



**MASTER PLAN REVIEW MEMORANDUM**

To: James Lamphere, Town Planner

From: Steven M. Cabral, P.E.  
Crossman Engineering

Date: May 6, 2021

Re: Master Plan for Stone Ridge Solar Farm

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The applicant is proposing a 23.5 photovoltaic solar energy project and a 15,000 square foot building with associated parking, well and onsite wastewater treatment system (OWTS) on Assessors Plat 11, Lot 47A, which is approximately 252 acres in size. The site is currently zoned Commercial Special (CS) and is predominately woodlands.

Previous Review Memos were provided on December 5, 2020, April 5, 2021 and May 3, 2021 and the applicant has cooperatively responded to our comments. The intent of this Memo is to offer observations from testimony provided during the May 5, 2021 public meeting and to briefly list the outstanding comments from past Memos.

Below is a summary of observations of the Testimony provided by the Applicant's team:

- A. The landscape architect presented bioretention basins with shrubs inside the ponds. The conceptual drainage analysis was based on infiltration ponds which have a much higher infiltration capacity than bioretention ponds. The details of the drainage design can be worked out during the Preliminary Stage but basically, if bioretention systems with plantings are proposed, the size of the drainage ponds will be larger due to the organic soil required below the ponds. The organic layer decreases infiltration rates.
- B. The landscape architect did not address the extent of clearing proposed within the 100 ft residential buffers. The Plans submitted do not provide dimensions for the clearing limits within the buffers.
- C. Noise: The abutter that commented that clearing an expanse of existing trees can increase highway noise is correct but it is questionable if a land owner (the solar developer) could be required to mitigate noise being created by others (the State Highway). An opinion from the Town attorney would be helpful.
- D. Wildlife: The abutters are correct that some wildlife will be displaced but the design does provide the 6-inch bottom fence clearance for small wildlife, as required by the Ordinance,

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and outside the solar field, space for wildlife to traverse around the facility is provided and significant areas of the site will remain undeveloped. Joe McCue, the applicant's expert, testified that all steep areas are being preserved for wildlife. We would say that many, as opposed to all, steep slope areas are being preserved and that the design has made an effort to preserve large tracts of land for wildlife.

- E. Wetlands: We concur with Scott Rabideau, the applicant's wetland scientist, that this project has a reasonable likelihood of being approved as an Insignificant Wetland Alteration due to efforts made to minimize and avoid direct wetland impacts.
- F. Soils: We concur with Edward Avizinis, the applicant's soil scientist, that the soils are suitable for drainage infiltration systems.
- G. The topography of the land is hilly with varying slopes, therefore we suspect that during the Preliminary Design Stage, the design engineer will find that the proposed stormwater ponds may require more space than conceptually shown due to slope work. These details can be worked out during the Preliminary Design Stage.

Comments remaining from previous memos are outlined below:

1. **Checklist Waivers:** The Applicant is seeking waivers from the following Master Plan checklist items:
  - Construction Schedule has not been submitted.
  - Stormwater Design (Plans & Computations): Master Plan Checklist Item 57 requires a Detailed Drainage Plan. A conceptual stormwater analysis has been provided and the applicant is requesting that the detailed drainage plan be provided at the Preliminary Stage. At this time, we recognize that the intent of the designer is to meet all local and state stormwater standards.
  - Architectural Schematic Drawings, Floor Plans, Exterior Elevations have not been submitted.

Other items normally provided but not received include the Operations and Maintenance Manuals and Decommissioning Cost Estimates. It is reasonable to delay these two (2) items to the Preliminary Stage, since the design is only conceptual at a Master Plan Stage.

2. **Existing Conditions Plan:** The submission includes a Class I Limited Perimeter Boundary Survey and a note states the topography was compiled from RIGIS LIDAR mapping. For final design, we recommend that the accuracy of the wetland flag locations, stream locations, site features and topography be verified and certified by a professional land surveyor.

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### **3. Site Plans:**

- We understand that access throughout the site is subject to Fire Marshal review but we recommend that during the Preliminary Stage that it be demonstrated that adequate turning radius is provided for emergency vehicles along the 20 ft crushed stone access drive.
- The Plan calls out “Approximate Narragansett Trail” on the site and Note 5 states that existing trails are present on the property and shall be located for future permitting. We recommend confirmation of their significance and if others have rights or easements to those trails prior to authorizing relocation.
- A historical cemetery is noted on the plan. A dedicated access easement to the cemetery is recommended.

**4. Landscape Plans:** The LA Plans indicate a Limit of Disturbance (LOD) within portions of the 100 ft residential setback. Section 2 on Sheet L11.0 provides an example. A clear explanation of the extent of clearing or tree trimming in the 100 ft residential buffer will need to be provided to the Planning Board. It is not clear if any clearing is proposed to eliminate shading of the solar panels or if clearing is solely for trail construction.

**5. Wildlife Habitat Assessment Comments:** The report states that existing stone walls provide habitat for various species and will be preserved in situ or relocated on site. Site Plan C-2 does identify existing walls and a relocated wall but based upon the Wildlife Habitat Assessment, we recommend that it be confirmed that the replacement wall lengths are equivalent to the existing to be removed.

**6. Hopkinton Conservation Commission Comments:** In a letter dated April 7, 2021 to Mr. Al DiOrio, Chairman of the Hopkinton Planning Board, the Hopkinton Conservation Commission provided recommendations in regards to increased stormwater infiltration, construction methods to minimize soil compaction, solar panel efficiency versus reduced limits of disturbance, trail connectivity, black vinyl fencing, preservation of ceremonial stone features, stone wall alignment and easements/rights to utilize trails. We recommend that the applicant address the Conservation Commission recommendations to assist the Planning Board in evaluating the required Master Plan Findings.