|  |  |
| --- | --- |
| Minnesota Pollution Control Agency (MPCA), 520 Lafayette Road North, St. Paul, MN 55155-4194 | Postclosure Care Summary Report Checklist for a Solid Waste LandfillSolid Waste Permit ProgramDoc Type: TBD |

Instructions: At least 18 months prior to the end date of the postclosure care period as specified in the Closure Document (CD), the permittee shall submit to the Minnesota Pollution Control Agency (MPCA) a Postclosure Care (PCC) Summary Report (Report) prepared and certified by a professional engineer licensed in the State of Minnesota. Pursuant to the Closure Document, the MPCA may extend, modify, replace, or terminate the Closure Document for the facility after reviewing the information provided in the Report.

The primary purpose of the Report is to demonstrate that conditions at the landfill will remain protective of human health and the environment if the facility is allowed to exit the postclosure care period. The Report should clearly provide the data needed to support the goals outlined in the Postclosure Care Exit Evaluation Guidance (w-sw5-65) for each of the four components, if relevant to the facility: 1) the landfill cover system; 2) the leachate management system; 3) the gas management system, and
4) the environmental monitoring.

In some cases, submittal of the Report may not be necessary. If all required annual and monitoring reports have been submitted and the data in these reports makes it clear that the facility is not ready to exit the PCC period, then all parties may agree that extending the PCC period is necessary. In those cases, MPCA will modify the CD to extend the PCC period, and the facility will continue the PCC period under the new CD.

## At a minimum the report should include the following information, as relevant to the facility.

|  |  |
| --- | --- |
| **General information** | **Section and page number(s)** |
| 1. Name, signature, and credentials of the person preparing the report.
 |       |
| 1. Name, address, and signature of the owner and/or operator and any other relevant contacts.
 |       |
| 1. Physical address (if available) and/or latitude/longitude in UTM 15 coordinates.
 |       |
| 1. Dates of operation, fill phases, total site acreage, and acres filled.
 |       |
| 1. Volume/tonnage of waste types accepted, origination of waste, total volume of waste in place, and waste composition and characterization.
 |       |
| 1. Regulatory history of the site including permitting dates, enforcement actions (if any), and beginning and end dates of the Closure Document, if applicable.
 |       |
| 1. A description and dates of any contingency actions at the facility during the Postclosure Care period and how they were addressed.
 |       |
| 1. Design components of the liner and leachate collection system.
 |       |
| 1. Map depicting the site boundary, waste footprint, compliance boundary, monitoring wells, and groundwater flow (on one map).
 |       |
| 1. Maps showing the location of engineered features of the site, including cells/phases of the landfill and identification of areas that are lined or unlined.
 |       |
| 1. Map showing the leachate and lysimeter sampling locations, and gas vents/well probes (on one map).
 |       |
| 1. Description of the climate, physiographic setting, watershed, topography, proximal surface waters and wetlands, local drainage.
 |       |

|  |  |
| --- | --- |
| **Landfill cover system** | **Section and page number(s)** |
| Goal: Achieve long-term stability with adequate performance for rejection and management of precipitation. |
| 1. Design components of the final cover system(s), including a description of soil and geosynthetic layers.
 |       |
| 1. A description of the current efficiency of the final cover system at rejecting precipitation and the expected leakage rate. This may include a hydrologic evaluation of landfill performance (HELP) modeling and the current condition of the geosynthetic and soil layers. This may require inspecting areas of the cover to confirm that current conditions match the design evaluated by the HELP model in previous design submittals.
 |       |
| 1. A description of modifications to the final cover system since construction, detailing who performed the work and the dates of construction.
 |       |
| 1. An evaluation of the amount of settlement since closure based on routine landfill surveys conducted over a period of time.
 |       |
| 1. A descriptive analysis of any ponding or areas with less than two percent slopes.
 |       |
| 1. An examination of the stormwater management system and an estimate of the amount of soil that has eroded off of the final cover. Hand-digging to determine the soil thickness in several areas would help determine the current conditions.
 |       |

|  |  |
| --- | --- |
| **Leachate management system** | **Section and page number(s)** |
| Goal: Successful implementation of passive leachate management system |
| 1. Discussion of leachate generation rates and leachate composition.
 |       |
| 1. Graphs and/or tables of landfill leachate generation rates over the postclosure care period, at a minimum.
 |       |
| 1. Graphs and/or tables of landfill leachate composition over the postclosure care period, at a minimum. Consider field parameters, inorganics, Volatile Organic Compounds (VOCs), and Biochemical Oxygen Demand/Chemical Oxygen Demand (BOD/COD) ratio.
 |       |
| 1. Discussion of the results of any actions taken to assess whether active management of the leachate is still required (i.e., step-down processes).
 |       |
| 1. Evaluation of long-term passive leachate management systems that have been implemented.
 |       |

|  |  |
| --- | --- |
| **Gas management system** | **Section and page number(s)** |
| Goal: Successful implementation of passive gas management system including control of horizontal migration. |
| 1. Summary of the gas management system including status of each gas vent/well and adequacy of the system.
 |       |
| 1. Inventory of the gas monitoring points, including gas point logs and as-built diagrams.
 |       |
| 1. Details of any gas migration issues and corrective actions taken.
 |       |
| 1. Graphs and/or tables of landfill gas generation rates over the postclosure care period, at a minimum. Identify monitoring points exceeding performance standards, such as the Lower Explosive Limit (LEL).
 |       |
| 1. Discussion of the results of any actions taken to assess whether active management of the landfill gas is still required (i.e., step down processes)
 |       |

|  |  |
| --- | --- |
| **Environmental monitoring** | **Section and page number(s)** |
| Goal: Data below established regulatory thresholds as detailed in the CD at the compliance boundary. |
| 1. Description of the soils, hydrology, geology, hydrogeology, and geochemistry.
 |       |
| * 1. Characterization of base grade soils before waste placement.
 |       |
| * 1. Geologic cross-sections of the site including the waste fill.
 |       |
| * 1. Description of aquifer and aquitard characteristics including hydraulic conductivity, thickness, and aerial extent.
 |       |
| * 1. Descriptions of the local and regional groundwater flow direction.
 |       |
| * 1. Groundwater flow velocities (horizontal and vertical).
 |       |
| 1. Graphs of static groundwater levels over time.
 |       |
| * 1. Separation distance between the liner or base of waste and seasonally high water table over time.
 |       |
| 1. Summary tables for all monitoring points.
 |       |
| * 1. Include common name, unique ID, date constructed, depth, horizontal and vertical survey information, aquifer for the screened interval.
 |       |
| 1. Discussion of groundwater geochemical trends (inorganic, organic, field parameters).
 |       |
| 1. Summary tables and graphs of analytes exceeding intervention limits in site monitoring wells and/or surface water over the postclosure period, at a minimum.
 |       |
| 1. Statistical evaluations or other analyses of groundwater quality data or trends.
 |       |
| 1. Description of any corrective actions taken to address exceedances of groundwater performance standards at the facility.
 |       |
| 1. Boring and monitoring well logs.
 |       |
| 1. Piezometer and well construction diagrams.
 |       |

|  |  |
| --- | --- |
| **Other considerations** | **Section and page number(s)** |
| 1. Describe any other factors affecting the landfill and long-term protectiveness of human health and the environment should the landfill be allowed to exit postclosure care.
 |       |
| * 1. Description and schedule for ongoing cover maintenance as outlined in the Postclosure Care Exit Evaluation Guidance (w-sw5-65).
 |       |
| * 1. Proposed end use of site.
 |       |
| * 1. Description of any remaining engineered or non-engineered controls
 |       |
| * 1. Discussion of any existing or proposed institutional controls (administrative or legal).
 |       |
| * 1. Any ongoing maintenance plans or agreements.
 |       |
| * 1. Adjacent land ownership and use.
 |       |
| * 1. Current receptor survey with maps of known or suspected drinking water wells within one mile of the facility and a list, with approximate direction, for high-capacity wells and community water supply wells within three miles of the facility.
 |       |
| * 1. Adjacent surface water receptors.
 |       |
| * 1. Financial assurance mechanisms in place and money remaining or other financial considerations affecting the ability to perform ongoing cover maintenance.
 |       |
| * 1. Any additional requirements of Minn. R. 7035.2655, subpart 1, item C and subpart 2; parts 7035.2565, and 7035.2815 to 7035.2915; and gas, leachate, or ground and surface water monitoring results. 7035.2655.
 |       |

|  |  |
| --- | --- |
| **Summary, conclusions, and recommendations** | **Section and page number(s)** |
| 1. Summarize the data that supports the achievement of the four goals described above for ensuring protection of human health and the environment.
 |       |
| 1. Describe any additional steps needed to complete the exit from the postclosure care period, as necessary.
 |       |

|  |  |
| --- | --- |
| **References** | **Section and page number(s)** |
| Historical documents that support the evaluation and conclusions of the Report should be referenced. These may include: |
| 1. Current closure document (CD)
 |       |
| 1. Postclosure Care Plan
 |       |
| 1. Engineering and construction plans
 |       |
| 1. Hydrogeologic reports
 |       |
| 1. Evaluations of step-down processes for leachate and gas management systems
 |       |