

**FORM EQP 5111 ATTACHMENT TEMPLATE A11
CLOSURE AND POSTCLOSURE CARE PLANS**

This document is an attachment to the Michigan Environment, Great Lakes and Energy (EGLE) *Instructions for Completing Form EQP 5111, Operating License Application Form for Hazardous Waste Treatment, Storage, and Disposal Facilities*. See Form EQP 5111 for details on how to use this attachment.

The administrative rules promulgated pursuant to Part 111, Hazardous Waste Management, of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, (Act 451), R 299.9613 and Title 40 of the Code of Federal Regulations (CFR), Part 264, Subpart G, establishes requirements for the closure and, if necessary, postclosure care of hazardous waste management facilities. All references to 40 CFR citations specified herein are adopted by reference in R 299.11003. This license application template addresses requirements for the proper closure and, if necessary, postclosure care of the hazardous waste management units and the hazardous waste management facility for the [Wayne Disposal Inc.] in Belleville, Michigan. The information provided in this template was used to prepare the closure and postclosure care cost estimate provided in Template A12, "Closure and Postclosure Care Cost Estimates."

Ensure that all samples collected for waste characterization and environmental monitoring during closure and postclosure care activities are collected, transported, analyzed, stored, and disposed by trained and qualified individuals in accordance with the QA/QC Plan. The QA/QC Plan should, at a minimum, include the written procedures outlined in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, Third Edition, Chapter 1 (November 1986), and its Updates.

Table of Contents

A11.A	CLOSURE PLAN	3
A11.A.1	Closure Performance Standard.....	3
A11.A.2	Unit-Specific Information	3
Table A11.A.1	Hazardous Waste Management Units Information	4
A11.A.3	Schedule of Final Facility Closure.....	4
A11.A.4	Notification and Time Allowed for Closure	5
A11.A.4(a)	Extensions for Closure Time.....	6
A11.A.5	Unit-Specific Closure Procedures	6
A11.A.5(a)	Closure of Container Storage Areas.....	6
A11.A.5(b)	Closure of Landfills	13
A11.A.6	Certification of Closure.....	14
A11.A.7	Postclosure Notices Filed.....	14
A11.B	POSTCLOSURE PLAN	15
A11.B.1	Applicability	15
A11.B.2	<i>Postclosure Care Objectives</i>	15
A11.B.3	<i>Postclosure Care Period Point of Contact</i>	15
A11.B.4	Postclosure Care Activities	16
A11.B.5	Postclosure Care Plan Amendment.....	19
A11.B.6	<i>Certification of Postclosure</i>	19

A11.A CLOSURE PLAN

A11.A.1 Closure Performance Standard

[R 299.9613 and 40 CFR §264.111]

This Closure Plan is designed to ensure that the facility will be closed in a manner that achieves the following:

- a. Minimizes the need for further maintenance; and
- b. Controls, minimizes, or eliminates, to the extent necessary to protect human health and the environment, postclosure escape of hazardous wastes, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition byproducts to the groundwater, surface water, or atmosphere; and, as applicable
- c. Complies with the unit-specific closure requirements for each of the following units:

(Check as appropriate)

<input checked="" type="checkbox"/> Use and management of containers	R 299.9614 and 40 CFR §264.178
<input type="checkbox"/> Tank systems	R 299.9615 and 40 CFR §264.197
<input type="checkbox"/> Surface impoundments	R 299.9616 and 40 CFR §264.228
<input type="checkbox"/> Waste piles	R 299.9617 and 40 CFR §264.258
<input type="checkbox"/> Land treatment ^a	R 299.9618 and 40 CFR §264.280
<input checked="" type="checkbox"/> Landfill	R 299.9619 and 40 CFR §264.310
<input type="checkbox"/> Incinerators	R 299.9620 and 40 CFR §264.351
<input type="checkbox"/> Drip pads ^b	R 299.9621 and 40 CFR §264.575
<input type="checkbox"/> Miscellaneous units	R 299.9623 and 40 CFR §§264.601-603
<input type="checkbox"/> Hazardous waste munitions and explosive storage ^b	R 299.9637 and 40 CFR §264.1202
<input type="checkbox"/> Boilers and industrial furnaces	R 299.9808 and 40 CFR §266.102(e)(11)

^a Not included in the template

^b Not yet included in 40 CFR §264.111; therefore not considered

Unit-specific closure procedures are discussed in Section A11.A.5 of this template for each unit type indicated above.

A11.A.2 Unit-Specific Information

[R 299.9613 and 40 CFR §§264.112(b)(3) and (6)]

Table A11.A.1 Hazardous Waste Management Units Information

The following table identifies each hazardous waste management unit at the Wayne Disposal Inc. facility subject to the closure requirements of this hazardous waste management facility operating license. The table also includes each unit's maximum licensed hazardous waste inventory, a list of the waste codes managed in the unit, the anticipated date of closure (if known), and the estimated duration of closure activities once closure begins. Unit-specific methods for closure and detailed schedules are discussed in Section 11A.5 of this template.

Unit Designation	Maximum Inventory (Include Units)	Waste Codes of Hazardous Wastes Managed	Scheduled Closure Date	Estimated Duration of Closure
MC V	2,258,500cy	See Attachment A2.A3 Chemical and Physical Waste Analysis Plan	Closed 1983	Closed
MC VI	16,438,798 cy	See Attachment A2.A3 Chemical and Physical Waste Analysis Plan	Not yet determined	See below
MC VII	1,695,000 cy	See Attachment A2.A3 Chemical and Physical Waste Analysis Plan	Closed 1986	Closed
Container Storage Area	2147 cy	See Attachment A2.A3 Chemical and Physical Waste Analysis Plan	Not yet determined	See below

A11.A.3 Schedule of Final Facility Closure

[R 299.9613 and 40 CFR §264.112(b)(6)]

The Wayne Disposal facility:

(Check as appropriate)

- ☐ Anticipates completing final closure of the entire facility by insert estimated date
- ☒ Has not determined when the facility will close and does not anticipate completing final closure of the entire facility prior to expiration of the facility's hazardous waste operating license.

The following provides a tentative timeline of closure activities. Upon closure of the Detailed Closure Schedule for Facility Closure: Provide a detailed breakdown showing the closure schedule with the anticipated time of completion for each activity below.

<u>Activity</u>		<u>Tentative Time Required</u>	<u>Notes</u>
<i>Activities may occur simultaneously with other activities.</i>			
1	Receive of Final Volume of Hazardous Waste	N/A	
2	Notification of closure activity initiation	60 days	Before final closure begins
3	Evaluate gas venting system necessity	180 days	Task can begin prior to closure activity initiation
4	Decontaminate Access Road, Waste Transfer and Container Storage Area	1 days	
5	Soil sampling plan development and approval	60 days	
6	Soil sampling collection and analysis	45 days	Assumes 3 days of sampling. Remainder is lab analysis
7	Survey Benchmarks	45 days	
10	Decontamination of Equipment, Lined Pond, Wheel wash	3 days	
10	Remediation and verification	45 days	
8	Construct Intermediate Cover	60 days	
9	Install Gas Vent System	60 days	
11	Construct Leveling Layer and Install GCL	90 days	
12	Install FML	90 days	
13	Construct Drainage Layer	90 days	
14	Construct General Soils Layer	90 days	
15	Place Top Soil	60 days	
16	Apply Vegetative Cover	60 days	
17	Complete Fence-Barrier around Perimeter of Hazardous Waste Management Area	30 days	
18	Complete and Submit Closure Certification	60 days	After completion of closure activities

TOTAL TIME 1129 days

A11.A.4 Notification and Time Allowed for Closure

[R 299.9613 and 40 CFR §§264.112(d)(2) and 264.113(a) and (b)]

Final closure activities will be initiated within 90 days of receipt of the final volume of hazardous wastes. It is anticipated that partial/final closure activities will exceed 180 days due to the substantial size of Master Cell VI and the uncertainty of the seasonal date when the final volumes

of hazardous waste are received and the impact of that date on the sequencing of construction related closure activities. Therefore, the closure schedule assumes less than ideal conditions. WDI has been granted an extension from the 180-day closure period. Steps necessary to prevent threats to human health and the environment from the unclosed but terminated hazardous waste management unit, including compliance with all applicable permit requirements, will be taken. The tasks and estimated time required for closure shall follow the schedule specified in Section 11A.3. The Director will be notified by Wayne Disposal Inc. facility 60 days before final closure begins. Final closure will be certified by both [Wayne Disposal Inc.] and an independent, qualified, registered professional engineer of the state of Michigan.

A11.A.4(a) Extensions for Closure Time

[R 299.9613 and 40 CFR §264.113(a) and (b)]

In the event that an extension for closure for the facility or any unit is necessary, the [Wayne Disposal Inc.] facility will request an extension in accordance with the requirements of 40 CFR §264.113(a).

A11.A.5 Unit-Specific Closure Procedures

A11.A.5(a) Closure of Container Storage Areas

[R 299.9614 and 40 CFR §264.178]

This section describes the procedures for closure of Wayne Disposal Inc. The general closure requirement and specific closure procedures are discussed below.

A. General Closure Requirement

At closure, all hazardous waste and hazardous waste residues will be removed from the containment system. Remaining containers, liners, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues will be decontaminated or removed. Unit-specific closure procedures are provided for each unit identified in Section A11.A.2 of this template.

B. Specific Closure Procedures

Specific procedures for inventory management, unit inspection, decontamination, sampling and analysis, and additional waste management are discussed below.

1. Inventory and Remedial Waste Management Procedures

All waste in storage will be disposed of before notification of a final closure. Waste is not stockpiled at the facility for future disposal. Waste is brought to the facility only after construction of the cell in which it is to be disposed is completed. Containers that remain in WDI's container storage should be placed in the landfill or rejected to the generator or an alternate facility.

The total volume of waste that will be placed in the cells will vary according to the size of the cells. All wastes placed in the landfill are recorded in the operating log.

2. Unit Inspection Procedures

Inspections will be performed according to Attachment A5 Inspection Schedule.

3. Decontamination Procedures

WDI's onsite wastewater treatment plant must continue to operate through post closure. All wash water will be handled consistent with current wastewater discharge permits or transported to an appropriate hazardous waste treatment facility. When liquids are generated during the decontamination process they will be contained within the structures or collected as it is generated with a vacuum truck. Specifics, as warranted are outlined below.

A. Pavement

The first step in the closure of the access road, transfer area and container storage pavement will be to wash the pavement. The transport road from the North I-94 Service Drive, through the reception area and to the transfer and container storage area will be thoroughly washed and swept with a wet vacuum sweeper. These paved roads will remain intact for post-closure activity access.

B. Equipment Decontamination

All equipment used during the closure activity to install the leveling layer cover soils or other equipment that is in contact with hazardous waste will be thoroughly cleaned before being allowed to leave the facility. Decontamination will be conducted in the vehicle wash building that has a blind sump to collect liquids. From the sump the liquids can be pumped into drums or totes until proper disposal. All equipment will be washed until visibly clean.

C. Vehicle Wheel Wash

The wheel wash building will be spray washed until visibly clean. Liquids generated will be collected in the holding tank and transferred to the on-site wastewater pretreatment plant. The building's holding tank and floor will be inspected at closure for cracks and other signs of deterioration. If there are visible impacts to the holding tank and/or floor that could potentially breach the containment of the building, then soil sampling shall be conducted.

D. Lined Pond

After the lined pond has been spray washed until visibly clean, the geosynthetic liner will be inspected for rips, tears, holes and other signs of deterioration. If there are visible impacts to the geosynthetics liner that could potentially breach the containment of the lined pond, then soil sampling shall be conducted. Liquids generated will be transferred to the on-site wastewater pretreatment plant.

4. Sampling and Analysis Procedures

A. Soil Assessment and Clean Up

Sampling Locations

The sample location plan will be prepared in accordance with the relevant guidance at the time of closure and in consideration of historical soil and sediment monitoring data collected. Soil and Sediment Sampling and Analysis Plan may provide data from which to develop a biased sampling strategy to select sample locations.

In addition to site soil samples impact to soils around a waste transfer area, access roads, ditches within Area A, and container storage area positioned outside of the landfill boundary would be limited to those caused by fugitive dust, small spills, etc. Locations have been chosen to identify

the chemical characteristics of the surface soils in the shoulders of these areas. There is approximately 2000 feet of roadway from the entrance to the waste unloading area at the northeast corner of Master Cell VI. The total length of roadway will be divided in 10 segments of approximately 200-foot intervals. Out of each 200-foot segment, three soil samples will be collected from the shoulder of the roadway. At least one sample will be collected from each side of the roadway in each segment. On the side where one sample is collected, the sample will be collected in the approximate mid-point of segment. On the side where two samples are collected, the segment will be divided in half with one sample collected in each half of the segment. Figure 1 shows the approximate location of the sample points. A request to remove a sampling location due to historic monitoring data or other reasonable information may be made to EGLE in order to eliminate a sampling point.

After the wheel wash building has been spray washed until visibly clean, the building's holding tank and floor will be inspected at closure for cracks and other signs of deterioration. If there are visible impacts to the holding tank and/or floor that could potentially breach the containment of the building, then soil sampling shall be conducted. Soil sampling should be performed in accordance with current EGLE guidance at the time of closure for VOCs, SVOCs, PCBs and metals similar to that provided in the discussion in the closure plan. Field QA/QC procedures for these sample activities will be in accordance with the Soil Monitoring SAP previously approved by the EGLE.

After the lined pond has been spray washed until visibly clean, the geosynthetic liner will be inspected for rips, tears, holes and other signs of deterioration. If there are visible impacts to the geosynthetics liner that could potentially breach the containment of the lined pond, then soil sampling shall be conducted. Soil sampling should be performed in accordance with current EGLE guidance at the time of closure for VOCs, SVOCs, PCBs and metals similar to that provided in the discussion in Section IX.A of this closure plan

If Michigan Disposal Waste Treatment Plant continues hazardous waste activities after closure of the Wayne Disposal, Inc. operation, the lined pond and wheel wash will remain operational and be the responsibility of Michigan Disposal Waste Treatment Plant.

As new phases of landfill are constructed and if the waste transfer box is relocated outside of the landfill boundary the plan must be revised in order to accommodate changes in operations and provision of the plan should be revised to include the new positions.

The following assumptions are being made for sampling, analysis and remediation:

1. A biased sampling program will be developed resulting in a maximum of 150 samples.
2. Assessment and verification samples will be analyzed for PCBs and metals, with ten percent (10%) also being analyzed for VOCs and SVOCs.
3. Remediation of Area A will consist of excavating one acre, six inches deep, 807 bank cubic yards – about 1,290 tons.

Sampling Method - The upper 6 inches of the soil surface will be sampled using a small stainless-steel trowel or shovel. Large stones (greater than 1 inch in diameter) and vegetative matter will be removed by hand at the time of sampling. The shovel will be carefully cleaned between each sampling location with a mild detergent followed by a distilled water rinse. All soil samples will be individually placed in specially prepared containers. These containers will be obtained from the laboratory and will remain unopened until used in the field. Each container

will be marked with the sample number, date, and time immediately after receiving its sample. Each sample will be temporarily stored in the field in an iced cooler until the sample can be placed into an on-site refrigerator. All collected samples will be stored in a secure location until transfer/transport to the laboratory. A Chain-of Custody form will be maintained for all samples obtained under the monitoring program. The form will, at a minimum, identify the sample number, sampling location, date, time, sampling individual, and amount/type of sample. A record of the sample handling and shipment, including the transfer of custody from one individual and organization to another, will also be maintained on the form. Signatures of each individual directly involved in the chain-of-custody will complete the form.

Sample Analysis -

Each soil sample collected will be analyzed for the metals and total PCB with 10% of soil samples being analyzed for volatile and semi-volatile organic parameters listed on Table 1. Analyses will be performed using the procedures outlined on Table 1. Target reporting limits are also listed on the table. If the laboratory is unable to meet the target detection limits, rationale must be provided to EGLE. Results will be reported on a dry weight basis in units of mg/kg. The analyses will be conducted in accordance with standard laboratory QA/QC protocols.

Data Evaluation - The volatile, semi-volatile organics and metals data from each of the samples will be compared to the Part 201 Generic Cleanup Criteria (GCC) to determine if any standard has been exceeded. Data will be compared with residential or commercial & industrial risk-based clean-up standards or whatever standards are in use at the time of closure depending on which standards are appropriate for the future land use at the facility. If the applicable Part 201 GCC standard is exceeded for any metal, WDI can, at its discretion, demonstrate that the concentration is within the normal background concentration for soils at the site. If WDI elects to make this demonstration, a plan will be submitted to EGLE that outlines the strategy for collecting and analyzing native background samples and for establishing a statistically valid range for background concentrations. If the concentrations are found to be within native background ranges, then no corrective action will be required. PCB analysis results will be compared to a non-detect standard and will be remediated to meet that standard at the time of landfill closure.

If the applicable standards for Volatile and semi-volatile compounds are exceeded and a site-specific background demonstration is either not successful or not possible, WDI will submit a plan to mitigate the contaminated area to EGLE. The plan shall include a description of the apparent extent of the problem, a proposed remedy, and methods for demonstrating clean closure.

On-site areas exceeding applicable cleanup criteria will be remediated by removing the top six inches of soil and disposing of the soil on site in a licensed landfill before the final cell is closed. After removal, the area will be sampled again to ensure applicable cleanup criteria are no longer exceeded. If analytical concentrations are found that exceed applicable cleanup criteria, another six inches will be removed and so on until analytical concentrations are verified below the applicable cleanup criteria. Then, clean soils will replace the soil that was removed and the clean backfill revegetated.

TABLE 1. SOIL MONITORING PARAMETERS

<u>Parameter</u>	<u>Analytical Method</u>	<u>EGLE Target Detection Limit (mg/kg)</u>
Metals		
Arsenic	6010/6020	0.5
Antimony	6010/6020	N.A.
Barium	6010/6020	1.0
Beryllium	6010/6020	0.5
Cadmium	6010/6020	0.5
Cobalt	6010/6020	5.0
Chromium(total)	6010/6020	2.0
Copper	6010/6020	1.0
Iron	6010/6020	2.5
Lead	6010/6020	1.0
Lithium	6010/6020	0.4
Mercury	7471	0.1
Manganese	6010/6020	1.0
Molybdenum	6010/6020	5.0
Nickel	6010/6020	5.0
Selenium	6010/6020	0.5
Silver	6010/6020	0.25
Thallium	6010/6020	N.A.
Vanadium	6010/6020	1.0
Zinc	6010/6020	1.0

Volatile Organic Parameters (analyzed by method 8260)

<u>Parameter</u>	<u>TMDL</u>	<u>Parameter</u>	<u>TMDL</u>
Acetone	0.05	1,2-Dichloropropane	0.005
Bromodichloromethane	0.005	1,3-Dichloropropane	N.A.
Bromoform	0.005	1,1,2,2-Tetrachloroethane	0.005
Carbon Tetrachloride	0.005	Tetrachloroethane	N.A.
Chlorobenzene	0.005	Tetrachloroethene	0.005
2-Chloroethylvinyl Ether	N.A.	1,1,2-Trichloroethane	0.005
Chloroform	0.005	1,1,1-Trichloroethane	0.005
Chloromethane	0.010	Trichloroethene	0.005
Dibromodifluoromethane	N.A.	Trichlorofluoromethane	0.010
1,2 Dichlorobenzene	0.005	Vinyl Chloride	0.010
1,3 Dichlorobenzene	0.005	Methylene Chloride	0.010
1,4 Dichlorobenzene	0.005	Methyl Ethyl Ketone	0.010
Dichlorodifluoromethane	0.010	Benzene	0.005
1,1-Dichloroethane	0.005	Ethylbenzene	0.005
1,2-Dichloroethane	0.005	Toluene	0.005
1,1-Dichloroethene	0.005	Xylenes	0.010
1,2-Dichloroethene	0.005		

<u>Parameter</u>	<u>Analytical Method</u>	<u>EGLE Target Detection Limit (mg/kg)</u>
-------------------------	---------------------------------	---

Total PCBs 8082 0.5

Semi-Volatile Organic Compounds (analyzed by method 8270)

<u>Parameter</u>	<u>TMDL</u>	<u>Parameter</u>	<u>TMDL</u>
Acenaphthene	0.100	Hexachlorobenzene	0.100
Acenaphthylene	0.100	Hexachlorobutadiene	0.200
Anthracene	0.100	Hexachlorocyclopentadiene	0.200
Benzidene	N.A.	Hexachloroethane	0.100
Benzo(a)anthracene	0.100	Indeno (1,2,3-cd) pyrene	0.500
Benzo(b)fluoranthene	0.200	Isophorone	0.100
Benzo(k)fluoranthene	0.200	2-Methylnaphthalene	N.A.
Benzo(ghi)perylene	0.500	Napthalene	0.100
Benzoic Acid	N.A.	2-Nitroaniline	N.A.
Benzo(a)pyrene	0.200	3-Nitroaniline	N.A.
Benzyl alcohol	N.A.	4-Nitroaniline	N.A.
Bis (2-chloroethoxy) methane	0.200	Nitrobenzene	0.200
Bis (2-chloroethyl) ether	0.100	N-Nitrosodiphenylamine	0.500
Bis (2)chloroisopropyl) ether	0.100	N-Nitroso-di-n-propylamine	0.200
Bis (2-ethylhexyl) phthalate	0.200	Phenanathrene	0.100
4-Bromo phenyl ether	0.200	Pyrene	0.100
Butyl benzyl phthalate	0.100	1,2,4-Trichlorobenzene	0.200
4-Chloroaniline	N.A.	4-Chloro-3-methylphenol	N.A.
2-chloronaphthene	0.200	2-Chlorophenol	N.A.
4-Chlorophenyl phenyl ether	0.100	2,4-Dichlorophenol	N.A.
Chrysene	0.100	2,4-Dimethylphenol	N.A.
Dibenz (a,h) anthracene	0.500	4,6-Dinitro-2-methylphenol	N.A.
Dibenzofuran	N.A.	2,4-Dinitrophenol	N.A.
Di-n-butyl phthalate	0.100	2-Methylphenol	N.A.
1,2-Dichlorobenzene	0.100	4-Methylphenol	N.A.
1,3-Dichlorobenzene	0.100	2-Nitrophenol	N.A.
1,4-Dichlorobenzene	0.100	4-Nitrophenol	N.A.
3,3'-Dichlorobenzene	N.A.	Pentachlorophenol	N.A.
Diethyl phthalate	0.100	Phenol	N.A.
Dimethyl phthalate	0.200	2,4,5-Trichlorophenol	N.A.
2,4-Dinitrotoluene	0.500	2,4,6-Trichlorophenol	N.A.
2,6-Dinitrotoluene	0.500		
Di-n-octyl phthalate	0.200		
Fluoranthene	0.100		
Fluorene	0.100		

Note: EGLE target detection limits may not be attainable. At the time of closure, the analytical methods listed above, the detection limits, and provisions to use alternate detection limits must be negotiated with EGLE based upon regulatory

criteria in place at the time of closure. (N.A.) indicates no EGLE target MDL for soils is available at this time.

A11.A.5(b) Closure of Landfills

[R 299.9619 and 40 CFR §264.310(a)]

This section describes the procedures for closure of Master Cell V, VI, and VII. The general closure requirement and specific closure procedures are discussed below.

A. General Closure Requirement

At the final closure of the landfill or upon closure of any cell, the [Wayne Disposal Inc.] will cover the landfill or cell with a final cover designed and constructed to:

1. Provide long-term minimization of migration of liquids through the closed landfill;
2. Function with minimum maintenance;
3. Promote drainage and minimize erosion or abrasion of the cover;
4. Accommodate settling and subsidence so that the cover's integrity is maintained; and
5. Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoil present.

After final closure, the [Wayne Disposal Inc.] will comply with all postclosure requirements contained in R 299.9613 and 40 CFR §264.117, including maintenance and monitoring throughout the postclosure care period.

B. Specific Closure Procedures

The final landfill cover design, the construction quality assurance program for installing the final landfill cover, and plat of survey are presented below.

1. Landfill Cover Design—See Attachment B6 Engineering Plans
2. Construction Quality Assurance (CQA) Program—See Attachment C7 Landfill for the Construction Quality Assurance Program
3. Plat of Survey
The plat of survey will be completed no later than the submission of the certification of closure of each hazardous waste disposal unit. The facility will submit to the local zoning authority, or the authority with jurisdiction over local land use and to the Director, a survey plat indicating the following:
 - Location and dimensions of landfill cells or other hazardous waste disposal units with respect to permanently surveyed benchmarks
 - Certification by a professional land surveyor
 - Prominently displayed note, which states the obligation to restrict disturbance of the hazardous waste disposal unit in accordance with the applicable regulations
 - Restrictive Deed/Covenant

A11.A.6 Certification of Closure

[R 299.9613]

Within 60 days of completion of closure [Wayne Disposal Inc.] will submit to the Director, by registered mail, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan. The certification will be signed by the [Wayne Disposal Inc.] and by an independent registered professional engineer. Documentation supporting the independent registered engineer's certification will be furnished to the Director in accordance with R 299.9613(3), including:

1. The results of all sampling and analysis;
2. Sampling and analysis procedures;
3. A map showing the location where samples were obtained;
4. Any statistical evaluations of sampling data;
5. A summary of waste types and quantities removed from the site and the destination of these wastes; and
6. If soil has been excavated, the final depth and elevation of the excavation and a description of the fill material used.

The [Wayne Disposal Inc.] facility will maintain financial assurance for closure until the Director releases the [Wayne Disposal Inc.] facility from the financial assurance requirements for closure under R 299.9703.

The certification must be worded as follows:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to be the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A11.A.7 Postclosure Notices Filed

[R 299.9504(1)(c) and R 299.9508(1)(b) and 40 CFR §270.14(b)(14)]

The applicant must provide documentation that the postclosure notices required under 40 CFR §264.119 have been filed for hazardous waste disposal units that have been closed at the facility.

No Postclosure Notices have been filed.

A11.B POSTCLOSURE PLAN

[R 299.9613 and 40 CFR §264.118]

A11.B.1 Applicability

(Check as appropriate)

- ☐ **Not applicable:** Hazardous waste will not be left behind at closure. A survey plat, postclosure care, postclosure certifications, and other notices are not required.
- ☒ **Applicable:**
- ☐ Contingent plan
 - ☒ Landfill unit

This Post-closure Plan is prepared pursuant to requirements under 40 CFR Part 264.117 and 40 CFR 270.14(b)(13). This plan addresses those activities necessary for the proper management of the facility during the 30-year post-closure period (40 CFR Part 264.117(a)(1)). Should the post closure plan need to be revised, an amendment to the plan shall be requested according to the provisions of 40 CFR 264.118(d).

This Plan was developed to describe post-closure activities for Master Cells V and VII as well as cells VI-AS through VI-E. Cells VI-F and VI-G, must be incorporated into this Plan incrementally as each phase is constructed and licensed.

A11.B.2 Postclosure Care Objectives

The [Wayne Disposal Inc.] facility will complete the activities listed in Table A.11.B.1 in order to achieve the following:

1. Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;
2. Operate the leachate collection and removal system until leachate is no longer detected;
3. Maintain and monitor the leak detection system in accordance with R 299.9613 and 40 CFR §§264.301(c)(3)(iv) and (4) and 264.303(c), and comply with all other applicable leak detection system requirements of this part;
4. Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of R 299.9612 and 40 CFR, Part 264, Subpart F;
5. Prevent run-on and run-off from eroding or otherwise damaging the final cover; and
6. Protect and maintain surveyed benchmarks used in complying with R 299.9613 and 40 CFR §264.309.

A11.B.3 Postclosure Care Period Point of Contact

The planned monitoring and maintenance activities and the associated frequencies are designed to ensure the integrity of the cap and final cover system and the proper functioning of the monitoring system for each unit listed in Table 11.B.1. The point of contact for ensuring the performance of these activities is listed below.

Name and/or Title	William Carr, <u>General Manager</u>
Address	<u>49350 North, I-94 Service Drive, Belleville, MI, 48111</u>
Telephone	<u>(800) 592-5489</u>

A11.B.4 Postclosure Care Activities

The following identifies, postclosure care, planned monitoring and maintenance activities and the frequency at which these activities will be performed.

The post-closure inspections will be conducted using a grid system across the entire final cover of the landfill in order to discretize the area into specific regions. The approach will be conducted such that each master cell will be inspected and recorded on the Post Closure Inspection Checklist (provided in A5 Inspection Schedule) individually. The quarterly and semi-annual inspections will be conducted on a quadrant grid system for each master cell. When an identified problem is documented on the Post-Closure Inspection Report it shall be listed on the maintenance log. The purpose of this Maintenance Log Form is to track the items through completion of the repairs and to allow for a historical evaluation of any recurring items and locations.

The clay dikes and the perimeter dewatering tile system will be inspected for any surface evidence of deterioration or damage during each of the quarterly, the semi-annual, and the annual inspections. The two discharge points for the dewatering system will also be observed during each of these inspections to confirm that free-flowing conditions exist at the outlets. During each annual inspection, the manholes along the dewatering tile will be opened and the interiors inspected from the ground surface for evidence of deterioration, damage or tile blockage.

In accordance with 40 CFR Part 264.118(b)(2) and 40 CFR Part 265.310(b), the following maintenance activities have been identified.

Security System

Signage designating the site as a hazardous waste facility is posted at the entrance and along the fence line in sufficient numbers to be seen from any approach. Signs will be replaced as they become illegible or if lost due to vandalism. In the event of fence or gate damage, those sections affecting site security will be repaired or replaced immediately.

Final Cover System

Periodic inspections are performed (refer to Subsection 2 of this Plan) to determine if and when additional maintenance is needed. Inspections of the final cover are specifically directed toward the identification of the following:

- Invasion of the dikes by deep-rooted, woody vegetation species
- Deterioration of vegetative cover
- Areas of surface erosion
- Areas of differential settling and/or ponding
- Leachate seeps through the cover
- Damage to riser pipes and associated piping
- Condition of gas collection system where present
- Soft or unstable areas of the cover
- Damage to the dikes
- Obstructions, erosion, or deterioration of the surface water drainage ditches
- Obstructions or damage to the discharge pipes for the drainage layer
- Burrowing by animals
- Surface disturbance due to unwarranted vehicle traffic

Detection of problems such as those presented above requires remedial efforts. The remedial efforts, including fertilizing and reseeding, are undertaken to bring the cover back to the original designed

condition, as necessary. Documentation of these inspections is provided as shown in the Post-Closure Inspection Form following this document.

Erosion washouts will be repaired as soon as possible after detection. When cap integrity is in question, repair activities will begin immediately. Restoration of the vegetative cover will be performed during or at the end of the growing season.

In the event of localized subsidence that results in the ponding of surface water, repairs will involve building up the subsided area with soil to allow gravity drainage of the surface waters. Area of localized subsidence must be evaluated prior to automatic application of surface soils to restore surface drainage. For relatively small areas of localized subsidence (i.e. no greater than 50 feet laterally and/or no greater than 12 inches vertically) soils may be added without notification to the EGLE. However, larger areas must be evaluated and/or investigated, and shall require submittal of a Work Plan for MMD approval prior to initiation of maintenance activities.

The vegetative cover is mowed to promote vegetative growth and surface water drainage, and to help improve the site's aesthetics. Vegetative cover that is lost or destroyed due to weathering is replaced in order to control erosion.

The maintenance of the vegetative cover also includes the elimination of undesirable trees or brush growth over the capped areas when apparent. Burrowing animals will be removed or exterminated immediately after being identified. In accordance with 40 CFR Part 264.310(a)(2), the Wayne Disposal Landfill final cover functions with a minimum of maintenance.

Clay Dikes & Perimeter Dewatering Tile System

Periodic inspections of the clay dikes and the alignment of the perimeter dewatering tile systems are specifically directed toward the identification of the following:

- Deterioration of vegetative cover over the dikes
- Invasion of the dikes by deep-rooted, woody vegetation species
- Areas of dike surface erosion
- Soft or unstable conditions on dikes or along the tile system alignment
- Disturbance or damage to dikes or tile system manholes
- Blockage of the dewatering tile system outlets
- Excess fluid levels or non-flowing conditions in the dewatering tile system manholes

Vegetative deterioration or surface erosion on the clay dikes will be restored as soon as possible after detection. Vegetation restoration will be performed during or at the end of the growing season. When dike integrity is in question, repair activities will begin immediately.

Blockage at either outlet of the dewatering tile system will be cleared immediately after detection. Damage or disturbance of the concrete manholes on the dewatering tile system will be repaired as soon as possible after detection. Fluid levels in the concrete manholes which indicate partial or full blockage of the dewatering tile system will require jetting or cleaning of the blocked portion of the system as soon as possible after detection. Any surface evidence of collapse in the dewatering tile system will require investigation by sewer camera, open excavation, or other means. If partial or complete collapse has occurred, the affected portion of the system will be repaired and/or replaced as soon as possible after detection.

Leachate Collection System

WDI's onsite wastewater treatment plant will continue to treat leachate from the landfill. The primary anticipated maintenance concerns will be pump operations. An annual review of the volumes from each

cell will be conducted to assist in evaluating leachate collection system and final cover performance. Should damage or failure occur to this system, repair or replacement of the defective equipment will be performed promptly. The leachate collection piping will also be maintained by jetting or cleaning out the pipe's interior as necessary.

Leak Detection, Collection, and Removal System

The primary anticipated maintenance concerns will be pump operations. Should damage or failure occur to this system, repair or replacement of the defective equipment will be performed promptly. Damaged surface pipes will also be repaired.

The volume of liquids removed from each leak detection system sump will be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for two consecutive months, the amount of liquids in the sumps must be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps must be recorded at least semi-annually. If at any time during the post-closure care period the pump operating level is exceeded at units on quarterly or semi-annual recording schedules, the owner or operator must return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months.

Lysimeter and leak detection monitoring will be performed semi-annually. Parameters analyzed for will include VOCs.

Drainage Structures

Ditches and all other surface water conveyance structures are included in the Inspection Procedures included in this Postclosure Plan. Ditches that have been damaged due to erosion will be properly repaired. Sediment buildup will be removed where necessary to allow free gravity drainage to the sedimentation basin. Removal of sediment buildup in the sedimentation basins will also be performed as needed to maintain adequate capacity for design flow conditions. The edge drain system may require occasional maintenance via sump clean-out & power-jetting to assure flow & reduce the hydraulic head against perimeter dikes to less than 5 feet of head.

Gas Venting System (MC V)

Damaged passive gas venting risers will be repaired or replaced promptly after notification of needed repair. Dislodged gas venting risers will be reset.

Ground water Monitoring Wells

Groundwater wells will be inspected in accordance with the Inspection Procedures of this plan as well as during groundwater sampling activities. The primary anticipated maintenance concerns will be pump operation, security, and casing integrity. Should damage occur to the pumps, they will be repaired or replaced promptly. If damage is done to the locking system or the well casing, it will also be repaired.

Groundwater monitoring will continue through post closure. Semi-annual sampling of groundwater wells as specified by A2.B Groundwater Monitoring.

Surface Water Monitoring

Surface water monitoring locations will be inspected at the time of sampling in accordance with the Inspection Procedures of this plan. Surface water monitoring will be performed semi-annually at locations specified by Attachment B5.F Surface Water Sampling and Analysis Plan for the post-closure period unless a request to discontinue this monitoring is approved by EGLE. Parameters monitored for will include PCBs, chlorinated VOCs, pH and conductance.

Benchmarks

Benchmarks have been established and per 40 CFR 264.310(b)6 must be maintained through postclosure. Should the benchmarks be removed or dislodged entirely, they will be reset or re-established at the original location and elevation.

A11.B.5 Postclosure Care Plan Amendment

[R 299.9613 and 40 CFR §264.118(d)]

The Postclosure Care Plan will be amended whenever:

1. Changes in the operations or facility design will affect closure and postclosure care; or
2. There is a change in the expected year of closure, if applicable; or
3. Unexpected events during closure require a modification to the plan.

A11.B.6 Certification of Postclosure

[R 299.9613]

Within 60 days of completion of postclosure care [Wayne Disposal Inc.] will submit to the Director, by registered mail, a certification that postclosure care for the hazardous waste management unit or facility, as applicable, has been completed in accordance with the specifications in the approved postclosure plan. The certification will be signed by the owner/operator of [Wayne Disposal Inc.] and by an independent registered professional engineer. Documentation supporting the independent registered engineer's certification will be furnished to the Director in accordance with R 299.9613(5). The [Wayne Disposal Inc.] facility will maintain financial assurance for postclosure until the Director releases the [Wayne Disposal Inc.] facility from the financial assurance requirements for postclosure under R 299.9703 and 40 CFR §264.143(i).

The certification must be worded as follows:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to be the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.