

VTM Engineering, PLC

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May 9, 2023

Stormwater Management Section
VT ANR/Water Quality Division
1 National Life Drive, Main 2
Montpelier, VT 05620-3522

RE: Bristol Landfill Solar Annual Stormwater Inspection Report
Authorization to Discharge Permit No. 9252-9050

This letter and supporting documentation represent the 2023 Bristol Landfill Solar Annual Stormwater Inspection Report as required by the above referenced Permit.

Current Permits & Background

The current stormwater system is regulated under Discharge Permit No. 9252-9050. The stormwater treatment system was designed by Trudell Consulting Engineers (TCE) and was issued as part of the permitting process for a solar array project that was constructed on top of the former Bristol Landfill. The most recent TCE design drawings pertaining to the stormwater treatment system are labeled C4-01, C4-02 and C8-01 and dated 7/28/21.

An Authorization to Discharge Permit was issued by the Vermont Agency of Natural Resources for the project on August 20, 2021. The project treats approximately 0.36 acres of impervious surface made up primarily of the existing entrance driveway. The stormwater treatment system also includes the transmittance ditching along the driveway as well as a new infiltration basin and an associated forebay. Runoff from the driveway is designed to flow in existing stormwater ditches which in turn transmit it to the infiltration basin forebay. Stormwater in the forebay is intended to infiltrate into the ground. If during high stormwater events, the stormwater level in the forebay reaches a pre-determined height, it will flow over a stone lined spillway and into the infiltration gallery where it will dissipate via infiltration.

The Annual Inspection criteria outlined in the Authorization to Discharge Permit (permit) requires an inspection be conducted by a qualified professional engineer annually between snow melt and June 15 each year.

Criteria for the inspection as outlined in the Permit include:

- Noting any problem areas and any measure taken to correct any problems and prevent future problems

It is noteworthy that there is an existing Landfill Post Closure Plan and Permit that covers the adjacent closed landfill. A separate annual field inspection and report is required to satisfy the requirements of that permit.

Field Inspection Observations

The 2023 annual inspection was performed by Steven Palmer, P.E. of VTM Engineering, PLC (VTM) on May 8, 2023. During the field inspection, one small area of transmittance ditch was noted to contain a significant amount of sediment buildup. This ditch is located just prior to the forebay. No other areas of erosion or sediment buildup were noted in the driveway, associated ditching or forebay/infiltration basin. Brush and small trees were noted to be growing in the ditches along the upper part of the drive. Surface grading at the entrance to the forebay appeared visually to be higher than the entrance to the forebay. This could allow stormwater to potentially short-circuit the forebay and flow directly into the infiltration basin. No other issues of concern related to the stormwater conveyance or treatment systems were noted that would necessitate maintenance.

Recommendations

Based on VTM's observations, the stormwater conveyance and treatment system for the Bristol Landfill Solar Project appear to generally be in good condition. Recommended maintenance items include:

- Annual mowing of the grass around the infiltration gallery
- Reconstruction of approximately 20-feet of existing stormwater transmittance ditching immediately prior to the infiltration basin (see photo's).
- Remove trees and shrubs from the stormwater transmittance ditching at the upper end of the entrance driveway. VTM recommends mowing this area annually to the extent possible.
- Adjust the surface grading at the entrance to the stormwater forebay to ensure that stormwater does not short circuit the forebay and flow directly into the infiltration gallery.

Photographs of the overall inspection as well as each of the recommended maintenance items are included. Please feel free to contact me if you have any questions.

Sincerely,
VTM Engineering, PLC

Steven Palmer

Steven L. Palmer, P.E.
President

Copy: Ms. Valerie Capels, Town Administrator

Attachments:

1. Inspection photographs

Photographs



Upper Driveway
Entrance & Ditching



Lower Driveway
Entrance



Stormwater Ditch in Need of
Reconstruction



Grading at Stormwater Infiltration
Basin



Infiltration Basin Forebay



Infiltration Basin