



RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WASTE MANAGEMENT
235 Promenade Street, Room 380
Providence, Rhode Island 02908

March 19, 2019

Jim Lamphere
Hopkinton Town Planner
Town of Hopkinton
Hopkinton, RI 02833

RE: Outstanding Hopkinton Landfill Closure Requirements and Proposed Solar Post Closure Use

Dear Mr. Lamphere:

This Office has reviewed the materials you sent us, as well as our files relative to the status of the Hopkinton Landfill. Specifically you are interested in the steps necessary to place solar panels on the landfill in compliance with our Solid Waste Regulations 1 and 2 (found at: <https://rules.sos.ri.gov/regulations/part/250-140-05-1> and (<https://rules.sos.ri.gov/regulations/part/250-140-05-2>) hereafter the *Regulations*.

Our comments here focus on the capped landfill known as Phase II that you are considering for a solar project at that time. The older landfill, Phase I will need to complete closure under our Landfill Closure Program, including submission of a Remedial Action Workplan (RAWP) in order for us to consider any post closure use of that site. The RAWP will need to address the remedy approved in the Remedial Decision Letter (RDL) issued by the Department in December of 2007. If you are interested in pursuing solar or other reuse alternatives for Phase I, please contact Kasie McKenzie at 401-222-2797 ext. 7177 or Kassandra.McKenzie@dem.ri.gov.

Both your submittals and our files indicate that on July 7, 2000, the Town submitted to the Department a certification that the Phase II Landfill had been closed in accordance with the Closure Plan approved by the Department in 1994. We believe that this documentation is the best available information about cap construction that exists. Therefore, we believe the most pragmatic approach would be to move forward with the following steps to bring and/or keep the site in compliance with the *Regulations*:

Actions Necessary to Keep the Site in Compliance Irrespective of Future Use

1. Removal of surface debris and/or improvement of signage and fencing to minimize exposure of the public to waste in and around the landfill.
2. Repairs and Maintenance:
 - a. Repair damage to the cap from erosion.
 - b. Repair stormwater control structures.
 - c. Repair and secure groundwater monitoring wells.
 - d. Remove trees and shrubs

3. Semi-annual groundwater monitoring should be restarted as soon as possible in accordance with the approved plan.
4. Annual gas monitoring to ensure that methane gas levels do not exceed 25% LEL at property boundaries.
5. Annual inspection should be performed on the cap to ensure compliance with the *Regulations* and the approved plans.
6. An evaluation of the surface water impact of any discharges from the landfill.
7. Filing of an Environmental Land Use Restriction (ELUR) with the town to limit the future use of the property (if this has not already been done).

Actions Necessary to Proceed with Placement of a Solar Array

1. An evaluation, by a Registered Professional Engineer of what maintenance and repairs may be necessary on the following items prior to construction:
 - A. Drainage system and related stormwater control structures, including any systems impacted by settlement or sedimentation (swales and downchutes).
 - B. Erosion and sedimentation that has taken place and any remedial measures to fix it.
 - C. Gas collection and control systems including damage that may have been caused by settlement.
 - D. Leachate collection and control systems.
2. Prepare a Closure Plan Modification Request regarding proposed Solar Placement. This request should include the following items:
 - A. An evaluation of the effect of the proposed post development conditions on the volume of runoff, the peak discharge and the time to peak.
 - B. A sedimentation and erosion control plan for the subject site.
 - C. A detailed analysis of the potential impacts of the proposed solar system and structures on the landfill cap, leachate collection system and side slopes and an analysis of their stability and load bearing capacity. This should include the load on the liner of the equipment and vehicles used to install the system.
 - D. Include any modifications that will be needed for the existing post closure landfill environmental monitoring plan, focusing on the landfill gas monitoring.
3. Include an operation, monitoring and maintenance manual for the subject site.
4. Include a description of utilities proposed to be installed (including proposed connections to the utility grid for this project) that are on or in the immediate vicinity of the site.
5. Include a description of a post closure use development's interface with the landfill's capping system, particularly where the installation will lie upon or penetrate the landfill cap.
6. A Health and Safety plan and contingency plan shall be developed for any post closure use project.
7. Include a current detailed drawing of the Landfill including delineated wetland edges, topography with stormwater control features, cap perimeter and construction details.
8. Any waste encountered during construction activities should be characterized and disposed of appropriately.
9. A description of proposed alterations to the existing landfill gas control system and safeguards employed to prevent landfill gas build-up beneath the liner and any potential subsurface - migration of landfill gas into confined structures, conduits and/or at the boundary line of the landfill should also be included. Said description shall address the requirements of *Solid Waste Regulation 2.3.8 Gas control*.
 - A. The concentration of methane gas generated by the facility

- does not exceed 25% of the lower explosive limit for methane in facility structures (excluding gas control or recovery system components).
- B. The concentration of methane gas does not exceed 25% of the lower explosive limit for methane at the facility boundary line.
 - C. Ensure that methane gas monitoring is implemented for any enclosed structure, confined space or buried conduits that could cause buildup of flammable gases.
 - D. If methane gas levels exceeding the limits specified in paragraphs (a) and (b) of this section are detected, the facility must:
 - i. Immediately take all necessary steps to ensure protection of human health and notify the Department.
 - ii. Within (7) days of detection place in the operating plan the methane gas levels detected, and a description of the steps taken to protect human health.
 - ii. Within (60) days of detection, implement a remediation plan for the methane gas releases, place a copy of the plan in the operating plan, and notify the Department that the plan has been implemented. The Plan shall describe the nature and extent of the problem and the proposed remedy.

If you have any questions regarding this matter, please contact Robert Schmidt at (401) 222-2797 extension 7260 or by e-mail at Robert.schmidt@dem.ri.gov.

Authorized by,



Mark M. Dennen
Supervising Environmental Scientist

cc: Leo Hellested, Chief, OWM
Walid Ali, Robert Schmidt, Kasie McKenzie, OWM