

Nicole Roberts, Conservation & Planning Agent  
**Town of Winchendon**  
109 Front Street  
Winchendon, MA 01475

August 2, 2023

RE: Solar Energy Storage Facility – Site A  
Stormwater Permit/Site Plan Application  
256 Murdock Avenue  
Winchendon, Massachusetts

Dear Ms. Roberts,

Hannigan Engineering, Inc is in receipt of peer review comments from Tighe and Bond in a letter dated May 11, 2023 relative to a Stormwater Permit Application & Site Plan Review for the construction of an Energy Storage Facility a 256 Murdock Avenue in Winchendon, Massachusetts. We offer the following responses to their comments below, it is noted that for the purposes of brevity we have omitted comments that were noted by Tighe and Bond as address by the previous review.

**Review Comments:**

**Comments Pertain to the Town of Winchendon Zoning Bylaws**

*TB Comment #2: Section 12.6.1(P) requires consideration of the microclimate, including noise levels of the immediate environment. The Consultant should provide a statement addressing potential noise pollution, or lack thereof, from the proposed project.*

*HEI Response 7/10/2023: A noise analysis of the electrical equipment is forthcoming.*

*TB Comment 7/21/2023: We recommend the noise analysis is reviewed upon completion to ensure the Project meets the intent of Section 12.6.1(P).*

**Response: ZP Battery DevCo, LLC is currently preparing the document and will be presented to the Board at the next available public meeting.**

**Comments pertain to the Town of Winchendon Stormwater Management Regulations:**

*TB Comment #13: The rain garden is partially proposed within groundwater. The site plans show an unlined rain garden with an optional subdrain. Since the basin is not lined, it is possible groundwater can get into the system. The Consultant should consider lining the basin to prevent groundwater from permeating into the rain garden system. Additionally, as the design as modeled is reliant on the subdrain outlet, the Consultant should consider removing the “optional” language for the subdrain on the detail.*

*HEI Response 7/10/2023: Based on the soil testing performed on site, the Estimated Seasonal High Groundwater Table (ESHGWT) is approximately 1009.5. With the bottom of the rain garden being 1012.0, an offset of approximately 2.5-feet is provided. With the subdrain being at elevation 1009.5, should groundwater rise above the ESHWT, the*

*subdrain would intercept the groundwater to maintain the offset from the bottom of the rain garden. The "optional" language relative to the subdrain system has been eliminated.*

*TB Comment 7/21/2023: The soil media below the "basin" portion of the rain garden and the subdrain piping are considered part of the rain garden system/the rain garden cell. The total depth of the soil media and subdrain system below the "basin" bottom is 3.1-4.6 feet, resulting in a portion of the rain garden cell within groundwater. The system may not function as intended if groundwater permeates into the rain garden cell. We recommend that the Consultant consider lining the basin or provide 2 feet of separation to ESHGWT from the bottom of the rain garden cell system in accordance with the guidelines for rain gardens in the Massachusetts Stormwater Handbook.*

**Response: The Rain Garden Detail has been revised to provide a 40-mil plastic liner around the planting media and subdrain system to inhibit groundwater intrusion.**

*TB Comment #19: Section 3.3.4(P) requires a separate plan sheet containing landscape information, including a planting table with botanical and common names of each species, heights, spread (at maturity), and quantity to be planted. Landscaping details, including a typical detail of a tree well, tree planting, and specialty planting area, if applicable, are also required. The Consultant should consider preparing a separate landscape plan and details in accordance with this section.*

*HEI Response 7/10/2023: Due to the generally secluded location of the project site, there are no additional landscape plantings proposed for the project. It is noted that there will be plantings within the proposed rain garden area. Reference is made to the Rain Garden Detail for the lists of appropriate plantings to be utilized upon the completion of construction.*

*TB Comment 7/21/2023: We recommend the Board consider a condition of approval that proposed plantings within the rain garden are reviewed prior to installation.*

**Response: Acknowledge, final proposed plantings can be provided to the Town for review prior to installation.**

*TB Comment #22: Section 3.3.5(E)(4)(b) requires estimates of construction costs for consideration in determining the amount of performance bond or cash security. We note the Applicant has stated costs will be provided prior to construction if a performance bond is required. We recommend the Board consider a condition of approval that the cost is provided prior to issuance of a Building Permit*

*HEI Response 7/10/2023: Acknowledged.*

*TB Comment 7/21/2023: We recommend the Board consider a condition of approval that the cost is provided prior to issuance of a Building Permit.*

**Response: Acknowledged.**

**HANNIGAN  
ENGINEERING, INC.**

8 MONUMENT SQUARE, LEOMINSTER, MA 01453 PHONE: (978) 534-1234 CIVIL ENGINEERS & LAND SURVEYORS

This information is being provided as part of the review of the Stormwater Permit Application and Special Permit Application project submitted to the Town. Hannigan Engineering, Inc would like to thank the Planning staff and the Board for their continued cooperation during the review of this project.

Sincerely,  
**HANNIGAN ENGINEERING, INC.**



Christopher M. Anderson, PE  
Vice President – Engineering



William D. Hannigan, PE  
President

Pc: Pete Forte–ZP Battery DevCo, LLC  
Tom Corbett–ZP Battery DevCo, LLC  
Brendan Gove –ZP Battery DevCo, LLC

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