

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

August 2, 2023

RE: Solar Energy Storage Facility – Site B
Stormwater Permit/Site Plan Application
0 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 July 21, 2023 relative to a Stormwater Permit Application & Site Plan Review for the construction of an Energy Storage Facility a 0 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 where noted by Tighe and Bond as address by the previous review.

Comments Pertain to the Town of Winchendon Zoning Bylaws

TB Comment #1: Section 12.6.1(B) requires consideration of the adequacy of traffic circulation. The Consultant should provide a vehicle tracking diagram showing adequate turning radii for emergency vehicles, especially fire department vehicles, from the curb cuts around the islands.

HEI Response 7/10/2023: Vehicle turning layouts utilizing a typical emergency vehicle (SU-40) has been included with this review

TB Comment 7/21/2023: The tracking diagrams provided with the revised materials show that an emergency vehicle can pull onto the site but not that they can travel through the site. We recommend that the Town of Winchendon Fire Department is provided the site plans and vehicle tracking

Response: The Winchendon Fire Department is currently reviewing the site plans along with the vehicle tracking paths and fire suppressions systems.

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 #16: The rain garden is partially proposed within groundwater. The drainage report notes the PVC sub-drain system has a dual purpose of draining the basin between storm events and preventing groundwater from entering the basin; however, since the basin is not lined, it is possible groundwater can still get into the system. The Consultant should consider lining the basin to prevent groundwater from permeating into the rain garden system.

HEI Response 7/10/2023: Based on the consistent nature of the soil within this area it is presumed that the groundwater table is approximately 28-inches to 30-inches below the existing grade. The proposed rain garden has been relocated further west such that the bottom of the Basin is approximately a foot above existing grade, providing approximately 3 feet separation to groundwater.

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.

Comment #24: 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.**

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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 its 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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