

January 7, 2022

Mr. Mark Carruolo, Town Planner
Planning Department
North Smithfield Town Hall
One Main Street, PO Box 248
Slater'sville, RI 02876

Re: Preliminary Application – Proposed Pomham Solar 2.8± MW Solar Array
Off Iron Mine Hill Road
Assessor's Plat 16 Lots 18 and 19
ESS Project No. P322-001

Dear Mr. Carruolo,

ESS respectfully submits the enclosed Preliminary Plan application package on behalf of the developer and property owner, Islander Solar, LLC., and the property owner of the leased access road, Joseph and Sandra Authier. The applicant proposes to develop a 2.8± MW ground mounted solar photovoltaic system on a vacant lot. This project was previously presented to the Planning Board at pre-application meetings held on August 1, 2019 and August 12, 2021. Please find enclosed a Preliminary Plat Checklist and ten copies of:

1. RIPDES Construction General Permit Authorization (road only), December 6, 2021
2. Stormwater Analysis and Design Reports, September 29, 2021 and January 7, 2022
3. Stormwater Operation and Maintenance plan, January 7, 2022
4. Soil Erosion and Sediment Control Plans, September 29, 2021 and January 7, 2022
5. Noise Impact Assessment, January 7, 2022
6. Environmental Impact Assessment, January 7, 2022
7. Carbon Sequestration Evaluation, January 7, 2022
8. Geotechnical Engineering Report, January 21, 2021
9. Interconnection Service Agreement, August 7, 2019
10. Solar Facility Operation and Maintenance plan, undated
11. Decommissioning Plan, undated
12. Permitting Plans, January 7, 2022

The filing fee and Application for Subdivision and Land Development Projects will be provided under separate cover.

A brief narrative of the existing conditions and proposed project is provided below.

Existing Conditions

The Site is located on two parcels on the southern side of Iron Mine Hill Road. The first 7.20± acre, residential parcel is accessed by an existing gravel driveway off of Iron Mine Hill Road and is identified as Assessor's Plat 16, Lot 18. The second 22.24± acre parcel is identified as Assessor's Plat 16, Lot 19 and is zoned Rural Agricultural (RA). It consists of vacant wooded land classified as Residential Vacant according to the latest property record card. The surrounding properties are primarily wooded with the exception of single family residences along Iron Mine Hill Road. The closest residence is located to the north on Assessor's Plat 16, Lot 18, through which the project will be accessed. All other residences are several hundred feet from the proposed array.

The property is located within flood zone "X" per FIRM Map 44007C0160G. Flood zone "X" refers to areas of minimal flood hazard above the 500-year flood level. The Site is mapped by Natural Resources Conservation



Service (NRCS) as Canton and Charlton fine sandy loams. It does not contain soils that are classified as Prime Farmland.

No historic districts, historic cemeteries, state designated Greenway Corridors, Natural Heritage Areas, state designated scenic areas, hiking/biking trails, boat launches, lake/stream access points, beach/water trails, or play fields/grounds have been identified on or immediately adjacent to the Site. The Site is not located within a Community or Non-Community Wellhead Protection Area or Groundwater Aquifer Overlay District per "Map 1 and Map 2- North Smithfield, RI Water Supply Protection Overlay District". It is located within a Surface Water Protection Area per the previously referenced Maps.

Wetlands were delineated by Tetra Tech in November 2018 and ESS in September 2019. The field survey resulted in the identification and delineation of two wetland features, in the southwestern portion of Lot 19.

Wetland A (by Tetra Tech) is delineated by the DS-flag series (DS-1 – DS-18) and is located in the southwestern portion of Lot 19. This wetland is classified as a forested wetland under the Freshwater Wetlands Act and meets the classification as a seasonally flooded/saturated palustrine broad-leaved deciduous forest (PFO1) per National Wetland Inventory.

Wetland B (by ESS) is delineated by the W-flag series (W1-W18) and is located in the south-western portion of Lot 19. This wetland is classified as a forested wetland under the Freshwater Wetlands Act and meets the classification as a seasonally flooded/saturated palustrine broad-leaved deciduous forest (PFO1) per National Wetland Inventory.

Proposed Development

The Applicant proposes to construct a $2.8\pm$ MW direct current (DC) ground mounted photovoltaic solar array and corresponding electrical equipment, equipment pad, utility poles, fence, and three stormwater basins. Several trails that traverse the proposed array area will be restored by scarifying, loaming, and seeding. A gravel driveway will provide access from Iron Mine Hill Road, through Lot 18, to the array. The proposed array occupies approximately 5.5 acres and will be surrounded by a seven-foot-tall chain-link security fence, enclosing a total area of approximately 6 acres. A 6-inch clearance will be provided beneath the security fence to wildlife passage. The total Limits of Disturbance, including shade tree cutting and gravel road improvement, is $13.3\pm$ acres.

The ground within the fenced area will be grubbed and seeded with a low maintenance grass seed mix. Shade trees between the proposed fence and limits of disturbance where no grading is proposed will be cut but not grubbed, leaving the existing ground cover intact. Disturbed ground outside the fence will be seeded with a restoration mix.

The project is allowed by Section 5.7- Solar Photovoltaic System Installations of the Town of North Smithfield Zoning Ordinance. The conceptual layout has been designed in accordance with the Solar Ordinance as listed below:

1. *No solar photovoltaic systems may be constructed or substantially modified without first obtaining a Special-Use Permit.*
The Property Owner is seeking a Special Use Permit;
2. *The parcel in question must be a minimum of six (6) acres in size and must be vacant. Furthermore, the proposed solar array must not exceed thirty percent (30%) of the gross lot area, or exceed 6 acres, whichever is less.*

The 22.2± acre parcel is greater than the 6 acre minimum and is vacant. The 6.0± acre fenced area covers approximately 27% of the lot.

3. *Consistent with Section 5.7.5 (g) Visual Buffer and Setback, all solar arrays must be set back a minimum of 100 feet from the property line. Within the 100-foot minimum setback a permanent all season green buffer shall be planted.*

A 50-foot buffer of existing vegetation is proposed, with the exception of minimal clearing required within close proximity to two of the stormwater management basins.

A variance is requested from the 100-foot minimum array setback to the northern property line. At the recommendation of the Planning Board, the array was shifted north into the 100-foot setback in order to minimize work within areas of steep slopes on the southern portion of the Site. The 50-foot buffer of existing vegetation in this area will remain. The property to the north (lot 18), while a separate lot, is part of the project and includes the access road and utility poles.

4. *Water Bodies and Wetlands: Setbacks must comply with state environmental regulations.*

Wetlands have been delineated and surveyed. All proposed work is located outside the applicable 50-ft perimeter wetland.

5. *No Installation or operation of a solar photovoltaic system shall result in any form of trespass at any time.*

- a. *Solar Reflection*
- b. *Noise Generation*
- c. *Neighboring Properties*

The proposed solar array is not anticipated to cause adverse impacts associated with solar reflection, noise generation, neighboring properties, or local wildlife. According to "Clean Energy Results; Questions & Answers; Ground-Mounted Solar Photovoltaic Systems" published by the Massachusetts Department of Energy Resources, Massachusetts Department of Environmental Protection, and Massachusetts Clean Energy Center in June 2015:

- "Solar panels are designed to absorb solar energy and convert it into electricity. Most are designed with anti-reflective glass front surfaces to capture and retain as much of the solar spectrum as possible. Solar module glass has less reflectivity than water or window glass. Typical panels are designed to reflect only about 2 percent of incoming sunlight. Reflected light from solar panels will have a significantly lower intensity than glare from direct sunlight."

The enclosed Noise Impact Study indicates that predicted sound levels are not expected to exceed 38 dBA at or beyond the property line. This is below the assumed typical ambient daytime noise level of 40 dBA and the maximum permissible residential daytime level of 53 dBA.

The enclosed Stormwater Analysis and Design Reports indicate that the post-development conditions peak runoff rates generated by the 1, 2, 10, 25, and 100-year design storms will not exceed pre-development conditions.

6. *Wildlife, fauna access and migratory patterns to remain unaffected.*

The enclosed Environmental Impact Assessment demonstrates that no significant impact to wildlife, fauna access and migratory patterns is anticipated given the relatively small size of the development footprint and the large areas of undeveloped habitat in the general vicinity of the project.

7. A security fence shall be installed and maintained surrounding all components of the solar photovoltaic system. The fence shall be no less than six feet and no more than ten feet tall. The fence shall be inside the visual buffer and setback.

A 7-foot tall chain link security fence is proposed surrounding all components of the solar photovoltaic system. The fence will be screened by the proposed 50-foot buffer of existing vegetation.

8. Clearly visible warning signs concerning voltage shall be placed along the security fence. The signs shall identify the owner and have a 24-hour phone contact for emergencies.

Danger signs and Emergency Contact signs are proposed along the proposed chain link fence.

9. The maximum height of any component or appurtenance structure of the ground-mounted solar photovoltaic system shall be 15 feet.

The maximum height of all components of the ground-mounted solar photovoltaic system will not exceed 15-feet, excluding utility poles.

10. Utility connections for the solar photovoltaic system shall be installed underground on the subject property. Electrical transformers for utility interconnections may be above ground if required by the utility provider. All electrical components of the solar photovoltaic system shall conform to all relevant and applicable local, state and national codes, laws and regulations.

Utilities connections within the solar array will be underground up to the first utility pole, which will be located outside the solar array. All electrical components of the solar array will conform to the relevant and applicable local, state, and national codes.

11. Appurtenant structures, such as equipment shelters, transformers, and substations shall be within the security fencing. All appurtenant structures shall be shielded from view by the green buffer. Storage buildings shall not be permitted on the solar photovoltaic system site.

The equipment pad will be located within the proposed chain link security fence. The fence will be screened by the proposed 50-foot buffer.

12. In addition to any requirements of Section 17, to the maximum extent practicable, all ground mounted solar voltaic installations should be located to preserve the natural features of the site, to avoid areas of environmental sensitivity, and to minimize alterations of and negative impacts to natural features, historic and cultural resources, and scenic areas. Any grading or site preparation must, to the extent possible, conform to the natural topography of the area. Excavation of material including gravel, sand and rock is prohibited unless it is necessary to properly locate the solar photovoltaic installation, and such excavation shall only be that which is minimally necessary. The applicant shall conduct and pay for a site analysis conducted prior to the conceptual site planning process.

The ground mounted solar array will be located outside of jurisdictional wetlands and rivers, including their respective buffers. In addition, the Site does not contain any historic or cultural resource or scenic areas per readily available Rhode Island Geographic Information (RIGIS) data. Proposed site work will be limited to the minimum necessary to install the array. The conceptual array layout avoids existing steep topography, ledge, and large areas of boulders to the extent feasible.

13. Solar photovoltaic systems shall be maintained in good condition. Such maintenance shall include painting, structural repairs, integrity of security measures, and maintenance of green buffer and maintenance of drainage and runoff systems. Solar photovoltaic systems shall be inspected for structural integrity, security measures and maintenance of drainage and runoff systems by an Engineer at least once each year. The inspection report shall be submitted annually to the Building/Zoning Office on the anniversary of the issuance of the building permit.

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An Operations and Maintenance (O&M) Plan is enclosed.

14. On-site Inspections and Construction Control

On-Site inspections and confirmation of completion record will be conducted and maintained throughout all phases of the construction.

15. The Applicant shall maintain a current general liability policy during the construction phase of the Solar photovoltaic system that covers bodily injury and property damage with minimum limits of Two Million Dollars (\$2,000,000.00) per incident/per occurrence. The Applicant shall provide the Zoning Board of Review with a valid certificate of insurance listing the Town of North Smithfield as additionally insured.

Liability insurance, with the minimum limits listed above, will be purchased during the construction phase of the solar array by the Applicant.

Please feel free to call me at 781-419-7726 or email me at JGold@essgroup.com with any questions or comments.

Sincerely,
ESS GROUP, INC.

A handwritten signature in black ink that reads "Jason Gold".

Jason M. Gold, P.E.
Manager, Civil/Site Engineering

Enc.

CC: Charlie Roberts, Nautilus Solar
Jon Restivo, Darrow Everett, LLP