

**STATE OF VERMONT
PUBLIC SERVICE BOARD**

Petition of South Forty Solar, LLC for a)
certificate of public good, pursuant to 30)
V.S.A. § 248, authorizing the installation and)
operation of a 2.5 MW solar electric)
generation facility located off of Sunset Cliff)
Road in Burlington, Vermont, to be known as)
the “South Forty Solar Farm”)

Docket No. _____

1 **PREFILED DIRECT TESTIMONY OF MARK KANE**

2 **Q. Please state your name, occupation, and business address.**

3 A. My name is Mark Kane. I am a land use planner and the Director of Community Planning
4 and Design at SE Group, which is a multi-disciplinary consulting firm specializing in the
5 planning, entitlement and design of public facilities, mountain and resort communities and
6 other complex projects. SE Group has four offices across the United States, and the
7 Vermont office is located at 131 Church Street, Burlington, Vermont 05401.

8
9 **Q What is the purpose of your testimony?**

10 A. My testimony supports the Petition of South Forty Solar, LLC (“SFS”) for section 248
11 approval to construct and operate a 2.5 Megawatt (MW) solar electric generation project, to
12 be known as the South Forty Solar Farm (“South Forty Solar Farm,” or “Project”), in
13 Burlington, Vermont. Specifically, I provide testimony regarding the Project’s compliance
14 with Section 248(b)(1) with respect to the orderly development of the region, and Section
15 248(b)(5) with respect to visual aesthetics.

16
17
18

1 **Q. Please describe your professional background, qualifications, and experience.**

2 A. I received my Bachelor of Science in Environmental Studies from the University of
3 Vermont's School of Natural Resources in 1991. After graduating, I worked as an
4 environmental scientist at Wagner, Heindel, & Noyes, in Burlington, Vermont. Beginning in
5 1996, I worked as a land planner and principal of Dunn Hamelin Kane, also located in
6 Burlington. I have been working at SE Group for 14 years and have been a director of that
7 group since 2005. I have worked and/or managed dozens of aesthetic and land use analyses
8 for renewable energy projects, including Kingdom Community Wind Farm in Lowell,
9 Vermont, New Haven Solar Farm in New Haven, Vermont, and the Addison Solar Farm, in
10 Ferrisburgh, Vermont. In addition, I have extensive experience with Aesthetic and
11 Environmental Impact Analysis, Regional and Land Use Planning, Permitting and
12 Entitlement, and Geographic Information Systems ("GIS"). I am an affiliate member of the
13 American Society of Landscape Architects, a member and executive council member of the
14 Vermont Planners Association, and the Vermont Director for the Northern New England
15 Chapter of the American Planning Association.

16 My resume is attached to my testimony as *Exhibit SFS-MK-1*.

17

18 **Q. Have you previously testified before the Public Service Board regarding other electric**
19 **generation projects?**

20 A. Yes. I have testified before the Vermont Public Service Board on numerous occasions over
21 the past decade. I provided aesthetic and noise consulting services and expert witness
22 testimony on behalf of the Vermont Department of Public Service on the application for a
23 four-turbine wind turbine project in East Haven (PSB Docket 6911) and the proposed

1 Sheffield Wind project (PSB Docket 7156). I also provided similar services for Deerfield
2 Wind (Docket 7250), Lowell Mountain Wind (Docket 7628), and the Vermont Community
3 Wind Met Tower (Docket 7526). In addition, I prepared visual resource analyses for net-
4 metered wind projects including Heritage Aviation (NM-721) and Bolton Valley (NM-676).

5 I have testified before the Board on many solar projects including the Addison Solar
6 Farm (Docket 7594), New Haven Solar Farm (Docket 7645), Charlotte Solar Farm (Docket
7 7844), Clarke Solar Center (Docket 7957), CRL Solar (Docket 7827), Limerick Road Solar
8 (Docket 8027), Barton Solar (Docket 8148), Bridport Solar (Docket 8234), City Solar
9 (Docket 8182), Cold River Solar (Docket 8188), and Novus Barre Town Solar (NMP-3640).

10
11 **Q. Please describe the work you have done for this Project.**

12 A. As part of my review, I (and my staff) visited the site and surrounding areas, took
13 photographs from various public vantage points, reviewed mapping and site plans of the
14 Project site and setting, and prepared a number of supportive figures that documented my
15 review and summarized this work into a report.

16
17 **Q. What exhibits have you prepared?**

18 A. Under my supervision and direction, SE Group has prepared a report entitled “South Forty
19 Solar Project Aesthetic Assessment Report,” provided here as *Exhibit SFS-MK-2*. This
20 exhibit contains a series of figures identifying the viewshed of the Project, cross-sections of
21 the area, and simulations of the proposed improvements from a variety of vantage points. It
22 also analyzes the potential impacts from the Project using the *Quechee* Test method.

23

1 **Q. Can you describe the Project site and surroundings?**

2 A. Yes. The Project site is a 40.9 (\pm) tract of land within the City of Burlington located on
3 Sunset Cliff Road (a private road). The direct footprint of the solar array will occupy
4 approximately 18.5 (\pm) acres of the property. To the southwest of the property are
5 residential and common area uses associated with the Strathmore neighborhood, while to the
6 east are residential uses associated with Curtis Avenue. Residential areas to the south (also
7 Strathmore) are separated by an existing wet sand over clay forest. On the northwest side of
8 the property are seasonal camps situated along the shore of Lake Champlain, but separated
9 from the property by an undeveloped buffer of trees and fields. Finally, the Sunset Cliff
10 neighborhood, consisting of seasonal and single family homes is located to the west,
11 separated from the Project area by heavily treed acreage.

12 The property is shown in context on Figure 1 of my report. A more detailed site
13 plan identifying conditions on the Property is on Figure 2 of my report. See *Exhibit SFS-*
14 *MK-3*.

15
16 **Orderly Development – 30 V.S.A. § 248(b)(1)**

17 **Q. Will the Project unduly interfere with the orderly development of the region?**

18 A. No. The Project, while within a residential area of the City of Burlington, has not been
19 identified for any specific land use conservation measures or otherwise prohibitive or
20 restrictive of development in this area. While natural resource preservation and protection
21 of critical habitats is a shared objective of both the local and regional plans, the Project has
22 limited impact on them and given its form, and has the capacity to be removed and the site
23 restored to a condition similar to what presently exists. See *Exhibits SFS-MK-3* (City of

1 Burlington Municipal Development Plan excerpts) and *SFS-MK-4* (Chittenden County
2 Regional Planning Commission Regional Plan excerpts).

3
4 **Aesthetics (Visual) – 30 V.S.A. § 248(b)(5)**

5 **Q. Can you describe the nature of the Project’s viewshed?**

6 A. Yes. For the most part the Project is visually isolated from public vantage points by
7 significant woodlands to the south and substantive natural vegetated buffers to the east and
8 west. Sunset Cliff Road (a private road) along the northern portion of the Project has the
9 highest potential for views into the site. Additionally some areas near Nottingham Lane and
10 Muirfield Road in the Strathmore neighborhood (i.e. at the “spur in the road”) may have
11 views into the site. Each of these areas is described in more detail in my report. *Exhibit*
12 *SFS-MK-2*.

13 Following a field visit to the area and through additional analysis of the Project using
14 3D modeling tools, topographic maps and aerial photographs, we confirmed that the
15 viewshed is narrowly constrained to the immediate vicinity of the Project site; primarily to
16 residential neighbors. The visibility from many of these adjacent residential areas is limited
17 by second growth trees and shrubs (including birch and sumac) along their shared property
18 boundary the Project site. A narrow gap in existing vegetation was noted at the end of
19 Nottingham Lane.

20
21 **Q. Please summarize your assessment of the Project’s visual impacts.**

22 A The primary finding from our assessment is that, partially because of the nature of the
23 terrain and the existing pattern of vegetation, the primary viewshed of the Project is very

1 small and essentially constrained to a few areas along the western property line to the
2 Strathmore neighborhood and along the private Sunset Cliff Road. The Project will not be
3 visible other roads in the area. The context of the viewshed is presented in Figure 1 of my
4 report. See *Exhibit SFS-MK-3*.

5 While the site has limited public visibility, a substantial area will be cleared of
6 vegetation and this will materially alter the visual conditions for those in close proximity. In
7 consideration of the above, my conclusion is that there will be an adverse impact to the
8 aesthetics and the scenic or natural beauty of the area as a result of the Project. While the
9 site is well suited to support a proposed facility like this with minimal visual impact to nearby
10 public areas, some supplemental mitigation measures, such as landscaping, context-
11 appropriate fencing, and the use of appropriate architectural design, as recommended by SE
12 Group and adopted by SFS, will be beneficial to enhance site screening and improve the
13 harmony of the Project with respect to its surroundings. Upon rendering this conclusion, I
14 continued my review under the *Quechee* Analysis, to test whether the severity of these impacts
15 makes them unduly adverse.

16
17 **Q. Will the Project have an undue adverse effect on aesthetics or the scenic or natural**
18 **beauty of the area?**

19 A. No. As discussed in detail in my report, I believe that the Project would not create an undue
20 adverse impact in relation to aesthetics or the natural beauty of the area.

21 While both the City and regional plans identify the need for sensitivity to the scenic
22 resource in the development of land, these documents do not provide specific clear written
23 community standards that are designed to preserve the aesthetics or scenic beauty of the area

1 in which the Project will be built. The design of the Project has met the intent of these
2 recommendations, goals, and objectives; namely to assure that facilities like the one
3 proposed are sited with considerable regard to the scenic qualities of the area. The location
4 for the Project maintains significant screening so as to effectively eliminate offsite public
5 visibility. See *Exhibits SFS-MK-4 and MK-5*.

6 Finally, I do not believe that the Project would offend an average person. Its scale,
7 mass and form are not so out of character that they are offensive. Nor do they diminish or
8 distract from the scenic qualities of the area. Within the broader landscape, the Project does
9 not alter the existing scenic qualities. The Project is set on a site that, while requiring some
10 clearing, does not permanently degrade or diminish areas of noted or high scenic qualities.
11 The Project does not impede or degrade regional landscape forms visible in the surrounding
12 areas. See *Exhibit SFS-MK-3*.

13 Recognizing the impact to areas in closest proximity, SFS has incorporated into the
14 Project design a number of very extensive mitigation measures intended to further improve
15 the harmony of the Project with its setting. These mitigation measures are depicted on
16 Figure 9 of *Exhibit SFS-MK-3*. Two primary areas for mitigation are proposed: along
17 Sunset Cliff Road, and within the Strathmore Neighborhood at the “spur” near the end of
18 Nottingham Lane and Muirfield Road. Each is discussed briefly below and in more detail in
19 my report.

20
21 *Sunset Cliff Road Mitigation Measures*

22 Along Sunset Cliff Road, SFS has incorporated a “three-tiered” landscape mitigation
23 approach based on our recommendations. The “Zone 1” area extends from the northeast

1 corner of the Project and extends westward, past the proposed “barn-style” maintenance
2 building for about 410 (±) feet. Within this zone are planned an 8' stockade style “privacy”
3 fence with horizontal slats which will connect with the 7' agricultural fence. This fence will
4 not encompass the parking/turn-around area but will extent to the maintenance shed. A
5 gate in the fence will allow authorized access. The design and style of the landscaping in this
6 area be more “formalized,” reflecting its relationship to the maintenance shed and roadway.
7 Five red maples (*Acer rubrum*) are planned within this zone along with numerous shrubs,
8 including hydrangeas and spirea.

9 After about 410 feet along Sunset Cliff Road, the proposed landscape mitigation
10 makes a transition in Zone 2. This zone extends for about 200 feet. The 8' stockade style
11 “privacy” fence with horizontal slats ends and transitions to a 7' agricultural fence.
12 Extensive shrub plantings along the frontage in this zone, including lilacs, help to soften the
13 appearance of the fence. Overall for Mitigation Zone 1 and 2, the planting plan anticipates
14 179 shrubs and 5 maple trees.

15 For the remainder of the Sunset Cliff frontage with the Project the mitigation
16 strategy changes; supplement what is present with new plantings. While the agricultural-style
17 fencing must continue to secure the array, Zone 3 plantings are more naturalized to reflect
18 the objective of bolstering existing plant materials. Species such as viburnum, dogwood and
19 pussy willow are planned. Overall, 126 shrub plantings are anticipated, placed strategically to
20 minimize existing hedgerow plantings that can be retained.

21

1 Q. Does this conclude your testimony at this time?

2 A. Yes.