



HALEY WARD

ENGINEERING | ENVIRONMENTAL | SURVEYING

FORMERLY:  CES INC

January 21, 2022

Planning Board
Attn: Debra Dennis
Prescott Building Suite 4
701 Main Street
Lancaster, MA 01523

Email DDennis@LancasterMA.net

**Re: 201 Hilltop Road
Stormwater Management Plan**

Dear Board Members

Haley Ward, Inc. has completed a review of a stormwater management plan application prepared for the site at 201 Hilltop Road. The document was prepared by Harrington Associates, LLC and is dated December 6, 2021. We offer the following comments:

1. The post development storm water run off calculations were not included in the application package. These should be provided to demonstrate the effectiveness of the proposed control systems. A tabulation of the pre and post development peak rates of run off and run off volumes would be helpful in the evaluation process.
2. Calculations showing the appropriate storage and recharge to groundwater should be provided including the retention drainage time.
3. Details of construction should be provided for the proposed work to include
 - i. Typical bioretention basin cross section
 - ii. Infiltration galleries
 - iii. Typical storm water management pond details
 - iv. Water quality swale

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- v. Pond and basin berm construction details
 - vi. Pond and basin overflow structures
 - vii. Erosion control fences and barriers
 - viii. Utility trenches
 - ix. Outfall flares and energy dissipation
 - x. Soil storage and sediment/dust control
 - xi. Construction phase run off control
4. A manure management plan, including storage areas.
 5. The proposed handling of the effluent from floor drains in the stable areas should be provided.
 6. A phasing plan should be provided. The plan should include a period allowing for the stabilization and revegetation of the pasture area prior to use.
 7. A construction period pollution prevention plan and post construction storm water pollution prevention plan should be provided.
 8. The application describes maintenance and management of the paddock areas including manure removal and rotation. This should be included and submitted as a record document in an overall operations and maintenance plan.

Sincerely,
Haley Ward, Inc.

Scott A. Miller, P.E.
Vice President, Regional Manager

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