EXHIBIT V

Prairie View
29755 S Prairie View Drive
Wilmington, IL 60481

May 8, 2024

Ms. Jacki Cooperider, P.E.
IEPA - Bureau of Land
Permit Section
1021 North Grand Ave. East
Springfield, Illinois 62702

RE: **Laraway Recycling and Disposal Facility**
IEPA #1970450002 - Will County, Illinois
ILD074411745
Class 1* Permit Modification

Dear Ms. Cooperider:

This letter and its attachments are being submitted as a Class 1* permit modification to request authorization to 1) update the post-closure cost estimate for the closed RCRA unit, 2) update the closure/post-closure plans and cost estimates for the stack corrective action, 3) update the closure/post-closure plans and cost estimates for the solid waste expansion. This application consists of the following:

1. This letter;
2. LPC-PA23, RCRA Permit Application Form;
3. Attachment 1 – Updated Post-Closure Cost Estimate (Table I-2);
4. Attachment 2 – Updated Corrective Action Closure Plan;
5. Attachment 3 – Updated Corrective Action Post-Closure Plan;
6. Attachment 4 – Updated Solid Waste Expansion Closure/Post-Closure Plan;
7. Section 39(i) Certification.

Updated RCRA Post-Closure Cost Estimate

In accordance with Permit No. B-141R, condition VIII.34, the RCRA unit post-closure costs have been revised to reflect current costs and have been increased by the 2023 CPI of 3.6%. Post-closure costs have been estimated until September 2025. Financial assurance documentation will be submitted within 90 days of Agency approval for the amount outlined on Table I-2 from the post-closure plan. The revised cost estimate is included in Attachment 1 to this submittal. ***If approved, please replace the existing Table I-2 from the RCRA post closure plan contained in the approved Part B permit application binder 1 and replace with the revised Table I-2.***

Updated Corrective Action Closure/Post-Closure Plans

In accordance with Permit No. B-141R, the closure and post-closure plans and associated cost estimates for the stack corrective action have been revised to reflect current costs and have been increased by the 2023 CPI of 3.6 %. The south stack top slope sedimentation basin, 104 acres of geomembrane cap, south stack grading, perimeter toe drain, forcemain, wet well/lift station and a portion of the moat cleaning have been completed to date and are noted in the revised closure plan. Financial assurance documentation will be submitted within 90 days of Agency approval in the amounts outlined on Tables 10-1 and 11-2 of the revised plans contained in Attachments 2 and 3 of this submittal. ***If approved, please replace the existing Sections 10.0 and 11.0 from the North and South Stack Corrective Action Plan permit application binder 1 and replace with the revised Sections 10.0 and 11.0.***

Updated Solid Waste Unit Closure/Post-Closure Plans

In accordance with Permit No. B-141R, condition III.K.8., the closure and post-closure plans have been revised to reflect current costs and have been increased for inflation by 3.6%. In addition, as noted in permit condition III.J.5, the closure and post-closure cost estimates have been revised to account for only those areas for which operating authorization has been obtained or is being requested. The closure/post-closure plans and associated cost estimates assume that the existing solid waste unit, Interim Horizontal Expansion, and Phases 1 through 10 and portions of Phases 11 through 14 are in place (9.2 acres of Phases 9/10 were constructed in 2023). Financial assurance documentation will be submitted within 90 days of Agency approval in the amounts as outlined on Table 13-3 of the closure/post-closure plan contained in Attachment 4. ***If approved, please replace the existing Section 13.0 from the Solid Waste Expansion permit application binder 1 and replace with the revised Section 13.0.***

In accordance with 35 IAC 703.281, the facility will provide written notification of this permit modification to all persons on the facility's mailing list within 90 days of approval by the Agency. As required, the original and three copies of this application are enclosed. If you have any questions or require additional information, please contact me immediately at 815-280-6301.

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 ensure 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 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. [35 IAC 702.126(d)]

Sincerely,
WASTE MANAGEMENT OF ILLINOIS, INC.

Ian C. Johnson, P.E.
Environmental Engineer

xc: Dave Hartke

Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

RCRA Permit Application Form (LPC-PA23)

This form must be used for any permit application for a hazardous waste management facility regulated in accordance with RCRA, Subtitle C, including all requests to modify an existing permit. One original and three (3) copies, of all permit applications must be submitted. Attach the original and appropriate number of copies of a cover letter, any necessary plans, specifications, reports, forms, (e.g., corrective action certification form), and any other certifications etc. to fully support and describe the activities or modifications being proposed. Attach sufficient information to demonstrate compliance with all applicable regulatory requirements. Applications without this form will be deemed incomplete. Please refer to the RCRA checklist and decision guide documents for further guidance. For RCRA corrective action, this form should only be used if requesting an actual modification to a RCRA permit. A RCRA Corrective Action Certification form should be used in all other instances.

Note: Permit applications which are hand-delivered to the Bureau of Land, Permit Section must be delivered to 1021 North Grand Avenue East between the hours of 8:30 a.m. to 5:00 p.m., Monday through Friday (excluding State holidays).

Please type or print all information legibly.

I. Site Identification

Site # (Illinois EPA): 1970450002 USEPA ID Number: ILD074411745

Site Name: Laraway RDF

Physical Site Location (street, road, etc.): 21233 W. Laraway Rd.

City: Joliet Zip Code: 60436 County: Will

Existing RCRA Permit (if applicable): B-141R

II. Owner/Operator Identification

Owner Information

Name: Waste Management of Illinois, Inc

Mailing Address:

21233 W. Laraway Rd.
Joliet, IL 60436

Contact Name: Ian Johnson

Phone #: 815-280-6301

Email: ijohnson@wm.com

Operator Information

Name: Waste Management of Illinois, Inc

Mailing Address:

21233 W. Laraway Rd.
Joliet, IL 60436

Contact Name: Ian Johnson

Phone #: 815-280-6301

Email: ijohnson@wm.com

A 39(i) certification must be submitted with information concerning the following persons or entities:

- the owner of the business entity applying for the permit;
- the operator of the business entity applying for the permit;
- each employee or officer of the owner or operator who signed the permit application or has managerial authority at the site; and
- any additional owner, operator, or officer or employee of the owner or operator from whom a certification is requested by the Illinois EPA, including any officer or employee who will be responsible for overseeing or implementing regulated activities governed by the permit.

III. Permit Application Identification

Application Type

- ☐ New Part B Permit
- ☐ Part B Permit Renewal
- ☐ Class 1 Modification
- ☑ Class 1* (prior approval required) Modification
- ☐ Class 2 Modification
- ☐ Class 3 Modification
- ☐ Additional information to supplement UIC Class I application Log Number _____
- ☐ Remedial Action Plan Permit (RAPP)
- ☐ Sig RAPP Modification
- ☐ Non Sig RAPP Modification
- ☐ Major UIC Modification
- ☐ Minor UIC Modification

This Application Involves

- ☐ Storage
- ☐ Treatment
- ☑ Disposal
- ☐ Incineration
- ☐ Groundwater
- ☐ Corrective Action
- ☐ UIC Class I
- ☐ UIC Class V

Description of This Permit Request: (Include a brief narrative description here.)

Provide updated closure/post-closure costs for RCRA unit, corrective actions units, and solid waste unit.

IV. SIGNATURES

Original signatures required. Signature stamps or applications transmitted electronically or by facsimile are not acceptable. All applications shall be signed by the person in accordance with 35 IAC 702.126(a).

Please check the box of the appropriate certification.

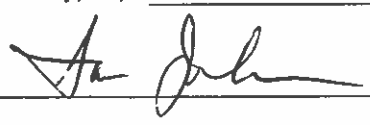
Owner

☒ 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 that manage the system, or those persons directly responsible for gathering the information, the information submitted is, to 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.

Alternative owner certification. For remedial action plans (RAPs) permit under Subpart H of 35 IAC 703, the owner may choose to make the following certification instead of the certification above.

☐ Based on my knowledge of the conditions of the property described in the RAP and my inquiry of the person or persons that manage the system referenced in the operator's certification, or those persons directly responsible for gathering the information, the information submitted is, upon information 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.

Owner Name (Printed or Typed): Ian Johnson

Owner Signature:  Date: 5/8/24

Title: Engineer

Operator

I certify under penalty of law that this document and all attachment 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 that manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information.

Operator Name (Printed or Typed): Ian Johnson

Operator Signature: Ian Johnson Date: 5/8/24

Title: Engineer

Notary (Required for both owner and operator signatures)

Subscribed and Sworn before me this 8th day of May 2024.

OFFICIAL SEAL
GLORIA WENDEL
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES October 27, 2026

Notary Signature: Gloria Wendel

My commission expires on: October 27, 2026

Notary Seal

Engineer

I certify under penalty of law that this document and all attachment 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 that manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information.

Engineer Name (Print or Type): Ian Johnson

Engineer Signature: Ian Johnson

Illinois License No.: 062-048790

Expiration Date of License: Nov 30, 2025

Engineer Phone No. 815-280-6301

Email: ijohnson@wm.com

Engineer Address:

Prairie View RDF
29755 S. Prairie View Dr.
Wilmington, IL 60481

IAN C. JOHNSON
062-048790
REGISTERED
PROFESSIONAL
ENGINEER
OF
ILLINOIS

Engineer Seal

All information submitted as part of the Application is available to the public except when specifically designated by the Applicant to be treated confidentially as a trade secret or secret process in accordance with Section 7(a) of the Environmental Protection Act, applicable Rules and Regulations of the Illinois Pollution Control Board and applicable Illinois EPA rules and guidelines.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

SECRETARY'S CERTIFICATE

WASTE MANAGEMENT OF ILLINOIS, INC.

I, Courtney A. Tippy, Secretary of WASTE MANAGEMENT OF ILLINOIS, INC., a(n) Delaware corporation (the "Company"), do hereby certify that the following is a true and complete copy of resolutions adopted by written consent of the Board of Directors of the Company, which resolutions have not been amended, modified or rescinded and are in full force and effect as of the date hereof:

Environmental Compliance Signature Authority

RESOLVED, that the Area Vice President, Area Director of Disposal Operations, Area Director of Collection Operations, District Manager, Director of Safety, Plant Manager, Environmental Protection Manager, Manager Engineering, District Operations Manager, MRF Manager, Facility or Site Engineer and Environmental Protection Specialist, and each of them, for each facility owned or operated by the Company, subject to compliance with applicable corporate policies and procedures and subject to specific regulatory signature requirements, are hereby authorized to prepare, execute and/or submit on behalf of the Company, as a responsible official, authorized signatory or designated representative, any and all reports, affidavits, applications, modifications, instruments, documents or papers, necessary or appropriate with respect to such facility in order to maintain compliance with federal, state and local permits, laws and/or regulations pertaining to protection of the environment, and to take any required or desired action in connection therewith, as such individual shall deem necessary or advisable, and that any such action taken to date is hereby ratified and approved; and

RESOLVED FURTHER, that any environmental compliance signature authority previously granted by the Board of Directors that is in direct conflict with, or more restrictive than, this resolution is hereby superseded; and

RESOLVED FURTHER, that the foregoing authority shall continue in full force and effect until revoked or modified by a subsequent resolution of the Board of Directors; and

RESOLVED FURTHER, that the Secretary or any Assistant Secretary of the Company may certify these resolutions to any party requesting the same to be certified.

Dated: June 13, 2019

DocuSigned by:
Courtney A. Tippy
Courtney A. Tippy
Secretary

Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

39(i) Certification
for Operating a Waste Management Facility

Pursuant to 415 ILCS 5/39(i), prior to issuing any RCRA permit, or any permit for a waste storage site, sanitary landfill, waste disposal site, waste transfer station, waste treatment facility, waste incinerator, clean construction or demolition debris fill operation, or used tire storage site, the Illinois EPA must conduct an evaluation of the prospective owner's or operator's prior experience in waste management operations, clean construction or demolition debris fill operations, and tire storage site management. As part of that evaluation please complete and submit this form with your permit application.

This form may be completed online and saved locally before printing, signing and submitting it to the Illinois EPA at the address below. If the form is completed manually, please type or print clearly.

Illinois Environmental Protection Agency
Division of Land Pollution Control - #33
39(i) Certification
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

I. Applicant Information

Site Name: Laraway RDF IEPA BOL No.: 1970450002

Site Address: 21233 W. Laraway Rd.

City: Joliet State: IL Zip Code: 60436

Permit Numbers (if applicable): B-141R

Owner

Owner Name: Waste Management of Illinois, Inc.

Street Address: 21233 W. Laraway Rd.

City: Joliet State: IL Zip: 60436

Operator

Operator Name: Waste Management of Illinois, Inc.

Street Address: 21233 W. Laraway Rd.

City: Joliet State: IL Zip: 60436

II. Officers and Employees with Site Responsibility

A. Officers: List the name and title of all officers of the owner or operator that will have personal involvement or active participation in the operation or management of the site or facility for which the application is submitted.

Name	Title
NA, no active or personal involvement in operation or mgmt	

B. Employees: List the name and title of each employee of the owner or operator that will have personal involvement or active participation in the overall operation or management of the site or facility for which the application is submitted (e.g. site managers, site engineers, and other persons who direct or control the overall day-to-day management of the operation, but not persons whose duties are exclusively limited to equipment operation, labor, or similar non-managerial functions).

Name	Title
Doug Tomczak	District Manager
Ian Johnson	Engineer
Mike Toufar	Operations Manager

III. Owner, Operator, Officer, and Employee Information

A. Prior Conduct Identification

The applicant must answer each of the following questions for every owner or operator, and for any officer or employee identified under Section II. If the answer to any of the following questions is affirmative, the applicant must complete an Attachment A for each person for whom the answer is affirmative and include a copy of each final administrative or judicial determination that required an affirmative response. If the information for each owner, operator, officer, and employee has not changed since the applicant's last submission of a 39(i) certification, the applicant can skip to Section III(C), below.

1) Has there been a finding that any person named in Section II violated federal, State, or local laws, regulations, standards, or ordinances in the operation of one or more waste management facilities or sites, clean construction or demolition debris fill operation facilities or sites, or tire storage sites? ○ Yes ⊘ No

2) Has any person named in Section II ever been convicted in this or another State of any crime which is a felony under the laws of this State, or convicted of a felony in a federal court; or convicted in this or another state or federal court of any of the following crimes: forgery, official misconduct, bribery, perjury, or knowingly submitting false information under any environmental law, regulation, or permit term or condition? ○ Yes ⊘ No

3) Has there been a finding against any person named in Section II of gross carelessness or incompetence in handling, storing, processing, transporting or disposing of waste, clean construction or demolition debris, or used or waste tires, or a finding of gross carelessness or incompetence in using clean construction or demolition debris as fill? ○ Yes ⊘ No

B. Pending Proceedings

The applicant must answer each of the following questions for every owner or operator, and for any officer or employee identified in Section II. If the answer to any of the following questions is affirmative, the applicant must complete an Attachment A for each person for whom the answer is affirmative and provide information identified in Attachment A regarding the pending proceeding.

1. Is there any proceeding currently pending against any person named in Section II that could result in a conviction or finding described in subsection A, above? ○ Yes ⊘ No

2. Is there any proceeding currently pending against any person named in Section II that could result in the reversal of a conviction or finding described in subsection A, above? ○ Yes ⊘ No

C. Prior Application Information

If (i) the applicant has previously submitted the Attachments required pursuant to subsections A and B above and (ii) the Attachments previously submitted are still complete, true, and correct, then the applicant does not need to include Attachments with this submission if the following box is checked:

☐ By checking this box, I affirm that the Attachments previously submitted are still complete, true, and correct and wish to incorporate them into this Certification.

If the above box is checked, identify the application that contains the previously submitted Attachments that are complete, true, and correct.

Authorization for Release of Information

This Certification must be signed by an officer of the applicant.

The undersigned authorizes any representative of the Illinois Environmental Protection Agency bearing this release to obtain any information from the Illinois State Police pertaining to the criminal records of the applicant and hereby directs the Illinois State Police to release such information upon request of the bearer. The undersigned authorizes a review of and full disclosure of all records, or any part thereof, concerning the applicant's criminal records by and to a duly authorized agent of the Illinois Environmental Protection Agency, whether the records are of public, private, or confidential nature. The intent of this authorization is to give consent for full and complete disclosure of the applicant's criminal records.

The undersigned fully understands that any information which is developed directly or indirectly, in whole or in part, as a result of this authorization will be considered in determining whether a permit shall be issued by the Illinois Environmental Protection Agency under the Environmental Protection Act [415 ILCS 5]. The undersigned further agrees to release the Illinois State Police and the Illinois Environmental Protection Agency, its agents and designees under this release, from any and all liability which may be incurred as a result of compliance with this authorization for release of information.

Certification Statements

I certify under penalty of law that the information submitted, including information on any Attachments submitted as part of or incorporated into this Certification, is, to 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.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony. (415 ILCS 5/44(h))

Signature of Applicant Officer	5/8/24 Date
Ian Johnson Printed Name	Engineer Title

ATTACHMENT 1

UPDATED RCRA POST-CLOSURE COST ESTIMATES

TABLE I-2
LARAWAY RECYCLING AND DISPOSAL FACILITY
POST-CLOSURE COST ESTIMATE

ITEM DESCRIPTION	ASSUMPTIONS & COMMENTS	UNIT	UNIT RATE	NUMBER OF UNITS PER EVENT	NUMBER OF EVENTS	TOTAL
GENERAL MAINTENANCE & INSPECTIONS						
General maintenance of RCRA Unit (all O&M efforts except for specific line items below)	Utilities, labor, and materials	Per Year	$20,000	1	1	$20,000
Mow & fertilize vegetative cover	fertilize as needed, mow annual	Per Acre	$40	55	1	$2,200
Redress final cover (minor grading & vegetation	Two acres every five years	Per Acre	$1,800	2	1	$3,600
Inspect cover, runon/runoff systems	4 times/year	Per Inspection	$500	4	1	$2,000
Inspect Gas & Leachate Systems	4 times/year	Per Inspection	$500	4	1	$2,000
Inspect emergency/safety equipment	4 times/year	Per Inspection	$250	4	1	$1,000
Inspect Fence & Gates & Benchmark	4 times/year	Per Inspection	$500	4	1	$2,000
GROUNDWATER SAMPLING & ANALYSIS (2)						
Analytical Costs Observation wells	10 wells Semi-Ann. Lists	Per Sample	$528	10	1	$5,280
Analytical Costs GMZ wells	27 wells Semi-Ann. Lists	Per Sample	$536	27	1	$14,472
Sampling costs (includes elevation only wells)	40 wells for entire yearly program	Per Sample	$431	40	1	$17,240
LEACHATE SAMPLING, ANALYSIS & DISPOSAL						
Sampling & Analysis - every year	Full Appendix I list (4 samples/yr)	Per Event	$1,350	4	1	$5,400
Monthly level monitoring	DTMs and leachate wells(28 points/month)	Per Sample	$25	28	12	$8,400
Leachate Management - O&M	Utilities, labor, and materials	Per Year	$35,000	1	1	$35,000
Transporation & Disposal	260 loads/yr @ 4500 gallons/load	Per Gallon	$0.17	1,170,000	1	$198,900
GROUNDWATER EXTRACTION SYSTEM						
Groundwater Extraction System O&M	Utilities, labor, and materials	Per Year	$50,000	1	1	$50,000
REPORT SUBMITTALS/CERTIFICATIONS						
Misc. reporting	groundwater, RCRA, leachate	Per Year	$15,000	1	1	$15,000
Post-closure certification	at end of post-closure period	One time	$5,000	1	1	$5,000
Decommission Groundwater Wells (40 wells)	at end of post-closure period	One time	$20,000	1	1	$20,000
TOTAL POST-CLOSURE COST						$407,492
2010 thru 2023 CPI increases of 1.2%, 2.1%, 1.8%, 1.5%, 1.4%, 1%, 1.3%, 1.7%, 2.3%, 1.8%, 1.2%, 4.13%,7%, 3.6%						**$558,409**

NOTES:
(1) Per Permit Log No. B-141R, post -closure to continue until 9/10/2022, or 34 years. However, costs are provided through end of 2025.
(2) Includes sampling, evaluation, development of contour maps.

ATTACHMENT 2

UPDATED CORRECTIVE ACTION CLOSURE PLAN

10.0 CLOSURE PLAN AND COST ESTIMATE

10.1 INTRODUCTION

The closure plan contained in this section describes the closure activities necessary for closure of the South Stack SWMU. An associated cost estimate has also been prepared.

10.2 CLOSURE PLAN

The closure plan described herein differs slightly from the activities described in Section 8.0 in that it assumes that the original 184 acre stack area and the current areas that have soils placed outside of the original 184 acre area would need final capping. A total of 21.4 acres of final cap have been completed as of 2022. Currently, there are approximately 10 acres that contain soils outside of the original stack footprint, of which all 10 acres have already been final covered as part of the 21.4 acre total. Therefore, 172.6 acres of the south stack would require final capping if closure were to be initiated. This scenario results in a different landform and the surface water management system from that presented in Section 8.0. The closure activities are described as follows and shown conceptually on Figures 10-1 through 10-4.

Phase 1 Closure Activities – Figure 10-1

- Preparation of the South Stack sideslopes and top slope surface, including removal of decant structures and other miscellaneous structures, sealing of shrinkage cracks, and removal and grading of interior compartment berms has been completed. The South Stack grading has been completed along with the removal of the North gypsum area and consolidation of that material on top of the South Stack. Therefore, no costs are included for this activity.

Phase 2 Closure Activities – Figure 10-2

- Installation of a 60-mil thick geomembrane on the flat top slope of the South Stack and final cover on geomembrane has been completed. Approximately 102 acres of geomembrane was installed in 2010 through 2013. Costs to complete this work have been removed from the estimate.

- Construction of the top slope sedimentation basin to control surface water runoff from the covered top slope. This basin was completed in 2011 and costs to complete this work have been removed from the estimate.

- Installation of the sideslope drain around perimeter of South Stack and installation of wet well/lift station at sideslope drain discharge point along south side of stack has been completed. An additional lift station may need to be installed near the existing pump station.

Phase 3 Closure Activities – Figure 10-3

- Cleanout of moat and return water pond for conversion to perimeter run-off channel and sedimentation basin, respectively. Material removed from the moat will be spread on South Stack benches and slopes. Approximately 9,850' (77%) of the moat have been cleaned out and filled with clean soil through 2022.

- Placement of final cover system on upper slope and midlevel bench.

Phase 4 Closure Activities – Figure 10-4

- Placement of final cover system on portions of the lower slope including seeding and erosion control.

- Installation of downslope channel to replace above ground discharge from the top slope sedimentation basin.

An estimate of the costs for these activities is provided in Table 10-1. Specific closure tasks are discussed in the following sections.

10.2.1 South Stack Preparation and Grading

The South Stack grading has been completed along with the removal of the North gypsum area and consolidation of that material on top of the South Stack. No costs are associated for this task.

10.2.2 North Stack Excavation

The excavation of the North Stack included removal of phosphogypsum and was completed in 2011. Phosphogypsum was placed on the South Stack and graded as shown on Figure 10-1. This activity is not included in the closure cost estimate.

10.2.3 Sideslope Drain

The sideslope drain was installed near the toe of the lower slope around the perimeter of the South Stack. The sideslope drain discharges by gravity to a wet well/ lift station along the south side of the stack as shown on Figure 10-2. The perimeter sideslope drain was completed in 2016. No costs are associated for this task.

10.2.4 Forcemain, Pump and Manholes

A wet well/lift station was installed at the slopeside drain discharge point along the south side of the stack to manage slopeside drain discharge during 2018. From this lift station, liquids will be conveyed to a second pump station as shown on Figure 10-3. Approximately 2870' of forcemain was constructed in 2018. Based upon current flows from the sideslope drain, the existing pumps and overhead piping system may or may not be used to convey the collected seepage off-site to the Olin wastewater treatment plant. Alternatively, storage tanks with direct trucking to the Olin treatment plant may be used.

10.2.5 Final Cover System

The geomembrane has been placed on the South Stack top slope. The soil final cover will be placed over the entire South Stack as shown on Figure 10-3. Approximately 102 acres of geomembrane was installed in 2010 through 2013. The soil cover will consist of a minimum of 2 feet of compacted low-permeability soil and 1 foot of vegetative cover soil. A total of 21.4 acres of final cap have been completed in 2022. Based upon the current south stack soil configuration, approximately 172.6 acres would require final capping if closure were required.

Final cover construction includes excavating, hauling, spreading, and compacting of the 2-foot compacted low-permeability soil layer; and placing the 1-foot vegetative cover soil. Soils will be obtained from the Facility property.

10.2.6 Conversion of Moat and Return Water Pond

The moat and return water pond will be converted to a perimeter run-off channel and sedimentation basin, respectively. This will require the removal of phosphogypsum-contaminated sediment. Sediment removed will be placed on the South Stack slopes and mid-level bench to dry before the final cover system is placed. Concurrent with sediment removal, the moat will be graded for use as a perimeter run-off channel for the surface water management system and the return water pond will be graded for use as a sedimentation basin, as shown on Figure 10-3. Approximately 9,850 feet of the moat were cleaned and backfilled through 2022.

10.2.7 Surface Water Management System

The surface water management system associated with the closure scenario will include four sedimentation basins and a perimeter run-off channel.

During 2010 and 2011, the top slope area on the South Stack was graded to drain to the south and west. In addition, a berm was constructed along the west and south sides of the top slope and is maintained as a sedimentation basin. Discharge from the top slope sedimentation basin is through a perforated riser and discharge barrel which discharges to the southwest sedimentation basin. The return water pond will be converted into a sedimentation basin. This closure sedimentation basin will have a perforated discharge riser and discharge will be to the west to the existing channel that discharges to the Des Plaines River. Discharge from the north end of the stack will flow to the existing North sedimentation basin which was completed in 2011. Discharge from south and eastern portions of the stack will flow to the existing south sedimentation basin, which was partially constructed in 2016.

10.2.8 Establishment of Vegetation

The area receiving final cover will require establishment of vegetative cover. A mixture of native grasses and forbs will be used to establish a vegetative cover in accordance with the requirements of Section 8.3.6.3. Mulching and erosion control matting may be used as necessary to provide erosion control. Seeding and mulching will be required on approximately 200 acres at final closure.

10.2.9 Construction Quality Assurance

Construction oversight will be required during each component of closure. Construction quality assurance includes soil testing and verification that closure activities were performed in accordance with the closure plan and the CQA Plan.

10.2.10 Monitoring

During closure of the South Stack SWMU, groundwater monitoring will be performed in accordance with Section 9.0. If the Agency determines closure is necessary, it is estimated that closure activities could take up to 2 years. Therefore, sampling, analysis, and reporting for the 12 groundwater monitoring wells will be conducted semi-annually for the anticipated 2 year closure period. A cost for groundwater sampling and analysis is provided in the cost estimate, based on the groundwater monitoring program described in Section 9.0.

A cost for monitoring well replacement is also provided. It is assumed that one well will be replaced during the closure period.

10.2.11 Certification of Closure

All activities will be conducted in accordance with the approved CQA Plan. Within 60 days after completion of closure of the South Stack SWMU, a certification will be submitted to the IEPA, by registered mail, that the South Stack SWMU has been closed in accordance with the specifications in the approved closure plan. The certification will be signed by the owner or operator and by an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification will be placed in the operating record and will be available to IEPA upon request until the IEPA releases the owner or operator from the closure financial assurance requirements of 35 IAC Section 724.243(i).

10.2.12 Survey Plat

No later than the submission of the certification of closure of the South Stack SWMU, a survey plat will be prepared which includes the following information:

- The location and dimensions of the South Stack SWMU, surveyed with respect to site coordinates.

- The plat will contain a note, prominently displayed, that states:

    1. This land has been used to manage phosphogypsum.
    2. The obligations of the owner and operator to restrict the disturbance of the South Stack SWMU in accordance with the applicable 35 IAC 724 Subpart G regulations.

The plat will be prepared and certified by a professional land surveyor using the wording in 35 IAC 702.126(d)(1).

The plat will be filed with the Will County zoning authority and the IEPA. In addition, the plat will be recorded with the property deed.

10.3 COST ESTIMATE

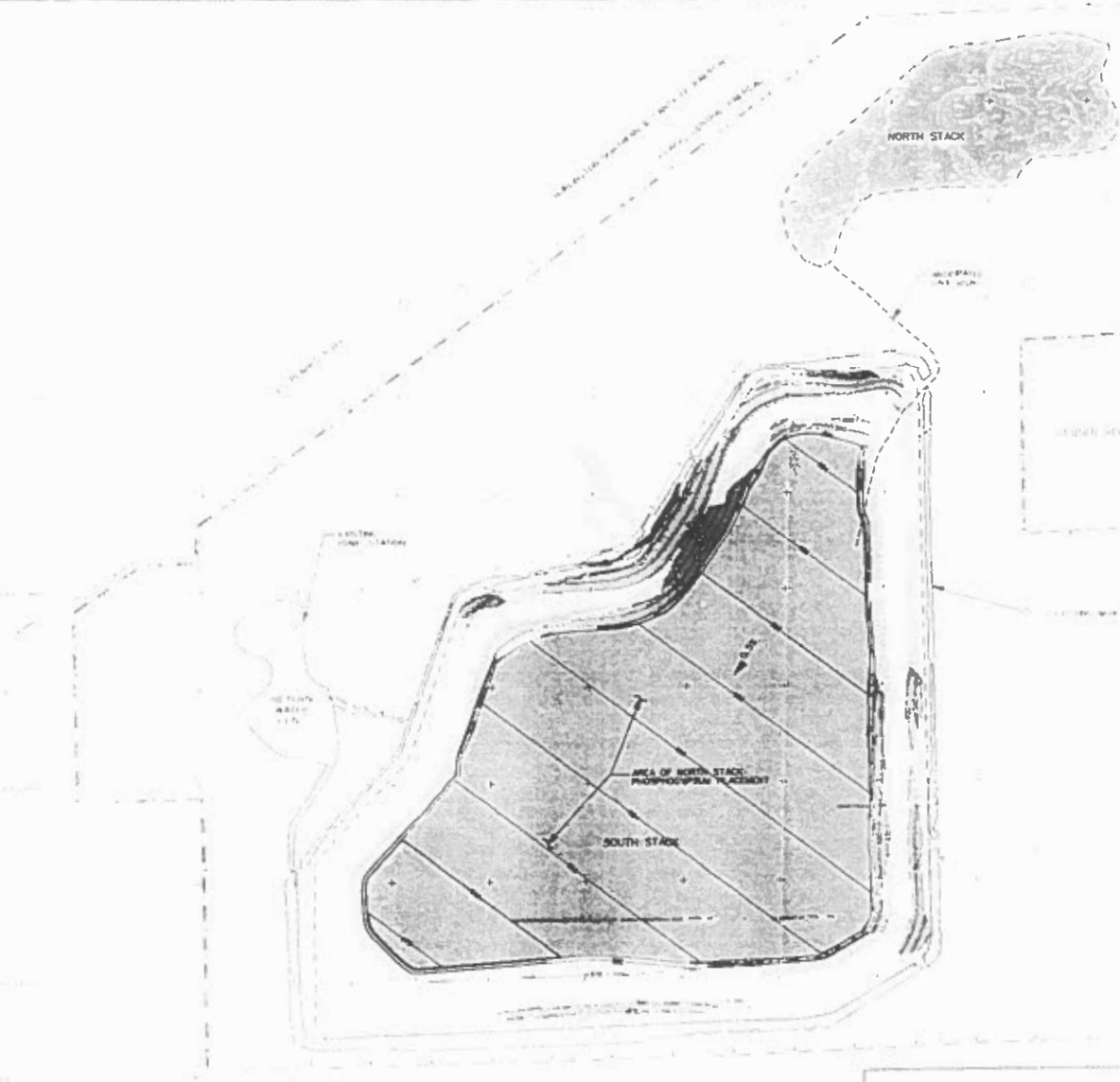
The cost estimate is prepared assuming a third party will be contracted to complete all closure activities. In addition, the cost estimate is not reduced by allowance for salvage value of equipment or resale value of the land. The estimated cost for closure is summarized in Table 10-1.

10.4 SCHEDULE

Completion of closure activities will be weather dependent. A timeline schedule for closure activities is presented on Figure 10-5. A time period has been included in each task to account for potential inclement weather conditions where earthwork-related construction is not possible. Based on the schedule, it is estimated the activities will take approximately 25 weeks to complete. The extensive nature of closure activities requires a closure period beyond 180 days.

10.5 FINANCIAL ASSURANCE

In accordance with 35 IAC 724.245, an appropriate form of financial assurance will be provided for the South Stack SWMU closure care cost estimate. The cost estimate and the amount of financial assurance will be updated annually in accordance with applicable State of Illinois requirements.



EarthTech

FIGURE 10-1
PHASE I CLOSURE ACTIVITIES
NORTH AND SOUTH STACK CORRECTIVE ACTION PLAN
CLASS 3 PERMIT MODIFICATION
LAKAWAY BDP
WILL COUNTY, ILLINOIS

EarthTech

FIGURE 10-2
PHASE II CLOSURE ACTIVITIES
NORTH AND SOUTH STACK CORRECTIVE ACTION PLAN
CLASS 3 PERMIT MODIFICATION
LARAWAY MINE
WILL COUNTY, ILLINOIS

EarthTech

FIGURE 10-3
PHASE III CLOSURE ACTIVITIES
NORTH AND SOUTH STACK CORRECTIVE ACTION IN AN CLASS 3 PERMIT MODIFICATION
LARAWAY ROAD
WILL COUNTY, ILLINOIS

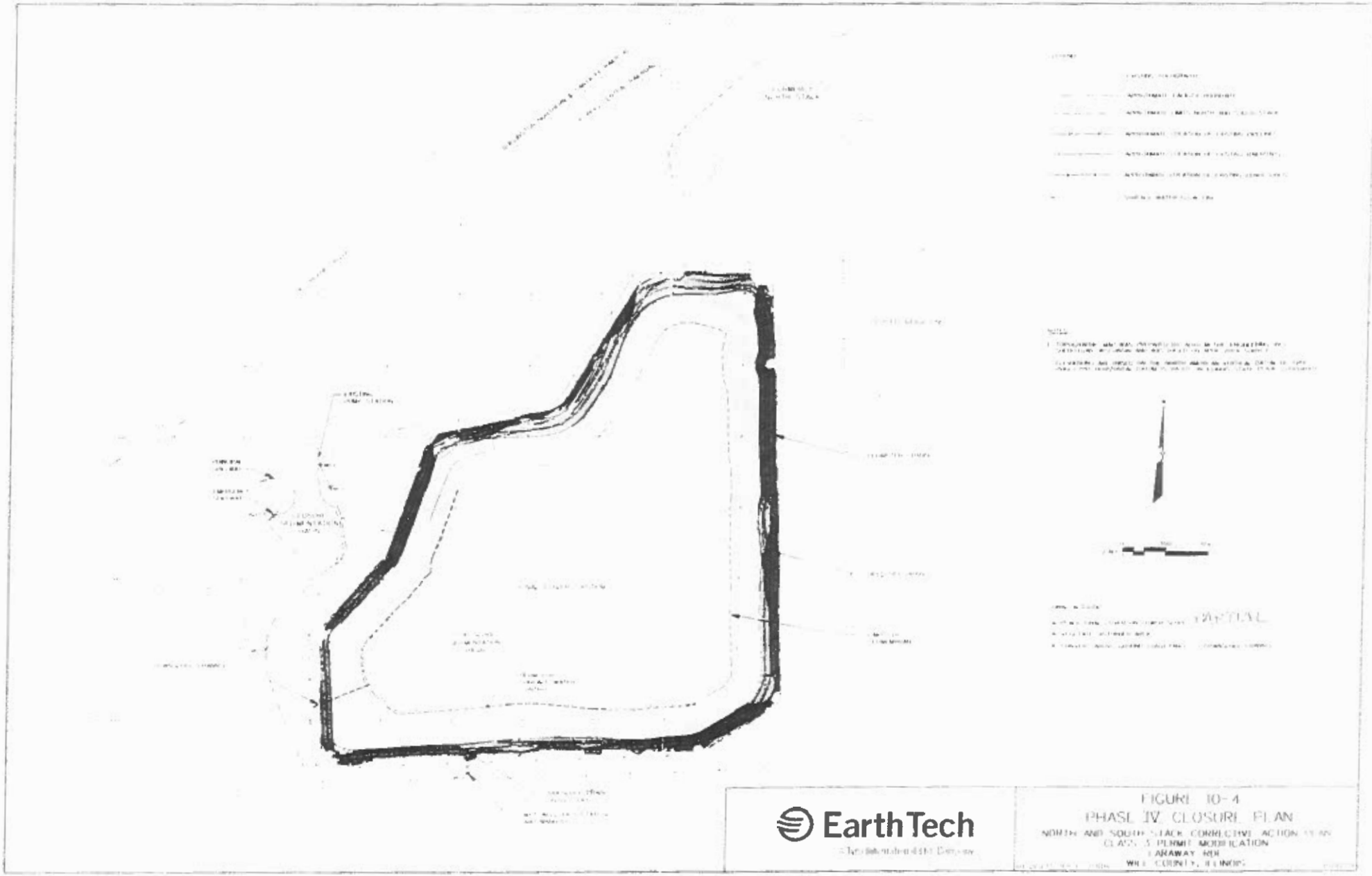


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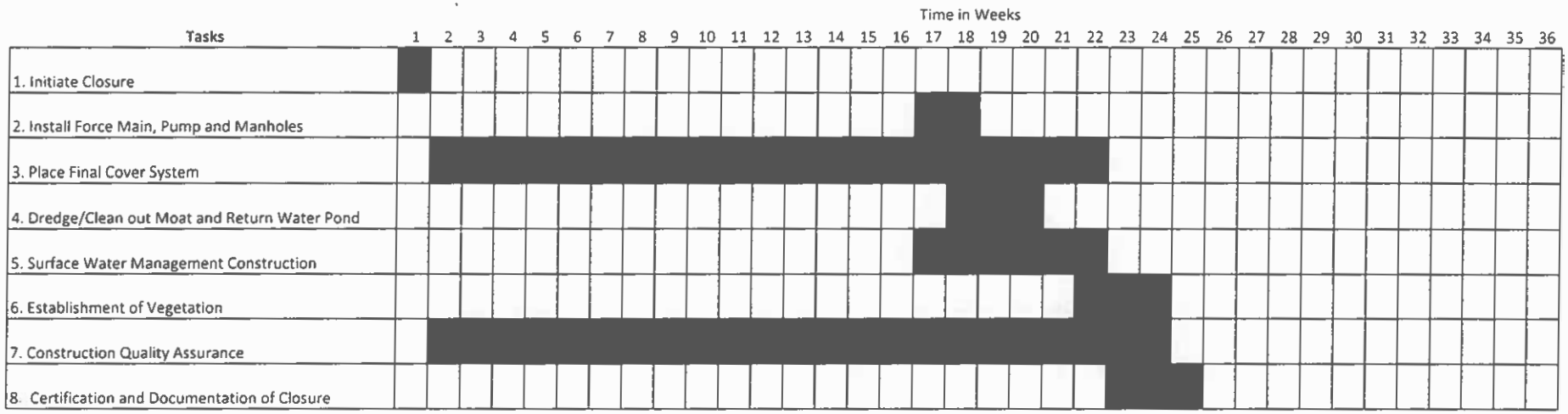
FIGURE 10-4
PHASE IV CLOSURE PLAN
NORTH AND SOUTH STACK CORRECTIVE ACTION PLAN
CLASS 3 PERMIT MODIFICATION
LAKEWAY, INC.
WILL COUNTY, ILLINOIS

FIGURE 10-5

SCHEDULE FOR SOUTH STACK CLOSURE



May 2024

Table 10-1

ESTIMATED CLOSURE COSTS - SOUTH STACK SWMU

Item	Quantity	Units	Unit Cost	Approximate Cost
1. South Stack Preparation and Grading (Completed)	0	cy	$1.50	$ -
2. Install Sideslope Drain (completed)	0	linear feet	$200.00	$ -
3. Install Force Main and Wet Well/Lift Stations				
a. Forcemain (completed)	0	linear feet	$100.00	$ -
b. Wet Well/Lift Stations[1]	1	each	$250,000	$ 250,000
4. Place Final Cover System				
a. 2-foot Low-Permeability Soil Layer (172.6 ac)	556,923	cy	$4.00	$ 2,227,692
b. 1-foot Vegetative Soil Layer (172.6 ac)	278,462	cy	$4.00	$ 1,113,848
5. Dredge/Clean-out Moat and Return Water Pond				
a. Moat (77% complete)	14,467	cy	$7.00	$ 101,269
b. Return Water Pond	31,500	cy	$10.00	$ 315,000
c. Soil Testing and Documentation	1	lump sum	$150,000	$ 150,000
6. Surface Water Management System Construction				
a. Sedimentation Basin Conversion	1	lump sum	$20,000	$ 20,000
b. Run-off Channel Construction	1	lump sum	$40,000	$ 40,000
7. Establishment of Vegetation: Seed and Mulch	200	acres	$1,850	$ 370,000
8. Construction Quality Assurance:				
a. Inspectors (2 @ 50 hrs/wk x 25 wks)	2,500	hours	$60.00	$ 150,000
b. Engineer (10 hrs/wk x 25 wks)	250	hours	$75.00	$ 18,750
c. Senior Engineer (4 hrs/wk x 25 wks)	100	hours	$90.00	$ 9,000
9. Groundwater Semi-Annual Sampling[2]				
(24 hours/event) x (2 events) x 2 years	96	hours	$100.00	$ 9,600
10. Groundwater Semi-Annual Monitoring List G1				$ -
(12 wells/event) x (2 events) x 2 years	48	samples	$300.00	$ 14,400
11. Semi-Annual Groundwater Data Review and Report				
(12 hours/event) x (2 events) x 2 years	48	hours	$80.00	$ 3,840
12. Groundwater Monitoring Well Replacement (1 well total)	1	lump sum	$12,000	$ 12,000
13. Certification and Documentation of Closure	1	lump sum	$150,000	$ 150,000
14. Preparation and Filing of Plat	1	lump sum	$10,000	$ 10,000
			SUBTOTAL	**$ 4,965,399**
Annual inflation increases of 1.2%, 1.2%, 2.1%, 1.8%, 1.5%, 1.4%,1%, 1.3%, 1.7%, 2.3%, 1.8%, 1.2%, 4.13%, 7%, 3.6% for 2009 thru 2023			**GRAND TOTAL**	**$ 6,886,012**

Notes

1. Wet Well/Lift Station costs include pump and appurtenances.

2. Groundwater monitoring performed on a semi-annual basis; cost includes two-man sampling crew.

ATTACHMENT 3

UPDATED CORRECTIVE ACTION POST-CLOSURE PLAN

11.0 POST-CLOSURE CARE PLAN AND COST ESTIMATE

11.1 INTRODUCTION

The post-closure care plan presented herein describes inspection, maintenance and monitoring activities to be performed after implementation of the corrective action activities described in Section 8.0, i.e., after the South Stack SWMU closure has been completed. Implementation of post-closure care activities ensures the integrity and/or operability of environmental systems for the South Stack SWMU. In addition, groundwater monitoring activities are included for the former North Stack program.

Environmental systems for the South Stack SWMU include the following:

- Final cover system;
- Surface water management structures;
- Stack seepage collection system;
- Groundwater monitoring; and
- Security system

The mechanisms for ensuring the integrity and/or operability of these environmental systems will be provided by inspections and maintenance activities. In addition, the groundwater monitoring program described in Section 9.0 will continue to be implemented throughout the post-closure care period.

The post-closure care plan and associated cost estimate have been prepared based on a minimum 30-year post-closure care period. The post-closure care cost estimates have been prepared assuming a third party will be contracted to perform the work. The components of the post-closure care plan are discussed in the following sections. The post-closure care cost estimate is discussed in Section 11.5.

11.2 INSPECTIONS

Inspection of the South Stack SWMU will be conducted on a regular basis during the post-closure care period. Inspection items, along with associated inspection procedures and inspection frequencies, are shown on Table 11-1.

A written record of each inspection will be made and retained at WMII offices. The inspector will assess the condition and need for repair of the final cover and vegetation, surface water management system components, stack seepage collection system components, groundwater monitoring wells and security system. Documentation of all repairs performed or replacements made (excluding minor grading, vegetation replacement or similar minor maintenance activities) will be documented and retained with the inspection records.

11.3 MAINTENANCE ACTIVITIES

During the post-closure care period, maintenance activities will include the following:

11.3.1 Final Cover Maintenance

Repairs to the final cover due to erosion and differential settlement of the underlying phosphogypsum will be performed as required during the post-closure care period. These areas will be repaired in order to maintain the integrity of the final cover. Areas of differential settlement and erosion will be repaired with additional cover soils, as required. Off-site soil material will be utilized to maintain final cover. Final cover repairs will be performed in accordance with the CQA plan.

For purposes of the cost estimate, final cover repair is estimated to average 2 acres per year during the 30-year post-closure care period at an average soil thickness of 1 foot.

11.3.2 Vegetation Repair

Final cover areas repaired as part of final cover maintenance described above will require re-establishment of vegetative cover. In addition, barren areas noted during the inspections will also require re-vegetation. Reworked surfaces and areas of failed or eroded vegetation will be revegetated. It is anticipated this rate will be reduced approximately 5 years after initial seeding as vegetation becomes well established.

Vegetation repair is estimated to average 3.3 acres per year during the 30-year post-closure period. This average is equivalent to 10 acres per year being repaired during the first 5 years of post-closure care, 5 acres per year being repaired in years 6 through 15, and no repairs being made after year 15.

11.3.3 Vegetation Maintenance

As discussed in Section 8.0, the vegetation selected for planting on the final landform consists of native species. These species are well adapted to harsh climates and conditions, such as high temperatures and drought. Native species require no fertilization and the preferred management technique for native plant species is prescribed or controlled burning. For the cost estimate, annual controlled burning and mowing is assumed during the first 5 years of post-closure care and every 5 years thereafter.

11.3.4 Miscellaneous Repairs

Minor repairs may be required to ensure the integrity and proper function of fencing, surface water management system components, and monitoring points. Repairs will be made as warranted. An annual cost is provided for such work.

11.3.5 Stack Seepage Collection System Operation and Maintenance

Seepage collection from the South Stack during the post-closure care period will be performed as described previously in Section 8.0. Seepage collected by the side slope drain will be conveyed by gravity to a wet well/lift station along the south side of the stack. From this lift station liquids may be conveyed to a second lift station adjacent to the former return water pond. From this point, liquids will be conveyed via overhead pipeline to the Olin wastewater treatment plant. Alternatively, a storage tank and tankers may be used to haul seepage to the Olin treatment plant

Maintenance of the seepage collection system during the post-closure care period will include inspection of the system, repairs as warranted, and periodic replacement of pumps. The system

will be inspected quarterly and at other times, as required. Costs to maintain the seepage collection system include cleaning of the side slope drain, replacement of pumps, repair of control panels, and associated labor costs. It is estimated that the pumps will be replaced once every 10 years. These costs have been normalized on an annual basis.

11.4 MONITORING

Groundwater monitoring will be performed in accordance with Section 9.0. Sampling, analysis, and reporting for the 12 groundwater monitoring wells at the South Stack, and the 7 wells at the North Stack will be conducted semi-annually for a minimum of 30 years. A cost for groundwater sampling and analysis is provided in the cost estimate, based on the groundwater monitoring program described in Section 9.0.

A cost for monitoring well replacement is also provided. It is assumed that one well is replaced every 5 years, i.e., six wells during the post-closure care period. This cost has been normalized on an annual basis.

11.5 RECORDKEEPING

During the 30-year post-closure care period, records of inspections, sampling and repair activities will be maintained at WMII offices. All records will indicate date, location, and corrective action taken.

11.6 COST ESTIMATE

A cost estimate for post-closure care is included in Table 11-2. These estimates reflect current costs for third party contractors to complete the post-closure care work.

11.7 FINANCIAL ASSURANCE

In accordance with 35 IAC 724.245, an appropriate form of financial assurance will be provided for the South Stack SWMU post-closure care cost estimate. The cost estimate and the amount of financial assurance will be updated annually in accordance with applicable State of Illinois requirements.

TABLE 11-1

TYPICAL POST-CLOSURE CARE INSPECTIONS SOUTH STACK SWMU

Inspection Item	Inspection Procedure	Frequency
Final Cover System	Check for the presence of: 1. Areas of sparse vegetation; 2. Excessive erosion; 3. Differential settlement; 4. Ponding of water; and 5. Animal burrowing.	Quarterly
Surface Water Management System Components	1. Diversion berms: verify positive drainage and no excessive erosion. 2. Downslope channels: verify erosion control in place and functional; no excessive erosion. 3. Energy dissipators: verify no blockages and no scour around structure. 4. Permit channels: verify positive drainage and no excessive erosion. 5. Culverts: verify no blockages. 6. Sedimentation basins: Verify no excessive erosion at basin inlets and outlets; no blockages at basin inlet and outlet; riser pipe perforations clear with no blockages; sluice gate/valve functional.	Quarterly
Stack Seepage Collection System Components	Check condition and operation of components: wet well/lift stations, control panels, overhead pipeline.	Daily when personnel are onsite, but no less frequent than quarterly
Groundwater Monitoring Wells	Check condition of: 1. Outer protective casing, lock on well and bumper posts, if present. 2. Verify positive drainage around well. 3. Sampling equipment functional.	During each routine groundwater sampling event.
Fencing/Security	Check condition of fencing; verify no holes or gaps in fencing.	Quarterly

TABLE 11-2

COST ESTIMATE FOR POST-CLOSURE CARE SOUTH STACK SWMU

For Post-Closure Care: Annual Cost for Years 1 through 30:			
Item	Quantity	Unit Cost	Approximate Annual Cost
1. Site Inspections (20 hours/quarter)	80 hours	$50.00	$4,000
2. Final Cover Maintenance (2 acres at 1-foot)	3,226 cy	$5.50	$17,750
3. Vegetation Maintenance[1]- Mowing/Controlled Burn (estimated annualized unit cost)	200 acres	$33.00	$6,600
4. Vegetation Repair	3.3 acres	$1,850.00	$6,100
5. Miscellaneous Repairs	Lump Sum	--	$20,000
6. Stack Seepage Collection System Maintenance			
a. Labor (10 hours/week) x (52 weeks/year)	520 hours	$45.00	$23,400
b. Pump replacement (estimated annualized cost)	Lump sum	--	$20,000
c. Miscellaneous repairs	Lump sum	--	$5,000
7. Groundwater Semi-Annual Sampling[2] (Both Stacks) (29 hours/event) x (2 events)	58 hours	$100.00	$5,800
8. Groundwater Semi-Annual Monitoring - South Stack (12 wells/event) x (2 events)	24 samples	$300.00	$7,200
9. Groundwater Semi-Annual Monitoring - North Stack (7 wells/event) x (2 events)	14 samples	$481.00	$6,734
10. Semi-Annual Groundwater Data Review and Report (14 hrs/event) x (2 events)	28 hours	$80.00	$2,240
11. Groundwater Monitoring Well Replacement (annualized lump sum cost)	Lump sum	--	$2,000
12. Annual Report Preparation	80 hours	$80.00	$6,400
Total Annual Cost			$133,224
Updated Annual Cost with 2009 through 2023 Inflation factors of 1.2%,1.2%,2.1%,1.8%,1.5%,1.4%,1%,1.3%, 1.7%, 2.3%, 1.8%, 1.2%, 4.13%, 7%, 3.6%			$184,755 x 30 years
30-YEAR COST			$5,542,650
13. Decommission 19 groundwater wells at end of PC	each	$584	$11,096
GRAND TOTAL POST CLOSURE COST			$5,553,746

NOTES:

[1] Vegetation maintenance including mowing and controlled burning will be performed on the entire landform.

[2] Groundwater monitoring performed on a semi-annual basis; cost includes two-man sampling crew.

ATTACHMENT 4

UPDATED SOLID WASTE UNIT CLOSURE/POST-CLOSURE PLAN

13.0 CLOSURE/POST-CLOSURE CARE PLAN AND COST ESTIMATES

13.1 INTRODUCTION

The closure/post-closure care plan and cost estimates presented herein are prepared in accordance with the requirements of 35 IAC 811.110, 811.111, 812.114, 812.115, and 812.116. The regulations require that: 1) a closure/post-closure care plan be developed by the site operator, 2) cost estimates be prepared for the closure/post-closure care plan elements, and 3) the site operator provide financial assurance to guarantee closure and post-closure care of the Expansion. The purpose of these requirements is to assure that closure/post-closure care can be implemented in the event of operator default.

A closure plan has been prepared to address the closure scenario for the Expansion as described as follows:

- Closure for areas for which authorization to operate has been obtained or is being requested;

Additionally, a post-closure care plan which addresses maintenance and monitoring of the Expansion following certification of closure of for areas for which authorization to operate has been obtained or is being requested has been prepared. The following sections also address how the landfill will be developed to allow for contemporaneous closure and stabilization of the Expansion.

All cost estimates are prepared assuming IEPA will contract with a third party to implement the work. Cost estimates are not reduced by allowance for salvage value of equipment or waste, resale value of the land, or sale of landfill gas. Pursuant to 35 IAC 811.705, cost estimates will be revised annually for inflation during the active life and post-closure care period, or whenever a change in the closure plan or post-closure care plan results in an increase in the cost estimate. In accordance with Permit No. B-141R, Condition III.K.5., the cost of financial assurance is determined by the sum of the closure and post-closure care cost estimates for areas for which authorization to operate has been obtained or is being requested.

Fencing and/or natural barriers will remain intact and will act as security to prevent access to the Expansion. Additionally, a sign will be posted at the entrance to the Facility indicating that the Expansion is closed and is no longer accepting waste.

13.2 CLOSURE PLAN FOR CURRENT & REQUESTED OPERATIONAL AREAS

In accordance with Permit No. B-141R, Condition III.K.5., financial assurance for closure and post-closure care is only required for areas for which authorization to operate has been obtained or is being requested. Therefore, a closure plan has been prepared which assumes that the existing solid waste unit, Interim Horizontal Overlay liner, and Phases 1 through 10 and portions of 11 through 14 in the Expansion would contain waste. A total of 187.5 acres is constructed and this total area includes the Phase 9C/10B liner constructed in the fall of 2023. 19.2 acres, 24,2 acres, and 14.5 acres of final cap were completed in 2017, 2020, and 2022, respectively. Therefore, the total area that would require final cover is approximately 129.64 acres.

Major closure activities include the placement of final cover, establishment of vegetative cover, construction of surface water control features, and inspection and certification activities, as discussed below. A landfill gas management system is not proposed for the Expansion. However, gas monitoring will be performed on a monthly basis pursuant to 35 IAC 811.310(c). In accordance with the gas probe installation schedule approved in permit B-141R, gas probes will be installed

outside the limits of waste and within the waste mass. Closure activities will be conducted in accordance with the approved Construction Quality Assurance Plan. All activities will be documented by a professional engineer.

13.2.1 Equipment Decontamination

Decontamination of equipment used in the operation will not be required, as no hazardous waste will be accepted at the Expansion. Equipment that has been in contact with the waste material will be manually cleaned (e.g., waste removed from tracks and undercarriage). Cleaning residue generated by these activities will be placed in the Expansion at the time of covering. Equipment used in covering activities will not become contaminated.

Cleaned equipment not necessary for post-closure care will be removed and utilized at other WMII facilities. After completion of closure activities, it is anticipated that the ticket/administration building, the scalehouse, and the maintenance facility will remain. All equipment will be removed after certification of closure, except those necessary to perform post-closure activities at the landfill.

13.2.2 Backfilling and Grading

It is further assumed that additional fill will be required over those waste disposal areas that have yet to receive waste so as to provide positive surface water drainage. Therefore, approximately 20,000 yd^3 of additional fill will be required in Phases 12 through 14, and over top portions of the existing unit.

13.2.3 Final Cover Placement

For the purposes of this cost estimate, it is assumed that the existing solid waste unit, Interim Horizontal Overlay area, and Phases 1 through 10 and portions of 11 through 14 will have received waste. 57.9 acres of final capping have been completed in 2017, 2020, and 2022. Therefore, approximately 129.64 acres of final cover would be required. Soil materials necessary to construct the final cover will be obtained from on-site sources.

All closure activities will be conducted in accordance with the approved CQA Plan. Required records and certification of final cover placement will be submitted to IEPA and maintained by the site operator.

Soils used for protective cover will be capable of supporting the final cover vegetation either as they are, or fertilizer will be introduced as needed. Installation of the protective cover layer will occur concurrent with the installation of the geomembrane, geocomposite drainage layer, and grading layer soil.

13.2.4 Vegetation

The area receiving final cover, as well as those areas disturbed, will require establishment of a vegetative cover. A mixture of native grasses and forbs will be used to establish a vegetative cover in accordance with the permit. The mixtures of grasses and forbs will be selected to be amenable to the soil quality/thickness, slopes, and moisture conditions that are proposed for the Expansion, without the need for continued maintenance. Mulch will also be used at rates necessary to provide erosion control. Approximately 129.64 acres will receive seed and mulch at the time of the first permit term closure.

13.2.5 Surface Water Management

Upon backfilling of excavated areas and minor grading work, surface water management features at the Expansion will be constructed. It is anticipated that surface water channels will be required to direct surface water runoff to the existing sedimentation basins. A total of approximately 25,400 lineal feet of surface water diversion berms and surface water channels will be constructed. The surface water control features will be constructed to the same specifications and details shown on the engineering drawings.

13.2.6 Solidification Areas Dismantlement

Solidification will only occur in areas that provide sufficient remaining fill height to allow for abandonment of temporary liner soils in place (i.e., the top elevation of the liner soils would be at or below the permitted waste grades). Therefore, the only remaining dismantlement costs are for the removal and disposal of the in-process waste materials and reagents contained inside the containers. The waste material would be disposed of at Laraway RDF. The mobile equipment and containers would be re-used elsewhere on site or at another Waste Management site and, thus would only require basic washing to facilitate re-use (negligible expense).

The estimated wastes and reagents that would need to be disposed off-site amount to 400 cy of material (10 containers at 40 cy per container – the maximum proposed number of boxes). Excavators and other mobile equipment perform dual duty with other site operations and thus, would be washed (if necessary) on-site and re-used for closure and post-closure operations.

13.2.7 Certification

The operator and an Illinois-registered professional engineer will certify to IEPA that the closure of the landfill is in accordance with the closure plan. Closure documentation drawings depicting closure conditions will accompany the certification. All activities will be conducted in accordance with the approved CQA Plan.

13.2.8 Documentation

A plat of the closed areas will be filed with the Will County Recorder's office. An Illinois-registered land surveyor will be retained for preparation and filing of the plat.

Following closure of the landfill, the operator will record a notation on the deed to the property to notify, in perpetuity, that:

1. The land has been used as a landfill facility.
2. Its use is restricted under 35 IAC 811.111(d).

The operator will also notify IEPA that the notation has been recorded and a copy has been placed in the operating record.

13.2.9 Closure Notice Procedures

If closure is necessary, IEPA will be notified of closure within 30 days after receipt of the final volume of waste, and the operator will treat, remove, or dispose of all wastes and waste residue in accordance with 35 IAC 811.111(a). Closure activities, including placement of the geomembrane, will be initiated within 60 days after receipt of the final volume of waste and in accordance with the closure plan. In accordance with 35 IAC 811.110(f), an extension will have to be approved by the Agency as closure will take longer than 180 days.

13.2.10 Cost Estimate

A cost estimate to perform closure activities for existing and requested operational areas and establish financial assurance in accordance with 35 IAC 811 requirements includes tasks of final cover system installation, construction of surface water control features, landscaping, construction quality assurance, and documentation of closure. Final cover construction includes excavating, hauling, placing, and compacting the 1-foot grading layer soil; placing the geomembrane; placing the geocomposite drainage layer; excavating, hauling, and spreading of the 2.5-foot protective cover layer; and placing a 0.5-foot topsoil layer. Landscaping includes placement of seed and mulch. Construction quality assurance includes soil testing and verification that closure activities were performed in accordance with the closure plan and the CQA Plan. A cost has also been included for surveying of the closed surfaces and filing of the plat map. The estimated closure cost for the existing and requested operational areas is summarized and presented in Table 13-1. The closure cost estimate was prepared under the assumption that an independent third party will complete all activities associated with closure.

13.2.11 Schedule

Completion of the closure activities for the existing and requested operational areas will be weather dependent. A timeline schedule for closure activities is presented in Figure 13-2. A time period has been included in each task to account for inclement weather conditions where earthwork-related construction is not possible. Based on the schedule, it is estimated the activities will take approximately 28 weeks to complete.

13.2.12 Temporary Suspension of Waste Acceptance

Pursuant to 35 IAC 812.114(d), if the solid waste unit chooses to temporarily suspend the acceptance of waste for a period of less than 30 days, no significant operational or regulatory impact will be created. A temporary shutdown of more than 30 days will be accompanied by a permit application and revision of the closure and post-closure care plan to reflect the impact of the temporary shutdown.

13.3 POST-CLOSURE CARE PLAN

In accordance with Permit No. B-141R, Condition III.J.5., the post-closure care plan presented herein addresses post-closure care for areas for which authorization to operate has been obtained or is being requested. Therefore, post-closure activities and costs are for the existing solid waste unit, Interim Horizontal Overlay liner, and Phases 1 through 10 and portions of 11 through 14 in the Expansion, which equates to approximately 187.54 acres. Estimated costs for performing the activities for the 30-year post-closure care period are presented in Section 13.3. These costs will be placed in the operating record.

13.3.1 Post-Closure Monitoring and Maintenance

The post-closure monitoring and maintenance program will include the following:

13.3.1.1 Site Inspections

Inspection of the Expansion will be conducted on a quarterly basis for a minimum period of 30 years after closure. A written record of the inspection(s) will be made and retained at the closed Expansion. The inspector will assess the condition and need for repair of final cover and vegetation, as well as fencing, monitoring points, and surface water control features.

During the 30-year post-closure care period, corrective action, including soil filling and reseeding, will be taken if ponding is observed, cracks greater than 1-inch wide or gullies 6 inches or deeper have formed, gas odor is present, vegetative or vector problems arise, or if leachate seeps are present. Areas that have been identified by the inspector or IEPA as particularly susceptible to erosion will be recontoured and reseeded. All eroded and scoured drainage channels will be repaired, and the lining material replaced if necessary. All vegetated areas, the stormwater basin, and associated inlet and outlet structures will be inspected on a quarterly basis for 5 years after closure. After 5 years, all vegetated areas, the sedimentation basin and structures will be inspected annually until settling has stopped and there are no eroded or scoured areas. The post-closure inspection report(s) will include a statement regarding correction of items previously identified as needing repair.

13.3.1.2 Final Cover Maintenance

Residual settlement and erosion may require minor final cover repairs. Areas where ponding occurs or erosion appears will be repaired in order to maintain the integrity of the final cover. Recently filled and covered areas will require the most maintenance; however, the landfill will stabilize with time so that little, if any, maintenance will ultimately be required during the post-closure period. Generally, a 3- to 5-year stabilization period is anticipated. Residual settlement of the closed landfill is not anticipated. If it occurs at all, it is expected to be minimal and confined to localized areas. Areas of settlement will be repaired with additional cover soils, as required. On-site material will be secured to maintain final cover.

Final cover repair is estimated to average 0.33 acre per year during the 30-year post-closure care period. This average is equivalent to 1 acre per year being repaired during the first 5 years of post-closure care, 0.5 acres per year being repaired in years 6 through 15 and no repairs being made after year 15.

13.3.1.3 Vegetation Repair

Areas repaired as noted above will require re-establishment of vegetative cover. Barren areas noted during the inspection(s) will also require repair. All reworked surfaces, and areas of failed or eroded vegetation in excess of 100 square feet cumulatively, will be revegetated. As with cover repair, it is anticipated this rate will be reduced after 5 years of stabilization.

Vegetation repair is estimated to average 0.66 acres per year during the 30-year post-closure period. This average is equivalent to 2 acres per year being repaired during the first 5 years of post-closure care, 1 acres per year being repaired in years 6 through 15, and no repairs being made after year 15.

13.3.1.4 Miscellaneous Repairs

Minor repairs may be required to ensure the integrity and proper function of fencing, surface water drainage structures, and monitoring points. Repairs will be made as warranted. A cost estimate allowance is made for such work.

13.3.1.5 Drainage Control

Diversion berms, downslope channels, energy dissipators, perimeter channels, culverts, and the sedimentation basin will manage surface water runoff. Surface water run-on is expected to be minimal due to the topography and location of the Expansion. No additional costs are projected during the post-closure care period.

13.3.1.6 Acceptance of Waste During Post-Closure

Waste from off-site sources will not be accepted during the post-closure period. No waste spoil is anticipated to be generated during the post-closure period. No additional costs are associated with this operation.

13.3.2 Leachate Management and Monitoring

Leachate management at the Expansion during the 30-year post-closure care period will be performed in accordance with the approved permit. Leachate will be pumped from the leachate collection sumps into the on-site forcemain (or, alternatively into tanker trucks). The leachate will be transferred to the leachate holding tank(s), tanker truck, or directly off-site to a WWTP for treatment and disposal. A cost estimate for the treatment and disposal of the leachate is provided in Table 13-2.

Maintenance of the leachate management system during the 30-year post-closure care period will include inspection of the system, repair as warranted, and periodic replacement of pumps. The system will be inspected quarterly and at other times, as required. Costs to maintain the leachate management system include cleaning of the leachate collection pipe, replacement of pumps and control panels, and associated labor costs. It is estimated that all leachate collection pipe will be cleaned once every year and that the pumps and control panels will be replaced once every 10 years. WMII may stop managing leachate if it demonstrates, in accordance with 35 IAC 811.309(h), that the leachate no longer poses a threat to human health and the environment. Monitoring of the leachate will be performed in accordance with the approved permit.

13.3.3 Groundwater Monitoring

Sampling and analysis at the Expansion will be conducted in accordance with permit requirements, and the results will be submitted to IEPA. Sampling, analysis, and reporting of the 41 groundwater monitoring wells will be conducted quarterly for a minimum of 30 years. Groundwater monitoring records will be maintained at the facility or at the office of the engineer. The analysis will be reviewed by WMII. The reports will include a statistical data evaluation to verify that the Expansion is not impacting the groundwater. The approved sampling procedures and the groundwater monitoring program will be followed throughout the post-closure care period. If statistically significant exceedances are confirmed, assessment monitoring will be performed pursuant to 35 IAC 811.319(b). If corrective action becomes necessary, a plan will be developed pursuant to 35 IAC 811.324, 811.325, and 811.326.

13.3.4 Gas Monitoring/Sampling

The gas monitoring program at the Expansion will be installed to detect any gas migration at the property line or 100 feet from the limits of waste (whichever is less). Nineteen gas monitoring probes outside the limits of waste and 9 gas monitoring probes within the limits of waste will be monitored quarterly for pressure, methane, oxygen, and carbon dioxide. Four ambient air monitoring locations will be monitored quarterly for methane.

The following items will constitute the need for corrective action:

- A methane concentration exceeding 50 percent of the lower explosive limit in air detected at a gas monitoring probe or an ambient air monitoring location at the property boundary or 100 feet from the edge of the unit (whichever is less); or

- A methane concentration greater than 25 percent of the lower explosive limit in air detected in any building on or near the Expansion; or

- Malodors detected beyond the property boundary.

Monitoring for the presence of methane will occur on an quarterly basis to determine if corrective action is required. Should methane gas levels exceed the limits stated above, the operator will notify the IEPA in writing, within 2 business days, of an observed exceedance and implement the requirements of 35 IAC 811.311 to ensure the protection of human health.

In accordance with 35 IAC 811 requirements, the gas monitoring system will be operated until the waste has stabilized enough to no longer produce methane in quantities that exceed the allowable concentrations. Results of quarterly gas monitoring and ambient air testing during post-closure care will be reviewed and will be the basis for continuing or ceasing the gas monitoring system. The individual conducting the inspections of the closed Expansion will note the presence of any odors. Monitoring of landfill gas will continue throughout the post-closure care period. The gas monitoring plan also contains provisions for reducing the frequency of testing. An annual cost to monitor landfill gas has been included in the cost estimate.

13.3.5 Property Use During the Post-Closure Care Period

The planned use for the property during the 30-year post-closure period is anticipated to be passive recreation. This use will not disturb the integrity of the final cover, liner, or any other component of the containment system, nor will it inhibit the functioning of the monitoring systems.

13.3.6 Recordkeeping

During the 30-year post-closure care period, records of field investigations, quarterly inspections, sampling and corrective action will be maintained at the office of the site operator. All records will indicate date, program, location, and corrective action taken.

13.3.7 Security

Existing fencing, gates, berms, and other required security measures around ancillary structures will be inspected and maintained during the 30-year post-closure care period. The end use for the Expansion will be passive recreation. Therefore, limited access controls similar to that of a park would be in place.

13.3.8 Cost Estimates

A cost estimate for post-closure care is included in Table 13-2. These estimates reflect current third party costs, assuming IEPA will contract for all closure and post-closure care work. Cost items are based on current engineering and laboratory fees, and construction costs.

13.4 FINANCIAL ASSURANCE

35 IAC 811 describes the procedures by which an operator of a waste disposal facility can give "financial assurance" satisfying the requirements of Section 21.1(a) of the Illinois Environmental Protection Act. The regulations require that the operator post with IEPA a performance bond or other security for the purpose of insuring closure of the Expansion and post-closure care. Financial assurance may be given through a combination of a trust agreement, a bond guaranteeing payments or performance, a letter of credit, insurance, or self-insurance. The cost estimates and the amount of financial assurance are to be updated in accordance with 35 IAC 811 requirements.

Cost estimates for closure and post-closure care were developed based on IEPA securing a third party to implement the plans. A summary of the estimated closure and post-closure care costs for which financial assurance is required is summarized in Table 13-3. Financial assurance documents for WMII will be submitted to IEPA as part of the request for authorization to operate.

TABLE 13-1
LARAWAY RECYCLING AND DISPOSAL FACILITY
CURRENT OPERATING AREAS CLOSURE COST ESTIMATE

Service	Quantity	Unit	Unit Price (2023)	Inflation Factor (%)	Unit Price (2024)	Amount
1. Equipment Cleaning	10	hours	$134.35	3.60	$139.19	$1,392
2. Backfill and Grading	20,000	cubic yards	$3.36	3.60	$3.48	$69,619
3. Solidfication Dismantlement	400	cubic yards	$37.48	3.60	$38.83	$15,532
4. Final Cover (On-Site Material 129.64 acres)						
a. Grading Layer Soil Placement (1.0 ft)	209,152	cubic yards	$4.02	3.60	$4.16	$871,060
b. Protective Soil Cover (2.5 ft)	522,881	cubic yards	$3.36	3.60	$3.48	$1,820,128
c. Topsoil Cover (0.5 ft)	104,576	cubic yards	$3.36	3.60	$3.48	$364,025
d. Geocomposite Drainage Layer	5,647,118	square feet	$0.501	3.60	$0.519	$2,931,058
e. Geomembrane	5,647,118	square feet	$0.453	3.60	$0.469	$2,650,238
5. Landscaping (Seed and Mulch)	129.64	acres	$2,207	3.60	$2,286	$296,416
6. Construct Surface Water Diversion Ditches	25,400	feet	$4.02	3.60	$4.16	$105,784
7. Install Gas Monitoring Probes[1]	4	each	$6,694	3.60	$6,935	$27,740
8. Construction Observation						
a. Inspectors (2 @ 50 hrs/wk x 28 wks)	2800	hours	$90	3.60	$93	$261,072
b. Engineer (8 hrs/wk x 28 wks)	224	hours	$105	3.60	$109	$24,367
c. Senior Engineer (2 hrs/wk x 28 wks)	56	hours	$142	3.60	$147	$8,238
9. Closure Certification	1	lump sum	$66,930	3.60	$69,339	$69,339
10. Plat Preparation and Recording	1	lump sum	$8,031	3.60	$8,320	$8,320
					Total	**$9,524,326**

1. Four additional gas probes would be installed at closure. Two on west end of Phase 14 and two within the waste.

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FIGURE 13-2
LARAWAY RECYCLING AND DISPOSAL FACILITY
CURRENT OPERATIONAL AREAS CLOSURE SCHEDULE

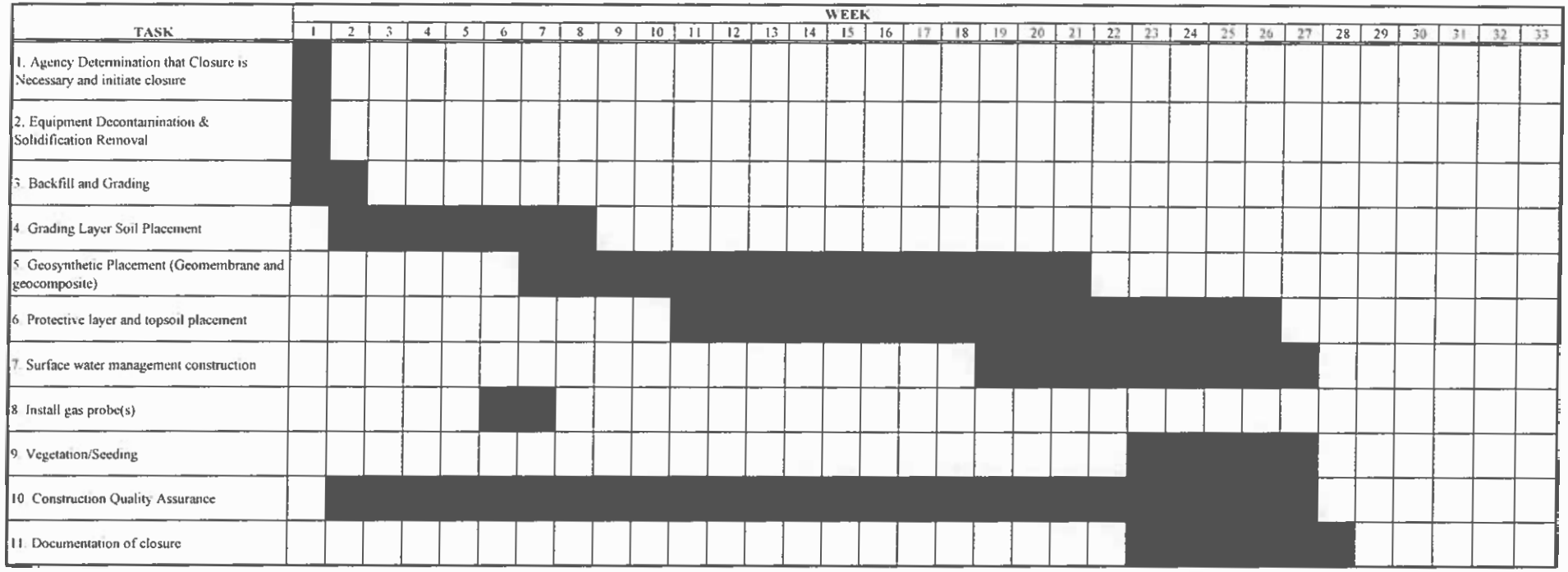

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TABLE 13-2
LARAWAY RECYCLING AND DISPOSAL FACILITY
CURRENT OPERATIONAL AREAS POST-CLOSURE CARE COST ESTIMATE

Description	Quantity	Unit	Quantity	Unit	2023 Unit Price	Inflation (%)	2024 Unit Price	Annual Cost (2023)	30 Year Cost
1. Site Inspection and Documentation	3	hours	4	quarters	$66.94	3.60	$69.35	$833	$24,990
2. Final Cover Maintenance (0.33 acres @ 1')	550	cubic yards	-	-	$7.36	3.60	$7.62	$4,194	$125,820
3. Vegetation Maintenance/Mowing	187.54	acres	-	-	$62.88	3.60	$65.14	$12,218	$366,540
4. Vegetation Repair	0.66	acres	-	-	$2,208.73	3.60	$2,288.24	$1,511	$45,330
5. Miscellaneous Repairs	1	lump sum	-	-	$1,338.62	3.60	$1,386.81	$1,387	$41,610
6. Leachate Transportation and Disposal (4.2 gal/ac/day)	787.00	gallons/day	365	days	$0.134	3.60	$0.139	$39,878	$1,196,340
7. Leachate Collection System Maintenance									
a. Labor	4	hours	52	weeks	$46.86	3.60	$48.55	$10,098	$302,940
b. Cleaning of leachate collection pipe	13,600	linear feet	-	-	$0.69	3.60	$0.71	$9,722	$291,660
8. Leachate Monitoring (Analysis and Sampling)[1]									
List L1: 5 samples x 2 events[2]	5	samples	2	events	$903.44	3.60	$935.96	$9,360	$280,800
List L2: 1 samples/year[2]	1	samples	1	year	$776.38	3.60	$804.33	$805	$24,150
9. Groundwater & Leacahate Sampling and Level Measurements	26	hours	4	events	$181.45	3.60	$187.98	$19,551	$586,530
10. a. Groundwater Monitoring List G2 semi-annual wells	27	wells	2	events	$143.96	3.60	$149.14	$8,054	$241,620
b. Groundwater Monitoring List G1 semi-annual wells	27	wells	2	events	$139.13	3.60	$144.14	$7,784	$233,520
11. a. Groundwater Monitoring List G2 quarterly wells	14	wells	4	events	$143.96	3.60	$149.14	$8,352	$250,560
b. Groundwater Monitoring List G1 quarterly wells	14	wells	4	events	$139.13	3.60	$144.14	$8,072	$242,160
12. Groundwater Data Review	12	hours	4	events	$66.94	3.60	$69.35	$3,329	$99,870
13. Gas Monitoring/Sampling									
a. Labor	26	hours	1	year	$46.86	3.60	$48.55	$1,263	$37,890
b. Gas probe analysis	28	samples	4	year	$46.86	3.60	$48.55	$5,438	$163,140
c. Ambient air monitoring	4	samples	4	year	$46.86	3.60	$48.55	$777	$23,310
14. Preparation of Annual Reports/Certification of Completion	8	hours	4	quarters	$107.10	3.60	$110.96	$3,551	$106,530
15. Decommission Groundwater wells	41	wells	1	one time	$563.78	3.60	$584.08	$23,948	$23,948
								Total	**$4,709,258**

Notes

1. Routine leachate monitoring performed on a semi-annual basis.
2. Lists L1 and L2 provided in Permit No. B-141R.

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TABLE 13-3

LARAWAY RECYCLING AND DISPOSAL FACILITY
SUMMARY OF COST ESTIMATES FOR WHICH FINANCIAL ASSURANCE IS REQUIRED

1. Current Operating Areas Closure	$9,524,326
2. Current Operating Areas Post-Closure	$4,709,258
Total	**$14,233,584**

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