



SOUTH FORTY SOLAR FARM

Burlington, Vermont

Aesthetics Assessment Report

Prepared by:



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Part I: Project Background

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 the proposed South Forty Solar Farm (“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 Service Board find a proposed project will not have an “undue adverse effect” on a proposed project site’s aesthetics, which the Vermont Public Service Board assesses utilizing the following two-part test (“the Quechee Test” or Quechee Analysis):

In order to find that a project will not have an adverse impact, a project must not 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, if it is concluded that a project will cause an adverse effect, is to determine whether the adverse effect of the project is “undue.” The adverse effect is considered undue when any one of the following questions is answered in the affirmative:

- 1. Does the project violate a clear, written community standard intended to preserve the aesthetics or scenic beauty of the area?*
- 2. Has the applicant 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, based on past PSB precedent. 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: Project Description and Visual Context

General Description

The Project site is a 40.9 (±) tract of land within the City of Burlington located on Sunset Cliff Road (a private road which is located on the developer's parcel). The direct footprint of the solar array will occupy approximately 18.5 (±) acres of the property. To the southwest of the property are residential and common area uses associated with the Strathmore neighborhood, while to the east are residential uses associated with Curtis Avenue. Residential areas to the

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

south (also Strathmore) are separated by an existing wet-sand-over-clay forest. On the northwest side of the property are seasonal camps situated along the shore of Lake Champlain, but separated from the property by an undeveloped buffer of trees and fields. Finally, the Sunset Cliff neighborhood, consisting of seasonal and single family homes is located to the west, separated from the Project area by heavily treed acreage.

The Project will consist of a solar field comprised of 300 (\pm) fixed panel solar arrays (the structures that hold the individual solar panels at a fixed position to the sun) set on driven steel piles that place the bottom of the arrays at approximately 48" above existing grade. Setting this height allows the array to shed snow without creating buildup on the ground that might compromise energy production. Each array is angled at 30 degrees and oriented towards solar south. These arrays will be located in rows set at a sufficient distance apart to minimize shading. The entire solar field will be fenced. A more detailed depiction of the solar field is illustrated on the Project site plan, Figure 2.

Individual solar panels comprising each array are mounted on a rack system. Given the mounting angle and with the bottom elevation at 48" above existing grade, the maximum height of a panel would be approximately 10' 6" above ground surface. The solar cells in each panel are dark blue in color and the panel glass is treated with an anti-reflective (AR) coating that lowers the overall reflectivity of a typical panel to below 5 percent, well below the reflectivity of surrounding vegetation.

The Project's inverters (converting DC to AC) will be enclosed within two pre-fabricated enclosures located within the array rows. These enclosures are set on driven steel piles and reach a maximum height of approximately 11' 6". The Project's transformer(s) (stepping up the voltage to interconnect with the Burlington Electric Department line) will be located on the PowerStation deck adjacent to the inverter enclosure. The electrical and data monitoring lines from the array to the inverter will be buried in conduit except for areas within wetlands or their associated buffers where they will be placed above ground on the array rack system.

In addition to the above, the Project will also include a maintenance building (approximately 24' x 48' and 27' tall), a small parking area, and an informational kiosk. The maintenance building is designed as a barn-like structure which will house the equipment needed to mow and maintain the property and array. The parking area is primarily intended for the periodic use of service vehicles for the Project, but will also provide a convenient place for the Project developer to allow community schools and other interested persons and organizations to visit the site and view the informational kiosk. Information displayed in the kiosk will explain the production of energy from the facility.

The perimeter of the array will be surrounded by a cedar-posted knotted mesh style fence, 7 feet in height. This fencing has been used extensively at other solar installations in Vermont and, when placed on cedar posts, maintains a more "agricultural" appearance.

Visual Context

The general context within the vicinity of the Project Site is presented on Figure 1.

The property is located in a suburban part of Burlington, part of its New North End, close to the border with Colchester. The property was part of the original farm owned by John J. Flynn² in the early 1900s and remained in agriculture or open land as recently as the 1970s. The Strathmore development, consisting of single family and multifamily housing was developed in the 1990s. As noted above, a substantial amount of the land in the immediate vicinity of the property (northern, southern and western sides) remains undeveloped or sparsely populated.

At present the property is approximately 75 percent forested with a combination of mixed-hardwoods (mostly successional) in the northeastern quadrant and wet-sand-over-clay-forest on the southern half of the land. The open lands within the property are mostly associated with a wet meadow whose vegetation is dominated by small deciduous shrubs and grasses. Topographic grades on the property range from a low of 120 feet along at the southwest corner to about 142 feet at a “high point” in the interior of the site. This minimal change in grade across the site gives it a rather “flat” appearance. The property and surrounding areas are shown along with the limits of the Project on Figure 1.

As part of our visual assessment, SE Group conducted field reconnaissance visits to the Project site in January and May 2014. During these visits, we observed the Project setting relative to the proposed design and took photographs from various vantage points to help us better understand the visual context and potential impacts.

The locations of these photographs are shown on Figures 1 and 2. Our primary objective during this visit was to identify potential viewshed “zones” in and around the Project. A viewshed zone is an area that, based on the Project’s design and landscape context, has a potential for visibility of some portion of the Project. A more of the viewshed zones can be found in Part II–Section A.

Section C: Evaluation Methods and Approach

To complete our assessment, we have thoroughly reviewed SFS’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, atlases and statistical records. We have reviewed the manufacturer’s information on the nature of the proposed solar panels 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.

² Flynn was a prominent Burlington businessman and benefactor: Flynn Theater, Flynn Avenue, Flynn School, etc., among other Burlington landmarks and institutions.

After defining the likely extent of the viewshed, we also identified several key viewpoints from which the proposed solar field might be seen. We collected photographs and catalogued landscape and visual resource characteristics from these viewpoints.

We evaluated these technical factors (where can the Project be seen, what would it look like, etc.) against the qualities and sensitivities of the visual environment. We have employed several techniques for this process that blend the quantitative and qualitative aspects of visual analysis. These have all been combined into a final analysis of visual impacts from the Project using the Quechee Analysis. This process is described in detail in Part II of this report.

Part II: Quechee Analysis

Section A: Viewshed Determination

The relatively low heights of the panels (10' 6" maximum) that comprise the array greatly limit potential offsite visibility. Because of this low height, small changes in micro-topography, areas of mature woodlands, and other structures can have a significant influence on the extent of the viewshed. Traditional GIS tools, relying on digital elevation models, are not reliable to define a viewshed for this type of proposed use. The stated vertical accuracy of such models can be between 15-20 feet, greater than the actual height of the proposed panels.

Rather than relying solely on a GIS-based viewshed analysis, our work also involved reviewing the Project site plan and conducting two photographic reconnaissance visits to the area. During these reconnaissance visits we noted the qualities of the setting, the position of the Project relative to public observation points and how structures, vegetation and micro-topographic changes influence potential visibility. We were fortunate to have been able to gather photographs during "leaf-off" conditions.

We documented three viewshed zones for the Project (See Figure 1).

Viewshed Zone 1

The first zone occurs along a stretch of Curtis Avenue, just south of its intersection with Starr Farm Road. Curtis Avenue is a traditional single-family residential neighborhood composed mostly of two-story "raised ranch" style homes. Approximately eleven (11) of the properties along the western side of Curtis Avenue are adjacent to the Project and may have some visibility into the Project site. At present, areas within the backyards of these residences and along the eastern edge of the subject property are wooded. Photographs A-C on Figure 3 document the existing observed conditions. Public views from this viewshed zone would be limited by the density of existing residential structures as well as the retained vegetation along the shared property line. Any views from this viewshed would be of the back of the arrays which, given their orientation and spacing, tend to be in shadow, reducing their visual prominence.

Viewshed Zone 2

The second viewshed zone was identified along the frontage of the Project with Sunset Cliff Road. Sunset Cliff Road is a private road, controlled by an affiliate of SFS, that runs approximately 1500 feet along the western side of the property. It serves a number of year-round and seasonal dwellings located further to the west (i.e. the Sunset Cliff neighborhood). At present about 50 percent of the frontage along Sunset Cliff Road is wooded. About mid-point west along the frontage, the roadside vegetation thins and views into the property open up. Moving further west, immature trees along the roadway appear and continue towards the northwest property line. Photographs D–F on Figure 3 document the existing observed conditions in this viewshed zone. Public observation of the Project within this viewshed would be for a relatively short duration given that there are no residences located directly north of the roadway. A traveler heading either east or west on Sunset Cliff Road would have views into the Project site, but such views would be softened by retained roadside vegetation. Additional landscape mitigation measures would also be effective in softening views. Views heading west along the roadway within this viewshed zone would be of the “backs” of the panels. Views heading east would largely see the side “profile” of the arrays given their orientation towards solar south.

Viewshed Zone 3

The third viewshed zone observed is within the Strathmore neighborhood near the intersection of Nottingham Lane and Muirfield Road. Within this area, we identified three private residences and the Strathmore development’s outdoor pool/recreation structure. The shared property boundary between the Project and these adjacent residential uses is currently wooded with predominantly deciduous trees and shrubs. Residential plantings, including arborvitae and/or cedar were also observed. Some of these form a dense hedge, such as the one surrounding the Strathmore pool complex. Photographs G–J on Figure 4 document the existing observed conditions. Much of the landscape within these residential areas is mature and effective at softening views into the Project site. A narrow gap in existing vegetation was noted at the end of Nottingham Lane, which will be mitigated (See description of Mitigation Measures set forth below on page 14).

While the photographs presented on the above figures were taken during winter (“leaf off”) conditions, given the density of understory shrubs, we would expect considerably more screening during the summer months, when the outdoor pool complex would be in use. Retaining portions of this buffering landscape and supplementing it with additional landscape mitigation plantings if needed would limit the Project’s visibility in these areas. To help document this condition, SE Group took some additional photographs during May, 2014 from key vantage points within each viewshed zone (See Photographs D, E, and F on Figure 5) documenting the change in view from winter to spring condition.

Cross-Sectional Analysis

We supplemented this field work by reviewing the Project plans and preparing three representative cross-sections as shown on Figure 2. These cross-sections highlight the relative position of components of the Project with respect to the property lines, roadways and/or adjacent residential areas. The purpose of these cross-sections is to better characterize

the position of the Project and to illustrate the effect existing vegetation has on limiting potential visibility. It also provides value in identifying the potential effectiveness of mitigation to lessen any impacts.

Cross-section A is positioned to reflect the conditions between Curtis Avenue and the Project. Again, the Project is set about 69 feet back from the shared property line and approximately 120 feet back from the residential structures. A 10 foot area outside of the fencing surrounding the arrays will be mowed for maintenance access. Along the southern side of the Project, an area of approximately 15 feet beyond this mowing area will be part of the vegetation management zone for the Project. Within this management zone, taller trees and/or shrubs will be cleared or trimmed to prevent shading and/or falling limbs. Cross-section A also reflects that substantial areas of trees will be retained within a buffer along the edge property, which is generally more than 30 feet in width. As the array is oriented away from this zone, the retention of taller trees is possible without shading the array. Cross-section A is provided as Figure 6.

Cross-section B is drawn through Sunset Cliff Road into the Project site. Along the frontage, the setback between the private roadway and the arrays ranges from 35 to 80 feet. Within the resulting buffer of 20-30 feet, existing trees of less than 30 feet in height would be maintained and additional trees would be provided as needed to help soften views into the site. The section and associated plan are provided as Figure 7.

Cross-section C documents the relationship between the Project and the intersection of Nottingham Lane and Muirfield Road within the Strathmore development. As noted above, this area includes the outdoor pool complex for the development. As the section presents, the array itself will be approximately 73 feet from the shared property boundary, with the Project fence being about 30 feet away. This condition leaves approximately 55 feet within which landscape mitigation (in the form of additional plantings and/or fencing) could be added to further minimize visibility of the Project. These mitigation measures (discussed below in this assessment) are shown on the cross-section which confirms that even relatively low growing plant materials would be effective in significantly screening potential Project views. This section and its associated plan are provided as Figure 8.

Section B: Assessment of Potential Visual Impacts

Having identified the extent of the views and completed an analysis of representative views from the Project, the next step is to prepare an assessment of potential impacts using the Quechee Analysis. 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 or not that impact would be undue.

Test for Adverse Impact

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

- 1. 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?**

The site is visually isolated from its surroundings. It is an undeveloped tract in an otherwise low density residential / suburban area. It is presently extensively wooded and while clearing will occur, a significant portion of the site will be retained as woods. The scenic qualities of the existing site are more intimate; natural features rather than expansive vistas. An open meadow along Sunset Cliff Road will be used as part of the Project, but it is somewhat visually screened by existing roadside vegetation.

- 2. 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 land use of the surrounding area is largely residential, with a city park (which includes baseball diamond and tennis courts) to the south. The Project is compatible with the site. The low height of the Project components allows the natural terrain and substantial vegetation in the periphery to be effective in limiting its visibility from adjacent public areas, constraining the viewshed and reducing the perceived mass of the Project.

- 3. Are the colors and materials selected for the project suitable for the context in which the project will be located?**

The materials and colors of the Project are consistent with materials and forms used in many similar solar projects approved by the Board. There are also many other man-made structures in the vicinity of the Project (i.e., houses, tennis courts, distribution lines, etc.). The galvanized metal/gray color of the frames and racks that support the photovoltaic panels are less visible during winter. The photovoltaic surfaces are non-reflective and a dull, dark blue color that has a similar albedo (or surface reflectivity) to natural grasses, meadows and fields. In this case, they are directed away from potential observers for the most part.

The inverter stations are set in the interior of the array, reducing their visibility.

The supporting elements of the Project include the 7 foot high black mesh-grid that surrounds the solar field. The fence, of Beznal coated galvanized mesh, is of a form typical for enclosure of utility projects and other large areas. The mesh itself is not visible from any location outside of the Project site; its black color helps it visually retreat.

- 4. 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 Project essentially has limited public visibility. Visibility is limited to a small opening along Nottingham Lane (See Cross-Section C on Figure 8). Views along Sunset Cliff Road, while possible, are within a private road. Views from Starr Farm Road and Curtis Avenue are unlikely from the public right-of-way.

5. 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 vegetated clearing, but this process will not result in a long-term loss of open space in the region. SFS has proposed a vegetated management zone along the southern edge of the Project's fence line within which limited clearing can occur to minimize shading on the array. A 50-foot forest buffer zone is also established to prevent any intrusion into the existing dense woods that dominate the remainder of the Project parcel, more than half of which will remain undeveloped.

Overall, the development of the site for a solar project inherently has a little capability of contributing to a long-term loss of open space. The Project requires little grading or alteration of the underlying terrain. The components of the Project (panels, fencing, and transformers) can be easily removed and the land restored swiftly to its pre-development condition, if needed. Areas of sensitive environmental concern have been avoided in the plan.

Conclusion of Adversity:

Overall, the Project is set in a location that has a very limited viewshed; essentially a few partially screened adjacent residential structures and from a sparsely used private roadway. The proposed setbacks from adjacent residential properties will further visually integrate the Project with its setting. The low profile nature of the Project's components assures that they will not project above the existing tree line or be seen from any prominent vantage point.

The Project retains significant vegetation along portions of the property to limit offsite views. The Project does not introduce exterior lighting, additional traffic, noise or other impacts that often contribute to a sense of "incompatibility." The supportive components to the Project are designed and planned to be evocative of a more "agricultural" form, softening the appearance of the array and allowing the facility to have a more "finished" style. This includes the maintenance shed which has an architectural character consistent with the agricultural vernacular. The dark color and non-reflective nature of the solar arrays effectively eliminates annoying glare or reflectivity.

While the site has limited public visibility, a substantial area will be cleared of vegetation and this will materially alter the visual conditions for those in close proximity. As a result, our conclusion is that there will be some adverse impact to the aesthetics and the scenic or natural beauty of the area as a result of the Project. While the site is well suited to support a proposed facility like this with minimal visual impact to nearby public areas, some supplemental mitigation measures, such as landscaping, context-appropriate fencing, and the use of appropriate architectural design may be beneficial to enhance site screening and improve the harmony of the Project with respect to its surroundings.

Upon rendering this conclusion we will continue our review under the Quechee Analysis to test whether the severity of these impacts makes them unduly adverse.

Test of Undue Adverse Impact:

The Quechee Analysis process continues by evaluating whether the impact of the Project would be unduly adverse. This is done by addressing three fundamental questions:

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

No. Although projects seeking a Certificate of Public Good under section 248 do not require local zoning permits, 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 Service Board 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 June 11, 2010 at 52. The Board 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.

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

City of Burlington Municipal Development Plan: The current Municipal Development Plan (March 2014) addresses a broad set of policies and objectives covering diverse areas such as land use, scenic resources, and energy.

Chapter II – Natural Environment – contains a brief discussion of scenic views. Two of the City’s Natural Environment Policies deal with scenic quality: “Protect its natural resources from degradation, including: air, water, soils, plant and animal life, agricultural lands, forests, geologic features, and scenic areas.” And “Preserve scenic viewpoints and viewsheds, and insure public access to natural areas where appropriate.” Of particular note, Chapter II highlights Lake Champlain and the Winooski River as “two of the region’s most valued resources,” citing scenic beauty as one of their many values. Chapter II also notes that “Burlington has adopted regulations limiting development on these [steep] slopes to preserve scenic quality, and prevent unnecessary damage to shorelines or bodies of water from streambank erosion.”

Chapter III – Built Environment – also deals with scenic qualities. The vision for the built environment states that “This Plan envisions Burlington as a city where ... [i]mportant view corridors and scenic vistas have been retained, and developed areas are complimented by open spaces, parks, and natural areas.” One of the

City's policies for the built environment is to "[p]rotect its scenic views and view corridors, and encourage development that compliments Burlington's natural setting." On page III-3, the plan states "The City must take full advantage of this setting by identifying and protecting view corridors and important scenic views for all to enjoy - today and tomorrow. A plan for identifying and protecting views of important visual landmarks and landscapes from public vantage points must be undertaken as the City contemplates opportunities for future higher-density development." Furthermore, one of the action items of the Built Environment Action Plan is to "Identify important scenic view corridors and points of interest and ensure their protection in the Zoning Ordinance, especially from public places such as primary streets and parks."

Chapter VIII of the Municipal Development Plan deals with energy. The energy plan vision states that "This Plan envisions Burlington as a city where Burlington is a leader in the development and implementation of energy efficiency and renewable energy measures that reduce energy costs, enhance environmental quality, improve security and sustainability, and enhance economic vitality. Key elements of this success are a broad range of energy efficiency programs, public education in resource conservation, publicly-owned alternatively-fueled electric generation, biomass-fueled district energy technologies, energy-efficient green building technologies, and climate-friendly transportation solutions, which includes support for alternative fueled vehicles." One of the City's energy policies is "continue to aggressively pursue the transition to renewable sources, cogeneration, and district heating." One of the energy action plan items is "Prepare an evaluation of the citywide potential, constraints and impacts associated with the development of new renewable energy sources - including fuel cell, cogeneration, biomass, solar, geothermal, hydro, wind, and methane." Additionally, the energy plan states, "Burlington's energy use priorities focus on developing more effective and economically viable Vermont based renewable energy alternatives including solar, wind and bio-mass energy sources, and a continued emphasis on conservation and efficiency programs." These statements, particularly the last statement, indicates general support for solar projects, but does not lay out any specific community standards.

The energy plan element of the Municipal plan also incorporates the Burlington Climate Action Plan adopted by the City Council in the winter 2014 by reference. This document also voices a general support for solar projects.

Chittenden County Regional Plan: The current Regional Plan (June 2013) covers the broad policies and objectives for land use, scenic resources and energy (among others) within the region. In its brief discussion of "Scenic, Recreational, and Historic Resources," Chapter 2.2.2, the Regional Plan states that "Scenic resources represent an important element of the region's landscape and contribute directly to sense of place, quality of life and economic vitality through tourism and by attracting new residents and businesses." The Regional Plan provides the following goal for Scenic and Recreational Resources:

"Conserve, protect and improve valued scenic, recreational, and historic resources and opportunities." While these statements point out the importance of addressing scenic and visual resources within the region, the Regional Plan does not provide clear standards for the area within which the Project is proposed. In Chapter

2.5.5, the Regional Plan provides the following energy goal: “Reduce Chittenden County's consumption of energy and reliance on non-renewable, energy. Improve the cost-effectiveness, efficiency and reliability of the energy production, transmission, and distribution system.” The energy chapter further explains the Regional Plan position on solar development by stating, “Chittenden County has many non-fossil fuel based, renewable energy production sites owned by utilities, private parties, and municipalities. Reliable, cost effective, and environmentally sustainable energy availability is critical to support the economy and natural resources of Chittenden County.”

Both the City and regional plans identify the need for sensitivity 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 specific area in which the Project will be built. The design of the Project has met the intent of 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 location for the Project maintains significant screening so as to effectively eliminate offsite public visibility.

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 SFS has taken generally available mitigating steps that a reasonable person would take to improve the harmony of the Project with its surroundings.

Some of these steps are integral to the site selection and design of the facility, including the following:

- a. The Project maintains significant existing vegetation on the periphery of the Project site that minimizes offsite views from nearby public rights-of-way and private residences. The vast tract of woodlands south of the Project site is preserved which effectively curtails any views of the Project from points to the south. Wooded buffers are maintained along the eastern and western edges.
- b. SFS has chosen a site where the terrain does not rise up from surrounding areas, which would increase the perceived scale/mass of the Project. The terrain's general "flatness" reinforces the low profile of the panels.
- c. SFS has placed the panels comprising the solar field on slim mounting brackets, neutral gray in color, that follow the natural terrain of the land and which minimize the installation's profile.
- d. All of the electrical collection lines for the Project will be buried within the Project Site, except for those in wetlands and wetland buffers (to minimize disturbance of those resources). A single new interconnection pole near the northeast corner of the Project site will be needed. The appearance of the structure will be of a similar character to other existing infrastructure in and along Starr Farm Road.
- e. The photovoltaic surface of the panels are non-reflective and do not create glare. They are directed away from most potential observers and in all cases screened by existing and proposed vegetation.
- f. SFS has chosen Bevinol coated galvanized black-mesh fence with minimal visual impact profile to secure the majority of the site. The mesh of the fence is very difficult to discern even at very close distances. The use of wooden poles evokes an agricultural quality consistent with the historic antecedents (barn, farm, etc.)

In addition to the site selection and design measures noted above, SFS has also incorporated a number of very extensive mitigation measures intended to further improve the harmony of the Project with its setting. These mitigation measures are depicted on Figure 9. Two areas for mitigation are proposed; along Sunset Cliff Road, and within the Strathmore Neighborhood at the "spur" at the end of Nottingham Lane. Each is discussed in detail below.

Sunset Cliff Mitigation Measures:

Mitigation Zone 1 – Along Sunset Cliff Road, SFS is proposing a "three-tiered" landscape mitigation approach. The "Zone 1" area extends from the northeast corner of the Project and extends westward, past the proposed "barn-style" maintenance building for about 410 (±) feet. Within this zone are planned an 8' stockade style "privacy" fence with horizontal slats which will connect with the 7' agricultural fence. This

fence will not encompass the parking/turn-around area but will extend to the maintenance shed. A gate in the fence will allow authorized access. The design and style of the landscaping in this area will be more “formalized,” reflecting its relationship to the maintenance shed and roadway. Five red maples (*Acer rubrum*) are planned within this zone along with numerous shrubs, including hydrangeas and spirea.

To help illustrate the intention of this mitigation, we have prepared 3D perspective renderings. These renderings were created using a 3D model developed of the Project site and the proposed components (solar arrays, interconnection points, access road, maintenance building, and kiosk) which allows the Project to be viewed from any location, onsite or nearby. To help connect these 3D perspectives with the existing conditions, we chose four locations from which we had taken photographs. In this way, we could match the general perspective of the existing conditions photograph in order to provide context to the modelled views.

A 3D perspective from location “D” near the entry to Sunset Cliff Zone is presented as Figure 10. This model view includes the proposed maple trees at approximately 25 feet in height, (after some maturation the trees will be approximately 35-45 feet high) along the roadway in areas where proposed clearing is to occur. The maple trees would align with existing roadside trees observed near the northern side of the Sunset Cliff Road frontage (see the right side of Photograph D on Figures 10 and 3). Also visible in this 3D perspective are the maintenance shed, information kiosk, access drive and parking area to the left. The Burlington Electric Department (“BED”) interconnection pole is depicted on the right hand (north) side of the road.

The second 3D perspective within Mitigation Zone 1 simulates the view of the Project from location “E” looking east (See Figure 11). In this view, the observer is heading to the east along Sunset Cliff Road and would see the array to the right. The stockade fence continues to about this point and shows how shrubs will be included to soften its appearance and give it a more formal character.

Mitigation Zone 2 – After about 410 feet along Sunset Cliff Road, the proposed landscape mitigation makes a transition in Zone 2. This zone extends for about 200 feet. The 8’ stockade style “privacy” fence with horizontal slats ends and transitions to a 7’ agricultural fence. Extensive shrub plantings along the frontage in this zone, including lilacs, help to soften the appearance of the fence. This perspective also highlights the fact that the panels are not oriented directly at observers from this orientation.

A third 3D perspective is provided within this zone and is taken from location “E” as discussed above, but looking west (See Figure 12). The 3D image shows the ending of the stockade fence and the continuation of fencing in a more agricultural style. At the far end of the 3D image, the transition point to Zone 3 can be seen.

Overall for Mitigation Zone 1 and 2, the planting plan anticipates 179 shrubs and 5 maple trees.

Mitigation Zone 3 – At about 620 feet along the Sunset Cliff frontage with the Project, the mitigation strategy changes to supplementing what is present with new plantings. As the original condition photos from location

“E” in summer and winter show (See Figure 5), towards the western edge of the Project property there are many roadside trees and shrubs that can remain. While the agricultural-style fencing must continue to secure the array, Zone 3 plantings are more naturalized to reflect the objective of bolstering existing plant materials. Species such as viburnum, dogwood and pussy willow are planned. Overall, 126 shrub plantings are anticipated, placed strategically to minimize existing hedgerow plantings that can be retained.

Strathmore Neighborhood Mitigation Measures

As noted earlier, the small gap in existing vegetation along the western edge of the property in the vicinity of Nottingham Lane and Muirfield Road would have allowed some views into the property. Recognizing this, SE Group has recommended a two-part mitigation plan. The first part calls for more intensive planting of trees such as balsam fir, sugar maple, and river birch along with shrubs such as dogwood and hollyberry within a narrow zone within the “gap.” This area is depicted on the Mitigation Plan (Figure 9). Additionally, 17 additional, more naturalized shrubs (including dogwood, pussy willow and viburnum) are planned within a broader “supplemental” area to bolster the existing hedgerow.

A final 3D perspective was prepared from location “T” along Muirfield Road near the Strathmore Pool area. This vantage point (See Figure 2 and Photograph I on Figure 4) is to the west and slightly south of the Project Site. From this vantage point, existing vegetation retained along the property line (see Cross-Section C on Figure 7) has been simulated along with some additional lower-growing shrubs. These additional plantings are shown to help illustrate the potential effectiveness of supplemental landscaping in enhancing the natural and retained vegetated buffer. This 3D perspective is provided on Figure 10.

With the addition of the above supplemental landscaping mitigation, SE Group concludes that the Project has taken generally available mitigating steps that a reasonable person would take to improve the harmony of the proposed 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?

No. We **do not** believe that the Project would offend an average person. Its scale, mass and form are not so out of character that they are offensive. Nor do they diminish or distract from the scenic qualities of the area. Within the broader landscape, the Project does not alter the existing scenic qualities. The Project is set on a site that, while requiring some clearing, does not permanently degrade or diminish areas of noted or high scenic qualities. The Project does not impede or degrade regional landscape forms visible in the surrounding areas.

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 ongoing traffic, noise, exterior lighting, dust, odors, glare, or other nuisances which often are at the root of public objections.

The extensive landscape mitigation plan proposed by SFS reflects its commitment to making the Project “fit” within this context. While the Project is not broadly visible to the public, in our view SFS has recognized the importance of being a good neighbor and has established a design for the Project and its integrated landscaping, that will not be shocking or offensive.

Part III: Overall Conclusion

SE Group believes that the Project has addressed its setting in a very balanced way. SFS has chosen a setting that provides significant visual isolation for the Project and limits impact to the extent practicable. Based on our assessment, it is our conclusion that the Project **does not create an undue adverse impact** to the orderly development, aesthetics, or scenic beauty of the area.