Intervenors EXHIBIT 8

Exhibit CS-MK-2

Visual Assessment Report

Intervenors EXHIBIT 8

Chelsea Solar Project | Visual Assessment Report

November 2017

Prepared by:

SE GROUP

Contents

PART I: PROJECT BACKGROUND AND CONTEXT 2
SECTION A: SCOPE OF WORK 2
SECTION B: EVALUATION METHODOLOGY AND APPROACH 3
SECTION C: PROJECT DESCRIPTION 4
GENERAL DESCRIPTION 4
EXISTING VISUAL CONTEXT 5
PART II: QUECHEE TEST 7
SECTION A: PROJECT VIEWSHED 7
VISIBILITY FROM NEARBY PUBLIC VANTAGE POINTS 7
PROJECT VISIBILITY FROM NEARBY RESIDENTIAL AREAS 10
PROJECT VISIBILITY FROM THE BENNINGTON MONUMENT 10
POTENTIAL FOR GLARE 11
VISIBILITY OF THE PROPOSED LINE EXTENSION 13
SECTION B: 3D PERSPECTIVE AND PHOTOSIMULATION ANALYSIS 15
3D ANALYSIS METHODOLOGY 15
CRITICAL VIEWPOINTS ANALYSIS 16
SECTION C: ASSESSMENT OF POTENTIAL VISUAL IMPACTS 23
TEST FOR ADVERSE IMPACT 24
CONCLUSION ON ADVERSE IMPACT 27
TEST OF UNDUE ADVERSE IMPACTS 27
PART III: OVERALL CONCLUSION 45

PART I: PROJECT BACKGROUND AND CONTEXT

SECTION A: SCOPE OF WORK

Pursuant to Title 30 Section 248 governing the review of energy generation facilities and transmission projects, SE Group has prepared an analysis of potential aesthetic impacts of Chelsea Solar LLC's proposed Chelsea Solar Project ("Project"). The scope of this assessment addresses the requirements under section 248(b)(5). 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 aesthetics, which the Vermont Public Utility Commission assesses utilizing the following two-part test ("the Quechee Test"):

> *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."[1]

SECTION B: EVALUATION METHODOLOGY AND APPROACH

First, SE Group thoroughly reviewed the applicant's engineering and design materials and documents to understand the Project scope and scale, its location, characteristics and setting. We have also sought additional information on the Project and its setting from published sources including GIS data, town plans, ANR mapping, etc. We have reviewed the manufacturer's information on the nature of the proposed solar panels, inverter enclosures, and transformers related to their appearance and potential to create glare.

Second, we reviewed the potential viewshed of the Project initially using Geographic Information Systems (GIS) tools. Given the relatively "flat" nature of the terrain and the low height of the proposed structures, we augmented the GIS analysis with fieldwork to validate areas of potential visibility. A more detailed discussion of how we determined the viewshed can be found in Part II–Section A.

After defining the likely extent of the viewshed, we also identified several key viewpoints from which the proposed solar field could be seen. We collected photographs and catalogued landscape and visual resource characteristics from these viewpoints. We prepared cross-sections and photo-simulations from representative viewpoints to understand the scope and scale of visibility and the factors affecting it.

We evaluated these technical factors (where can it be seen, what would it look like, etc.) against the qualities and sensitivities of the visual environment. We have employed the

[1] *In re Vermont Elec. Power Co., Inc.*, Docket No. 6860, Order of 1/28/05 at 79 (footnotes omitted).

Quechee Test for this process to consider the potential impacts of the Project on the surroundings. This process is described in detail in Part II of this report.

SECTION C: PROJECT DESCRIPTION

GENERAL DESCRIPTION

The Project will be located on a portion of a presently undeveloped 27+/- acre parcel of land ("subject property") just north of the US Route 7 / VT 279 Interchange in the Town of Bennington, Vermont. The site is identified locally as Parcel 29503100. According to the most current Bennington Town Plan and Zoning Ordinance, the parcel is designated Rural Conservation.

The Project site is nearly completely wooded with mostly northern hardwood species and a dense understory. A presumptive class II wetland near the southwest corner of the subject property has been identified by the Petitioner. The footprint of the Project avoids any impacts within the vicinity of this identified wetland.

The Project will consist of solar arrays[2] containing low-reflective photovoltaic modules, oriented to the south and placed on racks driven into the ground. The racking system is designed so that the bottom of the lowest panel (each rack is a combination of multiple modules) is about 36 inches above the natural terrain. The overall height of the modules will maximally be between 7 and 8 feet with a tilt of 15 degrees. No grading is planned, as the racks will be set on posts driven into the ground. The overall production (nameplate capacity) for the system is expected to be 2.0MW (AC).

The array is set approximately 200 feet back from US Route 7 along the western edge of the site. Primary access to the array will consist of a gravel access road from the south. This access road is approximately 1,900 lineal feet and 14 feet wide and includes several

[2] The exact numbers of arrays will be determined during design and optimization of the array configuration, and based on analysis of snow and wind loads. Exact wattage, number of panels, and panel configuration will be determined at time of final design and procurement. The accompanying site plan (See Figure CS-03) shows the anticipated arrangement of project components.

turn-around areas (hammerheads) to facilitate service and emergency vehicle movement. Proposed distribution poles will move along this access road to connect the Project to the grid.

A central inverter skid is proposed which will house the majority of all electrical components. It is maximally twelve (12) feet in height and, given its location, will be largely screened by the adjacent arrays. All wiring connecting the array to the inverters will be placed underground. The primary interconnection from the Project to the grid will also be placed underground to three new riser poles coming from the south (near Willow Road) across an easement on the remainder of the 27 +/- acre parcel. From these poles the power will be conveyed across this utility easement on five new poles to connect with existing poles along Willow Road.

In addition to these elements, the Project will also include a perimeter 10-foot-tall fence (black chain-link with 85% opaque screening mesh fabric affixed on the exterior) with gates at the access road entries into the array. The fencing will have black metal posts along the perimeter of the Project. The total area within the proposed Project fence is 7.1 acres with the solar modules occupying about 3.3 acres.

EXISTING VISUAL CONTEXT

The context of the Project is depicted on Figures CS-01 and CS-02. An illustrative site plan highlighting the major components of the Project is provided as Figures CS-03. A more detailed site plan for the Project is provided by the Petitioner as part of its civil engineering set. Traditional and panoramic photographs of the Project site as viewed from nearby public vantage points documenting the existing conditions discussed above can be found on Figures CS-04 to CS-06.

As illustrated on the Viewpoints Plan (See Figure CS-01) as well as on the site photograph of the area, (See Figures CS-04 and CS-05), the existing visual character is dominated by the extensive highway infrastructure. The Project sits within a broader

valley terminated to west by the foothills of the Green Mountains and to the east by rolling hillsides.

The northbound lanes of Route 7 acts as the western edge of the subject property. In this location, Route 7 is a divided, limited-access highway the Project and the roadways associated with the Route 7/VT 279 interchange are highly travelled according to the Vermont Agency of Transportation Route logs with an Average Annual Daily Traffic (AADT) of about 10,800 vehicles[3]. As will be discussed, the development of the Project does not materially affect the qualities of the broader landscape; which contributes to the arrival experience for those traversing Route 7.

To the south of the Project, in the center of the Route 7/VT 279 interchange is the Vermont Welcome Center rest area which consists of a rest area structure, parking areas and some outdoor spaces. The parking area is on the northern side of the Welcome Center, facing the Project Site. The welcome center structure is oriented towards long-range range views of the Bennington Battle Monument (approximately 1.13 miles to the south and slightly west) and Mount Anthony (approximately 3.10 miles to the south and west).

To the east of the Project site are lands associated with a former apple orchard. The shared property line between the Project and this property includes many mature trees. The area to the north is generally low density residential set within highly wooded neighborhoods. The nearest neighbor is approximately 320 feet to the north of the northernmost array. Apple Hill Road, also to the north and is set within a wooded environment and has very truncated and sporadic longer-range views to the south given the density of trees.

The terrain of the Project site slopes gently from a high elevation of about 758 feet at the northeast corner to a low point of approximately 664 feet near the southwest

[3] 2015 (Route Log) AADT's – State Highways, Vermont Agency of Transportation, Page 21. AADT provided is for station B233 (Route 7 and 279, where the divide highway begins).

corner. The overall grade change on the subject property is about 94 feet at a very modest 8% slope.

PART II: QUECHEE TEST

SECTION A: PROJECT VIEWSHED

While the terrain on the Project site is falling away with respect to public vantage points; it is doing so rather gradually (approximately 8% slope). For some comparison, the standard maximum slope for ramp accessibility under the American Disability Act (ADA) is 8%. Because of the low height of the panels, any changes in micro-topography (small, often unmapped changes in elevation), mature forest or woodlands and foreground structures can have a considerable influence on the extent of the viewshed. Traditional GIS tools, which rely on digital elevation models, are not entirely capable of accounting for these changes to accurately define a viewshed.

SE Group reviewed the Project site plan and conducted a photographic reconnaissance of the area in 2014. During these reconnaissance visits, we observed the existing visual qualities of setting, noting the position of the Project relative to public observation points and how structures, vegetation and micro-topographic changes influence potential visibility.

Based on this analysis, SE Group determined that the primary viewshed for the Project encompasses areas along Route 7 and VT 279 and within approximately 0.50 miles of the Project. While additional areas to the west and south of the Route 7/VT 279 interchange may have some visibility of the Project Site, the distance and change in elevation, along with substantial visual obstruction from structures and vegetation would tend to fragment such visibility.

VISIBILITY FROM NEARBY PUBLIC VANTAGE POINTS

Based on our determination of the primary viewshed, we identified six (6) locations we felt were representative of potential public viewpoints to the Project. These viewpoints

(See Figure CS-01) include areas along nearby roadways and the Vermont Welcome Center. The identified viewpoints and their approximate distance to the Project (fence) are below:

Viewpoint	Location	Approximate Distance (feet) to Project
A	Location within the loop road to the Vermont Welcome Center	1,209 feet
B	View looking south on Route 7 heading into Bennington	505 feet
C	View looking eastbound on VT 279 at Interchange	1,265 feet
D	View looking east on Loop Road near VT Welcome Center	820 feet
E	View looking north from US Route 7 Northbound	1,680 feet

The Route 279/Route 7 interchange, where many of these representative viewpoints are located, is highly complex. Traffic is moving quickly; no pedestrian accommodations are provided and sight lines along the road make the collection of field photographs dangerous. To address this, SE Group has relied on Google Streetview images taken from the roadways for this analysis. While these images are not suitable for development of simulations (and have not been used for that purpose), they are useful to document the basic composition of the landscape and visual context. Where possible, SE Group acquired photographs. Each viewpoint is described below:

Viewpoint A – The Vermont Welcome Center was developed in the last few years and is a new feature within interchange area. The complex is oriented so that the parking lots are on the north side and directed towards the Project site. Any observation from this parking area would position the Project site beyond an area of retained vegetation along the southern edge of the subject property, obscuring the array. The fore and midground view from this location is dominated by the highway, access roads, parking area and street lights. (See Figure CS-04.) This area was evaluate further using 3D analysis tools as described later in this report.

Viewpoint B – This viewpoint is representative of the arrival gateway image from the north heading into Bennington. The right side of the image shows the iconic view of the Bennington Monument and Mount Anthony in the background. The view is expansive. The Project site is to the extreme left (east). An area of dense trees along the highway right-of-way is shown and will be retained with the development of the Project. (See Figure CS-04.)

Viewpoint C – This viewpoint is also a gateway view taken on the eastbound lane of VT 279 approaching the interchange area. The Project site is also to the left in the midground and partially obscured by roadway overpasses in the foreground. Of note from this location is the background view of the Green Mountains which acts as a strong visual terminus within the landscape. (See Figure CS-05.)

Viewpoint D – This is the most proximal location along the roadways we evaluated. This view shows the rock outcropping south of the parcel on which the Project is proposed. It also looks across the Route 7 northbound lanes. The background views of the Green Mountains are still visible and more so looking due east. The position of the Project will not degrade these eastern views. (See Figure CS-05.)

Viewpoint E – This view is looking westward from Route 7 as you approach the Project site. Again, the rock outcroppings are visible. It is likely that some of the wooden power poles would be visible from this vantage point. As you can tell from the road geometry, the observers view will not be directed towards the Project site for a long duration. Longer-range views west of the Tectonic Range are visible and would not be directly impacted by the Project. (See Figure CS-05.)

PROJECT VISIBILITY FROM NEARBY RESIDENTIAL AREAS

The closest residential properties are located to the north ("Residence 2, See Figures CS-01 and CS-25) of the Project site. At its closest point, the residential structure is more than 320 feet away from the Project. What visual impact the Project has on this adjacent residential property is ameliorated by distance, the falling nature of the Project Site and the existing (and retained) natural vegetation which significantly screens views of the Project. If any glimpses of the Project are possible, these residential properties will essentially see "over" the Project towards the south, which is a much more dominant focal point in the landscape. Three nearby residential structures were evaluated with 3D analysis as described later in this report.

PROJECT VISIBILITY FROM THE BENNINGTON MONUMENT

The Bennington (Battle) Monument is located approximately 1.13 miles to the south and west of the Project site. While we did not complete a detailed assessment from this area, our review of photographs and aerial images suggests that the Project Site is within the potential views from the observation area of the structure. According to the Vermont Division for Historic Preservation website (historicvermont.org) and the Friends of the Bennington Battle Monument, the monument is the most-visited state historic site and commemorates the 1777 Battle of Bennington during the American Revolutionary War.

The 306-foot-tall structure (the tallest in Vermont) has a small observation area at 200 feet which is accessed via elevator. The windows of the observatory are oriented to the cardinal directions (North, South, East and West). Given the position of the monument (to the west of the Project site) the potential visibility of the Project through one of the several north-facing windows is slight; given the great distance and the limited field of view from the narrow windows. In context, visibility of the Project would not be any

more noticeable than the surrounding highway infrastructure. In fact, given the visual qualities of the array, from this distance its appearance would soften considerably; appearing as a dark mass, similar in tonality to woodlands within which it would be set. Visibility from the grounds of the monument are limited by the presence of foreground obstruction (structures, trees).

POTENTIAL FOR GLARE

The Project will use panels which include a low-reflective coating to reduce the potential for glare. While some surface reflectivity from the panels is possible from certain perspectives to the south and west, the presence of intervening vegetation and low height of the panels will reduce the potential for glare. To help further evaluate this issue, we utilized the Solar Glare Hazard Analysis Tool (SGHAT) from the Sandia National Laboratories.[4] Using this screening model, we identified the general limits of the Project, set the maximum height of panels at 9 feet above the ground plane and placed four observation points within the surrounding area. The location of the array, observation points, input parameters and output results are provided below.

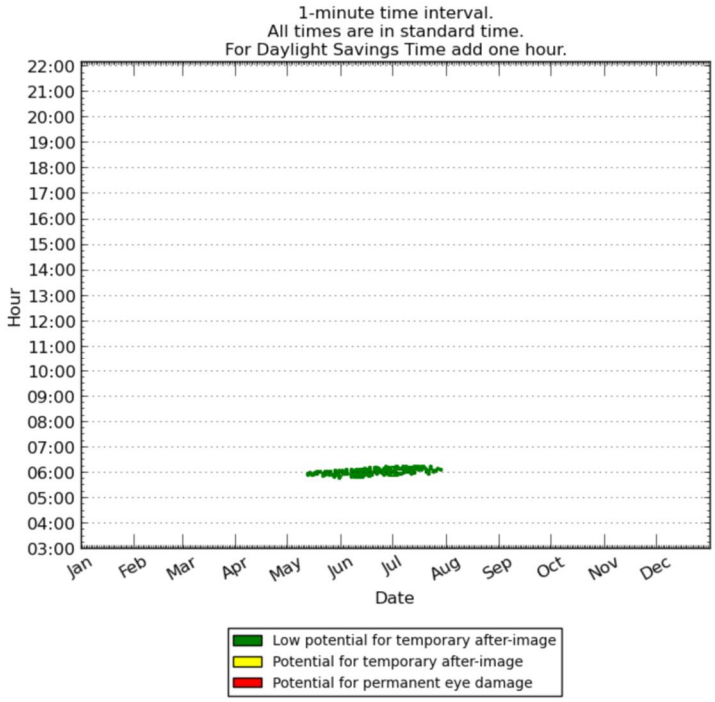
[4] https://share.sandia.gov/phlux

SGHAT Model Inputs

Analysis name:	*Chelsea Solar*
PV array axis tracking:	*none*
Orientation of array (deg):	*180.0*
Tilt of solar panels (deg):	*30.0*
Rated power (kW):	*2200.0*
Vary reflectivity:	*True*
PV surface material: Smooth glass with ARC	
Timezone offset:	*-5.0*
Subtended angle of sun (mrad):	*9.3*
Peak DNI (W/m^2):	*1000.0*
Ocular transmission coefficient:	*0.5*
Pupil diameter (m)	*0.002*
Eye focal length (m)	*0.017*
Time interval (min)	*1*
Slope error (mrad)	*10.0*

This model does not accurately consider the presence of intervening vegetation or small variations in terrain; it relies on Google Earth derived elevation data as opposed to more accurate local models of terrain. Given that, it is still useful to identify areas where additional consideration of glare might be advisable.

Based on the input parameters provided, the model suggests a "low potential for temporary after-image" at observation point 4 (northbound lane of Route 7 just west of the Project). This level of impact is at the low end of the hazard analysis profile for glare/glint from solar production facilities which was used as a basis for the model.[5] The occurrence of glare is limited to summer months (May–August) between 5:30 and 6:30 a.m. No glare was identified using the model at the other three observation locations. Again, it should be stressed that these results do not account for any of the intervening vegetation or screening fencing that materially limits offset views. No direct or unfiltered visibility from observation point 4 is expected based on our viewshed and visibility analysis.



VISIBILITY OF THE PROPOSED LINE EXTENSION

To connect the Project to the broader distribution grid, Green Mountain Power is proposing a new line extension along portions of Hewitt Road and Willow Road, and terminating at the Project site. This work will include the installation of some new poles

[5] https://share.sandia.gov/phlux/static/references/glint-glare/Ho-SolarToday-April13_v2.pdf

and the replacement of other, existing power poles. SE Group has reviewed this extension to better understand its potential visibility and associated visual impacts.

To help in this evaluation, SE Group has divided the proposed extension into three segments, each of which is color-coded on Figure CS-07. All new or replacement poles will be wooden with simple cross-arms and be approximately 38 to 43 feet in height. Each segment is described in more detail below.

Orange Segment: This segment consists of nine (9) new poles of 38 feet in height and extends about 1,500 feet from the end of the paved portion of Willow Road to the interconnection point at the center of the proposed array. The poles and line will be placed along the northern edge of the proposed gravel access road. This area is north of the Route 7 interchange (northbound on-ramp) and, as shown on the existing conditions photograph "B" (See Figure CS-08), portions of the road and the new poles will be seen from the northbound ramp. The poles, however, will be set against a backdrop of existing vegetation to the north and slightly uphill. One residential structure in this area will be impacted by the extension of the existing line. As shown on existing condition photograph "C" (See Figure CS-08), the character along portions of Willow Road includes existing poles of similar height and form to what is proposed.

Blue Segment: This segment extends along 325 feet of Willow Road and includes the upgrading of three (3) existing poles. The upgrading might increase the height from approximately 35 feet to 43 feet to accommodate the three-phase line. Existing conditions photograph "A" (See Figure CS-08), was taken looking west towards the intersection of Hewitt Drive and Willow Road. This photograph shows the existing poles to be upgraded. The location of the existing line is not planned to change, and the roadside character not materially altered by the additional height of the upgraded poles. Three existing residential structures are within this area, all of which have views of the existing roadside poles and power lines.

Red Segment: This segment extends approximately 1,900 feet from the easternmost upgraded pole along Hewitt Drive to existing GMP infrastructure located along East Road. The existing visual character of the roadway is presented in existing conditions photographs "E" through "H" (See Figures CS-08 and CS-09). Within this segment are proposed nine (9) wooden poles of approximately 38 feet in height. One residential structure near the intersection of Hewitt Drive and East Road is within this area. Hewitt Drive is paved and slightly elevated to its surroundings. The line extension is proposed along the southern edge of the roadway. Both sides of the roadway are predominately wooded, and the grade rises slightly to the south. No clearing of trees is anticipated to accommodate the poles along the southern edge of the roadway. The final appearance of the design will be visually consistent with typical roadside line infrastructure commonly seen in and around the area.

SECTION B: 3D PERSPECTIVE AND PHOTOSIMULATION ANALYSIS

To more fully evaluate of the potential visual impacts of the Project within this relatively constrained viewshed, SE Group developed a 3D terrain model (from lidar data and orthophotographs) of the subject parcel and the surrounding highway infrastructure, residential areas and Vermont Welcome Center.

3D ANALYSIS METHODOLOGY

Simulated 3D model views of the Project were generated for five locations representing both public and private vantage points using the following methodology:

1. A 3D model was created using a combination of AutoCAD, SketchUp, Maxwell Render and Photoshop CS software.
2. The topographic basis for the 3D model was derived from high-resolution LIDAR data in the area. This data set extended outwards from the project site to incorporate all the viewpoints from which simulations were prepared.
3. The design plans for the array were provided by the Petitioner and included the location of proposed panels, their height and form, the location of proposed fence lines, inverter skids, access roads and other supportive elements. SE Group

converted these design plans into 3D model elements and incorporated them to the terrain model.

4. The photovoltaic surfaces were modelled with the "Mono-PERC" type photovoltaic surface; darker in color than traditional "blue modules".
5. The aerial photograph used within the 3D model was from Google (dated September 2014) and was draped onto this topographic elevation model to provide context about existing conditions.
6. An assortment of 3D trees and shrubs (of varying heights and forms) were added to the 3D model to reflect the existing pattern of vegetation (predominantly deciduous species) as based on the aerial photograph and site photographs taken previously by SE Group. Approximately 60,000 individual 3D trees and shrubs are placed within the 3D model. The actual density of vegetation within the limits of the area is density is much higher and be even more effective at minimizing offsite visibility that the modelling would predict.
7. The 3D model also includes proposed landscaping as described above. The proposed trees/shrubs were added as 3D elements into the model and their heights simulated at approximately 5 years of growth.
8. The 3D model also includes the proposed fencing (either 8 or 10 feet) and where indicated the inclusion of 85% opaque mesh (black) screening material.
9. The modeling included various conditions such as "existing", "winter" and "summer"; altering whether the elements of the Project were installed, the condition of natural vegetation (leaf-on/leaf-off) and the natural lighting based on time of year.

CRITICAL VIEWPOINTS ANALYSIS

Five (5) critical viewpoints, representative of both nearby public and private views, were selected from which 3D perspective views of the Project were simulated are shown graphically on Figure CS-02. These areas are identified as "VP" on this graphic. Some of these viewpoints are identical to those addressed earlier under our general discussion on potential project visibility (See pages 8-10 of this report).

The summary below table below provides a description of each of these critical viewpoints including the direction of view, the elevation (feet at eye level) of observers, the elevation difference (feet, + or -) between the observer and the closest panel in the array and the overall linear distance (feet) between this viewpoint and the closest panel.

Critical Viewspoints Used for Photosimulations				
Viewpoint Description	Direction of View	Elevation of Observer	Observer Elevation Relative to Closest Panel	Distance to Closest Panel
Vermont Welcome Center	North	663 ft.	- 26 ft.	1,620 ft.
Route 7 Northbound Lane	Northeast	705 ft.	- 5 ft.	275 ft.
Residence 1	South	795 ft.	+ 45 ft.	595 ft.
Residence 2	South	762 ft.	+ 36 ft.	350 ft.
Residence 3	West	804 ft.	+ 33 ft.	745 ft.

The 3D analysis and photosimulations from each critical viewpoint assumed three conditions:

Existing Conditions	Summer Conditions	Winter Conditions
These simulations reflect leaf-on, existing conditions from each Critical Viewpoint. The placement of trees and other landscape features in each view was based on available site photographs and aerial photographs. SE Group staff did not visit any private properties to develop the existing condition view. No clearing for the Project was assumed for these views.	These simulations reflect the proposed clearing and installation of all elements (array, roads, inverter, fencing, landscaping). Rendering of these views assumes a date and time of August 18th at 10:30 a.m. from which the modeling software determined the angle of the sun and cast shadow and light accordingly. All deciduous trees and shrubs were assumed leaf-on.	These simulations assume winter condition, again clearing and all Project components are installed. Renderings reflect a date and time of November 8 at 1:30 pm. No ground snow was simulated. Deciduous trees and shrubs are assumed to be leaf-off.

No atmospheric factors or conditions (snow, rain, clouds, fog, haze) were simulated in any of these photosimulations. The inclusion of such factors would likely degrade potential visibility, particularly from distance.

Supporting the photosimulations are cross-sections from each critical viewpoint to the Project site. These site sections illustrate the physical relationship between these viewpoints and the Project, highlighting the linear distances and vertical relationship. They also indicate where existing vegetation will remain along the site line, where new landscaping is proposed and the location of the fencing.

Each of the five critical viewpoints are described in detail below.

Viewpoint: Vermont Welcome Center

The Vermont Welcome Center is located south of the Project (about 1,620 feet) within the interchange area between Route 7 and Route 279. The Welcome Center is oriented so that the parking area is on the north side of the structure with the views from the building itself oriented towards the south and focusing on the Bennington Monument.

Existing Conditions: Welcome Center (Eye Level): This is the existing view from the parking area of the Vermont Welcome Center looking northward towards the Project site. It shows the existing foreground trees in the parking lot plus the existing vegetation to the north on the Project site in the far midground/background. (See Figure CS-10.)

3D Perspective: Welcome Center - Summer (Eye Level): Looking to center-left of the image is the approximate location where the Project is proposed. The photosimulation confirms that the existing area of woods that are preserved along the southern end of the subject property will continue to fully screen views during leaf-on conditions from this vantage point. (See Figure CS-11.)

3D Perspective: Welcome Center – Winter (Eye Level): While the photosimulation shows existing trees in winter (leaf-off) condition and density of the natural vegetation is somewhat lessened, with the Project being located over 1,620 feet away to the north

and the depth of this existing natural vegetated buffer more than 300 feet, the view into the subject property is effectively screened. The dark mass of the solar modules coupled with the tall screening fence assure that no direct or unfiltered visibility of the Project is possible. (See Figure CS-12.)

Site Sections: Welcome Center: This cross-section highlights the significant distance and grade relationships between the Chelsea Solar Project and the Welcome Center. The array is about 1,748 feet away from the welcome center structure. The preservation of approximately 300 feet of existing natural vegetation between the Project and this viewpoint provides considerable buffering from any direct or unfiltered view. (See Figure CS-13.)

Viewpoint: Route 7 North

This viewpoint is located along the northbound lane of Route 7 as it moves parallel to the western edge of the property. This is a highly transient location with the expected observer to be moving within a car and the duration of any view of short duration. Existing woods along the edge of the property and extending west onto lands within the State right-of-way currently limits views into the subject property.

Existing Conditions: Route 7 North (Eye Level): This image is taken from a location along Route 7 heading north and slightly south of the Project. At this point the array is about 275 feet away from the potential observer. (See Figure CS-14.)

3D Perspective: Route 7 North - Summer (Eye Level): A very narrow opening in the existing woods along the corridor could enable a short duration view of a small portion of the Project in the absence of the proposed landscaping and screening fence. The simulated image documents the effectiveness of these planned design features in effectively eliminating direct or unscreened views of the Project. Additional understory plantings that are not captured by the 3D modeling process will likely even further limit views. (See Figure CS-15.)

3D Perspective: Route 7 North - Winter (Eye Level): This winter view documents how the inclusion of the screening fencing, landscape mitigation and the use of the darker photovoltaic modules combine with the relatively dense understory to effectively screen direct or unfiltered views of the Project. Again, the effectiveness of the retained understory is likely greater than depicted in this 3D simulation and the growth of proposed landscaping will, in time, further degrade potential views. (See Figure CS-16.)

Site Sections: Route 7 North: This cross-section highlights the distance and grade relationships between the Chelsea Solar Project and the Route 7 North Viewpoint. The preservation of approximately 150 feet of existing woodland provides buffering from any direct or unfiltered view. The inclusion of mitigation plantings along the western edge of the array and the 10-foot screening fence also bolster the efficacy of this retained vegetation. (See Figure CS-17.)

Viewpoint: Residence 1

This viewpoint reflects the potential view from the Harris property along Apple Hill Road which is north and east of the Project. A remnant apple orchard separates the Project from this location. SE Group made no attempt to visit or view the Project site from this private property, but based this analysis on views from the adjacent property (which is under the control of the Project developer) and from aerial photographs of the area.

Existing Conditions: Residence 1 (Eye Level): This image is taken from a location adjacent to Ms. Harris's home, north of the Project and looking south. In the foreground is the existing open lawn. In the midground is a stone wall and apple trees that separates the Harris property from properties owned by the Project developer. The Chelsea Solar Project is minimally 595 feet away from this location and 45 feet lower in elevation. It is positioned to the viewers right. No direct or unfiltered visibility of the Project is possible based on this analysis. (See Figure CS-18.)

3D Perspective: Residence 1 – Summer (Eye Level): In the foreground is the existing open lawn. In the midground is a stone wall and apple trees that separates the Harris

property from properties owned by Ecos to the south. The Project is minimally 595 feet away from this location and 45 feet lower in elevation and would be to the observers right. No direct or unfiltered visibility of the Project is possible based on this analysis. (See Figure CS-19.)

3D Perspective: Residence 1 – Winter (Eye Level): The visibility of the Project remains precluded by the continued effectiveness of retained vegetation and the use of the taller screening fence which masks and diminishes the view of the panels. Also, the use of dark backing on the panels is particularly helpful in this location as the photovoltaic surface is facing away from the observer. No direct or unfiltered visibility of the Project is possible based on this analysis. (See Figure CS-20.)

Site Sections: Residence 1: This cross-section highlights the distance and grade relationships between the Project and the viewpoint. The preservation of existing trees (apples) in the midground, coupled with the significant grade change, provides buffering from any direct or unfiltered view. The inclusion of landscaping along the property line and the 10-foot screening fence also bolster the efficacy of these other factors in eliminating negative visual impacts. (See Figure CS-21.)

Viewpoint: Residence 2

This private property is located north of the Project and is separated at present by existing woods. This property is accessed via Russet Drive off Apple Hill Road. No attempt was made to visit this private property and the analysis was based on photographs taken from the Project site and aerial images.

Existing Conditions: Residence 2 (Eye Level): This image is taken from a location at Residence 2, north of the Project and looking south. The foreground is dominated by existing woods. The Chelsea Solar Project is minimally 350 feet away from this location and 36 feet lower in elevation. The Project is positioned in the center of the view. No direct or unfiltered visibility of the Project is possible based on this analysis. (See Figure CS-22).

3D Perspective: Residence 2- Summer (Eye Level): As illustrated in the site section (below), with the development of the Project there would be approximately 150 feet of woodlands preserved between the residence and the Project fence. As the 3D perspective illustrates, the existing woodland buffer forms a very effective visual barrier to views further south, eliminating direct or unfiltered visibility of the Project. (See Figure CS-23).

3D Perspective: Residence 2 - Winter (Eye Level): Even in the absence of leaf-on conditions, the dark color of the screening fence and the black backing of the panels (they are oriented away from the observer from this viewpoint), considerably lessen potential visibility. To address a specific location along the site line where the shape of the natural terrain opens a possible glimpse of the Project, the design includes the placement of large (20-24 feet in height at time of installation) evergreen trees. The height of these trees at installation, coupled with their close spacing, assures they will be effective immediately to address this potential view. In combination with the tall screening fence, this landscape feature bolsters the natural vegetation and assures year-round screening that eliminates direct or unfiltered visibility of the Project. (See Figure CS-24).

Site Sections: Residence 2: This cross-section highlights the distance and grade relationships between the Project and the Residence 2 Viewpoint. It highlights the approximately 150 feet of existing woods that separates the views. It also shows the location of the large evergreens and screening fence and how the array is placed within the landscape. (See Figure CS-25).

Viewpoint: Residence 3

This viewpoint is located to the east of the Project site beyond a remnant apple orchard on a separate parcel under the control of the Project developer. Again, no attempt was made to visit this private property and the analysis was based on photographs taken from the Project site and aerial images.

Existing Conditions: Residence 3 (Eye Level): This image is taken from a location at Residence 3, east of the Project and looking west. A present, this view looks west across foreground trees and the remnant apple orchard. The terrain falls away which greatly lessens view potential. The nearest panel for the Chelsea Solar Project is more than 600 feet away making direct or unfiltered visibility of the Project impossible based on this analysis. (See Figure CS-26).

3D Perspective: Residence 3- Summer (Eye Level): This image is taken from Residence 3, east of the Project. The foreground is dominated by existing trees and the remnant apple orchard. The Chelsea Solar Project array falls away from the observer in this view and, when coupled with natural vegetation and the screening fence, is effectively screened. (See Figure CS-27).

3D Perspective: Residence 3 - Winter (Eye Level): The dark color of the screening fence and the black backing of the panels (they are oriented away from the observer), considerably lessen visibility. The inclusion of these mitigation measures precludes direct or unfiltered visibility of the Project, based on this analysis. (See Figure CS-28).

Site Sections: Residence 3: This cross-section highlights the distance and grade relationships between the Chelsea Solar Project and the Residence 2 Viewpoint. It highlights the approximately 150 feet of existing woods that separates the views. It also shows the location of the existing apple trees, the screening fence and how the array falls away from the observer. (See Figure CS-29).

SECTION C: ASSESSMENT OF POTENTIAL VISUAL IMPACTS

Having determined the extent of the visibility and after completing an analysis of potential views of the Project, the next step is to prepare an assessment of potential impacts using the Quechee Test. This process first tests whether the proposed Project's impacts are adverse. Second, assuming a conclusion that the Project would have an adverse aesthetic impact, the process continues to determine whether that impact would be undue.

TEST FOR ADVERSE IMPACT

The first prong of the Quechee Test asks five basic questions, which are used to determine whether the Project would result in an adverse impact with respect to the visual resource. These questions are:

Q1: What is the nature of the project's surroundings? Is the project located in an urban, suburban, rural or recreational resort area? What land uses presently exist? What is the topography like? What structures exist in the area? What vegetation is prevalent? Does the area have particular scenic value?

While the Project site is presently wooded, areas to the south are highly impacted by highway infrastructure including significant ramping and overpasses associated with the US Route 7/VT 279 interchange. The mixed hardwood vegetation within the Property is approximately 50-70 feet in height. The site is generally sloping southward from the northern property line at approximately 8% resulting in about 94 feet of grade change from north to south.

While the views to the south from the southern edge of the Project site are much more scenic (with long-range views of Mount Anthony and a patchwork of rolling meadows) the views of the Project site in the immediate area is dominated by the highway infrastructure and does not have a particularly high scenic value.

Q2: Is the project's design compatible with its surroundings? Is the architectural style of the buildings compatible with other buildings in the area? Is the scale of the project appropriate to its surroundings? Is the mass of the structures proposed for the site consistent with land use and density patterns in the vicinity?

The terrain on which the Project is planned is not a visual focal point within the broader landscape. The components of the Project are low in height and if viewed would be seen largely as a single, dark mass following the natural shape of the landform. The distance between the Project site and potential public and private offsite observers lessens the perception of scale. Given the retention of natural vegetation between the Project and potential observers and the inclusion of

landscape features, the mass or scale of the Project will not be observed in its entirety from off-site locations.

The proposed line extension includes wooden poles with simple cross-arms extending along Willow Road and Hewitt Road. The height of these poles (36-42 feet) is visually consistent with other poles in the area.

Q3: Are the colors and materials selected for the project suitable for the context in which the project will be located?

While the materials and colors are not currently observed within the landscape, but are consistent with materials and forms used for other similar solar projects. The matte-black color of the photovoltatic frames that support the photovoltaic panels are less visible given their dark color. The photovoltaic surfaces are low-reflective and a dull, dark blue color that has a similar albedo (or surface reflectivity) to natural grasses, meadows and fields. The use of a 10-foot tall fence with affixed black mesh fabric (85% opaque) helps to further diminish the Project from view through existing vegetation or new landscaping.

The Project does not require constant exterior lighting. Some exterior lights on the inverter skid are proposed that may be used when maintenance of the system is done during the evening. Any lights would be low wattage and only activated as needed. Any contribution to the night time lighting conditions by the limited exterior illumination needs for the inverter shed will be negligible. The area to the south associated with the Route 7/VT 279 interchange is currently illuminated with street lights.

The Project will use panels which include a low-reflective coating to reduce the potential for glare. While some surface reflectivity from the panels is possible from certain perspectives to the south and west, the presence of intervening vegetation, low height of the panels and the tall screening fence will eliminate potential for glare to offsite locations.

The proposed line extension includes wooden poles with simple cross-arms extending along Willow Road and Hewitt Road. The color and texture of these elements is visually identical to the existing distribution line infrastructure within the area.

Q4: Where can the project be seen from? Will the project be in the viewer's foreground, middleground or background? Is the viewer likely to be stationary so that the view is of long duration or will the viewer be moving quickly by the site so that the length of view is short?

As described above, the primary public viewshed of the Project would be from areas within immediate adjacency along Route 7 and VT 279. Two viewpoints (Vermont Welcome Center and Route 7 North) are the most representative of this viewshed. From these locations, the Project site will be part of the midground. The likely observer is either someone who is stationary (at least temporarily) at the Vermont Welcome Center rest area or someone who is navigating the roadways are part of the interchange. For the former, while we expect the duration of view towards the Project site to be somewhat longer, but as the simulations show, the considerable distance and intervening vegetation (See Figures CS-5 to CS-8) eliminate unfiltered or direct views. For the latter, the posted speed limits in and around the interchange indicate 55 miles per hour. Given the complexities of the road network, however, we believe views would be highly constrained as the orientation of the viewer is in nearly constant flux as his/her vehicle moves through the viewshed. When combined with the effective screening provided (See CS-9 to CS-11), the array, if viewed at all, would recede in the background. From nearby residential areas (to the north and east), the lack of direct or unfiltered visibility curtails the effect of any stationary view.

Q5: What is the project's impact on open space in the area? Will it maintain existing open space, or will it contribute to the loss of open space?

The Project will require some clearing and convert existing woodlands into a different land use. This loss of vegetation however, does not necessarily contribute to a long-term loss of open space. The Project requires virtually no grading or

alteration of the underlying terrain. The components of the Project (panels, inverter structures, and transformers) will, following the useful life of the Project, be removed and the land restored swiftly to an undeveloped condition. Areas of sensitive environmental issues (wetlands) have been avoided in the plan. Further, in the near-term, because the Project is well-screened with retained vegetation, the Project site would retain much of its existing visual character as viewed from nearby public and private vantage points.

CONCLUSION ON ADVERSE IMPACT

While the development of the Project does require clearing, and introduces a new land use in the area, the design has taken considerable steps to effectively limit its visibility to the public nearby. The Project has provided large setbacks to the public roadways and nearby residential properties and, given its orientation and the low scale of its components, does not materially impact the broader and longer-range views of the landscape.

The level of anticipated impact is very low, and Project introduces significant design features intended to lessen or eliminate its visual impacts on its surroundings. As noted above, this layering of mitigative strategies extends from the property line to the array and, as evidences in the simulations prepared, promotes visual compatibility in all seasons. Given this, I conclude that the Project would not create an adverse aesthetic impact on scenic resources.

While so concluding this, it is my normal practice to continue to examine the Project with respect to the second prong of the Quechee Test which examines whether or not adverse impacts are undue.

TEST OF UNDUE ADVERSE IMPACTS

The Quechee Test continues by evaluating whether the impact of the Project would be unduly adverse. This is done by addressing three fundamental questions which provide clarity on whether community standards are violated as a result of the impacts, whether

the aesthetic incompatibility of the Project is so great as to be "shocking or offensive" to an average person or whether the Applicant has provided reasonable mitigation to address identified impacts. We will address each of these questions below.

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

   No. Although Section 248 does not require local permitting of projects seeking a Certificate of Public Good, local plans and regulations are reviewed under the second prong of the *Quechee* analysis where it has been determined that a Project may have a potential adverse visual impact. The Public Utility Commission has noted 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." *Petition of Georgia Mountain Community Wind, LLC, Docket No. 7508, Order of Vt. Pub. Utility Commission. (Jun. 11. 2010) at 52*. 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 the resource cannot be considered "clear written community standards." Id. at 53.

   Finally, this analysis is significantly informed by the overall societal benefits of the project.

   We have, as part of our analysis, reviewed the local and regional plans relative to this criterion.

Bennington Town Plan: The Town of Bennington's most recent adopted Town Plan is dated October 6, 2015. Our review of this document included relevant sections on land use, scenic resources and historic resources. In addition, we have also reviewed the energy section of the Town Plan, a more recent (2016) plan element addressing solar energy facility siting, the 2009 Parks and Open Space Plan and Article 29 of the

Bennington Land Development Regulations that relates to screening of solar installations.

Land Use

The Town Plan identifies the Project site as part of the Rural Conservation ("RCON") district (See Map 3-2, Land Use Plan) and describes it as follows:

"Rural Conservation Districts are located in valley areas outside the Urban Growth Area which have retained their rural and open space character. Considerable acreages of agricultural land exist in these areas, along with extensive woodlands and low density residential development. The purpose of the Rural Conservation Districts is to preserve this distinctive rural character and working landscape while accommodating very low density residential development in a manner that avoids the need for public water supply and public sewer systems. Agriculture, forestry, very low density single-family residential development, and certain limited uses that are suitable in rural areas are permitted in the district. Zoning regulations shall maintain large blocks of working agriculture land and productive forest lands. Additional standards apply to college buildings, cultural institutions, and the adaptive reuse of historic structures as bed and breakfasts. Subdivisions must protect important agricultural land, natural, and scenic resources; major subdivisions must meet the standards for residential Planned Unit Development.

Connections of any building to the municipal wastewater treatment system may only be approved if the Development Review Board finds a compelling public health threat, and such connection cannot be used to expand the use.

Specific design standards shall apply to new development in the Rural Conservation Districts in recognition of the existence of a concentration of agricultural and forest lands and to protect the extraordinary scenic resources such lands and uses provide. Any use in the Rural Conservation District, including single-family dwellings, shall require approval under those regulatory guidelines."[6]

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[6] Bennington Town Plan (2015). Page 28.

The RCON district covers a significant percentage of the community outside of the defined urban growth areas and functions as transition between more dense/intensive development and forest lands. The policy goal for this land use district is:

> *Rural Conservation Districts shall continue to support traditional low density rural and agricultural uses. Extension of municipal water supply and wastewater disposal lines to these areas shall be prohibited. New residential development in the area shall be carefully planned to protect agricultural land, forest land and other natural and scenic resources. Subdivisions shall meet the standards of a Residential Planned Unit Development (PUD) to protect Bennington's traditional rural and agrarian landscape.*[7]

The language describing the district does not prohibit specific forms of development but states:

> *"Development in this area cannot be sited in prominently visible locations on hillsides or ridgelines, shall utilize earth tone colors and low-reflective materials on exterior surfaces of all structures, and must minimize clearing of natural vegetation."*[8]

As described in significant detail above, the Projects setting places it along a modest southward oriented slope, bounded on its periphery by natural vegetation that precludes it from becoming prominently visible to areas offsite. The low-reflective nature of the panels, plus the use of dark screening fencing and dark back panels for the racking system allows the facility to have a more neutral visual quality. Clearing of natural vegetation on the site has been minimized to the degree possible while still allowing the proposed use to be viable.

[7] Ibid, Page 32.
[8] Ibid, Page 28.

Scenic Resources

The Town of Bennington completed a Scenic Resource Inventory in 2004 which is extensively referenced in the Town Plan. As part of this inventory the Town identified specific scenic views and several important "gateway" features. As noted in the Town Plan:

> *"Special attention should be given to visual gateways: points of transition along a public highway where it is evident that the traveler is arriving at a unique place. Gateways are located at entry points to the historical downtown and at places along rural highways where significant visual elements of the town's landscape first appear."*[9]

One of the specific gateway points referenced in the 2004 Scenic Resource Inventory is along Route 7 heading southward and just north of the Project site. This gateway is described as:

> *"From the north, as Route 7 sweeps around a bend and begins to descend toward the valley, a gateway scene featuring the Battle Monument set against Mount Anthony comes into view in dramatic fashion. This sweeping view is one of the most distinctive in Bennington. The commercial buildings adjacent to the intersection at the bottom of the hill are not particularly attractive, although they do create an abrupt change from the rural to the developed landscape of Town."*[10]

Views looking southward towards the Bennington Battle Monument, Old Bennington and the village are all within the shadow of Mount Anthony and are clearly highly scenic and of high resource value. The Project, located on the east (opposite) side of Route 7 to the commercial buildings mentioned in the scenic resource plan. The low height of the Project, its ability to follow the natural grade of the landform, the retention of existing

[9] Bennington Town Plan (2015), Page 45-46.
[10] Town of Bennington Scenic Resource Inventory (2004), Page 21.

vegetation on the periphery of the site, site landscaping and screening fencing all eliminate any direct or unfiltered view of the Project from this gateway.

The second nearby "gateway" identified the Scenic Resource Inventory is along VT 279, west of its interchange with Route 67. This is approximately 0.75 miles from the Project site. The most defining characteristic of this gateway area is the longer-range views of the Green Mountains (to the east) which act as the visual terminus. Again, no direct or unfiltered view of the Project is possible from this vantage point, because of the change in elevation and retention of natural vegetation intervening between the observation point and the Project.

The Town Plan also identifies four (4) goals that relate to scenic resources and aesthetics and are appropriate to consider:

"11. Development of renewable energy resources should consider both the need for locally produced energy and the need to protect natural and scenic resources.

12. New development shall be sensitive to scenic resources and shall be planned in a manner that preserves the visual integrity of critical scenic elements and visual qualities.

13. The town should work with conservation organizations to permanently protect important viewsheds through purchase of properties or scenic easements. The town should continue to participate in and support local and state scenic roads programs.

14. Protect and enhance existing visual gateways to the community and downtown, and seek opportunities to establish new gateways at appropriate locations."[11]

Goal #11 certainly considered the need for balance in the consideration of the development of renewable energy resources considering scenic and natural resource

[11] Bennington Town Plan (2015), Page 49.

issues. As described in this assessment, the Project site is well positioned to avoid offsite impacts and has also avoided impacts to natural environments such as wetlands or habitats.

Goal #12 speaks to the balance between allowing for new development and preservation of "critical scenic elements". The subject property is not identified as a critical scenic element and the steps taken in the design of the Project minimize offsite impacts and preserve scenic qualities in the surrounding area.

Goal #13 does not provide clear standards, but rather focuses on a land conservation strategy and/or identification of scenic roadways. The subject property has not been identified specifically for protection via conservation easement or purchase.

Goal #14 address the gateway and arrival to the community. As noted above, the identified gateway along Route 7 is not impacted by the Project.

Historic Resources

The Town of Bennington takes the preservation of its historic resources very seriously and has devoted substantial community resources to documenting the location of historic sites and structures. Some 3,000 historic structures and areas have been identified in the Town, the overwhelming majority of these are within the urban growth area and incorporated into the village. Some of these structures are listed on the National Register of Historic Place.

In our evaluation of the Town Plan did not identify any listed structures on the property. The property is not part of any historic district nor has it been specifically noted in the Town Plan.

Energy

The energy section in the Town Plan does not specifically address solar development such as the one proposed by the Project, it does define a goal for renewable energy that states:

"2. Create and support programs and facilities that provide stable, affordable, and clean renewable sources of energy, including wood (and other biomass), wind, water (hydroelectric), solar, and geothermal. Give strong consideration to the energy needs of the community when evaluating the environmental and economic affects of such programs and facilities." [12]

Energy goal #2, while not a specific standard related to aesthetics under the Quechee Test, the language affirms the importance of renewable energy sources to the community and recognizes its implementation will need to strike a balance with environmental and economic factors.

2016 Town Plan Amendment Related to Solar Facility Siting

While not contained with the body of the 2015 Town Plan document, an amendment to the Town Plan as adopted on March 28, 2016 related to "Solar Electricity Generation and Transmission".

For this amendment, a solar facility is defined to have a capacity of at least 150 kW(AC). The Project clearly falls under the provisions of this plan element. While this amendment addresses many policies (process for community participation in Section 248 proceedings, potential "benefits" of projects to the community and decommissioning), SE Group focused its review on three policy statements related to aesthetics; impacts and siting requirements and mass/scale.

"Impacts: New solar facilities must be evaluated for consistency with community and regional development objectives and shall avoid undue adverse impacts to significant cultural, natural and scenic resources identified by the community in the Bennington Town Plan and the Scenic Resources Inventory. When evaluating impacts of a solar facility under the criteria set forth in this Town Plan, the cumulative impact of existing solar facilities, approved pending solar facilities and the proposed solar facility shall be considered. It is explicitly understood that a proposed solar facility that individually may not have an adverse impact may have an adverse impact when the cumulative impacts of

[12] Bennington Town Plan (2015), Page 101.

the proposed solar facility and existing solar facilities and pending approved solar facilities are considered."[13]

In relationship to the Project, the key provisions of this policy are the recognition that avoidance of undue adverse impacts on aesthetics is critical and that the context within which the project is planned is important. To the first point, our analysis concludes that the Project does not create an adverse impact on aesthetics owing to its design and setting. To the second point, while the adjoining area has been the subject of planning for a solar facility, that facility has not been approved. Any consideration of cumulative impacts would presumably be the burden of that project if/when it was reviewed under this policy.

It is also important to stress, and the policy above affirms this, the fact that two (or more) solar facilities are proximal to one another does not necessarily induce an adverse impact. The context within which the projects are proposed will undoubtedly have a profound influence on whether the cumulative affect substantively increases adversity. For this particular site and the lands around it, the relatively low residential population, transient nature of the public environment, maturity of natural vegetated buffers, orientation of the terrain and distance to potential observation points, will lessen the probability that additional facilities would dramatically increase the level of disharmony and induce greater visual impacts.

[13] Proposed Town Plan Language for Solar Electricity Generation and Transmission Siting (Draft 2-15-2016), Pages 2-3.

"Siting Requirements: New solar facilities shall be sited in locations that do not adversely impact the community's traditional and planned patterns of growth, of compact (downtown/village) centers surrounded by a rural countryside, including working farm and forest land. Solar facilities shall, therefore, not be sited in locations that adversely impact scenic views, roads or other areas identified in the Scenic Resources Inventory, nor shall solar facilities be sited in locations that adversely impact any of the following scenic attributes identified in the Scenic Resource Inventory: views across open fields, especially when those fields form an important foreground; prominent ridgelines or hillsides that can be seen from many public vantage points and thus form a natural backdrop for many landscapes; historic buildings and districts and gateways to historic districts; and, scenes that include important contrasting elements such as water."[14]

Again, our analysis has concluded that the Project would not create an adverse impact. The Project will not be viewed from open fields and is not within an important foreground or on a prominent or ridgeline. The Project has practically no visibility to nearby public vantage points.

Also under the discussion of solar siting, this amendment to the Town Plan defines "preferred" and "prohibited" areas. Notwithstanding the potential implications of this policy functioning as de facto zoning, the language of the polices again reaffirms the need to find locations that do not induce adverse aesthetic impacts as well as avoid impacts to natural resources, etc. According to the policy, preferred locations include those in "[*p]roximity to existing hedgerows or other topographical features that naturally screen the entire proposed array"*.[15] While "naturally screen" is not explicitly defined, the location chosen for the site has a combination of natural and terrain features that do screen the array. Even without the additional measures taken in the design (i.e., landscaping, fencing), the natural conditions would screen the Project from offsite locations.

[14] Proposed Town Plan Language for Solar Electricity Generation and Transmission Siting (Draft 2-15-2016), Pages 3-4.
[15] Ibid, Page 4.

"Mass and Scale: Except for solar facilities located in preferred areas, solar facilities larger than 10 acres, individually or cumulatively, cannot be adequately screened or mitigated to blend into the municipality's landscape and are, therefore, explicitly prohibited."[16]

This policy provision appears to suggest that facilities more than 10 acres in size cannot be designed to avoid visual impacts. Our review of the Town Plan suggests that the Project is in a "preferred site"; a location where natural vegetation and terrain features screen the array from surrounding areas. The site does not open up to public vantage points, but has natural features that screen it. The Project is also less than 10 acres in size. Beyond these points, the contention of the policy that screening of solar facilities if they are larger than 10 acres makes little sense. The form, shape and design of a solar facility and the characteristics of the site on which it is proposed will dramatically influence the effectiveness of mitigation. For example, a solar facility could be set on a site so that nearly all of it was well hidden by natural terrain with only a small area potentially exposed to view from offsite. In this scenario only a modest amount of landscaping, berming, etc. would be needed to adequately screen it. How does the total size of the project relate to the ability to achieve effective screening?

Article 29. Screening of Solar Facilities

The Town of Bennington adopted an ordinance related to screening for solar facilities in 2015. The relevant provisions of this ordinance include:

#2 -All solar facilities shall be sited and screened so that visual impacts of such facilities, including but not limited to, solar panels, transformers, utility poles, fencing, etc., are mitigated as viewed from public streets and thoroughfares, scenic viewpoints, and/or adjacent properties. The Town of Bennington Select Board shall determine screening requirements and associated site issues for each solar facility based upon the standards in this Ordinance. The Select Board may request recommendations from the Town of Bennington Planning

[16] Proposed Town Plan Language for Solar Electricity Generation and Transmission Siting (Draft 2-15-2016), Page 5.

Commission, or by other boards or advisory groups appointed by the Select Board.

#3 - Screening shall provide a year round visual screen, and shall occur on property owned or controlled by the owner and/or operator of the solar facility. A diversity of materials shall be used to create a diverse, naturalized screen rather than a large expanse of uninterrupted, uniform material. Materials may include: trees and shrubs indigenous to the area, and berms, or a combination thereof, to achieve the objective of screening the site.

#4 - All screening shall be maintained to optimize screening at all times by the owner and/or operator of the solar facility until the solar facility is decommissioned and removed. Plantings that die or become diseased shall be replaced within six months of dying or becoming diseased.

As described above, the proposed site plan includes a diverse mix of materials located within the property of the owner which are placed to augment or bolster existing vegetation and which all serve to filter any direct view of the Project from offsite public or private vantage points.

Bennington Regional Plan: The 2015 Bennington Regional Plan ("Regional Plan") is the guidance document prepared by the Bennington County Regional Commission which provides an overarching policy framework for land use and development within the region. However, as a regional document, it affords considerable deference to local land use policy.

The Regional Plan recognizes that the appearance of the regional landscape is a critical determinant of the character and attractiveness of the region. It highlights the importance of the basic landscape form of the region; broad valleys set against backdrops of wooded hillsides. In this context it states:

"The scenic quality of a landscape can be affected, positively or negatively, by change. A number of landscape features are particularly sensitive to change, among them: views across open fields, prominent ridgelines or hillsides,

historical buildings and districts and gateways to those districts, and scenes that include important contrasting elements such as water."[17]

The Regional Plan goes on to discuss renewable energy facilities and states:

"Recent interest in development of renewable energy resources raises a number of important issues. Commercial-scale wind turbines will be highly visible and should be located only in locations approved by local communities. Commercial-scale solar energy facilities occupy large open areas and should not be sited at important gateway locations or in the foreground of viewsheds that have been identified by communities as being of particular value."[18]

The Regional Plan goes on to describe the range of policy tools that can leverage local scenic inventories to protect important resources. The Regional Plan, however does not identify with any specificity the Project site or the landscape within which it is proposed. As noted above, our analysis suggests the Project site does limit significantly its offsite visibility and does not impact any gateways into the community.

The Bennington County Regional Commission has also gone through the process of developing a Bennington County Regional Energy Plan ("Energy Plan") consistent with Act 174. This plan has been formally certified by the Vermont Department of Public Service. This plan, among other things, identifies regional energy goals and objectives and defines a process for identifying appropriate locations for renewable energy development. Level 1 constraints, which are representative of conditions to "preclude" development of energy facilities, include the following:

"1. Vernal Pools: Seasonal wetlands that provide conditions for various species' habitats. (Mapping includes a 600-foot buffer around all Vernal pools.)

[17] Bennington Regional Plan (2015). Bennington Regional Planning Commission. Page 114.
[18] Ibid. page 115

2. River Corridors: Rivers and land adjacent to rivers that is necessary to maintain the natural movement, or meandering, of a river.

3. FEMA Floodways: Areas most likely to be impacted by base floods (1% annual likelihood) where development is limited.

4. Rare and Irreplaceable Natural Areas (RINAs) Areas where natural conditions exist and include rare species or a valuable educational scientific resource. Only rare to uncommon rankings (S1 to S3) were used in mapping.

5. Transportation Infrastructure: Existing roads.

6. Federal Wilderness Areas: Federally owned land that is preserved in natural conditions.

7. Wetlands: All identified Class 1 and 2"[19]

The Project is not located within or impacts any of the above Level 1 constraints.

Level 2 constraints, those that could prevent development include factors such as prime agricultural soils, conservation lands, FEMA flood zones, habitats, hydric soils and deer wintering areas. It is our understanding that the Project does not impact those areas. Based on the mapping provided in the Energy Plan, the location for the Project appears to have been identified as "preferred". We recognize, and the Energy Plan makes this abundantly clear, that this constraint-based process is not to be used as "siting maps". What this process does suggest, and what the site features affirm, is that the Project site does not exhibit some of the characteristics that the region and state have identified that dramatically challenge the installation of a solar facility.

While at the regional scale the Energy Plan indicates the site has some favorable attributes for the development of a solar energy facility, it also specifies that "*[e]ach municipality in the region can also add locally-identified resources—constraints such as*

[19] Bennington County Regional Energy Plan (2016). page 81

scenic viewsheds or unique natural areas, as well as preferred sites for energy generation, such as abandoned gravel pits—to their local energy plans."[20] While the Town of Bennington is working on such a plan, it has not been adopted and is still a work in progress.

Summary of Local and Regional Plans

While the Town and Regional Plan identify issues and the importance of addressing impacts to the scenic resource in the development of land, these documents do not provide specific clear written community standards that are designed to preserve the aesthetics or scenic beauty of the area in which the Project will be built.

The Project site is not specifically identified in the Town Plan for protection or special consideration related to aesthetics. The design of the Project these recommendations, goals and objectives; namely to assure that facilities like the one proposed are sited with considerable regard to the scenic qualities of the area. The Project does not degrade or otherwise impact the identified gateway experience for those arriving to Bennington via Route 7 from the north. Furthermore, the Project has incorporated design features that significantly lessen its visual impact on the limited viewshed within which it is proposed (see discussion below).

The Project also helps advance the energy objectives of the Regional Energy Plan including the approximately 28.4MW goal solar capacity for Bennington by 2050.[21]

2. *Has the Applicant failed to take generally available mitigating steps which a reasonable person would take to improve the harmony of the proposed project with its surroundings?* We believe the applicant has taken generally available mitigating steps that a reasonable person would take to improve the harmony of the Project with its

[20] Ibid. page 82
[21] Ibid. page 90

surroundings. Some of these steps are integral to the site selection and design of the facility:

a. The Applicant has chosen a site which is not identified for conservation or open space protection. While identified as Rural Conservation by the Town, the land use allows a variety of low density uses with due consideration of aesthetic impacts. Additionally, the nature of this Project, upon its decommissioning, will allow the site to be restored to an undeveloped condition.

b. The Applicant has chosen a south-facing site with a very low slope that does not dominate the surrounding landscape, function as a ridgeline or otherwise feature prominently from offsite vantage points.

c. The Applicant has placed the arrays comprising the solar field on slim mounting brackets that follow the natural terrain of the land to minimize its profile. These slight variations in terrain help break up and limit the perceived scale of the Project.

d. The form of the power poles (wooden) to interconnect the Project to the grid is very common in the broader landscape and the position of the structures against the backdrop of retained vegetation will soften and limit their appearance.

e. The applicant has chosen darker tones for supporting structures, such as the inverter skid to minimize their appearance. The placement of the inverter skid lower (south) on the site allows the large wooden buffer further south to effectively screen it. This placement also puts these components over 650 feet away from the nearest residential structure.

f. The photovoltaic surfaces of the panels are low-reflective and do not create problematic glare. The use of “Mono PERC” modules have a darker black coloring as compared to the typical “blue”; helping it recede from view. Glare modeling suggest a potential for low-impact glare along Route 7 north in the immediate

vicinity of the Project site. This impact, relegated to a narrow window of time in the early am during the summer will be even further mitigated by the presence of existing (and proposed) landscaping. Additionally, the area of this low-level impact is along the highway meaning the duration of impact is fleeting. Glare is not expected at any stationary points nearby. None of this modeling accounts for the screening of natural vegetation; which intervenes.

g. The Applicant is retaining large buffers of existing roadside vegetation that limit views into the site from the public right-of-way to the west. In an abundance of caution to assure effectiveness at all times of the year, the design includes additional plantings along this western boundary. A total of 223 individual plantings (mixed deciduous and coniferous) are proposed along the western edge (See Plant List on Figure CS-03).

h. New landscaping is proposed along the edge of the parcel to the north and east of the Project including 142 mixed deciduous and coniferous trees and shrubs.

i. New evergreen screening trees are proposed along the northern boundary of the array, installed at 20-24 tall, provide even greater screening to an adjacent residential property.

j. A 10-foot-tall chain-link fence is proposed around publicly-facing segments of the Project fence. This fencing will be fitted with an 85% black mesh fabric material to improve its screening function and further lessen the potential for any direct or unfiltered view of the Project from offsite locations.

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?*

No. We do not believe that the Project would offend an average person. With its strikingly limited offsite public or private visibility, the Project's scale, mass and form will have little presence within the surrounding landscape. This assures that it will

not be out of character or offensive, nor would it diminish or distract from the scenic qualities of the area. Within the broader landscape, the Project does not significantly diminish the scenic qualities. The Project is set on a site which retains natural vegetated areas on its periphery, has a relatively gentle slope with slight undulations that tend to break-up the mass of the array, and does not permanently degrade or diminish areas of noted or high scenic qualities. The Project allows continued visibility of regional landscape forms from residential properties higher in elevation, while still maintaining adequate and effective screening.

The viewshed of the Project is relatively small, restricted mostly an area of intensive highway infrastructure within about 0.5 miles of the Project site. The Project is set back by over 320 feet from its closest private residential neighbor to help further diminish its ability to shock or offend. This setback between the Project and these residential properties is heavily wooded. The Project, conforming the natural shape of the terrain, will fall away relative to these neighbors, further lessening any potential for impact.

The Project does not introduce secondary factors which often can contribute to how a project “fits” into its setting. These factors include such things as traffic, noise, exterior lighting, dust, odors, glare or other nuisances which often are at the root of public objections.

PART III: OVERALL CONCLUSION

We believe that the Project has addressed its setting in a very balanced way. It has recognized its potential impacts and taken reasonable steps to improve its harmony with this setting. We do not believe the Project creates an adverse or undue adverse impact to the aesthetics or scenic beauty of the area.