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November 19, 2020

Mr. Jim Lamphere, Town Planner
Planning Board
Hopkinton Town Hall
1 Town House Road
Hopkinton, RI 02833

Re: Response to Peer Review – Maxson Hill Solar, 0.5 MW ± Solar Array
40 Maxson Hill Road, Hopkinton, RI 02804
AP 4 Lot 38
ESS Project C641-000

Dear Mr. Lamphere,

ESS Group, Inc. (ESS) has received review comments provided by Crossman Engineering via email on October 27, 2020 and November 3, 2020. Please find the reviewer's comments below in italics followed by ESS's response. Revised copies of the site plans and supporting documentation are enclosed.

Comments received on October 27, 2020

1. *To address the runoff concerns due to the panels being aligned perpendicular to the slope, we previously recommended rows of stone channels place parallel to the contours. We see that trenches were provided but the 6 inch x 6 inch deep pea stone trenches seem too small to be effective. It appears that trenches of this size will only have capacity for about 0.01 inches of runoff. We recommend that they be widened and deepened and filled with ½ inch crushed stone, as opposed to pea gravel. Otherwise, they will quickly fill and not be as effective. The width and depth will depend upon the spacing. It would be best to have a volume sufficient for 0.5 inches – an inch of runoff, as a minimum. The more the better. Since there is a steep man-made slope below the solar field, this slope will be prone to eroding if gulleys form.*

   Detail 1 on Drawing D-2 has been revised. The stone trenches have been increased to 12 inches deep by 24 inches wide and will be filled with washed crushed stone. The filter fabric will wrap around the stone 4 inches below final grade.

2. *In regards to the trenches, the bottom and sides will need to be wrapped in a fabric (as you show) but also please add a fabric on the top, 4 – 6 inches below the surface, to allow for cleaning of leaves/sediment and to prevent silt from entering the void space.*

   See response to comment 1, above.

3. *The stone trenches are part of the stormwater mitigation system, so their routine inspection and maintenance needs to be identified in an O&M Write up.*

   Refer to item 1 in the comments received on November 3, 2020, below.

4. *Initial comment 2, last bullet: During construction of solar fields, we continue to witness high runoff flows with silt, so we recommend that the feasibility of sediment ponds be reconsidered.*

5. *Decommissioning Cost: The cost summary table is insufficient documentation. Quantities and unit costs are need. The list also does not appear to identify all tasks needed, such as, trucking, inspections, the engineers report, the as built plan, trimming/fine grading the area to allow for seeding, r&d utility poles, some supplemental loam for eroded areas,*

   A more detail decommissioning cost table prepared by Centrica is enclosed.

6. *Does the garage below the solar field have a well?*

   The garage is reportedly served by a well. The well was not observed during the site survey.

7. *PSES Design Guidelines, 2B, mentions that the facility shall be screened from view by vegetation… to avoid visual impact to residentially zoned land. We note that you mention the northern abutter is satisfied but it appears that they will see the panels at different viewpoints. Also, the woods beyond the project limits should be identified to remain until the solar field is decommissioned. Please note that independent of an agreement with an abutter, the Planning Board may require supplemental screening if they do not believe that the intent of the Ordinance is satisfied.*

   Note 12 has been added to Drawing N-2, which states "Existing vegetative buffer shall remain until the solar array is decommissioned."

<u>Additional comments received on November 3, 2020</u>

1. ***Submission Documents Pending:*** *An Operation and Maintenance Plan for Stormwater was not provided for review at this time. (for stone trenches)*

   Item 5, "stone trenches" has been added to the Operation and Maintenance Plan

2. ***Affidavit****: Although minor, the second paragraph of the affidavit references the Town of Westerly.*

   The revised affidavit is enclosed.

3. ***Letter of Support:*** *Although it was acknowledged that the abutter at 48 Maxson Hill Road has no objection to the project the proposed screening still needs to conform to all requirements of the Town of Hopkinton Chapter 246 Non-Residential Photovoltaic Solar Energy Systems. The Planning Board will need to decide if adequate screening is proposed for the project.*

   Noted

4. ***Site Plans:***

Plan Sheet 1-Cover:

- *Please update the Sheet List Table to include N-2 and update the dates of the attachments (V-1, V-2 and V-3) to match the plan date of 10-16-2020.*

  The sheet list table has been updated and the dates listed on the attachments are the most recent dates of those attachments.

Plan Sheet 5-Layout and Material Plan:

- *The front yard setback is mistakenly labelled "50' F.Y."*

  The front yard setback label has been corrected.

- *The current proposed grading at the entrance to the site is approximately 15%. Typically, this would be considered too steep for fire apparatus. This will need Fire Marshal approval.*
  The Ashaway Fire District Fire Marshall has confirmed that his review of this project will not be conducted until after municipal approvals are received.

- *Some of the existing drainage feature labels cannot be read at Maxson Hill Road and the bituminous entrance to the site.*

  The plan has been revised to make the existing drainage feature labels legible.

- *Although distances were observed from the solar arrays to the westerly property line no distances were observed to the closest abutting property (AP 4, Lot 38B) or to the clearing line as originally requested.*

  The minimum distances from the closest abutting property (AP 4, Lot 38B) of 40 feet to the clearing limit and 52 feet to the solar array are labeled in the northwest corner of the array.

- *Please show the location of the existing drinking water well adjacent to the existing house. Only a label was observed.*

  A symbol has been added to show the location of the water well.

Plan Sheet 6-Soil Erosion and Sediment Control Plan:

- *Although additional erosion controls were added it still appears downhill areas on the westerly portion of the project may have allow sediment beyond the limit of work once the site is cleared for construction.*

  The silt fence in the vicinity of the southwestern corner of the array has been extended.

General Note:

- *It is noted that a RIDEM Permit will be submittal upon receipt.*

  RIDEM approval was received on October 27, 2020 (WQC File No. 20-101; RIPDES File No. RIR102059)

- *The 1.8 acres of woodland area to be cleared, grubbed and seeded should be moved to the callout "area inside fence to be cleared, grubbed and seeded" for clarity on the plans.*

  The callouts have been combined for clarity.

Plan Sheet V-1 Boundary Survey:

- *The front yard setback is mistakenly labelled "50' F.Y."*

  The label has been corrected to read 60'.

Plan Sheet V-3 Topographic Survey:

- *The front yard setback is mistakenly labelled "50' F.Y."*

  The label has been corrected to read 60'.

- *Although the response stated the primary protection zone boundary (GAA/GA) was added to the sheet the boundary line was not observed. Please clearly label this line.*

  The boundary line has been labeled on this sheet for clarity.

Plan Sheet L3.01 Screen Planting:

- *The approximate first floor elevation of 48 Maxson Hill Road dwelling should be shown on the plan.*

  The estimated first floor elevation of the 48 Maxson Hill Road dwelling (250 ft) has been added.

- *Based on existing topography it appears that the top of the far eastern solar array (second row from northern property line) could be as high as elevation 199.0 +/-. The landscape architect shall confirm the screening is adequate.*

  Detail 8 on Drawing D-2 has been revised to show a panel height of 9+/- feet for consistency with the height shown on the Drawing L3.01. The landscape architect has confirmed the adequacy of the screening.

- *Plan Sheet L3.02 Screen Planting Section: Please label the existing grade line on all sections.*

  The existing grade label has been added to all sections.

- *Although Section B-B is shown toward 48 Maxson Hill Road dwelling based on existing topography it appears that the top of the far eastern solar array (second row from northern property line) could be as high as elevation 199.0 +/-. The Section B-B only shows the top of the array at elevation 192.0 +/-. The landscape architect shall confirm the screening is adequate.*

  Detail 8 on Drawing D-2 has been revised to show a panel height of 9+/- feet for consistency with the height shown on the Drawing L3.01. The landscape architect has confirmed the adequacy of the screening.

- *Section D-D should verify that the 34 Maxson Hill Road dwelling will not be able to see the proposed solar array field.*

  Section D-D has been extended to the dwelling. The section illustrates that the view from 34 Maxson Hill Road is obstructed by the existing topography and vegetation.

5. ***Environmental Impact Statement****: Under Potential Impacts to Wildlife Habitat there is a statement "the increased light penetration, combined with disturbance of the area during construction, may provide conditions conducive to the growth of invasive plants along the newly created forest edge. Therefore, the shade tree clearing and adjacent unaltered forested areas at the site should be monitored post-construction to document growth of invasive plants." Notes should be added to the plans stating post construction monitoring needs to occur, whom will conduct the monitoring and the schedule for monitoring including the remedy if invasive species are found.*

Note 11 has been added to Drawing N-2 to provide additional detail related to invasive species management. The note reads “At a minimum, invasive species monitoring shall occur monthly during the growing season (April through October, inclusive) for the first year following construction and twice annually during the growing season thereafter. Invasive species management methods may include but not be limited to: hand pulling, mowing, digging and brush hogging. At the direction of the project engineer, application of a native seed mix and/or installation of native plantings (saplings / shrubs) shall be conducted in areas where invasive species management is undertaken to discourage re-growth of invasive species.”

Please do not hesitate to contact me directly at 781-419-1126 or jgold@essgroup.com if you have any questions regarding this submission.

Sincerely,
ESS GROUP, INC.

Jason Gold

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

Enc.
CC: Colleen DeBenedetto, Centrica Business Solutions
Steven Surdut, Esquire