# DEP FORM 28 CLOSURE OF THE POTTSTOWN LANDFILL Submitted by Waste Management to PA DEP "Revised April, 1994"

Comments Submitted by G. Fred Lee, PhD, PE(TX), DEE June 1, 2005

#### **Duration of Post-Closure Period**

WM "The area will be maintained in the Post-Closure phase for a period of 30 years."

GFL The Post-Closure period should continue for as long as the wastes in the landfill are a threat to generate leachate that can pollute groundwater.

## Duration of Maintenance of Sedimentation Basins

#### WM Closure Plan

(1) "The sediment and erosion control structures will be maintained and kept operable until all areas contributing to the basin have been sufficiently stabilized to warrant their removal. Approval will be obtained from PADER prior to removing the sedimentation basin."

**GFL** The sedimentation basins should be maintained forever.

#### **Landfill Cover Effectiveness**

WM "A geomembrane cap cover profile will consist of the following in ascending order:

- 12 inches of compacted cover soil
- 12 ounces per square yard nonwoven geotextile
- 40 mil. textured HDPE geomembrane
- Geotextile/Geonet/Geotextile composite drainage layer
- 24 inch layer of surficial soil capable of supporting vegetative growth"
- **GFL** If properly installed and maintained, this cover should reduce the entrance of water into the wastes so that little or no leachate or landfill gas is generated.

#### Water Quality Monitoring

WWI "Water quality monitoring for the Pottstown Landfill has been ongoing and will continue throughout the Post-Closure period."

**GFL** Table 4

Frequency – Quarterly?

Parameters – DEP Form 19?

Add Radioactivity - ?

## Monitoring of Fluid in Leak Detection Zone

- **GFL** What monitoring of the Leak Detection Zone fluid will be conducted during the post-closure period?
- Flow and chemical parameters listed in DEP requirements?
  - What data exist now on the composition of the fluid in the leak detection zone?
- Add VOCs found in leachate ?
- Add radioactivity ?

#### **Stormwater Runoff Monitoring**

**GFL** Will stormwater runoff monitoring be continued through the Post-Closure period? It should be.

#### **Groundwater Surfacing Monitoring**

GFL Will monitoring of the benthic "macroinvertebrate community" in Goose Run be continued throughout the Post-Closure period? It should be.

This Monitoring is a key to potentially detecting leachate-polluted groundwater if a Certificate of Final Closure is issued by DEP.

#### **Landfill Gas Monitoring**

GFL The production rate and chemical characteristics of landfill gas should be monitored throughout the Post-Closure period, i.e., for as long as the wastes in the landfill in contact with water can produce landfill gas.

The amount of landfill gas produced each day in each section/cell of the landfill should be determined; the chemical composition of the gas should also be monitored periodically.

#### **Leachate Monitoring**

**GFL** Do the proposed leachate flow measurements provide information on the leachate production in each cell?

The leachate production rate in each section (cell) of the landfill should be determined bimonthly to provide insight into the reliability of the maintenance of integrity of the landfill cover in each of the landfill sections.

#### Leachate Monitoring (cont.)

#### **Leachate Analysis**

No mention is made of continuing the DEP Form 50 monitoring of leachate in each landfill cell. It appears that the only monitoring of leachate that is proposed is the analysis of the leachate that is discharged to the Borough.

The Form 50 analysis of leachate from each landfill cell should be conducted during the Post-Closure period. Radioactivity should be added to the analytical parameters measured in leachate.

## Evaluation of the Integrity of Landfill Cover

WM "During each site inspection performed during the post-closure period, the condition of the final geomembrane cover will be evaluated to determine the extent, if any, of settlement, erosion or other disturbances affecting the integrity of the final cover."

**GFL** How will the integrity of the geomembrane in the landfill cover be evaluated throughout the Post-Closure period?

#### **Funding of Post-Closure Care**

GFL Will WM's proposed approach for Post-Closure funding be adequate to ensure that funds will be available throughout the Post-Closure period to meet all plausible worst-case failures of the containment and monitoring systems?

Remediate polluted groundwater when the liner system fails?

How will Post-Closure funding be provided if WM is no longer in business during the Post-Closure period while the wastes in the landfill are still a threat to generate leachate and/or landfill gas?

## Continued Review by the Pottstown Landfill Closure Committee

GFL What provisions are being made to enable the Pottstown Landfill Closure Committee to continue to be active in monitoring the adequacy of WM's monitoring and maintenance, and the DEP's review of, the Pottstown Landfill? Third-party independent monitoring?