered adverse because they will have stationary views.

Based on the review of the viewshed and site visit conducted by the Petitioner, and the corresponding site visit and analysis taken by EDR, EDR agrees with their findings and conclusions.

*What is the Project's impact on open space?*

The Petitioner states that the Project will not result in the permanent loss of any meaningful open space. The parcel under consideration is not currently or anticipated to be within any planned open space and is not accessible to the general public. In addition, the Project is designed to preserve views to the Taconic Mountains to the west. EDR agrees with the conclusions regarding impacts to open space.

The report provided by TCE also included the following graphics:

1. Visibility Analysis Map
2. Context Map and Photo Inventory
3. Manchester Town Zoning Map (2018)

EDR has reviewed these maps and photos and determined them to be accurate and correct. This conclusion was reached through a site visit and desk-top review utilizing Google Earth and Google Street View to highlight distinctive features within the aerial context map and the coinciding photographic inventory (Exhibit MHG-LT-1). EDR did not run an independent topographic or vegetative viewshed analysis using the same ESRI software to confirm the accuracy of the map provided by the Petitioner's consultant. However, as part of our review, a viewshed was created using Google Earth to produce a topography only viewshed, which confirmed the accuracy of the analysis provided by the Petitioner.

*Conclusion of step one of the Quechee Analysis:*

EDR concurs with TCE's conclusion that the proposed Project does not result in an adverse aesthetic impact on the visual resources of the area. This is due to the limited opportunities for open views toward the Project and lack of impact to open space. The materials provided by TCE indicate there are several private residences and business that will have more direct and stationary views of the Project and concluded that the Project could be considered adverse from their view location. EDR agrees with this conclusion. However, TCE's proposed visual mitigation plan is anticipated to mitigate the views and reduce Project visibility from these residences and businesses, which EDR also agrees with.

*Step two of the Quechee Analysis*

TCE provided an explanation of compliance with the three factors used to determine whether a Project presents an unduly adverse aesthetic impact under step two of the Quechee Analysis. First, based on review of the local and regional plans, the Project does not violate any clear, written community standard intended to preserve the aesthetics or scenic beauty of the area. Second, the Project does not offend the sensibilities of the average person because it is not out of character with its surroundings or otherwise significantly diminish the scenic qualities of the area. Third, the applicant has taken generally available mitigating steps that a reasonable person would take to improve the harmony of the Project with its surroundings.

TCE concluded that the Project does not create an undue adverse aesthetic impact on the visual resources of the area. EDR agrees with TCE's conclusion.

### **III. Community Standards**

Based on EDR's review of the Town of Manchester planning documents, the Bennington Regional Planning Commission (BCRC) plan, and information provided by TCE, the written community standards and recommendations that regulate or guide aesthetics allow for the proposed use of the Project site. Along with the acknowledgment of the PUC via the Town Compliance Letter that this location does in fact meet the criteria of a "preferred site" for solar facilities, it is reasonable to conclude that the Project will have no adverse impact to existing community standards.

#### **Shocking and Offensive**

The Project is not considered to be shocking or offensive to the average person. The limited views where the Project will be visible are mitigated by the proposed landscape mitigation plan in conjunction with existing mitigating factors like the relatively short duration of view and highly limited viewshed area. In addition, the Project fits with existing land uses and is not within an area considered to have scenic value.

### **IV. Mitigation Elements**

The mitigation elements put forth by the Petitioner, include the use of densely branched, overlapping, deciduous and evergreen plants installed at the height of 10-12 feet, to reduce visibility by buffering and filtering views to the Project area from adjacent neighbors and vehicular traffic along Richville Road and Green Mountain Road. The proposed landscaping plan provides adequate vegetative material to mitigate views of the Project, while also preserving the view to Mount Equinox and the Taconic ridgeline which are the focal point of the view and provide the scenic value of the Project area. The proposed plant material is

acceptable based on the Town of Manchester's request for average plant material height around 12' mature height. The proposed 100-foot setback of the array from the road, allows the proposed plant material selected to achieve reduced visibility of the Project while preserving the views to the Taconic mountains. EDR finds these mitigation measures to be appropriate for the size, scale and visibility of the proposed Project. Additional detail for the Project area's seed mix should be included as part of the mitigation plan.

## **V. Orderly Development**

Through a comprehensive review of the local and regional planning documents, EDR concurs with the findings of TCE that the orderly development of the region will not be impacted by installation of the Project. The Town's Compliance Letters and the BCRC Letter support this conclusion by stating that the Project is located on a "preferred site". In addition, this Project:

- Complies with Section 4.5 Screening of Energy Generation Facilities of the Manchester Energy Plan, dated February 18, 2020 (proposed for March 24, 2020, public hearing before the Selectboard),
- Complies with the land conservation measures and specific Town policies found in the Town Plan, and
- Will help meet regional energy goals.

## **VI. Procedural Order Granting Intervention and the Department's Request for Additional Time**

Regarding the Procedural Order issued by the Commission on August 27, 2020, the Commission requested that the reviewing consultant explain whether it is necessary for the Commission to see visual simulations of the proposed vegetative screening at the time it is planted and when the vegetative screening reaches maturity. The Landscape Mitigation Plan submitted by Petitioner (Exhibit - MHG-LT-2) provides detail on the design (species and placement) of the suggested material. However, an additional understanding/analysis of how the Landscape Mitigation Plan, and the removal of existing vegetation may impact the view would further the Commission's understanding. The materials reviewed provide sufficient information for conclusions to be drawn in the aesthetics review but do not provide sufficient analysis for the Commission to visualize how the location of the proposed planting, along with tree clearing, may impact the described scenic view from travelers entering Manchester and the residents living along Richville Road.

This additional analysis to further the Commission's understanding of the project could be accomplished through the production of line-of-sight analysis or a visual simulation showing the vertical relationship of the proposed plantings and potential view lines to the mountains behind.

In response to the Department's request for information, the Petitioner submitted three Line-of-Sight Analyses (Exhibit MHG-TH-12) showing the potential views to the adjacent mountain range. The analyses provided demonstrate that the selection of plants chosen for the Landscape Mitigation Plan will, at a mature height, accomplish the desired screening of the proposed Project while allowing for the important gateway views to the adjacent mountains to remain. By maintaining the open roadside view as shown in the Line-of-Sight Analyses, the scenic landscape will be visible for travelers entering Manchester Center along Richville Road. The mitigation as shown will provide screening of the proposed Project from the residential homes along Richville Road and additionally Green Mountain Road.

## VII. Findings and Conclusions

Based on the findings of the Petitioner's analysis and EDR's review, EDR concludes that the Project as proposed will not result in adverse impacts to the aesthetics and the scenic beauty of the visual study area.

The Project *would not* result in an adverse visual impact, or an undue adverse visual impact because:

- The Project is located in an area where the topography and vegetation of the surrounding landscape effectively screens views of the Project from the vast majority of the visual study area.
- The Project height remains low and preserves views to the west of the Taconic Mountain Range, which minimizes perceived change in land use and visual contrast with the surrounding landscape.
- The Project does not violate a clearly written community standard intended to preserve the aesthetics or scenic beauty of the area according to the Town of Manchester planning documents, and the Bennington Regional Planning Commission (BCRC) plan. Designated as a "preferred site" for solar facilities by the Commission via the Town Compliance Letter, this location further addresses the criteria set forth through the community standards.
- EDR finds the Landscape Mitigation Plan and the measures set forth, provide the appropriate amount and type of vegetative material to mitigate views of the Project, while also preserving views to Mount Equinox and the Taconic ridgeline.
- The proposed plant material in the Landscape Mitigation Plan meets the Town of Manchester's request for average height of mature plant material.
- The Project will not be shocking or offensive to visitors of Manchester Center. Although potentially visible on one of the various routes used to access Manchester Center, the Project will not be out of place in the existing landscape and will not create a new discordant feature or focal point within the view.
- Based on the contents of the Procedural Order related to this Project, EDR finds that additional analyses will assist the Commission in evaluating the Petitioner's submittal and further understanding potential visual impacts.
- EDR finds that the Line-of-Sight Analyses provided in response to the Department's request efficiently demonstrates that site lines to the adjacent mountains will be maintained when plants reach mature height.

In conclusion, EDR believes that the Richville Road Solar Project meets the requirements of the Quechee Test, and that the additional information provided by the Petitioner supports EDR's conclusion.