

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

WASTE MANAGEMENT OF ILLINOIS, INC.	)	
	)	
	)	
Petitioner,	)	PCB No. 2026-039
	)	
v.	)	(Permit Appeal-RCRA)
	)	
ILLINOIS ENVIRONMENTAL PROTECTION	)	
AGENCY,	)	
	)	
Respondent.	)	

NOTICE OF FILING

TO: Attached Service List Via Email

PLEASE TAKE NOTICE THAT today I caused to be electronically filed with the Clerk of the Illinois Pollution Control Board, via the "COOL" System, the Respondent, Illinois Environmental Protection Agency's Certification of Record on Appeal, and Record on Appeal (R 000001-000456), true and correct copies of which are attached hereto and hereby served upon you.

ILLINOIS ENVIRONMENTAL PROTECTION
AGENCY,

By: /s/ Jason Clark
Jason Clark
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Environmental Bureau
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Dated: April 28, 2026

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CERTIFICATE OF SERVICE

I, Jason Clark, an Assistant Attorney General, caused to be served on this 28th day of April, 2026, a true and correct copies of the Notice of Filing, Certification of Record, and Record on Appeal (R 000001-000456), upon the persons listed on the Service List via electronic mail with return receipt.

/s/ Jason Clark

Jason Clark

Assistant Attorney General

Environmental Bureau

Illinois Attorney General's Office

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PROTECTION AGENCY	)	
	)	
Respondent.	)	

CERTIFICATE OF RECORD ON APPEAL

I, Kelly Huser, hereby certify that I am an Illinois Environmental Protection Agency, Bureau of Land/Permit Section employee having custody of the Bureau of Land's permit records. The documents provided labeled "Administrative Record for Log No. B-27R2-M-8 and M-10 for Judicial Review", are formatted as portable document format (PDF) computer files, bates stamped and arranged in as follows:

ADMINISTRATIVE RECORD

I. Permit File

1. United States Environmental Protection Agency Guidelines for Evaluating the Post-Closure Care Period for Hazardous Waste Disposal under Subtitle C of RCRA, December 15, 2016 (R 000001-000020)
2. Waste Management of Illinois, Inc. Application for Permit B-27R2-M-8 Updated Post Closure Cost Estimates submitted October 27, 2023 (R 000021-000044)
3. BOL Permit Section RCRA Tracking Sheet, Permit Log B-27R2-M-8, partial approval of Post Closure Care Costs Estimates per conditions IV.F.5 and VI.35.a received October 30, 2023 (R 000045)
4. Waste Management of Illinois, Inc. Lifetime Operating Permit No. 031600FHJ issued on July 25, 2024, for CID Recycling and Disposal Facility in Calumet City (R 00046-000079)
5. Waste Management of Illinois, Inc., Application for Permit B-27R2-M-10 Updated Post Closure Cost Estimates submitted October 28, 2024 (R 000080-000102)

6. BOL Permit Section RCRA Tracking Sheet, Permit Log B-27R2-M-10, partial approval Post Closure Care Costs Estimates per condition VI.35.a received October 29, 2024 (R 000103)
7. Memorandum: G. Strittmatter to K. Huser, October 2, 2025 re 2023/2024 Cost Estimates 03103900001 – Cook County CID Recycling & Disposal Facility, ILD010284248, Log Nos B-27R2-M-8; B-27R2-M-10, RCRA Permit – 24A (R 000104-000111)
8. Review Note Checklist Permit Log B-27R2-M-10, Post Closure Cost Estimate prepared by K. Huser from August 6, 2025, through October 2, 2025 (R 000112-000122)
9. Permit History B-27R2, timeline from January 19, 2023 through July 29, 2024 (R 000123)
10. Review Notes Checklist B-27R2-M-8 prepared by K. Huser (R 000124-000134)
11. Permit History B-27R2, timeline from January 19, 2023 through July 29, 2024 (R 000135)
12. Memorandum: G. Strittmatter to K. Huser, October 2, 2025, Re 2023/2024 Cost Estimates, 03103900001 – Cook County, CID Recycling & Disposal Facility, ILD010284248, Log Nos. B-27R2-M-8; B-27R2-M-10, RCRA Permit – 24A (R 000136-000143)
13. Modified Hazardous Waste RCRA Post Closure Permit, Permit Log B-27R2-M8 and B-27R2-M-10 issued to Waste Management of Illinois, Inc. on October 27, 2025 (R 000144-000284)
14. BOL Permit Section RCRA Tracking Sheet, Permit Log B-27R2-M-8, receipt of Updated Post Closure Cost Estimates (R 000285)
15. BOL Permit Section RCRA Tracking Sheet, Permit Log B-27R2-M-10, receipt of Post Closure Care Cost Estimates (R 000286)
16. Final Permit: Illinois EPA issued Final Modified Hazardous Waste RCRA Post Closure Permit to Waste Management of Illinois, Inc., Permit Log B-27R2-M-8 and B-27R2-M-10, on October 27, 2025 (R 000287-000427)

II. Correspondence

1. Emails: Environmental Justice Outreach, November 6, 2023, re Outreach Status Change for Waste Management of Illinois, Inc. CID Landfill 031030001 B-27R2-M-8 (R 000428-000431)

2. Emails: Environmental Justice Outreach, August 6, 2025, re Outreach Status Change for Waste Management of Illinois, Inc. CID Landfill 0310390001 B-27R2-M-10 (R 000432-000435)
3. Emails: Chain between E. Yargicoglu (EIL), K. Huser (IEPA), S. Chillson (WM), and E. Doyle (EIL) August 7, 2025 re B-27R2-M-10 Post Closure Cost Estimates (attached) (R 000436-000440)
4. Emails: Chain between E. Yargicoglu (EIL), K. Huser (IEPA), E. Doyle (EIL), and S. Chillson (WM) August 7, 2025, re Review of Costs Estimates (R 000441-000444)
5. Letter: Illinois EPA October 27, 2025, Response to Waste Management of Illinois, Inc. Updated Post Closure Care Cost Estimates submitted pertaining to Areas 3 and 4, Log No. B-27R2-M-8 and B-27R2-M-10 (R 000445-000450)
6. Letter: Illinois EPA October 27, 2025, Response to Waste Management of Illinois, Inc. re Updated Post Closure Care Costs Estimates submitted pertaining to Areas 3 & 4, Log Nos. B-27R2-M-8 and M-10 (R 000451-000456)

VERIFICATION BY CERTIFICATION

Under penalties as provided by law pursuant to Section 1-109 of the Code of Civil Procedure, the undersigned certifies that the statements set forth in the foregoing affidavit are true and correct, except as to matters therein stated to be on information and belief and as to such matters the undersigned certifies as aforesaid that he verily believes the same to be true.

BY: Kelly Huser
[NAME]

DATE: 4/27/26

12-15-16

USEPA

GUIDANCE



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DEC 15 2016

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

NOW THE
OFFICE OF LAND AND
EMERGENCY MANAGEMENT

MEMORANDUM

SUBJECT: Guidelines for Evaluating the Post-Closure Care Period for Hazardous Waste Disposal Facilities under Subtitle C of RCRA

FROM: Barnes Johnson, Director
Office of Resource Conservation and Recovery

TO: RCRA Division Directors, Regions 1-10
RCRA Enforcement Managers, Regions 1-10
Regional Counsels, Regions 1-10

Purpose

The purpose of this memorandum is to provide guidance to assist regulators in evaluating conditions at hazardous waste disposal facilities subject to Subtitle C of the Resource Conservation and Recovery Act (RCRA) that are approaching the end of the original 30-year post-closure care period, and in determining whether the post-closure care period should be adjusted or allowed to end. Any such determinations must ensure ongoing protection of human health and the environment. This guidance also provides information to assist facility owners and operators in preparing documentation to inform the regulators' evaluations.

This guidance has the additional benefit of helping regulated entities understand what may be necessary to ensure protection of human health and the environment at units subject to post-closure care requirements. This enables waste generators and handlers to have a better understanding of the costs associated with land disposal so they can better evaluate long-term waste management strategies, including waste minimization.

Introduction and Need for Guidance

The RCRA Subtitle C hazardous waste management regulations establish a post-closure care¹ period for certain hazardous waste treatment, storage and disposal facilities, and specify post-closure care activities. The post-closure care requirements apply to land disposal units (landfills, land treatment units,

¹ Post-closure care can be generally described as the period of time after closure during which owners and operators conduct specified monitoring and maintenance activities to preserve the integrity of the containment system and to continue to prevent or control releases of contaminants.

and surface impoundments) that leave hazardous waste in place after closure. Post-closure care also applies to some non-land-based units (e.g., certain tanks or containment buildings) that cannot fully decontaminate or "clean close"¹ all equipment, structures, and soils. Post-closure care activities consist of two primary responsibilities: monitoring and reporting, and maintaining the integrity of the waste containment systems (see 40 CFR 264/265.117). Post-closure care for each hazardous waste management unit must begin after completion of closure of the unit and normally continue for 30 years after that date; the regulations also provide discretion to the permitting authority to adjust the length of the post-closure care period.

Many facilities around the country are approaching the end of the initial post-closure care period established in their RCRA permits or post-closure plans. Accordingly, questions have arisen about how to evaluate conditions at these facilities to determine whether the post-closure care period needs to be adjusted – that is, extended, or whether a 30-year post-closure care period is protective for a specific unit. In response, the Office of Resource Conservation and Recovery has developed this guidance recommending criteria to consider when evaluating facilities nearing the end of the post-closure care period² and thus ensure that human health and the environment will continue to be protected by the resulting determination. It also sets forth a recommended process for evaluating the post-closure care period in a timely fashion. Finally, this guidance discusses additional considerations that may be important for decision-makers when evaluating the adequacy of the post-closure care period.

This guidance supplements existing guidance on the post-closure care period, including the Technical Evaluation Criteria and Site-Specific Factors to Consider in Determining the Length of the Post-Closure Care Period, presented in the Appendix B of the *RCRA Guidance Manual for Subpart G Closure and Post-Closure Care Standards and Subpart H Cost Estimating Requirements* of January 1987.³

Regulatory Overview of the Post-Closure Care Period

¹ The RCRA Subtitle C regulations generally provide for two types of closure: closure by removal or decontamination (referred to as "clean closure") and closure with waste in place. The premise of clean closure is that all hazardous wastes have been removed from a given RCRA unit and any releases at or from the unit have been remediated. More information on clean closure is available in *Memorandum: Risk-Based Clean Closure* from Elizabeth Cotsworth, Acting Director Office of Solid Waste, March 16, 1998.

² This document is solely intended to provide guidance to federal and state regulators on implementing the RCRA Subtitle C regulations and to provide policy advice and recommendations. As such, this document does not impose any legally binding requirements, and the use of such phrases as "guidance," "recommend," "may," "should," and "can," are not intended to impose or connote any legal obligations. Accordingly, this document does not change or substitute for any law, regulation, or any other legally binding requirement and is not legally enforceable. The policies described in this document may not apply to a particular situation based upon the circumstances, and EPA may deviate from or revise any of the policies described in this document without prior notice to the public. While EPA has made every effort to ensure the accuracy of the discussion in this document, the obligations of the regulated community are determined by statutes, regulations or other legally binding requirements. In the event of a conflict between the discussion in this document and any statute or regulation, this document would not be controlling.

³ OSWER Policy Directive #9476.00-5, EPA/530-SW-87-10.

EPA regulations⁴ require that the post-closure care period for each hazardous waste management unit subject to the requirements of 40 CFR 264/265.117 through 264/265.120 must begin after completion of closure of the unit and continue for 30 years after that date. Still, the regulations' identification of a default 30-year post-closure care period does not reflect a determination by EPA that 30 years of post-closure care is necessarily sufficient to eliminate potential threats to human health and the environment in all cases. Nor is the full 30-year period always necessary. In fact, the regulations provide for a permit authority to conduct a case-by-case review of the post-closure care period and establish arrangements to adjust the length of the post-closure care period on a facility or unit-specific basis, where the record supports a determination that the revised post-closure care period will remain protective of human health and the environment.⁵

The regulations provide that the decision to alter the length of the post-closure care period can be made at any time preceding *partial closure*⁶ of a hazardous waste management unit subject to post-closure care; at any time preceding *final closure*⁷ of a facility; or at any time during the post-closure care period for a particular unit. For permitted facilities, such a decision must be made through the permit renewal or modification procedures in parts 124 and 270 of the regulations. For interim status facilities, adjustment to the post-closure care period must be made in accordance with § 265.118(g).

According to § 264.117 the post-closure care period may be modified under certain circumstances provided the modifications are protective of human health and the environment:

- The post-closure care period may be shortened where “the reduced period is sufficient to protect human health and the environment (e.g., leachate or ground-water monitoring results, characteristics of the hazardous wastes, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the hazardous waste management unit or facility is secure).”
- The post-closure care period may be extended where “the extended period is necessary to protect human health and the environment (e.g., leachate or ground-water monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health or the environment).”

The provisions for interim status facilities are similar [§§ 265.117 and 265.118(g)].

For more details on particularly relevant portions of the federal RCRA hazardous waste regulations, see Appendix A.

Criteria to Consider for Evaluating the Post-Closure Care Period

⁴ 40 CFR 264.117 (for permitted facilities) and 265.117 (for interim status facilities)

⁵ EPA explained this approach early in the RCRA program. See 45 Fed. Reg. 33197 (May 19, 1980); see also 47 Fed. Reg. 32287-88 (July 26, 1982); 46 Fed. Reg. 2819 (Jan. 12, 1981).

⁶ *Partial closure* is defined in 40 CFR 260.10 as “the closure of a hazardous waste management unit in accordance with the applicable closure requirements of parts 264 and 265 of this chapter at a facility that contains other active hazardous waste management units. For example, partial closure may include the closure of a tank (including its associated piping and underlying containment systems), landfill cell, surface impoundment, waste pile or other hazardous waste management unit, while other units of the same facility continue to operate.”

⁷ *Final closure* is defined in 40 CFR 260.10 as “the closure of all hazardous waste management units at the facility in accordance with all applicable closure requirements so that hazardous waste management activities under parts 264 and 265 of this chapter are no longer conducted at the facility unless subject to the provisions in § 262.34.”

An overarching consideration in determining whether to extend the post-closure care period, or allow it to end, is the inherent uncertainty associated with the long-term presence of hazardous waste in the unit. Because many hazardous wastes degrade slowly or do not degrade under containment in these units, the continued presence of hazardous waste in the unit (*i.e.*, any case other than clean closure) indicates the potential for unacceptable impacts on human health and the environment in the future if post-closure care is not maintained. For instance, there are often uncertainties in whether controls will continue to function as planned and whether future activities will lead to unplanned exposures to human and environmental receptors. Even if there is no current evidence of actual releases from the facility, significant factors can change over time. For example, groundwater flow can change direction due to the sequencing of dry and wet years, pumping at municipal water supply or other well fields, or shifting gradients resulting from seasonal variations or tidal influences. Landfill components, such as caps and liners (which have a finite design life), can degrade over time, especially if maintenance is discontinued. Exposure pathways that have been eliminated by means of an engineered control may be reopened (*e.g.*, if animals burrow through the cap). Thus, continued monitoring and maintenance activities may be appropriate unless or until it can be demonstrated that site-specific conditions adequately minimize the risk that contaminants will migrate from the unit (*e.g.*, site geology/hydrogeology) or that, in the event the engineering controls fail, a release would not pose an unacceptable risk to human health and the environment. This section provides recommended criteria that can be used to evaluate site-specific conditions and associated risks or remaining uncertainties in determining whether to adjust the post-closure care period.

These criteria can also be periodically used to evaluate whether activities in the post-closure plan should be amended. For instance, if the regulator determines it is necessary to extend the post-closure care period, these criteria can be used to determine if the frequency of one or more post-closure care monitoring requirements could be reduced during that extended timeframe. Each criterion is not necessarily applicable for every unit in post-closure care, for example, the “Gas Collection System Integrity” criterion would not apply to units without a gas collection system. The questions provided under each criterion are intended to help identify potential threats to human health and the environment. However, they do not all need to be answered in order to make a decision concerning the appropriate post-closure care period and the monitoring/maintenance activities.

Waste Treatment: Knowing whether the hazardous waste was disposed prior to the effective date of the Land Disposal Restrictions (LDR) program is an important piece of information when evaluating site-specific conditions. Hazardous waste treatment that destroys harmful contaminants or reduces toxicity of the waste before placement in a land disposal unit provides a more lasting form of groundwater protection than waste containment alone. Similarly, through a process called stabilization or immobilization, metal contaminants – that cannot be treated – can be chemically and physically solidified or bound into the wastes that contain them (*e.g.*, through chemical fixation). Thus, reducing the mobility or leachability of hazardous constituents in a waste is another means of achieving LDR's groundwater protection goal. Relevant questions for this criterion include:

- Were all the wastes pre-treated in accordance with the treatment standards of the LDR program or does the unit contain wastes that were placed on the land prior to the effective dates of the LDR rules?

EPA recommends reviewing the waste analysis data for treated wastes in the land disposal unit.

Nature of Hazardous Wastes Remaining in the Unit: The current properties of the hazardous waste (e.g., degradation, solubility, liquid-to-solid ratio) provide an important indication of the waste's ability to migrate or disperse in the environment.

- What is the degree of risk (e.g., exposure pathways, probability of exposure) presently associated with the wastes in the unit?
 - Are the wastes highly toxic?
 - Do they degrade into substances that are more or less toxic, or non-toxic?
 - Are there indications that the waste might become incompatible with the liner?
- What is the potential for adverse impacts from releases based on the current understanding of contaminant fate and transport considerations (e.g., presence of persistent, bioaccumulative contaminants, as compared to biodegradable contaminants; constituent speciation(s); and leaching profiles)?
- Is the waste in a stable state? Are there indications that the waste may become unstable?

EPA recommends that current data from regulatory standards be used for comparison to facility-specific performance goals articulated in the post-closure plan, and that, as necessary, the plan be updated to account for any new information on toxicity and carcinogenicity. EPA also recommends reviewing and possibly updating the list of constituents to analyze, since scientific understanding of constituents of concern may change over time. In addition, the data gathered should include an analysis of potential degradation products as well as of the types of wastes known to have been placed in the unit(s).

Unit Type/Design: The main objective of the disposal units is the containment of the hazardous waste. Thus, emphasis should be placed on the unit's ability to contain hazardous wastes over the long term.

- Is the unit, for example, a landfill, a surface impoundment, or a closed tank with residual contamination?
- Does the unit meet the minimum technology requirements (e.g., double liners, leachate collection system)? Or was the unit already in existence at the time these requirements were promulgated and closed before retrofitting?
- To what extent does the overall design and construction of the unit minimize the need for long-term maintenance, resist the generation of leachate and emissions, and contain any remaining waste in perpetuity?

It is recommended that the permitting authority consider any unit-specific design, in concert with applicable closure and post-closure care requirements, when evaluating whether adjustment of the post-closure care period is warranted to protect against any potential impact on human health and the environment. There can be circumstances in which continuing to maintain unit-specific controls may be necessary to protect human health and the environment, particularly if the unit pre-dated the minimum technology requirements; this could support a decision to extend the post-closure care period. Conversely, there might be circumstances where the overall design and construction of the unit minimize the need for long-term maintenance and could support a decision to shorten or end the post-closure care period.

Leachate: The leachate collection and removal system controls leachate build-up on the liner, working in conjunction with the liner's barrier system to minimize the potential for groundwater contamination.

Monitoring for leachate generation serves as the most effective way of examining the integrity of the waste management unit (*e.g.*, it can suggest a cover or liner failure when leachate is detected late in the post-closure care period).⁸

- Will the integrity and functionality of the leachate collection system, leachate generation rate, and leachate quality remain adequate to prevent harm to human health or the environment in the absence of post-closure care?
- Can the facility owner or operator show through monitoring/modeling and/or statistical analysis that the leachate would not pose a threat to human health and the environment because it would not exceed applicable standards at compliance or exposure points?
- Is it likely those standards will be exceeded in the future, for example, through formation and release of degradation products? Do the data demonstrate that there are no increasing trends in the concentration of leachate constituents?
- Can the facility owner or operator demonstrate that maintenance and operation of the leachate collection system can be ceased without posing a threat to human health and the environment?

EPA recommends that potential impacts from changes in leachate characteristics and generation rate that could result from discontinued maintenance be considered.

Groundwater: Groundwater monitoring serves as the primary means of detecting leachate releases and groundwater contamination. It is important that groundwater analytical results, adequacy and reliability of the groundwater-monitoring network, and groundwater-monitoring well integrity be evaluated before the post-closure care period nears its end.

Groundwater should not exceed risk-based concentrations for a reasonable exposure scenario (or point of exposure) using currently acceptable risk assessment methods and up-to-date risk-based levels and scenarios. If the evaluation determines that unacceptable risk exists, these risks should be addressed. The risk evaluation should consider reasonable current or future groundwater use in the general area of the site (*e.g.*, if a drinking water source is located nearby).

Review of the groundwater monitoring system should have been done as part of operation and maintenance inspections over time. Evaluation of the groundwater monitoring network should refer to the most recent operation and maintenance inspection. The well network evaluation should look at groundwater flow direction, well construction, and placement relative to groundwater flow direction.

⁸ "If leachate is generated late in the post-closure care period, this could suggest a cover or liner failure warranting an extension of the post-closure care period." See page B-13 of the RCRA Guidance Manual for Subpart G Closure & Post-Closure Care Standards and Subpart H Cost Estimating Requirements, EPA/530-SW-87-010 (January, 1987).

- Is groundwater quality in compliance with current standards?
- Have there been changes or are changes anticipated in land use/groundwater use that could change the applicable standards (e.g., introduction of agricultural irrigation to an area) or the directional flow (e.g., sequencing of dry and wet years, pumping at municipal water supply or other well fields, or shifting gradients resulting from seasonal variations or tidal influences)?
- Do the data indicate any trend in the concentration of analytes in groundwater?
- Has an expanded list of analytes (e.g., selected from Appendix VIII of 40 CFR part 261) been considered for analysis within a reasonable time frame?
- Have the monitoring wells been maintained to provide valid data, for example, no well screen occlusion?

Siting and Site Geology/Hydrogeology: Relevant facility location characteristics (which might have changed since the post-closure plan was approved) may include proximity to vulnerable areas such as residential areas and surface and drinking water sources. The current and reasonably anticipated future land use of the facility and surrounding properties may also be relevant. Location in potentially vulnerable areas increases the likelihood and potential severity of releases. For example, if units are located in areas prone to flooding or with a high water table, it may be appropriate for reviewers to consider the potential for continuing risks to surface water in evaluating whether to modify the post-closure care period. Conversely, units located in areas not prone to flooding, or at great distance from the water table, might have less need for long-term maintenance. Additional hydrologic and geologic conditions such as wetlands and earthquake zones, unstable soils, and areas at risk for subsurface movement could have changed since a unit first entered post-closure care and might also need to be taken into account. Proximity to residential areas can also present unique considerations. It is also appropriate to consider whether facility conditions minimize the potential for adverse impacts on local populations if there is a release from the unit.⁹

⁹ If a unit managing vapor-forming chemicals has releases to the environment, it creates the potential for vapor intrusion issues to neighboring communities due to migrating plumes of contaminated groundwater or migrating soil gases, even when the community is some distance away. Consider evaluating risks from subsurface intrusion of toxic constituents (e.g., vinyl chloride from aerobic degradation of perchloroethylene/trichloroethylene), or landfill gases such as methane and hydrogen sulfide, into buildings or structures located near the unit in post-closure care. See the *Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air*, June 2015.

- Does the site geology include subsurface strata that might contain or retard migration?
- What is the distance to the groundwater table, bearing in mind seasonal fluctuations, and the proximity of any useable aquifers?
- Is the unit located in a dry climate that provides minimal precipitation?
- Is the pattern of land use changing or likely to change in the future in a way that would bring people closer to or farther away from the facility?
- Have zoning laws changed?
- Is there a sizable buffer zone around the facility that could limit human activity near the site into the future?
- What is the distance to sensitive receptors for groundwater flow and emissions?
- Could the distance to sensitive receptors change under reasonably foreseeable future conditions, as reflected, for example, in land use development plans for the area?
- Is there the potential for impact on surface water quality?
- Have new potential exposure pathways been identified and evaluated? For example, vapor intrusion had not been identified as a potential exposure pathway at the time many permits were issued.¹¹

In addition, EPA recommends that the potential effects of climate change be taken into account in making these assessments.¹⁰ For example, flooding from more intense and frequent storms and sea-level rise may lead to contaminant releases from units subject to post-closure care requirements by transport of contaminants through surface soils, groundwater, surface waters and/or coastal waters. Saltwater intrusion and increased groundwater salinity in coastal aquifers may increase the permeability of clay liners installed at waste sites, such as landfills. Changes in precipitation patterns and temperature may also adversely affect the performance and efficacy of engineering controls.

Facility History: All waste management units (during active life or in post-closure care) must be adequately managed to prevent releases of contaminants to the environment. A well-managed facility is more likely to maintain its structural integrity. Good compliance records, routine maintenance and inspections, emergency procedures to handle natural disasters, and prompt and efficient response to spills and other incidents, are some of the management practices that help demonstrate whether the unit has been adequately managed.

¹⁰ For more information on climate change adaptation consult the "Climate Change Adaptation Technical Fact Sheet: Landfills and Containment as an Element of Site Remediation," EPA 542-F-14-001 (May 2014).

- From the facility records (including frequency of all maintenance activities), to what extent did the unit closure design and activities described in the closure plan and closure certification minimize the need for ongoing monitoring and maintenance?
- Has past noncompliance with regulatory requirements contributed to present environmental conditions that warrant an extension of the post-closure care period (e.g., non-compliance with current LDR standards)?
- Is there a history of any releases and what are current contaminant levels?
- If a release did occur, have corrective measures been successfully implemented and has subsequent monitoring shown no evidence of a recurrence?
- Are analyses being conducted for the correct parameters?
- How complete and accurate is the facility operating record?
- Is there confidence that the record accurately reflects spills, releases, lapses in maintenance or other events that may have a bearing on potential facility impacts?
- To what extent have closure activities minimized or eliminated escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground, surface waters or the atmosphere during the post-closure care period?

In order to fully understand the facility history, EPA recommends that the permit authority also review the closure plan and certification of closure.¹¹

Gas Collection System Integrity: For units that have a landfill gas collection system, it is important to analyze the extent to which it is capable of being modified or shut down at the end of the post-closure care period without exceeding emission levels that are consistent with applicable regulatory standards and with public safety at the facility. In addition, because gas emissions can increase or decrease over time, it is recommended that statistical or graphical analysis of the data be used to identify any significant changes in gas emissions.

- To what extent is the gas collection system capable of being modified or shut down at the end of the post-closure care period without exceeding emission levels that are consistent with applicable regulatory standards and with public safety at the facility?

Integrity of Cover System: A viable cover is the most important mechanism in preventing leachate generation and, ultimately, releases of contaminants. Cracks, burrows from animals, and other problems are likely to occur after termination of post-closure care. If testing and inspection end, problems can go undetected and releases could occur. Thus, it is vital to evaluate the performance of the cover system during the post-closure care period.

¹¹ For further information on closure performance standards, see 40 CFR 264.111 and 265.111.

- Has the cover system been designed and maintained to minimize migration of water into the management unit and to prevent contaminants from escaping into the environment?
- Has periodic testing or inspection been conducted to identify and assure any necessary repairs? Potential concerns include differential settlement, problems with cover integrity (cracks, burrows, etc.), cover drainage, and the adequacy of the diversion or drainage system. Even where such problems have not occurred, are they likely to arise without long-term care, *e.g.*, will the cover system remain intact without mowing to prevent growth of trees?
- Is the remaining waste likely to be so benign that even with a compromised cover system release of hazardous constituents is unlikely?
- To what extent will the integrity of the cover system be preserved in the absence of long-term care or with reduced maintenance requirements?

For alternative covers, it is recommended that the potential effects of climate change (*e.g.*, increasing frequency and intensity of weather events) be taken into account to the extent practical. For example, will the vegetation remain viable under altered precipitation patterns?

Long-Term Care: The concept of long-term care (also known as long-term stewardship) generally includes the establishment and maintenance of physical and legal controls that are necessary to prevent unacceptable exposure to hazardous waste or contaminated environmental media left in place at a site or closed facility. As a general matter, the RCRA post-closure care requirements (for example, monitoring and cap maintenance) fall under the umbrella of long-term care. When considering whether to adjust the post-closure care period, permitting authorities should evaluate any continuing need to maintain engineering controls (ECs),¹² particularly those specified in the RCRA post-closure care regulations.

- How will the potential for human exposure to contamination be minimized in the absence of RCRA post-closure care?
- How is the integrity of the entire containment system going to be preserved over time?
- Can maintenance and monitoring activities cease or be reduced without causing an adverse impact to human health and the environment?

A further need to maintain ECs could justify an extension of the post-closure care period. This may be the case even if the frequency of some activities could be adjusted (*e.g.*, some activities may be needed more frequently in the early years of the post-closure care period and less frequently later).

The RCRA post-closure care regulations provide for the imposition of institutional controls (ICs)¹³ as well. For example, §§ 264/265.117(c) provides that post-closure uses of a property where hazardous wastes remain after final or partial closure must never be allowed to disturb the integrity of the containment system or the functioning of the monitoring system, with limited exceptions. In addition, §§ 264/265.119(b)(1)(ii) provide that the owner or operator must record a notation, in accordance with state law, on the deed to the facility property – or on some other instrument which is normally examined during title search – that will in perpetuity notify any potential purchaser of the property that, among other things, the property's use is restricted under the RCRA closure/post-closure regulations. States can

¹² Engineering controls are the engineered physical barriers or structures (*e.g.*, caps, impermeable liners, mitigation barriers, or fencing) designed to monitor and prevent exposure to the contamination.

¹³ Institutional controls are administrative or legal instruments (*e.g.*, deed restrictions/notices, easements, restrictive covenants, zoning) intended to minimize the potential for human exposure to contamination by limiting land or resource use.

choose to supplement or support such deed restrictions under state law, *e.g.*, by setting up a deed restriction tracking system, ensuring that deed restrictions remain in place, or ensuring that information on existing ICs is available to interested parties.

Even in cases where the post-closure care period need not be extended to protect human health and the environment, the permitting authority may want to ensure that some long-term ICs, such as an easement that provides access to the property, are continued. EPA recommends that any ICs (under state or local authority) needed beyond the post-closure care period be in place before the post-closure care period ends. EPA expects that the permit authority would typically need to assess the availability and adequacy of other potential mechanisms for overseeing ICs as part of evaluating whether any modification to the post-closure care period was warranted.

EPA also recommends that consideration be given as to whether a funding source is available to support any necessary ECs and ICs in the future (see Appendix B for a list of ICs resources.) This could be done, for example, as part of an anticipated future use (or end-use strategy) that generates revenue, so that protective controls at the unit can be continued while supporting beneficial reuse of the land into the future.

Recommended Approach for Reviewing Hazardous Waste Management Units Approaching the End of the Post-Closure Care Period

EPA believes that, at a minimum, it is important to make a decision about the length of the post-closure care period, and to document such decision, well before that period nears its end. Therefore, EPA recommends that regulators assess the overall status of all the units under post-closure care, and plan to evaluate the adequacy of their post-closure care periods well in advance of their anticipated conclusions. EPA also recommends that the results from the evaluation of the post-closure care period be included in the regulator's administrative record for the facility.

As stated before, the federal RCRA hazardous waste regulations provide discretionary authority to the permitting authority to extend or shorten the length of the post-closure care period. However, the facility owner or operator is responsible for providing the information necessary to support this decision (see, for example, 40 CFR 270.30(h), Duty to provide information). A lack of relevant and complete information may justify a conclusion by the regulatory authority that extension of the post-closure care period is necessary to protect human health and the environment until such information is provided.

EPA's recommendations for evaluating units approaching the end of the post-closure care period are discussed in more detail below.

Timing: Regulators should track permit terms and dates of all post-closure permits and have a strategy for when they will begin looking at whether to adjust the post-closure care period, allowing enough time for the necessary steps to take place prior to the 30-year expiration:

- Identify and gather necessary information
- Evaluate information
- Decide whether to adjust the post-closure care period
- Incorporate tentative decision into permit renewal (or modification) process.

For units with operating permits, EPA recommends starting the process at least 18 months before the expiration of the post-closure permit or post-closure care period, whichever comes first. It is important to keep in mind that in accordance with § 270.1(c) units subject to post-closure care must have post-closure permits or an enforceable document in lieu of a post-closure permit and, under § 270.50, permits can be issued for no longer than ten years. Consequently, over the course of a 30-year post-closure care period, the permit would normally need to be renewed at least twice (unless the post-closure care period has been modified). In addition, for a permitted land disposal facility, the length of the post-closure care period is an important component of the five-year review required under § 270.50(d). The facility owner or operator may also initiate the post-closure care evaluation and/or modification process by submitting a permit modification. Similarly, regulators should evaluate petitions to end or shorten the post-closure care period in a timely manner.

For facilities conducting post-closure care under interim status, regulators might want to adopt time frames for review similar to those of permits (e.g., every ten years) to initiate the process of identifying and gathering relevant information. At a minimum, they should evaluate the adequacy of the post-closure care period well in advance of its end date. The facility owner or operator may also initiate the process by submitting a revision to their post-closure plan, including a petition in accordance with § 265.118(g)(1).

Post-Closure Plan: When considering adjusting or ending the post-closure care period, regulators should request a copy of the most current version of the approved post-closure plan, along with any proposed revisions provided by the owner or operator. Under §§ 264.118(b) and 265.118(c), the post-closure plan identifies certain activities (and their frequency) that must be conducted during the post-closure care period (e.g., monitoring and maintenance). The post-closure plan may also identify performance standards or performance goals, which should be updated to account for any new information on toxicity and carcinogenicity. The post-closure plan thus provides an important starting point for the review. The project file should have a history of permit modifications including those made to the post-closure plan. It is also important that the results of the post-closure period assessment be incorporated into a revised post-closure plan (and the permit), as appropriate.

Relevant Information: As part of the review of the post-closure plan and any relevant historical information, regulators should determine whether they possess the information necessary to adequately evaluate the conditions at the unit so that a decision about the post-closure care period can be made. Relevant information may include monitoring reports, results from testing or inspections of the cover system, information concerning land use and institutional controls, and any other information that would be helpful in determining whether post-closure care continues to be needed for the unit. The absence of adequate information (e.g., to address unresolved risk issues), including failure of the permittee to provide necessary information, will make it difficult for the permitting authority to conclude that allowing the post-closure period to end or shortening the post-closure care period meets the regulatory standard. The permitting authority can conclude that an extension of the post-closure care period is necessary to protect human health and the environment until the information necessary to make a final determination is available. Any proposal to adjust the post-closure care period should be supported by adequate data and analysis to demonstrate the anticipated long-term performance of the unit. To account for cyclical fluctuations in weather and hydrology, EPA recommends that multiple-year performance data be considered (e.g., ten years).

The recommended criteria outlined in the previous section are also relevant to inform deliberations on whether and what additional information about the facility is necessary.

If information becomes available indicating changing circumstances that might necessitate the need to revisit the post-closure care (e.g., monitoring results show leaching) it is recommended that the regulator immediately request any additional information needed from the facility owner or operator to inform a decision about adjusting the post-closure care period. This can be accomplished through various means, including under the facility's permit terms (e.g., under § 270.30(h), the permit holder has a duty to provide relevant information and records; under § 270.30(k)(4), monitoring results must be reported at intervals specified in the permit); through enforcement of the relevant interim status regulations; or through inspections or studies required pursuant to RCRA sections 3007 or 3013.

Expiration/Renewal of Post-Closure Permits: Permits are issued for a fixed term not to exceed ten years, which means post-closure permits will need to be renewed periodically throughout the post-closure care period (e.g., a 30 year period could span three permit terms). Renewal applications must be submitted 180 days before the expiration date of an effective permit (see § 270.10(h)). Frequently, facility owners or operators do not submit a renewal application as they approach the permit's expiration date because they believe they will submit an acceptable certification that they have completed post-closure care for the unit(s). If, towards the end of the permit term, the permitting authority has not received a permit renewal application from the facility or if the permitting authority anticipates that there may be any issues regarding the acceptability of the certification of completion of post-closure care, EPA recommends that the regulatory authority remind the owner or operator that the regulations require the facility to provide the required certification or reapply for a permit, and request submission of the permit renewal application (see §§ 270.10(h) and 270.30(b)). Timely submission of an application for permit renewal will ensure that a valid permit is in effect (pursuant to § 270.51) pending a resolution. If a facility owner or operator does not submit a timely renewal application, and the permit is not administratively continued, the regulator may consider initiating an enforcement action or issuing a new permit (see § 270.51(c)).

Public Participation: Any potential adjustments to the length of the post-closure care period are subject to requirements for involving the public. For permitted facilities, extensions to the post-closure care period would be processed as a Class 2 modification, and reductions would be Class 3. In both cases, the regulator must provide public notice, hold a public meeting, and allow an opportunity for written comments to be submitted. Similarly, for adjustments in the length of the post-closure care period at interim status facilities, the regulator must provide public notice and an opportunity for written comments. Although there is no specific provision in the regulations to notify the public when a post-closure care period ends, we recommend that the regulatory authority consider providing notice to the local community when they release a facility owner or operator from their post-closure care obligation.

Financial Assurance Requirements: Finally, permitting authorities should keep in mind that an adjusted post-closure care period may also necessitate revisions to the associated post-closure cost estimate and financial assurance.

Additional Considerations

Benefits of Post-Closure Permits: Permits are site-specific legal documents that establish the technical and administrative conditions to which a facility must adhere, in order to ensure that monitoring and maintenance activities are performed to prevent and address releases that could potentially threaten

public health and the environment and lead to cleanup obligations.¹⁴ Thus, it is critical that any modifications to the permit are made, as necessary, to ensure they are complete and current. Permits are issued in, at most, ten-year increments to ensure they are periodically reviewed and requirements are updated as necessary. Additionally, facility owners and operators may request modifications to a permit. Although there are resources associated with permit maintenance, permits provide numerous benefits and protections such as:

- **Basic Permitting Requirements** – Permits are subject to the regulations governing facility permitting as set forth in 40 CFR part 270, which covers basic EPA permitting requirements, such as application requirements, standard permit conditions (*e.g.*, duty to comply, duty to reapply, duty to provide information), and monitoring and reporting requirements (*e.g.*, annual monitoring reports, compliance schedules).
- **Unit-Specific Informational Requirements** – Where applicable, owners or operators of a permit must submit information including detailed plans and engineering reports under § 270.14(b)(13).
- **Financial Assurance** – The owner or operator of a permitted unit must establish and maintain financial assurance. At facilities with units in post-closure, requirements include financial assurance for post-closure care in accordance with the approved post-closure plan for the facility, for as long as the unit remains subject to RCRA post-closure care requirements, including the post-closure permit requirement (§ 264.145).
- **Corrective Action** – Section 264.101 requires that all permits include requirements for facility-wide corrective action as necessary to protect human health and the environment.
- **Enforceability** – The permitting authority can enforce RCRA permit requirements including through facility inspections, record reviews, and other means. Section 270.28 provides that the permittee shall allow the regulatory authority to perform inspections at the facility.
- **Public Participation** – The permitting process of 40 CFR parts 270 and 124, and the permit modifications procedures in § 270.42 provide for public involvement. The public has the opportunity to comment on a facility's closure and post-closure plans as part of the initial permitting process and any amendments made to the plans as part of the permit modification procedures.
- **Additional Conditions** – Section 3005(c)(3) of RCRA (codified at 40 CFR 270.32(b)(2) and commonly referred to as the "omnibus authority"), allows for additional site-specific permit conditions to be incorporated into RCRA permits, should such conditions be necessary to protect human health and the environment.
- When permits incorporate the technical requirements contained in parts 264, 266, and 267 of the regulations, those permit conditions are not subject to challenge (*i.e.*, a number of permit conditions are required by the regulations themselves).
- Permit requirements cannot be terminated merely by sale of the property or bankruptcy of the owner or operator.

Relationship of Subpart F Corrective Action and Post-Closure Care: Corrective action and post-closure care requirements for a regulated unit may be linked, for example, in the case of groundwater

¹⁴ Owners and operators of units subject to post-closure care, must have post-closure permits, "unless they demonstrate closure by removal or decontamination as provided under § 270.1(c)(5) and (6), or obtain an enforceable document in lieu of a post-closure permit, as provided under paragraph (c)(7) of this section" (see §270.1(c)).

monitoring and/or corrective action for releases from closed regulated units being handled pursuant to 40 CFR 264.90–264.100. In many cases, it may be desirable (either by the facility owner/operator, the regulatory agency, or both) to coordinate the post-closure care and monitoring/corrective action requirements. EPA recommends that the regulatory agency consider extending the post-closure care period (and associated permits or other enforceable documents) when corrective action continues beyond the original post-closure care period (see §§ 264.90(c)(3) and 264.96(c)).

*Post-Closure Rule:*¹⁵ This rule amended the regulations applicable to facilities with land disposal units in two areas. First, it modified the requirement for a post-closure permit to provide EPA and the authorized states discretion to use a variety of authorities to address the post-closure period at non-permitted facilities. In addition, it amended the regulations governing closure of land-based units to allow EPA and the authorized states to address those units through the corrective action program in certain situations where regulated units and other solid waste management units have contributed to a release.

Scope of Guidance and Relationship to Existing Guidance: This document is not intended to provide guidance on decisions to extend or shorten the post-closure care period for *non-hazardous* waste units (*i.e.*, units regulated under RCRA Subtitle D), nor is it intended to replace existing guidance concerning establishment and attainment of remedial goals at contaminated facilities addressed under RCRA Subtitle C authority. This guidance is meant to supplement any existing guidance on the post-closure care period, and should be used in concert with the Technical Evaluation Criteria and Site-Specific Factors to Consider in Determining the Length of the Post-Closure Care Period, presented in the Appendix B of the *RCRA Guidance Manual for Subpart G Closure and Post-Closure Care Standards and Subpart H Cost Estimating Requirements* of January 1987.¹⁶ This document provides additional considerations and factors that are not included in the 1987 guidance, such as vapor intrusion, updated toxicity values, and climate change considerations – although the updates presented in this guidance are not intended to be comprehensive.

Relationship to State Authorities: Under RCRA, states may apply to, and receive from EPA, authorization of a state program to operate in lieu of the federal RCRA hazardous waste program. *These state programs may be broader in scope or more stringent than EPA's RCRA hazardous waste regulations, and requirements can vary from state to state.* Members of the regulated community are encouraged to contact their state agencies for the particular post-closure care requirements that apply to them in any particular state.

For additional information, feel free to contact me, or your staff may contact Lilybeth Colon (colon.lilybeth@epa.gov, 703-308-2392) or Tricia Buzzell (buzzell.tricia@epa.gov, 703-308-8622).

¹⁵ See *Standards Applicable to Owners and Operators of Closed and Closing Hazardous Waste Management Facilities: Post-Closure Permit Requirement and Closure Process*; Final Rule, October 22, 1998 (63 FR 56710).

¹⁶ OSWER Policy Directive #9476.00-5, EPA/530-SW-87-10. Appendix B of this guidance presents technical factors to consider in determining the length of the post-closure care period as well as a number of hypothetical scenarios illustrating how site-specific information might be used to support an extension or reduction in the length of the period.

Appendix A: Overview of Federal Regulatory Provisions

Regulations governing RCRA post-closure care are set forth in 40 CFR part 264 subpart G for permitted facilities and part 265 subpart G for interim status facilities. Additional requirements for post-closure care of specific types of units are included in the regulations for those units. See §§ 264/265.197 (Tank Systems); §§ 264/265.228 (Surface Impoundments); §§ 264/265.258 (Waste Piles); §§ 264/265.280 (Land Treatment Units); §§ 264/265.310 (Landfills); § 264.603 (Miscellaneous Units); §§ 264/265.1102 (Containment Buildings); and §§ 264/265.1202 (Hazardous Waste Munitions and Explosives Storage).

Regulations governing financial assurance for post-closure care are set forth in 40 CFR part 264 subpart H for permitted facilities and part 265 subpart H for interim status facilities.

Regulations governing facility permitting are set forth in 40 CFR part 270.

Post-Closure Care – Sections 264.117(a) and 265.117(a) establish general requirements for post-closure care and a 30-year post-closure care period. However, the regulations also allow the permitting authority to shorten the 30-year post-closure care period if the reduced period is sufficient to protect human health and the environment, or to extend it, if necessary (see the *Post-Closure Plan Amendment* section for more details). Sections 264.117(a)(2)(i) and 265.117(a)(2)(i) provide the following examples for shortening the post-closure care period: “...(e.g., leachate or groundwater monitoring results, characteristics of the hazardous wastes, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the hazardous waste management unit or facility is secure).”

Sections 264.117(a)(2)(ii) and 265.117(a)(2)(ii) provide the following example for extending the post-closure care period: “...(e.g., leachate or groundwater monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment).”

Post-Closure Plan – Under §§ 264.118 and 265.118, the owner or operator of specified units must have a written post-closure plan. The plan must identify monitoring and maintenance activities that will be carried out after closure, and their frequency, to assure compliance with the requirements of specific subparts, including subparts F, K, L, M, N and X, where applicable. For permitted facilities (§ 264.118(a)), the post-closure plan must be submitted with the permit application and approved by the permitting authority as part of permit issuance procedures. The approved post-closure plan becomes a condition of any RCRA permit issued (see the *Post-Closure Plan Amendment* section for more details). For interim status facilities (§ 265.118), the owner or operator must submit the post-closure plan to the permitting authority within specified time frames, and the regulations provide for making the post-closure plan available to the regulatory authority.

Procedures for Post-Closure Plan Amendment – For permitted facilities, the process for making changes to the post-closure plan is through permit modification (permit modification procedures are set forth in § 270.42). Under § 264.118(d)(1), the owner or operator may submit a written notification or request for a permit modification to amend the post-closure plan. Under § 264.118(d)(2), the owner or operator must submit a written notification of the permit modification or request for a permit modification to authorize a change in the approved post-closure plan under certain circumstances. Specific reasons set forth in the regulations include changes in operating plans or facility design that affect the approved post-closure plan, and

events occurring during the active life of the facility that affect the approved post-closure plan. For interim status facilities, § 265.118(d) prescribes procedures for amending the post-closure plan. The permitting authority may also request modifications to the post-closure plan under §§ 264.118(d)(4) and 265.118(d)(4).

Procedures for Post-Closure Care Period Adjustment – Adjustments to the post-closure care period may be initiated at any time preceding partial or final closure or at any time during the post-closure care period of a particular unit. For interim status facilities, § 265.118(g) prescribes a process for extending or shortening the post-closure care period that includes provisions for public involvement. For permitted facilities, § 264.117(a)(2) provides for shortening or extending the post-closure care period in accordance with the permit modification provisions in parts 124 and 270.

Section 270.41 provides for Agency-initiated permit modifications. EPA may modify a permit for the following reasons: if there have been material and substantial alterations or additions to the facility; there is new information that was not available at the time of permit issuance; new statutory or regulatory requirements were promulgated; EPA has cause to initiate a compliance schedule under § 270.33; or as necessary to assure that the facility continues to comply with the currently applicable requirements in parts 124, 260 through 266, and 270, when a permit for a land disposal facility is reviewed by the Director under § 270.50(d).

Section 270.42 contains the regulations that apply to the modification of a permit at the request of the permittee. For all modifications, the permittee submits information to EPA that describes the exact change to be made to the permit conditions, identifies whether the modification is Class 1, 2, or 3, and provides the applicable permit application information.

The process for extending the post-closure care period is a Class 2 modification, while the process for shortening the post-closure care period is a Class 3 modification (§ 270.42, Appendix I, E2 and E3). These procedures include provisions for public involvement. The post-closure care period can also be modified through permit renewal under § 270.32(d).

Financial Assurance for Post-Closure Care – EPA's regulations under parts 264/265 subpart H establish requirements for financial assurance, including financial assurance requirements for post-closure care (see §§ 264.140 and 265.140). Under §§ 264.144 and 265.144, the owner or operator is required to have detailed written cost estimates for post-closure monitoring and maintenance in accordance with the applicable post-closure care requirements. Under §§ 264.145 and 265.145 generally, the owner or operator is required to establish financial assurance for post-closure care in an amount equal to the current post-closure cost estimate.

Certification of Completion of Post-Closure Care and Release of Owner and Operator from Financial Assurance Requirements – Under §§ 264.120 and 265.120, the owner or operator must submit certification that the post-closure care for the unit(s) was performed in accordance with the approved post-closure plan; the certification must be sent by registered mail to the permitting authority. This certification must be submitted no later than 60 days after the completion of the post-closure care period for each hazardous waste disposal unit. The certification must be signed by the owner or operator and a qualified professional engineer. Documentation supporting the professional engineer's certification must be furnished to the permitting authority upon request until the permitting authority releases the owner or operator from the financial assurance requirements for post-closure care under §§ 264.145(i) and 265.145(h).

Under §§ 264.145(i) and 265.145(h), within 60 days of receipt of certification from the owner or operator and a qualified professional engineer that the post-closure care has been completed for a hazardous waste disposal unit in accordance with the approved plan, the permitting authority will notify the owner or operator that it is no longer required to maintain financial assurance for post-closure care for that unit. If the permitting authority has reason to believe that post-closure care has not been in accordance with the approved post-closure plan, the permitting authority must provide the owner or operator a detailed written statement of any such reason.

Scope of the Post-Closure Permit Requirements – Under § 270.1(c), owners and operators of surface impoundments, landfills, land treatment units, and waste pile units that received waste after July 26, 1982, or that certified closure (according to § 265.115) must have post-closure permits, unless they demonstrate closure by removal or decontamination, or obtain an enforceable document in lieu of a post-closure permit as provided under § 270.1(c)(7). Under § 270.10(h), if a permittee has an effective permit and they want to renew it, they must submit a new application at least 180 days before the expiration date of the effective permit.

Monitoring and Records – Under § 270.30(j)(2), the permittee must retain records of all monitoring information for a period of at least three years from the date of sample, measurement, report, or certification, unless extended by request of the permitting authority at any time. Records from all groundwater monitoring wells and associated groundwater surface elevations must be maintained for the active life of the facility, and for disposal facilities for the entire post-closure care period.

Compliance with an Expiring Permit – Under § 270.51(c), if the permittee is not in compliance with the conditions of the expiring or expired permit, the permitting authority may issue a new permit under part 124, initiate enforcement action, or take other actions authorized by the RCRA regulations.

Appendix B: Institutional Controls (ICs) Resources

The following resources may be helpful in implementing and maintaining ICs throughout the post-closure care period and beyond.

- EPA guidance on *Ensuring Effective and Reliable Institutional Controls at RCRA Facilities* (Matt Hale, Director, Office of Solid Waste, and Susan Bromm, Director Office of Site Remediation and Enforcement, June 14, 2007) sets forth guiding principles and recommendations that can help EPA and state decision makers on the use of ICs at RCRA facilities, and EPA resources for additional information and assistance.
- *Institutional Controls: A Site Manager's Guide to Identifying, Evaluating, and Selecting Institutional Controls at Superfund and RCRA Corrective Action Cleanups* guidance provides some discussion about how ICs can be used at post-closure care facilities. (p.3 text box) EPA 540-F-00-005, OSWER 9355.0-74FS-P, September 2000, <https://www.epa.gov/fedfac/institutional-controls-site-managers-guide-identifying-evaluating-and-selecting-institutional>
- *Institutional Controls: A Guide to Preparing Institutional Control Implementation and Assurance Plans at Contaminated Sites* provides information and recommendations that should be useful for planning, implementing, maintaining and enforcing ICs, and offers an overview of EPA's policy regarding the roles and responsibilities of the parties involved in the various life-cycle stages of ICs. Final, December 2012. OSWER 9200.0-77, EPA-540-R-09-002, <https://www.epa.gov/fedfac/institutional-controls-guide-preparing-institutional-control-implementation-and-assurance>
- *Institutional Controls: A Guide to Planning, Implementing, Maintaining, and Enforcing Institutional Controls at Contaminated Sites* guidance also discusses how ICs could be used at RCRA post-closure care facilities. (Section 2.3) Final, December 2012. OSWER 9355.0-89, EPA-540-R-09-001, <https://www.epa.gov/fedfac/institutional-controls-guide-planning-implementing-maintaining-and-enforcing-institutional>
- *Long-Term Stewardship: Ensuring Environmental Site Cleanups Remain Protective over Time* report identifies long-term stewardship challenges and opportunities for improvement, and makes recommendations for how EPA and its state, tribal, and local partners should proceed in addressing them. This report also includes a definition of long-term stewardship, why long-term stewardship is important, and what EPA and others are currently doing to address long-term stewardship issues. Final, September 2005, EPA 500-R-05-001, <https://nepis.epa.gov/Exe/ZyNET.exe/P100119V.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2000+Thru+2005&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C00thru05%5CTxt%5C00000015%5CP100119V.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL>

Application

B-27R2-m-8



B-27R2-M-8 000022

cc: PMS
Des Plaines

Environmental Legacy Management Group
720 East Butterfield Road, Suite 400
Lombard, IL 60148

Via UPS

1Z28W70A0199627166

October 27, 2023

Ms. Jacqueline M. Cooperider
Manager, Permit Section
Illinois Environmental Protection Agency
Bureau of Land, Permit Section - #33
1021 North Grand Avenue East
Springfield, IL 62702

RE: 0310390001 – Cook County
CID Recycling and Disposal Facility
ILD010284248
RCRA Log No. B-27R2
Class 1* Permit Modification Application
Updated Post-Closure Care Cost Estimates

RECEIVED
OCT 30 2023
IEPA-BOL
PERMIT SECTION

Dear Ms. Cooperider,

Waste Management of Illinois, Inc., as the permitted owner and operator of the CID Recycling and Disposal Facility (CID RDF), in accordance with 35 IAC 703.281, hereby submits this Class 1* Permit Modification application to update the facility's post-closure care cost estimate.

General revisions to the estimates are summarized below:

- the estimates have been reviewed and adjusted for inflation pursuant to permit condition VI.35.a;
- the period for post-closure care has been adjusted based on the current year; and
- the corrective action cost estimate has been updated to reflect the corrective action program approved in Log No. B-27R2-M-5, in accordance with permit condition IV.F.5.

Changes in tasks and third-party costs include the following:

- sampling and analytical costs have been revised to reflect cost increases due to changes in scope in 2023. Cost documentation is provided in Attachment 3;
- leachate monitoring and reporting costs were revised to reflect new requirements for electronic reporting triggered by the issuance of permit B-27R2;
- the cost for 10-year aerial topography was revised to reflect one fewer survey required, as the first survey was completed for Areas 3 and 4 on March 15, 2023; and

October 27, 2023

CID RDF

Class 1* Permit Modification Application

Page 2

- the duration of corrective action at Area 3 was revised to be consistent with Area 1 and 2 corrective action estimates.

Applicable information required by Sections 703.181 through 703.185, 703.201 through 703.207, 703.221 through 703.225, and 703.230 can be found in the facility's approved permit application and the permit log identified above. A completed 39(i) certification form and an LPC-PA23 form are provided in Attachment 1. Revised tables I-4, I-5 and I-6 are provided in Attachment 2.

Also, WMIL also proposes an anniversary date of September 31st for the annual post-closure care cost estimate be included in permit condition VI.35.a. This is proposed for clarity since previous permits have not included a specific date for submittal of updated estimates.

In accordance with 35 IAC 703.281(a)(2), WMIL will provide a written notification of this permit modification to all recipients on the facility's mailing list within 90 days of approval by the Agency.

Should agency personnel have any questions regarding this report, or require any additional information, please contact me at (224) 523-1736 or schillso@wm.com.

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 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.



Steve Chillson, P.G.
District Manager
Environmental Legacy Management Group

Attachments

cc: Facility Operating Record
Facility Correspondence File

October 27, 2023

CID RDF

Class 1 Permit Modification Application*

Attachment 1

Permit Forms



Illinois Environmental Protection Agency

R 000025

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 CID Recycling and Disposal FacilityIEPA BOL No.: 0310390001Site Address 138th Street and Interstate 94, P.O. Box 1309City: Calumet CityState: ILZip Code: 60409Permit Numbers (if applicable): B-27R**Owner****Operator**Owner Name: Waste Management of Illinois, Inc.Operator Name: Waste Management of Illinois, Inc.Street Address: 720 East Butterfield Road, Suite 400Street Address: 720 East Butterfield Road, Suite 400City: Lombard State: IL Zip: 60148City: Lombard State: IL Zip: 60148

Is this 39(i) certification for the owner or the operator?

☐ Owner☐ Operator☒ Owner and operator are the same entity

II. Officers and Employees with Site Responsibility

Unless the owner and operator are the same entity, a separate 39(i) form must be submitted for both the owner and operator. Persons operating under the authority of the owner should be listed on the owner's 39(i) form and persons operating under authority of the operator should be listed on the operator's 39(i) form.

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

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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
Steven Chillson	District Manager, Environmental Legacy Management Group
Lawrence J. Buechel	Area Director

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.

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Authorization for Release of Information

R 000027

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

JAMES A. WILSON
Vice President

06/28/2023

Date

James A. Wilson

Printed Name

Vice President, Waste Management of Illinois, Inc.

Title

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Illinois Environmental Protection Agency

R 000028

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): 0310390001

USEPA ID Number: ILD010284248

Site Name: CID Recycling and Disposal Facility

Physical Site Location (street, road, etc.): 138th Street and Interstate 94, P.O. Box 1309

City: Calumet City

Zip Code: 60409

County: Cook

Existing RCRA Permit (if applicable): B-27R

II. Owner/Operator Identification

Owner Information

Name: Waste Management of Illinois, Inc.

Mailing Address:

Environmental Legacy Management Group
720 East Butterfield Road, Suite 400
Lombard, IL 60148

Contact Name: Steve Chillson

Phone #: 224-523-1736

Email: schillso@wm.com

Operator Information

Name: Waste Management of Illinois, Inc.

Mailing Address:

Environmental Legacy Management Group
720 East Butterfield Road, Suite 400
Lombard, IL 60148

Contact Name: Steve Chillson

Phone #: 224-523-1736

Email: schillso@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 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.

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III: Permit Application Identification

R 000029

Application Type

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

Application providing updated post-closure cost estimates in accordance with permit conditions IV.F.5 and VI.35.a.

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): Waste Management of Illinois, Inc.

Owner Signature: 

JAMES A. WILSON
Vice President

Date: 06/28/2023

Title: James A. Wilson, Vice President, Waste Management of Illinois, Inc.

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Operator.

R 000030

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): SameOperator Signature: *James A. Wilson*JAMES A. WILSON
Vice PresidentDate: 06/28/2023Title: Same**Notary** (Required for both owner and operator signatures)Subscribed and Sworn before me this 28th day of JUNE 2023Notary Signature: *Vidya Shirish Darshane*My commission expires on: 10/21/2023

Notary Seal

Engineer

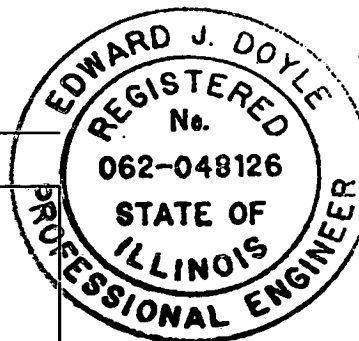
I certify under penalty of law that this document and all attachment were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons that manage 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): Edward DoyleEngineer Signature: *Edward Doyle*Illinois License No.: 062-0048126Expiration Date of License: 11/30/2023Engineer Phone No. 630-254-9388Email: edoyle@EILLLC.com

Engineer Address:

534 Duane Street

Glen Ellyn, IL 60137-4676



Engineer Seal

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IEPA-BOL
PERMIT SECTION*IL Design Firm
Registration #
184004752-0002
Renewal Date
4/30/2005*

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))

October 27, 2023

CID RDF

Class 1 Permit Modification Application*

Attachment 2

Updated Cost Estimate Tables I-4, I-5 and I-6

TABLE I-4
CID RDF POST-CLOSURE COST ESTIMATE
AREA 3 LANDFILL

NOTE: Area 3 landfill was certified closed on October 10, 2008. Post-closure activities for the Area 3 Landfill commenced in 2008.

#	TASK	Units	Quantity	#/yr	# yrs	Unit Cost ¹	Extended Cost ²	Qual. ³
1	Mow and fertilize (if required) cover area (170 acres total)	acre	170	1	15	\$73	\$186,150	I
2	Dress and re-seed 3% of cover area (PC Year 17, 22 and 27)	acre	5	1	3	\$2,239	\$34,257	I
3	Landfill cap and surface water management system maintenance	LS	1	1	15	\$1,336	\$20,040	I
4	Semi-annual Inspection	each	1	2	15	\$402	\$12,060	I
5	Groundwater monitoring (Sampling & Analysis)							
6	- Routine Sampling (14 wells)	each	1	2	15	\$3,300	\$99,000	C
7	- Routine Analyses (14 wells)	each	1	2	15	\$3,848	\$115,440	C
8	- North Side GMZ Monitoring and Sampling (14 wells)	each	1	2	10	\$4,520	\$90,400	C
9	- South Side GMZ Monitoring and Sampling (16 wells)	each	1	2	10	\$3,375	\$67,500	C
10	- North Side GMZ Analyses (14 wells)	each	1	2	10	\$4,788	\$95,760	C
11	- South Side GMZ Analyses (16 wells)	each	1	2	10	\$3,780	\$75,600	C
12	5-Year GMZ Re-evaluation	each	1	1	2	\$10,000	\$20,000	C
13	Groundwater remediation system operation and maintenance	LS	1	1	10	\$12,917	\$129,170	I
14	Groundwater Well Survey (Biennial)	each	1	0.5	15	\$1,271	\$9,533	I
15	Groundwater Data Review, Reporting and Statistics	each	1	1	15	\$10,569	\$158,535	I
16	Security and fencing maintenance (10,200 lineal feet total)	feet	2% total	1	15	\$6.96	\$21,285	I
17	Leachate, condensate and extracted groundwater treatment and disposal (average of last 4 yrs)	gal	10,011,509	1	15	\$0.0700	\$10,512,084	A ⁴ , C
18	Leachate level monitoring and reporting	LS	1	1	15	\$5,800	\$87,000	C
19	Leachate Sampling & Analysis (35 IAC 724 Appendix I parameters)	LS	1	1	15	\$3,611	\$54,165	C
20	Leachate/Gas system maintenance	LS	1	1	15	\$33,406	\$501,090	I
21	Gas flare system maintenance	LS	1	1	15	\$10,692	\$160,380	I
22	Decommissioning of landfill gas system	LS	1	1	1	\$80,177	\$80,177	I
23	Landfill Gas Monitoring - Flare: Annual gas sampling and Visible Emission (VE) testing	LS	1	1	15	\$2,472	\$37,080	I
24	Landfill Gas Monitoring - Gas Turbine: Semi-annual sulfur analysis	LS	1	2	15	\$1,094	\$32,820	I
25	Landfill Gas monitoring - Gas Turbine: Semi-annual sulfur analysis and V.E. testing	LS	1	2	15	\$1,793	\$53,790	I
26	Air Monitoring - Subpart BB and CC Monitoring	each	1	1	15	\$5,750	\$57,500	C
27	Post-closure certification report	LS	1	1	1	\$13,362	\$13,362	I
28	Inspect benchmarks semi-annually and survey unit once every 10 years (annualized cost for survey in 2033)	LS	1	1	15	\$180	\$2,700	C
29	TOTAL						\$12,726,878	

Notes:

- Unit costs are rounded to the number of decimal places shown.
- Extended costs are rounded to the nearest dollar.
- Qualifiers: C - Current cost; I - Costs were inflated to 2023 dollars by multiplying 2021 unit costs by 1.0413 and 1.07, the 2022 and 2023 inflations factors provided by IEPA.
- A - Average 2019 = 12,555,405; 2020 = 10,675,389; 2021 = 6,812,333; 2022 = 10,002,909)

TABLE I-5
CID RDF POST-CLOSURE COST ESTIMATE
AREA 4 LANDFILL

NOTE: Area 4 landfill was certified closed on April 23, 2010. Post-closure activities for the Area 4 Landfill commenced in 2010.

#	TASK	Units	Quantity	#/yr	# yrs	Unit Cost ¹	Extended Cost ²	Qual. ³
1	Mow and fertilize (if required) cover area (26 acres total)	acre	26	1	17	\$ 73	\$32,266	I
2	Dress and re-seed 3% of cover area (PC Year 17, 22 and 27)	acre	1	1	3	\$ 2,218	\$6,654	I
3	Landfill cap and surface water management system maintenance	LS	1	1	17	\$ 1,336	\$22,712	I
4	Semi-annual Inspection	each	1	2	17	\$ 402	\$13,668	I
5	Groundwater Monitoring (9 Dolomite wells and 10 Sand wells)							
6	- Sampling	each	1	2	17	\$ 5,015	\$170,510	C
7	- Analyses	each	1	2	17	\$ 5,204	\$176,936	C
8	Groundwater Well Survey (Biennial)	each	1	0.5	17	\$ 984	\$8,364	I
9	Groundwater Data Review, Reporting and Statistics	each	1	1	17	\$ 4,227	\$71,859	I
10	Security and fencing maintenance (7,200 lineal feet total)	feet	2% total	1	17	\$ 6.95	\$17,014	I
11	Leachate treatment and disposal (average of last 4 years)	gal	1,534,699	1	17	\$0.0700	\$1,826,292	A ⁴ , C
12	Leachate level monitoring and reporting	LS	1	1	17	\$ 5,800	\$98,600	C
13	Leachate Sampling & Analysis (35 IAC 724 Appendix I parameters)	LS	1	1	17	\$ 1,217	\$20,689	C
14	Leachate system maintenance	LS	1	1	17	\$17,371	\$295,307	I
15	Post-closure certification report	LS	1	1	1	\$16,703	\$16,703	I
16	Inspect benchmarks and survey unit once every 5 years (annualized cost for survey in 2033)	LS	1	1	17	\$ 36	\$612	C
17	TOTAL						\$2,778,186	

Notes:

- Unit costs are rounded to the number of decimal places shown.
- Extended costs are rounded to the nearest dollar.
- Qualifiers: C - Current cost; I - Costs were inflated to 2023 dollars by multiplying 2021 unit costs by 1.0413 and 1.07, the 2022 and 2023 inflations factors provided by IEPA.
- A = average (2019 = 2,139,521; 2020 = 1,571,969; 2021 = 1,220,137; 2022 = 1,207,170)

TABLE I-6

CID RDF - CORRECTIVE ACTION COST ESTIMATE

The approved correction action program for the SWMUs of concern (Area 1 and 2 landfills) consists of the following tasks. Costs are based on 10 years of corrective action.

#	TASK	Cost Per Year	# yrs	Extended Cost ¹	Qual. ²
1	Operation and maintenance of a landfill gas management system for each landfill (Area 1)				
2	Landfill gas monitoring system - monthly checks of the extraction wells	\$4,468	10	\$44,680	I
3	Landfill gas monitoring system - semi-annual bar hole probe monitoring and river observations	\$400	10	\$4,000	C
4	Operation and maintenance of a leachate management system for each landfill				
5	Leachate management system - monthly checks of the removal wells and underground storage tank systems.	\$31,142	10	\$311,420	I
6	Leachate/contaminated groundwater treatment and disposal (15,253,633 gallons/year)	\$1,067,754	10	\$10,677,540	A ³ ,C
7	Quarterly groundwater piezometer level measurements for leachate compliance determinations	\$420	10	\$4,200	C
8	Inspecting/maintaining the final cover of each landfill				
9	Landfill cover for Areas 1 and 2 – quarterly checks for settlement, erosion and vegetative stress	\$1,338	10	\$13,380	I
10	Landfill cover maintenance (erosion, stressed vegetative areas, mowing, fertilizing and reseeding)	\$15,155	10	\$151,550	I
11	Maintenance of signs, fencing, security systems (6,460 lineal feet total)	\$899	10	\$8,990	I
12	Maintenance of run-on, run-off and stormwater control structures	\$3,067	10	\$30,670	I
13	TOTAL OPERATION AND MAINTENANCE COST			\$11,246,430	
14	Corrective Measures as required by B-27R2-M-5, issued October 11, 2023				
15	Groundwater remediation system operation and maintenance	\$5,872	10	\$58,720	I
16	Groundwater remediation system quarterly inspection	\$8,220	10	\$82,200	I
17	Extracted groundwater treatment (included in Line 6, Leachate/contaminated groundwater treatment and disposal)	\$0	10	\$0	C
18	Groundwater Management Zone permit applications	\$8,220	1	\$8,220	I
19	Phytoremediation system annual inspection and maintenance	\$6,475	10	\$64,750	I
20	Phytoremediation system quarterly inspections and quarterly Corrective Measures Reports	\$10,599	10	\$105,990	I
21	Leachate level and volume reporting	\$3,200	10	\$32,000	C
22	TOTAL CORRECTIVE MEASURES COST			\$351,880	
23	TOTAL			\$11,598,310	

Notes:

- Extended costs are rounded to the nearest dollar.
- Qualifiers: C - Current cost; I - Costs were inflated to 2023 dollars by multiplying 2021 unit costs by 1.0413 and 1.07, the 2022 and 2023 inflations factors provided by IEPA.
- A = Average (2019 = 19,300,132; 2020 = 15,584,838; 2021 = 10,420,768; 2022 = 15,708,795)

October 27, 2023

CID RDF

Class 1 Permit Modification Application*

Attachment 3

Post-Closure Cost Documentation

Menu

EurofinsUS.com >> MyEOL >> Sites & Projects >> Project

Site/Project: CID RDF (Area 3)

Site/Project Analyses Jobs Events Access Rights

Primary Lab: Eurofins Buffalo

Phone:

Lab PM:

Report Project Issues

Site Configuration History

Select approval/version: Current Configuration

Key Contacts

Site Mary Pearson EIL

Manager: Phone: (630) 240-8606

Email: mpearson@eilllc.com

GPP: Seth Ramaley Waste Management

Phone: (404) 556-2145

Email: sramaley@wm.com

Site Steve Chillson Waste Management

Manager: Phone: (224) 523-1736

Email: schillson@wm.com

Current Configuration Approval

Approval is currently disabled. To approve this site, please first review and approve all the underlying events. Then please return to this page to approve the site.

[Highlight unapproved events](#)

Events

Year: 2023

Type	Description	Event ID	Frequency	Cost Per Event	Events	Budget	Invoiced	Approved
200	Area 3 Outside GMZ Dolomite Wells	121	Semi-Annual	\$3,078.00	2	\$4,156.00	\$3,078.00	2/15/2018 1:33pm CST by: Lisa Grassl
200	Area 3 Outside GMZ Dolton Sand Wells	159	Semi-Annual	\$813.00	2	\$1,626.00	\$890.00	2/15/2018 1:32pm CST by: Lisa Grassl
Subtotal:						\$7,782.00	\$3,968.00	
400	Area 3 North GMZ Dolomite Wells	97	Semi-Annual	\$4,788.00	2	\$9,576.00	\$4,788.00	2/15/2018 2:43pm CST by: Lisa Grassl
400	Area 3 South GMZ Dolomite Wells	4617	Semi-Annual	\$2,394.00	2	\$4,788.00	\$2,394.00	2/15/2018 1:34pm CST by: Lisa Grassl
400	Area 3 South GMZ Dolton Sand Wells	3725	Semi-Annual	\$1,386.00	2	\$2,772.00	\$2,777.00	2/15/2018 1:33pm CST by: Lisa Grassl
Subtotal:						\$17,136.00	\$9,959.00	
500	Area 3 Leach (10) 351AC 724 App I (2026)	376	Special	\$3,411.00	1	\$3,411.00	\$3,411.00	1/25/2017 4:16pm CST by: Lisa Grassl
500	Leach 351AC 724 App I Reduced (10)	4857	Annual	\$1,211.00	0	\$0.00	\$0.00	Never approved.
Subtotal:						\$3,411.00	\$3,411.00	

Other Charges

\$1,693.81

Total: \$28,329.00 \$19,031.81

Deliverables (Expand All)

Menu

EurofinsUS.com >> MyEOL >> Sites & Projects >> Project

Site/Project: CID RDF (Area 4)

Site/Project Analyses Jobs Events Access Rights

Primary Lab: Eurofins Buffalo

Phone:

Lab PM:

Report Project Issues

Site Configuration History

Select approval/version: Current Configuration

Key Contacts

Site Mary Pearson EIL

Manager: Phone: (630) 240-8606
Email: mpearson@eilllc.com

GPP: Seth Ramaley Waste Management

Phone: (404) 556-2145
Email: sramaley@wm.com

Site Steve Chillson Waste Management

Manager: Phone: (224) 523-1736
Email: schillso@wm.com

Current Configuration Approval

Approval is currently disabled. To approve this site, please first review and approve all the underlying events. Then please return to this page to approve the site.

[Highlight unapproved events](#)

Events

Year: 2023

Type	Description	Event ID	Frequency	Cost Per Event	Events	Budget	Invoiced	Approved
200	<u>Area 4 Dolton Sand (4.10)</u>	134	Semi-Annual	\$1,521.00	2	\$3,042.00	\$1,598.00	2/15/2018 1:29pm CST by: Lisa Grassl
200	<u>GW Monitoring (4.10)</u>	139	Semi-Annual	\$3,726.00	2	\$7,452.00	\$3,726.00	2/15/2018 1:29pm CST by: Lisa Grassl
Subtotal:						\$10,494.00	\$5,324.00	
500	<u>Leach (10) 351AC 724 App I Reduced 1.331</u>	4858	Annual	\$537.00	0	\$0.00	\$0.00	Never approved.
500	<u>Leachate (10) 351AC 724 App II (2026)</u>	142	Special	\$1,137.00	1	\$1,137.00	\$1,137.00	1/25/2017 3:27pm CST by: Lisa Grassl
Subtotal:						\$1,137.00	\$1,137.00	
Other Charges							\$631.07	
Total:						\$11,631.00	\$7,092.07	

Deliverables (Expand All)

Erin Yargicoglu Environmental Information Logistics (EIL)

Exhibit A Addendum to the Master Service Agreement for Professional Consulting Services		R 000038			
Date: August 9, 2023		WM AFFILIATE NAME _____			
Site Name: CID Recycling and Disposal Facility		WM ADDENDUM #: _____			
Project Name: 2024 Area 1-4 Groundwater, Surface Water, Gas, and Leachate Monitoring Program		Cell: _____			
		Infrastructure: _____			
		Misc.: _____			
In accordance with the Master Service Agreement for Consulting Services dated May 4th, 2011 between [REDACTED] and WASTE MANAGEMENT HOLDINGS, INC., on behalf and for the benefit of its subsidiaries and affiliates ("WM Affiliates") this Addendum describes the Work and/or additional deleted or changed Work to be performed by the Consultant in consideration for payment of the Agreement Price by the WM Affiliate for whom the Work is to be performed (If this is a modification to an existing Addendum, this shall be indicated by using an A, B, or C suffix to the addendum number below). Steve Chillson _____ CONSULTANT'S Project Manager for this work WM Affiliate Representative for this work _____ A detailed SCOPE of WORK and corresponding prices dated <u>10/12/2021</u> is attached to this addendum and made a part hereof. "Type" of Agreement Price shall be indicated below: "1" for firm lump sum price; "2" for guaranteed not to exceed price.					
SCOPE OF WORK AND AGREEMENT	TY	A	B	C	TOTAL
TASK DESCRIPTION					
Task 1 – Area 1-3 Semi-Annual Groundwater (2Q/4Q)	1,2	\$3,300.00			\$6,600.00
Task 2 – Area 3 North Side Corrective Action (2Q/4Q) Monitoring/Sampling	1,2	\$3,325.00			\$6,650.00
Task 3 – Area 3 South Side Corrective Action (2Q/4Q) Monitoring/Sampling	1,2	\$3,325.00			\$6,650.00
Task 4 – Area 3 North Side Corrective Action (1Q/3Q) Monitoring	1,2	\$1,195.00			\$2,290.00
Task 5 – Area 3 South Side Corrective Action (1Q/3Q) Flow Readings and Levels	1,2	\$50.00			\$100.00
Task 6 – Area 1 Annual (1Q) Leachate	1,2	\$80.00			\$80.00
Task 7 – Area 2 Annual (1Q) Leachate	1,2	\$80.00			\$80.00
Task 8 – Area 3 Annual (1Q) Leachate	1,2	\$200.00			\$200.00
Task 9 – Area 1-2 Quarterly Piezometers	1,2	\$105.00			\$420.00
Task 10 – Semi-Annual Barholes (2Q/4Q)	1,2	\$200.00			\$400.00
Task 11 – Area 4 Semi-Annual Groundwater (2Q/4Q)	1,2	\$5,015.00			\$10,030.00
Task 12 – Area 4 Annual Leachate (1Q)	1,2	\$80.00			\$80.00
Task 13 – Area 1 Quarterly NPDES Monitoring/ Sampling/Analysis	1,2	\$1,025.00			\$4,100.00
Task 14 – Annual (3Q) Subpart BB Monitoring	1,2	\$515.00			\$515.00
Task 15 – Annual (3Q) Subpart CC Monitoring and Analysis	1,2	\$5,235.00			\$5,235.00
Task 16 - Contingency	1	T&M Rates			N/A – T&M Rates
TOTALS:					\$43,430.00
Period of Performance: This Work and all necessary and required services relating thereto shall be completed by: December 31st, 2024. Approval and acceptance of the terms and conditions of this Addendum is acknowledged by the signature of the undersigned authorized representatives of the parties to this agreement. All invoices to be submitted under this Addendum must include the WM Affiliate's Addendum number, be allocated per task as described above and be submitted to: Lisa Grassl, CID Recycling and Disposal Facility, 138th Street and Interstate 94, Calumet City, IL 60409. Exceeding the agreement price listed above without prior execution of a change order will be at the Consultant's own risk. This project is governed by the Master Service Agreement referenced above (which is incorporated by reference). Nothing contained on this form will modify the terms and conditions of the Master Service Agreement. Each Addendum authorizing the Work shall be executed by an authorized representative of the Waste Management, Inc. subsidiary or affiliated company (WM Affiliate) for whom the Work is to be performed.					
WM Project Manager _____		Authorized Representative of Consultant (printed)			
Signature & Date _____		General Manager _____			
WM District Manager (or Corp. Enviro. Director) _____		Title _____			
WM Group Engineering Director. (or VP Enviro. Mgt. Group) if required _____		Signature & Date <u>08/09/2023</u>			

February 17, 2023

Erin Yargicoglu, Ph.D.
Environmental Information Logistics, LLC
534 Duane Street
Glen Ellyn, IL 60137

Re: Aerial Topographic Mapping – CID RDF

Dear Ms. Yargicoglu

Thank you for this opportunity to submit a proposal to provide professional mapping services as outlined herein. For purposes of the Agreement, Environmental Information Logistics, LLC will be identified as "CLIENT", [REDACTED] will be identified as [REDACTED] or "Consultant".

SECTION ONE- SCOPE OF SERVICES

TASK 1 – AERIAL MAPPING

[REDACTED] will perform Aerial Mapping of the subject site using a combination of Photogrammetry and LiDAR to the following criteria:

METHODOLOGY

WCG will perform Aerial Mapping of the site(s) using Photogrammetry and/or LiDAR technologies and following criteria:

1. Limits of Mapping Area -The limits of the aerial mapping are shown on the included Site Map(s).
2. Site Control – [REDACTED] will field measure and verify the site control and utilize the provided control points for the mapping of the site. Discrepancies in site control will be reported to Waste Management.
3. Mapping Targets – [REDACTED] will place and field measure any aerial targets required for the mapping of the site.
4. Mapping Accuracy Verification – [REDACTED] will provide ground verified check points to test the accuracy of the data per the stated ACCURACY STANDARDS. Additionally, WCG will compare the current site mapping to the most recent previous mapping to check for accuracy of the mapping data.

ACCURACY STANDARDS

Consultant will acquire and process data using equipment, software, and techniques which will meet or exceed Waste Management Accuracy Standards:

Erin Yargicoglu, Ph.D.
Environmental Information Logistics, LLC

February 17, 2023
Page 2

1. Mapping will be produced according to procedures that have been demonstrated to meet or exceed the ASPRS Positional Accuracy Standards for Digital Geospatial Data, 2014
2. Horizontal accuracy must meet the 30cm class in Table B.6. This requirement translates to ~68% of planimetric data within 1.39 feet and ~95% of planimetric data within 2.4 feet.
3. Vertical accuracy must meet the 20cm class in Table B.7. This requirement translates to ~66% of non-vegetated elevation data within 0.66 feet and a ~95% of non-vegetated elevation data within 1.29 feet.
4. Orthophotos must meet the 15cm RMSE class in Table B.5 described as "Standard Mapping and GIS work or 2 pixels. This translates to 66% within 2.82 pixels or 1.41' (using RMSEr instead of RMSEx and RMSEy).

TIME SCHEDULE

██████ will perform the mapping of the sites in early April of 2023. Deliverables will be provided to the client via digital files on a shared Internet site by May 31, 2023.

DELIVERABLES

Digital deliverables will be provided by an internet-shared file sharing service and include:

1. Computer Aided Design drawing – of the site in AutoCAD format including:
 - a. Features - polylines of visible planimetric features within the mapping area will be shown including existing buildings, edge of paving and paths, and curbs.
 - b. Contour lines displayed in 2-foot and 10-foot index intervals. The index contour lines will be labeled.
 - c. Spot elevations in high and low points and where helpful to clarify the site topography.
 - d. Designate areas of heavy vegetation where achieving Accuracy Standards might not be possible.
 - e. Source of the horizontal and vertical control used in the mapping.
 - f. The aerial image of the site from the day of the flight in the background of the drawing.
2. Adobe Acrobat (PDF) drawings:
 - a. A PDF of the topo with the aerial imagery.
3. LandXML file of the TIN surface.
4. Imagery
 - a. Digital
 - i. A JPG format geo-referenced aerial image. (40 to 100 megabytes in size)
 - ii. The world file (.JGW) for geo-locating the JPG image.
 - iii. The projection file (.PRJ) for geo-locating the images.
 - iv. An "email-able" sized JPG image (6 to 10 megabytes in size)

TASK 2 – ADDITIONAL TOPOGRAPHY

██████ will perform Site Topography of the area between Areas 2 & 3 as shown in Green on the site map to the following criteria:

1. Accuracy within 0.1'.

Erin Yargicoglu, Ph.D.
Environmental Information Logistics, LLC

February 17, 2023
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2. Boundary of topography area as shown in Green on the included Site Map.
3. Measure inverts of visible culverts.

Deliverables: Computer Aided Design drawing and PDF print of the drawing.

SECTION TWO – ASSUMPTIONS AND CLIENT RESPONSIBILITIES

ASSUMPTIONS & CLARIFICATIONS

1. [REDACTED] will have open, clear, and safe access to the Property and required surrounding properties.
2. [REDACTED] will be released to perform the field survey in full day mobilizations during regular business hours.
3. Site-specific issues which cannot be identified at the writing of this proposal might affect [REDACTED] ability to fly the site. If WCG is unable to fly the site, [REDACTED] will notify CLIENT when that issue is identified.
4. Weather-related delays may affect the project delivery date.
5. [REDACTED] will advise client if a Federal Aviation Administration waiver will be required to operate an aircraft above this site and if this may delay the project delivery date.
6. State Plane Horizontal datum and NAVD1988 elevations will be utilized for this mapping.

CLIENT RESPONSIBILITIES

The client will provide [REDACTED] with the following information:

1. **Limits of Mapping Area** -The required limits of the mapping and aerial photography in Google Earth KLM or KMZ file format.
2. **Site Control** - The coordinates and elevations of at least three existing, well-monumented horizontal and vertical control points to be used for the mapping of the site as well as a map and/or drawing of the location of the monuments.
3. **Previous mappings** – A computer-aided design drawing of the most recent previous mapping which includes the surface contours.
4. **Contact information** – Contact information for the person who will coordinate site access for the consultant.

SECTION THREE – FEE SCHEDULE/ HOURLY RATES

WCG proposes to perform the Scope of Work defined herein on a phased fixed fee basis in accordance with this Fee Schedule:

	Area 3 Survey - 173 acres = \$2,687
	Area 4 Survey - 26 acres = \$404
	Add additional \$200 to inspect benchmarks by EIL
Task 1 – Aerial Mapping.....	\$6,600
Task 2 – Additional Site Topographic Survey	\$2,400

Erin Yargicoglu, Ph.D.
Environmental Information Logistics, LLC

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TOTAL ESTIMATED COST:\$ 9,000

Weaver Consultants Group will consider signing and returning the Proposal Acceptance Sheet as our authorization to proceed. Thank you again for the opportunity to submit our proposal on this matter.

Very Truly Yours

A large black rectangular redaction box covering the signature and name of the sender.A small black rectangular redaction box covering a line of text, likely a title or contact information.

Director

Attachments:

Site Map

Proposal Acceptance Sheet

Erin Yargicoglu, Ph.D.
Environmental Information Logistics, LLC

February 17, 2023
Page 5

SITE MAP

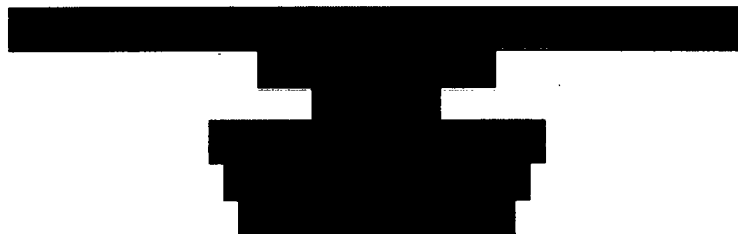
CID RDF Landfill, Calumet City, Illinois
Aerial Mapping Area approx. 425 acres in **RED**
Topography Area approx. 25 acres in **GREEN**



Erin Yargicoglu, Ph.D.
Environmental Information Logistics, LLC

February 17, 2023
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PROPOSAL ACCEPTANCE SHEET



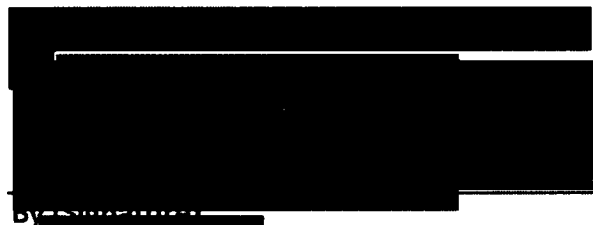
Date: February 17, 2023
Description of Services: Aerial Mapping
Project Name: CID RDF Landfill
Project Location: Lake Calumet, Illinois

For approval and payment of charges, invoices will be charged to the account of:
Environmental Information Logistics, LLC
534 Duane Street
Glen Ellyn, IL 60137

Total of services: \$9,000

This AGREEMENT is subject to the attached General Terms and Conditions Version 2009-A1:

This Agreement is accepted by:
Client



By (Signature)

By (Signature)

By (Type/Print)

Kurt Aper

By (Type/Print)

Title

Director

Title

Accepted _____, 2023.
Acknowledge the Terms and Conditions

Accepted February 17, 2023.
Acknowledge the Terms and Conditions

BOL Permit Section RCRA Tracking Sheet

BOLSiteCode 0310390001

Federal ID(s) ILD010284248

Respond by: 11/30/2023

Site: **CID Recycling & Disposal Fac**Region: **Des Plaines**

City: Calumet City

County: Cook

Data Regarding Logged Submittal(s) per Log # **B-27R2-M-8**

Review Status	PermitClass	AppType	Reviewers: RCRA, CAU, DAU, GAU	
Active	Class 1* Mod	RCRA Part B	KDH	PMS

DocTitle_Description	Submittal Type	Review Type	Agency Response
Application providing updated post-closure cost estimates in accordance with Conditions IV.F.5 and VI.35.a	1st Submittal	Technical	Partial Approval
Date Received	10/30/2023	Date Due	01/28/2024
Date Mailed			

Submittal Comment:

Final Action Data

For Log No: **B-27R2-M-8**

Units Addressed	Final Action Status	Date FA Issued	Date NFA	Date Closure Cert Accepted	Acres Remediated
					0
Closure Type:	Institutional Control	Clean Closed:	1 Institutional Control:	2 Institutional Control:	

Lifetime Operating

Permit - BOA

#031600FHJ



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

JB PRITZKER, GOVERNOR

JAMES JENNINGS, INTERIM DIRECTOR

217/785-1705

LIFETIME OPERATING PERMIT -- NSPS and NESHAP SOURCE

PERMITTEE

Waste Management of Illinois, Inc.
Attn: Steve Chillson, District Manager
138th Street and Interstate 94
Calumet City, Illinois 60409

Application No.: 22100018

I.D. No.: 031600FHJ

Applicant's Designation:

Date Received: October 18, 2022

Subject: CID Recycling and Disposal Facility

Date Issued: July 25, 2024

Expiration Date: See Condition 1

Location: 138th Street and Interstate 94, Calumet City, Cook County, 60409

This permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of:

Closed Municipal Solid Waste (MSW) (affected landfill) Landfill and associated landfill gas (LFG) collection, treatment (i.e., processing LFG with compression, de-watering and filtration), and control system, which includes one (1) Open Flare with a design capacity of 2,000 scfm of LFG (Flare);

Gas-to-Energy Facility consisting of:

One (1) 41 mmBtu/hr LFG Fired Turbine (Turbine #2);

403,000,000 Gallon/year capacity Biological Liquid Treatment Center (BLTC) consisting of:

Three (3) unloading Sump Pits (K, L & M);
Twelve (12) Storage Tanks T-16 through T-27;
Flocculating Tank (T-450);
Clarifier (C-500);
Clarifier Overflow Tank (T-600);
Polymer Mixing Tank;
Waste Storage Tanks (T-110 & T-112);
Three (3) Sequencing Batch Reactors (A, B & C);
Liquid Storage Tanks (T-1500A & T-1500B);
Sludge Surge Tank (Tank T-900);
Sludge Filter Press;
Flocculation Tank (T-450);
Sludge Day Tank (DT-1100);
Sludge Thickener Tank (ST-1000);
Three (3) Dewatering Boxes;
Storage Tank/Oil Water Separator;
Pilot Skid; and

1.5 Million Gallon Aeration Tank (T-1400);

2125 S. First Street, Champaign, IL 61820 (217) 278-5800
115 S. LaSalle Street, Suite 2203, Chicago, IL 60603
1101 Eastport Plaza Dr., Suite 100, Collinsville, IL 62234 (618) 346-5120
9511 Harrison Street, Des Plaines, IL 60016 (847) 294-4000

595 S. State Street, Elgin, IL 60123 (847) 608-3131
2309 W. Main Street, Suite 116, Marion, IL 62959 (618) 993-7200
412 SW Washington Street, Suite D, Peoria, IL 61602 (309) 671-3022
4302 N. Main Street, Rockford, IL 61103 (815) 987-7760

~~pursuant to the above-referenced application. This Permit is subject to~~
 standard conditions attached hereto and the following special conditions:

- 1a. This permit shall expire 180 days after the Illinois EPA sends a written request for the renewal of this permit.
- b. This permit shall terminate if it is withdrawn or is superseded by a revised permit.
- 2a. Turbine #2 is subject to the New Source Performance Standards (NSPS_ for Stationary Gas Turbines, 40 CFR 60 Subparts A and GG). The Illinois EPA is administering the NSPS in Illinois on behalf of the United States Environmental Protection Agency (USEPA) under a delegation agreement. Pursuant to 40 CFR 60.330(a), the provisions of 40 CFR 60 Subpart GG are applicable to the following affected facilities: All stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules (10 million Btu) per hour, based on lower heating value of the fuel fired.
- b. Pursuant to 40 CFR 60.330(b), any facility under 40 CFR 60.330(a) which commences construction, modification, or reconstruction after October 3, 1977, is subject to the requirements of 40 CFR Part 60 except as provided in 40 CFR 60.332(e) and (j).
- c. Pursuant to 40 CFR 60.332(a), on and after the date on which the performance test required by 40 CFR 60.8 is completed, every owner or operator subject to the provisions of 40 CFR 60 Subpart GG as specified in 40 CFR 60.332(b), (c), and (d) shall comply with one of the following, except as provided in 40 CFR 60.332(e), (f), (g), (h), (i), (j), (k), and (l).
 - i. No owner or operator subject to the provisions of 40 CFR 60 Subpart GG shall cause to be discharged into the atmosphere from any stationary gas turbine, any gases which contain nitrogen oxides in excess of:

$$STD = 0.0150 \frac{(14.4)}{Y} + F$$

Where:

STD = allowable ISO corrected (if required as given in 40 CFR 60.335(b)(1)) NO_x emission concentration (percent by volume at 15 percent oxygen and on a dry basis).

Y = Manufacturer's rated heat rate at manufacturer's rated load (kilojoules per watt hour) or, actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the facility. The value of Y shall not exceed 14.4 kilojoules per watt hour.

F = NO_x emission allowance for fuel-bound nitrogen as defined in 40 CFR 60.332(a)(4).

- ii. If the owner or operator elects to apply a NO_x emission allowance for fuel-bound nitrogen, F shall be defined according to the nitrogen content of the fuel during the most recent performance test required under 40 CFR 60.8 as follows:

Fuel-bound nitrogen (percent by weight)	F (NO _x percent by volume)
$N \leq 0.015$	0
$0.015 < N \leq 0.1$	0.04 (N)
$0.1 < N \leq 0.25$	$0.004 + 0.0067(N - 0.1)$
$N > 0.25$	0.005

Where:

N = The nitrogen content of the fuel (percent by weight) determined in accordance with 40 CFR 60.335(b) (9).

or:

Manufacturers may develop and submit to USEPA custom fuel-bound nitrogen allowances for each gas turbine model they manufacture. These fuel-bound nitrogen allowances shall be substantiated with data and must be approved for use by the Illinois EPA or USEPA before the initial performance test required by 40 CFR 60.8. Notices of approval of custom fuel-bound nitrogen allowances will be published in the Federal Register.

- d. Pursuant to 40 CFR 60.332(c), stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules per hour (10 million Btu/hour) but less than or equal to 107.2 gigajoules per hour (100 million Btu/hour) based on the lower heating value of the fuel fired, shall comply with the provisions of 40 CFR 60.332(a) (2).
- e. Pursuant to 40 CFR 60.333, on and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, every owner or operator subject to the provision of 40 CFR 60 Subpart GG shall comply with one or the other of the following conditions:
- i. No owner or operator subject to the provisions of 40 CFR 60 Subpart GG shall cause to be discharged into the atmosphere from any stationary gas turbine any gases which contain sulfur dioxide in excess of 0.015 percent by volume at 15 percent oxygen and on a dry basis.
- ii. No owner or operator subject to the provisions of 40 CFR 60 Subpart GG shall burn in any stationary gas turbine any fuel which contains total sulfur in excess of 0.8 percent by weight (8000 ppmw).
- 3a. The affected landfill is subject to the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Asbestos, 40 CFR 61 Subparts A and M. The Illinois EPA is administering the NESHAP in Illinois on behalf of the United States Environmental Protection Agency (USEPA) under a delegation agreement. Pursuant to 40 CFR 61.154(g), each owner or operator of an active waste disposal site that receives asbestos-

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containing waste material from a source covered under 40 CFR 61.149, 61.150, or 61.155 shall meet the requirements of 40 CFR 61.154:

Upon closure, comply with all the provisions of 40 CFR 61.151.

b. Pursuant to 40 CFR 61.151(a), comply with one of the following:

- i. Either discharge no visible emissions to the outside air from an inactive waste disposal site subject to 40 CFR 61.151(a)(1); or
- ii. Cover the asbestos-containing waste material with at least 15 centimeters (6 inches) of compacted nonasbestos-containing material, and grow and maintain a cover of vegetation on the area adequate to prevent exposure of the asbestos-containing waste material. In desert areas where vegetation would be difficult to maintain, at least 8 additional centimeters (3 inches) of well-graded, nonasbestos crushed rock may be placed on top of the final cover instead of vegetation and maintained to prevent emissions; or
- iii. Cover the asbestos-containing waste material with at least 60 centimeters (2 feet) of compacted nonasbestos-containing material, and maintain it to prevent exposure of the asbestos-containing waste; or
- iv. For inactive waste disposal sites for asbestos tailings, a resinous or petroleum-based dust suppression agent that effectively binds dust to control surface air emissions may be used instead of the methods in 40 CFR 61.151(a)(1), (2), and (3). Use the agent in the manner and frequency recommended for the particular asbestos tailings by the manufacturer of the dust suppression agent to achieve and maintain dust control. Obtain prior written approval of the Illinois EPA or USEPA to use other equally effective dust suppression agents. For purposes of this paragraph, any used, spent, or other waste oil is not considered a dust suppression agent.

c. Pursuant to 40 CFR 61.151(b), unless a natural barrier adequately deters access by the general public, install and maintain warning signs and fencing as follows, or comply with 40 CFR 61.151(a)(2) or (a)(3).

- i. Display warning signs at all entrances and at intervals of 100 m (328 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material was deposited. The warning signs must:
 - A. Be posted in such a manner and location that a person can easily read the legend; and
 - B. Conform to the requirements for 51 cm x 36 cm (20" x 14") upright format signs specified in 29 CFR 1910.145(d)(4) and this paragraph; and

- C. Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend	Notation
Asbestos Waste Disposal Site	2.5 cm (1 inch) Sans Serif, Gothic or Block
Do Not Create Dust	1.9 cm ($\frac{3}{4}$ inch) Sans Serif, Gothic or Block
Breathing Asbestos is Hazardous to Your Health	14 Point Gothic.

Spacing between any two lines must be at least equal to the height of the upper of the two lines.

- ii. Fence the perimeter of the site in a manner adequate to deter access by the general public.
 - iii. When requesting a determination on whether a natural barrier adequately deters public access, supply information enabling the Administrator to determine whether a fence or a natural barrier adequately deters access by the general public.
- d. Pursuant to 40 CFR 61.151(d), notify the Illinois EPA or USEPA in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site under 40 CFR 61.151, and follow the procedures specified in the notification. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the Illinois EPA or USEPA at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice:
- i. Scheduled starting and completion dates.
 - ii. Reason for disturbing the waste.
 - iii. Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the Illinois EPA or USEPA may require changes in the emission control procedures to be used.
 - iv. Location of any temporary storage site and the final disposal site.
- e. Pursuant to 40 CFR 61.151(e), within 60 days of a site becoming inactive and after the effective date of 40 CFR 61 Subpart M, record, in accordance with State law, a notation on the deed to the facility

property and on any other instrument that would normally be examined during a title search; this notation will in perpetuity notify any potential purchaser of the property that:

- i. The land has been used for the disposal of asbestos-containing waste material;
 - ii. The survey plot and record of the location and quantity of asbestos-containing waste disposed of within the disposal site required in 40 CFR 61.154(f) have been filed with the Illinois EPA or USEPA; and
 - iii. The site is subject to 40 CFR Part 61, subpart M.
- 4a. The affected landfill is subject to the Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction On or Before July 17, 2014 and have Not Been Modified or Reconstructed Since July 17, 2014, 40 CFR 62 Subparts A and OOO. Pursuant to 40 CFR 62.16711(a), the designated facility to which 40 CFR 62 Subpart OOO applies is each municipal solid waste landfill in each state, protectorate, and portion of Indian country that meets the conditions of 40 CFR 62.16711(a) (1) and (2), except for landfills exempted by 40 CFR 62.16711(b) and (c).
- i. The municipal solid waste landfill commenced construction, reconstruction, or modification on or before July 17, 2014.
 - ii. The municipal solid waste landfill has accepted waste at any time since November 8, 1987, or the landfill has additional capacity for future waste deposition.
- b. Pursuant to 40 CFR 62.16711(f), when a MSW landfill subject to 40 CFR 62 Subpart OOO is closed as defined in 40 CFR 62 Subpart OOO, the owner or operator is no longer subject to the requirement to maintain an operating permit under 40 CFR Part 70 or 71 for the landfill if the landfill is not otherwise subject to the requirements of either 40 CFR Part 70 or 71 and if either of the following conditions are met:
- i. The landfill was never subject to the requirement to install and operate a gas collection and control system under 40 CFR 62.16714; or
 - ii. The landfill meets the conditions for control system removal specified in 40 CFR 62.16714(f).
- c. Pursuant to 40 CFR 62.16714(f), the collection and control system may be capped, removed, or decommissioned if the following criteria are met:
- i. The landfill is a closed landfill (as defined in 40 CFR 62.16730). A closure report must be submitted to the Illinois EPA or USEPA as provided in 40 CFR 62.16724(f).
 - ii. The collection and control system has been in operation a minimum of 15 years or the landfill owner or operator demonstrates that

the gas collection and control system will be unable to operate for 15 years due to declining gas flow.

- iii. Following the procedures specified in 40 CFR 62.16718(b), the calculated NMOC emission rate at the landfill is less than 34 megagrams per year on three successive test dates. The test dates must be no less than 90 days apart, and no more than 180 days apart.
 - iv. For the closed landfill subcategory (as defined in 40 CFR 62.16730), following the procedures specified in 40 CFR 62.16718(b), the calculated NMOC emission rate at the landfill is less than 50 megagrams per year on three successive test dates. The test dates must be no less than 90 days apart, and no more than 180 days apart.
5. The Waste Storage Tanks (T-110 & T-112) and Aeration Tank (T-1400) are subject to the New Source Performance Standards (NSPS) for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984, 40 CFR 60 Subparts A and Kb. The Illinois EPA is administering the NSPS in Illinois on behalf of the United States Environmental Protection Agency (USEPA) under a delegation agreement. Pursuant to 40 CFR 60.110b(a), except as provided in 40 CFR 60.110b(b), the affected facility to which 40 CFR 60 Subpart Kb applies is each storage vessel with a capacity greater than or equal to 75 cubic meters (m³) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984.
- 6a. The Flare and Turbine #2 are subject to 35 Ill. Adm. Code Part 212 Subpart B (Visible Emissions). Pursuant to 35 Ill. Adm. Code 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to 35 Ill. Adm. Code 212.122.
- b. Pursuant to 35 Ill. Adm. Code 212.123(b), the emission of smoke or other particulate matter from any such emission unit may have an opacity greater than 30 percent but not greater than 60 percent for a period or periods aggregating 8 minutes in any 60 minute period provided that such opaque emissions permitted during any 60 minute period shall occur from only one such emission unit located within a 305 m (1000 ft) radius from the center point of any other such emission unit owned or operated by such person, and provided further that such opaque emissions permitted from each such emission unit shall be limited to 3 times in any 24 hour period.
- c. This source is subject to 35 Ill. Adm. Code Part 212 Subpart K (Fugitive Particulate Matter). Pursuant to 35 Ill. Adm. Code 212.301, no person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally toward the zenith a point beyond the property line of the source.

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- d. Pursuant to 35 Ill. Adm. Code 212.302(a), 35 Ill. Adm. Code 212.304 through 212.310 and 212.312 shall apply to all mining operations (SIC major groups 10 through 14), manufacturing operations (SIC major groups 20 through 39 except for those operations subject to 35 Ill. Adm. Code Part 212 Subpart S (Grain-Handling and Grain-Drying Operations) that are outside the areas defined in 35 Ill. Adm. Code 212.324(a)(1)), and electric generating operations (SIC group 491), which are located in the areas defined by the boundaries of the following townships, notwithstanding any political subdivisions contained therein, as the township boundaries were defined on October 1, 1979, in the following counties:

Cook: All townships

- e. The Flare and Turbine #2 are subject to 35 Ill. Adm. Code Part 212 Subpart L (Particulate Matter Emissions from Process Emission Units). Pursuant to 35 Ill. Adm. Code 212.324(b), except as otherwise provided in 35 Ill. Adm. Code 212.324, no person shall cause or allow the emission into the atmosphere, of PM-10 from any process emission unit to exceed 68.7 mg/scm (0.03 gr/scf) during any one hour period.
7. The Flare and Turbine #2 are subject to 35 Ill. Adm. Code Part 214 Subpart K (Process Emission Sources). Pursuant to 35 Ill. Adm. Code 214.301, except as further provided by 35 Ill. Adm. Code Part 214, no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission source to exceed 2000 ppm.
- 8a. i. The storage tanks for the Biological Liquid Treatment Center (BLTC) and Leachate/Condensate Pretreatment System are subject to 35 Ill. Adm. Code Part 218 Subpart B (Organic Emissions from Storage and Loading Operations). Pursuant to 35 Ill. Adm. Code 218.122(b), no person shall cause or allow the loading of any organic material into any stationary tank having a storage capacity of greater than 946 l (250 gal), unless such tank is equipped with a permanent submerged loading pipe or an equivalent device approved by the Illinois EPA according to the provisions of 35 Ill. Adm. Code Part 201, and further processed consistent with 35 Ill. Adm. Code 218.108, or unless such tank is a pressure tank as described in 35 Ill. Adm. Code 218.121(a) or is fitted with a recovery system as described in 35 Ill. Adm. Code 218.121(b)(2).
- ii. Pursuant to 35 Ill. Adm. Code 218.122(c), if no odor nuisance exists the limitations of 35 Ill. Adm. Code 219.122(a) and (b) shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).
- b. The BLTC and Leachate/Condensate Pretreatment System are subject to 35 Ill. Adm. Code Part 218 Subpart C (Organic Emissions from Miscellaneous Equipment). Pursuant to 35 Ill. Adm. Code 218.141(a), No person shall use any single or multiple compartment effluent water separator which receives effluent water containing 757 l/day (200 gal/day) or more of organic material from any equipment processing, refining, treating, storing or handling organic material unless such effluent water separator is equipped with air pollution control equipment capable of

reducing by 85 percent or more the uncontrolled organic material emitted to the atmosphere. Exception: If no odor nuisance exists the limitations of this subsection shall not apply if the vapor pressure of the organic material is below 17.24 kPa (2.5 psia) at 294.3°K (70°F).

- c. The BLTC and Leachate/Condensate Pretreatment System are subject to 35 Ill. Adm. Code Part 218 Subpart G (Use of Organic Material, flare, and Turbine #2). Pursuant to 35 Ill. Adm. Code 218.301, no person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission source, except as provided in 35 Ill. Adm. Code 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of 35 Ill. Adm. Code Part 218 Subpart G shall apply only to photochemically reactive material.
- 9a. The affected landfill is subject to 35 Ill. Adm. Code Part 220 Subpart B (MSW Landfills). Pursuant to 35 Ill. Adm. Code 220.200(a), except as provided in 35 Ill. Adm. Code 220.200(b), an owner or operator of an MSW landfill for which construction or modification commenced before May 30, 1991, is subject to the requirements of 35 Ill. Adm. Code Part 220 Subpart B if the landfill has accepted waste at any time since November 8, 1987 or has additional design capacity available for future waste deposition.
 - b. This permit is issued based on the affected landfill being classified as a "closed" or "inactive landfill." Pursuant to 35 Ill. Adm. Code 220.110, "inactive landfill" means a landfill in which solid waste is no longer being placed, and that is no longer permitted to accept waste under Section 21 of the Illinois Environmental Protection Act (Act) or has a federally enforceable permit condition prohibiting the acceptance of additional waste. If an inactive landfill is subsequently permitted to accept additional waste and additional solid waste is placed in the landfill, the landfill is no longer inactive.
- 10a. This permit is issued based on the storage tanks, excluding Tanks T-110, T-112, and T-1400, at the BLTC and Leachate/Condensate Pretreatment System not being subject to NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984, 40 CFR 60 Subpart Kb. Pursuant to 40 CFR 60.110b(b), 40 CFR 60 Subpart Kb does not apply to storage vessels with a capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa) or with a capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure less than 15.0 kPa.
 - b. This permit is issued based on storage tanks, T-110, T-112, and T-1400 not being subject to the requirements of 40 CFR 60.112b (Standard for Volatile Organic Compounds (VOC)) because the design capacity is greater than or equal to 75 m³ but they contain a VOL that, as stored, has a maximum true vapor pressure not more than 76.6 kPa (the true vapor pressure of a VOL stored is less than 27.6 kPa).
- 11a. This permit is issued based on the affected landfill not being subject to the NESHAP for Municipal Solid Waste Landfills, 40 CFR 63 Subpart

AAAA because the landfill is not a major source as defined in 40 CFR 63.2, is not collocated with a major source, and does not have estimated uncontrolled emissions equal to or greater than 50 megagrams per year (Mg/yr) NMOC as calculated according to 40 CFR 60.754(a) of the MSW landfills New Source Performance Standards in 40 CFR Part 60, Subpart WWW, the Federal plan, or an EPA approved and effective State or tribal plan that applies to your landfill.

- b. This permit is issued based on Turbine #2 not being subject to the NESHAP for Stationary Combustion Turbines, 40 CFR 63 Subpart YYYY because the affected turbine is not located at a source that is a major source of HAP emissions. Pursuant to 40 CFR 63.6085, you are subject to 40 CFR 63 Subpart YYYY if you own or operate a stationary combustion turbine located at a major source of HAP emissions.
 - c. The BLTC operations are not subject to the 40 CFR Part 63 Subpart DD, NESHAP from Off-Site Waste and Recovery Operations because the source is not a major source of HAP emissions, as defined in 40 CFR 63.2.
- 12a. Pursuant to 35 Ill. Adm. Code 212.314, 35 Ill. Adm. Code 212.301 shall not apply and spraying pursuant to 35 Ill. Adm. Code 212.304 through 212.310 and 35 Ill. Adm. Code 212.312 shall not be required when the wind speed is greater than 40.2 km/hr (25 mph). Determination of wind speed for the purposes of 35 Ill. Adm. Code 212.314 shall be by a one-hour average or hourly recorded value at the nearest official station of the U.S. Weather Bureau or by wind speed instruments operated on the site. In cases where the duration of operations subject to 35 Ill. Adm. Code Part 212 Subpart K is less than one hour, wind speed may be averaged over the duration of the operations on the basis of on-site wind speed instrument measurements.
- b. Pursuant to 35 Ill. Adm. Code 212.324(d), the mass emission limits contained in 35 Ill. Adm. Code 212.324(b) and (c) shall not apply to those emission units with no visible emissions other than fugitive particulate matter; however, if a stack test is performed, 35 Ill. Adm. Code 212.324(d) is not a defense finding of a violation of the mass emission limits contained in 35 Ill. Adm. Code 212.324(b) and (c).
13. This permit is issued based on Turbine #2 not being subject to 35 Ill. Adm. Code Part 217 Subpart Q (Stationary Reciprocating Internal Combustion Engines and Turbines) because the source does not emit or have the potential to emit NO_x in an amount equal to or greater than 100 ton per year.
- 14a. This permit is issued based on the storage tanks for the BLTC and Leachate/Condensate Treatment System at this source not being subject to 35 Ill. Adm. Code 218.120 (Control Requirements for Storage Containers of VOL). Pursuant to 35 Ill. Adm. Code 218.119, the limitations of 35 Ill. Adm. Code 218.120 shall apply to all storage containers of volatile organic liquid (VOL) with a maximum true vapor pressure of 0.5 psia or greater in any stationary tank, reservoir, or other container of 151 cubic meters (40,000 gal) capacity or greater, except to vessels as provided below:

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- i. Vessels with a capacity greater than or equal to 40,000 gallons storing a liquid with a maximum true pressure of less than 0.5 psia.
 - ii. Vessels with storage capacity less than 40,000 gallons must comply with 35 Ill. Adm. Code 218.129(f).
- b. Pursuant to 35 Ill. Adm. Code 218.122(c), if no odor nuisance exists the limitations of 35 Ill. Adm. Code 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).
- 15. This permit is issued based on the affected landfill no longer being subject to 35 Ill. Adm. Code 220.210 (Compliance Requirements and Schedule) because the affected landfill is a closed and/or inactive landfill, pursuant to 35 Ill. Adm. Code Subtitle G and the definition in 35 Ill. Adm. Code 220.110, is no longer permitted to accept waste under Section 21 of the Act and it shall not have additional design capacity available for future waste deposition.
- 16. For Turbine #2, Pursuant to 40 CFR 60.11(d), at all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Illinois EPA or USEPA which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.
- 17a. Pursuant to 35 Ill. Adm. Code 212.306, all normal traffic pattern access areas surrounding storage piles specified in 35 Ill. Adm. Code 212.304 and all normal traffic pattern roads and parking facilities which are located on mining or manufacturing property shall be paved or treated with water, oils, or chemical dust suppressants. All paved areas shall be cleaned on a regular basis. All areas treated with water, oils or chemical dust suppressants shall have the treatment applied on a regular basis, as needed, in accordance with the operating program required by 35 Ill. Adm. Code 212.309, 212.310 and 212.312.
- b. Pursuant to 35 Ill. Adm. Code 212.309(a), the emission units described in 35 Ill. Adm. Code 212.304 through 212.308 and 35 Ill. Adm. Code 212.316 shall be operated under the provisions of an operating program, consistent with the requirements set forth in 35 Ill. Adm. Code 212.310 and 212.312, and prepared by the owner or operator and submitted to the Illinois EPA for its review. Such operating program shall be designed to significantly reduce fugitive particulate matter emissions.
- c. Pursuant to 35 Ill. Adm. Code 212.310, as a minimum the operating program shall include the following:
 - i. The name and address of the source;

- ii. The name and address of the owner or operator responsible for execution of the operating program;
 - iii. A map or diagram of the source showing approximate locations of storage piles, conveyor loading operations, normal traffic pattern access areas surrounding storage piles and all normal traffic patterns within the source;
 - iv. Location of unloading and transporting operations with pollution control equipment;
 - v. A detailed description of the best management practices utilized to achieve compliance with 35 Ill. Adm. Code Part 212 Subpart K, including an engineering specification of particulate collection equipment, application systems for water, oil, chemicals and dust suppressants utilized and equivalent methods utilized;
 - vi. Estimated frequency of application of dust suppressants by location of materials; and
 - vii. Such other information as may be necessary to facilitate the Illinois EPA's review of the operating program.
- d. The Fugitive Particulate Operating Program, as submitted by the Permittee pursuant to 35 Ill. Adm. Code 212.309 on June 14, 2023, is incorporated herein by reference. The source shall be operated under and shall comply with the provisions of this Fugitive Particulate Operating Program and any amendments to the Fugitive Particulate Operating Program submitted pursuant to Condition 17(b).
- e. Pursuant to 35 Ill. Adm. Code 212.312, the operating program shall be amended from time to time by the owner or operator so that the operating program is current. Such amendments shall be consistent with 35 Ill. Adm. Code Part 212 Subpart K and shall be submitted to the Illinois EPA within thirty (30) days of such amendment. Any future revision to the Fugitive Particulate Operating Program made by the Permittee during the permit term is automatically incorporated by reference provided the revision is not expressly disapproved, in writing, by the Illinois EPA for reason(s) of inconsistency with 35 Ill. Adm. Code Part 212 Subpart K. In the event that the Illinois EPA notifies the Permittee of a deficiency with any revision to the Fugitive Particulate Operating Program, the Permittee shall be required to revise and resubmit the Fugitive Particulate Operating Program within thirty (30) days of receipt of notification to address the deficiency.
- f. Pursuant to 35 Ill. Adm. Code 212.316(c), no person shall cause or allow fugitive particulate matter emissions from any roadway or parking area to exceed an opacity of 10 percent, except that the opacity shall not exceed 5 percent at quarries with a capacity to produce more than 1 million T/yr of aggregate.
- g. Pursuant to 35 Ill. Adm. Code 212.324(f), for any process emission unit subject to 35 Ill. Adm. Code 212.324(a), the owner or operator shall maintain and repair all air pollution control equipment in a manner

that assures that the emission limits and standards in 35 Ill. Adm. Code 212.324 shall be met at all times. 35 Ill. Adm. Code 212.324(f) shall not affect the applicability of 35 Ill. Adm. Code 201.149. Proper maintenance shall include the following minimum requirements:

- i. Visual inspections of air pollution control equipment;
 - ii. Maintenance of an adequate inventory of spare parts; and
 - iii. Expeditious repairs, unless the emission unit is shutdown.
- 18a. In the event that the operation of this source results in an odor nuisance, the Permittee shall take appropriate and necessary actions to minimize odors, including but not limited to, changes in raw material or installation of controls, in order to eliminate the odor nuisance.
- b. The Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) recommendations, perform periodic inspection and maintenance on the Open Flare and Turbine #2 associated with the affected landfill such that the Open Flare and Turbine #2 are kept in proper working condition and not cause a violation of the Illinois Environmental Protection Act or regulations promulgated therein.
- c. For the Open Flare, the Permittee shall comply with the following requirements in accordance with good air pollution control practices to minimize emissions:
- i. The flare shall be designed for and operated with no visible emissions as determined by USEPA Method 22, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.
 - ii. The flare shall be operated with a flame present at all times while LFG is being vented to it. For this purpose, Permittee may use a thermocouple or any other equivalent device to detect the presence of a flame.
 - iii. The Permittee shall monitor the flare to ensure that it is operated and maintained in conformance with its design.
- d. The Flare and Turbine #2 shall only be operated with landfill gas (LFG) as the fuel and propane or natural gas as pilot gas for the startup of the Open Flare. The use of any other fuel in the Open Flare or Turbine #2 may require that the Permittee first obtain a construction permit from the Illinois EPA and perform stack testing to verify compliance with all applicable requirements.
- 19a. Emissions from and operation of the affected landfill, including associated Flare and Turbine #2 shall not exceed the following limits:

<u>Pollutant</u>	<u>Emission Limits</u>	
	<u>Tons/month</u>	<u>Tons/Year</u>
Carbon Monoxide (CO)	7.42	74.2
Nitrogen Oxides (NO _x)	1.85	18.5

<u>Pollutant</u>	<u>Emission Limits</u>	
	<u>Tons/month</u>	<u>Tons/Year</u>
Particulate Matter (PM)	0.47	4.73
Sulfur Dioxide (SO ₂)	2.57	25.7
Volatile Organic Matter (VOM)	0.12	1.17

These limits are based on the maximum heat input to the affected flare (45.7 mmBtu/hr) or to the Turbine #2 (41 mmBtu/hr), continuous operation (8,760 hours/year) and worst-case emissions determined using the appropriate emission factors indicated below:

i. For Turbine #2:

<u>Pollutant</u>	<u>Emissions (lbs/hr)</u>
CO	3.94
NO _x	3.90
PM	1.00
SO ₂	5.22
VOM	0.24

The emission factors for CO and NO_x based on stack testing conducted in 1989, an emission factor for PM based on the standard emission factor for gas turbine controlling LFG from the MSW Landfill (Table 2.4-5, AP 42, Fifth Edition, Volume I, November 1998) and the LFG comprised of 50.0% average methane concentration, an emission factor for SO₂ based on a sulfur concentration of 350 ppm in LFG, and an emission factor for VOM based a site specific concentration of 595 ppm hexane and a destruction efficiency of 98% for the turbine.

ii. For the Flare:

<u>Pollutant</u>	<u>Emissions (lbs/hr)</u>
CO	16.90
NO _x	3.11
PM	0.86
SO ₂	5.86
VOM	0.27

The emission factors for CO and NO_x based on manufacturer's emission factors of 0.37 lbs/mmBtu for CO and 0.068 lbs/mmBtu for NO_x, PM emission factor based on the standard emission factor for flare controlling LFG from the MSW Landfill (Table 2.4-5, AP-42, Fifth Edition, Volume I, November 1998) and the LFG comprised of 50.0% average methane concentration, SO₂ emission factor based on a sulfur concentration of 350 ppm, and VOM emission factor based a site specific NMOC concentration of 595 ppm as hexane and a destruction efficiency of 98% for the flare.

- b. Operation of and emissions from the BLTC, including Leachate/Condensate Pretreatment System shall not exceed the following limits:

i. The amount of wastewater processed by the BLTC shall not exceed 80.60 million gallons/month and 403 million gallons/year.

ii. Emissions:

<u>Pollutant</u>	<u>Emissions</u>	
	<u>Tons/Month</u>	<u>Tons/Year</u>
VOM	1.50	14.5

iii. The above limitations were established in Permit 11110043, pursuant to 35 Ill. Adm. Code Part 203. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the Clean Air Act, specifically 35 Ill. Adm. Code Part 203.

- c. Compliance with annual limits of this permit shall be determined monthly from the sum of the data for the current month plus the preceding 11 months (running total of 12 months).

20. This permit is issued based on the Potential to Emit (PTE) for Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act from this source being less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs. As a result, this permit is issued based on the emissions of all HAPs from this source not triggering the requirements to obtain a CAAPP Permit from the Illinois EPA.
- 21a. For Turbine #2, pursuant to 40 CFR 60.8(a), except as specified in 40 CFR 60.8(a)(1), (a)(2), (a)(3), and (a)(4), at such other times as may be required by the Illinois EPA or USEPA under section 114 of the Clean Air Act, the owner or operator of such facility shall conduct performance (s) and furnish the Illinois EPA or USEPA a written report of the results of such performance test(s).
- b. For Turbine #2, pursuant to 40 CFR 60.8(b), performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart of 40 CFR Part 60 unless the Illinois EPA or USEPA:
- i. Specifies or approves, in specific cases, the use of a reference method with minor changes in methodology;
 - ii. Approves the use of an equivalent method;
 - iii. Approves the use of an alternative method the results of which the Agency has determined to be adequate for indicating whether a specific source is in compliance with the applicable standard;

- iv. Waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Illinois EPA's or USEPA's satisfaction that the affected facility is in compliance with the standard; or
 - v. Approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in this paragraph shall be construed to abrogate the Illinois EPA's or USEPA's authority to require testing under section 114 of the Clean Air Act.
- c. For Turbine #2, pursuant to 40 CFR 60.8(c), performance tests shall be conducted under such conditions as the Illinois EPA or USEPA shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Illinois EPA or USEPA such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purposes of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.
- d. For Turbine #2, pursuant to 40 CFR 60.8(d), the owner or operator of an affected facility shall provide the Illinois EPA or USEPA at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Illinois EPA or USEPA the opportunity to have an observer present. If after 30 days' notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance test, the owner or operator of an affected facility shall notify the Illinois EPA or USEPA as soon as possible of any delay in the original test date, either by providing at least 7 days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Illinois EPA or USEPA by mutual agreement.
- e. For Turbine #2, pursuant to 40 CFR 60.8(e), the owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:
- i. Sampling ports adequate for test methods applicable to such facility. This includes:
 - A. Constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures; and
 - B. Providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.

- ii. Safe sampling platform(s).
 - iii. Safe access to sampling platform(s).
 - iv. Utilities for sampling and testing equipment.
- f. For Turbine #2, pursuant to 40 CFR 60.8(f), unless otherwise specified in the applicable subpart of 40 CFR Part 60, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard under 40 CFR Part 60. For the purposes of determining compliance with an applicable standard under 40 CFR Part 60, the arithmetic means of results of the three runs shall apply. In the event, that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Illinois EPA's or USEPA's approval, be determined using the arithmetic mean of the results of the two other runs.
- 22a. For Turbine #2, pursuant to 40 CFR 60.335(a), the owner or operator shall conduct the performance tests required in 40 CFR 60.8, using either:
- i. EPA Method 20,
 - ii. ASTM D6522-00, or
 - iii. EPA Method 7E and either EPA Method 3 or 3A in appendix A to 40 CFR Part 60, to determine NO_x and diluent concentration.
 - iv. Sampling traverse points are to be selected following Method 20 or Method 1, (non-particulate procedures) and sampled for equal time intervals. The sampling shall be performed with a traversing single-hole probe or, if feasible, with a stationary multi-hole probe that samples each of the points sequentially. Alternatively, a multi-hole probe designed and documented to sample equal volumes from each hole may be used to sample simultaneously at the required points.
 - v. Notwithstanding 40 CFR 60.335(a)(4), the owner or operator may test at few points than are specified in Method 1 or Method 20 if the following conditions are met:
 - A. You may perform a stratification test for NO_x and diluent pursuant to the procedures specified in section 6.5.6.1(a) through (e) appendix A to 40 CFR Part 75.
 - B. Once the stratification sampling is completed, the owner or operator may use the following alternative sample point selection criteria for the performance test:

- I. If each of the individual traverse point NO_x concentrations, normalized to 15 percent O_2 , is within ± 10 percent of the mean normalized concentration for all traverse points, then you may use 3 points (located either 16.7, 50.0, and 83.3 percent of the way across the stack or duct, or, for circular stacks or ducts greater than 2.4 meters (7.8 feet) in diameter, at 0.4, 1.2, and 2.0 meters from the wall). The 3 points shall be located along the measurement line that exhibited the highest average normalized NO_x concentration during the stratification test; or
 - II. If each of the individual traverse point NO_x concentrations, normalized to 15 percent O_2 , is within ± 5 percent of the mean normalized concentration for all traverse points, then you may sample at a single point, located at least 1 meter from the stack wall or at the stack centroid.
- vi. Other acceptable alternative reference methods and procedures are given in 40 CFR 60.335(c).
- b. For Turbine #2, pursuant to 40 CFR 60.335(b), the owner or operator shall determine compliance with the applicable nitrogen oxides emission limitation in 40 CFR 60.332 and shall meet the performance test requirements of 40 CFR 60.8 as follows:
- i. For each run of the performance test, the mean nitrogen oxides emission concentration (NO_x) corrected to 15 percent O_2 shall be corrected to ISO standard conditions using the following equation. Notwithstanding this requirement, use of the ISO correction equation is optional for: Lean premix stationary combustion turbines; units used in association with heat recovery steam generators (HRSG) equipped with duct burners; and units equipped with add-on emission control devices:

$$\text{NO}_x = (\text{NO}_x) (P_r/P_o)^{0.5} e^{19 (H_o - 0.00633)} (288^\circ\text{K}/T_a)^{1.53}$$

Where:

NO_x = emission concentration of NO_x at 15 percent O_2 and ISO standard ambient conditions, ppm by volume, dry basis,

NO_x = mean observed NO_x concentration, ppm by volume, dry basis, at 15 percent O_2 ,

P_r = reference combustor inlet absolute pressure at 101.3 kilopascals ambient pressure, mm Hg,

P_o = observed combustor inlet absolute pressure at test, mm Hg,

H_o = observed humidity of ambient air, g $\text{H}_2\text{O}/\text{g}$ air,

e = transcendental constant, 2.718, and

T_a = ambient temperature, $^\circ\text{K}$.

- ii. The 3-run performance test required by 40 CFR 60.8 must be performed within ± 5 percent at 30, 50, 75, and 90-to-100 percent of peak load or at four evenly spaced load points in the normal operating range of the gas turbine, including the minimum point in the operating range and 90-to-100 percent of peak load, or at the highest achievable load point if 90-to-100 percent of peak load cannot be physically achieved in practice. If the turbine combusts both oil and gas as primary or backup fuels, separate performance testing is required for each fuel. Notwithstanding these requirements, performance testing is not required for any emergency fuel (as defined in 40 CFR 60.331).
- iii. For a combined cycle turbine system with supplemental heat (duct burner), the owner or operator may elect to measure the turbine NO_x emissions after the duct burner rather than directly after the turbine. If the owner or operator elects to use this alternative sampling location, the applicable NO_x emission limit in 40 CFR 60.332 for the combustion turbine must still be met.
- iv. If water or steam injection is used to control NO_x with no additional post-combustion NO_x control and the owner or operator chooses to monitor the steam or water to fuel ratio in accordance with 40 CFR 60.334(a), then that monitoring system must be operated concurrently with each EPA Method 20, ASTM D6522-00, or EPA Method 7E run and shall be used to determine the fuel consumption and the steam or water to fuel ratio necessary to comply with the applicable 40 CFR 60.332 NO_x emission limit.
- v. If the owner operator elects to claim an emission allowance for fuel bound nitrogen as described in 40 CFR 60.332, then concurrently with each reference method run, a representative sample of the fuel used shall be collected and analyzed, following the applicable procedures described in 40 CFR 60.335(b)(9). These data shall be used to determine the maximum fuel nitrogen content for which the established water (or steam) to fuel ratio will be valid.
- vi. If the owner or operator elects to install a CEMS, the performance evaluation of the CEMS may either be conducted separately (as described in 40 CFR 60.335(b)(7)) or as part of the initial performance test of the affected unit.
- vii. If the owner or operator elects to install and certify a NO_x CEMS under 40 CFR 60.334(e), then the initial performance test required under 40 CFR 60.8 may be done in the following alternative manner:
 - A. Perform a minimum of 9 reference method runs, with a minimum time per run of 21 minutes, at a single load level, between 90 and 100 percent of peak (or the highest physically achievable) load.
 - B. Use the test data both to demonstrate compliance with the applicable NO_x emission limit under 40 CFR 60.332 and to

provide the required reference method data for the RATA of the CEMS described under 40 CFR 60.334(b).

- C. The requirement to test at three additional load levels is waived.
- viii. If the owner or operator elects under 40 CFR 60.334(f) to monitor combustion parameters or parameters indicative of proper operation of NO_x emission controls, the appropriate parameters shall be continuously monitored and recorded during each run of the initial performance test, to establish acceptable operating ranges, for purposes of the parameter monitoring plan for the affected unit, as specified in 40 CFR 60.334(g).
- ix. To determine the fuel bound nitrogen content of fuel being fired (if an emission allowance is claimed for fuel bound nitrogen), the owner or operator may use equipment and procedures meeting the requirements of: for gaseous fuels, shall use analytical methods and procedures that are accurate to within 5 percent of the instrument range and are approved by the Illinois EPA or USEPA.
- x. If the owner or operator is required under 40 CFR 60.334(i)(1) or (3) to periodically determine the sulfur content of the fuel combusted in the turbine, a minimum of three fuel samples shall be collected during the performance test. Analyze the samples for the total sulfur content of the fuel using for gaseous fuels, ASTM D1072-80, 90 (Reapproved 1994); D3246-81, 92, 96; D4468-85 (Reapproved 2000); or D6667-01. The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the prior approval of the Illinois EPA or USEPA.
- xi. The fuel analyses required under 40 CFR 60.335(b)(9) and (b)(10) may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.
- 23a. Pursuant to 35 Ill. Adm. Code 201.282, every emission source or air pollution control equipment shall be subject to the following testing requirements, for purposes of determining the nature and quantities of specified air contaminant emissions and determining ground level and ambient air concentrations of such air contaminants:
- i. Testing by Owner or Operator. The Illinois EPA may require the owner or operator of the emission source or air pollution control equipment to conduct such tests in accordance with procedures adopted by the Illinois EPA, at such reasonable times as may be specified by the Illinois EPA and at the expense of the owner or operator of the emission source or air pollution control equipment. The Illinois EPA may adopt procedures detailing methods of testing and formats for reporting results of testing. Such procedures and revisions thereto, shall not become effective until filed with the Secretary of State, as required by the APA.

Act. All such tests shall be made by or under the direction of a person qualified by training and/or experience in the field of air pollution testing. The Illinois EPA shall have the right to observe all aspects of such tests.

- ii. Testing by the Illinois EPA. The Illinois EPA shall have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA, the owner or operator of the emission source or air pollution control equipment shall provide, without charge to the Illinois EPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including scaffolding, but excluding instruments and sensing devices, as may be necessary.
- b. Testing required by Condition 24 shall be performed by a qualified independent testing service.
- 24. Pursuant to 35 Ill. Adm. Code 212.110(c), upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 Ill. Adm. Code Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance with the applicable requirement. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA.
- 25. Upon written request from the Illinois EPA, the Permittee shall conduct sampling for the composition of LFG that is burned in the affected flare and Turbine #2 with the observations for opacity or visible emissions required in accordance with Condition 24. The samples shall be analyzed for sulfur and NMOC content (percent by volume), and net heat content (Btu/cubic foot) of the LFG.
- 26a. Pursuant to 40 CFR 60.334(c), for any turbine that commenced construction, reconstruction, or modification after October 3, 1977, but before July 8, 2004, and which does not use steam or water injection to control NO_x emissions, the owner or operator may, but is not required to, for purposes of determining excess emissions, use a CEMS that meets the requirements of 40 CFR 60.334(b). Also, if the owner or operator has previously submitted and received EPA, State, or local permitting authority approval of a procedure for monitoring compliance with the applicable NO_x emission limit under 40 CFR 60.332, that is approved procedure may continue to be used.
- b. Pursuant to 40 CFR 60.334(h), the owner or operator of any stationary gas turbine subject to the provisions of 40 CFR 60 Subpart GG:
 - i. Shall monitor the total sulfur content of the fuel being fired in the turbine, except as provided in 40 CFR 60.334(h)(3). The sulfur content of the fuel must be determined using total sulfur methods described in 40 CFR 60.335(b)(10). Alternatively, if the total sulfur content of the gaseous fuel during the most recent performance test was less than 0.4 weight percent (4000 ppmw), ASTM D4084-82, 94, D5504-01, D6228-98, or Gas Processors

Association Standard 2377-86 (all of which are incorporated by reference-see 40 CFR 60.17), which measure the major sulfur compounds may be used.

- ii. Shall monitor the nitrogen content of the fuel combusted in the turbine, if the owner or operator claims an allowance for fuel bound nitrogen (i.e., if an F-value greater than zero is being or will be used by the owner or operator to calculate STD in 40 CFR 60.332). The nitrogen content of the fuel shall be determined using methods described in 40 CFR 60.335(b) (9) or an approved alternative.
- iii. Notwithstanding the provisions of 40 CFR 60.334(h) (1), the owner or operator may elect not to monitor the total sulfur content of the gaseous fuel combusted in the turbine, if the gaseous fuel is demonstrated to meet the definition of natural gas in 40 CFR 60.331(u), regardless of whether an existing custom schedule approved by the Illinois EPA or USEPA for 40 CFR 60 Subpart GG requires such monitoring. The owner or operator shall use one of the following sources of information to make the required demonstration:
 - A. The gas quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less; or
 - B. Representative fuel sampling data which show that the sulfur content of the gaseous fuel does not exceed 20 grains/100 scf. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of appendix D to 40 CFR Part 75 is required.
- c. Pursuant to 40 CFR 60.334(i), the frequency of determining the sulfur and nitrogen content of the fuel shall be as follows:
 - i. Gaseous fuel. Any applicable nitrogen content value of the gaseous fuel shall be determined and recorded once per unit operating day. This may be done using gas chromatography (GC) because this method is reproducible and representative. For owners and operators that elect not to demonstrate sulfur content using options in 40 CFR 60.334(h) (3), and for which the fuel is supplied without intermediate bulk storage, the sulfur content value of the gaseous fuel shall be determined and recorded once per unit operating day.
 - ii. Custom schedules. Notwithstanding the requirements of 40 CFR 60.334(i) (2), operators or fuel vendors may develop custom schedules for determination of the total sulfur content of gaseous fuels, based on the design and operation of the affected facility and the characteristics of the fuel supply. Except as provided in 40 CFR 60.334(i) (3) (i) and (i) (3) (ii), custom schedules shall be substantiated with data and shall be approved

by the Illinois EPA or USEPA before they can be used to comply with the standard in 40 CFR 60.333.

- 27a. The Permittee shall install, calibrate, maintain, and operate following equipment at the flare in accordance with manufacturer's specifications:
- i. A heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame.
 - ii. A landfill gas flow measuring device that shall record the flow to the flare at least on daily basis.
28. Pursuant to 40 CFR 63.10(b)(3), if an owner or operator determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants regulated by any standard established pursuant to section 112(d) or (f) of the Clean Air Act, and that stationary source is in the source category regulated by the relevant standard, but that source is not subject to the relevant standard (or other requirement established under 40 CFR Part 63) because of limitations on the source's potential to emit or an exclusion, the owner or operator must keep a record of the applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the owner or operator believes the source is unaffected (e.g., because the source is an area source). The analysis (or other information) must be sufficiently detailed to allow the USEPA and/or Illinois EPA to make a finding about the source's applicability status with regards to the relevant standard or any other requirements. If relevant, the analysis must be performed in accordance with the applicable requirements established in relevant subparts of 40 CFR Part 63 for purposes of specific category of stationary sources. If relevant, the analysis should be performed in accordance with USEPA guidance materials published to assist sources in making applicability determinations under Section 112 of the Clean Air Act, if any. The requirements to determine applicability of a standard under 40 CFR 63.1(b)(3) and to record the results of that determination under 40 CFR 63.10(b)(3) shall not by themselves create an obligation for the owner or operator to obtain a Title V permit.
- 29a. For Turbine #2, pursuant to 40 CFR 60.7(b), any owner or operator subject to the provisions of 40 CFR Part 60 shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.
- b. For Turbine #2, pursuant to 40 CFR 60.7(f), any owner or operator subject to the provisions of 40 CFR Part 60 shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring

system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by 40 CFR Part 60 recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records, except as follows:

The Illinois EPA or USEPA, upon notification to the source, may require the owner or operator to maintain all measurements as required by 40 CFR 60.7(f), if the Illinois EPA or USEPA determines these records are required to more accurately assess the compliance status of the affected source.

- 30a. Pursuant to 40 CFR 60.116b(a), the owner or operator shall keep copies of all records required by 40 CFR 60.116b, except for the record required by 40 CFR 60.116b(b), for at least 2 years. The record required by 40 CFR 60.116b(b) of this section will be kept for the life of the source.
- b. Pursuant to 40 CFR 60.116b(b), the owner or operator of each storage vessel as specified in 40 CFR 60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.
- c. Pursuant to 40 CFR 60.116b(c), except as provided in 40 CFR 60.116b(f) and (g), the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.
- 31a. Pursuant to 35 Ill. Adm. Code 212.110(e), the owner or operator of an emission unit subject to 35 Ill. Adm. Code Part 212 shall retain records of all tests which are performed. These records shall be retained for at least three (3) years after the date a test is performed.
- b.
 - i. Pursuant to 35 Ill. Adm. Code 212.316(g)(1), the owner or operator of any fugitive particulate matter emission unit subject to 35 Ill. Adm. Code 212.316 shall keep written records of the application of control measures as may be needed for compliance with the opacity limitations of 35 Ill. Adm. Code 212.316 and shall submit to the Illinois EPA an annual report containing a summary of such information.
 - ii. Pursuant to 35 Ill. Adm. Code 212.316(g)(2), the records required under 35 Ill. Adm. Code 212.316(g) shall include at least the following:
 - A. The name and address of the source;

- B. The name and address of the owner and/or operator of the source;
 - C. A map or diagram showing the location of all emission units controlled, including the location, identification, length, and width of roadways;
 - D. For each application of water or chemical solution to roadways by truck: the name and location of the roadway controlled, application rate of each truck, frequency of each application, width of each application, identification of each truck used, total quantity of water or chemical used for each application and, for each application of chemical solution, the concentration and identity of the chemical;
 - E. For application of physical or chemical control agents: the name of the agent, application rate and frequency, and total quantity of agent, and, if diluted, percent of concentration, used each day; and
 - F. A log recording incident when control measures were not used and a statement of explanation.
- iii. Pursuant to 35 Ill. Adm. Code 212.316(g) (3), copies of all records required by 35 Ill. Adm. Code 212.316 shall be submitted to the Illinois EPA within ten (10) working days after a written request by the Illinois EPA and shall be transmitted to the Illinois EPA by a company-designated person with authority to release such records.
 - iv. Pursuant to 35 Ill. Adm. Code 212.316(g) (4), the records required under 35 Ill. Adm. Code 212.316 shall be kept and maintained for at least three (3) years and shall be available for inspection and copying by Illinois EPA representatives during working hours.
- c. i. Pursuant to 35 Ill. Adm. Code 212.324(g) (1), written records of inventory and documentation of inspections, maintenance, and repairs of all air pollution control equipment shall be kept in accordance with 35 Ill. Adm. Code 212.324(f).
 - ii. Pursuant to 35 Ill. Adm. Code 212.324(g) (2), the owner or operator shall document any period during which any process emission unit was in operation when the air pollution control equipment was not in operation or was malfunctioning so as to cause an emissions level in excess of the emissions limitation. These records shall include documentation of causes for pollution control equipment not operating or such malfunction and shall state what corrective actions were taken and what repairs were made.
 - iii. Pursuant to 35 Ill. Adm. Code 212.324(g) (3), a written record of the inventory of all spare parts not readily available from local suppliers shall be kept and updated.

- iv. Pursuant to 35 Ill. Adm. Code 212.324(g)(4), copies of all records required by 35 Ill. Adm. Code 212.324 shall be submitted to the Agency within ten (10) working days after a written request by the Agency.
 - v. Pursuant to 35 Ill. Adm. Code 212.324(g)(5), the records required under 35 Ill. Adm. Code 212.324 shall be kept and maintained for at least three (3) years and shall be available for inspection and copying by Illinois EPA representatives during working hours.
- 32a. Pursuant to 35 Ill. Adm. Code 218.129(f), the owner or operator of each storage vessel specified in 35 Ill. Adm. Code 218.119 shall maintain readily accessible records of the dimension of the storage vessel and an analysis of the capacity of the storage vessel. Each storage vessel with a design capacity less than 40,000 gallons is subject to no provisions of 35 Ill. Adm. Code Part 218 other than those required by maintaining readily accessible records of the dimensions of the storage vessel and analysis of the capacity of the storage vessel.
- b. Pursuant to 35 Ill. Adm. Code 218.129(g), except as provided in 35 Ill. Adm. Code 218.128(c) and (d), the owner or operator of each storage vessel subject to the requirements in 35 Ill. Adm. Code 218.120 with a design capacity greater than or equal to 40,000 gallons storing a liquid with a maximum true vapor pressure greater than or equal to 0.5 psia but less than 0.75 psia shall maintain a record of the VOL storage, the period of storage, and the maximum true vapor pressure of the VOL during the respective storage period.
- 33a. The Permittee shall maintain records of the following items, so as to demonstrate compliance with the conditions of this permit:
- i. Records addressing use of good operating practices for the Flare, Turbine #2, and the LFG treatment system:
 - A. Records for periodic inspection of the affected flare, Turbine #2, and the LFG treatment system with date, individual performing the inspection, and nature of inspection; and
 - B. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.
 - ii. The Permittee shall keep a copy of the Fugitive Particulate Operating Program, any amendments or revisions to the Fugitive Particulate Operating Program, and the Permittee shall also keep a record of activities completed according to the Fugitive Particulate Operating Program.
 - iii. A file containing the design specifications for the Open Flare and Turbine #2, including capacity, (scfm of LFG or heat input mmBtu/hr) and a demonstration that the flare complies with applicable operating requirements of Condition 18(c).
 - iv. An operating log which shall include the following:

- A. The sulfur content, methane content, and net heating heat content (Btu/scf) value of the LFG burned in the affected flare and Turbine #2, which shall be determined and recorded at least once per calendar year. For this purpose, non-laboratory methods are acceptable;
 - B. Amount of LFG burned in the Flare (scf/month and scf/yr);
 - C. Amount of LFG burned in Turbine #2 (scf/month and scf/yr);
 - D. Identification of any period when the Flare or Turbine #2 were not in service with a detailed explanation of the cause and an explanation of actions taken to prevent or reduce the likelihood of future occurrences.
- v. Emission factors used for calculating the emissions and the maximum hourly emissions from the Flare and Turbine #2, with supporting documentation (lb/scf);
 - vi. Amount of wastewater treated through BLTC and Leachate/Condensate Pretreatment System (gallons/month and gallons/year)
 - vii. Monthly and annual emissions of CO, NO_x, PM, SO₂, and VOM from the source, with supporting calculations (tons/month and tons/year).
- b. All records and logs required by Condition 33(a) of this permit shall be retained at a readily accessible location at the source for at least three (3) years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer storage device) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.
- 34a. Pursuant to 40 CFR 60.7(a)(4), any owner or operator subject to the provisions of 40 CFR Part 60 shall furnish the Illinois EPA or USEPA written notification or, if acceptable to both the Illinois EPA and USEPA and the owner or operator of a source, electronic notification, as follows:

A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in 40 CFR 60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Illinois EPA or USEPA may request additional relevant information subsequent to this notice.

- 35a. Pursuant to 35 Ill. Adm. Code 212.110(d), a person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from 35 Ill. Adm. Code 212.110 that will be used.
- b. Pursuant to 35 Ill. Adm. Code 212.316(g)(5), a quarterly report shall be submitted to the Illinois EPA stating the following: the dates any necessary control measures were not implemented, a listing of those control measures, the reasons that the control measures were not implemented, and any corrective actions taken. This information includes, but is not limited to, those dates when controls were not applied based on a belief that application of such control measures would have been unreasonable given prevailing atmospheric conditions, which shall constitute a defense to the requirements of 35 Ill. Adm. Code 212.316. This report shall be submitted to the Illinois EPA thirty (30) calendar days from the end of a quarter. Quarters end March 31, June 30, September 30, and December 31.
- c. Pursuant to 35 Ill. Adm. Code 212.324(g)(6), upon written request by the Illinois EPA, a report shall be submitted to the Illinois EPA for any period specified in the request stating the following: the dates during which any process emission unit was in operation when the air pollution control equipment was not in operation or was not operating properly, documentation of causes for pollution control equipment not operating or not operating properly, and a statement of what corrective actions were taken and what repairs were made.
36. Pursuant to 40 CFR 60.116b(d), except as provided in 40 CFR 60.116b(g), the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 5.2 kPa or with a design capacity greater than or equal to 75 m³ but less than 151 m³ storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the Illinois EPA or USEPA within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range.
37. Pursuant to 35 Ill. Adm. Code 218.128(a), except as provided in 35 Ill. Adm. Code 218.128(d), the owner or operator of each storage vessel with a design capacity greater than or equal to 40,000 gallons storing a liquid with a maximum true vapor pressure that is normally less than 0.75 psia shall notify the Illinois EPA within 30 days when the maximum true vapor pressure of the liquid exceeds 0.75 psia.
- 38a. Pursuant to Construction Permit 15020033, the Permittee is authorized for the following:
- i. Installation of manufacturer supplied replacement components and assemblies for the affected turbine that takes place either as part of scheduled maintenance of the turbine or in the event of malfunction or unanticipated outage and subsequent repairs. This

authorization addresses activities such as the following for which a construction permit is not required:

1. Routine preventive maintenance;
 2. Minor replacement of turbine components or assemblies; and
 3. Activities that do not involve, either directly or indirectly, emission-related components or assemblies of the turbine.
- ii. Activities that can be accommodated by the original installation of affected turbine and in conjunction with an ongoing program of maintenance, repair, and replacement so as to not constitute a modification of the turbines with respect to the NSPS. The replacement component or assembly must be in good operating condition and come from either a manufacturer or authorized dealer/service provider. This authorization also does not extend to replacement of turbine components or assemblies to such an extent that it would constitute reconstruction with respect to the NSPS (40 CFR 60 Subpart A and GG (40 CFR 60.14, 60.15, and 60.330 et. seq.)) or the NESHAP (40 CFR 63 Subpart A and YYYY (40 CFR 63.2 and 63.6080 et. seq)).
- iii. The authorization provided by Condition 38(a)(i) and (ii) for the Turbine #2 will terminate when the turbine is permanently removed from service or 30 days after notification from the Illinois EPA that this authorization is being terminated, whichever occurs first
- b. Pursuant to Construction Permit 15020033, the Permittee shall conduct timely performance testing for NO_x emissions from the turbine following replacement of the turbine or turbine components authorized under Condition 29(a), as required pursuant to the NSPS, 40 CFR 60 Subpart A and GG or if requested by the Illinois EPA.
- c. Pursuant to Construction Permit 15020033, the Permittee shall maintain the following records at the source for the replacement activities authorized by Condition 38(a):
- i. A file containing the paperwork for original and replacement turbine components or assemblies, including documentation for turbine model numbers and serial numbers and copies of the specifications for replacements.
 - ii. Details of activities performed pursuant to this permit including, date that the turbine is removed from service and the date the turbine is returned to service.
- 39a. Pursuant to Construction Permit 15020033, the Permittee shall notify the Illinois EPA prior to carrying out activities authorized under Condition 38(a). This notification shall be submitted at least 15 days in advance or as soon as it is practicable to do so, e.g., in the event of a turbine failure. Note that this time frame supersedes Condition 7 of Construction Permit 15020033. This notification shall include:

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- i. A description of the activities that are to be performed and the expected schedule for the activities.
 - ii. A confirmation that the activities fall within the authorization provided by this permit, the replacement is or will be in good operating conditions, and the outage of the turbine will not prevent or interfere with compliance with applicable requirements for control of emissions, with supporting information.
 - iii. Confirmation that the proposed activities do not involve onsite reconstruction of the turbine, with explanation and supporting documentation.
- 40a. If there is an exceedance of or deviation from the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within thirty (30) days after the exceedance/deviation. The report shall identify the duration and the emissions impact of the exceedance or deviation, a copy of the relevant records and information to resolve the exceedance or deviation, and a description of the efforts to reduce emissions from, and the duration of exceedance or deviation, and to prevent future occurrences of any such exceedance or deviation
- b. One (1) copy of required reports and notifications shall be sent to:
- i. Via mail or overnight delivery:

Illinois Environmental Protection Agency
Bureau of Air
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276
 - ii. In addition to the paper copy of the test notifications, written test plan and final test report, an electronic copy of the test notifications, written test plan and final test report shall be sent to:

epa.boa.smu@illinois.gov
- 41a. Persons with a lifetime operating permit must obtain a revised permit for any of the following changes at the source:
- i. An increase in emissions above the amount the emission unit or the source is permitted to emit; or
 - ii. A modification; or
 - iii. A change in operations that will result in the source's noncompliance with a condition in the existing permit; or
 - iv. A change in ownership, company name, or address, so that the application or existing permit is no longer accurate.

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It should be noted that the heaters/boilers with heat input capacity less than 10 mmBtu/hr, internal combustion engine with a rated power out of less than 1,118 kW (1,500 HP), diesel/gasoline storage tanks, inorganic material storage tanks, welders, storage and handling of drums or other transportable containers that are sealed, and waste handling activities at the transfer station located at this source are exempt from state permitting, pursuant to 35 Ill. Adm. Code 201.146(d), (i), (l), (n)(1), (y), (bbb) and (jjj), respectively.

If you have any questions on this permit, please call Kunj Patel at 217/785-1705.

William D. Marr

William D. Marr
Manager, Permit Section
Bureau of Air

WDM:KMP:tan



STATE OF ILLINOIS
 ENVIRONMENTAL PROTECTION AGENCY
 DIVISION OF AIR POLLUTION CONTROL
 P. O. BOX 19506
 SPRINGFIELD, ILLINOIS 62794-9506

STANDARD CONDITIONS
 FOR
 LIFETIME OPERATING PERMITS

July 1, 1998

The Illinois Environmental Protection Act [415 ILCS 5/39 (formerly Illinois Revised Statutes, Chapter 111-1/2, Section 1039)] grants the Illinois Environmental Protection Agency authority to impose conditions on permits which it issues.

1. The issuance of this permit does not release the Permittee from compliance with state and federal regulations which are part of the Illinois State Implementation Plan, as well as with other applicable statutes and regulations of the United States or the State of Illinois or with applicable local laws, ordinances and regulations.
2. The Illinois EPA has issued this permit based upon the information submitted by the Permittee in the permit application. Any misinformation, false statement or misrepresentation in the application shall be grounds for revocation under 35 Ill. Adm. Code 201.166.
3.
 - a. The Permittee shall not authorize, cause, direct or allow any modification, as defined in 35 Ill. Adm. Code 201.102, of equipment, operations or practices which are reflected in the permit application as submitted, until the appropriate permit is obtained from the Illinois EPA.
 - b. The Permittee shall obtain a new or revised permit under Section 39.5 of the Act, if the source no longer meets the applicability criteria of 35 Ill. Adm. Code 201.169 because of changes in emission units or control equipment.
 - c. The Permittee shall obtain a revised permit prior to any of the following changes to the source:
 - i. An increase in emissions above the amount the emission unit or the source is permitted to emit; or
 - ii. A modification; or
 - iii. A change in operation that will result in the source's noncompliance with a condition in the existing permit; or
 - iv. A change in ownership, company name, or address, so that the application is no longer accurate.
4.
 - a. This permit only covers emission units and control equipment while physically present at the indicated source location. Unless the permit specifically provides for equipment relocation, this permit is void for an item of equipment on the day it is removed from the permitted location or if all equipment is removed.
 - b. The Permittee shall notify the Illinois EPA in writing to withdraw the Permit if all operations at the source have been permanently discontinued.

5. The Permittee shall allow any duly authorized agent of the Illinois EPA, upon the presentation of credentials, at reasonable times:
 - a. To enter the Permittee's property where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit;
 - b. To have access to and to copy any records required to be kept under the terms and conditions of this permit;
 - c. To inspect, including during any hours of operation of equipment constructed or operated under this permit, such equipment and any equipment required to be kept, used, operated, calibrated and maintained under this permit;
 - d. To obtain and remove samples of any discharge or emission of pollutants; and
 - e. To enter and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring or recording any activity, discharge or emission authorized by this permit.
6. The issuance of this permit:
 - a. Shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are located;
 - b. Does not release the Permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the facilities;
 - c. Does not take into consideration or attest to the structural stability of any unit or part of the project; and
 - d. In no manner implies or suggests that the Illinois EPA (or its officers, agents, or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or source.
7. The Permittee shall maintain all equipment covered under this permit in such a manner that the performance of such equipment shall not cause a violation of the Environmental Protection Act or regulations promulgated thereunder.
8. The Permittee shall maintain a maintenance record on the premises for each item of air pollution control equipment. These records shall be made available to any agent of the Illinois EPA at any time during normal working hours and/or operating hours. At a minimum, this record shall show the dates of performance and nature of preventative maintenance activities.
9. No person shall cause or allow startup of any emission unit or continued operation during malfunction or breakdown of any emission unit or related air pollution control equipment if such startup or continued operation would cause a violation of an applicable emission standard or permit limitation if such operation is not allowed as a special condition of this Permit, as required by 35 Ill. Adm. Code 201.149.
10. The Permittee shall submit an Annual Emission Report as required by 35 Ill. Adm. Code 201.302 and 35 Ill. Adm. Code Part 254.
11. The Permittee shall pay the annual site fee for the source in accordance with Section 9.5 of the Act.

Application



Environmental Legacy Management Group
720 East Butterfield Road, Suite 400
Lombard, IL 60148

Via UPS
1Z28W70A0199335150

October 28, 2024

Mr. Joshua Rhoades, P.G.
Manager, Permit Section
Illinois Environmental Protection Agency
Bureau of Land, Permit Section - #33
1021 North Grand Avenue East
Springfield, IL 62702

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IEPA-BOL
PERMIT SECTION

RE: 0310390001 – Cook County
CID Recycling and Disposal Facility
ILD010284248
RCRA Log No. B-27R2
Class 1* Permit Modification Application
Updated Post-Closure Care Cost Estimates

Dear Mr. Rhoades,

Waste Management of Illinois, Inc., as the permitted owner and operator of the CID Recycling and Disposal Facility (CID RDF), in accordance with 35 IAC 703.281, submits this Class 1* Permit Modification application to update the facility's post-closure care cost estimate.

Applicable information required by Sections 703.181 through 703.185, 703.201 through 703.207, 703.221 through 703.225, and 703.230 can be found in the facility's approved permit application and the permit log. A completed 39(i) certification form and an LPC-PA23 form are provided in Attachment 1.

Revisions to the estimates provided in revised tables I-4, I-5 and I-6 included in Attachment 2 include:

- costs have been adjusted for inflation pursuant to permit condition VI.35.a;
- the duration of remaining post-closure care has been reduced by one year;
- the corrective action cost estimate has been updated to reflect the corrective action program approved in Log No. B-27R2-M-7, in accordance with permit condition IV.F.5.
- sampling and analytical costs have been revised to reflect cost increases due to changes in scope in 2024. Cost documentation is provided in Attachment 3;

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CID RDF

Class 1* Permit Modification Application

Updated Post-Closure Care Cost Estimates

Page 2

- air monitoring tasks for Area 3 have been revised due to the issuance of a Lifetime Operating Permit on July 25, 2024: annual sampling of the flare and visible emissions observations at the turbine are no longer required; and
- additional activities related to the Area 1 GMZ have been incorporated into the corrective action cost estimate for Area 1 and 2.

Also, WMIL also proposes an anniversary date of October 31st for the annual post-closure care cost estimate be included in permit condition VI.35.a. This is proposed for clarity since previous permits have not included a specific date for submittal of updated estimates.

In accordance with 35 IAC 703.281(a)(2), WMIL will provide a written notification of this permit modification to all recipients on the facility's mailing list within 90 days of approval by the Agency.

Should agency personnel have any questions regarding this report, or require any additional information, please contact me at (224) 523-1736 or schillso@wm.com.

Sincerely,
Waste Management of Illinois, Inc.



Steve Chillson, P.G.
District Manager
Environmental Legacy Management Group

Attachments

cc: Facility Operating Record
Facility Correspondence File

October 28, 2024

CID RDF

Class 1 Permit Modification Application*

Updated Post-Closure Care Cost Estimates

Attachment 1

Permit Forms



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): 0310390001

USEPA ID Number: ILD010284248

Site Name: CID Recycling and Disposal Facility

Physical Site Location (street, road, etc.): 138th Street and Interstate 94, P.O. Box 1309

City: Calumet City

Zip Code: 60409

County: Cook

Existing RCRA Permit (if applicable): B-27R2

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II. Owner/Operator Identification

Owner Information

Name: Waste Management of Illinois, Inc.

Mailing Address:

Environmental Legacy Management Group
720 East Butterfield Road, Suite 400
Lombard, IL 60148

Contact Name: Steven Chillson

Phone #: 224-523-1736

Email: schillso@wm.com

Operator Information

Name: Waste Management of Illinois, Inc.

Mailing Address:

Environmental Legacy Management Group
720 East Butterfield Road, Suite 400
Lombard, IL 60148

Contact Name: Steven Chillson

Phone #: 224-523-1736

Email: schillso@wm.com

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

Application providing updated post-closure care cost estimates in accordance with Condition VI.35.a.

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.

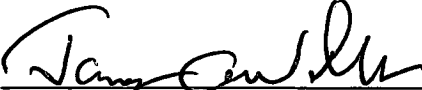
Owner

- ☒ 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): Waste Management of Illinois, Inc.

Owner Signature:  **JAMES A. WILSON**
Vice President

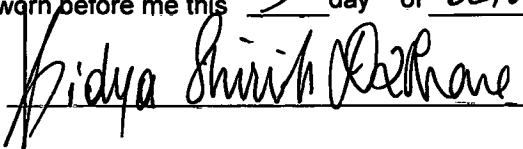
Date: 10/3/2024

Title: James A. Wilson, Vice President, Waste Management of Illinois, Inc.

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Operator

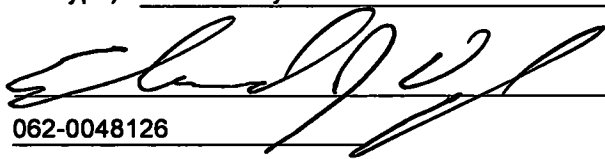
I certify under penalty of law that this document and all attachment were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons that manage 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): SameOperator Signature: JAMES A. WILSON
Vice PresidentDate: 10/03/2024Title: Same**Notary** (Required for both owner and operator signatures)Subscribed and Sworn before me this 3rd day of OCTOBER 20 24.Notary Signature: My commission expires on: 10/21/2027

Notary Seal

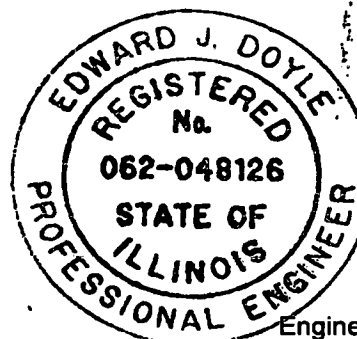
Engineer

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): Edward DoyleEngineer Signature: Illinois License No.: 062-0048126Expiration Date of License: 11/30/2025Engineer Phone No. 630-254-9388Email: edoyle@EILLLC.com

Engineer Address:

1323 Butterfield Rd., Suite 104
Downers Grove, IL 60515-5620



Engineer Seal

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PERMIT SECTION
Environmental Information

Logistics, LLC

IL Design Firm

Registration #

184004752-0002

Renewal Date: 4/30/2025

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))

Instructions for RCRA Permit Application Form LPC-PA23

The following instructions are designed to aid in the completion of the RCRA Permit Application Form LPCPA23. If you have additional questions regarding the form, or the informational requirements, please contact the Illinois EPA Bureau of Land (BOL) Permit Section at 217-524-3300.

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. If an application has already been submitted to the Agency, a completed RCRA Permit Application Form must accompany all additional information that is submitted to the agency for that application. An example of "additional information" would be a response to verbal or written comments from the Agency. 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.

I. Site Identification

Enter all of the required information in the space provided. If you do not have an Illinois or USEPA identification number, call the Illinois EPA BOL Waste Reduction and Compliance Section at 217-785-8604 to obtain these numbers prior to completing the form.

II. Owner/Operator Identification

The terms "owner" and "operator" are defined at 35 IAC 720.110 and 702.110. If the facility has the same owner and operator, you may type in "same" under operator information. Also, if the contact person for an application is different from the owner or operator (i.e. the consultant), please indicate this in the cover letter for the application.

III. Permit Application Identification

Indicate both the type of application and the kind of waste management involved. For instance, if the application involves more than one type of waste management, check all applicable options.

IV. Signatures

The signatory requirements for permit applicants are identified at 35 IAC 702.126 and 702.151. If the facility has the same owner and operator, you may type in "same" under operator information.

Notary Public: A notary public's signature and stamp are required for both the owner and operator signatures on the form.

Engineer Certification: A professional engineer that is licensed in the State of Illinois must certify all technical information provided in a permit application. 35 IAC 703.182 describes the types of information that must be certified by a professional engineer.



Illinois Environmental Protection Agency

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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 CID Recycling and Disposal Facility

IEPA BOL No.: 0310390001

Site Address 138th and Interstate 94

City: Calumet City

State: IL

Zip Code: 60409

Permit Numbers (if applicable): B-27R2

Owner

Owner Name: Waste Management of Illinois, Inc.

Street Address: 720 East Butterfield Road, Suite 400

City: Lombard

State: IL

Zip: 60148

Operator

Operator Name: Waste Management of Illinois, Inc.

Street Address: 138th and Interstate 94

City: Calumet City

State: IL

Zip: 60409

Is this 39(i) certification for the owner or the operator?

☐ Owner

☐ Operator

☒ Owner and operator are the same entity

II. Officers and Employees with Site Responsibility

Unless the owner and operator are the same entity, a separate 39(i) form must be submitted for both the owner and operator. Persons operating under the authority of the owner should be listed on the owner's 39(i) form and persons operating under authority of the operator should be listed on the operator's 39(i) form.

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

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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
Steven Chillson	District Manager, Environmental Legacy Management Group
Lawrence J. Buechel	Area Director

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.

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Authorization for Release of Information

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

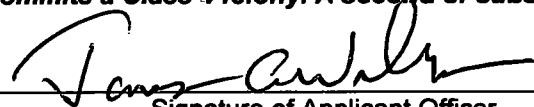
The undersigned authorizes any representative of the Illinois Environmental Protection Agency bearing this release to obtain any information from the Illinois State Police pertaining to the criminal records of the applicant and hereby directs the Illinois State Police to release such information upon 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

James A. Wilson

Printed Name

JAMES A. WILSON
Vice President

Vice President, Waste Management of Illinois, Inc.

Title

10/03/2024

Date

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October 28, 2024

CID RDF

Class 1 Permit Modification Application*

Updated Post-Closure Care Cost Estimates

Attachment 2

Updated Cost Estimate Tables I-4, I-5 and I-6

TABLE I-4
CID RDF POST-CLOSURE COST ESTIMATE

AREA 3 LANDFILL

NOTE: Post-closure activities for the Area 3 Landfill commenced on October 10, 2008 when it was certified closed. Costs are based on 14 years of post-closure remaining and 10 years of corrective action.

#	TASK	Units	Quantity	#/yr	# yrs	Unit Cost ¹	Extended Cost ²	Qual. ³
1	Mow and fertilize (if required) cover area (170 acres total)	acre	170	1	14	\$76	\$180,880	I
2	Dress and re-seed 3% of cover area (PC Year 17, 22 and 27)	acre	5	1	3	\$2,320	\$35,496	I
3	Landfill cap and surface water management system maintenance	LS	1	1	14	\$1,384	\$19,376	I
4	Semi-annual Inspection	each	1	2	14	\$416	\$11,648	I
5	Groundwater monitoring (Sampling & Analysis)							
6	- Routine Sampling (14 wells)	each	1	2	14	\$3,300	\$92,400	C
7	- Routine Analyses (14 wells)	each	1	2	14	\$3,891	\$108,948	C
8	- North Side GMZ Monitoring and Sampling (14 wells)	each	1	2	10	\$4,520	\$90,400	C
9	- South Side GMZ Monitoring and Sampling (16 wells)	each	1	2	10	\$3,375	\$67,500	C
10	- North Side GMZ Analyses (14 wells)	each	1	2	10	\$4,960	\$99,200	I
11	- South Side GMZ Analyses (16 wells)	each	1	2	10	\$3,916	\$78,320	I
12	5-Year GMZ Re-evaluation	each	1	1	2	\$10,360	\$20,720	I
13	Groundwater remediation system operation and maintenance	LS	1	1	10	\$13,382	\$133,820	I
14	Groundwater Well Survey (Biennial)	each	1	0.5	14	\$1,316	\$9,212	I
15	Groundwater Data Review, Reporting and Statistics	each	1	1	14	\$10,949	\$153,286	I
16	Security and fencing maintenance (10,200 lineal feet total)	feet	2% total	1	14	\$7.21	\$20,583	I
17	Leachate, condensate and extracted groundwater treatment and disposal (average of last 4 yrs)	gal	8,891,582	1	14	\$0.0700	\$8,713,750	A ⁴ , C
18	Leachate level monitoring and reporting	LS	1	1	14	\$6,009	\$84,126	I
19	Leachate Sampling & Analysis (35 IAC 724 Appendix I parameters)	LS	1	1	14	\$3,741	\$52,374	I
20	Leachate/Gas system maintenance	LS	1	1	14	\$34,607	\$484,498	I
21	Gas flare system maintenance	LS	1	1	14	\$11,076	\$155,064	I
22	Decommissioning of landfill gas system	LS	1	1	1	\$83,058	\$83,058	I
23	Landfill Gas monitoring - Gas Turbine: Quarterly sulfur sampling	LS	1	4	14	\$2,400	\$134,400	C
24	Air Monitoring - Subpart BB and CC Monitoring	each	1	1	14	\$6,550	\$91,700	C
25	Post-closure certification report	LS	1	1	1	\$13,843	\$13,843	I
26	Inspect benchmarks semi-annually and survey unit once every 10 years (annualized cost for survey in 2033)	LS	1	1	14	\$214	\$2,996	I
27	TOTAL						\$10,937,598	

Notes:

1. Unit costs are rounded to the number of decimal places shown.

2. Extended costs are rounded to the nearest dollar.

3. Qualifiers: C - Current cost; I - Costs were inflated to 2024 dollars by multiplying 2021 unit costs by 1.0413 and 1.07, the 2022 and 2023 inflations factors provided by IEPA.

4. A - Average (2020 = 10,675,389; 2021 = 6,812,333; 2022 = 10,002,909; 2023 = 8,075,698)

TABLE I-6
CID RDF - CORRECTIVE ACTION COST ESTIMATE

The approved correction action program for the Area 1 and Area 2 SWMU's consists of the following tasks. Costs are based on 10 years of corrective action.

#	TASK	Cost Per Year	# yrs	Extended Cost ¹	Qual. ²
1	Operation and maintenance of a landfill gas management system for each landfill (Area 1)				
2	Landfill gas monitoring system - monthly checks of the extraction wells	\$4,629	10	\$46,290	I
3	Landfill gas monitoring system - semi-annual bar hole probe monitoring and river observations	\$600	10	\$6,000	C
4	Operation and maintenance of a leachate management system for each landfill				
5	Leachate management system - monthly checks of the removal wells and underground storage tank systems.	\$32,262	10	\$322,620	I
6	Leachate/contaminated groundwater treatment and disposal (14,458,266 gallons/year)	\$1,012,079	10	\$10,120,790	A ³ ,C
7	Quarterly groundwater piezometer level measurements for leachate compliance determinations	\$500	10	\$5,000	C
8	Inspecting/maintaining the final cover of each landfill				
9	Landfill cover for Areas 1 and 2 – quarterly checks for settlement, erosion and vegetative stress	\$1,387	10	\$13,870	I
10	Landfill cover maintenance (erosion, stressed vegetative areas, mowing, fertilizing and reseeding)	\$15,701	10	\$157,010	I
11	Maintenance of signs, fencing, security systems (6,460 lineal feet total)	\$931	10	\$9,310	I
12	Maintenance of run-on, run-off and stormwater control structures	\$3,178	10	\$31,780	I
13	TOTAL OPERATION AND MAINTENANCE COST			\$10,712,670	
14	Corrective Measures as required by B-27R2-M-7 and B-27R-CA-7, issued July 29, 2024				
15	Groundwater remediation system operation and maintenance	\$6,083	10	\$60,830	I
16	Groundwater remediation system quarterly inspection	\$15,800	10	\$158,000	C
17	Extracted groundwater treatment (included in Line 6, Leachate/contaminated groundwater treatment and disposal)	\$0	10	\$0	C
18	Groundwater Management Zone permit applications	\$8,516	1	\$8,516	I
19	Phytoremediation system inspection and maintenance	\$6,708	10	\$67,080	I
20	Phytoremediation system quarterly Corrective Measures Reports	\$10,981	10	\$109,810	I
21	Leachate level and volume reporting	\$3,600	10	\$36,000	C
22	Area 1 GMZ Monitoring Well Sampling	\$5,400	10	\$54,000	C
23	Area 1 GMZ Monitoring Well Analyses	\$2,926	10	\$29,260	C
24	Area 1 GMZ Groundwater Monitoring Data Review and Reporting	\$8,100	10	\$81,000	C
25	TOTAL CORRECTIVE MEASURES COST			\$604,496	
26	TOTAL			\$11,317,166	

Notes:

1. Extended costs are rounded to the nearest dollar.
2. Qualifiers: C - Current cost; I - Costs were inflated to 2024 dollars by multiplying 2021 unit costs by 1.0413 and 1.07, the 2022 and 2023 inflations factors provided by IEPA.
3. A = Average (2020 = 15,584,838; 2021 = 10,420,768; 2022 = 15,708,795; 2023 = 16,118,664)

October 28, 2024

CID RDF

Class 1 Permit Modification Application*

Updated Post-Closure Care Cost Estimates

Attachment 3

Post-Closure Cost Documentation

Pages within this document were received with information redacted

The Agency does not possess original, unredacted, copies

Exhibit A

WM Company (Affiliate): Waste Management of Illinois, Inc. (not enter "Waste Management, Inc.")		Contractor or Consultant: [REDACTED]	
Date of Agreement: September 2, 2022	Date of this Exhibit A: August 9, 2024	Purchase Order No.:	
If the Services provided hereunder are subject to a Master Services Agreement (MSA), identify the MSA and its date:		May 4, 2011	
Site Name: CID Recycling and Disposal Facility	Project Name: 2025 Environmental Monitoring Services		
In accordance with the Agreement (dated as indicated above) between Contractor/Consultant and Company, this Exhibit describes the Services to be performed by the Contractor/Consultant in consideration for payment of the Agreement Price by the Company. (If this is a modification to an existing Exhibit A, this shall be indicated by using an A, B, or C suffix to the PO number above and listing any price increases or decreases in the table below.)			
WM Project Manager: Steve Chillson	Contractor/Consultant's Project Manager: [REDACTED]		
WM Billing Address: Linked Supplier, bill directly through Coupa	Address: [REDACTED]		

SCOPE OF WORK AND AGREEMENT PRICE
(Describe Scope of Work and Price as narrative and/or by task)

☒ If checked, a detailed Scope of Work is attached hereto and expressly incorporated herein. Enter date of Scope of Work: 08/09/2024

NARRATIVE DESCRIPTION OF SCOPE OF WORK

2025 Groundwater, leachate, surface water, and gas monitoring and sampling in accordance with site specific sampling plan.

Period of Performance: The Services and all necessary and required work relating thereto shall be completed by: December 31, 2025

Explanation of Changes to Scope of Work and/or Price: Update to include 2025 rates.

TASK	TYPE (Lump Sum, Not to Exceed, Estimate Only)	ORIGINAL PRICE	Increase or Decrease in Original Price			TOTAL
			A	B	C	
Task 1 - Area 1-3 Semi-Annual GW (2Q/4Q)	1,2	\$3,300.00				\$6,600.00
Task 2 - Area 3 North Side CA Monitoring/Sampling (2Q/4Q)	1,2	\$3,325.00				\$6,650.00
Task 3 - Area 3 South Side CA Monitoring/Sampling (2Q/4Q)	1,2	\$3,325.00				\$6,650.00
Task 4 - Area 3 North Side CA Monitoring (1Q/3Q)	1,2	\$1,195.00				\$2,390.00
Task 5 - Area 3 South Side CA Flow Readings/Levels (1Q/3Q)	1,2	\$50.00				\$100.00
Task 6 - Area 1 Annual Leachate (1Q)	1,2	\$200.00				\$200.00
Task 7 - Area 2 Annual Leachate (1Q)	1,2	\$200.00				\$200.00
Task 8 - Area 3 Annual Leachate (1Q)	1,2	\$200.00				\$200.00
Task 9 - Area 1-2 Quarterly Piezometer Levels	1,2	\$125.00				\$500.00
Task 10 - Area 1 Semi-Annual Barholes (2Q/4Q)	1,2	\$300.00				\$600.00
Task 11 - Area 4 Semi-Annual GW (2Q/4Q)	1,2	\$5,015.00				\$10,030.00
Task 12 - Area 4 Annual Leachate (1Q)	1,2	\$200.00				\$200.00
Task 13 - Area 1 Semi-Annual GW (2Q/4Q)	1,2	\$2,700.00				\$5,400.00
Task 14 - Area 1 Monthly NPDES Monitoring/Sampling/Analysis	1,2	\$800.00				\$6,400.00
Task 15 - Area 1 Quarterly NPDES Monitoring/Sampling/Analysis	1,2	\$1,375.00				\$5,500.00
Task 16 - Annual Subpart BB Monitoring (3Q)	1,2	\$550.00				\$550.00
Task 17 - Annual Subpart CC Monitoring/Sampling/Analysis (3Q)	1,2	\$6,000.00				\$6,000.00
Task 18 - Contingency Tasks		T&M				T&M Rates
Applicable sales tax ☐ included, or ☐ not included.	TOTALS:	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$58,170.00

Funding Approvals - Prior to any commitment being made on behalf of the Company, the proper authorization for the actual expenditures (both project funding and opening purchase orders for the entity being contracted) must occur via the standard AFE and PO approval system.

Signatory Authorization - This Exhibit A must be signed by an officer of the WM Company or a person with delegated authority to sign this Exhibit A. The WM employee signing this document should ensure that he/she has reviewed the Directions to Those Given Signatory Authority (available on WM Visor) and that the steps outlined in that document are being followed.

WM COMPANY

Authorized Signature _____ Date _____

Steve Chillson, District Manager, ELMG

Name & Title of Authorized Representative of Company (printed)

CONTRACTOR or CONSULTANT

Authorized Signature _____ Date 08/09/2024

Name & Title of Authorized Representative of Contractor/Consultant (printed)



Menu

>> MyEOL >> Sites & Projects >> Project

Site/Project: CID RDF (Area 1)

Site/Project Analyses Jobs Events Access Rights

Primary Lab: [REDACTED]

Phone: [REDACTED]

Lab PM: [REDACTED]

Report Project Issues

Site Configuration History

Select approval/version: Current Configuration ▾

Key Contacts

Site Mary Pearson EILManager: Phone: (630) 240-8606
Email: mpearson@eilllc.comGPP: Seth Ramaley Waste ManagementPhone: (404) 556-2145
Email: sramaley@wm.comSite Steve Chillson Waste ManagementManager: Phone: (224) 523-1736
Email: schillso@wm.com

Current Configuration Approval

Approval is currently disabled. To approve this site, please first review and approve all the underlying events. Then please return to this page to approve the site.

[Highlight unapproved events](#)

Events

Year: 2024 ▾

Type	Description	Event ID	Frequency	Cost Per Event	Events	Budget	Invoiced	Approved
200	<u>Area 1 Delton Sand Wells (20,40)</u>	5848	Semi-Annual	\$1,463.00	2	\$2,926.00	\$0.00	9/19/2024 1:37pm CDT by: Erin Yargicoglu
Subtotal:						\$2,926.00	\$0.00	
500	<u>Annual Leachate Monitoring (10)</u>	5283	Annual	\$643.00	1	\$643.00	\$643.00	Never approved.
Subtotal:						\$643.00	\$643.00	
Other Charges							\$62.69	
Total:						\$3,569.00	\$705.69	

Deliverables (Expand All)

Erin Yargicoglu *Environmental Information Logistics (EIL)*

Menu

>> MyEOL >> Sites & Projects >> Project

Site/Project	Analyses	Jobs	Events	Access Rights
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Primary Lab:

Phone:

Lab PM:

Report Project Issues

Site Configuration History

Select approval/version: Current Configuration ▼

Key Contacts

Site Mary Pearson EIL

Manager: Phone: (630) 240-8606
Email: mgearson@eillc.com

GPP: Seth Ramaley Waste Management
Phone: (404) 556-2145
Email: sramaley@wm.com

Site: Steve Chillson, Waste Management
 Manager: Phone: (224) 523-1736
 Email: schillso@wm.com

Current Configuration Approval

Approval is currently disabled. To approve this site, please first review and approve all the underlying events. Then please return to this page to approve the site.

Highlight unapproved events

Events

Year: 2024 ▼

Type	Description	Event ID	Frequency	Cost Per Event	Events	Budget	Invoiced	Approved
200	<u>Area 3 Outside GMZ Dolomite Wells</u>	121	Semi-Annual	\$3,078.00	2	\$6,156.00	\$3,078.00	2/15/2018 1:33pm CST by: Lisa Grassl
200	<u>Area 3 Outside GMZ Dolton Sand Wells</u>	159	Semi-Annual	\$813.00	2	\$1,626.00	\$813.00	2/15/2018 1:32pm CST by: Lisa Grassl
						Subtotal:	\$7,782.00	\$3,891.00
400	<u>Area 3 North GMZ Dolomite Wells</u>	97	Semi-Annual	\$4,788.00	2	\$9,576.00	\$4,788.00	2/15/2018 2:43pm CST by: Lisa Grassl
400	<u>Area 3 South GMZ Dolomite Wells</u>	4617	Semi-Annual	\$2,394.00	2	\$4,788.00	\$2,394.00	2/15/2018 1:34pm CST by: Lisa Grassl
400	<u>Area 3 South GMZ Dolton Sand Wells</u>	3725	Semi-Annual	\$1,386.00	2	\$2,772.00	\$1,386.00	2/15/2018 1:33pm CST by: Lisa Grassl
						Subtotal:	\$17,136.00	\$8,568.00
500	<u>Area 3 Leach (1Q) 35/AC 724 App I (2026)</u>	376	Special	\$3,411.00	0	\$0.00	\$0.00	1/25/2017 4:16pm CST by: Lisa Grassl
500	<u>Leach 35/AC 724 App I Reduced (1Q)</u>	4857	Annual	\$1,241.00	1	\$1,241.00	\$1,241.00	1/8/2024 4:06pm CST by: Erin Yargicoglu
						Subtotal:	\$1,241.00	\$1,241.00
Other Charges							\$1,335.76	



Menu

>> MyEOL >> Sites & Projects >> Project

Site/Project: CID RDF (Area 4)

[Site/Project](#) [Analyses](#) [Jobs](#) [Events](#) [Access Rights](#)

Primary Lab: [REDACTED]

Phone: [REDACTED]

Lab PM: [REDACTED]

[Report Project Issues](#)

Site Configuration History

Select approval/version: Current Configuration ▼

Key Contacts

Site [Mary Pearson EIL](#)
 Manager: Phone: (630) 240-8606
 Email: mpearson@eilllc.com
GPP: [Seth Ramaley Waste Management](#)
 Phone: (404) 556-2145
 Email: sramaley@wm.com
Site [Steve Chillson Waste Management](#)
 Manager: Phone: (224) 523-1736
 Email: schillso@wm.com

Current Configuration Approval

Approval is currently disabled. To approve this site, please first review and approve all the underlying events. Then please return to this page to approve the site.

[Highlight unapproved events](#)

Events

						Year: 2024 ▾		
Type	Description	Event ID	Frequency	Cost Per Event	Events	Budget	Invoiced	Approved
200	Area 4 Defton Sand (4.10)	134	Semi-Annual	\$1,521.00	2	\$3,042.00	\$1,521.00	2/15/2018 1:29pm CST by: Lisa Grassl
200	GW Monitorings (4.10)	139	Semi-Annual	\$3,726.00	2	\$7,452.00	\$3,726.00	2/15/2018 1:29pm CST by: Lisa Grassl
Subtotal:						\$10,494.00	\$5,247.00	
500	Leach (10) 351AC 724 App I Reduced I 331	4858	Annual	\$546.00	1	\$546.00	\$546.00	1/8/2024 4:03pm CST by: Erin Yargicoglu
500	Leachate (10) 351AC 724 App I (2026)	142	Special	\$1,137.00	0	\$0.00	\$0.00	1/25/2017 3:27pm CST by: Lisa Grassl
Subtotal:						\$546.00	\$546.00	
Other Charges							\$555.92	
Total:						\$11,040.00	\$6,348.92	

Deliverables (Expand All)

Erin Yargicoglu Environmental Information Logistics (EIL)

Corporate Headquarters

Local Office

March 1, 2024

Re: 2024 Invasive Vegetation Management - CID Recycling and Disposal Facility, Calumet City, IL

Dear [REDACTED]

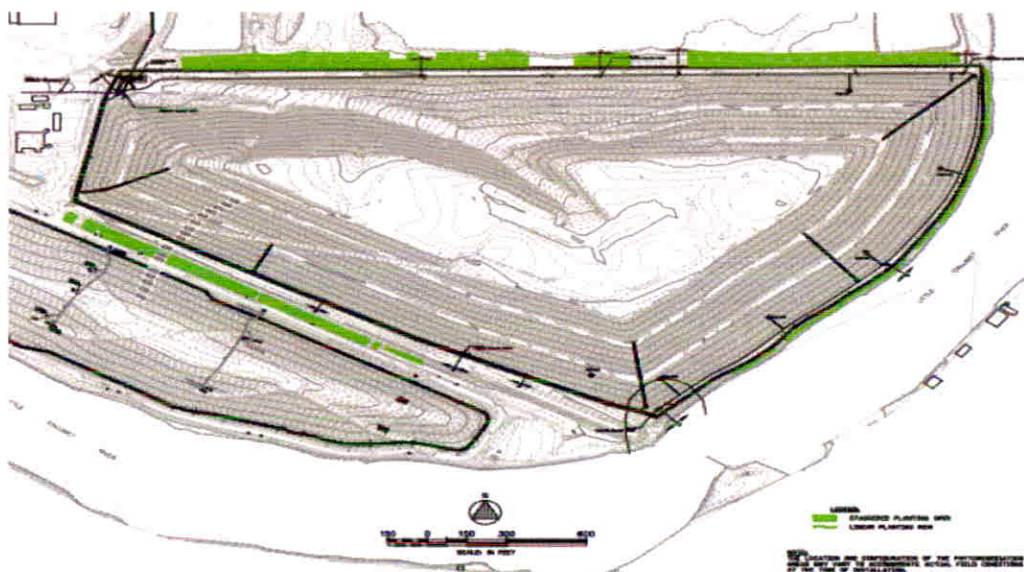
Thank you for contacting [REDACTED] to provide you with this proposal to complete the scope of services listed below at the Waste Management CID Recycling and Disposal Facility in Calumet City, Illinois. This proposal is inclusive of all labor, material, and equipment required to perform the work as specified.

Scope of Work

Proposal includes three (3) stewardship visits throughout the 2024 growing season, one in May, one in July and one in September to control invasive species within the native planting areas (Populus spp.).

- Stewardship/Management of Native Landscapes:

Visits for stewardship will be made throughout the growing season to control weeds within the Populus Ssp planting locations. Control methods will include hand cutting, pulling, selective mowing, and herbicide application as appropriate. Stewardship efforts will focus on particular weed problems as they arise throughout the season and will be directed by the recommendations of the field supervisor.



All work is done under the general supervision of a field supervisor. Our field staff is uniformed and supervised by working foreman. All vehicles and equipment are marked with the company logo. This allows you the assurance of easy identification of our equipment and personnel.

This proposal can be implemented by either issuing a purchase order, or by signing the Authorization to Proceed below and returning to our office. Please feel free to only choose the line items for the work you would like [REDACTED] to perform at this time.

If you have any questions or wish to arrange for a meeting to discuss this scope of work and more specifically the treatment methods and areas, please call me at [REDACTED]. Thank you for allowing [REDACTED] the opportunity to work with you.

Sincerely,

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Authorization to Proceed

The following pricing options have been developed for consultations and reports as requested. Any additional consultation or effort would be priced at our consulting rate of \$125 per hour. Any on-site supervision by an arborist during construction will require a three (3)-hour minimum charge.

Waste Management CID Calumet City / 2024 Invasive Vegetation Mangement

Rate Schedule	Contract Type	Quantity	Unit	Unit Price	Total Price
Stewardship/Management Visits (Includes Visit Summary Reports)	Firm-Fixed Unit Price	3	Visits	\$ 3,202.00	\$ 9,606.00
				Subtotal	\$ 9,606.00
				Total \$ 9,606.00	

By signing this form, I do hereby acknowledge acceptance of the scope of work and associated fee, as well as the terms and conditions and limited warranty contained herein. Furthermore, my signature authorizes the work to be performed effective the date of my signature and denotes that I am an authorized representative of the Client with authority to authorize and bind my company.

Client Name: _____

Authorizing Signature: _____

Title: _____

Date: _____

[REDACTED]

[REDACTED]

March 1, 2024

BOL Permit Section RCRA Tracking Sheet

BOLSiteCode 0310390001

Federal ID(s) ILD010284248

Respond by: 11/28/2024

Site: CID Recycling & Disposal Fac

Region: Des Plaines

City: Calumet City

County: Cook

Data Regarding Logged Submittal(s) per Log # B-27R2-M-10

Review Status	PermitClass	AppType	Reviewers:	RCRA
Active	Class 1* Mod	RCRA Part B	RCRA, CAU, DAU, GAU	
			KDH	BEH

DocTitle_Description	Submittal Type	Review Type	Agency Response
Application providing updated post-closure care cost estimates in accordance with Condition VI.35.a.	1st Submittal	Technical	Partial Approval
	Date Received 10/29/2024	Date Due 01/27/2025	Date Mailed

Submittal Comment:

Final Action Data

For Log No: B-27R2-M-10

Units Addressed	Final Action Status	Date FA Issued	Date NFA	Date Closure Cert Accepted	Acres Remediated
					0
Closure Type:	Institutional Control	Clean Closed:	1 Institutional Control:	2 Institutional Control:	

GU Review



Illinois Environmental Protection Agency

2520 West Iles Avenue • P.O. Box 19276 • Springfield, Illinois • 62794-9276 • 217-782-3397

JB Pritzker, Governor

James Jennings, Acting Director

MEMORANDUM

DATE: October 2, 2025

TO: Kelly Huser, RCRA Unit

FROM: Garrett Strittmatter, Groundwater Unit
DS
DNA *AMB*

SUBJECT: 2023/2024 Cost Estimates

RE: 0310390001 -- Cook County
CID Recycling & Disposal Facility
ILD010284248
Log Nos. B-27R2-M-8; B-27R2-M-10
RCRA Permit - 24A

A review has been completed on the groundwater portions of the following two documents prepared and submitted by Steve Chillson of Waste Management of Illinois Inc. on behalf of CID Recycling and Disposal Facility (CID):

Submittal No. 1 (Log No. B-27R2-M-8) – A document entitled, “Class 1* Permit Modification Application Updated Post-Closure Care Cost Estimates” dated October 27, 2023 and received by the Illinois EPA on October 30, 2023. The purpose of Submittal No. 1 is to provide an updated cost estimate for Post-Closure Care (PCC) and corrective action at the facility in accordance with Title 35 Illinois Administrative Code (35 IAC) 724.244. Only the groundwater aspects of this document are reviewed herein.

Submittal No. 2 (Log No. B-27R2-M-10) – A document entitled, “Class 1* Permit Modification Application Updated Post-Closure Care Cost Estimates” dated October 28, 2024 and received by the Illinois EPA on October 29, 2024. The purpose of Submittal No. 2 is to provide an updated cost estimate for Post-Closure Care (PCC) and corrective action at the facility in accordance with 35 IAC 724.244. Only the groundwater aspects of this document are reviewed herein.

ENVIRONMENTAL JUSTICE (EJ), FOS COMMENTS, RIGHT TO KNOW (RTK)

The Environmental Justice requirements will be handled by the RCRA Unit.

Anthony Guido of the Des Plaines Field Operations Section (FOS) was contacted via email on 9/15/2025 to ask for any comments from FOS regarding groundwater at the site. Mr. Guido responded on 9/15/25 stating there are no comments from FOS at this time. A copy of this correspondence is provided as Attachment 1 to this memorandum.

A Bureau of Land Right to Know (RTK) Evaluation was conducted in September 2025. The site does not meet the requirements of a Bureau of Land RTK site at this time. A signed and dated RTK evaluation form is provided to the Project Manager as Attachment 2 to this memorandum.

BACKGROUND

The facility currently monitors groundwater in a shallow 35 IAC 620, Class II hydrostratigraphic unit referred to as the Dolton Sand, and a deeper fractured dolomite 35 IAC 620, Class I hydrostratigraphic unit referred to as the Silurian Dolomite. Pursuant to Section II of its Hazardous Waste Management RCRA Post-Closure Permit (Permit) issued July 29, 2024 (Log No. B-27R2-M-7) the facility currently conducts a Detection Monitoring Program at the Area 4 Landfill per the requirements set forth in 35 IAC 724.198. Pursuant to Section III of the Permit, the facility implements a Groundwater Corrective Action Program for a light non-aqueous phase liquid (LNAPL) release to groundwater at the Area 3 Landfill. The Area 3 Corrective Action Program utilizes a Groundwater Management Zone (GMZ) pursuant to 35 IAC 620.250. Pursuant to Section IV of the Permit, corrective action for 1,4-Dioxane is in place in Areas 1 and 2 per the requirements set forth in 35 IAC Part 620, 35 IAC 724.201, and 35 IAC Part 742. The Area 1 Corrective Action Program utilizes a GMZ pursuant to 35 IAC 620.250. The continued groundwater monitoring for Areas 1 & 2 is accomplished via the groundwater monitoring programs in place in Areas 3 & 4.

Submittals No. 1 and No. 2 consist of cost estimates for the facility. Both submittals are reviewed herein, however, Submittal No. 2 supersedes Submittal No. 1.

SUBMITTAL NO. 1

Submittal No. 1 consists of a letter and 3 attachments containing Permit Forms and specific cost information related to Areas 3 and 4 PCC and the corrective action plan related to Areas 1 and 2 as required by the Permit. Submittal No. 1 provides, as required by Conditions V.35.a and IV.F.5 of the Permit, revised PCC and corrective action cost estimates for the facility, respectively. Attachment 1 contains a 39(i) Certification for Operating a Waste Management Facility and a RCRA Permit Application Form (LPC-PA23). Attachment 2 contains the approved 2021 costs annotated with 2023 updates. Attachment 3 contains 3rd party documentation for the PCC cost.

Attachment 2

Table I-4 of Submittal No. 1 provides cost estimates in 2023 dollars associated with the remaining 15 years of PCC required for the Area 3 Landfill. The updated PCC cost estimate proposed for groundwater monitoring and remediation in Area 3 is \$860,938 in 2023 dollars. The groundwater monitoring portion of the cost estimate includes sampling, analysis, and reporting for 44 wells on a semi-annual basis, as well as 5-year GMZ Re-evaluations, a biennial well survey, and the operation and maintenance costs for the groundwater extraction system implemented at Area 3.

Table I-5 of Submittal No. 1 provides cost estimates in 2023 dollars associated with the remaining 17 years of PCC required for the Area 4 Landfill. The updated PCC cost estimate proposed for groundwater monitoring in Area 4 is \$427,669 in 2023 dollars. The groundwater monitoring portion of the cost estimate includes sampling, analysis, and reporting for 19 wells on a semi-annual basis.

Table I-6 of Submittal No. 1 provides cost estimates in 2023 dollars associated with 10 years of corrective action required for the Area 1 and 2 landfills. The updated corrective action cost estimate proposed for groundwater corrective measures is \$149,140 in 2023 dollars. The groundwater portion of this cost estimate includes costs associated with corrective measures for groundwater approved in an October 11, 2023 Illinois EPA letter (Log No. B-27R2-M-5). These corrective measures include a phytoremediation system and groundwater extraction and treatment.

ILLINOIS EPA COMMENTS to Submittal No. 1

The following comments are provided in regard to Submittal No. 1:

1. Submittal No. 1 is superseded by Submittal No. 2.
2. At this time, the updated cost estimates appear to be accurate and adequate for the remaining PCC and corrective action activities that must be conducted at the facility. Therefore, the groundwater portions of these cost estimates can be approved with the exception of the time frame for PCC costs which will be addressed by the RCRA Unit.
3. The groundwater portion of the PCC cost estimate for Area 3 found in Condition I.I.1 of the Permit totals \$860,938 in 2023 dollars.
4. The groundwater portion of the PCC cost estimate for Area 4 found in Condition I.I.1 of the Permit totals \$427,669 in 2023 dollars.
5. The groundwater portion of the corrective action cost estimate for Areas 1 and 2 found in Condition IV.F.1 of the Permit totals \$319,880 in 2023 dollars.

SUBMITTAL NO. 2

Submittal No.2 consists of a letter and 3 attachments containing Permit Forms and specific cost information related to Areas 3 and 4 PCC and corrective action plan related to Areas 1 and 2 as required by the Permit. Submittal No. 2 provides, as required by Conditions V.35.a and IV.F.5 of the Permit, revised PCC and corrective action cost estimates for the facility, respectively. Attachment 1 contains a 39(i) Certification for Operating a Waste Management Facility and a RCRA Permit Application Form (LPC-PA23). Attachment 2 contains the approved 2021 costs annotated with 2024 updates. Attachment 3 contains 3rd party documentation for the PCC Cost.

Attachment 2

Table I-4 of Submittal No.2 provides cost estimates in 2024 dollars associated with the remaining 14 years of PCC required for the Area 3 Landfill. The updated PCC cost estimate proposed for groundwater monitoring and remediation in Area 3 is \$853,806 in 2024 dollars. The groundwater monitoring portion of the cost estimate includes sampling, analysis, and reporting for 44 wells on a semi-annual basis, as well as 5-year GMZ Re-evaluations; biennial well surveys, and the operation and maintenance costs for the groundwater extraction system implemented at Area 3.

Table I-5 of Submittal No.2 provides cost estimates in 2024 dollars associated with the remaining 16 years of PCC required for the Area 4 Landfill. The updated PCC cost estimate proposed for groundwater monitoring in Area 4 is \$411,208 in 2024 dollars. The groundwater monitoring portion of the cost estimate includes sampling, analysis, and reporting for 19 wells on a semi-annual basis.

Table I-6 of Submittal No.2 provides cost estimates in 2024 dollars associated with 10 years of corrective action required for the Area 1 and 2 landfills. The updated corrective action cost estimate proposed for groundwater corrective measures is \$227,346 in 2024 dollars. The groundwater portion of this cost estimate includes costs associated with corrective measures for groundwater approved in a July 29, 2024 Illinois EPA letter (Log No. B-27R2-M-7). These corrective measures include a phytoremediation system and groundwater extraction and treatment.

ILLINOIS EPA COMMENTS to Submittal No. 2

The following comments are provided in regard to Submittal No. 2:

1. Submittal No. 2 supersedes Submittal No. 1.
2. At this time, the updated cost estimates appear to be accurate and adequate for groundwater for the PCC and corrective action activities that must be conducted at the facility, with the exception of the timeframe for PCC costs which will be addressed by the RCRA unit.

3. The groundwater portion of the PCC cost estimate for Area 3 found in Condition I.I.1 of the Permit totals \$853,806 in 2024 dollars.
4. The groundwater portion of the PCC cost estimate for Area 4 found in Condition I.I.1 of the Permit totals \$411,208 in 2024 dollars.
5. The groundwater portion of the corrective action cost estimate for Areas 1 and 2 found in Condition IV.F.1 of the Permit totals \$404,236 in 2024 dollars.

ILLINOIS EPA RECOMMENDATIONS

The Illinois EPA has determined that the groundwater portions of the subject documents are acceptable and can be approved at this time. No revisions to the groundwater portions of the Permit are necessary as a result of this review.

Attachments: Attachment 1 – FOS Comment Request
Attachment 2 – RTK Evaluation

Strittmatter, Garrett

From: Guido, Anthony
Sent: Monday, September 15, 2025 10:04 AM
To: Strittmatter, Garrett
Subject: RE: Comments on 0310390001 - CID Log Nos. B-27R2-M-8 and B-27R2-M-10

Hi Garrett,

I managed to find both our copies for these. I have no comments on the updated cost-estimates.

Thanks!

Anthony Guido
O: (847) 294 - 4072
C: (224) 688 - 2530

From: Strittmatter, Garrett <Garrett.Strittmatter@Illinois.gov>
Sent: Monday, September 15, 2025 9:25 AM
To: Guido, Anthony <Anthony.Guido@Illinois.gov>
Subject: Comments on 0310390001 - CID Log Nos. B-27R2-M-8 and B-27R2-M-10

Good Morning,

Do you have any comments on the Groundwater portions of 0310390001 - CID Log Nos. B-27R2-M-8 and B-27R2-M-10. Please let me know if you would like me to scan and forward these documents to you.

Thank you,
Garrett Strittmatter



Garrett Strittmatter
Environmental Protection Geologist I
Groundwater Unit, Permit Section, Bureau of Land
217-558-0073
garrett.strittmatter@illinois.gov

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Illinois Environmental Protection Agency

2520 West Iles Avenue • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

Right-to-Know Evaluation

Date: Sep 15, 2025

Site Information	Employee Information
Site Name: <u>CID Recycling & Disposal Facility</u>	Name: <u>Garrett Strittmatter</u>
Site ID Number: <u>0310390001</u>	Section/Unit: <u>Bureau of Land Groundwater Unit</u>
Site County: <u>Cook</u>	Phone: <u>217-558-0073</u>
Site Address: <u>138th Street and Interstate 94</u>	Email: <u>garrett.strittmatter@Illinois.gov</u>
City, State, Zip: <u>Calumet City, Illinois 60409</u>	
Criteria (check all that apply)	
☐ Groundwater contamination (including soil contamination exceeding the applicable remediation objectives for the soil component of the groundwater ingestion exposure route) from the site where the release occurred poses a threat of exposure to the public above the Class I groundwater quality standards or the Class I groundwater remediation objectives within the setback zone of a potable water supply well: ☐ Limited community relations activities are required: Five (5) or fewer potable water supply wells, other than a community water system well, are affected by the release at the site. ☐ Expanded community relations activities are required: More than five (5) potable water supply wells, or one (1) or more community water system wells, are affected by the release at the site.	
☐ Groundwater contamination or soil gas contamination from volatile chemicals beyond the boundary of the site where the release occurred poses a threat of indoor inhalation exposure to the public above the appropriate Tier 1 remediation objectives, based on the current use of the off-site property: ☐ Limited community relations activities are required: Five (5) or fewer off-site properties are affected by the release at the site. ☐ Expanded community relations activities are required: More than five (5) off-site properties are affected by the release at the site.	
☐ Soil contamination or soil gas contamination beyond the boundary of the site where the release occurred poses a threat of exposure to the public above the appropriate Tier 1 remediation objectives, based on the current use of the off-site property: ☐ Limited community relations activities are required: Five (5) or fewer off-site properties are affected by the release at the site. ☐ Expanded community relations activities are required: More than five (5) off-site properties are affected by the release at the site.	
☐ The Illinois EPA refers a matter for enforcement under Section 43(a) of the Act.	
☐ The Illinois EPA issues a seal order under Section 34 of the Act.	
☐ The Illinois EPA, U.S. EPA, or a third party under Illinois EPA or U.S. EPA oversight performs an immediate/emergency removal under the federal Comprehensive Environmental Response, Compensation, and Liability Act.	
Summary	
☒ None of the above criteria are met and the site does not warrant further evaluation.	
☐ At least one of the above criteria is met and the site must be further evaluated: this Right-to-Know Evaluation should be submitted to the Office of Community Relations Right-to-Know Coordinator along with a Right-to-Know Referral. Both forms should be completed, digitally signed, and submitted electronically.	
Project Manager: <u>Garrett Strittmatter</u>	Digitally signed by Garrett Strittmatter Date: 2025.09.15 11:48:54 -05'00'
Signature	Date

B-27R2-M-10

REVIEW NOTES CHECKLIST**General Information**

0310390001 – Cook County
 CID Recycling and Disposal Facility
 ILD010284248
 Log No. B-27R2-M-10

Start of Review (Date)	August 6, 2025	
Project Manager	Kelly Huser 10-2-25 KDH	
Groundwater Unit Reviewer	Garett Stritmatter	
Corr. Action Reviewer	Kelly Huser	
Brief Description of Project	Post-closure cost estimate	
Site Name/Location	CID Recycling and Disposal Facility 138 th Street and Interstate 94 Calumet City, IL. 60409	
Facility Contact ☒ - Operator ☐ - Owner	Waste Management of Illinois, Inc. Attn: Steve Chillson, District Manager 720 East Butterfield Road, Suite 400 Lombard, IL. 60148	Phone #: 224-523-1736 Email: schillso@wm.com
Owner ☒ - Same as Facility Contact	Company Attn: Contact Person, Title Address City, State, Zip	Phone #: Email:
Consultant	Environmental Information Logistics Attn: Edward Doyle, P.E. 534 Duane Street Glen Ellyn, IL. 60137-4676	Phone #: 630-254-9388 Email: edoyle@eillc.com
Forms, Certifications and Original Signatures	☒ - All required forms are provided with the application. ☒ - Professional Engineer and Licensed Professional Geologist have provided a certification statement and seal as required. * ☒ - Original signatures present on all documents/forms provided with application. * * Original signatures/seals are not required on additional copies of the application.	
Siting (Sec. 3.330 of Act) <u>Cert. of Siting (LPC-PA8)</u>	Has siting for facility been approved: ☐ -Yes ☐ -No ☒ -NA	
Environmental Justice Evaluation (See <u>Procedure I.28</u>)	Determine if the submittal requires an Environmental Justice (EJ) evaluation, if so use the <u>EJ Start</u> webpage to determine if the facility is located within an EJ area. See <u>BOL Permit Procedure I.28</u> for information on applicability, and performing an EJ evaluation. See the <u>EJ Review Request System Guide</u> for information on submitting	

<u>EJ Start</u> <u>EJ Review Request Webpage</u> <u>EJ Review Request System Guide</u>	an EJ Review Request. a. EJ Evaluation Required: ☒-Yes ☐-No b. EJ SWAP Results: ☐-Not in an EJ Area ☐-Blue (1) Minority ☐-Yellow (2) Low Income ☒-Red (3) Minority & Low Inc. c. EJ Review Request: If the facility is in an EJ area submit an EJ Review Request to the EJ Office using the <u>EJ Review Request</u> webpage. d. Final EJ Office Evaluation Response: (Note: Projects with an EJ status of "Outreach in Progress" will not be signed by the Permit Section Manager). ☒-Complete – No Outreach ☐-Complete – With Outreach e. Documentation: Emails from EJ Office documenting the EJ review should be attached to review notes. Notes: EJ Review Request #8349 submitted
39(i) Certification <u>39(i) Cert. form (LPC 643)</u> a. Review (See <u>Procedure I.25</u>, <u>39(i) Investigations Memo</u> & Sec. 39(i) of the Act)	☐-Not Applicable as this is not an application for a RCRA permit, permit modification, waste storage site, landfill/disposal site, transfer station, treatment facility, incinerator, waste transportation, CCDD fill operation, or tire storage site. <u>Review of 39(i) Certification:</u> I. Applicant Information: ☒-Complete/adequate ☐-Not complete/not adequate II. Officers & Employees: ☒-Complete/adequate ☐-Not complete/not adequate III. Owner, Operator, Officer, and Employee Information: A. Prior Conduct Identification: ☐-Yes ☒-No: Are one or more of the questions in this section marked "Yes"? If so, an Attachment A must be included (see below). B. Pending Proceedings: ☐-Yes ☒-No: Are one or more of the questions in this section marked "Yes"? If so, an Attachment A must be included (see below). C. Prior Application Information: i. ☐- Yes ☒-No: Are Previously submitted <u>Attachment A's</u> incorporated into this Certification? ii. ☐- Yes ☐-Not complete/adequate: If C.i. is checked yes; are the applications containing the previously submitted <u>Attachment A's</u> identified? Certification Statement: ☒-Yes ☐-Not complete/not adequate: Has the certification been signed by responsible corporate officer who meets the requirements of 702.126(a)(1)? Attachment A – Information for Individual Persons: Required if item III A. and/or B. above is check Yes.

b. FACES Database Review <u>FACES-DB</u> <u>FACES – 39i Guidance</u> <u>FACES User Manual</u> c. Full Compliance History (FCH) Review d. Other Information e. 39i violations identified that may require permit denial. f. Revised Permit Condition for 39(i)	☒-N/A ☐-Yes ☐-Not complete/adequate: Attachment A has been completed and contains the required information for individuals, identified in Section II that have prior findings, convictions or pending proceedings. ☐-Yes ☒-No: Facility has more than two consent decrees. If "Yes" request Full Compliance History (FCH), see item c. below. Notes: FCH Requested: ☐-Yes ☒-N/A: If item b above is checked yes, request a full report of the site compliance history for the facility from the Waste Reduction and Compliance Section, Manager.¹ Date FCH request made: Other Information: ☐-Yes ☒-No: Other information has been identified that suggest that applicant has not been truthful, or information provided is incomplete. Other information can be from public comments, news reports, personal knowledge, etc. ☐-Yes ☒-No: 39i violations identified that may require permit denial. If yes, a memo to the Unit Manager should be prepared detailing the violations. i. ☐-A memo, dated _____, has been forwarded to the Unit Manager for evaluation. ☒-Yes ☐-N/A: Permit Condition V.B.1 has been revised to require the submittal of 39(i) Certification Forms with all applications (see item 4 of Procedure I.25).
Field Office Section	a. FOS Region/Contact: Charlene Thigpen Email: Charlene.thigpen@illinois.gov Phone: 847-294-4122 b. Field Inspection Required: ☐-Yes ☒-No If yes, a memo/email should be prepared and sent to the FOS contact, copy FOS Regional Manager. i. ☐-A memo/email, dated _____, has been forwarded to the FOS. c. Comments Received from FOS: ☐-Yes ☒-No
CROPA Memo <u>Procedure I.31</u> <u>CROPA Template</u>	a. ☐-Yes ☒-No : CROPA Memo distributed on _____. i. ☐-Yes ☐-No: Permit(s) from other Bureaus required.

¹ See item 2 of June 26, 2018 39(i) Investigations Memo

Change of Basic Facility Information (Change of: Name, Owner/Operator, Contact Information, etc.)	a. ☐-Yes ☒-No If yes: i. Facility with BOL ID/Inventory Number only (Non-RCRA Facility): ☐-Reviewer has completed <u>Site Inventory Data Input Form</u> -OR- ☐-Facility has submitted an <u>Illinois EPA Inventory Application</u>. ii. Facility with a Federal (RCRA) ID Number : ☐- Facility has submitted a revised <u>Notification of Regulated Waste Activity Form (USEPA Form 8700-12)</u>.
Right-to-Know (RTK) Evaluation <u>Sec. 25d of Act</u> <u>Right-to-Know Evaluation Form (2023)</u> <u>Contaminant Evaluation Group (CEG) Referral Memo (2023)</u> <u>IEPA Right-to-Know Website</u>	A Right-to-Know (RTK) evaluation must be performed for any review in which soil, soil gas and/or groundwater contamination data is reviewed. a. ☐-N/A No release near the property boundary has been documented. b. ☒-RTK Evaluation performed , <u>RTK Evaluation Form</u> attached. c. Soil, soil gas and/or groundwater contamination were evaluated. The evaluation determined: • ☐-Further evaluation required and Item d below must be completed. • ☐-Additional information is required to make an evaluation. • ☐-No criteria met; site does not warrant further evaluation. d. ☐-<u>Right-to-Know Evaluation Form</u> required a CEG Referral Memorandum be completed and sent to Community Relations RTK Coordinator. Memo sent on date: _____ e. ☐-Other: <u>Right-to-Know Evaluation Form</u> completed, met criteria for referral to CEG but was not required based on: _____ Notes: See Attachment 4 of the GU, Garrett Strittmatter, Review memo.

Review Notes

**RCRA Permit, RCRA
Corrective Action, & RCRA
Closure Submittals**

[USEPA RCRAInfo Database](#)
[IEPA RCRAInfo Data Entry](#)
[Guidance \(Draft\)](#)
[USEPA R1 RCRAInfo Data](#)
[Entry Walk Through](#)
[USEPA Comprehensive](#)
[RCRAInfo Help & Guidance](#)

[USEPA RCRAInfo Data](#)
[Element Dictionary](#)

☐- N/A: Submittal(s) is not a RCRA Permit, RCRA Closure or RCRA Corrective Action Submittal.

a. ☒- RCRA Info: Enter data into the [USEPA RCRAInfo Database](#) for RCRA permits, permit modifications, RCRA Closure and Corrective Action submittals as required. See linked documents to the left for additional guidance.

b. ☒-Yes ☐-No ☐-N/A: Permit Modification Class Correctly Identified: The submittal has been properly classified by the applicant i.e., as a Class I, Class I*, Class II or Class III modification (35 IAC 703.280) or as a Corrective Action submittal.

If the permit class was not correct:

- ☐- Admin Support was contacted to correct the permit class in the RCRA Database, and the Tracking Sheet was updated and was redistributed to the FOS regional office and other staff.
- ☐-Yes ☐-N/A: If necessary, the applicant has been notified of the change in the permit modification Class of the submittal. (35 IAC 703.280(d)(2)(A); 703.282(f)).

0310390001 -- Cook County
CID Recycling and Disposal
ILD010284248
Post-closure cost estimate
Log No. B-27R2-M-10
RCRA Permits – 24A

Date Received by IEPA: October 29, 2024

LOG for B-27R2-M-10	
Class 1* permit modification	
Date	Description
10-28-24	CID's application for permit modification
8-6-25	EJ Review Request #8349
8-6-25	Email from EJ that review request has been submitted
8-6-25	Email from EJ Review – Complete – No Outreach
8-7-25	Illinois EPA email to CID – comments on submittal
8-7-25	CID response – Lifetime Operating Permit, BOA #031600FHJ
8-7-25	CID email – revised pages, corrected typographical errors
10-2-25	GU memo, Garrett Strittmatter
9-30-25	Kelly Huser Review Notes
	Final Action: Partial Approval

REVIEW NOTES – KELLY HUSER

0310390001 – Cook County
ILD010284248
CID Recycling and Disposal
Log No. B-27R2-M-10

Facility Contact -- Steven Chillson, District Manager
Waste Management
720 Butterfield Road
Suite 400
Lombard, IL. 60148
224-523-1736

FACILITY BACKGROUND

CID RDF facility is owned and operated by Waste Management of Illinois, Inc. This facility was a commercial facility involved in the disposal of hazardous waste. Nearly all the hazardous waste handled at this facility was generated off-site by various industries. In particular, the largest generators of wastes accepted at the facility were the metal finishing industry, the iron and steel industry, and the petroleum refining industry. Only a small portion of the waste disposed at the facility was generated on-site.

A 25.9-acre closed hazardous waste landfill (known as Area 4) exists at the facility. The hazardous waste disposed in this landfill that required treatment to meet the land disposal restrictions stated in 35 Ill. Adm. Code Part 728, were treated before disposal. Approximately 2,500,000 cubic yards of hazardous waste was placed in Area 4 between 1983 and 2009.

A 173-acre closed landfill (known as Area 3) also exists at the facility. Approximately 83 acres of Area 3 received hazardous waste during operation between 1980 and January 1983, when hazardous waste was co-disposed with municipal waste. Since January 1983, Area 3 had only received municipal refuse and other non-hazardous special wastes. Because Area 3 no longer accepted hazardous waste, a RCRA permit was not required for its continued receipt of non-hazardous waste. However, as this landfill did receive hazardous waste, it was closed in accordance with the approved closure plan (C-187) and must receive post-closure care and monitoring in accordance with this RCRA post-closure permit.

A 91-acre closed landfill (known as Area 1) also exists at the facility. The Area 1 landfill operated from approximately 1968 to 1979. The approximate volume of waste placed in Area 1 was about 20 million cubic yards. The precise types, quantities and physical states of wastes received in Area 1 are not known.

A 53.7-acre closed landfill (known as Area 2) also exists at the facility. The Area 2 landfill operated from approximately 1968 to 1979. The approximate volume of waste placed in Area 2 was about 7 million cubic yards. Area 2 was primarily used for disposal of construction

Review Notes

demolition materials and was also used for disposal of stabilized industrial wastes from the former CID RDF Dewatering Plant.

PROJECT DESCRIPTION

CID is submitting a Class 1* permit modification application to update the facility's post-closure care cost estimate.

Submittal: Document titled, "Updated Post-Closure Care Cost Estimates", dated October 28, 2024 and received by the Illinois EPA on October 29, 2024. The subject document contained revised post-closure cost estimates for Are 3 and Area 4 landfills and a revised corrective action cost estimate for Area 1 and Area 2 landfills. The subject submittal was assigned Log No. B-27R2-M-10.

In accordance with Title 35 Illinois Administrative Code (35 IAC) 703.280(d)(2)(A), the subject submittal was reviewed as Class 1* permit modification requests. This is a minor modification that keeps the permit up to date but needs Illinois EPA approval.

PERMIT HISTORY

See attached.

8-6-25

Technical Review of Submittal –

CID states the following revisions to the estimates have been completed:

1. The estimates have been revised and adjusted for inflation pursuant to permit condition VI.35.a.

Reviewer's Comment: Permit Condition VI.35.a is as follows:

COST ESTIMATE FOR POST-CLOSURE. The Permittee's original post-closure cost estimate, prepared in accordance with 35 Ill. Adm. Code 724.244, must be:

- a. *Adjusted for inflation either 60 days prior to each anniversary of the date on which the first closure cost estimate was prepared or if using the financial test or corporate guarantee, within 30 days after close of the firm's fiscal year.*

CID has used inflation factors of 1.0413 (2022) and 1.07 (2023) to inflate the 2021 unit costs to 2024 dollars. This is the same inflation factors used for the 2023 submittal (Log No. B-27R2-M-8). It seems they are missing the inflation number for 2024 of 1.036.

2. The period for post-closure care has been adjusted based on the current year.

Reviewer's Comment: In accordance with 35 Ill. Adm. Code 724.244 and 724.217(a)(1), the post-closure cost estimate is determined by the annual post-closure cost multiplied by the number of years for post-closure care required. For a closed hazardous waste

Review Notes

landfill, with hazardous waste being left in place, post-closure care is required to be maintained 30 years. Regulations provided under 35 Ill. Adm. Code 724.245 outline the financial assurance mechanisms required and available to RCRA facilities. Illinois EPA has evaluated this requirement and has determined that a reduction of financial assurance is not appropriate.

A RCRA-permitted facility shall maintain financial assurance for 30 years for the entire post-closure care period unless it has completed a post-closure activity or changed the frequency of an activity, that would cause a reduction in the post-closure cost estimate. If a post-closure activity is completed or a change in frequency of an activity is approved, the facility may submit a request for a reduced post-closure cost estimate to Illinois EPA. All facilities with a closed hazardous waste landfill will be required to maintain financial assurance for 30 years of post-closure care until such time the facility can certify completion of post-closure care.

The following is additional technical review notes for financial assurance for hazardous waste landfills under post-closure.

I. RCRA Regulations for Financial Obligations for Post-Closure Care

- Applicable Regulations

The following regulations address the post-closure period, and the requirement to establish financial assurance during the post-closure care period.

- 35 IAC 724.240 (b) states that the requirements for Sections 724.244 and 7.245 apply to: disposal facilities and units closed with landfill requirements.
 - o 724.244(a) states the post-closure cost estimate is required in current dollars for post-closure monitoring and maintenance of the facility in accordance with Sections 724.217 through 724.220, 724.328, 724.358, 724.380, 724.410, and 724.703.
 - o 724.244 (a)(2) The post-closure cost estimate is calculated by multiplying the annual post-closure cost estimate by the number of years of post-closure care required under Section 724.217.
- 724.244(b) requires the post-closure cost estimate be adjusted annually for inflation within 60-day prior to the anniversary date of the establishment of the financial assurance used to comply with Section 724.245.
- 724.245 requires an owner or operator of a hazardous waste management unit subject to the requirements of Section 724.244 must establish financial assurance for post-closure care in accordance with the approved post-closure plan for the facility.

Review Notes

- 35 IAC 724.217(a)(1) and (2) specifies the post-closure care period must begin after completion of closure and continue for 30 years after completion of closure unless a permit is modified to shorten or extend the post-closure care period.
 - Other Considerations for Financial Obligation Related to RCRA Post-Closure Care
 - As required in 35 IAC 724.245, the financial assurance must be established in accordance with the approved post-closure care plan for the post-closure care period of 30 years as required under Section 724.217 (a)(1), unless a permit modification allowing a revised post-closure care period has been approved.
 - USEPA's December 15, 2016 document, "Guidance for Evaluating the Post-Closure Care Period for Hazardous Waste Disposal Facilities under Subtitle C of RCRA" (2016 USEPA Guidance) also indicates that the owner or operator is required to establish financial assurance for post-closure care in an amount equal to the current post-closure cost estimate and that an adjusted post-closure care period may also necessitate revisions to the associated post-closure cost estimate and financial assurance. (copy in this review package)
 - Historically, during the post-closure care period, the facility's financial assurance liability has been allowed to be reduced by prorating with a number of years completed to minimum of 10 years. However, this prorated-reduction or the minimum of 10-year did not take into consideration the financial risk to the Illinois EPA and citizens of Illinois, if the Illinois EPA would have to unexpectedly assume operation of the post-closure care at the facility. The Illinois EPA has evaluated the requirements for post-closure care, cost estimates, and financial assurance for the hazardous waste management unit(s) under 35 IAC Part 724, and has determined that financial assurance equivalent to the rolling 30-year post-closure care cost estimate is minimally necessary to address such financial risks to the State if any hazardous waste is left in place at the unit. If any evidence shows that the estimated cost should be higher than the 30-year cost, then it should be adjusted to a higher number of years.
 - As required by 35 IAC 724.217(a) (1), a 30-year post closure care cost is required for establishing financial assurance. Any adjustment to this 30-year requirement must be made through a permit modification.
 - At the Illinois EPA, any revisions and adjustments to the post-closure care cost estimates and associated financial assurance requirements have been and will be made under Class 1* permit modifications, unless they are made through a permit renewal or with other modifications requiring Class 2 or 3 modifications (such as extending the post-closure care period).
3. The corrective action cost estimate has been updated to reflect the corrective action program approved in Log No. B-27R2-M-7, in accordance with permit condition IV.F.5.

Review Notes

Reviewer's Comment: Permit Condition IV.F.5 is as follows:

5. All cost estimates prepared under the requirements of Conditions IV.F.1 through IV.F.4 must be submitted as a Class 1* permit modification request in accordance with 35 Ill. Adm. Code 703.281.

The approved corrective action cost estimate in Log No. B-27R2-M-7 was \$10,303,004 (2021 dollars). The facility has used the inflation factors of 1.0413 (2022) and 1.07 (2023) to inflate the total corrective action costs to 11,317,166 (2024 dollars). There appears to be a missing inflation factor for 2024 of 1.036. This is the same numbers they used in Log No. B-27R2-M-8 to inflate to 2023 dollars. This cost estimate used the last four-year average for leachate treatment and disposal and that is acceptable.

4. The following changes in tasks and third-party costs include the following:

- a. Sampling and analytical costs have been revised to reflect cost increases due to changes in scope in 2024. Cost documentation is provided in Attachment 3.

Reviewer's Comment: the facility has provided quotes from Eurofin Labs for the analytical costs for the groundwater and leachate monitoring. The leachate analytical costs are acceptable. The groundwater reviewer will look at the GW costs. A third-party cost estimate for all sampling was provided.

- b. Air monitoring tasks for Area 3 have been revised due to the issuance of a Lifetime Operating Permit on July 25, 2024. Annual sampling of the flare and visible emissions observations at the turbine are no longer required.

Reviewer's Comment: this is acceptable. I would like the Permit No. for the air permit.

- c. Additional activities related to the Area 1 GMZ have been incorporated into the corrective action cost estimate for Area 1 and 2.

Reviewer's Comment: The proposed changes are additional costs for the Area 1 GMZ monitoring well sampling, analysis, and data review and reporting. This will be reviewed by the groundwater reviewer.

Reviewer's Comment: The application is partially acceptable. I will request CID review the inflation factors for this submittal and provide the permit number for the lifetime air permit. The annual costs for post-closure care can be approved, however the total cannot be approved. The Illinois EPA is requiring a cost-estimate for the full 30-year post-closure care period to determine the required financial assurance for all RCRA sites where hazardous waste is left in place. The corrective action costs can be approved. The groundwater reviewer will review the groundwater costs.

Review Notes

8-7-25

I emailed CID today and asked for the Permit No. for their Air permit that was recently issued. I also said it appeared they missed inflation factor 1.036 for 2023 to 2024 dollars. I received an email response from CID stating they will look into it, and they provided me a copy of the Lifetime Operating Permit for Area 3 landfill (Permit No. 031600FHJ) (copy in this review package).

Reviewer's Comment: I reviewed the Air Permit and there are no requirements for annual gas sampling and visible emission testing at the Flare. Also, there are no requirements for semi-annual sulfur analysis and visible emission testing at the Gas Turbine. The Permit just requires CID to maintain the system at certain thresholds. It is ok for CID to remove those activities from the cost estimate for Area 3.

Erin Y. from EIL emailed and stated it was a typo leaving out the 1.036 inflation factor and their numbers reflect the 2024 inflation factor. They will send an addendum as soon as possible. I responded and said if no numbers in the tables will change, they could just email me the revised tables. Erin emailed the corrected pages with the typographical errors corrected. The proper inflation factor was used as stated in the tables.

10-2-25

I have received the Garrett Strittmatter, GU, review memo and the groundwater portions of the subject submittal can be approved. The GU review memo has been added to the review package.

FINAL ACTION

Partial Approval

DISCUSSION IN FINAL LETTER

The Illinois EPA can partially approve the subject submittal. The following items can be approved: (1) the annual costs for post-closure care; and (2) the corrective action costs for Area 1 and 2 SWMUs.

The facility will need to submit a revised post-closure cost estimate for the full 30-years of post-closure care.

0310390001--Cook County
ILD010284248
CID Recycling and Disposal Facility

PERMIT HISTORY B-27R2

1-19-23; B-27R2

Renewal RCRA Post-Closure Permit issued.

2-23-23; B-27R2

RCRA Post-Closure Permit is effective.

4-17-23; B-27R2-M-1; Class 1* permit modification dated July 14, 2021; partial approval of 2021 Biennial Revisions of Background Values.

4-17-23; B-27R2-M-2; Class 1* permit modification dated October 5, 2022; approved Reduced Annual Leachate Monitoring Lists.

6-22-23; B-27R2-M-3; Class 1* permit modification dated February 13, 2023; approved removal of Contingency Plan from the RCRA permit.

6-22-23; B-27R2-M-4; Class 1* permit modification dated May 18, 2023; approved the removal of "minimum ten (10) years" form Permit Conditions I.I.2 and IV.F.1.

10-11-23; B-27R2-M-5; Class 1* permit modification dated June 15, 2023; approved the removal of Condition V.C.2 from the RCRA permit. Also removed Condition V.C.1.

7-29-24; B-27R-CA-12; approved GMZ for Area 1.

7-29-24; B-27R-M-7; Class 1* permit modification dated July 11, 2023; approved an updated O&M Plan for Area 1 and Area 2 landfills.

**REVIEW NOTES CHECKLIST
General Information**

0310390001 – Cook County
CID Recycling and Disposal Facility
ILD010284248
Log No. B-27R2-M-8

Start of Review (Date)	July 30, 2025	
Project Manager	Kelly Huser 10-2-25 KDH	
Groundwater Unit Reviewer	Garrett Strittmatter	
Corr. Action Reviewer	Kelly Huser	
Brief Description of Project	Post-closure cost estimate	
Site Name/Location	CID Recycling and Disposal Facility 138 th Street and Interstate 94 Calumet City, IL. 60409	
Facility Contact ☒ - Operator ☐ - Owner	Waste Management of Illinois, Inc. Attn: Steve Chillison, District Manager 720 East Butterfield Road, Suite 400 Lombard, IL. 60148	Phone #: 224-523-1736 Email: schillso@wm.com
Owner ☒ - Same as Facility Contact	Company Attn: Contact Person, Title Address City, State, Zip	Phone #: Email:
Consultant	Environmental Information Logistics Attn: Edward Doyle, P.E. 534 Duane Street Glen Ellyn, IL. 60137-4676	Phone #:630-254-9388 Email: edoyle@eilllc.com
Forms, Certifications and Original Signatures	☒ - All required forms are provided with the application. ☒ - Professional Engineer and Licensed Professional Geologist have provided a certification statement and seal as required. * ☒ - Original signatures present on all documents/forms provided with application. * * Original signatures/seals are not required on additional copies of the application.	
Siting (Sec. 3.330 of Act) Cert. of Siting (LPC-PA8)	Has siting for facility been approved: ☐ -Yes ☐ -No ☒ -NA	
Environmental Justice Evaluation (See <u>Procedure I.28</u>)	Determine if the submittal requires an Environmental Justice (EJ) evaluation, if so use the <u>EJ Start</u> webpage to determine if the facility is located within an EJ area. See <u>BOL Permit Procedure I.28</u> for information on applicability, and performing an EJ evaluation. See the <u>EJ Review Request System Guide</u> for information on submitting	

<u>EJ Start</u> <u>EJ Review Request Webpage</u> <u>EJ Review Request System Guide</u>	an EJ Review Request. a. EJ Evaluation Required: ☒-Yes ☐-No b. EJ SWAP Results: ☐-Not in an EJ Area ☐-Blue (1) Minority ☐-Yellow (2) Low Income ☒-Red (3) Minority & Low Inc. c. EJ Review Request: If the facility is in an EJ area submit an EJ Review Request to the EJ Office using the <u>EJ Review Request</u> webpage. d. Final EJ Office Evaluation Response: (Note: Projects with an EJ status of "Outreach in Progress" will not be signed by the Permit Section Manager). ☒-Complete – No Outreach ☐-Complete – With Outreach e. Documentation: Emails from EJ Office documenting the EJ review should be attached to review notes. Notes: EJ Review Request #6538 submitted
39(i) Certification <u>39(i) Cert. form (LPC 643)</u> a. Review (See <u>Procedure I.25</u>, <u>39(i) Investigations Memo</u> & Sec. 39(i) of the Act)	☐-Not Applicable as this is not an application for a RCRA permit, permit modification, waste storage site, landfill/disposal site, transfer station, treatment facility, incinerator, waste transportation, CCDD fill operation, or tire storage site. <u>Review of 39(i) Certification:</u> I. Applicant Information: ☒-Complete/adequate ☐-Not complete/not adequate II. Officers & Employees: ☒-Complete/adequate ☐-Not complete/not adequate III. Owner, Operator, Officer, and Employee Information: A. Prior Conduct Identification: ☐-Yes ☒-No: Are one or more of the questions in this section marked "Yes"? If so, an Attachment A must be included (see below). B. Pending Proceedings: ☐-Yes ☒-No: Are one or more of the questions in this section marked "Yes"? If so, an Attachment A must be included (see below). C. Prior Application Information: i. ☐- Yes ☒-No: Are Previously submitted <u>Attachment A's</u> incorporated into this Certification? ii. ☐- Yes ☐-Not complete/adequate: If C.i. is checked yes; are the applications containing the previously submitted <u>Attachment A's</u> identified? Certification Statement: ☒-Yes ☐-Not complete/not adequate: Has the certification been signed by responsible corporate officer who meets the requirements of 702.126(a)(1)? Attachment A – Information for Individual Persons: Required if item III A. and/or B. above is check Yes.

b. FACES Database Review <u>FACES-DB</u> <u>FACES – 39i Guidance</u> <u>FACES User Manual</u> c. Full Compliance History (FCH) Review d. Other Information e. 39i violations identified that may require permit denial. f. Revised Permit Condition for 39(i)	☒-N/A ☐-Yes ☐-Not complete/adequate: Attachment A has been completed and contains the required information for individuals, identified in Section II that have prior findings, convictions or pending proceedings. ☐-Yes ☒-No: Facility has more than two consent decrees. If "Yes" request Full Compliance History (FCH), see item c. below. Notes: FCH Requested: ☐-Yes ☒-N/A: If item b above is checked yes, request a full report of the site compliance history for the facility from the Waste Reduction and Compliance Section, Manager.¹ Date FCH request made: Other Information: ☐-Yes ☒-No: Other information has been identified that suggest that applicant has not been truthful, or information provided is incomplete. Other information can be from public comments, news reports, personal knowledge, etc. ☐-Yes ☒-No: 39i violations identified that may require permit denial. If yes, a memo to the Unit Manager should be prepared detailing the violations. i. ☐-A memo, dated _____, has been forwarded to the Unit Manager for evaluation. ☒-Yes ☐-N/A: Permit Condition V.B.1 has been revised to require the submittal of 39(i) Certification Forms with all applications (see item 4 of Procedure I.25).
Field Office Section	a. FOS Region/Contact: Charlene Thigpen Email: Charlene.thigpen@illinois.gov Phone: 847-294-4122 b. Field Inspection Required: ☐-Yes ☒-No If yes, a memo/email should be prepared and sent to the FOS contact, copy FOS Regional Manager. i. ☐-A memo/email, dated _____, has been forwarded to the FOS. c. Comments Received from FOS: ☐-Yes ☒-No
CROPA Memo <u>Procedure I.31</u> <u>CROPA Template</u>	a. ☐-Yes ☒-No : CROPA Memo distributed on _____. i. ☐-Yes ☐-No: Permit(s) from other Bureaus required.

¹ See item.2 of June 26, 2018 39(i) Investigations Memo

Change of Basic Facility Information (Change of: Name, Owner/Operator, Contact Information, etc.)	a. ☐-Yes ☒-No If yes: i. Facility with BOL ID/Inventory Number only (Non-RCRA Facility): ☐-Reviewer has completed <u>Site Inventory Data Input Form</u> -OR- ☐-Facility has submitted an <u>Illinois EPA Inventory Application</u>. ii. Facility with a Federal (RCRA) ID Number : ☐- Facility has submitted a revised <u>Notification of Regulated Waste Activity Form (USEPA Form 8700-12)</u>.
Right-to-Know (RTK) Evaluation <u>Sec. 25d of Act</u> <u>Right-to-Know Evaluation Form (2023)</u> <u>Contaminant Evaluation Group (CEG) Referral Memo (2023)</u> <u>IEPA Right-to-Know Website</u>	A Right-to-Know (RTK) evaluation must be performed for any review in which soil, soil gas and/or groundwater contamination data is reviewed. a. ☐-N/A No release near the property boundary has been documented. b. ☒-RTK Evaluation performed , <u>RTK Evaluation Form</u> attached. c. Soil, soil gas and/or groundwater contamination were evaluated. The evaluation determined: • ☐-Further evaluation required and Item d below must be completed. • ☐-Additional information is required to make an evaluation. • ☐-No criteria met; site does not warrant further evaluation. d. ☐-<u>Right-to-Know Evaluation Form</u> required a CEG Referral Memorandum be completed and sent to Community Relations RTK Coordinator. Memo sent on date: _____ e. ☐-Other: <u>Right-to-Know Evaluation Form</u> completed, met criteria for referral to CEG but was not required based on: _____ Notes: See Attachment 4 of GU, Garrett Strittmatter, Review Memo

Review Notes

**RCRA Permit, RCRA
Corrective Action, & RCRA
Closure Submittals**

[USEPA RCRAInfo Database](#)
[IEPA RCRAInfo Data Entry](#)
[Guidance \(Draft\)](#)
[USEPA R1 RCRAInfo Data](#)
[Entry Walk Through](#)
[USEPA Comprehensive](#)
[RCRAInfo Help & Guidance](#)
[USEPA RCRAInfo Data](#)
[Element Dictionary](#)

☐- N/A: Submittal(s) is not a RCRA Permit, RCRA Closure or RCRA Corrective Action Submittal.

a. ☒- RCRA Info: Enter data into the [USEPA RCRAInfo Database](#) for RCRA permits, permit modifications, RCRA Closure and Corrective Action submittals as required. See linked documents to the left for additional guidance.

b. ☒-Yes ☐-No ☐-N/A: Permit Modification Class Correctly Identified: The submittal has been properly classified by the applicant i.e., as a Class I, Class I*, Class II or Class III modification (35 IAC 703.280) or as a Corrective Action submittal.

If the permit class was not correct:

- ☐- Admin Support was contacted to correct the permit class in the RCRA Database, and the Tracking Sheet was updated and was redistributed to the FOS regional office and other staff.
- ☐-Yes ☐-N/A: If necessary, the applicant has been notified of the change in the permit modification Class of the submittal. (35 IAC 703.280(d)(2)(A); 703.282(f)).

0310390001 -- Cook County
CID Recycling and Disposal
ILD010284248
Post-closure cost estimate
Log No. B-27R2-M-8
RCRA Permits – 24A

Date Received by IEPA: October 30, 2023

LOG for B-27R2-M-8	
Class 1* permit modification	
Date	Description
10-27-23	CID's application for permit modification
11-6-23	EJ Review Request #6538
11-6-23	Email from EJ that review request has been submitted
11-6-23	Email from EJ Review – Complete – No Outreach
10-2-25	GU Review Memo
10-2-25	Kelly Huser Review Notes
	Final Action:

REVIEW NOTES – KELLY HUSER

0310390001 – Cook County
ILD010284248
CID Recycling and Disposal
Log No. B-27R2-M-8

Facility Contact -- Steven Chillson, District Manager
Waste Management
720 Butterfield Road
Suite 400
Lombard, IL. 60148
224-523-1736

FACILITY BACKGROUND

CID RDF facility is owned and operated by Waste Management of Illinois, Inc. This facility was a commercial facility involved in the disposal of hazardous waste. Nearly all the hazardous waste handled at this facility was generated off-site by various industries. In particular, the largest generators of wastes accepted at the facility were the metal finishing industry, the iron and steel industry, and the petroleum refining industry. Only a small portion of the waste disposed at the facility was generated on-site.

A 25.9-acre closed hazardous waste landfill (known as Area 4) exists at the facility. The hazardous waste disposed in this landfill that required treatment to meet the land disposal restrictions stated in 35 Ill. Adm. Code Part 728, were treated before disposal. Approximately 2,500,000 cubic yards of hazardous waste was placed in Area 4 between 1983 and 2009.

A 173-acre closed landfill (known as Area 3) also exists at the facility. Approximately 83 acres of Area 3 received hazardous waste during operation between 1980 and January 1983, when hazardous waste was co-disposed with municipal waste. Since January 1983, Area 3 had only received municipal refuse and other non-hazardous special wastes. Because Area 3 no longer accepted hazardous waste, a RCRA permit was not required for its continued receipt of non-hazardous waste. However, as this landfill did receive hazardous waste, it was closed in accordance with the approved closure plan (C-187) and must receive post-closure care and monitoring in accordance with this RCRA post-closure permit.

A 91-acre closed landfill (known as Area 1) also exists at the facility. The Area 1 landfill operated from approximately 1968 to 1979. The approximate volume of waste placed in Area 1 was about 20 million cubic yards. The precise types, quantities and physical states of wastes received in Area 1 are not known.

A 53.7-acre closed landfill (known as Area 2) also exists at the facility. The Area 2 landfill operated from approximately 1968 to 1979. The approximate volume of waste placed in Area 2

was about 7 million cubic yards. Area 2 was primarily used for disposal of construction demolition materials and was also used for disposal of stabilized industrial wastes from the former CID RDF Dewatering Plant.

PROJECT DESCRIPTION

CID is submitting a Class 1* permit modification application to update the facility's post-closure care cost estimate.

Submittal: Document titled, "Updated Post-Closure Care Cost Estimates", dated October 27, 2023 and received by the Illinois EPA on October 30, 2023. The subject document contained revised post-closure cost estimates for Area 3 and Area 4 landfills and a revised corrective action cost estimate for Area 1 and Area 2 landfills. The subject submittal was assigned Log No. B-27R2-M-8.

In accordance with Title 35 Illinois Administrative Code (35 IAC) 703.280(d)(2)(A), the subject submittal was reviewed as Class 1* permit modification requests. This is a minor modification that keeps the permit up to date but needs Illinois EPA approval.

PERMIT HISTORY

See attached.

7-30-25

Technical Review of Submittal –

CID states the following revisions to the estimates have been completed:

1. The estimates have been revised and adjusted for inflation pursuant to permit condition VI.35.a.

Reviewer's Comment: Permit Condition VI.35.a is as follows:

COST ESTIMATE FOR POST-CLOSURE. The Permittee's original post-closure cost estimate, prepared in accordance with 35 Ill. Adm. Code 724.244, must be:

- a. *Adjusted for inflation either 60 days prior to each anniversary of the date on which the first closure cost estimate was prepared or if using the financial test or corporate guarantee, within 30 days after close of the firm's fiscal year. CID has used inflation factors of 1.0413 (2022) and 1.07 (2023) to inflate the 2021 unit costs. Ok.*

2. The period for post-closure care has been adjusted based on the current year.

Reviewer's Comment: In accordance with 35 Ill. Adm. Code 724.244 and 724.217(a)(1), the post-closure cost estimate is determined by the annual post-closure cost multiplied by the number of years for post-closure care required. For a closed hazardous waste landfill, with hazardous waste being left in place, post-closure care is required to be

Review Notes

maintained 30 years. Regulations provided under 35 Ill. Adm. Code 724.245 outline the financial assurance mechanisms required and available to RCRA facilities. Illinois EPA has evaluated this requirement and has determined that a reduction of financial assurance is not appropriate.

A RCRA-permitted facility shall maintain financial assurance for 30 years for the entire post-closure care period unless it has completed a post-closure activity or changed the frequency of an activity, that would cause a reduction in the post-closure cost estimate. If a post-closure activity is completed or a change in frequency of an activity is approved, the facility may submit a request for a reduced post-closure cost estimate to Illinois EPA. All facilities with a closed hazardous waste landfill will be required to maintain financial assurance for 30 years of post-closure care until such time the facility can certify completion of post-closure care.

The following is additional technical review notes for financial assurance for hazardous waste landfills under post-closure.

I. RCRA Regulations for Financial Obligations for Post-Closure Care

- Applicable Regulations

The following regulations address the post-closure period, and the requirement to establish financial assurance during the post-closure care period.

- 35 IAC 724.240 (b) states that the requirements for Sections 724.244 and 724.245 apply to: disposal facilities and units closed with landfill requirements.

- o 724.244(a) states the post-closure cost estimate is required in current dollars for post-closure monitoring and maintenance of the facility in accordance with Sections 724.217 through 724.220, 724.328, 724.358, 724.380, 724.410, and 724.703.

- o 724.244 (a)(2) The post-closure cost estimate is calculated by multiplying the annual post-closure cost estimate by the number of years of post-closure care required under Section 724.217.

- 724.244(b) requires the post-closure cost estimate be adjusted annually for inflation within 60-day prior to the anniversary date of the establishment of the financial assurance used to comply with Section 724.245.

- 724.245 requires an owner or operator of a hazardous waste management unit subject to the requirements of Section 724.244 must establish financial assurance for post-closure care in accordance with the approved post-closure plan for the facility.

- 35 IAC 724.217(a)(1) and (2) specifies the post-closure care period must begin after

Review Notes

completion of closure and continue for 30 years after completion of closure unless a permit is modified to shorten or extend the post-closure care period.

- Other Considerations for Financial Obligation Related to RCRA Post-Closure Care
 - As required in 35 IAC 724.245, the financial assurance must be established in accordance with the approved post-closure care plan for the post-closure care period of 30 years as required under Section 724.217 (a)(1), unless a permit modification allowing a revised post-closure care period has been approved.
 - USEPA's December 15, 2016 document, "Guidance for Evaluating the Post-Closure Care Period for Hazardous Waste Disposal Facilities under Subtitle C of RCRA" (2016 USEPA Guidance) also indicates that the owner or operator is required to establish financial assurance for post-closure care in an amount equal to the current post-closure cost estimate and that an adjusted post-closure care period may also necessitate revisions to the associated post-closure cost estimate and financial assurance.
 - Historically, during the post-closure care period, the facility's financial assurance liability has been allowed to be reduced by prorating with a number of years completed to minimum of 10 years. However, this prorated-reduction or the minimum of 10-year did not take into consideration the financial risk to the Illinois EPA and citizens of Illinois, if the Illinois EPA would have to unexpectedly assume operation of the post-closure care at the facility. The Illinois EPA has evaluated the requirements for post-closure care, cost estimates, and financial assurance for the hazardous waste management unit(s) under 35 IAC Part 724, and has determined that financial assurance equivalent to the rolling 30-year post-closure care cost estimate is minimally necessary to address such financial risks to the State if any hazardous waste is left in place at the unit. If any evidence shows that the estimated cost should be higher than the 30-year cost, then it should be adjusted to a higher number of years.
 - As required by 35 IAC 724.217(a) (1), a 30-year post closure care cost is required for establishing financial assurance. Any adjustment to this 30-year requirement must be made through a permit modification.
 - At the Illinois EPA, any revisions and adjustments to the post-closure care cost estimates and associated financial assurance requirements have been and will be made under Class 1* permit modifications, unless they are made through a permit renewal or with other modifications requiring Class 2 or 3 modifications (such as extending the post-closure care period).
3. The corrective action cost estimate has been updated to reflect the corrective action program approved in Log No. B-27R2-M-5, in accordance with permit condition IV.F.5.

Reviewer's Comment: Permit Condition IV.F.5 is as follows:

Review Notes

5. *All cost estimates prepared under the requirements of Conditions IV.F.1 through IV.F.4 must be submitted as a Class 1* permit modification request in accordance with 35 Ill. Adm. Code 703.281.*

The approved corrective action cost estimate in Log No. B-27R2-M-5 was \$10,303,004 (2021 dollars). The facility has used the inflation factors of 1.0413 (2022) and 1.07 (2023) to inflate the total corrective action costs to 11,598,310 (2023 dollars). Ok.

4. The following changes in tasks and third-party costs include the following:

- a. Sampling and analytical costs have been revised to reflect cost increases due to changes in scope in 2023. Cost documentation is provided in Attachment 3.

Reviewer's Comment: the facility has provided quotes from Eurofin Labs for the analytical costs for the groundwater and leachate monitoring. The leachate analytical costs are acceptable. The groundwater reviewer will look at the GW costs. A third-party cost estimate for all sampling was provided.

- b. Leachate monitoring and reporting costs were revised to reflect new requirements for electronic reporting triggered by the issuance of permit B-27R2.

Reviewer's Comment: this is acceptable.

- c. The cost for a 10-year aerial topography was revised to reflect one fewer survey required, as the first survey was completed for Area 3 and Area 4 on March 15, 2023.

Reviewer's Comment: this is acceptable, and a third-party quote was provided for the aerial topo mapping.

- d. The duration of corrective action at Area 3 was revised to be consistent with Area 1 and Area 2 corrective action estimates.

Reviewer's Comment: The approved corrective action time frame is 10 years. CID has changed Area 3's corrective action groundwater monitoring to ten years. This is acceptable and consistent with the other corrective action costs at the facility.

Reviewer's Comment: The application is partially acceptable. The annual costs for post-closure care can be approved, however the total cannot be approved. The Illinois EPA is requiring a cost-estimate for the full 30-year post-closure care period to determine the required financial assurance for all RCRA sites where hazardous waste is left in place. The corrective action costs can be approved. The groundwater reviewer will review the groundwater costs.

Review Notes

10-2-25

I have received the Garrett Strittmatter, GU, review memo and the groundwater portions of the subject submittal can be approved. The GU review memo has been added to the review package.

FINAL ACTION

Partial Approval

DISCUSSION IN FINAL LETTER

The Illinois EPA can partially approve the subject submittal. The following items can be approved: (1) the annual costs for post-closure care; and (2) the corrective action costs for Areas 1, 2 and 3. The facility will need to submit a revised post-closure cost estimate for the full 30-years of post-closure care.

0310390001--Cook County
ILD010284248
CID Recycling and Disposal Facility

PERMIT HISTORY B-27R2

1-19-23; B-27R2

Renewal RCRA Post-Closure Permit issued.

2-23-23; B-27R2

RCRA Post-Closure Permit is effective.

4-17-23; B-27R2-M-1; Class 1* permit modification dated July 14, 2021; partial approval of 2021 Biennial Revisions of Background Values.

4-17-23; B-27R2-M-2; Class 1* permit modification dated October 5, 2022; approved Reduced Annual Leachate Monitoring Lists.

6-22-23; B-27R2-M-3; Class 1* permit modification dated February 13, 2023; approved removal of Contingency Plan from the RCRA permit.

6-22-23; B-27R2-M-4; Class 1* permit modification dated May 18, 2023; approved the removal of "minimum ten (10) years" form Permit Conditions I.I.2 and IV.F.1.

10-11-23; B-27R2-M-5; Class 1* permit modification dated June 15, 2023; approved the removal of Condition V.C.2 from the RCRA permit. Also removed Condition V.C.1.

7-29-24; B-27R-CA-12; approved GMZ for Area 1.

7-29-24; B-27R-M-7; Class 1* permit modification dated July 11, 2023; approved an updated O&M Plan for Area 1 and Area 2 landfills.

GU Review



Illinois Environmental Protection Agency

2520 West Iles Avenue • P.O. Box 19276 • Springfield, Illinois • 62794-9276 • 217-782-3397

JB Pritzker, Governor

James Jennings, Acting Director

MEMORANDUM

DATE: October 2, 2025

TO: Kelly Huser, RCRA Unit

FROM: *CLS DMA*
Garrett Strittmatter, Groundwater Unit
AMB

SUBJECT: 2023/2024 Cost Estimates

RE: 0310390001 -- Cook County
CID Recycling & Disposal Facility
ILD010284248
Log Nos. B-27R2-M-8; B-27R2-M-10
RCRA Permit - 24A

A review has been completed on the groundwater portions of the following two documents prepared and submitted by Steve Chillson of Waste Management of Illinois Inc. on behalf of CID Recycling and Disposal Facility (CID):

Submittal No. 1 (Log No. B-27R2-M-8) – A document entitled, “Class 1* Permit Modification Application Updated Post-Closure Care Cost Estimates” dated October 27, 2023 and received by the Illinois EPA on October 30, 2023. The purpose of Submittal No. 1 is to provide an updated cost estimate for Post-Closure Care (PCC) and corrective action at the facility in accordance with Title 35 Illinois Administrative Code (35 IAC) 724.244. Only the groundwater aspects of this document are reviewed herein.

Submittal No. 2 (Log No. B-27R2-M-10) – A document entitled, “Class 1* Permit Modification Application Updated Post-Closure Care Cost Estimates” dated October 28, 2024 and received by the Illinois EPA on October 29, 2024. The purpose of Submittal No. 2 is to provide an updated cost estimate for Post-Closure Care (PCC) and corrective action at the facility in accordance with 35 IAC 724.244. Only the groundwater aspects of this document are reviewed herein.

ENVIRONMENTAL JUSTICE (EJ), FOS COMMENTS, RIGHT TO KNOW (RTK)

The Environmental Justice requirements will be handled by the RCRA Unit.

Anthony Guido of the Des Plaines Field Operations Section (FOS) was contacted via email on 9/15/2025 to ask for any comments from FOS regarding groundwater at the site. Mr. Guido responded on 9/15/25 stating there are no comments from FOS at this time. A copy of this correspondence is provided as Attachment 1 to this memorandum.

A Bureau of Land Right to Know (RTK) Evaluation was conducted in September 2025. The site does not meet the requirements of a Bureau of Land RTK site at this time. A signed and dated RTK evaluation form is provided to the Project Manager as Attachment 2 to this memorandum.

BACKGROUND

The facility currently monitors groundwater in a shallow 35 IAC 620, Class II hydrostratigraphic unit referred to as the Dolton Sand, and a deeper fractured dolomite 35 IAC 620, Class I hydrostratigraphic unit referred to as the Silurian Dolomite. Pursuant to Section II of its Hazardous Waste Management RCRA Post-Closure Permit (Permit) issued July 29, 2024 (Log No. B-27R2-M-7) the facility currently conducts a Detection Monitoring Program at the Area 4 Landfill per the requirements set forth in 35 IAC 724.198. Pursuant to Section III of the Permit, the facility implements a Groundwater Corrective Action Program for a light non-aqueous phase liquid (LNAPL) release to groundwater at the Area 3 Landfill. The Area 3 Corrective Action Program utilizes a Groundwater Management Zone (GMZ) pursuant to 35 IAC 620.250. Pursuant to Section IV of the Permit, corrective action for 1,4-Dioxane is in place in Areas 1 and 2 per the requirements set forth in 35 IAC Part 620, 35 IAC 724.201, and 35 IAC Part 742. The Area 1 Corrective Action Program utilizes a GMZ pursuant to 35 IAC 620.250. The continued groundwater monitoring for Areas 1 & 2 is accomplished via the groundwater monitoring programs in place in Areas 3 & 4.

Submittals No. 1 and No. 2 consist of cost estimates for the facility. Both submittals are reviewed herein, however, Submittal No. 2 supersedes Submittal No. 1.

SUBMITTAL NO. 1

Submittal No. 1 consists of a letter and 3 attachments containing Permit Forms and specific cost information related to Areas 3 and 4 PCC and the corrective action plan related to Areas 1 and 2 as required by the Permit. Submittal No. 1 provides, as required by Conditions V.35.a and IV.F.5 of the Permit, revised PCC and corrective action cost estimates for the facility, respectively. Attachment 1 contains a 39(i) Certification for Operating a Waste Management Facility and a RCRA Permit Application Form (LPC-PA23). Attachment 2 contains the approved 2021 costs annotated with 2023 updates. Attachment 3 contains 3rd party documentation for the PCC cost.

Attachment 2

Table I-4 of Submittal No. 1 provides cost estimates in 2023 dollars associated with the remaining 15 years of PCC required for the Area 3 Landfill. The updated PCC cost estimate proposed for groundwater monitoring and remediation in Area 3 is \$860,938 in 2023 dollars. The groundwater monitoring portion of the cost estimate includes sampling, analysis, and reporting for 44 wells on a semi-annual basis, as well as 5-year GMZ Re-evaluations, a biennial well survey, and the operation and maintenance costs for the groundwater extraction system implemented at Area 3.

Table I-5 of Submittal No. 1 provides cost estimates in 2023 dollars associated with the remaining 17 years of PCC required for the Area 4 Landfill. The updated PCC cost estimate proposed for groundwater monitoring in Area 4 is \$427,669 in 2023 dollars. The groundwater monitoring portion of the cost estimate includes sampling, analysis, and reporting for 19 wells on a semi-annual basis.

Table I-6 of Submittal No. 1 provides cost estimates in 2023 dollars associated with 10 years of corrective action required for the Area 1 and 2 landfills. The updated corrective action cost estimate proposed for groundwater corrective measures is \$149,140 in 2023 dollars. The groundwater portion of this cost estimate includes costs associated with corrective measures for groundwater approved in an October 11, 2023 Illinois EPA letter (Log No. B-27R2-M-5). These corrective measures include a phytoremediation system and groundwater extraction and treatment.

ILLINOIS EPA COMMENTS to Submittal No. 1

The following comments are provided in regard to Submittal No. 1:

1. Submittal No. 1 is superseded by Submittal No. 2.
2. At this time, the updated cost estimates appear to be accurate and adequate for the remaining PCC and corrective action activities that must be conducted at the facility. Therefore, the groundwater portions of these cost estimates can be approved with the exception of the time frame for PCC costs which will be addressed by the RCRA Unit.
3. The groundwater portion of the PCC cost estimate for Area 3 found in Condition I.I.1 of the Permit totals \$860,938 in 2023 dollars.
4. The groundwater portion of the PCC cost estimate for Area 4 found in Condition I.I.1 of the Permit totals \$427,669 in 2023 dollars.
5. The groundwater portion of the corrective action cost estimate for Areas 1 and 2 found in Condition IV.F.1 of the Permit totals \$319,880 in 2023 dollars.

SUBMITTAL NO. 2

Submittal No.2 consists of a letter and 3 attachments containing Permit Forms and specific cost information related to Areas 3 and 4 PCC and corrective action plan related to Areas 1 and 2 as required by the Permit. Submittal No. 2 provides, as required by Conditions V.35.a and IV.F.5 of the Permit, revised PCC and corrective action cost estimates for the facility, respectively. Attachment 1 contains a 39(i) Certification for Operating a Waste Management Facility and a RCRA Permit Application Form (LPC-PA23). Attachment 2 contains the approved 2021 costs annotated with 2024 updates. Attachment 3 contains 3rd party documentation for the PCC Cost.

Attachment 2

Table I-4 of Submittal No.2 provides cost estimates in 2024 dollars associated with the remaining 14 years of PCC required for the Area 3 Landfill. The updated PCC cost estimate proposed for groundwater monitoring and remediation in Area 3 is \$853,806 in 2024 dollars. The groundwater monitoring portion of the cost estimate includes sampling, analysis, and reporting for 44 wells on a semi-annual basis, as well as 5-year GMZ Re-evaluations; biennial well surveys, and the operation and maintenance costs for the groundwater extraction system implemented at Area 3.

Table I-5 of Submittal No.2 provides cost estimates in 2024 dollars associated with the remaining 16 years of PCC required for the Area 4 Landfill. The updated PCC cost estimate proposed for groundwater monitoring in Area 4 is \$411,208 in 2024 dollars. The groundwater monitoring portion of the cost estimate includes sampling, analysis, and reporting for 19 wells on a semi-annual basis.

Table I-6 of Submittal No.2 provides cost estimates in 2024 dollars associated with 10 years of corrective action required for the Area 1 and 2 landfills. The updated corrective action cost estimate proposed for groundwater corrective measures is \$227,346 in 2024 dollars. The groundwater portion of this cost estimate includes costs associated with corrective measures for groundwater approved in a July 29, 2024 Illinois EPA letter (Log No. B-27R2-M-7). These corrective measures include a phytoremediation system and groundwater extraction and treatment.

ILLINOIS EPA COMMENTS to Submittal No. 2

The following comments are provided in regard to Submittal No. 2:

1. Submittal No. 2 supersedes Submittal No. 1.
2. At this time, the updated cost estimates appear to be accurate and adequate for groundwater for the PCC and corrective action activities that must be conducted at the facility, with the exception of the timeframe for PCC costs which will be addressed by the RCRA unit.

3. The groundwater portion of the PCC cost estimate for Area 3 found in Condition I.I.1 of the Permit totals \$853,806 in 2024 dollars.
4. The groundwater portion of the PCC cost estimate for Area 4 found in Condition I.I.1 of the Permit totals \$411,208 in 2024 dollars.
5. The groundwater portion of the corrective action cost estimate for Areas 1 and 2 found in Condition IV.F.1 of the Permit totals \$404,236 in 2024 dollars.

ILLINOIS EPA RECOMMENDATIONS

The Illinois EPA has determined that the groundwater portions of the subject documents are acceptable and can be approved at this time, with the exception of the timeframe for the PCC costs which will be addressed by the RCRA unit.

Attachments: Attachment 1 – FOS Comment Request
Attachment 2 – RTK Evaluation

Strittmatter, Garrett

From: Guido, Anthony
Sent: Monday, September 15, 2025 10:04 AM
To: Strittmatter, Garrett
Subject: RE: Comments on 0310390001 - CID Log Nos. B-27R2-M-8 and B-27R2-M-10

Hi Garrett,

I managed to find both our copies for these. I have no comments on the updated cost-estimates.

Thanks!

Anthony Guido
O: (847) 294 - 4072
C: (224) 688 - 2530

From: Strittmatter, Garrett <Garrett.Strittmatter@Illinois.gov>
Sent: Monday, September 15, 2025 9:25 AM
To: Guido, Anthony <Anthony.Guido@Illinois.gov>
Subject: Comments on 0310390001 - CID Log Nos. B-27R2-M-8 and B-27R2-M-10

Good Morning,

Do you have any comments on the Groundwater portions of 0310390001 - CID Log Nos. B-27R2-M-8 and B-27R2-M-10. Please let me know if you would like me to scan and forward these documents to you.

Thank you,
 Garrett Strittmatter



Garrett Strittmatter
 Environmental Protection Geologist I
 Groundwater Unit, Permit Section, Bureau of Land
 217-558-0073
garrett.strittmatter@illinois.gov

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Illinois Environmental Protection Agency

2520 West Iles Avenue • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

Right-to-Know Evaluation

Date: Sep 15, 2025

Site Information	Employee Information
Site Name: <u>CID Recycling & Disposal Facility</u>	Name: <u>Garrett Strittmatter</u>
Site ID Number: <u>0310390001</u>	Section/Unit: <u>Bureau of Land Groundwater Unit</u>
Site County: <u>Cook</u>	Phone: <u>217-558-0073</u>
Site Address: <u>138th Street and Interstate 94</u>	Email: <u>garrett.strittmatter@Illinois.gov</u>
City, State, Zip: <u>Calumet City, Illinois 60409</u>	
Criteria (check all that apply)	
☐ Groundwater contamination (including soil contamination exceeding the applicable remediation objectives for the soil component of the groundwater ingestion exposure route) from the site where the release occurred poses a threat of exposure to the public above the Class I groundwater quality standards or the Class I groundwater remediation objectives within the setback zone of a potable water supply well: ☐ Limited community relations activities are required: Five (5) or fewer potable water supply wells, other than a community water system well, are affected by the release at the site. ☐ Expanded community relations activities are required: More than five (5) potable water supply wells, or one (1) or more community water system wells, are affected by the release at the site.	
☐ Groundwater contamination or soil gas contamination from volatile chemicals beyond the boundary of the site where the release occurred poses a threat of indoor inhalation exposure to the public above the appropriate Tier 1 remediation objectives, based on the current use of the off-site property: ☐ Limited community relations activities are required: Five (5) or fewer off-site properties are affected by the release at the site. ☐ Expanded community relations activities are required: More than five (5) off-site properties are affected by the release at the site.	
☐ Soil contamination or soil gas contamination beyond the boundary of the site where the release occurred poses a threat of exposure to the public above the appropriate Tier 1 remediation objectives, based on the current use of the off-site property: ☐ Limited community relations activities are required: Five (5) or fewer off-site properties are affected by the release at the site. ☐ Expanded community relations activities are required: More than five (5) off-site properties are affected by the release at the site.	
☐ The Illinois EPA refers a matter for enforcement under Section 43(a) of the Act.	
☐ The Illinois EPA issues a seal order under Section 34 of the Act.	
☐ The Illinois EPA, U.S. EPA, or a third party under Illinois EPA or U.S. EPA oversight performs an immediate/emergency removal under the federal Comprehensive Environmental Response, Compensation, and Liability Act.	
Summary	
☒ None of the above criteria are met and the site does not warrant further evaluation.	
☐ At least one of the above criteria is met and the site must be further evaluated: this Right-to-Know Evaluation should be submitted to the Office of Community Relations Right-to-Know Coordinator along with a Right-to-Know Referral. Both forms should be completed, digitally signed, and submitted electronically.	
Project Manager: <u>Garrett Strittmatter</u>	Digitally signed by Garrett Strittmatter Date: 2025.09.15 11:48:54 -05'00'
Signature	Date



Illinois Environmental Protection Agency

R 000144

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JB Pritzker, Governor

James Jennings, Acting Director

HAZARDOUS WASTE MANAGEMENT RCRA POST-CLOSURE PERMIT

0310390001 -- Cook County
ILD 010284248
CID Recycling and Disposal Facility
Permit Log No. B-27R2-M-8; M-10
RCRA Permits -- 24A

Issue Date: January 19, 2023
Effective Date: February 23, 2023
Expiration Date: February 23, 2033
Modification Date: OCT 27 2025

PERMITTEE

Waste Management of Illinois, Inc.
Environmental Legacy Management Group
720 E. Butterfield Road, Suite 400
Lombard, Illinois 60148-5671

A modified RCRA Post-Closure permit is hereby issued to Waste Management of Illinois, Inc. (CID RDF) as Owner, Operator, and Permittee pursuant to Section 39(d) of the Illinois Environmental Protection Act (Act), and Title 35 Illinois Administrative Code Subtitle G (35 Ill. Adm. Code).

PERMITTED HAZARDOUS WASTE ACTIVITY

This Permit requires CID RDF to conduct the following hazardous waste activities in accordance with the approved permit application and the conditions of this Permit.

Post-Closure Care of two closed landfills (Area 3 and Area 4) (D80)

Groundwater Monitoring: Detection Monitoring and Corrective Action Program

Corrective Action for two closed landfills (Area 1 and Area 2) (SWMUs)

This Permit consists of the conditions contained herein and those in the sections and attachments in this Permit. The Permittee must comply with all terms and conditions of this Permit and the applicable regulations contained in 35 Ill. Adm. Code Parts 702, 703, 705, and 720 through 729 in effect on the effective date of this Permit.

This Permit is issued based on the information submitted in the approved permit application identified in Attachment E of this Permit and any subsequent amendments. Any inaccuracies found in this information provided in the permit application may be grounds for the termination or modification of this Permit (see 35 Ill. Adm. Code 702.187 and 702.186) and potential enforcement action (415 ILCS 5/44(h)).

Joshua L. Rhoades, P.G.
Permit Section Manager
Bureau of Land

KDH TNH DMA AMB GLS

JLR: KDH:0310390001-RCRA-B27R2M8-B27R2M10-Approval.docx

2125 S. First Street, Champaign, IL 61820 • 217-278-5800
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RCRA POST-CLOSURE PERMIT

ISSUED TO

CID RDF

CALUMET CITY, ILLINOIS

STATE ID # 0310390001

ILD010284248

LOG NO. B-27R2-M-8; M-10

**RCRA POST-CLOSURE PERMIT
CID RDF
LOG NO. B-27R2-M-8; M-10
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GENERAL FACILITY DESCRIPTION

A. OWNER AND OPERATOR

The facility is owned and operated by Waste Management of Illinois, Inc. (WMIL), herein referred to as the "Permittee." (35 Ill. Adm. Code 702.121, 702.123, & 703.181)

Waste Management of Illinois, Inc.
720 East Butterfield Road, Suite 400
Lombard, Illinois 60148

B. LOCATION

1. Location of Facility

The CID Recycling and Disposal Facility (CID RDF) is owned and operated by WMIL and is located upon approximately 400 acres of land in the incorporated limits of Chicago, Calumet City, and Burnham in Cook County, Illinois. The CID RDF facility is located at:

CID Recycling and Disposal Facility
138th Street and Interstate 94
Calumet City, Illinois 60409

The facility contact is the District Manager. They can be reached at 224-523-1736.

2. Facility Map

A general facility map is provided in Attachment J. The location of the two closed landfills (known as Area 3 and Area 4) (D80) and the two closed solid waste management units (known as Area 1 and Area 2 landfills) are shown on this map.

C. DESCRIPTION OF HAZARDOUS WASTE MANAGEMENT ACTIVITIES

The CID RDF owned and operated by Waste Management of Illinois, Inc., was a commercial facility involved in the treatment and disposal of hazardous waste. Nearly all the hazardous waste handled at this facility was generated off-site by various industries. In particular, the largest generators of wastes accepted at the facility were the metal finishing industry, the iron and steel industry, and the petroleum refining industry. Only a small portion of the waste disposed at the facility was generated on-site.

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A 25.9-acre closed hazardous waste landfill (known as Area 4) exists at the facility. The Illinois EPA approved closure of the Area 4 landfill on April 23, 2010 (Log No. B-27R-M-13).

A 173-acre closed landfill (known as Area 3) also exists at the facility. Approximately 83 acres of this landfill received hazardous waste during operation between 1980 and January 1983, when hazardous waste was co-disposed with municipal waste disposed at Area 3. Since January 1983, Area 3 had only received municipal refuse and other non-hazardous special wastes. However, as this landfill did receive hazardous waste, it was closed in accordance with the closure plan approved by the Illinois EPA on June 6, 1986 (including any adjudicated revisions as a result of the appeal) and receives post-closure care and monitoring in accordance with this RCRA Post-Closure permit. The Illinois EPA approved closure of the Area 3 landfill in a letter dated October 10, 2008 (Log No. C-187-CERT).

SECTION I: POST-CLOSURE**A. SUMMARY**

Hazardous waste management units where waste is left in-place must receive post-closure care for at least 30 years after they are closed. As Area 3 was used for the disposal of hazardous waste prior to January 26, 1983, and Area 4 was used for the disposal of hazardous waste, post-closure care must be provided for both units. Activities required during post-closure care include, but are not limited to, (1) maintenance of the final cover, (2) management of leachate, and (3) monitoring of the groundwater. Post-closure care for Area 3 began on May 30, 2008. Post-closure care for Area 4 began on February 18, 2010.

B. UNIT IDENTIFICATION

1. The Permittee must provide post-closure care for the following hazardous waste management unit(s), as described in the approved permit application, subject to the terms and conditions of this Permit:

<u>Unit Designation</u>	<u>Capacity (c.y.)</u>	<u>Surface Area Dimensions of Unit (acres)</u>	<u>Description of Waste Hazardous Waste No.</u>
Area 3 Landfill (D80)	27,000,000 (approximate)	173	Mostly municipal waste and some hazardous waste
Area 4 Landfill (D80)	2,500,000 (approximate)	25.9	Industrial hazardous waste that met Land Disposal Restrictions

2. The location and horizontal extent of the Area 3 landfill is identified in Attachment J, Site Layout Map, of this Permit. The lowest elevation of the sumps in the base collection system for Area 3 landfill is at or above elevation 555 feet mean seal level (MSL). The highest elevation of the final cover system is at or below elevation 746 feet MSL. The slopes of the final cover on the Area 3 landfill shall not be steeper than 3:1. The Area 3 landfill was designed and constructed to achieve a minimum static slope factor of safety greater than or equal to 1.5 and a seismic factor of safety greater than or equal to 1.3.
3. The liner system on the bottom and sides of the Area 3 landfill is constructed of a minimum of 20-feet of natural, low permeability clay.
4. The cover system on the top of the Area 3 landfill is constructed of the following layers, described from the top to bottom:

- a. Minimum six-inch vegetative layer with sustained vegetation
 - b. Minimum of four feet of compacted clayey soil
5. A survey plat indicating the location and dimensions of the Area 3 landfill and any other hazardous waste disposal units with respect to permanently surveyed benchmarks was prepared and certified by a professional land surveyor. The notes on the plat state the owner's and operator's obligation to restrict disturbance of the Area 3 landfill in accordance with the applicable Subpart G regulations. These notes state:
- a. The waste materials contained in the Area 3 landfill are considered RCRA hazardous wastes. They include mostly municipal waste and some hazardous waste.
 - b. Any material removed from the Area 3 landfill during future activities must be managed as a hazardous waste in accordance with 35 Ill. Adm. Code Subtitle G: Waste Disposal.
 - c. The use of this area is restricted.
6. The Plat of Survey (PIN No. 25-35-200-004-0000, 25-35-201-014-0000, 25-35-202-003-0000, 25-35-203-001-0000, 25-36-100-026-0000, 25-35-203-007-0000, 25-35-203-003-0000, 25-36-100-002-0000, 25-35-203-006-0000) for that Area 3 landfill, Project No. 89-11-2, was filed with the Cook County Recorder's Office in Chicago, IL on March 18, 2010. The record data is Document No. 1007703015.
- The Plat of Survey was attached to the deed to the property and serves as an instrument which is normally examined during title search that will in perpetuity notify any potential purchaser of the property that:
- a. The waste material in the Area 3 landfill is considered a RCRA hazardous waste;
 - b. Use of the area is restricted; and
 - c. A survey plat and record of the type, location and quantity of waste material in the Area 3 landfill was filed with the IEPA and the County Recorder.
7. The location and horizontal extent of the Area 4 landfill is identified in Attachment J, Site Layout Map, of this Permit. The lowest elevation of the sumps in the Area 4 landfill is at or above elevation 549 feet MSL. The highest elevation of the final cover system is at or below elevation 660 feet MSL. The slopes of the final cover on the Area 4 landfill shall not be steeper than 3:1.

The Area 4 landfill was designed and constructed to achieve a minimum static slope factor of safety greater than or equal to 1.5 and a seismic factor of safety greater than or equal to 1.3.

8. The liner system on the bottom and sides of the Area 4 landfill is constructed of the following layers, described in the table below.

Area 4 Landfill Liner systems (top to bottom)			
Phase I (West)	Phase I (East) and Phase II West	Phase II (East) and Phase III (North & South)	Phase IV (North & South), Phase V and Phase VI
2-feet compacted clay	150-mil geotextile fabric	1-foot granular drainage layer (primary leachate collection system on the base)	Geotextile (filter on the base)
10-feet natural clay	30-mil HDPE synthetic liner	Geotextile protective filter fabric	1-foot granular drainage layer (primary leachate collection system on the base)
	2-feet compacted clay	Drainage layer (side slopes)	Geotextile (on base and side slopes)
	10-feet natural clay	60-mil HDPE (side slope) & 100-mil HDPE (base)	HDPE geonet (on side slopes)
		Geosynthetic clay liner	Primary liner: 60-mil HDPE (side slope) & 100-mil HDPE (base)
		60-mil HDPE (primary liner)	Geosynthetic clay liner
		HDPE geonet secondary leachate system with collection network	60-mil HDPE (secondary liner)
		60-mil HDPE (secondary liner)	HDPE geonet: secondary leachate detection system (Phase VI only)
		2-feet compacted clay	60-mil HDPE (tertiary liner)
		10-feet natural clay	3-feet compacted clay
			10-feet natural clay

9. The cover system on the top of the Area 4 landfill is constructed of the following layers, described from the top to bottom:
- Three-foot protective soil layer, with six-inches capable of supporting vegetation

double-sided geocomposite (an HDPE geonet sandwiched between two geotextile fabric filter layers)

- b. 40-mil HDPE textured geomembrane
 - c. Geosynthetic clay liner (GCL)
 - d. Two-foot layer of compacted bioremediated or other clean soils
10. A survey plat indicating the location and dimensions of the Area 4 landfill and any other hazardous waste disposal units with respect to permanently surveyed benchmarks was prepared and certified by a professional land surveyor. The notes on the plat state the owner's and operator's obligation to restrict disturbance of the Area 4 landfill in accordance with the applicable Subpart G regulations. These notes state:
- a. The waste materials contained in the Area 4 landfill are considered RCRA hazardous wastes. They include asbestos-containing waste, industrial hazardous waste and commercial hazardous waste.
 - b. Any material removed from the Area 4 landfill during future activities must be managed as a hazardous waste in accordance with 35 Ill. Adm. Code Subtitle G: Waste Disposal.
 - c. The use of this area is restricted.
11. The Plat of Survey (PIN No. 29-01-100-009-0000 and 29-01-200-011-0000) for the Area 4 landfill, Drawing No. S09-01-413, was filed with the Cook County Recorder's Office in Chicago, IL on March 18, 2010. The record data is Document No. 1007703015. The Plat of Survey was attached to the deed to the property and serves as an instrument which is normally examined during title search that will in perpetuity notify any potential purchaser of the property that:
- a. The waste material in the Area 4 landfill is considered a RCRA hazardous waste;
 - b. Use of the area is restricted; and
 - c. A survey plat and record of the type, location and quantity of waste material in the Area 4 landfill was filed with the Illinois EPA and the County Recorder.
12. The Permittee must develop a scaled topographic drawing of each unit identified in Condition I.B.1 to determine the vertical and horizontal dimensions of each unit at least once every 10 years. If a topographic drawing of a unit has not been developed in the 10

years prior to the date of this permit, it must be developed within 180 days of the date of the effective date of this permit, and every 10 years thereafter. The topographic drawings must be maintained as part of the operating record.

If differential settlement is observed to have occurred on a unit that adversely impacts the integrity or effectiveness of the barrier layers of the cover and requires repairs to those layers, the Permittee must notify the Illinois EPA Bureau of Land (BOL) Permit Section within 30 days of this finding. The notification must include a drawing showing the location of this settlement on the unit and a plan that includes a schedule for repairing the cover system. Repairs to the cover system, and/or its components, may be considered a permit modification. Differential settlement will be evaluated, at a minimum, by comparing the 10-year topographic maps required in Condition I.B.12.

C. POST-CLOSURE CARE PERIOD

1. The post-closure care period for the Area 3 landfill began on May 30, 2008, the date of certification of completion of closure of the unit listed in Condition I.B.1 of this Permit and continues for at least 30 years after that date. The post-closure care period for the Area 4 landfill began on February 18, 2010, the date of certification of completion of closure of the unit listed in Condition I.B.1 of this Permit and continues for at least 30 years after that date.
2. Prior to the anticipated completion of the post-closure care period, the Illinois Pollution Control Board (Board) will extend, or the Illinois EPA may propose extension of the post-closure care period if it finds that the extended period is necessary to protect human health and the environment (e.g., waste remains in place, or leachate or groundwater monitoring results indicate a potential for migration of waste at levels which may be harmful to human health and the environment).
3. The Illinois EPA may include restrictions upon the future use of the site if necessary, to protect public health and the environment, including permanent prohibition of the use of the site for purposes which may create an unreasonable risk of injury to human health or the environment. After any administrative and judicial challenges to such restrictions have been exhausted, the Illinois EPA shall file such restrictions of record in the Office of the Recorder of the county in which the hazardous waste disposal site is located.
4. The Permittee must not allow the property where the units designated in Condition I.B.1 are located to be used in a way that could disturb the integrity of the final cover, liners, any components of the containment system, or function of the facility's monitoring systems, unless the Illinois EPA finds, by way of a permit modification, that such use is necessary for either of the following reasons:

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B-27R2-M-8; M-10
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- a. It is necessary to the proposed use of the property, and will not increase the potential hazard to public health or the environment, or
 - b. It is necessary to reduce a threat to human health or the environment.
5. The Illinois EPA will require continuation of the security procedures set forth in the approved permit application during the post-closure period. At a minimum, Area 3 and Area 4 must be totally fenced and must have locked gates at each entrance. Any additional requirements beyond this shall be subject to the permit modification procedures set forth in 35 Ill. Adm. Code 705.128.

D. INSPECTIONS

- 1. The Permittee must inspect the components, structures, and equipment at the site in accordance with the inspection schedule in the approved permit application and the conditions in this Permit (Attachment D). The forms in Appendix D-2 of the Post-Closure Plan in the approved permit application must be used to document inspections and any repairs done at the facility.
- 2. The Permittee must inspect the facility semi-annually for evidence of any of the following:
 - a. Deterioration, malfunctions, or improper operation of run-on and run-off systems.
 - b. The presence of leachate in, and proper functioning of, the leachate collection and removal systems.
 - c. The deterioration of the liner or cover systems.
- 3. The facility must be inspected within 72 hours of any rain fall event of three or more inches in 24 hours to detect evidence of any of deterioration, malfunctions, or improper operation of run-on and run-off systems.
- 4. Appropriate corrective action must be taken if problems, including erosion, blockage of the channels, slope failure, etc. are observed. If corrective action is taken, the site must be revisited one month later to ensure that the actions taken have indeed corrected the problem(s) noted.
- 5. The Permittee must inspect the benchmark(s) used to identify the location of the hazardous waste management units (HWMUs) and solid waste management units (SWMUs) within 60 days of the effective date of this Permit and thereafter in accordance with the Inspection Schedule in the approved permit application.

Benchmark(s) must be repaired and resurveyed whenever an inspection of the benchmarks indicates they have been damaged. The inspection results, repairs, and surveys of the benchmark(s) must be maintained as part of the operating record.

6. Results of all inspections and a description of any remedial actions taken must be documented in the Repair Log in the operating record and maintained for the entire post-closure period.

E. MONITORING, MAINTENANCE, AND RECORDKEEPING

1. The Permittee must keep and maintain a written operating record that includes all the records, reports, notifications, and data required by 35 Ill. Adm. Code 724.173 and the conditions in this Permit for the entirety of the post-closure care period. The operating record must be kept on-site at the facility and available for Illinois EPA review.
2. The Permittee must maintain and monitor the groundwater monitoring system and comply with the other applicable regulations of 35 Ill. Adm. Code 724 Subpart F (Groundwater Protection) during the post-closure period.
3. The Permittee must 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, and other events.
4. The Permittee must prevent run-off from eroding or otherwise damaging the final cover. At a minimum, the run-off management system shall be capable of collecting and controlling the volume of water resulting from a 24 hour, 25-year storm event.
5. The Permittee must comply with the requirements for landfills described in the approved permit application and the condition of this Permit as follows:
 - a. 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, cracking or other events.
 - b. Corrective action must be taken if ponding has been observed, if cracks or erosion channels greater than one inch wide have formed for whatever reason, if gas, odor, vegetative or vector problems arise, if leachate pop-outs or seeps are present, or if vegetation with tap roots is found to be growing in areas which are not designed to accommodate such vegetation.
6. The Permittee must maintain the leachate collection systems (LCS) in Area 3 (Fig. E-5a of approved permit application) and Area 4 (Fig. E-4a of approved permit application), and

leak detection system (LDS) in Phase VI of Area 4 in accordance with the design plans and specifications contained in the approved permit application and the conditions in this Permit. Including the following:

- a. Initiate troubleshooting of the LCS and LDS if the control system detects abnormal operating conditions or site personnel observe unexpected performance during daily routine system inspections.
 - b. Troubleshooting will include checks of electrical, mechanical, piping and control system components, as necessary depending on the nature of the operating condition. Routine maintenance, such as cleaning LCS and LDS pumps and pipe jetting, will be performed as needed to achieve compliance with designated liquid levels within the LCS and LDS.
 - c. Repairs will be documented in the facility operating record.
7. The Permittee must remove leachate from the Area 3 and Area 4 landfills until leachate is no longer detected in the LCS or LDS.
8. Leachate collected in the LCS and LDS must be managed in the facility's on-site Biological Liquid Treatment Center.
9. The Permittee must operate, monitor, and maintain the LCS in accordance with the approved permit application and the following conditions:
 - a. The leachate level in Area 3 must not exceed the following compliance elevations as measured in the sumps of the following collection systems:
 - i. 555 feet MSL for the base collection system. This system consists of a base grade lateral piping system with the eastern half of the system containing a one-foot gravel drainage layer. Leachate levels are monitored quarterly at LW3, MH8, MH9, MH10, MH17, MH18, and W450R.
 - ii. 566 feet MSL for the elevated base collection system. This system collects leachate from a small area in the northeast portion of the landfill with lateral piping and a gravel drainage layer. Leachate levels are monitored quarterly at LW19 and MH20.
 - iii. 580 feet MSL for the piezometer system. This system consists of a series of leachate collection manholes and wells in the western portion of the landfill. Leachate levels are monitored quarterly at MH5, MH6, MH16, L430,

L702, L704, G705, W434, and W435.

- b. Maintenance of the leachate level at or below this elevation is necessary to create and maintain an inward gradient in the soil layer surrounding the landfill.
- c. The leachate level in Area 4 must not exceed the compliance elevations as measured in the sumps listed in the following table:

Monitoring Point	Compliance Elevation (ft) above sump invert	Monitoring Point	Compliance Elevations (ft) above sump invert
4AN Primary	1.5	4F Primary	1.5
4AW Primary	1.6	4B Secondary	1.0
4B Primary	3.0	4D Secondary	1.0
4C Primary	4.2	4E Secondary	1.0
4D Primary	2.5	4F Secondary	1.0
4E Primary	1.6	4G Secondary	4.1

- d. All leachate removed from the leachate collection system must be managed as a hazardous waste.
 - e. The Permittee must record the amount of liquid removed from each LCS sump (in gallons) at least monthly. The results of the leachate quantity testing data from the LCS must be maintained in the facility's operating record and submitted electronically to the Illinois EPA.
10. Three representative samples of leachate from Area 3 and one from Area 4 must be collected annually and analyzed individually for constituents provided on their respective Reduced Appendix I Sampling List found in Attachment I. These samples must be collected during the first quarter inspections. The four samples will be taken from the withdrawal points listed in Condition I.F.7. The results of these analyses must be submitted electronically to the Illinois EPA by June 1st of each year.
- a. The constituents listed in 35 Ill. Adm. Code 724, Appendix I (Full Appendix I List) were analyzed annually in 2015 through 2018 on samples taken from the withdrawal points listed in Condition I.F.7. A permit modification request to reduce the annual leachate monitoring lists for each given sampling point was approved in Log No. B-27R-M-88. The reduced list (Reduced Appendix I List) will be used in lieu of the Full Appendix I List for three out of four years, with the fourth year reverting back to analysis of the Full Appendix I List. Any parameters not included on the existing Reduced Appendix I List that are detected in the fourth-year Full Appendix I List analysis must be added to the Reduced Appendix I

List by means of a Class 1* permit modification request in accordance with 35 Ill. Adm. Code 703.280. This cycle of three years of Reduced Appendix I List analysis, followed by one year of Full Appendix I List analysis, must repeat during the post-closure period. The approved Reduced Appendix I List for calendar years 2023, 2024, and 2025 can be found in Attachment I. The next Full Appendix I List analysis will take place in 2026.

11. The Permittee must operate, monitor, and maintain the LDS in Phase VI of Area 4 in accordance with the approved permit application and the following conditions:
 - a. The elevation of leachate in each Leachate Monitoring/Withdrawal Well in the LDS must be continuously monitored and recorded in feet above MSL.
 - b. As far as is practicable, leachate that collects in each leak detection sump must be removed.
 - c. All leachate removed from the LDS must be managed as a hazardous waste.
 - d. The Permittee must record the amount of liquid removed from each LDS sump (in gallons) at least monthly. The results of the leachate quantity testing data from the LDS must be maintained in the facility's operating record and submitted electronically to the Illinois EPA.
12. The action leakage rate (ALR) was calculated to be 1,532 gallons per day or 214 gallons/acre/day for the Phase VI LDS sump at Area 4 landfill. The pump operating level for the LDS is 551 feet MSL. The Permittee must inspect, operate, and monitor all components of the LDS in accordance with the requirements in 35 Ill. Adm. Code 724.403(c). The monthly volume of leachate removed from the LDS sump must be included in the report required in Condition I.F.2. If at any point the action leakage rate is exceeded, this event must be included on the graphical representation of the data.
13. The action leakage rate is the maximum design flow rate that the LDS can remove without the fluid head on the bottom liner exceeding one foot. The Permittee must monitor the quantity of leachate removed from the LDS sump(s) each month to determine if the rate of leachate removed from each LDS sump exceeds the action leakage rate.

To determine if the action leakage rate has been exceeded, the Permittee must convert the monthly flow rate from the monitoring data obtained under Section 724.403(c) to an average daily flow rate (gallons per acre per day) for each sump. The average daily flow rate for each sump must be calculated monthly during the post-closure care period and recorded in the operating record.

F. REPORTING AND NOTICES

1. The quarterly leachate levels, monthly leachate extraction volume and the total volume of leachate extracted from Area 3 landfill (not including contaminated ground water) shall be submitted to the Illinois EPA annually by January 31st, for the previous calendar year. A graphical representation of the data shall also be included as follows:
 - a. A graphical representation of the volumes of leachate removed from the LCS each month. The scale of the x axis (time) must be such that no more than one year of data (starting with January each year) is presented on each sheet of paper.
 - b. A graphical representation of the elevation of the liquid level in each Leachate Monitoring/Withdrawal Well/Sump for the quarter. For each Well, the graph needs to identify the following: the elevation of leachate over time, elevation of the top of liner, and elevation of the bottom of the cover system all in feet above MSL. Compliance levels should also be marked on the graph.
2. Monthly leachate levels observed in each sump, amount of leachate removed from each sump and total volume removed for the year for Area 4 landfill must be submitted to the Illinois EPA annually by January 31st, for the previous calendar year. A graphical representation of the data must also be included as follows:
 - a. A graphical representation of the volumes of leachate removed from the LCS and LDS each month. The leachate generation rates (gallons/month) from the LCS and LDS must be presented on the same graph. The scale of the x axis (time) must be such that no more than one year of data (starting with January each year) is presented on each sheet of paper. If at any point the action leakage rate is exceeded, this event must also be indicated on the graph.
 - b. A graphical representation of the elevation of the liquid level in each Leachate Monitoring/Withdrawal Well/Sump for the month. For each Sump, the graph needs to identify the following: the elevation of leachate over time, elevation of the top of liner, and elevation of the bottom of the cover system all in feet above MSL. Compliance levels should also be marked on the graph.

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3. A completed "RCRA Facility Groundwater, Leachate and Gas Reporting Form" (LPC- 592) must accompany all Leachate Data Reports required by this Permit. A copy of this form is provided in Attachment A. This form is not to be used for permit modification requests. This form is available on the Illinois EPA web site.
4. If quarterly leachate level measurements at Area 3 landfill indicate non-compliance at any of the leachate monitoring points listed in Conditions I.E.9.a.i, I.E.9.a.ii, and I.E.9.a.iii, a written notification must be sent to Illinois EPA BOL Permit Section and Illinois EPA BOL Regional Office. For instances of non-compliance in the first and second quarter, the notice must be sent by July 31st of that year. For instances of non-compliance in the third and fourth quarter, the notice must be sent by January 31st of the following year.
5. If monthly leachate level measurements at Area 4 landfill indicate non-compliance at any of the leachate monitoring points, a notification must be sent to Illinois EPA BOL and Illinois EPA BOL Regional Office. For instances of non-compliance in the first and second quarter, the notice must be sent by July 31st of that year. For instances of non-compliance in the third and fourth quarter, the notice must be sent by January 31st of the following year.
6. Information required by Condition I.E.10 and I.E.10.a must be submitted in an electronic format. The information is to be submitted as fixed-width text files formatted as found in Attachment A.

Additional guidance regarding the submittal of the information in an electronic format can be found on the Illinois EPA website.

7. The following leachate withdrawal points will be used in leachate quality analysis required by conditions I.E.10 and I.E.10.a. For purposes of electronic reporting, the points will be renamed as shown below.

<u>Name in Application</u>	<u>Name for Electronic Reporting</u>
A3LC (Area 3 Composite)	L311
A3L3 (Area 3 LW 3)	L312
A3M6 (Area 3 MH 6)	L313
A4LC (Area 4 Composite)	L331

8. The Permittee must notify the Illinois EPA BOL Permit Section in writing within 30 days of the leachate quality analysis report received by the Permittee required in Condition I.E.10 if the following occurs:
 - a. If the analysis of the leachate detects a parameter for which the groundwater was not analyzed for in the last sampling event. The Illinois EPA may require the

Permittee to modify their groundwater monitoring program based on this additional information.

9. In accordance with 35 Ill. Adm. Code 724.404(b), if the flow rate in the Area 4 Phase VI leak detection sump 4G-SEC exceeds the action leakage rate described above, the Permittee must:

- a. Notify the Illinois EPA BOL Permit Section and the Illinois EPA BOL Regional Office in writing of the exceedance within seven days of the determination;
- b. Submit a preliminary written assessment to the Illinois EPA BOL Permit Section and the Illinois EPA BOL Regional Office within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size and cause of any leaks, and short-term actions taken and planned;
- c. Determine to the extent practicable the location, size and cause of any leak;
- d. Determine whether any waste should be removed from the unit for inspection, repairs or controls;
- e. Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and
- f. Within 30 days after the notification that the action leakage rate has been exceeded, submit to the Illinois EPA BOL Permit Section and the Illinois EPA BOL Regional Office the results of the determinations specified above, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the Permittee must submit to the Illinois EPA BOL Permit Section and the Illinois EPA BOL Regional office a report summarizing the results of any remedial actions taken and action planned.

The Permittee must follow the procedures listed in 35 Ill. Adm. Code 724.404(c) to make the determinations required above.

The address for the Illinois EPA BOL Regional Office cited in this condition is:

Illinois EPA Field Office
9511 West Harrison
Des Plaines, Illinois 60016

G. NOTICES AND CERTIFICATION

1. A request to change the Post-Closure Plan must be submitted in the form of a permit modification request. This request must be in accordance with applicable requirements of Parts 702, 703 and 724 and must include a copy of the amended Post-Closure Plan for approval by the Illinois EPA.
2. If the Permittee or any subsequent owner or operator of the land upon which the Area 3 and Area 4 landfills listed in Condition I.B.1 is located wishes to remove hazardous wastes, hazardous waste residues, the liner, if any, or contaminated soil, they must request a modification to this RCRA post-closure permit in accordance with the applicable requirements in 35 Ill. Adm. Code Parts 703, 705 and 724. At a minimum, the owner or operator must demonstrate that the removal of such material will satisfy the criteria of 35 Ill. Adm. Code 724.217(c).
3. If the Permittee seeks to demonstrate that they should be allowed to end the post-closure care period (e.g., all waste has been removed, and leachate and groundwater monitoring results do not indicate a potential for migration of waste at levels which may be harmful to human health and the environment), the Permittee must submit an Environmental Covenant (EC) for the future land use and management of the property on which the Area 3 landfill and Area 4 landfill is located. The EC must be submitted at least one year prior to the date the Permittee expects to submit the Certification of Completion of Post-Closure.

Pursuant to Section 39(g) of the Act, the purpose of the EC is to place restrictions upon the future use of the site necessary to protect public health and the environment, including permanent prohibition of the use of the site for purposes which may create an unreasonable risk of injury to human health or the environment. The EC must be pursuant to a consent order between the Permittee and the State of Illinois and in the form and format specified by Illinois EPA.

4. If the Permittee seeks to exit post-closure care, the Permittee must submit the following documents to the Illinois EPA Bureau of Land Permit Section by registered mail no later than 60 days after completion of the established post-closure care period for Area 3 landfill and Area 4 landfill listed in Condition I.B.1:
 - a. A properly completed Certification of Completion of Post-Closure Form provided in Appendix H that states the post-closure care for the hazardous waste disposal unit (Area 3 or Area 4) was performed in accordance with the specifications in the approved Post-Closure Plan in the approved permit application and the conditions in this Permit. The owner and operator and a qualified Illinois licensed Professional Engineer must sign the Certification Form.

- b. A Post-Closure Documentation Report that documents the post-closure care conditions and activities at the facility during the post-closure period. The Post-Closure Documentation Report must include the following:
- i. Background information about the facility and the unit subject to the post-closure certification. Describe the facility and RCRA permit history of the unit.
 - ii. A detailed description of the unit subject to the post-closure care certification that includes:
 - 1. The Unit's design, including liner system, sumps, leachate collection, leak detection, gas systems, and cover system including stormwater run-off and run-on controls. Provide this information in both a narrative form, and scaled drawings.
 - 2. How it was operated, and how it was closed.
 - 3. When it was operated, and when it was closed.
 - 4. The wastes disposed of in the unit (including waste codes).
 - 5. The amount of leachate pumped each year from each sump (combined amount for Area 3) in the unit's leachate collection and leak detection systems during the post-closure period. Provide this information in both a table and graphically. Demonstrate the unit has met the requirements of 35 Ill. Adm. Code 724.410(b)(2).
 - 6. A scaled map showing location of the unit within the facility. Include all wells in the groundwater monitoring system for the unit on this map.
 - 7. Scaled drawings (plan view and cross-section) showing the horizontal and vertical extent of the unit at the time it was certified closed, every 10 years after it was closed (if available), and at the time the Post-Closure Documentation Report is submitted (e.g. at the end of the post-closure period). The scale of the plan view should be one inch = 200 feet. All design components of the unit must be shown on the drawings.

When the drawings are compared; if a difference in elevation of more than two feet exists at any location on the unit, the Post-Closure Documentation Report needs to indicate the reason for the change in elevation, and why it would not be a concern in the future.

8. A survey of the unit when it was certified closed and at the time the Post-Closure Documentation Report is submitted (e.g. when the post-closure period ended). The surveys must be certified by a professional land surveyor.
- iii. A general discussion on the inspection and maintenance of, and repairs to, the cover system, leachate collection, leak detection, gas collection, stormwater run-off and run-on controls, and wells in the groundwater monitoring system. Describe any problems and/or repairs to these systems that were addressed over the post-closure care period in chronological order. Show the locations of each of the repairs to these systems during post-closure care on a scaled drawing of the unit.
 - iv. A discussion on the groundwater monitoring program, including any corrective measures that were completed during the post-closure care period and a summary of the three most recent years of groundwater data. Identify the horizontal and vertical extent of any groundwater contaminant plume from the unit that existed at the beginning of the post-closure period and every five years after that.
- The facility must have complied with all requirements of 35 Ill. Adm. Code Parts 620 and 724 in order to certify completion of post-closure care activities.
- v. Colored photos of unit(s) at post-closure completion. Photo documentation of the unit should include at least one aerial (satellite) photo and representative photos of above-ground design features of the unit.
 - vi. Illinois EPA form LPC-PA23.
- c. Documentation that the IC/ EC required by Condition I.G.3 has been placed on the deed to the property on which Area 3 and Area 4 are located and has been filed with the County Recorder's Office.

5. The certification of completions of post-closure care shall not be approved by the Illinois EPA until the Permittee demonstrated that the IC/EC required by Condition I.G.3 has been properly filed with the appropriate governmental office (e.g. State of Illinois, or County Recorder's office).
6. Within 60 days after receiving certifications from the owner or operator and a qualified Illinois licensed Professional Engineer that the post-closure care period has been completed for Area 3 and/or Area 4 landfills listed in Condition I.B.1 in accordance with the approved post-closure plan, the Illinois EPA shall notify the owner or operator that it is no longer required to maintain financial assurance for post-closure care of that unit unless the Illinois EPA determines that post-closure care has not been in accordance with the approved post-closure plan. The Illinois EPA shall provide the owner or operator with a detailed written statement of any such determination that post-closure care has not been in accordance with the approved post-closure plan.

H. SUBSURFACE GAS MANAGEMENT

The Permittee must operate the gas monitoring and collection system for the Area 3 landfill in accordance with Section E.5 of the approved permit application, the approved Clean Air Act Program Permit issued January 13, 2022, and any subsequent modifications to the permit, and the following conditions:

1. The Permittee must recover or flare the subsurface gas generated at Area 3 during the post-closure care period.
 - a. Condensate from any gas recovery system is considered hazardous and must be managed as hazardous waste.
2. If subsurface gas problems occur, a corrective action plan must be submitted, for approval, to the Illinois EPA BOL within 30 days of discovering such gas problems.

I. FINANCIAL ASSURANCE

1. The Permittee must maintain financial assurance for post-closure care of the closed Area 3 landfill of at least the amount of \$12,585,185 (2021 dollars). The Permittee must maintain financial assurance for post-closure care of the closed Area 4 landfill of at least the amount of \$2,901,051 (2021 dollars). A summary of the cost estimate for post-closure care of this facility is shown in Attachment C. The financial assurance maintained by the facility must be sufficient to meet the requirements of 35 Ill. Adm. Code 724, Subpart H.

SECTION II: AREA 4 DETECTION MONITORING PROGRAM**A. SUMMARY**

The detection monitoring program consists of 19 existing groundwater monitoring wells. This includes nine monitoring wells that are utilized to monitor the Silurian Dolomite and 10 that are utilized to monitor the Dolton Sand. Due to highly variable groundwater flow conditions in the Silurian Dolomite in the vicinity of the facility, intrawell statistical analyses will be conducted at each monitoring well. Therefore, there will not be designated upgradient and downgradient monitoring wells in this program.

B. DEFINITIONS

As used herein, the words or phrases set forth below shall have the following definitions:

1. "Uppermost Aquifer" refers to the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically connected with this aquifer in the vicinity of the facility. The uppermost aquifer underlying Area 4 has been identified as a weathered, fractured, and/or jointed Silurian dolomite which overlies a bedrock aquitard and underlies a perched outwash sand unit with minimal hydraulic connection.
2. "Point of Compliance" refers to the vertical surface located at the hydraulically downgradient limits of the waste management area (Area 4) extending down into the uppermost aquifer underlying the regulated unit.
3. "Ft – bgs" refers to the number of feet below the ground surface.
4. "Ft-MSL" refers to elevation referenced feet above mean sea level.
5. "Detected" shall mean a concentration equal to or above the practical quantitation level (PQL) listed in USEPA's SW-846 (Third Edition) or as approved by the Illinois EPA for the applicable analytical methods specified in the approved Sampling and Analysis Procedures, which are incorporated by reference in Condition II.H of the Permit.
6. "Progressive Increase" shall mean an increase in the concentration of a constituent in successive sampling events.
7. "Stick-up" refers to the height of the reference survey datum. This point is determined within ± 0.01 foot in relation to mean sea level (MSL), which in turn is established by reference to an established National Geodetic Vertical Datum.

C. IMPLEMENTATION

1. The Permittee must implement the detection monitoring program established in the Permit to determine if the regulated unit is in compliance with the groundwater protection standard listed in Condition II.E.1. The detection monitoring requirements set forth in this permit shall supersede those established in the 35 Ill. Adm. Code Part 724 compliance monitoring program previously approved by the Illinois EPA.
2. The Permittee must carry out the detection monitoring program specified in this Permit on the groundwater found in the Silurian Dolomite and the Dolton Sand beneath the CID-RDF facility in Calumet City, Illinois. Groundwater occurring within the Silurian Dolomite beneath the CID-RDF facility has been designated a 35 Ill. Adm. Code Part 620, Class I: Potable Resource Groundwater. Groundwater occurring within the Dolton Sand beneath the CID-RDF facility has been designated a 35 Ill. Adm. Code Part 620, Class II: General Resource Groundwater.
3. The point of compliance, defined as a vertical surface located at the hydraulically downgradient limits of Area 4 that extends down into the uppermost aquifer underlying the waste management units, is shown on Figure C-2c of the approved permit application.

D. WELL LOCATION AND CONSTRUCTION

1. The Permittee must maintain the groundwater monitoring wells identified in the following table in accordance with the approved permit application to allow for the collection of groundwater samples and elevation from the uppermost aquifer. The location of these wells is specified in Figure C-2c of the approved permit application.

IEPA Well No.	Facility Well No.	Well Depth (ft.)	Well Depth Elevation (Ft.-MSL)	Well Screen Interval
Area 4 Dolomite Monitoring Wells				
G02D* ^v	G202	67.2	521.13	530.13-521.13
R06D* ^v	R06D	80.0	510.80	520.80-510.80
R08D* ^v	R08D	64.6	523.79	533.79-523.79
G10D* ^v	G210	71.9	515.16	524.36-515.16
G16D* ^v	G216	66.3	517.70	524.00-517.70
G18D* ^v	G218	77.5	508.66	517.56-508.66
G20D* ^v	G220	77.9	511.56	520.46-511.56
R04D* ^v	G04DR	90.9	503.98	513.98-503.98

G05D* ^v	G05D	88.7	502.76	512.76-502.76
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Area 4 Dolton Sand Monitoring Wells

G01S* ^{vii}	G201	11.3	577.36	581.64 – 577.36
G04S* ^{vii}	G204	18.6	575.22	579.42 – 575.22
G05S* ^{vii}	G205	17.1	574.72	578.92 – 574.72
G07S* ^{vi}	G207	13.8	574.70	578.90 – 574.70
G09S* ^{vi}	G209	11.5	576.33	580.53 – 576.33
G13S* ^{vii}	G213	21.3	573.13	581.67 – 573.13
R15S* ^{vii}	G215R	12.4	575.54	581.54 – 575.54
R17S* ^{vi}	R17S	13.6	576.97	581.67 – 576.97
G19S* ^{vi}	G219	12.1	573.95	579.15 – 573.95
G21S* ^{vii}	G221	11.8	577.02	581.75 – 577.02

NOTE:

* – Denotes point of compliance monitoring well.

^v – Analysis of List G1, G2, G3, G4 and G5 parameters in accordance with Condition II.E.1.

^{vi} – Analysis of List G1 and G2 parameters in accordance with Condition II.E.1.

^{vii} – Analysis of Lists G1, G2, G6 and G7 parameters in accordance with Condition II.E.1.

2. Construction of any new monitoring well/piezometer must be at a minimum in accordance with the diagram contained in Attachment A to this Permit unless otherwise approved in writing by the Illinois EPA. Any new monitoring wells/piezometers must be continuously sampled and logged on an Illinois EPA boring log and well completion report as provided in Attachment A unless otherwise approved by the Illinois EPA.
3. The Permittee must notify the Illinois EPA within 30 days in writing if any of the wells identified in Condition II.D.1 are damaged, or the structure integrity has been compromised causing the well not to serve its function or to act as a contaminant pathway. A proposal for the replacement of the subject well requires Illinois EPA approval and must accompany this notification. The well must not be plugged until the new well is on-line and monitoring data has been obtained and verified, unless the well is extremely damaged and would create a potential route for groundwater contamination.
4. Should any well become consistently dry or unserviceable, a replacement well must be provided within 10 feet of the existing well. This well must monitor the same zone as the existing well and be constructed in accordance with the current Illinois EPA groundwater monitoring well construction standards at the time that the well is replaced. A well which is more than 10 feet from the existing well or which does not monitor the same geologic zone must be approved by the Illinois EPA and designated as a new well. If the facility determines that a replacement well will be a dry well, then it must submit for

Illinois EPA approval either a proposal to install a new monitoring well or a proposal not to replace the well with appropriate rationale.

5. The Permittee must submit boring logs, construction diagrams, and data sheets from the installation and development of a new or replacement well to the Illinois EPA at the address below within 30 days of the date that installation of the well is completed. In addition, the Permittee must submit certification that plugging and abandonment of a well was carried out in accordance with the approved procedures (see Attachment A to this Permit) to the Illinois EPA at the address below within 30 days of the date that the well is plugged and abandoned. All information should be submitted to the appropriate State Agencies.

Illinois Environmental Protection Agency
 Bureau of Land - #33
 Permit Section
 2520 West Iles Avenue
 Springfield, Illinois 62702

6. All wells/piezometers must be clearly identified and must be equipped with protective caps and locks. Monitoring wells or piezometers in high traffic areas must be protected with bumper guards.
7. All monitoring wells and piezometers not utilized in the approved groundwater monitoring system, but retained by the facility, must be constructed and maintained in accordance with 77 Ill. Adm. Code Part 920 regulations. Monitoring wells and piezometers that are improperly constructed must be abandoned in accordance with Attachment A to this Permit.

E. GROUNDWATER PROTECTION STANDARD

1. The following hazardous constituents and concentration limits comprise the groundwater protection standard in the vicinity of the CID-RDF facility. Total (unfiltered) values, derived from the applicable USEPA SW-846 (Latest Version) method or equivalent methods listed in Section C of the approved permit application, will be used for comparison with the concentration limits.

<u>List G1 – Field Parameters</u>	<u>STORET</u>	<u>Units</u>	Concentration Limit (µg/L)	
			<u>Class I</u>	<u>Class II</u>
pH	00400	standard	6.5-9.0	--
Specific Conductance at 25°C	00094	µmhos/cm	--	--

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Temperature of Water Sample	00011	Fahrenheit	--	--
Turbidity	00076	NTUs	--	--
Depth to Water (below land surface)	72019	Feet	--	--
Depth to Water (below measuring point)	72109	Ft-bgs	--	--
Elevation of Groundwater Surface	71993	Ft-MSL	--	--
Elevation of Bottom of Well#	72020	Ft-MSL	--	--
Elevation of Measuring Point (Top of Casing) ##	72110	Ft-MSL	--	--

Must be determined in accordance with Condition II.G.3

Must be determined in accordance with Condition II.G.2

Hazardous Waste Constituents

<u>List G2 – Organics</u>	<u>STORET</u>	<u>PQL (µg/L)</u>	<u>Concentration Limit (µg/L)</u>	
			<u>Class I</u>	<u>Class II</u>
Toluene	34010	1	1,000	2,500
Benzene	34030	1	5	25
Ethylbenzene	78113	1	700	1,000
Xylene (total)	81551	2	10,000	10,000
BTEX (total)	11750	3	11,705	13,525
1,4-dioxane	81582	5	7.7	7.7

List G3 – Organics

Naphthalene	34696	5	140	220
Acetone	81552	10	6,300	6,300
bis(2-ethylhexyl)phthalate	39100	5	6	60
Chlorobenzene	34301	1	100	500
Methylene Chloride	34423	1	5	50

List G4 – Inorganics (total)

Barium, total	01007	TBD	1,000	--
Chloride, total	00940	1,000	200,000	--
Chromium, total	01034	TBD	100	--
Cobalt, total	01037	TBD	1,000	--
Lead, total	01051	TBD	7.5	--
Nickel, total	01067	TBD	100	--
Zinc, total	01092	TBD	5,000	--

List G5 – Inorganics (dissolved)

Barium, dissolved	01005	2	--	--
Chloride, dissolved	00941	1,000	--	--
Chromium, dissolved	01030	4	--	--
Cobalt, dissolved	01035	4	--	--
Lead, dissolved	01049	10	--	--
Nickel, dissolved	01065	10	--	--
Zinc, dissolved	01090	10	--	--

List G6 – Inorganics (total)

Arsenic, total	01002	TBD	--	200
Chromium, total	01034	TBD	--	1,000
Cobalt, total	01037	TBD	--	1,000
Vanadium, total	01087	TBD	--	100

List G7 – Inorganics (dissolved)

Arsenic, dissolved	01000	TBD	--	--
Chromium, dissolved	01030	TBD	--	--
Cobalt, dissolved	01035	TBD	--	--
Vanadium, dissolved	01055	TBD	--	--

2. The background values established for the purpose of intrawell statistical analysis, must initially be established from the historical groundwater data from the initial sampling of each monitoring well under the initial RCRA Part B Permit (March 1988) to the Fourth Quarter 2006, utilizing the following procedures. This may include data from original monitoring wells and replacement wells as appropriate. This submittal must include example calculations and must include, in table form, all groundwater data used in the calculation for each well, the number of pieces of data used to determine the mean, and a list of derived prediction limits.
 - a. For those parameters or constituents which are found to be above the PQL in 85% - 100% of the background data set, the background values for that parameter or constituent must be calculated using the methodology described in Attachment B, Page 1. The facility must utilize a value of one half the PQL for non-detect results included in the data set.
 - b. For the parameters or constituents which are found to be above the PQL in 50% - 85% of the background data set, the background values for that parameter must be calculated using methodology described in Attachment B, Page 2 or 5 as appropriate.

- c. For those parameters or constituents from the background data set which do not meet the requirements of Conditions II.E.2.a or II.E.2.b, the average background value must be set at the PQL as shown in Condition II. E.1.
 - d. Sampling and analytical procedures utilized to establish background values shall be in accordance with Condition II.F below.
 - e. The Permittee must determine the distribution of the background data set for each parameter that meets the requirements of II.E.2.a and II.E.2.b.
 - i. The Permittee must calculate a coefficient of variation for the background data set from each monitoring well in accordance with Attachment B.
 - ii. If the coefficient of variation is less than or equal to 1.00, the Permittee may assume a normal data distribution for statistical analysis.
 - iii. In the event that the coefficient of variation is greater than 1.00, the Permittee may choose to transform the background data in lieu of proposing a non-parametric statistical procedure in accordance with Condition II.E.2.e.iv below. The Permittee must demonstrate that the original non-transformed data are inappropriate for a normal theory test.
 - iv. If the Permittee determines that the transformed background data does not pass the test described in Condition II.E.2.e.ii, it must assume that the background data set is not appropriate for normal theory statistical analysis. In this event, the Permittee must submit for Illinois EPA review and approval a proposed statistical procedure that is appropriate for the distribution of the data used to establish background values and provides a reasonable balance between the probability of falsely identifying a non-contaminating regulated unit and the probability of failing to identify a contaminating unit.
 - v. The Permittee may submit for Illinois EPA review and approval a proposal for an alternative procedure for evaluation of background data distribution.
3. The facility must reestablish intrawell background values every two years as follows:

Background values must be established for each List G2, G3, and G5 parameter listed in Condition II.E.1 in each Silurian Dolomite monitoring well listed in Condition II.D.1, and each List G2 and G7 parameter listed in Condition II.E.1 for each Dolton Sand monitoring well listed in Condition II.D.1 where sampling is required by the notes at the end of Condition II.D.1.

- a. The facility must use a data set consisting of the results of the eight most recent sampling events;
 - b. The facility must utilize the procedures outlined in Conditions II.E.2.a through II.E.2.e.
 - c. Recalculated background values must be submitted for Illinois EPA review and approval by July 15 of each odd numbered calendar year beginning with July 15, 2023. This submittal must include example calculations and must include, in table form, all groundwater data used in the calculation for each well, the number of pieces of data used to determine the mean, and a list of derived prediction limits.
4. For those parameters and constituents which have not been sampled and analyzed in eight previous sampling events, background values must be established by the methodology approved by Condition II.E.2 following four sampling events after the effective date of this Permit. The results of this determination must be submitted to the Illinois EPA for review and approval within 90 days from the fourth sampling event.
 5. Each of the monitoring wells listed in Condition II.D.1 must be sampled semi-annually in accordance with the schedule in Condition II.J.2. The groundwater samples collected at each well must be analyzed for the appropriate Condition II.E.1 constituents indicated by footnotes provided in Condition II.D.1.
 6. Alternate concentration limits may be established in accordance with 35 Ill. Adm. Code 724.194(b) where the Permittee can determine a constituent will not pose a substantial hazard to human health and the environment. The alternative concentration limits proposed by the facility must be approved by the Illinois EPA.

F. DETECTION MONITORING PROGRAM

The Permittee must conduct the Detection Monitoring Program in accordance with Section C of the approved permit application, and in accordance with the following:

1. The Permittee must collect, preserve, and analyze samples pursuant to Condition II.H.
2. The Permittee must determine groundwater quality at each monitoring well identified in Condition II.D.1 semi-annually (as defined in Condition II.J.2) during the active life of the Area 4 landfill (including the closure and post-closure care periods), beginning with the effective date of this Permit. The Permittee must express the groundwater quality data in a form necessary for the determination of statistically significant increases, as described in Condition II.I. Replicate measurements are not required.

Groundwater quality at each well must be determined by analyzing a sample from the well for the appropriate Condition II.E.1 constituents indicated by footnotes provided in Condition II.D.1.

3. After determination of background water quality, the Permittee must determine whether there is a statistically significant increase over the background values for each parameter identified in Condition II.E.1 each time groundwater quality is determined at the point of compliance as required by Condition II.F.2. In determining whether such an increase has occurred, the Permittee must compare the groundwater quality at each monitoring well specified in Condition II.D.1 to the background values in accordance with the statistical procedures specified in Condition II.I. All activities described in Condition II.I must be completed within the same quarter that the initial sample required by Condition II.F.2 was collected.
4. The Permittee must determine the groundwater flow rate and direction in the Silurian Dolomite unit at least annually from the Silurian Dolomite monitoring wells listed in Condition II.D.1.
5. The Permittee must evaluate the results of the analyses required by Condition II.F.2 and identify:
 - a. The concentration of any Condition II.E.1 List G2, G3, G4, G5, G6, and G7 constituent, which is above the appropriate PQL, or estimated quantitation limit (EQL) listed in the approved analytical method(s) specified in Section C of the approved permit application.
 - b. The concentration of any constituent detected which was not detected during the previous sampling event.
 - c. The concentration of any Condition II.E.1 List G2, G3, G4, G5, G6, and G7 constituent that exhibits a progressive increase over four consecutive sampling events.
6. Originally beginning the Second Quarter 2015, and for the Second Quarter every five years thereafter, the Permittee must report the concentration of any tentatively identified compound (TIC) detected by laboratory analysis of that monitoring event. This information must be provided in the report required by Condition II.J.10.
7. For any 35 Ill. Adm. Code 724, Appendix I constituent found in the analysis required by Condition II.F.6 that is not currently included in Condition II.E.1, the Permittee must, within 30 days, resample all of the monitoring wells listed in Condition II.D.1 for the detected constituent. If the results of the second analysis confirm the presence of the

constituent in groundwater, the Permittee must follow the procedures of Condition II.J.13.

G. GROUNDWATER ELEVATION

1. The Permittee must determine the groundwater surface elevation referenced to the nearest ± 0.01 Ft.-MSL at each well each time groundwater is sampled in accordance with Condition II.J.3.
2. The Permittee must report the surveyed elevation of stick-up, referenced to MSL, when the well is installed (with as-built diagrams) and every two years (during the First or Second Quarter), or at the request of the Illinois EPA, or whenever the elevation changes in accordance with Condition II.J.5.
3. Elevation, as referenced to MSL, of the bottom of each monitoring well (STORET 72020), must be taken in the event a performance problem is identified with the dedicated pumps found in the monitoring wells, or whenever the downhole equipment is removed from the monitoring well in accordance with Condition II.J.7.

H. SAMPLING AND ANALYTICAL PROCEDURES

The Permittee must use the following techniques and procedures described in the approved permit application, as modified below, when obtaining and analyzing samples from the groundwater monitoring wells described in Condition II.D.1:

1. Samples must be collected using the techniques described in the approved permit application.
2. Samples must be preserved, shipped, and handled in accordance with the procedures specified in the approved permit application.
3. Samples must be analyzed in accordance with the procedures specified in the approved permit application.
4. Samples must be tracked and controlled using the chain-of-custody procedures specified in the approved permit application.

I. STATISTICAL PROCEDURES

When evaluating the monitoring results in accordance with Section II.F, the Permittee must use the following procedures:

1. The groundwater quality for each well must be collected in accordance with Condition II.H and must be compared to the background values which were established for that well in accordance with Condition II.E.2 or II.E.3. The value for each parameter must be compared to the background value established for that parameter at that well.
2. For those constituents identified in Condition II.E.1 which have background values established in accordance with Conditions II.E.2.a and II.E.2.b, the Permittee must conduct the following statistical analysis (NOTE: This procedure must not be used if the coefficient of variation of the background values is greater than 1.00):
 - a. The difference between the measured concentration of the constituent in a sample from each well and the background value for that constituent must be evaluated using prediction limits as described in Attachment B. If the test indicates the difference is significant at the 0.01 level, the Permittee may resample the monitoring well(s), or the Permittee may choose not to resample and must conclude that a statistically significant increase has occurred.
 - b. If a resample is obtained, it must be analyzed for the constituent(s) which was (were) initially found to be present in the sample at a value significantly different from its background value. Collection, preservation, and analysis of this resample must be carried out in accordance with Condition II.H. The results of this resample must be compared to the background value for the constituent, again using the statistical procedure describe in this condition. If the second round of analysis indicated the difference is significant, the Permittee must conclude that a statistically significant increase has occurred.
3. For those constituents identified in Condition II.E.1 which have background values established in accordance with Condition II.E.2:c, the Permittee must conduct the following statistical analysis at each well:
 - a. The measured concentration of each of these constituents present in a sample collected from each well must be compared to the PQL. If, for a given well, (A) the measured concentration of a single constituent is greater than two times the PQL, or (B) the measured concentration of any two or more of these constituents is greater than the PQL, the Permittee may immediately resample that well(s), or the Permittee may choose not to resample and must conclude evidence of statistically significant increase has occurred.
 - b. If a resample is obtained, it must be analyzed for the constituents detected above the PQL in the initial sample collected and analyzed in accordance with this condition. Collection, preservation, and analysis of this sample must be carried out in accordance with Condition II.H. The results of this resampling must again be

compared to the PQL's as described in this condition. If the measured concentrations for this resampling fail either of the comparisons, the Permittee must conclude that a significant change has occurred.

4. For those constituents that have intrawell background values that exceed appropriate 35 III. Adm. Code Part 620 Groundwater Quality Standards (GQSs), the facility must conduct the following statistical evaluation:

- a. The Permittee must conclude that there has been a statistically significant increase if either of the following has occurred:
 - i. The measured concentration of the constituent exceeds the background value calculated in accordance with Conditions II.E.2 or II.E.3; or
 - ii. A trend analysis (e.g., Mann-Kendall Trend test or Sen's Trend Estimator) of the 10 most recent sampling events indicates a statistically significant increasing trend at the 95% confidence level.
- b. If the statistical evaluation required in Condition II.I.4.a indicates a statistically significant increase, the facility may immediately resample the monitoring well(s), or the Permittee may choose not to resample and must conclude that a statistically significant increase has occurred.
- c. If a resample is obtained, it must be analyzed for the constituent(s) that failed the evaluation in Condition II.I.4.a. Collection, preservation, and analysis of the resample must be carried out in accordance with Condition II.H. The results of this resample must again be evaluated as required by Condition II.I.4.a substituting the resample result for the most recent sampling event.

If the resample results again fail the evaluation required by Condition II.I.4.a, the facility must conclude that a statistically significant increase has occurred.

5. Each time samples are collected for the statistical comparisons required by Conditions II.I.2, II.I.3, or II.I.4, the Permittee must prepare lab (trip) blanks in accordance with the procedures described in the approved permit application.
- a. If any volatile organic compound identified in Condition II.E.1 cause the initial sample from a given well to fail the tests required by Conditions II.I.2, II.I.3, or II.I.4, and the constituent(s) is (are) found above the PQL in a field and/or lab blank associated with the collection or analysis of the sample, the Permittee must immediately resample the well of concern. This sample, taken to verify the concentration of those

constituents found in the initial sample, must be collected, preserved, and analyzed in accordance with the procedures set forth in Condition II.H.

- i. Analysis of the resample.
 - A. If the constituent found in the blank is statistically evaluated in accordance with Condition II.I.2, the resample must be analyzed for the constituents which failed the test and were also found in the blanks.
 - B. If the constituent found in the blank is statistically evaluated in accordance with Condition II.I.3, the resample must be analyzed for all the constituents statistically evaluated in accordance with Condition II.I.3.
 - C. If the constituent found in the blank is statistically evaluated in accordance with Condition II.I.4, the resample must be analyzed for all the constituents statistically evaluated in accordance with Condition II.I.4.
- ii. The measured concentration of the constituents in the resample must be compared to background values in accordance with Conditions II.I.2, II.I.3, and II.I.4.
 - A. If this comparison passes the tests set forth in Condition II.I.2, II.I.3, and/or II.I.4, the Permittee may conclude that no significant increase has occurred for the constituents of concern at the well in question.
 - B. If this comparison fails the test set forth in Conditions II.I.2, II.I.3, and/or II.I.4, the Permittee must immediately collect a "verification sample" in accordance with Conditions II.I.2, II.I.3, and II.I.4.
- b. If the same problem described in Condition II.I.5.a occurs in the analysis of the "resample" required by Conditions II.I.2, II.I.3, and II.I.4, the Permittee may collect and analyze a verification sample in accordance with Condition II.I.5.a. as modified below:
 - i. The phrase "resample" must be substituted for "initial sample."
 - ii. The verification sample need only be analyzed for those constituents which the "resample" was analyzed for.
 - iii. If the comparison of the analytical results fails the tests in Conditions II.I.2, II.I.3, and/or II.I.4, the Permittee must conclude that a significant change has occurred.

- c. Chemical and statistical analyses which are not affected by the interpretation of blank data must not be repeated, except as described above.

J. REPORTING AND RECORDKEEPING

1. The Permittee must enter all monitoring, testing, and analytical data obtained in accordance with Conditions II.E, II.F, II.G, II.H, and II.I above in the operating record. The data must include all computations, calculated means, variances, prediction limits and statistical or results of statistical tests that the Illinois EPA has determined to be equivalent.
2. Samples collected to meet the requirements of the groundwater monitoring program described in Conditions II.E, II.F, II.G, II.H, and II.I must be collected and reported as identified in the table below. All additional information required by the groundwater monitoring program (as specified in Conditions II.E, II.F, II.G, and II.I) must also be submitted to the Illinois EPA at the address listed in Condition II.D.5 in accordance with this schedule.

<u>Sampling Event of Calendar Year</u>	<u>Samples to be Collected During the Months of</u>	<u>Results Submitted to the Illinois EPA by the Following</u>
Second Quarter	April – June	July 15
Fourth Quarter	October – December	January 15

3. Groundwater surface elevation data measured pursuant to Condition II.G.1, must be collected semi-annually and submitted to the Illinois EPA as identified in Condition II.J.2.
4. The Permittee must report the groundwater flow rate and direction in the Silurian Dolomite, as required by Condition II.F.4, by July 15 of each year.
5. The Permittee must report the surveyed elevation, as required by Condition II.G.2, of the top of the well casing ("stick-up"), referenced to MSL, in accordance with the following schedule:
 - a. For wells identified in Condition II.D.1, every two years (during the First or Second Quarter), or at the request of the Illinois EPA, or whenever the elevation changes.
 - b. For any new wells, at the time of installation and reported in the as-built diagrams. Subsequent measurements must be made every two years (during the First or Second Quarter) or at the request of the Illinois EPA, or whenever the elevation changes.

6. Elevation of the bottom of each monitoring well identified in Condition II.D.1 referenced to MSL, is to be reported when maintenance activities are conducted in accordance with Condition II.J.7. This measurement must be taken during the first semi-annual sampling event and reported by July 15 of that year.
7. The Permittee must maintain all equipment associated with groundwater monitoring wells. Dedicated pumps found in monitoring wells identified in Condition III.D.1 must be removed, inspected, and repaired, if necessary, every five years. Information regarding the inspection and maintenance of pumps must be reported by July 15 of that year.
8. The Permittee must submit a completed "RCRA Facility Groundwater, Leachate and Gas Reporting Form" (LPC-592) as a cover sheet for any notices or reports required by the facility's Permit for identification purposes. Only one copy of the LPC-592 must accompany the submittal. However, the Permittee must submit one original and a minimum of two copies of each notice or report submitted to the Illinois EPA. The form is not to be used for permit applications.
9. Information required by Conditions II.G.3, II.J.2, II.J.3, II.J.5, and II.J.6 must be submitted in an electronic format. The information is to be submitted, as fixed-width text files formatted as found in Attachment A, in accordance with the schedule in Condition II.J.2. Additional guidance regarding the submittal of the information in an electronic format can be found on the Illinois EPA website.
10. In addition to submitting analytical results electronically as required by Condition II.J.9, a summary report describing the results of the groundwater sampling event must be submitted after each sampling event in accordance with the schedule found in Condition II.J.2. These reports must include, but not be limited to:
 - a. A description of any problems encountered during the event.
 - b. A tabulated summary of groundwater and analytical data collected during the sampling event including the appropriate groundwater quality standard, appropriate PQL or EQL, and appropriate derived background value for each parameter.
 - c. A summary table of groundwater elevations collected during the sampling event and potentiometric map(s) based on that data.
 - d. Copies of any statistical analysis required to be conducted in accordance with Conditions II.I.2, II.I.3, and II.I.4.
 - e. Information required by Conditions II.F.5, II.F.6, and II.F.7.

- 11. If the Permittee determines, pursuant to Condition II.I, that there is a statistically significant increase for any of the parameters specified in Condition II.E.1 at any monitoring well at the compliance point, the Permittee must:**
- a. Notify the Illinois EPA in writing indicating what parameters and wells have shown statistical increases and provide all statistical calculations which have been completed. This notification must be submitted to the Illinois EPA within seven days of the date that the increase is discovered.**
 - b. Sample the groundwater in all wells listed in Condition II.D.1 screened within the hydrostratigraphic unit in which the statistically significant increase was identified and determine the concentration of all constituents identified in 35 Ill. Adm. Code 724, Appendix I such that the results will accompany the permit modification required by Condition II.J.11.d.**
 - c. For any Appendix I compounds found in the analysis pursuant to this condition, the Permittee may resample within one month and repeat the analysis for those compounds detected. If the results of this second analysis confirm the initial results, then these constituents will form the basis for compliance monitoring. If the Permittee does not resample for the compounds pursuant to this condition, the hazardous constituents found during this initial Appendix I analysis will form the basis for compliance monitoring.**
 - d. Within 90 days, submit to the Illinois EPA a permit application to establish a compliance monitoring program meeting the requirements of 35 Ill. Adm. Code 724.199. The permit application must include the following information:**
 - i. An identification of the concentration of any 35 Ill. Adm. Code 724, Appendix I constituents found in the groundwater at each monitoring well at the compliance point;**
 - ii. Any proposed changes to the groundwater monitoring system at the facility necessary to meet the requirements of 35 Ill. Adm. Code 724.199;**
 - iii. Any proposed changes to the monitoring frequency, sampling and analysis procedures, or methods or statistical procedures used at the facility necessary to meet the requirements of 35 Ill. Adm. Code 724.199; and**
 - iv. For each hazardous constituent found at the compliance point, a proposed concentration limit under 35 Ill. Adm. Code 724.194(a)(1) or 724.194(a)(2), or a notice of intent to seek an alternate concentration limit for a hazardous constituent under 35 Ill. Adm. Code 724.194(b).**

- e. **Submit to the Illinois EPA a corrective action feasibility plan to meet the requirements of 35 Ill. Adm. Code 724.200 unless all hazardous constituents identified under Condition II.J.11.b are listed in 35 Ill. Adm. Code 724.194 and their concentrations do not exceed the respective values given in that table or the Permittee has sought an alternate concentration limit under II.J.11.d.iv for every hazardous constituents identified under Condition II.J.11.b.**
 - f. **Within 180 days, submit to the Illinois EPA all data necessary to justify any alternate concentration limits for a hazardous constituent sought under Condition II.J.11.d.iv.**
- 12. If the Permittee determines, pursuant to Condition II.F, that there is a statistically significant increase above the background values for the parameters specified in Condition II.E.1, the Permittee may demonstrate that a source other than a regulated unit caused the increase or that the increase resulted from error in sampling, analysis, or statistical evaluation, or natural variation in groundwater. To make this demonstration, the Permittee must:**
- a. **Notify the Illinois EPA in writing within seven days of the date that it intends to make a demonstration under 35 Ill. Adm. Code 724.198(g).**
 - b. **Within 90 days submit a report to the Illinois EPA which demonstrates that a source other than a regulated unit caused the increase, or that the increase resulted from error in sampling, analysis, or evaluation.**
 - c. **Within 90 days submit to the Illinois EPA an application to make any appropriate changes to the detection monitoring program at the facility.**
 - d. **Continue to monitor in accordance with the detection monitoring program established under Condition II.F.**
- 13. If the Permittee determines that additional hazardous constituents not currently part of the Groundwater Protection Standard are present in the groundwater, the Permittee must:**
- a. **Report the concentration of these additional constituents detected in the groundwater to the Illinois EPA within seven days after the receipt of the analytical data from the laboratory, and**
 - b. **Within 30 days of the date that the additional constituents are confirmed, submit a Class 1* permit modification request to add the additional constituents to the monitoring list of the Groundwater Protection Standard, Lists G2 through G7 as**

necessary and establish the concentration limit for each additional constituent following procedures in Condition II.E.2.

14. Area 1 RFI activities do not relieve the facility of the responsibility to meet the requirements of 35 Ill. Adm. Code 724.198(g), which among other things, requires the reporting of statistically significant increases for 1,4-dioxane and chloride in Area 4 monitoring wells adjacent to Area 1.

K. REQUEST FOR PERMIT MODIFICATION

1. If the Permittee or the Illinois EPA determines that the detection monitoring program no longer satisfies the requirements of 35 Ill. Adm. Code 724, Subpart F, the Permittee must, within 90 days, submit a permit application to the Illinois EPA to make any appropriate changes to the program which will satisfy the regulations.
2. Conditions in this section of the Permit may be modified in accordance with 35 Ill. Adm. Code 705.128 if there is cause for such modification, as defined in 35 Ill. Adm. Code 702.184. Causes for modification identified in this section include, but are not limited to, alterations to the permitted facility, additional information which would have justified the application of different permit conditions at the time of issuance, and new regulations.

SECTION III
AREA 3 GROUNDWATER CORRECTIVE ACTION PROGRAM

A. SUMMARY

Groundwater contamination has been detected in groundwater monitoring wells in the Dolton Sand and the upper Silurian Dolomite aquifer at Area 3 of the CID-RDF. The groundwater contamination is in the form of light non-aqueous phase liquid (LNAPL), as well as organic constituents at concentrations which exceed the Groundwater Protection Standards established by 35 Ill. Adm. Code 724.192. Therefore, this corrective action program, meeting the requirements of 35 Ill. Adm. Code 724.200, must be implemented at Area 3.

The Area 3 Groundwater Corrective Action Program required by this Permit includes:

1. A Groundwater Management Zone (GMZ), established pursuant to 35 Ill. Adm. Code 620.250, as a three-dimensional region containing groundwater being managed through a corrective action system to mitigate impairment caused by the release of contamination;
2. Extraction of the LNAPL and groundwater contaminated with organic constituents found in the weathered Silurian Dolomite inside the northern portion of the GMZ.
3. Extraction of groundwater contaminated with organic constituents inside the southern portion of the GMZ.
4. Implementation of a phytoremediation system at the southern portion of the GMZ.
5. Monitoring of groundwater to ensure the effectiveness of the Corrective Action System within the GMZ. This monitoring will involve: (a) evaluating the zone of influence of the Corrective Action system; and (b) groundwater sampling and analysis to ensure the reduction of contaminant concentrations.
6. Monitoring of groundwater at uncontaminated wells that are situated at the perimeter of the GMZ. This monitoring system ensures wells located at the perimeter of the GMZ are in compliance with the Groundwater Protection Standard.
7. Monitoring of groundwater at the portions of Area 3 that are not included in the GMZ.

B. DEFINITIONS

1. "Uppermost Aquifer" refers to the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically connected with this aquifer in the vicinity of the facility. The uppermost aquifer underlying Area 3 has been identified as a weathered, fractured and/or jointed Silurian dolomite which overlies a bedrock aquitard, and underlies a perched outwash sand unit with minimal hydraulic connection.
2. "GMZ" refers to the three-dimensional region containing groundwater being managed to mitigate impairment caused by the release of contaminants from a site.
3. "Point of Compliance" refers to the vertical surface located at the hydraulically downgradient limits of the waste management area (Area 3) extending down into the uppermost aquifer underlying the regulated unit.
4. "Ft-bgs" refers to the number of feet below the ground surface.
5. "Ft-MSL" refers to elevation referenced to mean sea level.
6. "Detected" shall mean a concentration equal to or above the PQL listed in USEPA's SW-846 (Third Edition) or as approved by the Illinois EPA for the applicable analytical methods specified in the approved Sampling and Analysis Procedures, which are incorporated by reference in Condition III.H.
7. "Progressive Increase" shall mean an increase in the concentration of a constituent in successive sampling events.
8. "Stick-up" refers to the height of the reference survey datum. This point is determined within ± 0.01 foot in relation to MSL, which in turn is established by reference to an established National Geodetic Vertical Datum.

C. IMPLEMENTATION

1. The Permittee must implement the Corrective Action Program upon the effective date of this Permit. On that date, the corrective action and groundwater monitoring requirements set forth in this Permit shall supersede those previously established in the previous Permit for the facility.
2. The Permittee must carry out the corrective action monitoring program specified in this Permit on the groundwater beneath the CID-RDF facility in the City of Chicago, Illinois. The uppermost aquifer in the vicinity of the CID-RDF has been identified as a composite zone consisting of a perched outwash sand and gravel, where present and the underlying

weathered, fractured and/or jointed Silurian dolomite which lies above a bedrock aquitard.

3. Monitoring wells at the facility are screened in the shallow outwash sand and gravel referred to as the "Dolton Sand", historic overlying fill material, and the deeper dolomite unit referred to as the "Silurian Dolomite". For the purposes of this Permit and in accordance with 35 Ill. Adm. Code Part 620 regulations: (1) the Dolton Sand has been designated Class II: General Resource Groundwater; and (2) the Silurian Dolomite has been designated Class I: Potable Resource Groundwater. The analytical results obtained from the groundwater monitoring wells must be compared to the appropriate Class I or Class II concentration limits that comprise the groundwater protection standard found in Condition III.E.1 or to established background values as appropriate.
4. Upon the effective date of this Permit, a GMZ is established as a three-dimensional region containing groundwater within the previously defined uppermost aquifer pursuant to 35 Ill. Adm. Code 620.250. The GMZ consist of a northern portion and a southern portion. The geographic location of the northern portion of the GMZ is currently bound by monitoring wells H28D, C28D, D28D, R13D, M28D, P28D, and K28D. The geographic location of the southern portion of the GMZ is currently bound on the north by monitoring wells G23DR, G10S, RW8S, G38D, and G25D. The geometry of the GMZ and the corrective action activities conducted within the GMZ may be modified in accordance with Condition III.K.11 as corrective action activities progress.
5. The GMZ must apply to the constituents comprising the groundwater protection standard found in Condition III.E.1. The GMZ must remain in place as long as corrective action activities are being conducted in a timely and appropriate manner.
6. The facility must remediate groundwater such that it meets appropriate groundwater quality standards at the Point of Compliance. At this time, the Point of Compliance shall be postponed for the Area 3 GMZ until such time that the GMZ monitoring wells have attained the applicable concentration limits that comprise the groundwater protection standard found in Condition III.E.1 and the GMZ expires. At that time, the CID-RDF facility must submit a proposal for establishment of a point of compliance which satisfies the regulatory requirements found in 35 Ill. Adm. Code 724, Subpart F and reflects the current conditions at the facility.

D. WELL LOCATIONS AND CONSTRUCTION

1. The Permittee must maintain the groundwater monitoring wells identified in the following table in accordance with the approved permit application to allow for the collection of groundwater samples. The location of these wells is specified in Figures C-2a, C-2b, and C-2c of the approved permit application.

IEPA Well No.	Permittee Well No.	Well Depth (ft.)	Well Depth Elevation (Ft.-MSL)	Well Screen Interval
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**List 1 – GMZ Observation Zone Monitoring Wells/LNAPL/Groundwater Extraction Network
(GMZ wells located within the area of groundwater contamination)**

G1A1 ^{*M}	A28D	74.7	518.90	528.40-518.90
G1A2 ^{*M}	B28D	82.0	512.51	522.51-512.51
G1A3 ^{*M}	C28D	71.6	521.54	531.54-521.54
G1A4 ^{RM}	D28D	77.6	516.81	526.81-516.41
G1A5 ^{*M}	E28DR	84.4	505.71	515.71-505.71
R1A6 ^{*M}	F28DR	84.6	508.81	518.87-508.81
G1A7 ^{*M}	G29D	88.2	505.24	515.24-505.24
G1B1 ^{*M}	K28D	85.5	503.23	513.23-503.23
G1B2 ^{*M}	L28D	93.8	496.76	506.76-496.76
G601 ^{RE}	RW-1	79.52	511.97	511.97-522.14
G602 ^{RE}	RW-2	84.17	506.58	506.63-516.63
G603 ^{RM}	RW-3	90.9	502.07	512.07-502.07
A24D ^O	A24D	94.1	498.84	508.84-498.84
G36D ^M	G36D	90.7	497.97	507.97-497.97
G37D ^M	G37D	92.8	496.61	506.61-496.61
GU2D ^M	IW302D	89.0	503.44	513.44-503.44
G604 ^E	EW1	79.00	509.06	519.56-509.56
G605 ^E	EW2	11.50	576.73	583.23-577.23
P106 ^P	P6W	13.6	577.12	582.12-577.12
G1C1 ^P	RW1S	13.7	578.50	583.50-578.50
G1C2 ^P	RW2S	18.0	576.14	586.14-576.14
G1C3 ^P	RW3S	10.3	578.18	583.18-578.18
G1C4 ^P	RW4S	10.7	579.73	584.73-579.73

List 2 – GMZ Perimeter Monitoring Wells (GMZ wells located outside the area of groundwater contamination)

R13D ^M	R13D	82.3	509.21	519.21-509.21
G1A8 ^{*M}	H28D	71.6	520.74	530.74-520.74
G1B3 ^M	M28D	96.3	494.27	504.27-494.27
G1B5 ^M	P28D	94.5	495.61	505.61-495.61
G10S ^P	G10S	7.7	581.22	586.22-581.22
G25D ^O	G25D	102.6	488.46	498.46-488.46

G38D ^M	G38D	96.9	495.14	505.14-495.14
R23D ^M	G23DR	69.5	522.45	532.45-522.45
G1C5 ^P	RW5S	11.0	579.51	585.51-579.51
R1C6 ^P	RW6S	12.5	578.70	583.40-578.70
G1C7 ^S	RW7S	11.9	580.99	585.64-580.99
G1C8 ^P	RW8S	12.6	579.56	583.99-579.56

List 3 – Area 3 Dolomite Monitoring Wells (Outside the GMZ)

A12D ^O	A12D	54.7	534.65	544.65-534.65
R15D ^O	G15DR	97.7	490.85	495.85-490.85
G186 ^M	O28D	60.8	529.06	539.06-529.06
G21D ^O	G21D	60.5	530.13	535.13-530.13
R107 ^O	G107R	83.0	508.19	517.59-508.19
AW01 ^O	AW01	98.9	490.39	500.39-490.39
R16D ^O	R16D	84.3	505.66	515.66-505.66
R26D ^O	G26DR	87.4	502.96	512.96-502.96
R27D ^O	G27DR	89.6	501.96	511.96-501.96

List 4 – Area 3 Dolton Sand Monitoring Wells (Outside the GMZ)

G12S ^P	G12S	7.3	581.21	582.21-581.21
R13S ^P	G13SR	7.6	583.92	588.92-583.92
G14S ^P	G14S	17.3	572.62	573.62-572.62
G15S ^P	G15S	18.1	570.33	571.33-570.33
G16S ^P	G16S	11.8	577.56	578.56-577.56

NOTE:

^E -- Groundwater extraction well

^M -- Analysis of List G1, G2, G3, G4 and G5 parameters in accordance with Condition III.E.1

^O -- Analysis of List G1, G2, G3, G4 and G5 parameters in accordance with Condition III.E.1

^P -- Analysis of List G1 and G2 parameters in accordance with Condition III.E.1

^R -- Denotes LNAPL recovery well.

^S -- Denotes monitoring well used only for groundwater elevation measurements

^{*} -- Denotes well to be used for groundwater quality monitoring and supplemental LNAPL recovery.

2. Construction of each new or replacement monitoring well/piezometer must be at a minimum in accordance with the diagram contained in Attachment A, unless otherwise approved in writing by the Illinois EPA. All new monitoring wells/piezometers must be continuously sampled and logged on an Illinois EPA boring log and well completion report, as provided in Attachment A unless otherwise approved by the Illinois EPA.

3. The Permittee must notify the Illinois EPA within 30 days in writing if any of the wells identified in Condition III.D.1 are damaged, the structural integrity has been compromised causing the well not to serve its function or to act as a contaminant pathway. A proposal for the replacement of the subject well(s) must accompany this notification. The well must not be plugged until the new well is on-line and monitoring data has been obtained and verified, unless the well is extremely damaged and would create a potential route for groundwater contamination.
4. Should any well become consistently dry or unserviceable, a replacement well must be provided within 10 feet of the existing well. This well must monitor the same zone as the existing well and be constructed in accordance with the current Illinois EPA groundwater monitoring well construction standards at the time that the wells are replaced. A well which is more than 10 feet from the existing well and which does not monitor the same geologic zone must be approved by the Illinois EPA and designated as a new well. If the facility determines that a replacement well will be a dry well, then it must submit for Illinois EPA approval either a proposal to install a new monitoring well or a proposal not to replace the well with appropriate rationale.
5. The Permittee must submit boring logs, construction diagrams, and data sheets from the installation and development of each new or replacement well to the Illinois EPA at the address below within 30 days of the date that installation of the well is completed. In addition, the Permittee must submit certification that plugging and abandonment of a well was carried out in accordance with the approved procedures (see Attachment A) to the Illinois EPA at the address below within 30 days of the date that the well is plugged and abandoned. All information must be submitted to the appropriate Agencies.

Illinois Environmental Protection Agency
Bureau of Land -- #33
2520 West Iles Avenue
Permit Section
Springfield, Illinois 62794-9276

6. All wells/piezometers must be clearly identified and must be equipped with protective caps and locks. Monitoring wells or piezometers located in high traffic areas must be protected with bumper guards.
7. All groundwater monitoring wells and piezometers not utilized in the approved groundwater monitoring system, but retained by the facility, must be constructed and maintained in accordance with 77 Ill. Adm. Code Part 920 regulations. Monitoring wells and piezometers that are improperly constructed must be abandoned in accordance with Attachment A.

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E. GROUNDWATER PROTECTION STANDARD

1. The following hazardous constituents and concentration limits comprise the groundwater protection standard in the vicinity of the CID-RDF facility. Total (unfiltered) values, derived from the applicable USEPA SW-846 (latest version) or equivalent methods listed in Section C of the approved permit application, will be used for comparison with the concentration limits.

	<u>STORET</u>	<u>Units</u>	<u>Concentration Limit</u>	
			<u>Class I</u>	<u>Class II</u>
<u>List G1 – Field Parameters</u>				
pH	00400	standard	6.5-9.0	
Specific Conductance at 25°C	00094	µmhos/cm	--	--
Temperature of Water Sample	00011	Fahrenheit	--	--
Turbidity	00076	NTUs	--	--
Depth to Water (below land surface)	72019	Feet	--	--
Depth to Water (below measuring point)	72109	Ft-bgs	--	--
Elevation of Groundwater Surface	71993	Ft-MSL	--	--
Elevation of Bottom of Well#	72020	Ft-MSL	--	--
Elevation of Measuring Point (Top of Casing) ##	72110	Ft-MSL	--	--
<u>Hazardous Waste Constituents</u>				

	<u>STORET</u>	<u>PQL</u> <u>(µg/L)</u>	<u>Concentration Limit</u>	
			<u>Class I</u>	<u>Class II</u>
<u>List G2 – Organics</u>				
Toluene	34010	6	1,000	2,500
Benzene	34030	5	5	25
Ethylbenzene	78113	7.2	700	1,000
Xylene (total)	81551	5	10,000	10,000
BTEX(total)	11750	--	11,705	13,525
1,4-dioxane	81582	5	7.7	7.7
Chlorobenzene	34301	6	100	500

List G3 – Organics

Naphthalene	34696	10	140	220
Acetone	81552	100	6,300	6,300
bis(2-ethylhexyl)phthalate	39100	6	6	60
Methylene Chloride	34423	5	5	50

1,4-dichlorobenzene	34571	2	25	375
Vinyl Chloride	39175	2	2	10
Fluoranthene	34376	5	280	1,400

List G4 – Inorganics (total)

Chloride, total	00940	1,000	200,000	200,000
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List G5 – Inorganics (dissolved)

Chloride, dissolved	00941	1,000	--	--
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Must be determined in accordance with Condition III.G.3

Must be determined in accordance with Condition III.G.2

2. Alternate concentration limits may be established in accordance with 35 Ill. Adm. Code 724.194 (b) where the Permittee can determine a constituent will not pose a substantial hazard to human health or the environment. The alternate concentration limits proposed by the facility must be approved by the Illinois EPA.
3. The compliance period when the Groundwater Protection Standard applies is the number of years equal to the active life of the waste management area (including any waste management activity prior to permitting and the closure period). The compliance period at the CID-RDF facility has been defined as 30 years following certification of closure of the Area 3 Landfill.
4. This Corrective Action Program must continue during the compliance period until the Permittee demonstrates that the LNAPL has been removed to the greatest extent practicable, and that the Groundwater Protection Standard has not been exceeded for four consecutive monitoring events. However, if the owner or operator is engaged in a corrective action at the end of the defined compliance period, the compliance period is extended until the owner or operator can demonstrate that the Groundwater Protection Standard has not been exceeded for three consecutive years.
5. The Permittee shall not be relieved of the responsibility to remediate a release that has migrated beyond the facility boundary where off-site access is denied.

F. CORRECTIVE ACTION PROGRAM

The Permittee must conduct the corrective action program and perform groundwater monitoring detailed in this section, in accordance with the following:

1. List 1, Observation Zone Monitoring Wells/LNAPL/Groundwater Extraction Network

- a. The GMZ Observation Zone monitoring wells identified in Condition III.D.1, List 1 are the wells that comprise the Groundwater Remediation System. The Groundwater Remediation System consists of wells that are used for recovery of LNAPL, contaminated groundwater, and for groundwater quality monitoring when LNAPL is not present. For the northern portion of the GMZ, the Permittee must implement, at these wells, the corrective measures detailed in Section C.8 of the approved permit application as modified by Illinois EPA Log No. B-27R-M-67. For the southern portion of the GMZ, the Permittee must implement the corrective measures detailed in the document entitled, "Class 2 Permit Modification", dated May 24, 2013 and additional information to that document dated July 30, 2013, with the following conditions:
- i. Extraction using the LNAPL Extraction System shall begin within 30 days of the effective date of this Permit. Extraction at newly installed extraction wells shall begin within 30 days of the date of installation of the new well.
 - ii. The facility must extract LNAPL from each northern GMZ well identified in Condition III.D.1, List 1 on a quarterly basis. LNAPL extraction must be conducted in accordance with the procedures described in Section C.8.3 of the approved permit application.
 - iii. Written approval in the form of a Class 1* Permit Modification must be obtained from the Illinois EPA prior to the installation of additional LNAPL extraction well(s).
 - iv. LNAPL extraction must be evaluated quarterly and reported semi-annually in accordance with Conditions III.I.1 and III.K.2.
- b. The Permittee must demonstrate the effectiveness of the Corrective Action Program by monitoring the groundwater from the GMZ Observation Zone well network identified in Condition III.D.1, List 1. The effectiveness must be evaluated in accordance with the procedures described in the approved permit application and the following conditions:
- i. Groundwater samples must be collected semi-annually (second and fourth quarters) in accordance with the schedule provided in Condition III.K.2 and analyzed for List G1, G2, G3, G4, and G5 parameters as identified by the Notes in Condition III.D.1. However, if measurable LNAPL is present within a well at the time of a sampling event, the well must be monitored for the presence and thickness of LNAPL in lieu of the above lists.

- ii. Wells that exhibit measurable quantities of LNAPL must be recorded as containing free product and are not required to be sampled for pH, specific conductance, water temperature, turbidity, or Lists G2, G3, G4, and G5 parameters during that event. Wells that do not exhibit measurable quantities of LNAPL (i.e., wells with sheens, emulsions or no evidence of free product) must be sampled for pH, specific conductance, water temperature, turbidity, and Lists G2, G3, G4, and G5 parameters, as identified by the Notes to Condition III.D.1, during that event.
- iii. The volume of LNAPL removed by each well in the LNAPL Extraction System must be determined quarterly during the time that measurable LNAPL is extracted from the LNAPL Extraction System. If no measurable LNAPL is extracted by the LNAPL Extraction System, the facility must note that no LNAPL was recovered during this period.
- iv. The facility must report the method of LNAPL extraction utilized for each well during each extraction event and the criteria used to determine the extraction method.
- v. The volume of groundwater extracted by each well must be reported in accordance with the requirements of Condition III.K.2.
- vi. Sampling and analytical procedures utilized in the Observation Zone wells must be in accordance with Condition III.H.
- vii. Statistical analysis of the data collected from Observation Zone wells must be conducted in accordance with Condition III.I.1.a.
- viii. Results of the Observation Zone monitoring and LNAPL/groundwater extraction activities must be reported in accordance with Condition III.K.

2. Perimeter Wells

- a. The Permittee must determine whether the Groundwater Protection Standard has been exceeded at the GMZ Perimeter (non-impacted) wells. The wells identified in Condition III.D.1, List 2 must be used for this evaluation. These wells must be evaluated during the compliance period as follows:
 - i. Groundwater samples must be collected semi-annually (second and fourth quarters) in accordance with the schedule provided in Condition III.K.2 and analyzed for Lists G1, G2, G3, G4, and G5 parameters as identified by the Notes in Condition III.D.

- ii. Sampling and analytical procedures must be in accordance with Condition III.H.
- iii. Statistical analysis of the data collected from the GMZ Perimeter wells must be conducted in accordance with Condition III.I.1.b.
- iv. Results of the GMZ Perimeter well monitoring must be reported in accordance with Condition III.K.

3. List 3 – Area 3 Dolomite Monitoring Wells (Outside the GMZ)

- a. The facility must monitor groundwater in the Silurian Dolomite for releases from portions of Area 3 that are not associated with the current GMZ. The wells identified in Condition III.D.1, List 3 must be used for this evaluation. These wells must be evaluated during the compliance period as follows:
 - i. Groundwater samples must be collected semi-annually (second and fourth quarters) in accordance with the schedule provided in Condition III.K.2 and analyzed for List G1, G2, G3, G4, and G5 parameters identified in Condition III.E.
 - ii. Sampling and analytical procedures must be in accordance with Condition III.H.
 - iii. Statistical analysis of the data collected from the List 3 – Area 3 Dolomite Monitoring wells must be conducted for the List G2, G3, and G5 parameters in accordance with Conditions III.J.
 - iv. Results of the List 3 well monitoring must be reported in accordance with Condition III.K.

4. List 4 – Area 3 Dolton Sand Monitoring Wells (Outside the GMZ)

- a. The facility must monitor groundwater in the Dolton Sand for releases from portions of Area 3 that are not associated with the current GMZ. The wells identified in Condition III.D.1, List 4 must be used for this evaluation. These wells must be evaluated during the compliance period as follows:
 - i. Groundwater samples must be collected semi-annually (second and fourth quarters) in accordance with the schedule provided in Condition III.K.2 and analyzed for List G1 and G2 parameters identified in Condition III.E.
 - ii. Sampling and analytical procedures must be in accordance with Condition III.H.

- iii. **Statistical analysis of the data collected from the List 4 – Area 3 Dolton Sand Monitoring wells must be conducted for the List G2 parameters in accordance with Condition III.J.**
 - iv. **Results of the List 4 well monitoring must be reported in accordance with Condition III.K.**
- 5. **The Permittee must determine the groundwater flow rate and direction in the Dolton Sand and the Silurian Dolomite at least annually from the wells listed in Condition III.D, Lists 1, 2, 3, and 4. The groundwater flow rate should be reported as a minimum and maximum range.**
 - 6. **The Permittee must provide, on a semi-annual basis (second and fourth quarters), isoconcentration maps, by monitored zone, of the extent of contamination in groundwater at the corrective action area.**
 - 7. **The Permittee must evaluate the effectiveness of the Groundwater Remediation System to hydraulically capture and withdraw the off-site plume of groundwater contamination. This evaluation must be conducted semi-annually (second and fourth quarters). If the evaluation indicates the off-site plume of contamination is not completely captured by the current corrective action system design, the Permittee must submit within 30 days of the semi-annual evaluation proper notification or modification request to achieve capture of the groundwater contamination.**
 - 8. **The Permittee must evaluate the results of the analyses required by Conditions III.F.1, III.F.2, III.F.3, and III.F.4, excluding the List G1 parameters, and identify:**
 - a. **The concentration of any constituent listed in Condition III.E.1 which is above the appropriate PQL or EQL listed in the approved analytical method(s) specified in Section C of the approved permit application.**
 - b. **The concentration of any constituent detected which was not detected during the previous sampling event.**
 - c. **The concentration of any constituent that exhibits a progressive increase over four consecutive sampling events.**
 - 9. **Originally beginning the Second Quarter 2015, and for the Second Quarter every five years thereafter, the Permittee must report the concentration of any TIC detected by laboratory analysis of that monitoring event. This information must be provided in the report required by Condition III.K.10.**

10. For any 35 Ill. Adm. Code 724, Appendix I constituent found in the analysis required by Condition III.F.8 that is not currently included in Condition III.E.1 the Permittee must, within 30 days, resample all of the monitoring wells listed in Condition III.D.1 for the detected constituent. If the results of the second analysis confirm the presence of the constituent in groundwater, the Permittee must follow the procedures of Condition III.K.13.

G. GROUNDWATER ELEVATION

1. The Permittee must determine the groundwater surface elevation referenced to the nearest ± 0.01 Ft.-MSL at each well each time groundwater is sampled in accordance with Condition III.K.3.
2. The Permittee must report the surveyed elevation of stick-up, referenced to MSL, when the well is installed (with as-built diagrams) and every two years (during the First or Second Quarter), or at the request of the Illinois EPA, or whenever the elevation changes in accordance with Condition III.K.5.
3. Elevation, as referenced to MSL, of the bottom of each monitoring well (STORET 72020), must be taken in the event a performance problem is identified with the dedicated pumps found in the monitoring wells. Additionally, the elevation of the bottom of each monitoring well must be taken whenever the downhole equipment is removed from the monitoring well.

H. SAMPLING AND ANALYSIS PROCEDURES

The Permittee must use the techniques and procedures described in the approved permit application when obtaining samples from the groundwater monitoring wells described in Condition III.D.1 with the following conditions:

1. Samples must be collected by the techniques described in the approved permit application.
2. Samples must be preserved, shipped, and handled in accordance with the procedures specified in the approved permit application.
3. Samples must be analyzed according to the procedures specified in the approved permit application.
4. Samples must be tracked and controlled using the chain-of-custody procedures specified in the approved permit application.

I. STATISTICAL PROCEDURES FOR THE GMZ MONITORING WELLS

To determine the effectiveness of the corrective action system in reducing the concentration of contaminants within the GMZ the facility must conduct the following activities:

1. The Permittee must evaluate the quality of groundwater samples acquired during the semi-annual sampling events identified in Condition III.K.2.
 - a. List 1 GMZ Observation Zone wells must be evaluated according to the following procedures:
 - i. When measurable LNAPL is present, LNAPL thickness and elevation referenced to Ft.-MSL for each well must be tabulated and graphed to indicate historical trends.
 - ii. Measurable LNAPL/groundwater volume recovered from each recovery well must be tabulated and graphed to indicate historical trends.
 - iii. Concentrations of each List G2, G3, and G5 parameter analyzed in accordance with Condition III.F.1.b at each well must be tabulated and graphed to indicate historical trends.
 - iv. The results of Observation Zone analyses must be reported in accordance with Condition III.K.2.
 - b. List 2 GMZ Perimeter wells must be evaluated according to the following procedures:
 - i. The concentration of each List G2, G3, and G4 parameter must be compared to its PQL and its respective Concentration Limit. If a List G2, G3, or G4 constituent is found to exceed the appropriate concentration limit(s) in the sample collected from the well, the Permittee may resample within 30 days. If the Permittee chooses not to resample, it must conclude that a statistically significant increase has occurred and follow the procedures in Conditions III.K.11 or III.K.12.
 - ii. If the Permittee chooses to resample, it must repeat the analysis for those compounds detected. Collection preservation and analysis of this resample must be carried out in accordance with Condition III.H. If the second round of analysis indicates an exceedance of appropriate concentration limit(s), the Permittee must conclude that a statistically significant increase has occurred and shall follow the procedures specified in Conditions III.K.11 or III.K.12.

- iii. Constituents detected below the PQL must be determined to be showing no change and no action is necessary.
- iv. Constituents detected above the PQL must be plotted on graphs which show historical concentration versus time. Plots indicating statistically significant increasing trends must be reported, in accordance with Condition III.K.14, as a potential area of increasing contamination. The trend analysis must be based on data from a minimum of four and a maximum of the 10 most recent consecutive sampling events and use of an appropriate trend test (e.g. Mann-Kendall Trend Test or Sen's Trend Estimator) of the 95% confidence level. In addition, this report must contain an evaluation as to whether the corrective actions are operating effectively and whether adjustments or additional remedial actions are necessary based on this trend.
- v. If the Permittee determines at any time that free product is present in any GMZ Perimeter well listed in Condition III.D.1, List 2, it must be reported and addressed in accordance with Condition III.K.11 and III.K.12.

J. STATISTICAL PROCEDURES FOR THE AREA 3 MONITORING WELLS OUTSIDE THE GMZ

To monitor for releases of contamination to groundwater underlying Area 3 that are not associated with the GMZ, the facility must conduct the following activities:

1. The background values established for the purpose of intrawell statistical analysis for the groundwater parameters monitored at the List 3 and List 4 monitoring wells listed in Condition III.D.1, must initially be established from the historical groundwater data from the initial sampling of each monitoring well under the initial RCRA Part 8 Permit (1988) to the Fourth Quarter 2006. This may include data from original monitoring wells and replacement wells as appropriate. The parameters for which background values must be established at the List 3 wells include the List G2, G3, and G5 parameters. The parameters monitored at the List 4 wells for which background values must be established include the List G2 parameters.
2. The background values established for the purpose of intrawell statistical analysis, must be established from the background data set, utilizing the following procedures. This submittal must include example calculations and must include, in table form, all groundwater data used in the calculation for each well, the number of pieces of data used to determine the mean, and a list of derived prediction limits.
 - a. For those parameters or constituents which are found to be above the PQL in 85% - 100% of the background data set, the background values for that parameter or constituent must be calculated using the methodology described in Attachment B,

Page 1. The facility must utilize a value of one half the PQL for non-detect results included in the data set.

- b. For the parameters or constituents which are found to be above the PQL in 50% - 85% of the background data set, the background values for that parameter must be calculated using methodology described in Attachment B, Page 2 or 5 as appropriate.**
- c. For those parameters or constituents in the background data set which do not meet the requirements of Conditions III.J.2.a or III.J.2.b, the average background value must be set at the PQL as shown in Condition III.E.1.**
- d. Sampling and analytical procedures utilized to establish background values must be in accordance with Condition III.H.**
- e. The Permittee must determine the distribution of the background data set for each parameter that meets the requirements of III.J.2.a and III.J.2.b.**
 - i. The Permittee must calculate a coefficient of variation for the background data set from each monitoring well in accordance with Attachment B.**
 - ii. If the coefficient of variation is less than or equal to 1.00, the Permittee may assume a normal data distribution for statistical analysis.**
 - iii. In the event that the coefficient of variation is greater than 1.00, the Permittee may choose to transform the background data in lieu of proposing a non-parametric statistical procedure in accordance with Condition III.J.2.e.iv. The Permittee must demonstrate that the original non-transformed data are inappropriate for a normal theory test.**
 - iv. If the Permittee determines that the transformed background data does not pass the test described in Condition III.J.2.e.ii, it must assume that the background data set is not appropriate for normal theory statistical analysis. In this event, the Permittee must submit for Illinois EPA review and approval a proposed statistical procedure that is appropriate for the distribution of the data used to establish background values and provides a reasonable balance between the probability of falsely identifying a non-contaminating regulated unit and the probability of failing to identify a contaminating unit.**
 - v. The Permittee may submit for Illinois EPA review and approval a proposal for an alternative procedure for evaluation of background data distribution.**

3. The facility must reestablish intrawell background values at the List 3 and List 4 monitoring wells every two years as follows:
 - a. The parameters for which background values must be established at the List 3 wells include the List G2, G3, and G5 parameters. The parameters monitored at the List 4 wells for which background values must be established include the List G2 parameters.
 - b. The facility must use a data set consisting of the results of the eight most recent sampling events.
 - c. The facility must utilize the procedures outlined in Conditions III.J.2.a through II.J.2.e.
 - d. Recalculated background values must be submitted for Illinois EPA review and approval by July 15 of each odd numbered calendar year beginning with July 15, 2023. This submittal must include example calculations and must include, in table form, all groundwater data used in the calculation for each well, the number of pieces of data used to determine the mean, and a list of derived prediction limits.
4. For those parameters and constituents which have not been sampled and analyzed in eight previous sampling events, background values must be established by the methodology approved by Condition III.J.2 following four sampling events after the effective date of this Permit. The results of this determination must be submitted to the Illinois EPA for review and approval within 90 days from the fourth sampling event.
5. Each of the List 3 and List 4 monitoring wells in Condition III.D.1 must be sampled semi-annually in accordance with the schedule in Condition III.K.2. The semi-annual sampling events must be conducted during the Second and Fourth Quarters of each calendar year during the compliance period.
6. The groundwater quality for each List 3 and List 4 monitoring well must be collected in accordance with Condition III.H and must be compared to the background values which were established for that well in accordance with Condition III.J.2 or III.J.3. The value for each parameter must be compared to the background value established for that parameter at that well.
7. For those constituents identified in Condition III.E.1 which have background values established in accordance with Conditions III.J.2.a and III.J.2.b, the Permittee must conduct the following statistical analysis (NOTE: This procedure must not be used if the coefficient of variation of the background values is greater than 1.00):

- a. The difference between the measured concentration of the constituent in a sample from each well and the background value for that constituent must be evaluated using prediction limits as described in Attachment B. If the test indicates the difference is significant at the 0.01 level, the Permittee may resample the monitoring well(s), or the Permittee may choose not to resample and must conclude that a statistically significant increase has occurred.
 - b. If a resample is obtained, it must be analyzed for the constituent(s) which was (were) initially found to be present in the sample at a value significantly different from its background value. Collection, preservation and analysis of this resample must be carried out in accordance with Condition III.H. The results of this resample must be compared to the background value for the constituent, again using the statistical procedure describe in this condition. If the second round of analysis indicated the difference is significant, the Permittee must conclude that a statistically significant increase has occurred.
8. For those constituents identified in Condition III.E.1 which have background values established in accordance with Condition III.J.2.c, the Permittee must conduct the following statistical analysis at each well:
 - a. The measured concentration of each of these constituents present in a sample collected from each well must be compared to the PQL. If, for a given well, (A) the measured concentration of a single constituent is greater than two times the PQL, or (B) the measured concentration of any two or more of these constituents is greater than the PQL, the Permittee may immediately resample from that well(s), or the Permittee may choose not to resample and must conclude evidence of statistically significant increase has occurred.
 - b. If a resample is obtained, it must be analyzed for the constituents detected above the PQL in the initial sample collected and analyzed in accordance with this condition. Collection, preservation and analysis of this sample must be carried out in accordance with Condition III.H. The results of this resampling must again be compared to the PQLs as described in this condition. If the measured concentrations for this resampling fail either of the comparisons, the Permittee must conclude that a significant change has occurred.
9. For those constituents that have intrawell background values that exceed appropriate 35 III. Adm. Code Part 620 GQs, the facility must conduct the following statistical evaluation:
 - a. The Permittee must conclude that there has been a statistically significant increase if any one of the following has occurred:

- i. The measured concentration of the constituent exceeds the intrawell background value calculated in accordance with Conditions III.J.1, III.J.2, or III.J.3; or
 - ii. A trend analysis (e.g., Mann-Kendall Trend test or Sen's Trend Estimator) of the 10 most recent sampling events indicates a statistically significant increasing trend at the 95% confidence level.
 - b. If the statistical evaluation required in Condition III.J.9.a indicates a statistically significant increase, the facility may immediately resample the monitoring well(s), or the Permittee may choose not to resample and must conclude that a statistically significant increase has occurred.
 - c. If a resample is obtained, it must be analyzed for the constituent(s) that failed the evaluation in Condition III.J.9.a. Collection, preservation and analysis of the resample must be carried out in accordance with Condition III.H. The results of this resample must again be evaluated as required by Condition III.J.9.a substituting the resample result for the most recent sampling event. If the resample results again fail the evaluation required by Condition III.J.9.a, the facility must conclude that a statistically significant increase has occurred.
10. Each time samples are collected for the statistical comparisons required by Conditions III.J.7, III.J.8, or III.J.9, the Permittee must prepare lab (trip) blanks in accordance with the procedures described in the approved permit application.
- a. If any volatile organic compound identified in Condition III.E.1 cause the initial sample from a given well to fail the tests required by Conditions III.J.7 or III.J.8, and the constituent(s) is (are) found above the PQL in a field and/or lab blank associated with the collection or analysis of the sample, the Permittee must immediately resample the well of concern. This sample, taken to verify the concentration of those constituents found in the initial sample, must be collected, preserved and analyzed in accordance with the procedures set forth in Condition III.H.
 - i. Analysis of the resample:
 - A. If the constituent found in the blank is statistically evaluated in accordance with Condition III.J.7, the resample must be analyzed for the constituents which failed the test and were also found in the blanks.

- B. If the constituent found in the blank is statistically evaluated in accordance with Condition III.J.8, the resample must be analyzed for all the constituents statistically evaluated in accordance with Condition III.J.8.
 - C. If the constituent found in the blank is statistically evaluated in accordance with Condition III.J.9, the resample must be analyzed for the constituents statistically evaluated in accordance with Condition III.J.9.
- ii. The measured concentration of the constituents in the resample must be compared to background values in accordance with Conditions III.J.7, III.J.8, and III.J.9.
 - A. If this comparison passes the tests set forth in Condition III.J.7, III.J.8, and/or III.J.9, the Permittee may conclude that no significant increase has occurred for the constituents of concern at the well in question.
 - B. If this comparison fails the test set forth in Conditions III.J.7, III.J.8, and/or III.J.9, the Permittee must immediately collect a "verification sample" in accordance with Conditions III.J.7, III.J.8, and III.J.9.
 - b. If the same problem described in Condition III.J.10.a occurs in the analysis of the "resample" required by Conditions III.J.7, III.J.8, and III.J.9, the Permittee may collect and analyze a verification sample in accordance with Condition III.J.10.a as modified below:
 - i. The phrase "resample" must be substituted for "initial sample."
 - ii. The verification sample need only be analyzed for those constituents which the "resample" was analyzed for.
 - iii. If the comparison of the analytical results fails the tests in Conditions III.J.7, III.J.8, and/or III.J.9, the Permittee must conclude that a significant change has occurred.
 - c. Chemical and statistical analyses which are not affected by the interpretation of blank data must not be repeated, except as described above.

K. REPORTING AND RECORDKEEPING

- 1. The Permittee must enter all monitoring, testing and analytical data obtained in accordance with Conditions III.E, III.F, III.G, III.H, III.I, and III.J into the operating record. The data must include all computations, calculated means, variance, prediction limits, and statistical or results of statistical tests that the Illinois EPA has determined to be equivalent.

2. Samples collected to meet the requirements of the groundwater monitoring described in Conditions III.E, III.F, III.G, III.H, III.I, and III.J must be collected and reported as identified in the table below. All additional information required by the groundwater monitoring program (as specified in Conditions III.E, III.F, III.G, III.H, III.I, and III.J) must also be submitted to the Illinois EPA at the address listed in Condition III.D.5 in accordance with this schedule.

<u>Sampling Event of Calendar Year*</u>	<u>Samples to be Collected in the Months of</u>	<u>Results Submitted to the Illinois EPA by the Following</u>
Second Quarter	April-June	July 15
Fourth Quarter	October-December	January 15

Note: Quarterly LNAPL extraction results and evaluations must be submitted semi-annually. First and second quarter LNAPL results and evaluations are to accompany the report due July 15; third and fourth quarter LNAPL results and evaluations are to accompany the report due January 15.

3. Groundwater surface elevation data measured pursuant to Condition III.G.1, must be collected and submitted to the Illinois EPA as identified in Condition III.K.2.
4. The Permittee must report the groundwater flow rate and direction in the Dolton Sand and the Silurian Dolomite, as required by Condition III.F.5 by July 15 of each year.
5. The Permittee must report the surveyed elevation, as required by Condition III.G.2, of the top of the well casing ("stick-up"), referenced to MSL, in accordance with the following schedule:
- For wells identified in Condition III.D.1, every two years (during the First or Second quarter), or at the request of the Illinois EPA, or whenever the elevation changes.
 - For any new wells, at the time of installation and reported in the as-built diagrams. Subsequent measurements must be made every two years (during the First or Second quarter), or at the request of the Illinois EPA, or whenever the elevation changes.
6. Elevation of the bottom of each monitoring well identified in Condition III.D.1 referenced to MSL, is to be reported when maintenance activities are conducted in accordance with Condition III.K.7. This measurement must be taken during the first semi-annual sampling event and reported by July 15 of that year.

7. The Permittee must maintain all equipment associated with groundwater monitoring wells. Dedicated pumps found in monitoring wells identified in Condition III.D.1 must be removed, inspected and repaired if necessary every five years. Information regarding the inspection and maintenance of pumps must be reported by July 15 of that year.
8. The Permittee must submit a completed "RCRA Facility Groundwater, Leachate and Gas Reporting Form" (LPC-592) as a cover sheet for any notices or reports required by the facility's Permit for identification purposes. Only one copy of the LPC-592 must accompany the submittal. However, the Permittee must submit one original and a minimum of two copies of each notice or report submitted to the Illinois EPA. The form is not to be used for permit applications.
9. Information required by Conditions III.F must be submitted in an electronic format. The information is to be submitted, as fixed-width text files formatted as found in Attachment A, in accordance with the schedule in Condition III.K.2. Additional guidance regarding the submittal of the information in an electronic format can be found on the Illinois EPA website.
10. In addition to submitting analytical results electronically as required by Condition III.K.9, a summary report describing the results of the groundwater sampling event must be submitted after each sampling event in accordance with the schedule found in Condition III.K.2. These reports must include, but not be limited to:

 - a. A description of any problems encountered during the event.
 - b. A tabulated summary of groundwater and analytical data collected during the sampling event including the appropriate groundwater quality standard, appropriate PQL, and appropriate derived background value for each parameter.
 - c. A summary table of groundwater elevations collected during the sampling event and potentiometric map(s) based on that data.
 - d. Copies of any statistical analysis required to be conducted in accordance with Conditions III.I and III.J.
 - e. Information required by Conditions III.F.6, III.F.7, III.F.8, III.F.9, and III.F.10.
11. If the Permittee determines pursuant to Condition III.I.1.b that any Concentration Limits specified in the Groundwater Protection Standard are being exceeded at any monitoring well within the List 2 GMZ Perimeter wells, or pursuant to Condition III.J.6 that a statistically significant increase has occurred in any of the List 3 Dolomite or List 4 Dolton Sand monitoring wells, the Permittee must:

- a. Notify the Illinois EPA of this finding in writing within seven days. The notification must indicate what exceedances have been observed.
 - b. Within 90 days of the date that the increase is discovered, submit to the Illinois EPA a request for modification to the Corrective Action Program to meet the requirements of 35 Ill. Adm. Code 724.200. The application must at a minimum include the following information:
 - i. A detailed description of corrective actions that will achieve compliance with the Groundwater Protection Standard.
 - ii. A plan for a groundwater monitoring program that will demonstrate the effectiveness of the corrective action. Such a groundwater monitoring program may be based on a compliance monitoring program.
12. If the Permittee determines, pursuant to Condition III.I.1.b that the groundwater Concentration Limits in Condition III.E are being exceeded at any GMZ Perimeter well, or that a statistically significant increase has occurred in any of the List 3 Dolomite or List 4 Dolton Sand monitoring wells, the Permittee may demonstrate that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis or statistical evaluation, or natural variation in groundwater. In making a demonstration under this condition, the Permittee must:
- a. Notify the Illinois EPA in writing within seven days of the date that the increase is discovered that they intend to make this demonstration under this condition;
 - b. Within 90 days, submit a report to the Illinois EPA, which demonstrates that a source other than a regulated unit caused the increase, or that the increase resulted from an error in sampling analysis or evaluation;
 - c. Within 90 days, submit to the Illinois EPA an application to make any appropriate changes to the corrective action monitoring program at the facility; and
 - d. Continue to monitor in accordance with Condition III.F.
13. If the Permittee determines that additional constituents not currently part of the Groundwater Protection Standard are present in the groundwater, the Permittee must:
- a. Report the concentration of these additional constituents detected in the groundwater to the Illinois EPA within seven days of receipt of the analytical data from the laboratory; and

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- b. Within 30 days of the date that the additional constituents are confirmed, submit a permit application to add the additional constituents to the monitoring list of the Groundwater Protection Standard, Lists G2 and G3 and establish the concentration limit for each additional constituent following procedures in Condition III.J.2.
14. The Permittee must submit a written report to the Illinois EPA annually which discusses the effectiveness of the Corrective Action Program and place it in the operating record for the facility. The report must be submitted by July 15 of each year that the Corrective Action Program is in effect. At a minimum, the report must:
- a. Present a detailed summary of the information requirements in Conditions III.E, III.F, III.G, III.H, III.I, and III.J presented during the previous calendar year;
 - b. Evaluate the effectiveness of the hydraulic control and contaminant removal from the Groundwater Remediation System; and
 - c. Provide recommendations for the Corrective Action Program based on the information provided in Conditions III.K.14.a and III.K.14.b.
 - d. This annual report may also be used to fulfill the Second Quarter reporting requirements listed in Conditions II.J.10 and III.K.10, provided that all information required by Conditions II.J.10 and III.K.10 is included.
15. In accordance with 35 Ill. Adm. Code 620.250(c), a review of the GMZ must take place no less often than every five years and the results must be presented to the Illinois EPA in a written report. The most recent review was approved by permit modification B-27R-M-87 dated March 23, 2020. The next GMZ review must be submitted to the Illinois EPA by March 31, 2025.

L. REQUEST FOR PERMIT MODIFICATION

- 1. If the Permittee or the Illinois EPA determines that the corrective action program no longer satisfies the requirements of 35 Ill. Adm. Code 724, Subpart F, the Permittee must, within 90 days, submit a permit application to make any appropriate changes to the program which will satisfy the regulations.
- 2. Conditions in this section of this Permit may be modified in accordance with 35 Ill. Adm. Code 705.128 if there is cause for such modification, as defined in 35 Ill. Adm. Code 702.184. Causes for modification identified in this section include, but are not limited to, alteration to the permitted facility, additional information which would have justified the application of different permit conditions at the time of issuance, and new regulations.

**SECTION IV:
CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS**

A. INTRODUCTION

1. In accordance with Section 3004(u) and (v) of RCRA and 35 Ill. Adm. Code 724.201, the Permittee must institute such corrective action as necessary to protect human health and the environment from all releases of hazardous wastes or hazardous waste constituents from any solid waste management unit (SWMU) at its facility in Calumet City, Illinois. This section contains the conditions which must be followed to ensure these requirements are met.
2. The Illinois EPA may include restrictions upon the future use of Area 1 and Area 2 if necessary, to protect public health and the environment, including permanent prohibition of the use of Area 1 and Area 2 for purposes which may create an unreasonable risk of injury to human health or the environment. After any administrative and judicial challenges to such restrictions have been exhausted, the Illinois EPA shall file such restrictions of record in the Office of the Recorder of the county in which the waste disposal site is located.
3. The Permittee must not allow the property where Area 1 and Area 2 are located to be used in a way that could disturb the integrity of the final cover, liners, any components of the containment system, or function of the facility's monitoring systems, unless the Illinois EPA finds, by way of a permit application, that such use is necessary for either of the following reasons:
 - a. It is necessary for the proposed use of the property and will not increase the potential hazard to public health or the environment, or
 - b. It is necessary to reduce a threat to human health or the environment.
4. The original USEPA RCRA Permit, issued March 4, 1988, contained, among other things, corrective action requirements for SWMUs at the facility. A summary of the corrective action activities completed under the initial RCRA Permit overseen by USEPA is provided in Condition IV.C. This summary also discusses completed closure efforts at several former HWMUs at the facility. The Permittee has implemented corrective measures, which will be maintained and monitored under this Permit.
5. The Illinois EPA now has authority for imposing corrective action requirements at RCRA permitted facilities and thus will now be responsible for overseeing future corrective action activities at this facility.

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6. The Permittee must provide corrective action, as appropriate, for: (1) any newly discovered SWMUs; or (2) future releases from existing SWMUs.
7. The requirements of 35 Ill. Adm. Code Parts 620 and 742 must be met, when applicable, in establishing remediation objectives for corrective action. In addition, all corrective action efforts must meet the requirements of 35 Ill. Adm. Code 724.201.
8. All Illinois EPA final decisions regarding RCRA corrective action at this facility are subject to the appeal provisions of Sections 39(a) and 40(a) of the Act.

B. CORRECTIVE ACTION REQUIREMENTS

1. Groundwater contamination has been detected in groundwater monitoring wells in the Dolton Sand and the upper Silurian Dolomite aquifer at Area 3 of the CID-RDF. The groundwater contamination is in the form of LNAPL, as well as organic constituents at concentrations which exceed the Groundwater Protection Standards established by 35 Ill. Adm. Code 724.192. A corrective action program, meeting the requirements of 35 Ill. Adm. Code 724.200, has been implemented at Area 3. Detailed information about this program may be found in Section III of this Permit.
2. Corrective measures have been completed at two SWMUs. These units, which must be monitored and maintained, are Area 1 and 2 landfills. Condition IV.C contains a summary of corrective action activities completed at these SWMUs.
3. A summary of the approved corrective action program for the SWMUs still of concern (the Areas 1 and 2 landfills) consists of:
 - a. Operation and maintenance of a landfill gas management system for the Area 1 landfill;
 - b. Operation and maintenance of a leachate management system for each landfill;
 - c. Inspecting/maintaining the final cover of each landfill.

The monitoring and maintenance program for Areas 1 and 2 landfills must be in accordance with the approved operating and maintenance plan for the Areas 1 and 2 landfills found in Appendix F-5 of the approved permit application.
4. Based on the current groundwater conditions at the facility and the requirements of the October 29, 1997 USEPA letter, the Illinois EPA has determined that groundwater monitoring of the Areas 1 and 2 landfills will continue to be accomplished via the groundwater monitoring programs for the Areas 3 and 4 landfills. The Illinois EPA

reserves the right to require the installation of additional groundwater monitoring wells, as well as implementation of groundwater monitoring programs specific to the Area 1 and/or Area 2 landfill, in the event that groundwater flow conditions change or groundwater contamination has been determined to be present in the vicinity of those landfills.

5. Leachate maintenance elevations for seven Area 1 leachate trench risers (PLC-184 through PLC-190) and 11 Area 2 leachate trench risers (PLC-270 through PLC-280) are based on quarterly measurement of groundwater elevations at seven piezometers located around Area 1 (P-1 and P-2) and Area 2 (P-3E, P-4E, P-5E, P-6W, and P-7W) screened in the Dolton Sand. Leachate maintenance elevations are established relative to groundwater elevations in the Dolton Sand because both Areas 1 and 2 are surrounded by slurry walls and an inward gradient across each slurry wall is integral to the approved corrective action. Maintenance elevations are defined as one-foot below the average groundwater elevation in the Dolton Sand and are measured quarterly.
6. The Permittee must record the leachate level in all wells at the Area 1 landfill (gas and leachate) on a monthly basis and submit the results electronically with their quarterly reports to the Illinois EPA.
7. The Permittee must record monthly leachate extraction volumes and the total volume of leachate extracted from Area 1 and Area 2 landfills. This information must be electronically submitted to the Illinois EPA every January 31st, for the previous calendar year.
8. An annual report must be submitted to the Illinois EPA by February 1st of each year (for the preceding calendar year). This report must document the dates of inspections, problems discovered, and actions completed to remedy any problems. This report must also contain an evaluation of the leachate collection efforts at Area 1 landfill including recommendations, as appropriate, to modify the leachate management system to reduce the amount of leachate in the landfill so that it has minimal impact on the groundwater beneath and around Area 1.
9. The Permittee may modify the approved plans and programs set forth in this subsection; such modifications must first be approved by the Illinois EPA. Requests to modify the approved plans and programs set forth in the subsection must be submitted as requests to modify the approved corrective action program for Areas 1 and 2.
10. The Plat of Survey for the Area 1 landfill (PIN No. 29-01-100-008-0000, 29-01-200-010-0000, and 29-01-201-001-0000) and Area 2 landfill (PIN No. 25-36-300-002-0000 and 25-36-300-003-0000), Drawing No. 19-R0710, was filed with the Cook County Recorder's Office in Chicago, IL on July 19, 2019. The record data is Document No. 1920006110.

The Plat of Survey was attached to the deed to the property and serves as an instrument which is normally examined during title search that will in perpetuity notify any potential purchasers of the property that:

- a. The property has been used to manage hazardous wastes;
- b. The use of the property is restricted under 35 Ill. Adm. Code 724, Subpart G;
- c. A survey plat and record of the type of waste material in the Area 1 landfill and Area 2 landfill was filed with the Illinois EPA and the County Recorder.

C. CORRECTIVE ACTION EFFORTS COMPLETED TO DATE

The Permittee performed corrective action activities with oversight from the USEPA for Area 1 and Area 2 landfills. In a letter dated October 29, 1997, USEPA determined no additional remediation activities were required for Area 1 and Area 2 landfills. As part of the RCRA corrective action program, the Permittee conducted corrective measures to prevent releases that may occur to the Dolton Sand layer adjacent to the closed Areas 1 and 2 landfills. The USEPA and Illinois EPA have determined that corrective measures are complete. Continued monitoring of the groundwater, landfill gas management system, leachate management system, and final cover for the Areas 1 and 2 landfills will be required.

Corrective measures for the Dolton Sand included construction of a slurry wall along the boundaries of Area 1 and 2 landfills. Additional corrective measures at Areas 1 and 2 landfills included: (1) installation of a leachate collection system inside the slurry wall; (2) upgrading the Landfill Gas Removal System; and (3) repair, regrading, reseeding and maintenance of the final cover for Areas 1 and 2 landfills.

The following table is a list of former HWMUs at the facility, and thus solid waste management unit, which have been clean closed in accordance with plans approved by Illinois EPA and which need no further action.

Name of HWMU	Description
Pug Mill	This unit was used between 1980 and February 1987 for acid neutralization and solidification of liquid hazardous wastes. Illinois EPA approved certification of closure for the Pug Mill on March 27, 1992 (Illinois EPA Log No. C-317).
Drum Tipping Unit	This unit was a hydraulically operated table-like unit housed in a small roofed structure, which transferred liquid waste from drums into bulk containers for subsequent treatment, processing or disposal. Illinois EPA approved certification of closure for the

Name of HWMU	Description
	Drum Tipping Unit on June 8, 1989 (Illinois EPA Log No. C-317-M-1).
Surface Impoundments	These units were operated for storage of acidic, metal-bearing waste prior to treatment. They were referred to as the 'North Pond', the 'South Pond', the 'East Pond', and the 'West Pond'. These units were closed in accordance with a plan approved by Illinois EPA (Log No. C-317 and associated modifications). Certification of closure of these units was accepted by Illinois EPA on August 24, 2005 (Log No. C-317).
Dewatering Plant	Certified closed on July 29, 1991. IEPA acknowledged closure of this on December 7, 1999 (Log No B-27-M-73, 81, 83) by removing the tanks associated with this plant from the facility's RCRA Permit.
Drum Storage Building	Certified closed on June 14, 1995 (IEPA Log No. B-27-M-54).
Stabilization Facility	Certified closed on December 7, 1999 (IEPA Log No. B-27-M-73).
Container Storage Area	Certified closed January 13, 2005 (IEPA Log No. PS04-169).

D. GROUNDWATER SPECIFIC CORRECTIVE ACTION

1,4-dioxane has been detected in the shallow and deep groundwater present between the Area 1 and 4 landfills. A plan to investigate this contamination in the shallow groundwater, which included soil investigations, groundwater investigation, and an evaluation of the construction/operation details of the Area 1 and Area 4 landfills, was approved by the Illinois EPA on January 19, 2010 (B-27R-CA-1). On July 16, 2010, CID submitted the results of that investigation. In a letter from Illinois EPA, dated January 20, 2011 (B-27R-CA-2), the Illinois EPA concurred with CID that the source of the 1,4-dioxane is Area 1 and required CID to submit a RFI work plan and a Current Conditions Report (CCR) for Area 1. On April 18, 2011, CID submitted their RFI and CCR to the Illinois EPA. The Illinois EPA conditionally approved the work plan and CCR on June 21, 2011 (B-27R-CA-3). Following investigation activities, a January 2012 investigation report was conditionally approved by the Illinois EPA on July 16, 2012 (B-27R-CA-3 and 5). A Basis of Design Report was submitted by the facility on October 12, 2012, and the report was conditionally approved by the Illinois EPA on December 18, 2012 (B-27R-CA-6). A Final Design Report was submitted by the facility on March 18, 2013, and the report was conditionally approved by the Illinois EPA on October 28, 2013 (B-27R-CA-7). Installation of the approved corrective measures began in the spring of 2014. A Construction Completion Report and a proposed GMZ was submitted to Illinois EPA on July 7, 2017 (B-27R-CA-12). This application is currently under review by Illinois EPA.

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1. The Permittee must submit quarterly reports documenting the operation, maintenance, and monitoring of the groundwater extraction system and phytoremediation system at the Area 1 landfill. The reports must contain the following information:
 - a. Introduction. This portion of the document should provide a brief description of the facility operations, scope of the corrective measures project, and summary of the project objectives.
 - b. System Description. This portion of the document should provide a description of the corrective measures constructed/installed at the site and identify significant equipment.
 - c. Monitoring Results. This portion of the document should provide a description of the monitoring and inspection procedures to be performed on the corrective measures. A summary of the monitoring results for the corrective measure, including copies of any laboratory analyses which document system effectiveness, provide a description of the monitoring procedures, and inspections performed.
 - d. Effectiveness Determination. This portion of the document should provide calculations and other relevant documentation that demonstrates the effectiveness of the selected corrective measure in remediating/stabilizing contamination to the extent anticipated by the corrective measures final design. Copies of relevant analytical data should be provided to substantiate this determination.
 - e. System Effectiveness Recommendation. Based upon the results of the effectiveness determination required under 1.d above, this portion of the report should provide a recommendation on continuance of the corrective measure. If the corrective measure is not performing in accordance with the final design, a recommendation on revisions of expansion of the system should be provided. Additionally, based upon the monitoring result, a schedule for achieving the cleanup objective should be included with each evaluation.

Eventually, the Permittee must submit a final report documenting that the required corrective measures have achieved the established remediation objectives.

2. The quarterly report required by Conditions IV.D.1 must be prepared and submitted to the Illinois EPA in accordance with the following table:

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<u>Quarter of Calendar Year</u>	<u>Report for the Month of</u>	<u>Report to the Illinois EPA by the Following</u>
First Quarter	January - March	April 15 th
Second Quarter	April - June	July 15 th
Third Quarter	July - September	October 15 th
Fourth Quarter	October - December	January 15 th

E. CORRECTIVE MEASURES REQUIREMENTS

1. If it is determined that corrective measures must be taken at a newly identified SWMU, then the Permittee must implement a Corrective Measures Program (CMP) for such SWMUs in general accordance with the procedures set forth in Attachment G. The corrective measures implemented by the Permittee must be sufficient to ensure the appropriate requirements of 35 Ill. Adm. Code Parts 302, 620, 724, and 742 are met.
2. The types of corrective measures which may be implemented include, but are not limited to:
 - a. Removal of the contaminants or the contaminated media so that the remaining media meet remediation objectives developed in accordance with 35 Ill. Adm. Code Part 742;
 - b. Closing the SWMU as a landfill by establishing a proper final cover over the SWMU and then providing proper long-term monitoring/maintenance/management of: (1) leachate; (2) subsurface gas; (3) final cover system; and (4) groundwater;
 - c. Establishing engineered barriers to restrict exposure to the contaminants remaining at the SWMU (necessary to certain remediation objectives developed in accordance with 35 Ill. Adm. Code Part 742);
 - d. Establishing institutional controls to restrict activities at the facility, as necessary, to support remediation objectives established in accordance with 35 Ill. Adm. Code Part 742.
3. The Corrective Measures Program described in Attachment G consists of five phases:
 - Phase I--conceptual design of the selected corrective measure;
 - Phase II--development of the final design plans for the corrective measure, including installation and operation/maintenance plans;

- **Phase III--actual construction/installation/implementation of the corrective measure;**
- **Phase IV--operation/maintenance/monitoring, as necessary, of the corrective measure to ensure it is being properly implemented and is properly protecting human health and the environment.**
- **Phase V--demonstration/verification that the corrective measure has been completed and that the established remediation objectives have been achieved.**

The phases may be combined or skipped, depending on the actual corrective measure selected. The overall CMP implemented at a given SWMU must: (1) be logical in nature; and (2) allow for Illinois EPA oversight and approval throughout the entire process.

As such, it will be necessary for the Permittee to submit workplans and reports regarding all aspects of corrective measures for the Illinois EPA review and approval prior to carrying out any corrective measure activity.

- 4. A Phase I CMP Plan, or its equivalent, must be submitted to the Illinois EPA within 90 days of the date that the Illinois EPA notifies the Permittee of the need for a CMP.**
- 5. Subsequent CMP related workplans and reports must be submitted to the Illinois EPA for review and approval in accordance with a schedule approved by the Illinois EPA.**
- 6. For units closed as landfills:**
 - a. The Phase II report must include a plan for the construction of a final cover system as well as a post-closure care plan (the post-closure care plan must include provisions for (1) inspecting the final cover; (2) monitoring the groundwater and soil gas; and (3) taking corrective action if any problems are observed during the inspection/monitoring effort.**
 - b. The Phase III report must document the construction of the approved final cover system and any other systems required for closure of the unit.**
 - c. During Phase IV, quarterly reports must be submitted documenting the results of the inspection/monitoring efforts as well as any corrective measures taken in response to problems observed during these efforts. It will be necessary to submit plans to the Illinois EPA for review and approval to address any groundwater quality or gas migration problems.**

- d. The Phase V report will not be submitted until the post-closure care period has been completed. This report must demonstrate that all applicable post-closure requirements have been met and that the groundwater at the site meets the applicable standards.
7. Once all corrective measures have been completed, a report must be developed documenting all efforts and results associated with the completed measure, including, as appropriate, information demonstrating the approved remediation objectives for the project have been achieved.
8. The Illinois EPA's action on all CMP submittals shall be subject to the appeal provisions of Sections 39(a) and 40(a) of the Act.

F. FINANCIAL ASSURANCE FOR CORRECTIVE ACTION

1. The current cost estimate for corrective action at this facility is \$11,317,166 (in 2024 dollars). This corrective action cost estimate includes costs associated with inspection and maintenance of Areas 1 and Area 2 landfills, operation of gas collection system at Area 1 landfill, leachate collection system at Areas 1 and 2 landfills, and groundwater remediation systems at Area 1 landfill. Attachment C provides a summary of cost estimates.
2. The Permittee must demonstrate compliance with 35 Ill. Adm. Code 724.201 by providing documentation of financial assurance using a mechanism specified in 35 Ill. Adm. Code 724.243, in at least the amount of the cost estimate required under Condition IV.F.1. The words "completion of corrective action" must be substituted for "closure and/or post-closure", as appropriate in the financial instrument specified in 35 Ill. Adm. Code 724.251. The Illinois EPA may accept financial assurance for completion of corrective action in combination with another financial mechanism that is acceptable under 35 Ill. Adm. Code 724.246.
3. The cost estimate must be supported by a detailed breakdown of the estimated third-party cost for completing each required task. The amount of the various resources needed to complete each task must be provided, as well as the unit cost of these resources and an adjustment for contingencies. Justification for all data used in these calculations must also be provided.
4. The financial assurance requirements of 35 Ill. Adm. Code 724.201 must also be met for any investigative or corrective action efforts carried out in accordance with Condition IV.G or IV.H. Detailed cost estimates must be developed for any activities carried out under this Section and must accompany any workplan/report submitted to Illinois EPA for review and approval.

Appropriate documentation of financial assurance in at least the amount of the approved cost estimate must be submitted to Illinois EPA within 60 days after the cost estimates are approved.

5. All cost estimates prepared under the requirements of Conditions IV.F.1 through IV.F.4 must be submitted as a Class 1* permit application request in accordance with 35 Ill. Adm. Code 703.281.

G. REQUIREMENTS FOR ADDRESSING NEWLY IDENTIFIED SWMU(S) AND AREAS OF CONCERN (AOCs)

1. The Permittee must notify the Illinois EPA in writing of any newly identified SWMU(s) or Areas of Concern (AOCs) discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means, no later than 30 days after discovery. The notification must provide the following information, as available:
 - a. The location of the newly identified SWMUs/AOCs in relation to other SWMUs/AOCs on a scaled map or drawing;
 - b. The type and past and present function of the unit;
 - c. The general dimensions, capacities, and structural description of the unit (available drawings and specifications provided);
 - d. The time period during which the unit(s) was operated;
 - e. The specifics on all materials, including but not limited to, wastes and hazardous waste constituents, that have been or are being managed at the SWMU/AOC, to the extent available; and,
 - f. The results of any relevant available sampling and analysis which may aid in determining whether releases of hazardous wastes or hazardous constituents have occurred or are occurring from the unit.
2. If the submitted information demonstrates a potential for a release of hazardous waste or hazardous constituents from the newly identified SWMU/AOC, the Illinois EPA may request, in writing, that the Permittee prepare a SWMU Assessment Plan (Plan) and a proposed schedule of implementation of the Plan for any additional SWMUs/AOCs discovered subsequent to the issuance of this Permit. This Plan must propose investigations, including field investigations, if necessary, to determine the release potential to specific environmental media for the newly-identified SWMU/AOC. The Plan must demonstrate that the sampling and analysis program, if applicable, is capable of

yielding representative samples and must include parameters sufficient to identify migration of hazardous waste and hazardous constituents from the newly discovered SWMUs/AOCs to the environment.

3. Within 90 days after receipt of the Illinois EPA's request for a Plan, the Permittee must submit the Plan to the Illinois EPA for review and approval.
4. The Illinois EPA shall either approve, conditionally approve or disapprove the Plan in writing. If the Plan is approved, the Permittee must implement the Plan within 45 days of receiving such written notification or in accordance to the terms and schedule established within the Plan and any conditions placed on it. If the Plan is disapproved, the Illinois EPA shall notify the Permittee, in writing, of the Plan's deficiencies and specify a due date for submittal of a revised plan.
5. The Permittee must submit a report documenting the results of the approved Plan to the Illinois EPA in accordance with the schedule in the approved Plan. The report must describe all results obtained from the implementation of the approved Plan.
6. The Permittee must implement a CMP, as necessary, to properly address any contamination encountered during the assessment. Guidance regarding the implementation of this program will be provided at the time Illinois EPA notifies the Permittee of the need for such a program.

H. FUTURE RELEASES FROM SWMUs

There exists a potential that a release may occur in the future from SWMUs/AOCs identified in the RFA or RFI which did not require any corrective action at the time that the RFA or RFI was completed. If the Permittee discovers that a release has occurred from a SWMU/AOC in the future, then the Illinois EPA must be notified of this release within 30 days after its discovery following the procedures set forth in Condition IV.G.1.

Additional investigation and, as necessary, corrective measures efforts at this SWMU/AOC must be carried out in accordance with the procedure set forth in Section G. The results of all corrective action efforts required by this condition must meet the requirements of 35 Ill. Adm. Code 724.201.

I. INTERIM MEASURES

At any time during the course of this Permit, the Permittee may initiate interim measures for the purpose of preventing continuing releases and/or mitigating the results of releases and/or mitigating the migration of hazardous wastes or hazardous waste constituents. It shall not be necessary to conduct all phases of an investigation prior to implementing an

interim measure if the Illinois EPA and the Permittee agree that a problem can be corrected, or a release cleaned up, without additional study and/or without a formal Corrective Measures Study (CMS).

1. Prior to implementing any interim measures, the Permittee must submit detailed information regarding the proposed interim measure to the Illinois EPA for approval. This information shall include, at a minimum:
 - a. Objectives of the interim measure, how the measure is mitigating a potential threat to human health and the environment; and/or, is consistent with, and integrated into, any long-term solution at the facility;
 - b. Design, construction, and maintenance requirements;
 - c. Schedules for design and construction; and
 - d. Schedule for progress reports.
2. If the Illinois EPA determines that a release cannot be addressed without additional study and/or a formal CMS, then the Illinois EPA will notify the Permittee that these must be performed. Any proposal made under this provision or any other activity resulting from such proposal, including the invocation of dispute resolution, shall not affect the schedule for implementation of any other portion of the Permit.
3. If the Illinois EPA determines that interim measures are necessary to protect human health or the environment, the Permittee will be notified by way of a permit application.

SECTION V: SPECIAL CONDITIONS

A. REPOSITORY

1. The Permittee must maintain a repository at the Hegewisch Branch of the Chicago Public Library, located at 3048 East 130th Street, Chicago, Illinois. The following information must be sent to the repository:
 - a. A copy of the approved RCRA Post-Closure Renewal Permit.
 - b. All permit applications and permit modification requests.
 - c. All Illinois EPA responses to modification requests made to the RCRA Post-Closure Permit (Log No. B-27R2).

B. 39(i) CERTIFICATION

1. The Permittee must submit a current 39(i) certification and supporting documentation with all applications for a Permit.

SECTION VI: STANDARD CONDITIONS FOR POST-CLOSURE CARE

GENERAL REQUIREMENTS

1. **EFFECT OF PERMIT.** The existence of a RCRA permit shall not constitute a defense to a violation of the Act or Subtitle G, except for development, modification or operation without a Permit. Issuance of this Permit does not convey property rights or any exclusive privilege. Issuance of this Permit does not authorize any injury to persons or property or invasion of other private rights, or infringement of state or local law or regulations. (35 Ill. Adm. Code 702.181)
2. **PERMIT ACTIONS.** This Permit may be modified, reissued or revoked for cause as specified in 35 Ill. Adm. Code 703.270 through 703.273 and Section 702.186. The filing of a request by the Permittee for a permit modification or reissuance, or a notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition. (35 Ill. Adm. Code 702.146)
3. **SEVERABILITY.** The provisions of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby. (35 Ill. Adm. Code 705.202)
4. **PERMIT CONDITION CONFLICT.** In case of conflict between a special permit condition and a standard condition, the special condition will prevail. (35 Ill. Adm. Code 702.160)
5. **DUTY TO COMPLY.** The Permittee must comply with all conditions of this Permit except for the extent and for the duration such noncompliance is authorized by an emergency permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; permit revocation or modification; or for denial of a permit renewal application. (35 Ill. Adm. Code 702.141 and 703.242)
6. **DUTY TO REAPPLY.** If the Permittee wishes to continue an activity allowed by this Permit after the expiration date of this Permit, the Permittee must apply for a new permit at least 180 days before this Permit expires, unless permission for a later date has been granted by the Illinois EPA. (35 Ill. Adm. Code 702.142 and 703.125)
7. **PERMIT EXPIRATION.** This Permit and all conditions herein will remain in effect beyond the Permit's expiration date if the Permittee has submitted a timely, complete application (see 35 Ill. Adm. Code 703.181-703.209) and through no fault of the Permittee the Illinois EPA has not issued a new permit as set forth in 35 Ill. Adm. Code 702.125.

8. **NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE.** It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit. (35 Ill. Adm. Code 702.143)
9. **DUTY TO MITIGATE.** In the event of noncompliance with the Permit, the Permittee must take all reasonable steps to minimize releases to the environment and must carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment. (35 Ill. Adm. Code 702.144)
10. **PROPER OPERATION AND MAINTENANCE.** The Permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance include effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory, and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the Permit. (35 Ill. Adm. Code 702.145)
11. **DUTY TO PROVIDE INFORMATION.** The Permittee must furnish to the Illinois EPA, within a reasonable time, any relevant information which the Illinois EPA may request to determine whether cause exists for modifying, revoking and reissuing or terminating this Permit, or to determine compliance with this Permit. The Permittee must also furnish to the Illinois EPA, upon request, copies of records required to be kept by this Permit. (35 Ill. Adm. Code 702.148)
12. **INSPECTION AND ENTRY.** The Permittee must allow an authorized representative of the Illinois EPA, upon the presentation of credentials and other documents as may be required by law, to:
 - a. Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Permit;
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and

- d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the appropriate Act, any substances or parameters at any location. (35 Ill. Adm. Code 702.149)

13. MONITORING AND RECORDS. (35 Ill. Adm. Code 702.150)

- a. Samples and measurements taken for the purpose of monitoring must be representative of the monitored activity. The method used to obtain a representative sample of the waste must be the appropriate method from 35 Ill. Adm. Code 721, Appendix A. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, third edition (SW-846) and finalized updates; Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, latest versions; or an equivalent method as specified in the approved waste analysis plan.
- b. The Permittee must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports and records required by this Permit, and records of all data used to complete the application for this Permit for a period of at least three years from the date of the sample, measurement, report or application. These periods may be extended by request of the Illinois EPA at any time. The Permittee must maintain records from all groundwater monitoring wells and associated groundwater surface elevations, for the active life of the facility, and for disposal facilities for the post-closure care period as well.
- c. Records of monitoring information must include:
 - i. The date(s), exact place, and time of sampling or measurements;
 - ii. The individual(s) who performed the sampling or measurements;
 - iii. The date(s) analyses were performed;
 - iv. The individual(s) who performed the analyses;
 - v. The analytical technique(s) or method(s) used; and
 - vi. The result(s) of such analyses. (35 Ill. Adm. Code 702.150)

14. REPORTING PLANNED CHANGES. The Permittee must give written notice to the Illinois EPA as soon as possible of any planned physical alterations or additions to the permitted

facility. In general, proposed changes to the facility will need to be submitted to the Illinois EPA as a permit modification request that complies with the requirements of 35 Ill. Adm. Code 703.280. (35 Ill. Adm. Codes 702.152(a))

15. **CONSTRUCTION CERTIFICATION.** For a new hazardous waste management facility (HWM), the Permittee must not commence treatment, storage, or disposal of hazardous waste; and for a facility being modified the Permittee must not treat, store, or dispose of hazardous waste in the modified portion of the facility, until:
 - a. The Permittee has submitted to the Illinois EPA by certified mail or hand delivery a letter signed by the Permittee and a qualified Illinois licensed professional engineer stating that the facility has been constructed or modified in compliance with the Permit; and
 - b.
 1. The Illinois EPA has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the Permit; or
 2. If, within 15 days of the date of submission of the letter in paragraph (a), the Permittee has not received notice from the Illinois EPA of its intent to inspect, prior inspection is waived, and the Permittee may commence treatment, storage, or disposal of hazardous waste. (35 Ill. Adm. Code 703.247)
16. **ANTICIPATED NONCOMPLIANCE.** The Permittee must give advanced written notice to the Illinois EPA of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements, regulations, or the Act. (35 Ill. Adm. Code 702.152(b))
17. **TRANSFER OF PERMITS.** This Permit may not be transferred by the Permittee to a new owner or operator unless the Permit has been modified or reissued pursuant to 35 Ill. Adm. Code 703.260(b) or 703.272. Changes in the ownership or operational control of a facility must be made as a Class 1 modification with the prior written approval of the Illinois EPA. The new owner or operator must submit a revised permit application no later than 90 days prior to the scheduled change. (35 Ill. Adm. Code 703.260)
18. **MONITORING REPORTS.** Monitoring results must be reported at the intervals specified in the Permit. (35 Ill. Adm. Code 702.152(d))
19. **COMPLIANCE SCHEDULES.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Permit must be submitted no later than specified in 35 Ill. Adm. Code 702.162. (35 Ill. Adm. Code 702.152(e))

20. TWENTY-FOUR HOUR REPORTING.

- a. The Permittee must report to the Illinois EPA any noncompliance with the Permit which may endanger human health or the environment. Any such information must be reported orally within 24 hours from the time the Permittee becomes aware of the following circumstances. This report must include the following:**
 - i. Information concerning the release of any hazardous waste that may cause an endangerment to public drinking water supplies.**
 - ii. Information concerning the release or discharge of any hazardous waste or of a fire or explosion at the HWM facility, which could threaten the environment or human health outside the facility.**
- b. The description of the occurrence and its cause must include:**
 - i. Name, address, and telephone number of the owner or operator;**
 - ii. Name, address, and telephone number of the facility;**
 - iii. Date, time, and type of incident;**
 - iv. Name and quantity of material(s) involved;**
 - v. The extent of injuries, if any;**
 - vi. An assessment of actual or potential hazards to the environment and human health outside the facility, where applicable; and**
 - vii. Estimated quantity and disposition of recovered material that resulted from the incident.**
- c. A written submission must also be provided within five days of the time the Permittee becomes aware of the circumstances. The written submission must contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times and if the noncompliance has not been corrected; the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Illinois EPA may waive the five-day written notice requirement in favor of a written report within 15 days. (35 Ill. Adm. Code 702.152(f) and 703.245(b))**

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21. **OTHER NONCOMPLIANCE.** The Permittee must report all instances of noncompliance not otherwise required to be reported under Standard Conditions 18, 19, and 20, at the time monitoring reports, as required by this Permit, are submitted. The reports must contain the information listed in Standard Condition 20. (35 Ill. Adm. Code 702.152(g))
22. **OTHER INFORMATION.** Where the Permittee becomes aware that it failed to submit any relevant facts in the permit application or submitted incorrect information in a permit application or in any report to the Illinois EPA, the Permittee must promptly submit such facts or information. (35 Ill. Adm. Code 702.152(h))
23. **SUBMITTAL OF REPORTS OR OTHER INFORMATION.** All written reports or other written information required to be submitted by the terms of this Permit must be sent to:

 Illinois Environmental Protection Agency
 Bureau of Land -- #33
 Permit Section
 2520 West Iles Avenue
 Post Office Box 19276
 Springfield, Illinois 62794-9276
24. **SIGNATORY REQUIREMENT.** All permit applications, reports or information submitted to the Illinois EPA must be signed and certified as required by 35 Ill. Adm. Code 702.126. (35 Ill. Adm. Code 702.151)
25. **CONFIDENTIAL INFORMATION.** Any claim of confidentiality must be asserted in accordance with 35 Ill. Adm. Code 702.103 and 35 Ill. Adm. Code Part 161.
26. **DOCUMENTS TO BE MAINTAINED AT FACILITY SITE.** The Permittee must maintain at the facility, until post-closure is complete, the following documents and amendments, revisions and modifications to these documents:
 - a. Post-closure plan as required by 35 Ill. Adm. Code 724.218(a) and this Permit.
 - b. Cost estimate for post-closure care as required by 35 Ill. Adm. Code 724.244(d) and this Permit.
 - c. Operating record as required by 35 Ill. Adm. Code 724.173 and this Permit.
 - d. Inspection schedules as required by 35 Ill. Adm. Code 724.115(b) and this Permit.

GENERAL FACILITY STANDARDS

27. **GENERATOR REQUIREMENTS.** Any hazardous waste generated at this facility must be managed in accordance with the generator requirements at 35 Ill. Adm. Code Part 722.
28. **SECURITY.** The Permittee must comply with the security provisions of 35 Ill. Adm. Code 724.114(b) and (c).
29. **GENERAL INSPECTION REQUIREMENTS.** The Permittee must follow the approved inspection schedule. The Permittee must remedy any deterioration or malfunction discovered by an inspection as required by 35 Ill. Adm. Code 724.115(c). Records of inspections must be kept as required by 35 Ill. Adm. Code 724.115(d).
30. **CLOSURE REQUIREMENTS FOR ACCUMULATION AREAS.** The Permittee must close container storage areas, tanks, drip pads, or containment buildings used for the accumulation of on-site generated hazardous waste in accordance with the requirements identified at 35 Ill. Adm. Code 722.117(a)(8).

PREPAREDNESS AND PREVENTION

31. **DESIGN AND OPERATION OF FACILITY.** The Permittee must maintain and operate the facility to minimize the possibility of fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment. (35 Ill. Adm. Code 724.131)

RECORD KEEPING

32. **OPERATING RECORD.** The Permittee must maintain a written operating record at the facility in accordance with 35 Ill. Adm. Code 724.173.

POST-CLOSURE

33. **CARE AND USE OF PROPERTY.** The Permittee must provide post-closure care for the facility as required by 35 Ill. Adm. Code 724.217 and in accordance with the approved post-closure plan.
34. **AMENDMENT TO POST-CLOSURE PLAN.** The Permittee must amend the post-closure plan whenever a change in the facility operation plans or facility design affects the post-closure plan or when an unexpected event has occurred which has affected the post-closure plan pursuant to 35 Ill. Adm. Code 724.218(d).

- 35. COST ESTIMATE FOR POST-CLOSURE.** The Permittee's original post-closure cost estimate, prepared in accordance with 35 Ill. Adm. Code 724.244, must be:
- a. Adjusted for inflation either 60 days prior to each anniversary of the date on which the first closure cost estimate was prepared or if using the financial test or corporate guarantee, within 30 days after close of the firm's fiscal year.
 - b. Revised whenever there is a change in the facility's post-closure plan increasing the cost of post-closure.
 - c. Kept on record at the facility and updated. (35 Ill. Adm. Code 724.244)
 - d. Maintained at the value approved by the Illinois EPA with annual adjustment for inflation and cannot be decreased unless approved by the Illinois EPA in a permit modification.
- 36. FINANCIAL ASSURANCE FOR POST-CLOSURE CARE.** The Permittee must demonstrate compliance with 35 Ill. Adm. Code 724.245 by providing documentation of financial assurance, as required by 35 Ill. Adm. Code 724.251, in at least the amount of the cost estimates required by Standard Condition 35. Changes in financial assurance mechanisms must be approved by the Illinois EPA pursuant to 35 Ill. Adm. Code 724.245.
- Financial assurance documents submitted to Illinois EPA should be directed to the following address:
- Illinois Environmental Protection Agency
Bureau of Land -- #24
Materials Management and Compliance Section
2520 West Iles Avenue
Post Office Box 19276
Springfield, IL. 62794-9276
- 37. INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS.** The Permittee must comply with 35 Ill. Adm. Code 724.248 whenever necessary.

SECTION VII: REPORTING AND NOTIFICATION REQUIREMENTS

The reporting and notification requirements of each Section of the RCRA Permit are summarized below. This summary is provided to highlight the various reporting and notification requirements of this Permit.

Condition	Submittal	Due Date
SECTION I: POST-CLOSURE		
E.6.c. iv	Leachate analyses from Area 3 and Area 4	June 1 of each year
E.8.a	Notify Illinois EPA in writing that flow into the leak detection system exceeds the action leakage rate	seven days after the determination is made
E.8.b	Submit a preliminary assessment of the liner and leachate collection/detection system	14 days after the Permittee determines flow into the leak detection system has exceeded the action leakage rate
E.8.f	Submit a report meeting the requirements of 35 Ill. Adm. Code 724.404(b) if the action leakage rate has been exceeded	30 days after the notification that the action leakage rate has been exceeded
F.1	Quarterly leachate levels, monthly volumes across all sumps and total volume of leachate removed from Area 3 for the previous calendar year	January 31 of each year
F.2	Monthly leachate levels, monthly leachate volumes and total volume of leachate removed from Area 4 for the previous calendar year	January 31 of each year
F.4, F.5	Non-compliance of leachate level for Area 3 and Area 4	July 31 (1 st and 2 nd Qtr.) January 31 (3 rd and 4 th Qtr.)
G.3	Submit certification for completion of post-closure care and post-closure documentation report	60 days after completion of post-closure care
SECTION II: AREA 4 DETECTION MONITORING PROGRAM		
D.3	Notification/proposal to replace damaged monitoring well	30 days from date of determination
D.5	Submit as-built of additional wells to be installed	30 days after they have been installed and developed
D.5	Submit well plugging and abandonment certifications	30 days after well abandonment

Condition	Submittal	Due Date
E.3.c	Submit recalculated intrawell background values	July 15 of each odd numbered calendar year
E.4	Submit proposed background values for constituents not sampled during eight previous sampling events	90 days after fourth sampling event
F.4	Report groundwater flow rate and direction in accordance with Condition II.J.4	July 15 of every year
G.2	Report surveyed elevation of stick-up	July 15 every two years
G.3	Report elevation of well bottom when a problem is identified, or when downhole equipment is removed	With groundwater report
J.2	Groundwater monitoring data/summary report All information collected during preceding months of April-June and October-December	Results to Illinois EPA by: July 15 January 15
J.6 and J.7	Report elevation of well bottom when downhole equipment is removed for five-year inspection	July 15
J.11.a	Notify Illinois EPA of statistically significant increase	seven days after discovery of increase
J.11.b	Apply for permit modification establishing corrective action program	90 days after discovery of increase
J.12.a	Notify Illinois EPA that the Permittee intends to demonstrate that a source other than the regulated unit is responsible for a statistical increase or that the increase was due to error	seven days after discovery of increase
J.12.b	Submit report which demonstrates that a source other than the regulated unit caused a statistical increase or that the increase resulted from error in sampling, analysis or evaluation	90 days after discovery of increase
J.12.c	Submit application for modification of Detection Monitoring program	90 days after discovery of increase
J.13.a	Report concentration of additional constituents detected	seven days after receipt of data confirming increase
J.13.b	Permit modification request to add additional constituents to Groundwater Protection Standard	30 days after the date of the confirmation of the increase
K.1	Submit application for permit modification	90 days after determination that the compliance monitoring program no longer satisfies

Condition	Submittal	Due Date
		35 Ill. Adm. Code 724, Subpart F requirements
SECTION III: AREA 3 GROUNDWATER CORRECTIVE ACTION PROGRAM		
D.3	Notification/proposal to replace damaged monitoring well	30 days from date of determination
D.5	Submit well plugging and abandonment	30 days after well abandonment from monitoring program
D.5	Submit as-built diagrams, boring logs, drawing for new and replacement wells	30 days after they have been installed and developed data sheets, grid coordinates, and location
F.5	Report groundwater flow rate and direction in accordance with Condition III.K.4	July 15 of each year
G.2	Report surveyed elevation of stick-up	July 15 every two years
G.3	Report elevation of well bottom when a problem is identified, or when downhole equipment is removed	with groundwater monitoring
J.3.d	Submit recalculated intrawell background values	July 15 of each odd numbered calendar year
J.4	Submit proposed background values for constituents not sampled during eight previous sampling events	90 days after fourth sampling event
K.2	Groundwater monitoring data/summary report All information collected during preceding months of April-June and October-December	July 15 January 15
K.6 and K.7	Report elevation of well bottom when downhole equipment is removed for five-year inspection	July 15
K.11.a	Notify Illinois EPA of statistically significant increase	seven days after discovery of increase
K.11.b	Submit request to modify Corrective Action Program	90 days after discovery of increase
K.12.a	Notify Illinois EPA that the Permittee intends to demonstrate that a source other than the regulated unit is responsible for a statistical increase or that the increase was due to error	seven days after discovery of increase
K.12.b	Submit report which demonstrates that a source other than the regulated unit caused a	90 days after discovery of increase

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Condition	Submittal	Due Date
	statistical increase or that the increase resulted from error in sampling, analysis or evaluation	
K.12.c	Submit application for modification of Corrective Action monitoring program	90 days after discovery of increase
K.13.a	Report concentration of additional constituents detected	seven days after receipt of data confirming increase
K.13.b	Permit modification request to add additional constituents to Groundwater Protection Standard	30 days after the date of the confirmation of the increase
K.14	Annual evaluation of Corrective Action Program	July 15
SECTION IV: CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS		
B.6	Submit quarterly leachate levels and quantity removed report for Area 1 landfill	April 15 July 15 October 15 January 15
B.7	Submit monthly leachate volumes and total volume of leachate removed from Area 1 and Area 2 for the previous calendar year	January 31 st of each year
B.8	Submit annual monitoring and maintenance report for Area 1 and Area 2 landfills	February 1 of each year
D.1	Submit quarterly ground water remediation report for Area 1 landfill	April 15 July 15 October 15 January 15
E.4	Phase I Corrective Measures Program Plan	Within 90 days of notification from Illinois EPA
F.4	Shall meet the requirements of 35 Ill. Adm. Code 724.201 and provide financial assistance to Illinois EPA in the amount approved	Within 60 days after the cost estimates are approved by Illinois EPA
G.1	Notify Illinois EPA in writing of any newly identified SWMUs discovered during the course of groundwater monitoring	30 calendar days after discovery
G.3	SWMU Assessment Plan	Within 90 days of request from Illinois EPA
G.5	SWMU Assessment Plan Report	In accordance with approved Plan
H	Notify Illinois EPA of any releases from SWMUs	30 days after its discovery

Condition	Submittal	Due Date
SECTION V: SPECIAL CONDITIONS		
B	Current 39(i) certification and supporting documentation	With all applications for a permit
SECTION VI: STANDARD CONDITIONS		
6	Complete application for new permit	180 days prior to permit expiration
11	Information requested by the Illinois EPA and copies of records required to be kept by this permit	Submittal date to be determined by the Illinois EPA
14	Notify Illinois EPA of planned physical alterations or additions	As soon as possible
16	Notify Illinois EPA of changes which may result in permit noncompliance	Within 15 days of change
17	Application for permit modification indicating permit is to be transferred	at least 90 days prior to transfer date
19	Submission of any information required in a compliance schedule	14 days after each schedule date
20	Report to the Illinois EPA any non-compliance which may endanger health or environment	
	By telephone	24 hours after discovery, and
	In writing	five days after discovery
21	Report all other instances of non-compliance.	With monitoring report required by this permit
34	Application for permit modification amending post-closure plan	When a change in operation or design affects the post-closure plan
35(a)	Adjust post-closure cost estimate for inflation	60 days prior to anniversary date
35(b)	Revision of post closure-cost estimate.	Whenever there is a change that increases costs
36	Change in financial assurance mechanism for post-closure	As needed
37	Notify Illinois EPA of commencement of voluntary or involuntary bankruptcy proceedings	10 days after commencement of proceeding

ATTACHMENT A

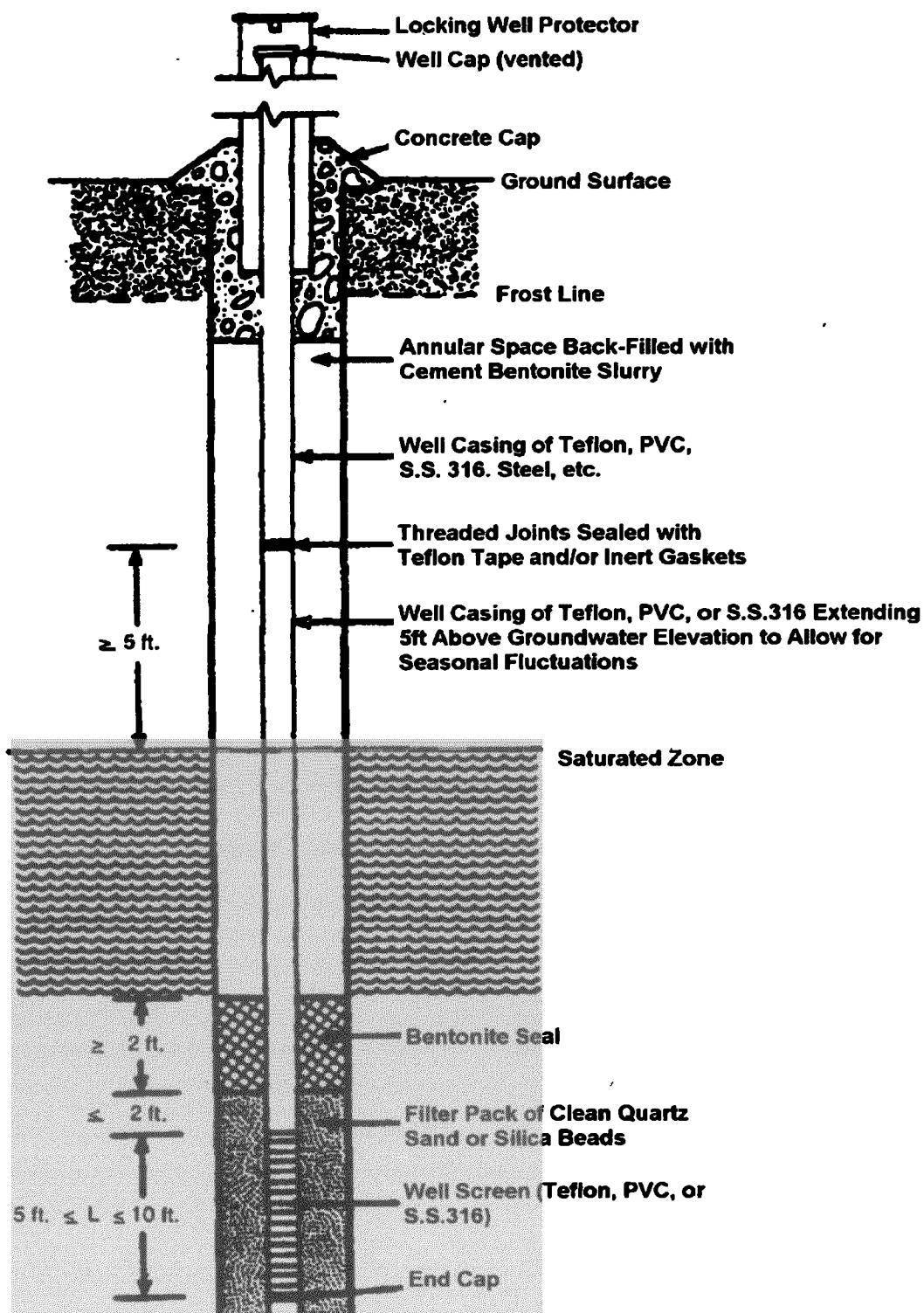
GROUNDWATER MONITORING ATTACHMENTS

STATE ID # 0310390001

ILD010284248

POST-CLOSURE PERMIT LOG NO. B-27R2-M-8; M-10

Monitoring Well Diagram



ILLINOIS EPA MONITOR WELL PLUGGING AND ABANDONMENT PROCEDURES

	Well Construction		Plugging Procedure
I. Unconsolidated Sediment Wells	I-A	...if backfilled with cement grout above bentonite seal and/or sandpack:	1. Cut casing off at desired depth. 2. Mix neat cement slurry (5 gal. water per 94 lb. bag cement). 3. Insert tremi pipe (1" i.d. pvc) into well and extend to bottom. 4. Slowly pump slurry under low pressure through tremi pipe. 5. Slowly withdraw tremi pipe - making sure bottom of pipe remains below pure slurry. 6. Continue slow pumping until all formation water and the watery slurry mix is displaced from top of casing.
	I-B	...if backfilled with soft sediments (cuttings) above bentonite seal and/or sandpack:	1. Knock out and remove thin surface concrete plug, if present. 2. Re-auger entire length of well. 3. Remove well casing from re-augured borehole. 4. Mix neat cement slurry (5 gal. water per 94 lb. bag cement). 5. Insert tremi pipe (1" i.d. pvc) into augers and extend to bottom. 6. Slowly pump slurry under low pressure through tremi pipe. 7. Continue slow pumping until all formation water and the water slurry mix is displaced from top of casing. 8. Slowly withdraw tremi pipe - making sure bottom of pipe remains below pure slurry. 9. Pull a flight of augers (5" if in unstable materials and hole collapse is likely or 10" if in competent material and collapse is unlikely). 10. Top off cement slurry after each flight is removed.
	I-C	...if monitor well construction is unknown:	1. Follow procedures in I-A.
II. Bedrock Wells	II-A	...All bedrock monitor wells:	1. Cut casing off at desired depth. 2. Mix neat cement slurry (5 gal. water per 94 lb. bag cement). 3. Insert tremi-pipe (1" i.d. pvc) into well and extend to bottom. 4. Slowly pump slurry under low pressure through tremi pipe. 5. Slowly withdraw pipe making sure bottom of pipe remains below pure slurry. 6. Continue slow pumping until all formation water and the watery slurry mix is displaced from top of casing.



~~R 000237~~

Page _____ of _____

Site File No. _____ Federal ID No. _____

Site File Name: _____

Quadrangle: _____ Sec. _____ T. _____ R. _____

UTM (or State
Plane) Coord. N. (X) _____ E (Y): _____

Latitude ° ° ° Longitude ° ° °

Drilling Location:

Drilling Equipment: _____

County: _____

Boring No. _____ **Monitoring Well No.:** _____

Surface Elevation: _____ **Completion Depth:** _____

Auger Depth: _____ **Rotary Depth:** _____

Date: Start _____ **Finish:** _____

SAMPLES

Personnel

Graphic Log

Depth in Feet

Sample No.

Sample Type

Sample Recovery (X)

Potentiometer

N Value (Blow
Counts)OVA or HNU
Readings

**G
D
H
H**

Elev.

Description of Material

Remarks


Illinois Environmental Protection Agency
Well Completion Report

Site Number: _____

County: _____

Site Name: _____

Well #: _____

State _____

Plane Coordinate: X __ Y __ (or) Latitude: __° __' __" Longitude: __° __' __" Borehole #: _____

Surveyed by: _____

IL Registration #: _____

Drilling Contractor: _____

Driller: _____

Consulting Firm: _____

Geologist: _____

Drilling Method: _____

Drilling Fluid (Type): _____

Logged By: _____

Date Started: _____ Date Finished: _____

 Report Form
Completed By: _____

Date: _____

ANNULAR SPACE DETAILS

Type of Surface Seal: _____

Type of Annular Sealant: _____

Installation Method: _____

Setting Time: _____

 Type of Bentonite Seal – Granular, Pellet, Slurry
(Choose One)

Installation Method: _____

Setting Time: _____

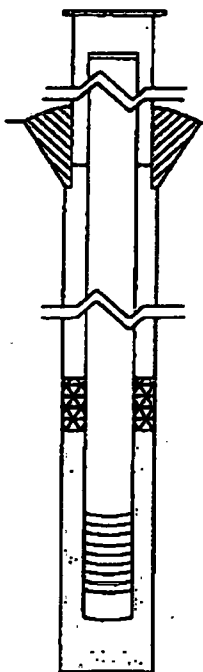
Type of Sand Pack: _____

Grain Size: _____ (Sieve Size)

Installation Method: _____

 Type of Backfill Material: _____
(if applicable)

Installation Method: _____


**Elevations
(MSL)***
**Depth
(BGS) (01ft.)**

_____	_____	Top of Protective Casing
_____	_____	Top of Riser Pipe
_____	_____	Ground Surface
_____	_____	Top of Annular Sealant
_____	_____	Static Water Level (After Completion)
_____	_____	Top of Seal
_____	_____	Top of Sand Pack
_____	_____	Top of Screen
_____	_____	Bottom of Screen
_____	_____	Bottom of Well
_____	_____	Bottom of Borehole

* Referenced to a National Geodetic Datum

WELL CONSTRUCTION MATERIAL

(Choose one type of material for each area)

Protective Casing	SS304, SS316, PTFE, PVC, or Other
Riser Pipe Above W.T.	SS304, SS316, PTFE, PVC, or Other
Riser Pipe Below W.T.	SS304, SS316, PTFE, PVC, or Other
Screen	SS304, SS316, PTFE, PVC, or Other

CASING MEASUREMENTS

Diameter of Borehole (inches)	
ID of Riser Pipe (inches)	
Protective Casing Length (feet)	
Riser Pipe Length (feet)	
Bottom of Screen to End Cap (feet)	
Screen Length (1" slot to last slot) (feet)	
Total Length of Casing (feet)	
Screen Slot Size**	



Illinois Bureau of Land
Environmental 1021 North Grand Avenue East
Protection Agency Box 19276
Springfield, IL 62794-9276

RCRA FACILITY GROUNDWATER, LEACHATE AND GAS REPORTING FORM

This form must be used as a cover sheet for the notices and reports, identified below as required by: (1) a facility's RCRA interim status closure plan; (2) the RCRA interim status regulations; or (3) a facility's RCRA permit. All reports must be submitted to the Illinois EPA's Bureau of Land Permit Section. This form is for use by Hazardous Waste facilities only. Reporting for Solid Waste facilities should be submitted on a separate form. All reports submitted to the Illinois EPA's Bureau of Land Permit Section must contain an original, plus a minimum of two copies.

Note: This form is not to be used with permit or closure plan modification requests. The facility's approved permit or closure plan will state whether the document you are submitting is required as a report or a modification request.

Facility Name: _____ Site ID #: _____
Facility Address: _____ Fed ID #: _____

Check the appropriate heading. Only one heading may be checked for each corresponding submittal. Check the appropriate sub-heading, where applicable. Attach the original and all copies behind this form.

- ___ **LPC-160 Forms**
- | | |
|---|--|
| <p>___ Groundwater</p> <p>___ Quarterly – Indicate one: 1 2 3 4</p> <p>___ Semi-Annual</p> <p>___ Annual</p> <p>___ Biennial</p> | <p>___ Leachate</p> <p>___ Quarterly – Indicate one: 1 2 3 4</p> <p>___ Semi-Annual</p> <p>___ Annual</p> <p>___ Biennial</p> |
|---|--|
- ___ **Groundwater Data (without LPC-160 Forms)**
- ___ Quarterly – Indicate one: 1 2 3 4
- ___ Annual ___ Semi-Annual ___ Biennial
- ___ **Well Construction Information**
- ___ Well Construction Forms, Boring Logs and/or Abandonment Forms
- ___ Well Survey Data (e.g., Stick-up Elevation Data)
- ___ **Notice of Statistically Significant Evidence of Groundwater Contamination**
(35 Ill. Adm. Code 724.198)
- ___ **Notice of Exceedence of Groundwater Concentration Limit (35 Ill. Adm. Code 724.199(h))**
- ___ **Notice of Alternate Source or Error in Sampling Analysis or Evaluation of Groundwater**
(35 Ill. Adm. Code 724.199(i))
- ___ **Gas Monitoring Reports**
- ___ **Other (identify)** _____

**Formatting Requirements for the 01 Record of the Electronically Submitted
Groundwater and Leachate Data (the 01 Record portion of the LPC-160 is included
for example purposes)**

**ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM**

Page 1 of _____

RECORD CODE						TRANS CODE	
L	P	C	S	M	0	1	A
						7	8
REPORT DUE DATE _____ / _____ / _____							
						36	41
						M	D
						Y	41

FEDERAL ID NUMBER _____

SITE INVENTORY NUMBER _____	MONITOR POINT NUMBER _____
9 _____ 18	(see Instructions) 19 _____ 22
REGION _____ CO. _____	DATE COLLECTED _____ / _____ / _____
	23 M _____ D _____ Y 28
FACILITY NAME _____	

FOR IEPA USE ONLYLAB _____
29DATE RECEIVED _____ / _____ / _____
42 M _____ D _____ Y 47BACKGROUND SAMPLE (X) _____ S4 TIME COLLECTED _____ : _____ M _____ S8
(24 Hr. Clock)UNABLE TO COLLECT SAMPLE _____
(see Instructions) 59MONITOR POINT SAMPLED BY _____
(see Instructions) 60

OTHER (SPECIFY) _____

SAMPLE FIELD FILTERED - INORGANICS (X) _____ 61 ORGANICS (X) _____ 62

SAMPLE APPEARANCE _____
63

102

COLLECTOR COMMENTS _____
103

142

LAB COMMENTS _____
150

199

II 532 1213
LPC 160 12/2011

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 ½, Section 1004 and 1021. Disclosure of this information is required. Failure to do so may result in a civil penalty up to \$25,000 for each day the failure continues a fine up to \$1,000.00 and imprisonment up to one year. This form has been approved by the Forms Management Center.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Key punch with Data in Column 35 or Columns 38-47

KEY:

<u>Spaces Numbered</u>	<u>Description</u>	<u>Format</u>
Spaces 1-7	Record Code	LPCSM01
Space 8	Trans Code	A
Spaces 9-18	Site ID	0000000000
Spaces 19-22	Mon Pt ID	G000
Spaces 23-28	Date Collected	000000
Space 29	Lab	
Spaces 30-35	Filler	
Spaces 36-41	Report Due Date	000000
Spaces 42-47	Date Received	000000
Spaces 48-53	Filler 2	
Space 54	Background Sample	
Spaces 55-58	Time Collected	0000
Space 59	Unable to Collect Sample	
Space 60	Monitoring Point Sampled By	
Space 61	Field Filtered – Inorganic	
Space 62	Field Filtered – Organic	
Spaces 63-102	Sample Appearance	
Spaces 103-142	Collector Comments	
Spaces 143-149	Filler 3	
Spaces 150-159	Lab Comments	

FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE		STORET NUMBER	Remarks See Inst.	Replicate	< or >	Value
Q	TEMP OF WATER (unfiltered ° F)	0 0 0 1 1 30 34	35	36	37	38 _____ • _____ 47
Q	SPEC COND (unfiltered umhos)	0 0 0 9 4				_____ • _____
Q	pH (unfiltered units)	0 0 4 0 0				_____ • _____
Q	ELEV OF GW SURF (ft ref MSL)	7 1 9 9 3				_____ • _____
Q	DEPTH OF WATER (ft below LS)	7 2 0 1 9				_____ • _____
A	BTM WELL ELEV (ft ref MSL)	7 2 0 2 0				_____ • _____
Q	DEPTH TO WATER FR MEA PT (ft)	7 2 1 0 9				_____ • _____
						_____ • _____
						_____ • _____

***Only Key punch with Data in Column 35 or Columns 38-47**

Record Code
Trans Code
Site ID
Mon Pt ID
Date Collected
Lab
STORET Number
Remarks
Replicate
< or >
Value

Page 1 of 1

ATTACHMENT B

STATISTICAL PROCEDURE

STATE ID # 0310390001

ILD010284248

POST-CLOSURE PERMIT LOG NO. B-27R2-M-8; M-10

Attachment B-1

The following statistical procedure must be followed as referenced in Section II (Area 4 Compliance Monitoring Program) and Section III (Area 3 Groundwater Corrective Action Program). This statistical procedure is only valid for normally distributed data sets.

1. Calculate the arithmetic mean, $\bar{x}_b$, of the background values as follows:

$$\bar{x}_b = \frac{x_{b1} + x_{b2} + \dots + x_{bn}}{n}$$

where: x_b = background concentration
 n = number of observations

2. Calculate the variance, S_b^2 , of the background values:

$$S_b^2 = \frac{(x_{b1} - \bar{x}_b)^2 + (x_{b2} - \bar{x}_b)^2 + \dots + (x_{bn} - \bar{x}_b)^2}{n - 1}$$

3. Calculate the standard deviation, S_b , of the background values:

$$S_b = \sqrt{S_b^2}$$

4. Specify the number of future observations per well (k) and calculate the prediction limit (PL) using the following equation:

$$PL = \bar{x}_b + C * S_b$$

where: $\bar{x}_b$ = background mean value

C = factor for obtaining a one-sided 99% prediction limit for k additional samples given a background sample size of n (see "Note" below)

S_b = Background standard deviation

Note: C is determined from Tables 1-3 of "Standard Prediction Intervals for the Evaluation of Groundwater Quality", R. Gibbons, Ground Water, Vol. 25, No. 4, July-August 1987. Refer to Attachment F, pages F-6 through F-8.

Reference: "Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Interim Final Guidance", USEPA, February 1989.

Attachment B-2**Cohen's Method for Calculating Estimates of the Mean and Variance of Background Measurements when Some Observations ($\leq 50\%$) are Below the Practical Quantitation Limit (PQL)**

This method is to be used only when PQLs are equal for the data set. Let n be the total number of observations, m represents the number of data points above the PQL, and x_i represents the value of the i^{th} constituent value above the PQL.

1. Compute the sample mean $\bar{x}_d$ from the data above the PQL as follows:

$$\bar{x}_d = \frac{1}{m} \sum_{i=1}^m x_i$$

2. Compute the sample variance S_d^2 from the data above the PQL as follows:

$$S_d^2 = \sum_{i=1}^m \frac{(x_i - \bar{x}_d)^2}{m-1} = \frac{\sum_{i=1}^m x_i^2 - \frac{1}{m} (\sum_{i=1}^m x_i)^2}{m-1}$$

3. Compute the two parameters, h and γ (lower case gamma), as follows:

$$h = \frac{(n-m)}{n} \qquad \gamma = \frac{S_d^2}{(\bar{x} - PQL)^2}$$

where n is the total number of observations (i.e. above and below the PQL). These values are then used to determine the value of the parameter $\hat{\lambda}$ from Appendix B, Table 7 (see Attachment F.2A).

4. Estimate the corrected sample mean, which accounts for the data below the PQL, as follows:

$$\bar{x} = \bar{x}_d - \hat{\lambda}(\bar{x}_d - PQL)$$

5. Estimate the corrected sample standard deviation, which accounts for the data below the PQL, as follows:

$$S = (S_d^2 + \hat{\lambda}(\bar{x}_d - PQL)^2)^{1/2}$$

6. Use the corrected values of $\bar{x}$ and S in the procedure for constructing a prediction limit outlined in Attachment F-1.

$\bar{x}_d$ = sample mean

x_i = i th value above the PQL

m = number of data points above the PQL

h = parameter to determine λ from Appendix B, Table 7 (see Attachment B-2A).

γ = parameter to determine λ from Appendix B, Table 7 (see Attachment B-2A).

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n = number of observations

S^2 = Sample variance

PQL = Practical Quantitation Limit

λ = parameter used to derive corrected $\bar{x}$ and corrected S

$\bar{x}$ = corrected sample mean

S = corrected sample standard deviation

Reference: "Statistical analysis of Ground-water Monitoring Data at RCRA Facilities, Interim Final Guidance", USEPA, February 1989.

Attachment B-2A

Appendix B, Table 7, from: "Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Interim Final Guidance," USEPA, February 1989.

Table 7. Values of the Parameter $\hat{\lambda}$ for Cohen's Estimates Adjusting for Nondetected Values

γ	h											
	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.15	.20
.00	.010100	.020400	.030902	.041583	.052507	.063625	.074953	.08649	.09824	.11020	.17342	.24268
.05	.010551	.021294	.032225	.043350	.054670	.066159	.077909	.08983	.10197	.11431	.17925	.25033
.10	.010950	.022082	.033398	.044902	.056596	.068483	.080563	.09285	.10534	.11804	.18479	.25741
.15	.011310	.022798	.034466	.046318	.058356	.070586	.083009	.09563	.10845	.12148	.18985	.26405
.20	.011642	.023459	.035453	.047829	.059990	.072539	.085280	.09822	.11135	.12469	.19460	.27031
.25	.011952	.024076	.036377	.048858	.061522	.074372	.087413	.10065	.11408	.12772	.19910	.27626
.30	.012243	.024658	.037249	.050018	.062969	.076106	.089433	.10295	.11667	.13059	.20338	.28193
.35	.012520	.025211	.038077	.051120	.064345	.077736	.091355	.10515	.11914	.13333	.20747	.28737
.40	.012784	.025738	.038866	.052173	.065660	.079332	.093193	.10725	.12150	.13595	.21129	.29250
.45	.013036	.026243	.039624	.053182	.066921	.080845	.094958	.10926	.12377	.13847	.21517	.29765
.50	.013279	.026728	.040352	.054153	.068135	.082301	.096657	.11121	.12595	.14090	.21882	.30253
.55	.013513	.027196	.041054	.055089	.069306	.083708	.098298	.11308	.12806	.14325	.22225	.30725
.60	.013739	.027849	.041733	.055995	.070439	.085068	.099887	.11490	.13011	.14552	.22578	.31184
.65	.013958	.028087	.042391	.056874	.071538	.086388	.10143	.11666	.13209	.14773	.22910	.31630
.70	.014171	.028513	.043030	.057726	.072505	.087670	.10292	.11837	.13402	.14987	.23234	.32065
.75	.014378	.029927	.043652	.058556	.073643	.088917	.10438	.12004	.13590	.15196	.23550	.32489
.80	.014579	.029330	.044258	.059364	.074655	.090133	.10580	.12167	.13775	.15400	.23858	.32903
.85	.014773	.029723	.044848	.060153	.075642	.091319	.10719	.12325	.13952	.15599	.24158	.33307
.90	.014967	.030107	.045425	.060923	.076606	.092477	.10854	.12480	.14126	.15793	.24452	.33703
.95	.015154	.030483	.045989	.061676	.077549	.093611	.10987	.12632	.14297	.15983	.24740	.34091
1.00	.015338	.030850	.046540	.062413	.078471	.094720	.11116	.12780	.14465	.16170	.25022	.34471

γ	h											
	.25	.30	.35	.40	.45	.50	.55	.60	.65	.70	.80	.90
.00	.31862	.4021	.4941	.5961	.7096	.8388	.9808	1.145	1.336	1.561	2.176	3.283
.05	.32793	.4130	.5066	.6101	.7252	.8540	.9994	1.166	1.358	1.585	2.203	3.314
.10	.33662	.4233	.5184	.6234	.7400	.8703	1.017	1.185	1.379	1.608	2.229	3.345
.15	.34480	.4330	.5296	.6361	.7542	.8860	1.035	1.204	1.400	1.630	2.255	3.376
.20	.35255	.4422	.5403	.6483	.7673	.9012	1.051	1.222	1.419	1.651	2.280	3.405
.25	.35993	.4510	.5506	.6600	.7810	.9158	1.067	1.240	1.439	1.672	2.305	3.435
.30	.36700	.4595	.5604	.6713	.7937	.9300	1.083	1.257	1.457	1.693	2.329	3.464
.35	.37379	.4676	.5699	.6821	.8060	.9437	1.098	1.274	1.475	1.713	2.353	3.492
.40	.38033	.4735	.5791	.6927	.8179	.9570	1.113	1.290	1.494	1.732	2.376	3.520
.45	.38665	.4831	.5880	.7029	.8295	.9700	1.127	1.306	1.511	1.751	2.399	3.547
.50	.39276	.4904	.5967	.7129	.8408	.9826	1.141	1.321	1.528	1.770	2.421	3.575
.55	.39679	.4976	.6061	.7225	.8517	.9950	1.155	1.337	1.545	1.788	2.443	3.601
.60	.40447	.5045	.6133	.7320	.8625	1.007	1.169	1.351	1.561	1.806	2.465	3.628
.65	.41008	.5114	.6213	.7412	.8729	1.019	1.182	1.368	1.577	1.824	2.486	3.654
.70	.41555	.5180	.6291	.7502	.8832	1.030	1.195	1.380	1.593	1.841	2.507	3.679
.75	.42090	.5245	.6367	.7590	.8932	1.042	1.207	1.394	1.608	1.851	2.528	3.705
.80	.42612	.5308	.6441	.7676	.9031	1.053	1.220	1.408	1.624	1.875	2.548	3.730
.85	.43122	.5370	.6515	.7781	.9127	1.064	1.232	1.422	1.639	1.892	2.568	3.754
.90	.43622	.5430	.6586	.7844	.9222	1.074	1.244	1.435	1.653	1.908	2.588	3.779
.95	.44112	.5490	.6656	.7925	.9314	1.085	1.255	1.448	1.668	1.924	2.607	3.803
1.00	.44592	.5548	.6724	.8005	.9406	1.095	1.267	1.461	1.682	1.940	2.626	3.827

Source: Cohen, A.C., Jr. 1961. "Tables for Maximum Likelihood Estimates: Singly Truncated and Singly Censored Samples." *Technometrics*.

Attachment B-3**Aitchison's Method for Calculating Estimates of the Mean and Variance of Background Measurements when Some Observations ($\leq 50\%$) are Below the Practical Quantitation Limit (PQL)**

This method may be used when PQLs are not equal for the dataset.

1. The corrected sample mean is calculated using the following equation:

$$\bar{X} = \left(1 - \frac{d}{n}\right) \bar{X}^*$$

2. The corrected standard deviation is calculated using the following equation:

$$S = \frac{n - (d + 1)}{n - 1} (S^*)^2 + \frac{d}{n} \left(\frac{n - d}{n - 1} \right) (\bar{X}^*)^2$$

3. Use the corrected values of $\bar{X}$ and S in the procedure for constructing a prediction limit outlined in Attachment F-1.

$\bar{X}$ = corrected sample mean

$\bar{X}^*$ = sample mean of detected values

n = number of samples

S = corrected sample standard deviation

d = number of values below the PQL

Reference: "Statistical analysis of Ground-water Monitoring Data at RCRA Facilities, Addendum to Interim Final Guidance", USEPA, July 1992.

Attachment B-4**Coefficient of Variation Test**

This test is a simple check for evidence of gross nonnormality in groundwater monitoring data.

1. Calculate the sample mean ($\bar{x}$) of n observations x_i , $i=1, \dots, n$.

$$\bar{x} = \frac{(\sum_{i=1}^n x_i)}{n}$$

2. Calculate the sample standard deviation, S.

$$S = \left[\sum_{i=1}^n (x_i - \bar{x})^2 / (n-1) \right]^{1/2}$$

3. Divide the sample standard deviation by the sample mean. This ratio is the Coefficient of Variation (CV).

$$CV = S / \bar{x}$$

4. Determine if the result of Step 3 exceeds 1.00. If so, this is evidence that the assumption of normal distribution does not fit the data adequately.

Reference: "Statistical analysis of Ground-water Monitoring Data at RCRA Facilities, Interim Final Guidance", USEPA, February 1989.

Attachment B-5**Table 1. Factors for Obtaining One-Sided 99% Prediction Limits for k
Additional Samples Given a Background Sample of Size n**

Previous n	Number of new measurements (k)														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
4	4.70	5.81	6.52	7.06	7.49	7.86	8.17	8.45	8.71	8.94	9.15	9.35	9.53	9.70	9.86
5	3.96	4.77	5.28	5.66	5.96	6.22	6.44	6.63	6.81	6.97	7.11	7.24	7.37	7.48	7.59
6	3.67	4.23	4.63	4.93	5.17	5.37	5.54	5.69	5.83	5.95	6.06	6.16	6.26	6.35	6.43
7	3.32	3.89	4.24	4.49	4.69	4.86	5.00	5.13	5.24	5.34	5.43	5.52	5.60	5.67	5.74
8	3.16	3.67	3.98	4.20	4.38	4.52	4.65	4.75	4.85	4.94	5.02	5.09	5.16	5.22	5.28
9	3.04	3.61	3.79	3.99	4.16	4.28	4.39	4.49	4.58	4.66	4.73	4.79	4.85	4.91	4.96
10	2.95	3.39	3.65	3.84	3.98	4.10	4.21	4.30	4.37	4.45	4.51	4.57	4.62	4.68	4.72
11	2.88	3.30	3.54	3.72	3.85	3.97	4.06	4.14	4.22	4.28	4.34	4.40	4.45	4.50	4.54
12	2.82	3.22	3.46	3.62	3.76	3.86	3.95	4.03	4.09	4.16	4.21	4.26	4.31	4.36	4.40
13	2.78	3.16	3.39	3.54	3.67	3.77	3.85	3.93	3.99	4.05	4.11	4.16	4.20	4.24	4.28
14	2.74	3.11	3.33	3.48	3.60	3.70	3.78	3.85	3.91	3.97	4.02	4.07	4.11	4.15	4.19
15	2.71	3.07	3.28	3.43	3.64	3.63	3.71	3.78	3.84	3.90	3.95	3.99	4.03	4.07	4.11
16	2.68	3.03	3.24	3.38	3.49	3.58	3.66	3.72	3.78	3.84	3.88	3.93	3.97	4.00	4.04
17	2.66	3.00	3.20	3.34	3.46	3.54	3.61	3.68	3.73	3.78	3.83	3.87	3.91	3.95	3.98
18	2.64	2.97	3.17	3.31	3.41	3.50	3.57	3.63	3.69	3.74	3.78	3.82	3.86	3.89	3.93
19	2.62	2.95	3.14	3.28	3.38	3.46	3.53	3.60	3.65	3.70	3.74	3.78	3.82	3.85	3.88
20	2.60	2.93	3.12	3.25	3.35	3.43	3.50	3.56	3.61	3.66	3.70	3.74	3.78	3.81	3.84
21	2.69	2.91	3.10	3.22	3.32	3.41	3.47	3.53	3.58	3.63	3.67	3.71	3.75	3.78	3.81
22	2.57	2.89	3.08	3.20	3.30	3.38	3.45	3.51	3.56	3.60	3.64	3.68	3.71	3.75	3.78
23	2.66	2.88	3.06	3.18	3.28	3.36	3.42	3.48	3.53	3.58	3.62	3.65	3.69	3.72	3.75
24	2.65	2.86	3.04	3.17	3.26	3.34	3.40	3.46	3.51	3.55	3.59	3.63	3.66	3.69	3.72
25	2.64	2.85	3.03	3.15	3.24	3.32	3.39	3.44	3.49	3.53	3.57	3.61	3.64	3.67	3.70
26	2.63	2.84	3.01	3.14	3.23	3.30	3.37	3.42	3.47	3.51	3.55	3.59	3.62	3.65	3.68
27	2.62	2.83	3.00	3.12	3.21	3.29	3.35	3.41	3.45	3.50	3.53	3.57	3.60	3.63	3.66
28	2.62	2.82	2.99	3.11	3.20	3.27	3.34	3.39	3.44	3.48	3.52	3.55	3.58	3.61	3.64
29	2.61	2.81	2.98	3.10	3.19	3.26	3.32	3.38	3.42	3.46	3.50	3.54	3.57	3.60	3.62
30	2.60	2.80	2.97	3.09	3.18	3.25	3.31	3.36	3.41	3.45	3.49	3.52	3.55	3.58	3.61
31	2.50	2.79	2.96	3.08	3.17	3.24	3.30	3.35	3.40	3.44	3.47	3.51	3.54	3.57	3.59
32	2.49	2.79	2.95	3.07	3.16	3.23	3.29	3.34	3.39	3.43	3.46	3.50	3.53	3.55	3.58
33	2.49	2.78	2.94	3.06	3.16	3.22	3.28	3.33	3.37	3.41	3.45	3.48	3.51	3.54	3.57
34	2.48	2.77	2.94	3.05	3.14	3.21	3.27	3.32	3.36	3.40	3.44	3.47	3.50	3.53	3.56
35	2.48	2.77	2.93	3.04	3.13	3.20	3.26	3.31	3.35	3.39	3.43	3.46	3.49	3.52	3.54
36	2.47	2.76	2.92	3.04	3.12	3.19	3.25	3.30	3.35	3.39	3.42	3.45	3.48	3.51	3.53
37	2.47	2.76	2.92	3.03	3.12	3.19	3.24	3.29	3.34	3.38	3.41	3.44	3.47	3.50	3.53
38	2.46	2.75	2.91	3.02	3.11	3.18	3.24	3.29	3.33	3.37	3.40	3.44	3.46	3.49	3.52
39	2.46	2.75	2.91	3.02	3.10	3.17	3.23	3.28	3.32	3.36	3.40	3.43	3.46	3.48	3.51
40	2.46	2.74	2.90	3.01	3.10	3.17	3.22	3.27	3.31	3.35	3.39	3.42	3.45	3.47	3.50
41	2.45	2.74	2.90	3.01	3.09	3.16	3.22	3.27	3.31	3.35	3.38	3.41	3.44	3.47	3.49
42	2.45	2.73	2.89	3.00	3.09	3.15	3.21	3.26	3.30	3.34	3.37	3.41	3.43	3.46	3.48
43	2.45	2.73	2.89	3.00	3.08	3.15	3.20	3.25	3.30	3.33	3.37	3.40	3.43	3.45	3.48
44	2.44	2.73	2.88	2.99	3.08	3.14	3.20	3.25	3.29	3.33	3.36	3.39	3.42	3.45	3.47
45	2.44	2.72	2.88	2.99	3.07	3.14	3.19	3.24	3.28	3.32	3.36	3.39	3.41	3.44	3.46
46	2.44	2.72	2.88	2.98	3.07	3.13	3.19	3.24	3.28	3.32	3.35	3.38	3.41	3.43	3.46
47	2.44	2.72	2.87	2.98	3.06	3.13	3.18	3.23	3.27	3.31	3.34	3.38	3.40	3.43	3.45
48	2.43	2.71	2.87	2.98	3.06	3.12	3.18	3.23	3.27	3.31	3.34	3.37	3.40	3.42	3.45
49	2.43	2.71	2.86	2.97	3.06	3.12	3.18	3.22	3.26	3.30	3.34	3.37	3.39	3.42	3.44
50	2.43	2.71	2.86	2.97	3.05	3.12	3.17	3.22	3.26	3.30	3.33	3.36	3.39	3.41	3.44
60	2.41	2.68	2.84	2.94	3.02	3.08	3.14	3.18	3.22	3.26	3.29	3.32	3.35	3.37	3.40
70	2.40	2.67	2.82	2.92	3.00	3.06	3.12	3.16	3.20	3.24	3.27	3.30	3.32	3.35	3.37
80	2.39	2.66	2.80	2.91	2.98	3.05	3.10	3.14	3.18	3.22	3.25	3.28	3.30	3.33	3.35
90	2.38	2.65	2.79	2.89	2.97	3.03	3.08	3.13	3.17	3.20	3.23	3.26	3.29	3.31	3.33
100	2.38	2.64	2.79	2.89	2.96	3.02	3.07	3.12	3.16	3.19	3.22	3.25	3.27	3.30	3.32

$$\text{Factor} = t_{(n-1, 1-\alpha/k)} \sqrt{1 + 1/n}$$

Table 2. Factors for Obtaining One-Sided 99% Prediction Limits for k
Additional Samples Given a Background Sample of Size n

Previous n	Number of new measurements (k)													
	16	17	18	19	20	21	22	23	24	25	26	27	28	29
4	10.01	10.16	10.30	10.43	10.55	10.67	10.79	10.90	11.00	11.11	11.21	11.30	11.40	11.49
5	7.70	7.79	7.89	7.97	8.06	8.14	8.22	8.29	8.36	8.43	8.50	8.56	8.62	8.68
6	6.51	6.58	6.65	6.72	6.79	6.85	6.90	6.96	7.02	7.07	7.12	7.17	7.21	7.26
7	5.80	5.86	5.92	5.98	6.03	6.08	6.13	6.17	6.21	6.26	6.30	6.34	6.38	6.41
8	5.34	5.39	5.44	5.49	5.53	5.57	5.61	5.65	5.69	5.73	5.76	5.80	5.83	5.86
9	5.01	5.06	5.10	5.14	5.18	5.22	5.25	5.29	5.32	5.35	5.39	5.42	5.44	5.47
10	4.77	4.81	4.85	4.89	4.92	4.96	4.99	5.02	5.05	5.08	5.11	5.14	5.16	5.19
11	4.58	4.62	4.66	4.69	4.73	4.76	4.79	4.82	4.84	4.87	4.90	4.92	4.94	4.97
12	4.44	4.47	4.51	4.54	4.57	4.60	4.63	4.65	4.68	4.71	4.73	4.75	4.77	4.80
13	4.32	4.35	4.38	4.42	4.44	4.47	4.50	4.52	4.55	4.57	4.59	4.62	4.64	4.66
14	4.22	4.25	4.28	4.31	4.34	4.37	4.39	4.42	4.44	4.46	4.48	4.50	4.52	4.54
15	4.14	4.17	4.20	4.23	4.25	4.28	4.30	4.33	4.35	4.37	4.39	4.41	4.43	4.45
16	4.07	4.10	4.13	4.15	4.18	4.20	4.23	4.25	4.27	4.29	4.31	4.33	4.35	4.37
17	4.01	4.04	4.07	4.09	4.12	4.14	4.16	4.18	4.20	4.22	4.24	4.26	4.28	4.30
18	3.96	3.99	4.01	4.04	4.06	4.08	4.11	4.13	4.15	4.17	4.18	4.20	4.22	4.24
19	3.91	3.94	3.97	3.99	4.01	4.04	4.06	4.08	4.10	4.11	4.13	4.15	4.17	4.18
20	3.87	3.90	3.92	3.95	3.97	3.99	4.01	4.03	4.05	4.07	4.09	4.10	4.12	4.14
21	3.84	3.86	3.89	3.91	3.93	3.95	3.97	3.99	4.01	4.03	4.05	4.06	4.08	4.09
22	3.80	3.83	3.85	3.88	3.90	3.92	3.94	3.96	3.98	3.99	4.01	4.03	4.04	4.06
23	3.77	3.80	3.82	3.85	3.87	3.89	3.91	3.93	3.94	3.96	3.98	3.99	4.01	4.02
24	3.75	3.77	3.80	3.82	3.84	3.86	3.88	3.90	3.92	3.93	3.95	3.96	3.98	3.99
25	3.72	3.75	3.77	3.79	3.82	3.84	3.85	3.87	3.89	3.91	3.92	3.94	3.95	3.97
26	3.70	3.73	3.75	3.77	3.79	3.81	3.83	3.85	3.87	3.88	3.90	3.91	3.93	3.94
27	3.68	3.71	3.73	3.75	3.77	3.79	3.81	3.83	3.84	3.86	3.87	3.89	3.90	3.92
28	3.66	3.69	3.71	3.73	3.75	3.77	3.79	3.81	3.82	3.84	3.85	3.87	3.88	3.90
29	3.65	3.67	3.69	3.71	3.73	3.75	3.77	3.79	3.80	3.82	3.83	3.85	3.86	3.88
30	3.63	3.66	3.68	3.70	3.72	3.74	3.75	3.77	3.79	3.80	3.82	3.83	3.85	3.86
31	3.62	3.64	3.66	3.68	3.70	3.72	3.74	3.75	3.77	3.79	3.80	3.81	3.83	3.84
32	3.60	3.63	3.65	3.67	3.69	3.71	3.72	3.74	3.76	3.77	3.79	3.80	3.81	3.83
33	3.59	3.61	3.64	3.66	3.67	3.69	3.71	3.73	3.74	3.76	3.77	3.79	3.80	3.81
34	3.58	3.60	3.62	3.64	3.66	3.68	3.70	3.71	3.73	3.74	3.76	3.77	3.78	3.80
35	3.57	3.59	3.61	3.63	3.65	3.67	3.69	3.70	3.72	3.73	3.75	3.76	3.77	3.78
36	3.56	3.58	3.60	3.62	3.64	3.66	3.67	3.69	3.71	3.72	3.73	3.75	3.76	3.77
37	3.55	3.57	3.59	3.61	3.63	3.65	3.66	3.68	3.69	3.71	3.72	3.74	3.75	3.76
38	3.54	3.56	3.58	3.60	3.62	3.64	3.65	3.67	3.68	3.70	3.71	3.73	3.74	3.75
39	3.53	3.55	3.57	3.59	3.61	3.63	3.64	3.66	3.67	3.69	3.70	3.72	3.73	3.74
40	3.52	3.54	3.56	3.58	3.60	3.62	3.63	3.65	3.67	3.68	3.69	3.71	3.72	3.73
41	3.51	3.54	3.56	3.58	3.59	3.61	3.63	3.64	3.66	3.67	3.68	3.70	3.71	3.72
42	3.51	3.53	3.55	3.57	3.59	3.60	3.62	3.63	3.65	3.66	3.68	3.69	3.70	3.71
43	3.50	3.52	3.54	3.56	3.58	3.59	3.61	3.63	3.64	3.65	3.67	3.68	3.69	3.71
44	3.49	3.51	3.53	3.56	3.57	3.59	3.60	3.62	3.63	3.65	3.66	3.67	3.69	3.70
45	3.49	3.51	3.53	3.56	3.56	3.58	3.60	3.61	3.63	3.64	3.65	3.67	3.68	3.69
46	3.48	3.50	3.52	3.54	3.56	3.57	3.59	3.61	3.62	3.63	3.65	3.66	3.67	3.68
47	3.48	3.50	3.52	3.53	3.55	3.57	3.58	3.60	3.61	3.63	3.64	3.65	3.67	3.68
48	3.47	3.49	3.51	3.53	3.55	3.56	3.58	3.59	3.61	3.62	3.63	3.65	3.66	3.67
49	3.46	3.48	3.50	3.52	3.54	3.56	3.57	3.59	3.60	3.62	3.63	3.64	3.65	3.66
50	3.46	3.48	3.50	3.52	3.53	3.55	3.57	3.58	3.60	3.61	3.62	3.64	3.65	3.66
60	3.42	3.44	3.46	3.47	3.49	3.51	3.52	3.54	3.55	3.56	3.58	3.59	3.60	3.61
70	3.39	3.41	3.43	3.45	3.46	3.48	3.49	3.51	3.52	3.53	3.54	3.56	3.57	3.58
80	3.37	3.39	3.41	3.42	3.44	3.45	3.47	3.48	3.50	3.51	3.52	3.53	3.54	3.56
90	3.35	3.37	3.39	3.41	3.42	3.44	3.45	3.47	3.48	3.49	3.50	3.51	3.53	3.54
100	3.34	3.36	3.38	3.39	3.41	3.42	3.44	3.45	3.46	3.48	3.49	3.50	3.51	3.52

$$\text{Factor} = t_{(n-1, 1-\alpha/k)} \sqrt{1 + 1/n}$$

Table 3 Factors for Obtaining One-Sided 99% Prediction Limits for k
Additional Samples Given a Background Sample of Size n

Previous n	Number of new measurements (k)														
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
4	11.57	11.98	12.34	12.66	12.95	13.22	13.47	13.70	13.91	14.11	14.31	14.49	14.66	14.82	14.98
6	8.74	9.01	9.25	9.46	9.65	9.83	9.99	10.14	10.29	10.42	10.64	10.66	10.77	10.88	10.98
6	7.30	7.51	7.68	7.84	7.99	8.12	8.24	8.35	8.46	8.55	8.65	8.73	8.82	8.90	8.97
7	6.45	6.61	6.76	6.89	7.00	7.11	7.20	7.29	7.38	7.46	7.53	7.60	7.67	7.73	7.79
8	5.89	6.03	6.15	6.26	6.36	6.45	6.53	6.61	6.68	6.74	6.81	6.87	6.92	6.97	7.02
9	5.50	5.62	5.73	5.82	5.91	5.99	6.06	6.13	6.19	6.25	6.30	6.35	6.40	6.45	6.49
10	5.21	5.32	5.42	5.50	5.58	5.65	5.72	5.77	5.83	5.88	5.93	5.98	6.02	6.06	6.10
11	4.99	5.09	5.18	5.26	5.33	5.39	5.45	5.51	5.56	5.60	5.65	5.69	5.73	5.77	5.80
12	4.82	4.91	4.99	5.07	5.13	5.19	5.25	5.30	5.34	5.39	5.43	5.47	5.50	5.54	5.57
13	4.68	4.77	4.84	4.91	4.97	5.03	5.08	5.13	5.17	5.21	5.25	5.28	5.32	5.35	5.38
14	4.56	4.65	4.72	4.78	4.84	4.89	4.94	4.99	5.03	5.07	5.10	5.14	5.17	5.20	5.23
15	4.46	4.54	4.61	4.68	4.73	4.78	4.83	4.87	4.91	4.95	4.98	5.01	5.04	5.07	5.10
16	4.38	4.46	4.53	4.59	4.64	4.69	4.73	4.77	4.81	4.84	4.88	4.91	4.94	4.96	4.99
17	4.31	4.39	4.45	4.51	4.56	4.61	4.65	4.69	4.72	4.76	4.79	4.82	4.85	4.87	4.90
18	4.25	4.32	4.39	4.44	4.49	4.54	4.58	4.61	4.65	4.68	4.71	4.74	4.77	4.79	4.82
19	4.20	4.27	4.33	4.38	4.43	4.47	4.51	4.55	4.58	4.61	4.64	4.67	4.70	4.72	4.75
20	4.15	4.22	4.28	4.33	4.38	4.42	4.46	4.49	4.53	4.56	4.59	4.61	4.64	4.66	4.68
21	4.11	4.18	4.23	4.28	4.33	4.37	4.41	4.44	4.48	4.50	4.53	4.56	4.58	4.61	4.63
22	4.07	4.14	4.19	4.24	4.29	4.33	4.36	4.40	4.43	4.46	4.49	4.51	4.54	4.56	4.58
23	4.04	4.10	4.16	4.21	4.25	4.29	4.32	4.36	4.39	4.42	4.44	4.47	4.49	4.51	4.54
24	4.01	4.07	4.12	4.17	4.21	4.25	4.29	4.32	4.35	4.38	4.41	4.43	4.45	4.48	4.50
25	3.98	4.04	4.09	4.14	4.18	4.22	4.26	4.29	4.32	4.35	4.37	4.40	4.42	4.44	4.46
26	3.95	4.01	4.07	4.11	4.16	4.19	4.23	4.26	4.29	4.31	4.34	4.36	4.39	4.41	4.43
27	3.93	3.99	4.04	4.09	4.13	4.17	4.20	4.23	4.26	4.29	4.31	4.33	4.36	4.38	4.40
28	3.91	3.97	4.02	4.06	4.11	4.14	4.17	4.21	4.23	4.26	4.28	4.31	4.33	4.35	4.37
29	3.89	3.95	4.00	4.04	4.08	4.12	4.15	4.18	4.21	4.24	4.26	4.28	4.30	4.32	4.34
30	3.87	3.93	3.98	4.02	4.06	4.10	4.13	4.16	4.19	4.21	4.24	4.26	4.28	4.30	4.32
31	3.85	3.91	3.96	4.00	4.04	4.08	4.11	4.14	4.17	4.19	4.22	4.24	4.26	4.28	4.30
32	3.84	3.90	3.94	3.99	4.03	4.06	4.09	4.12	4.15	4.17	4.20	4.22	4.24	4.26	4.28
33	3.82	3.88	3.93	3.97	4.01	4.04	4.08	4.10	4.13	4.16	4.18	4.20	4.22	4.24	4.26
34	3.81	3.87	3.91	3.96	3.99	4.03	4.06	4.09	4.11	4.14	4.16	4.18	4.20	4.22	4.24
35	3.80	3.85	3.90	3.94	3.98	4.01	4.04	4.07	4.10	4.12	4.15	4.17	4.19	4.21	4.22
36	3.79	3.84	3.89	3.93	3.97	4.00	4.03	4.06	4.08	4.11	4.13	4.15	4.17	4.19	4.21
37	3.77	3.83	3.88	3.92	3.95	3.99	4.02	4.04	4.07	4.09	4.12	4.14	4.16	4.18	4.19
38	3.76	3.82	3.86	3.90	3.94	3.97	4.00	4.03	4.06	4.08	4.10	4.12	4.14	4.16	4.18
39	3.75	3.81	3.85	3.89	3.93	3.96	3.99	4.02	4.05	4.07	4.09	4.11	4.13	4.15	4.17
40	3.74	3.80	3.84	3.88	3.92	3.95	3.98	4.01	4.03	4.06	4.08	4.10	4.12	4.14	4.15
41	3.73	3.79	3.83	3.87	3.91	3.94	3.97	4.00	4.02	4.05	4.07	4.09	4.11	4.12	4.14
42	3.73	3.78	3.82	3.86	3.90	3.93	3.96	3.99	4.01	4.04	4.06	4.08	4.10	4.11	4.13
43	3.72	3.77	3.82	3.85	3.89	3.92	3.95	3.98	4.00	4.03	4.05	4.07	4.09	4.10	4.12
44	3.71	3.76	3.81	3.85	3.88	3.91	3.94	3.97	3.99	4.02	4.04	4.06	4.08	4.09	4.11
45	3.70	3.75	3.80	3.84	3.87	3.91	3.93	3.96	3.98	4.01	4.03	4.05	4.07	4.08	4.10
46	3.70	3.75	3.79	3.83	3.87	3.90	3.93	3.95	3.98	4.00	4.02	4.04	4.06	4.08	4.09
47	3.69	3.74	3.78	3.82	3.86	3.89	3.92	3.94	3.97	3.99	4.01	4.03	4.05	4.07	4.08
48	3.68	3.73	3.78	3.82	3.86	3.88	3.91	3.94	3.96	3.98	4.00	4.02	4.04	4.06	4.07
49	3.68	3.73	3.77	3.81	3.84	3.88	3.90	3.93	3.95	3.98	4.00	4.02	4.03	4.05	4.07
50	3.67	3.72	3.76	3.80	3.84	3.87	3.90	3.92	3.95	3.97	3.99	4.01	4.03	4.04	4.06
60	3.62	3.67	3.71	3.75	3.78	3.81	3.84	3.87	3.89	3.91	3.93	3.95	3.97	3.98	4.00
70	3.59	3.64	3.68	3.72	3.75	3.78	3.80	3.83	3.85	3.87	3.89	3.91	3.93	3.94	3.96
80	3.57	3.61	3.65	3.69	3.72	3.76	3.78	3.80	3.82	3.84	3.86	3.88	3.89	3.91	3.93
90	3.55	3.59	3.63	3.67	3.70	3.73	3.75	3.78	3.80	3.82	3.84	3.85	3.87	3.89	3.90
100	3.53	3.58	3.62	3.65	3.68	3.71	3.74	3.76	3.78	3.80	3.82	3.84	3.85	3.87	3.88

$$\text{Factor} = t_{(n-1, 1-\alpha/k)} \sqrt{1 + 1/n}$$

Attachment B-6, Table 1
CID-RDF Area 4 Landfill
Silurian Dolomite
Intrawell Background Values (ug/L)
April 2023
Illinois EPA Log No. B-27R2-M-1

List G2	Concentration Limit	G02D	R06D	R08D	G10D	G16D	G18D	G20D	R04D	G05D
Toluene	1000	6	6	6	6	6	6	6	1	6
Benzene	5	5	5	5	5	5	5	5	1	5
Ethylbenzene	700	7.2	7.2	7.2	7.2	7.2	7.2	7.2	1	7.2
Xylene (total)	10000	5	5	5	5	5	5	5	2	5
BTEX (total)	11705	23.2	23.2	23.2	23.2	23.2	23.2	23.2	3	23.2
1,4-dioxane	7.7	5	5	5	5	5	5	5	5	5
List G3										
Naphthalene	140	10	10	10	10	10	10	10	5	10
Acetone	6300	100	100	100	100	100	100	100	10	100
bis(2-ethylhexyl)phthalate	6	6	6	6	6	6	6	6	5	6
chlorobenzene	100	6	6	6	6	6	6	6	1	6
methylene chloride	5	5	5	5	5	5	5	5	1	5
List G5										
Barium, dissolved (ug/L)	--	84.8	41.4	54.4	334	35.4	26.5	216	316	1330
Chloride, dissolved (mg/L)	--	72.6	47.6	33.2	193	35.8	34.8	73.7	473.0	162.0
Chromium, dissolved (ug/L)	--	PQL	PQL	PQL	PQL	PQL	PQL	PQL	4	19
Cobalt, dissolved (ug/L)	--	PQL	PQL	PQL	PQL	PQL	PQL	PQL	4	7
Lead, dissolved (ug/L)	--	PQL	PQL	PQL	PQL	PQL	PQL	PQL	10	PQL
Nickel, dissolved (ug/L)	--	PQL	PQL	PQL	PQL	PQL	PQL	PQL	10	151
Zinc, dissolved (ug/L)	--	PQL	PQL	PQL	PQL	PQL	PQL	PQL	10	PQL

Shaded value shall be evaluated in accordance with Condition II.1.4 of the Permit.

Attachment B-6, Table 2
CID-RDF Area 3 Landfill
Silurian Dolomite
Intrawell Background Values (ug/L)
April 2023
Illinois EPA Log No. B-27R2-M-1

List G2	Concentration	A12D	R15D	G186	G21D	R107	AW01	R16D	R26D	R27D
	Limit									
Toluene	1000	6	6	6	6	6	6	6	6	6
Benzene	5	5	5	5	5	5	5	5	5	5
Ethylbenzene	700	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
Xylene (total)	10000	5	5	5	5	5	5	5	5	5
BTEX (total)	11705	23.2	7	23.2	23.2	23.2	23.2	23.2	23.2	23.2
1,4-dioxane	7.7	5	5	5	5	5	3.6	5	5	5
List G3										
Naphthalene	140	10	10	10	10	10	10	10	10	10
Acetone	6300	100	100	100	100	100	100	100	100	100
bis(2-ethylhexyl)phthalate	6	6	6	6	6	6	6	6	6	6
chlorobenzene	100	6	6	6	6	6	6	6	6	6
methylene chloride	5	5	5	5	5	5	5	5	5	5
1,4-dichlorobenzene	75	2	2	2	2	2	2	2	2	2
vinyl chloride	2	2	2	2	2	2	2	2	2	2
List G5										
Chloride, dissolved (mg/L)	--	30.7	53.9	44.9	47.4	48.0	50.2	109.5	42.5	43.7

Shaded value shall be evaluated in accordance with Condition III.J.9 of the Permit.

Attachment B-6, Table 3
 CID-RDF Area 4 Landfill
 Dolton Sand
 Intrawell Background Values (ug/L)
 April 2023
 Illinois EPA Log No. B-27R2-M-1

List G2	Concentration Limit	G01S	G04S	G05S	G07S	G09S	G13S	R15S	R17S	G19S	G21S
Toluene	2500	6	6	6	6	6	6	6	6	6	6
Benzene	25	5	5	5	5	5	5	5	5	5	5
Ethylbenzene	1000	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
Xylene (total)	10000	5	5	5	5	5	5	5	5	5	5
BTEX (total)	13525	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2
1,4-dioxane	7.7	5	5	5	PQL	5	498	5	10.3	4.9	3588
List G6											
Arsenic, dissolved(ug/L)	--	PQL	PQL	PQL	NA	NA	PQL	PQL	NA	NA	84
Chromium, dissolved (ug/L)	--	PQL	70.90	PQL	NA	NA	PQL	PQL	NA	NA	11.7
Cobalt, dissolved (ug/L)	--	PQL	PQL	PQL	NA	NA	PQL	PQL	NA	NA	15.44
Vanadium,dissolved(ug/L)	--	PQL	PQL	PQL	NA	NA	PQL	PQL	NA	NA	16.4

Shaded value shall be evaluated in accordance with Condition II.I.4 of the Permit.

Attachment B-6, Table 4
CID-RDF Area 3 Landfill
Dolton Sand
Intrawell Background Values (ug/L)
April 2023
Illinois EPA Log No. B-27R2-M-1

List G2	Concentration Limit	G12S	R13S	G14S	G15S	G16S
Toluene	2500	6	6	6	6	6
Benzene	25	5	5	5	5	5
Ethylbenzene	1000	7.2	7.2	7.2	7.2	7.2
Xylene (total)	10000	5	5	5	5	5
BTEX (total)	13525	23.2	23.2	23.2	23.2	23.2
1,4-dioxane	7.7	5	5	5	5	5

ATTACHMENT C

POST-CLOSURE AND CORRECTIVE ACTION COST ESTIMATES

STATE ID # 0310390001

ILD010284248

POST-CLOSURE PERMIT LOG NO. B-27R2-M-8; M-10

POST-CLOSURE AND CORRECTIVE ACTION**COST ESTIMATE SUMMARY****CID RDF**

The post-closure care cost estimates are based on 2021 dollars and the corrective action cost estimates are based on 2024 dollars and include the cost of: (1) activities carried out each year (i.e., annual costs); and (2) one-time or non-annual costs. Post-closure care for Area 3 began on May 30, 2008. Post-closure care for Area 4 began on February 18, 2010.

COST ESTIMATES

ACTIVITY	Area 1 & Area 2 landfills (SWMUs)	Area 3 landfill (HWMU)	Area 4 landfill (HWMU)	Total
Corrective Action	\$11,317,166			\$11,317,166
Post-Closure Care		\$12,585,185	\$2,901,051	\$15,486,236

Notes:

Post-closure care shall continue for a minimum of 30 years from the start dates listed above for Area 3 and Area 4.

ATTACHMENT D
POST-CLOSURE INSPECTION SCHEDULE
&
POST-CLOSURE MAINTENANCE
STATE ID # 0310390001
ILD010284248
POST-CLOSURE PERMIT LOG NO. B-27R2-M-8; M-10

ATTACHMENT D**Area 3 and Area 4 Post-Closure Inspections****Inspection Schedule**

Post-closure inspections will be conducted quarterly during the first two years following closure certification, and semi-annually thereafter. Findings made during each inspection will be recorded on the post-closure inspection log. Copies of all inspection logs will be kept at CID RDF or a local Waste Management, Inc., office or storage facility. Documentation of all repairs performed, or replacements required to properly maintain the site will be kept with the inspection logs. General post-closure inspection procedures will include the following:

1. Visually inspect the perimeter fence and all gates. Check for fence integrity and note any areas of damage. Note the working condition of each gate and check to ensure that all locks and other security systems are in place and functioning.
2. Visually inspect each benchmark. Report any missing benchmarks and note any damage to the benchmarks.
3. Visually inspect the landfill cover, drainage system, and surrounding areas. Note any evidence of cover erosion, settling, or vegetative stress. Also note any unusual conditions such as odors, ponded water, or bubbling. Report any areas requiring further inspection or repairs so arrangements can be made to efficiently make all necessary repairs.
4. Visually inspect each leachate collection riser and note any damage. Check and record the liquid level in each riser. If the liquid level is found to be approaching or above the maximum acceptable level, make arrangements for leachate removal.
5. Check the secondary leachate detection system in Area 4 for the presence of liquids. Make arrangements for leachate removal if liquid is detected. Record the amount withdrawn, if applicable.
6. Visually inspect each groundwater well protective casing for damage. Check the protective casing and lock to ensure they are functioning and have not been tampered with. Note area around wells for erosion, settling or negative stress.
7. Visually inspect any required safety and emergency equipment. Report missing and/or damaged equipment.

8. Visually inspect the run-on and run-off control measures. Note any erosion, missing riprap, or other disrepair.

Following each inspection, a copy of the inspection log will be sent to the appropriate WMI personnel for review. Arrangements will also be made to repair or replace any items in order to maintain the site at a condition equal to that in the application.

Area 3 and Area 4 Post-Closure Maintenance

Post-Closure Maintenance

Maintenance activities will respond to the needs determined from the inspections. Items that may require repair include:

- Inoperative security control devices;
- slopes damaged by erosion;
- areas of differential settlement, subsidence, and displacement;
- run-on and run-off control structures; and
- leachate and gas collection and removal systems.

Groundwater monitoring wells will be repaired or replaced as needed and will be decommissioned upon Illinois EPA approval.

The final cover system will be mowed at least annually and fertilized as needed (except for areas where shrubbery or other structures are present).

Corrective action for the cover materials will be taken if the following problems occur:

- ponding;
- cracks greater than one inch wide;
- gas problems;
- odor problems;
- larger areas of dead or stressed vegetation (areas greater than 50 square feet);
- vegetation with taproots growing in areas not designed to accommodate such;
- vector problems; or
- leachate popouts or seeps.

Corrective action measures for these types of problems could include regrading, addition of soils to repair cracks or to eliminate ponding, or re-seeding to re-establish vegetation.

ATTACHMENT E

APPROVED PERMIT APPLICATION IDENTIFICATION

STATE ID # 0310390001

ILD010284248

POST-CLOSURE PERMIT LOG NO. B-27R2-M-8; M-10

ATTACHMENT E

IDENTIFICATION OF APPROVED PERMIT APPLICATION

1. RCRA Post-Closure Renewal Application dated May 3, 2019 (completely replaced January 17, 2018 application)
2. Additional Information dated July 9, 2019
3. Additional Information dated August 15, 2019
4. Additional Information dated February 3, 2020
5. Additional Information dated June 30, 2020
6. Additional Information dated August 6, 2020
7. B-27R2-M-1; Class 1* modification dated July 14, 2021

Did not approve the following:

- a. Revised intrawell background values for wells G04S, G05S, G13S, R15S, G21S, R04D, G05D, and G20D.
 - b. Revised intrawell background values for benzene and dissolved chloride in Well R15D.
 - c. Revised intrawell background values for p-dioxane, dissolved chloride, and dissolved barium at Well G02D and p-dioxane at Well G09S.
8. B-27R2-M-2; Class 1* modification dated October 5, 2022; additional information dated December 9, 2022
 9. B-27R2-M-3; Class 1* modification dated February 13, 2023
 10. B-27R2-M-4; Class 1* modification dated May 18, 2023 (partial approval)
 11. B-27R2-M-5; Class 1* modification dated June 15, 2023
 12. B-27R2-M-7; Class 1* modification dated July 8, 2024
 13. B-27R2-M-8; Class 1* modification dated October 27, 2023 (partial approval)
 14. B-27R2-M-10; Class 1* modification dated October 28, 2024; additional information dated August 7, 2025 (partial approval)

ATTACHMENT F

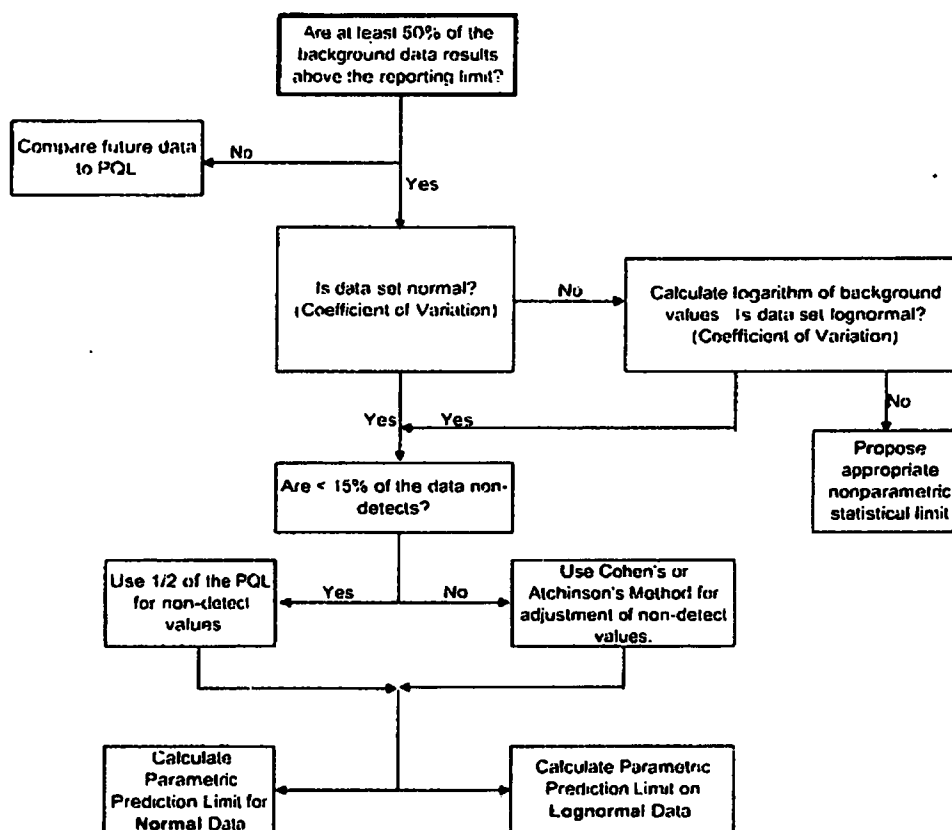
STATISTICAL PROCEDURES FLOW CHART

STATE ID # 0310390001

ILD010284248

POST-CLOSURE PERMIT LOG NO. B-27R2-M-8; M-10

**CID Recycling and Disposal Facility
Background Statistical Calculations
Flow Chart**



ATTACHMENT G

CORRECTIVE MEASURES PROGRAM REQUIREMENTS

STATE ID # 0310390001

ILD010284248

POST-CLOSURE PERMIT LOG NO. B-27R2-M-8; M-10

Attachment G**Corrective Measures Program Requirements****1.0 INTRODUCTION/PURPOSE**

RCRA Corrective Action projects typically consist of two phases: (1) A RCRA Facility Investigation (RFI) where an investigation is conducted at the SWMU's of concern at a facility; and (2) implementation of corrective measures needed to properly address any contaminant encountered during the RFI. This document has been developed to outline the procedures to be carried out to implement a corrective measure program.

2.0 BRIEF OVERVIEW OF A RCRA CORRECTIVE MEASURES PROGRAM

Typically, at the end of an RFI, the concentration of contaminants present in the soil/sediments/groundwater/surface waters at a SWMU or other area of concern is compared to remediation objectives developed in accordance with 35 Ill. Adm. Code Part 742. If the contaminant levels are above these objectives, then some type of corrective measure must be completed to achieve these objectives. In addition, certain corrective measures may need to be carried out to support the established remediation objectives (i.e., the establishment of engineered barriers and/or institutional controls). However, at a unit where waste or high levels of contamination remains, a decision may be made to close the unit as a landfill and then provide post-closure rather than removing the material and/or achieving remediation objectives developed in accordance with 35 Ill. Adm. Code Part 742.

To allow for a logical and orderly progression in developing and implementing necessary corrective measures, the CMP being carried out in accordance with this RCRA Permit should be carried out in five phases which build on each other. It is not necessary for a corrective measures program at a given SWMU or other areas of concern to follow these five phases step-by-step; rather, phases can be combined and/or skipped, depending on the actual remedial measure selected. The overall CMP implemented must set forth a logical path for its implementation and allow for Illinois EPA oversight and approval throughout the entire process.

A brief discussion of the five phases of a CMP is as follows:

1. Phase I is the conceptual design of the selected corrective measure(s).
2. Phase II is the development of final design plans for the corrective measure, including installation and operation/maintenance plans.

3. Phase III is the actual construction/installation of the selected corrective measure.
4. Phase IV is the operation, maintenance, and monitoring of the selected corrective measure to ensure it is properly protecting human health and the environment.
5. Phase V is the final demonstration/verification that the implemented corrective measure achieved the approved remedial objectives.

Sections 3.0 through 7.0 which follow provide a more detailed discussion of each of these five phases. Section 8.0 has been developed to describe the CMP which may be used in lieu of the afore-mentioned five phase procedure when soil removal is the selected remedy. It must be noted that work plans, reports, etc. must be developed to document how the Permittee carries out the required corrective measures program at each SWMU or other areas of concern. All such documents must be reviewed and approved by Illinois EPA prior to their implementation.

3.0 PHASE I OF THE CMP

Phase I of the CMP includes selection of the corrective measure to be taken and developing a basis for completing the final design of the measure. This effort should be documented in a Conceptual Design Report which describes the proposed corrective measure for each SWMU and other areas of concern and provides a conceptual design for these measures. The main criteria for Illinois EPA review is whether the proposed corrective measures are able to achieve the final cleanup objectives previously established by the Permittee and the Illinois EPA and/or provide the necessary institutional controls to prevent the migration of contaminants from the SWMU of concern. Based upon a review of the Conceptual Design Report, the Illinois EPA may approve the corrective measures, require revisions to the proposed corrective measures, or require that a totally new corrective measures proposal be submitted to the Illinois EPA.

The Conceptual Design Report should contain the following sections:

1. Introduction/Purpose. This section should contain: (1) general background information regarding the project; (2) the purpose and goals of the submittal; and (3) the scope of the project.
2. Existing Site Conditions. This section should contain a summary of the investigative activities conducted for each of the units of concern. Investigation analytical results should be provided in tabular form, and maps depicting both the horizontal and vertical extent of contamination at the site should be provided.

3. **Evaluation for Potential Future Migration.** Based on the existing site conditions, a conceptual model of the site should be developed and presented in this section. The potential for additional future migration of contamination for each of the units of concern must then be evaluated, especially those units which have been determined to have released hazardous waste/hazardous constituents to the groundwater. It may be helpful to develop conceptual models for contaminant migration. Of special concern in this evaluation are (1) the physical properties of the contaminants (solubility, volatility, mobility, etc.); and (2) existing site conditions (types of soil present, location of contamination, hydrology, geology, etc.).
4. **Corrective Measures Objectives.** This section should discuss the general objectives of the proposed corrective measure to be constructed/installed, and the ability of the proposed corrective measure to achieve the established remediation objectives (unless the selected corrective measure is closure as a landfill which will require proper establishment of a final cover and proper post-closure care of the closed unit.
5. **Identification of Options Available.** This section should contain a brief discussion of the various options available to achieve the corrective measures objectives for each unit. This discussion should identify: (1) a general overview of each option available, including how the option will achieve the stated objective; (2) the advantages associated with each option; (3) the disadvantages associated with each option and (4) an estimate of the cost associated with choosing each remedial option.
6. **Description of Selected Corrective Measure.** This section should contain a qualitative discussion of the corrective measure chosen, along with the rationale which was used to select this measure from all those identified initially. This discussion should include documentation that the selected corrective measure will be effective.
7. **Identification of Design Criteria.** This section should identify what information must be available to design the selected corrective measure.
8. **Review of Available Information.** This section should contain an evaluation of the existing information to ensure that it is sufficient to complete the design of the selected corrective measure. If insufficient information is available, then the report should contain procedures for collecting the required additional information.

9. **Procedures for Completing the Design.** This section should contain a description of the procedures which will be followed to complete the design of the corrective measure. This should include as appropriate:
- a. Identification of the references and established guidance which will be used in designing the selected corrective measure. Justification for the selection of this procedure should also be provided.
 - b. A description of the procedures which will be used to complete the design of the corrective measure.
 - c. Identification of assumptions to be used in the design, and the impact these assumptions have on the overall corrective measure;
 - d. Significant data to be used in the design effort;
 - e. Identification and discussion of the major equations to be used in the design effort (including a reference to the source of the equations);
 - f. Sample calculations to be used in the design effort;
 - g. Conceptual process/schematic diagrams;
 - h. A site plan showing a preliminary layout of the selected corrective measure;
 - i. Tables giving preliminary mass balances;
 - j. Site safety and security provisions.

This information will form the technical basis for the detailed design of the remedial measure and the preparation of construction plans/specifications.

10. **Identification of Required Permits.** This section should identify and describe any necessary permits associated with the selected corrective measure, as well as the procedures which will be used to obtain these permits.
11. **Long-lead Procurement Considerations.** This section should identify any elements/components of the selected corrective measure which will require a large amount of time to obtain/install. The following issues should also be discussed: (1) the reason why it will take a large amount of time to obtain/install the item; (2) the length of time necessary for procurement, and (3) recognized sources of such items.

12. **Project Management.** This section should contain information regarding the procedures and personnel which will be involved in completing the design of the selected corrective measure. A schedule for completing the design should also be provided.

4.0 PHASE II OF THE CMP

Once the Illinois EPA approves the Conceptual Design Report, the facility should complete the design of the approved corrective action (Phase II of the CMP). Upon final completion of the design, a Final Design Report, consisting of final plans, specifications, construction work plan, etc., must be submitted to the Illinois EPA for review and approval.

Several documents must be submitted to the Illinois EPA as part of Phase II of the CMP. The following text describes the expected contents of the various documents which should be developed and submitted to the Illinois EPA as part of Phase II of the CMP.

1. **Final Design Report and Construction Work Plan.** The Final Design Report and Construction Work Plan must contain the detailed plans, specifications and drawings needed to construct the corrective measure. In addition, this document must contain (1) calculations, data etc., in support of the final design; and (2) a detailed description of the overall management strategy, construction quality assurance procedures and schedule for constructing the corrective measure. It must be noted that the approved Conceptual Design Report forms the basis for this final report. The information which should be provided in this document includes:
 - a. **Introduction/Purpose.** This portion of the document should: (1) provide background information regarding the project, (2) describe the purpose and goals of the project, and (3) describe the scope of the project.
 - b. **Detailed Plans of the Design System,** including the following:
 1. Plan views;
 2. Section and supplementary views which, together with the specifications and general layouts, facilitate construction of the designed system;
 3. Dimensions and relative elevations of structures;
 4. Location and outline form of the equipment;

5. Ground elevations; and
 6. Descriptive notations, as necessary, for clarity.
- c. **Technical Specifications.** Complete technical specifications for the construction of the system, including, but are not limited to, the following:
1. All construction information, not shown in the drawings, which is necessary to inform the contractor in detail as to the required quality of materials, workmanship, and fabrication of the project;
 2. The type, size, strength, and operating characteristics of the equipment;
 3. The complete requirements for all mechanical and electrical equipment, including machinery, valves, piping and jointing of pipe;
 4. Electrical apparatus, wiring and meters;
 5. Construction materials;
 6. Chemicals, when used;
 7. Miscellaneous appurtenances;
 8. Instruction for testing materials and equipment as necessary; and
 9. Availability of soil boring information.
- d. **Project Management.** A description of the construction management approach, including the levels of authority and responsibility, lines of communication and qualifications of key personnel who will direct corrective measures construction/installation must be provided in the work plan.
- e. **Construction Quality Assurance/Quality Control.** A construction quality assurance/quality control plan describing the procedures which will be followed to ensure the corrective measure is constructed/installed in accordance with the approved plans and specifications.

- f. **Schedule.** The work plan must contain a schedule for completion of all major activities associated with construction/installation of the selected corrective measures. All major points of the construction/installation should be highlighted.
 - g. **Waste Management Practices.** This portion of the document should identify the wastes anticipated to be generated during the construction/installation of the corrective measures, and provide a description of the procedures for appropriate characterization and management of these wastes.
 - h. **Required Permits.** Copies of permit applications submitted to other Bureaus of the Illinois EPA for the selected corrective measure must be provided in the report. If it is determined that no permit is required for construction/installation and implementation of the corrective measures, rationale and justification must be provided to support this contention.
 - i. **Cleanup Verification.** The report must contain the procedures which will be followed that the approved remediation objectives have been achieved when operation of the system is completed.
2. **Operation and Maintenance Plan.** An Operation and Maintenance Plan must be developed and submitted as part of Phase II of the CMP. This plan should outline the procedures for performing operations, long term maintenance, and monitoring of the corrective measure.
- a. **Introduction and Purpose.** This portion of the document should provide a brief description of the facility operations, scope of the corrective measures project, and summary of the project objectives.
 - b. **System Description.** This portion of the document should provide a description of the corrective measure and significant equipment, including manufacturer's specifications. This portion of the permit should also include a narrative of how the selected system equipment is capable of complying with the final engineered design of the corrective measure.
 - c. **Operation and Maintenance Procedures.** This portion of the document should provide a description of the normal operation and maintenance procedures for the corrective measures system, including:
 - 1. Description of tasks for operation;

2. Description of tasks for maintenance;
 3. Description of prescribed treatment or operation conditions; and
 4. Schedule showing the frequency of each operation and maintenance task.
- d. **Inspection Schedule.** This portion of the document should provide a description of the procedures for inspection of the corrective measures system, including problems to look for during the inspection procedure, specific inspection items, and frequency of the inspections.
- e. **Waste Management Practices.** This portion of the document should provide a description of the wastes generated by the corrective measure, and the appropriate procedures for proper characterization/management of these wastes.
- f. **Contingency Procedures.** This portion of the document should provide a description of the procedures which will address the following items:
1. System breakdowns and operational problems including a list of redundant and emergency backup equipment and procedures;
 2. Alternative procedures (i.e., stabilization) which are to be implemented in the event that the corrective measure fails. The alternative procedures must be able to prevent release or threatened releases of hazardous wastes/hazardous constituents which may endanger human health and the environment, or exceed cleanup standards.
 3. Notification of facility and regulatory personnel in the event of a breakdown in the corrective measures, including written notification identifying what occurred, what response action is being taken and any potential impacts on human health and the environment.

5.0 PHASE III OF THE CMP

Once the final design report is approved by the Illinois EPA, construction/installation of the approved corrective measure must commence. During this period, quarterly reports should be submitted which contain the following information:

1. **Summary of activities completed during the reporting period;**
2. **An estimate of the percentage of the work completed;**
3. **Summaries of all actual or proposed changes to the approved plans and specifications or its implementation;**
4. **Summaries of all actual or potential problems encountered during the reporting period;**
5. **Proposal for correcting any problems; and**
6. **Projected work for the next reporting period.**

Upon completion of construction/installation of the approved corrective measure, a Construction Completion Report must be submitted to the Illinois EPA documenting that these efforts were carried out in accordance with the Illinois EPA approved plans and specifications. This report should contain a thorough description of the efforts that went into constructing/installing the corrective measure and demonstrate that the procedures in the Illinois EPA-approved Final Design Report were followed during this effort. Such a report should be formatted in a logical and orderly manner and contain the following information:

1. **An introduction discussing the background of the project and the purpose and scope of the corrective measure described in the report.**
2. **Identification of the plans, technical specifications and drawings which were used in constructing/installing the corrective measure. These specifications and drawings should have been approved by the Illinois EPA during Phase II.**
3. **Identification of any variations from the Illinois EPA approved plans, technical specifications and drawings used in construction/installing the corrective measure. Justification regarding the need to vary from the approved plans and specifications must also be provided.**
4. **A description of the procedures used to construct/install the corrective measure, including the procedures used for quality assurance and quality control.**
5. **As-built drawings, including identification of any variations from the approved plans, technical specifications, and drawings.**
6. **A summary of all test results from the construction/installation effort, including quality assurance/quality control testing.**

7. Actual test results, including quality assurance/quality control test results. These results should be located in an attachment/appendix and be well organized.
8. Identification of any test results which did not meet the specified value and a description of the action taken in response to this failure, including re-testing efforts.
9. Photographs documenting the various phases of construction.
10. A detailed discussion of how the construction/installation effort met the requirements of the approved Final Design Report.
11. A certification meeting the requirements of 35 Ill. Adm. Code 702.126 by an independent qualified, licensed professional engineer and by an authorized representative of the owner/operator.

6.0 PHASE IV OF THE CMP

Once the corrective measure has been constructed/installed, it must be operated, maintained and monitored in accordance with the approved plans and specifications (this is Phase IV of the CMP). During this period, quarterly reports must be submitted to the Illinois EPA documenting the results of these efforts. These reports include the following:

1. Introduction. -- A brief description of the facility operations, scope of the corrective measures project, and summary of the project objectives.
2. System Description. -- A description of the corrective measures constructed/installed at the site and identify significant equipment. Describe the corrective measure and identify significant equipment.
3. Monitoring Results. -- A description of the monitoring and inspection procedures to be performed on the corrective measures. A summary of the monitoring results for the corrective measures, including copies of any laboratory analyses which document system effectiveness, provide a description of the monitoring procedures and inspections performed, and include a summary of the monitoring results for the corrective measure. Copies of all laboratory analytical results which document system monitoring must be provided.
4. Effectiveness Determination. -- Calculations and other relevant documentation which demonstrates the effectiveness of the selected corrective measure in remediating/stabilizing contamination to the extent anticipated by the corrective

measures final design. Copies of relevant analytical data should be provided to substantiate this determination.

5. System Effectiveness Recommendation. -- Based upon the results of the effectiveness determination required under Item 4 above, recommendations on continued operation of the corrective measure must be provided. If the corrective measure is not performing in accordance with the final design, a recommendation on revisions or expansion of the system should be provided.

7.0 PHASE V OF THE CMP

Once all corrective measures have been completed, a report must be developed documenting all the efforts which were carried out as part of implementing the corrective measure and demonstrating, as appropriate, that the approved remediation objectives have been achieved. This report should contain a compilation of all previous reports and also contain sufficient information to demonstrate that the approved remediation objectives have been achieved. It must be noted that such a report will not be developed for a unit closed as a landfill until the post-closure care period has been completed.

8.0 PROCEDURES WHICH SHOULD BE FOLLOWED WHEN SOIL REMOVAL IS THE SELECTED CORRECTIVE MEASURE

Sections 2.0 through 6.0 above describe the procedures which should be followed when it is necessary to design some type of physical corrective measure (e.g., a final cover system, some type of treatment system, etc.). However, such detail is not necessary if excavation/removal is selected as the remedial action for the contaminated soil encountered at the site. In general, a work plan should be developed for this effort (for Illinois EPA review and approval) which fully describes each step to be used in removing the contaminated soil from the property. This includes a description of (1) the equipment utilized in the removal effort; (2) the pattern followed in removing the soil; (3) the depth to which the soil will be removed; (4) management of the soil on-site after it is removed from the ground; (5) loading areas; (6) the ultimate destination of the soil; and (7) any other steps critical to the removal effort.

One way to conduct a soil removal effort is to collect and analyze a sufficient number of soil samples to clearly determine the horizontal and vertical extent of soil contamination prior to conducting the soil removal effort. The boundaries of soil which must be removed are defined by the Illinois EPA established cleanup objectives for the project. Soil excavation must extend to sample locations where soil test results indicate that the remediation objectives are met. Closure verification sampling is not necessary in such

cases, if a registered professional engineer oversees the soil removal effort and certifies that the remediation limits extend to these boundaries.

Another way to conduct a soil removal effort is to collect and analyze a limited number of soil samples prior to the soil removal effort and to rely mainly on field observation to determine the extent of the soil removal. In such cases closure verification sampling is necessary. Soil samples must be collected for analysis from the bottom and sidewalls of the final excavation. The following sampling/analysis effort is necessary to demonstrate that the remaining soil meets the established cleanup objectives:

1. A grid system should be established over the excavation.
2. Samples should be collected from the floor of the excavation at each grid intersection, including intersections along the perimeter of the excavation.
3. Samples should be collected at 6 inches - 12 inches bgs along the excavation sidewalls at each grid intersection around the excavation perimeter. Samples must also be collected at the midpoint of the excavation wall at each grid intersection along the excavation perimeter.
4. Collection/analysis of all required samples must be in accordance with the procedures set forth in the approved plan.
5. Soil samples which must be analyzed for volatile organic compounds (VOCs) must be collected in accordance with the procedures set forth in Method 5035 of SW-846. In addition, such samples must be collected 6 inches – 12 inches beneath the floor/sidewalls of the excavation to minimize the possibility of volatilization of the contaminants prior to the collection of the samples.
6. No random sampling may be conducted to verify achievement of cleanup objectives have been met.
7. Additional soil must be removed, as necessary, until it can be demonstrated that the remaining soil in and around the area of concern meets the established cleanup objectives. Additional samples must be collected and analyzed in accordance with the procedures described above from areas where additional soil has been removed.

ATTACHMENT H

CERTIFICATION OF COMPLETION OF POST-CLOSURE CARE

STATE ID # 0310390001

ILD010284248

POST-CLOSURE PERMIT LOG NO. B-27R2-M-8; M-10

CERTIFICATION OF COMPLETION OF POST-CLOSURE CARE

CID Recycling and Disposal Facility (0310390001) – Cook County

USEPA ID: ILD010284248

RCRA Permit Log No. B-27R2

To meet the requirements of 35 Ill. Adm. Code 724.220, this statement is to be completed by both a responsible officer of the owner/operator (as defined in 35 Ill. Adm. Code 702.126) and by a qualified Illinois licensed professional engineer upon completion of post-closure care of the UNIT NAME. Submit one copy of the certification with original signatures and two additional copies.

The hazardous waste management unit closed as a landfill, known as the UNIT NAME, has been closed in accordance with the specifications in the approved closure plan. Post-Closure care required for the UNIT NAME has been provided and completed in accordance with the RCRA Permit. A report documenting that required post-closure care have been carried out and completed in accordance with the approved post-closure care plan is attached.

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 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.

A 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 ILCS5/44(h))

Facility Name

Printed Name of Responsible Officer

Signature of Owner/Operator **Date**
Responsible Officer

Printed Title of Responsible Officer

Signature of Licensed P.E. **Date**

Printed Name of Licensed P.E. and Illinois License Number

Mailing Address of P.E.:

Licensed P.E.'s Seal:

ATTACHMENT I

APPROVED REDUCED LISTS FOR APPENDIX I PARAMETERS

LEACHATE SAMPLING POINTS

L311, L312, L313, L331

STATE ID # 0310390001

ILD010284248

POST-CLOSURE PERMIT LOG NO. B-27R2-M-8; M-10

Reduced Appendix I Sampling List (LEACHATE) for Calendar Year 2023, 2024, and 2025

L311		L311 Continued		L331	
Storet	Parameter	Storet	Parameter	Storet	Parameter
00720	Cyanide	78113	Ethylbenzene	00720	Cyanide
00745	Sulfide	78133	4-Methyl-2-pentanone	00745	Sulfide
01002	Arsenic	81302	Dibenzofuran	01002	Arsenic
01007	Barium	81551	Xylenes (total)	01007	Barium
01027	Cadmium	81552	Acetone	01027	Cadmium
01034	Chromium	81582	1,4-Dioxane	01034	Chromium
01037	Cobalt	81595	2-Butanone (MEK)	01037	Cobalt
01042	Copper			01042	Copper
01067	Nickel		L312	01051	Lead
01087	Vanadium	00720	Cyanide	01067	Nickel
01092	Zinc	01007	Barium	01087	Vanadium
01097	Antimony	01034	Chromium	01092	Zinc
01102	Tin	01037	Cobalt	01147	Selenium
34010	Toluene	01042	Copper	34010	Toluene
34030	Benzene	01067	Nickel	34030	Benzene
34205	Acenaphthene	01087	Vanadium	34301	Chlorobenzene
34220	Anthracene	01092	Zinc	34408	Isophorone
34301	Chlorobenzene	39310	4,4'-DDD	34423	Methylene Chloride
34366	Endrin aldehyde	39782	gamma-BHC(Lindane)	34496	1,1-Dichloroethane
34381	Fluorene	81582	1,4-Dioxane	34586	2-Chlorophenol
34408	Isophorone		L313	34591	2-Nitrophenol
34423	Methylene Chloride	00720	Cyanide	34601	2,4-Dichlorophenol
34461	Phenanthrene	00745	Sulfide	34606	2,4-Dimethylphenol
34571	1,4-Dichlorobenzene	01002	Arsenic	34621	2,4,6-Trichlorophenol
34606	2,4-Dimethylphenol	01007	Barium	34646	4-Nitrophenol
34626	2,6-Dinitrotoluene	01027	Cadmium	34694	Phenol
34671	Aroclor 1016	01034	Chromium	34696	Naphthalene
34694	Phenol	01037	Cobalt	39310	4,4'-DDD
34696	Naphthalene	01042	Copper	39730	2,4-D
39300	4,4'-DDT	01051	Lead	39782	gamma-BHC(Lindane)
39310	4,4'-DDD	01067	Nickel	46323	Delta-BHC
39337	Alpha-BHC	01087	Vanadium	73501	2-Acetylaminofluorene
39480	Methoxychlor	01092	Zinc	77033	Isobutyl alcohol
39492	Aroclor 1232	01102	Tin	77041	Carbon disulfide
39496	Aroclor 1242	34010	Toluene	77045	Pyridine
39760	2,4,5-TP (Silvex)	34030	Benzene	77089	ANILINE
39782	gamma-BHC (Lindane)	34220	Anthracene	77146	4-Methylphenol (p-cresol)
46323	Delta-BHC	34301	Chlorobenzene	77147	Benzyl alcohol
77033	Isobutyl alcohol	34606	2,4-Dimethylphenol	77151	3-Methylphenol (m-cresol)
77041	Carbon disulfide	39782	Gamma-BHC(Lindane)	77152	2-Methylphenol (o-cresol)
77089	Aniline	46323	Delta-BHC	78133	4-Methyl-2-pentanone
77146	4-Methylphenol (p-cresol)	77089	ANILINE	81551	Xylenes (total)
77147	Benzyl alcohol	78113	Ethylbenzene	81552	Acetone
77151	3-Methylphenol (m-cresol)	81551	Xylenes (total)	81553	Acetophenone
77152	2-Methylphenol (o-cresol)	81582	1,4-Dioxane	81582	1,4-Dioxane
77416	2-Methylnaphthalene			81595	2-Butanone (MEK)

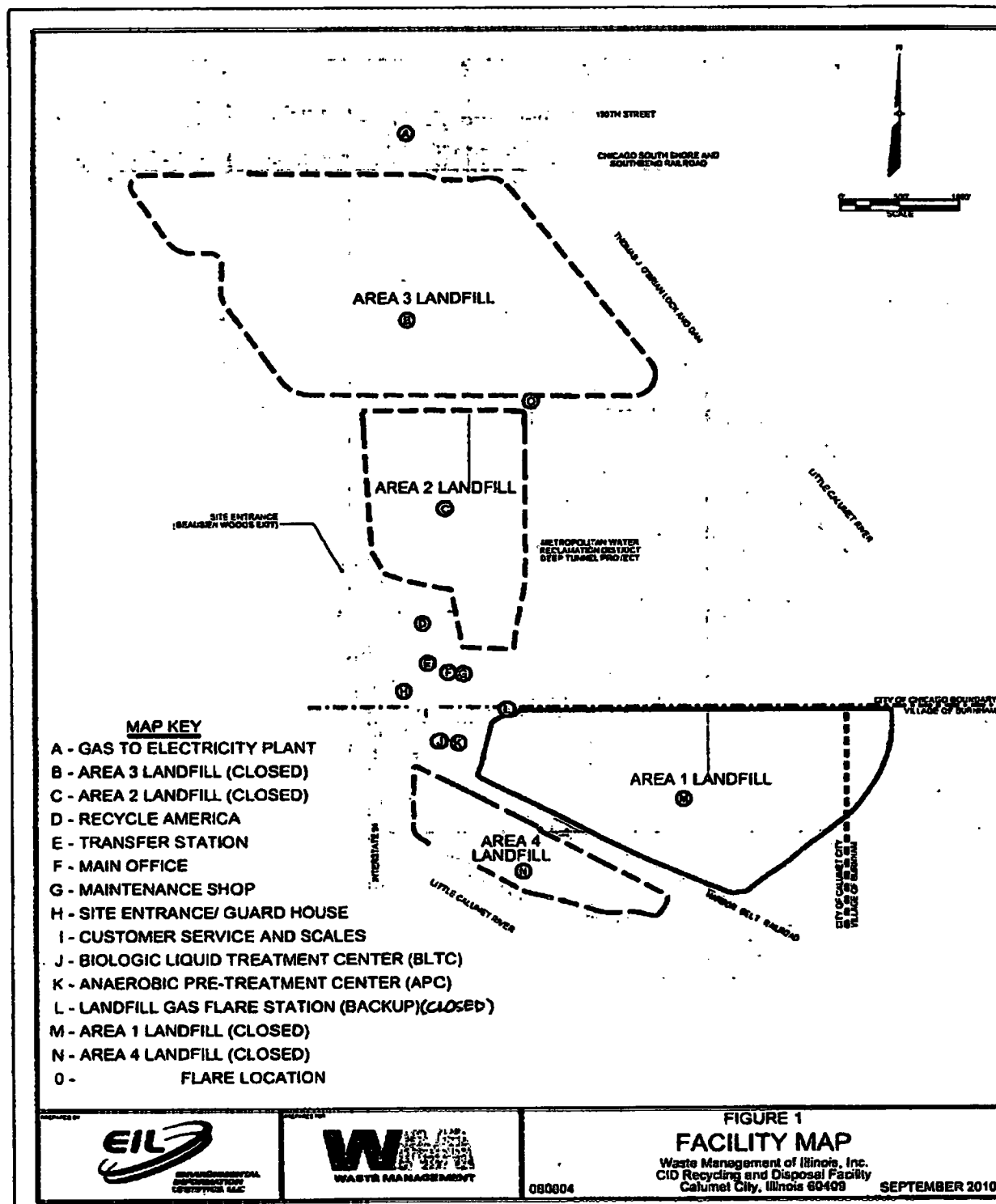
ATTACHMENT J

SITE LAYOUT MAP

STATE ID # 0310390001

ILD010284248

POST-CLOSURE PERMIT LOG NO. B-27R2-M-8; M-10



BOL Permit Section RCRA Tracking Sheet

BOLSiteCode 0310390001

Fed ID(s): ILD010284248

Respond by: 11/26/2025

Site: CID Recycling & Disposal Fac

Region: Des Plaines

City: Calumet City

County: Cook

 Facility Permit Universe: ☐ OperatingUniverse ☒ PostClosureUniverse ☒ CorrActionUniverse ☐ UIC

Facility Type:

Right-to-Know Status:

RTK Status Change Date:

Site Comments:

Data Regarding Log #: B-27R2-M-8

Review Status	PermitClass	AppType	Reviewers:			
			RCRA CAU	DAU	GU	
Inactive	Class 1* Mod	RCRA Part B	KDH			BEH

LogComments:

Submittals for Log

DocTitle_Description	Submittal Type	Review Type	Agency Response
Application providing updated post-closure cost estimates in accordance with Conditions IV.F.5 and VI.35.a	1st Submittal	Technical	
Submittal Received: 10/30/2023	Date Due: 01/28/2024	Pub Notice/Date Mailed:	

Submittal Comments:

Final Action Data

For Log No: B-27R2-M-8

Units Addressed	Final Action Status	Date FA Issued	Date NFA	Date Closure Cert Accepted	Acres Remediated
	Approved	10/27/2025			0
Closure Type:	Institutional Control	Clean Closed:	1 Institutional Control:	2 Institutional Control:	
	☐				

BOL Permit Section RCRA Tracking Sheet

BOLSiteCode 0310390001

Fed ID(s): ILD010284248

Respond by: 11/26/2025

Site: CID Recycling & Disposal Fac

Region: Des Plaines

City: Calumet City

County: Cook

 Facility Permit Universe: ☐ OperatingUniverse ☒ PostClosureUniverse ☒ CorrActionUniverse ☐ UIC

Facility Type:

Right-to-Know Status:

RTK Status Change Date:

Site Comments:

Data Regarding Log #: B-27R2-M-10

Review Status	PermitClass	AppType	Reviewers:			
			RCRA	CAU	DAU	GU
Inactive	Class 1* Mod	RCRA Part B	KDH			BEH

LogComments:

Submittals for Log

DocTitle_Description	Submittal Type	Review Type	Agency Response
Application providing updated post-closure care cost estimates in accordance with Condition VI.35.a.	1st Submittal	Technical	

Submittal Received: 10/29/2024

Date Due: 01/27/2025

Pub Notice/Date Mailed:

Submittal Comments:

Final Action Data

For Log No: B-27R2-M-10

Units Addressed	Final Action Status	Date FA Issued	Date NFA	Date Closure Cert Accepted	Acres Remediated
	Approved	10/27/2025			0

Closure Type:

Institutional Control

Clean Closed:

1 Institutional Control:

2 Institutional Control:



Illinois Environmental Protection Agency

R 000287

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JB Pritzker, Governor

James Jennings, Acting Director

HAZARDOUS WASTE MANAGEMENT RCRA POST-CLOSURE PERMIT

0310390001 -- Cook County
ILD 010284248
CID Recycling and Disposal Facility
Permit Log No. B-27R2-M-8; M-10
RCRA Permits - 24A

Issue Date: January 19, 2023
Effective Date: February 23, 2023
Expiration Date: February 23, 2033
Modification Date: OCT 27 2025

PERMITTEE

Waste Management of Illinois, Inc.
Environmental Legacy Management Group
720 E. Butterfield Road, Suite 400
Lombard, Illinois 60148-5671

A modified RCRA Post-Closure permit is hereby issued to Waste Management of Illinois, Inc. (CID RDF) as Owner, Operator, and Permittee pursuant to Section 39(d) of the Illinois Environmental Protection Act (Act), and Title 35 Illinois Administrative Code Subtitle G (35 Ill. Adm. Code).

PERMITTED HAZARDOUS WASTE ACTIVITY

This Permit requires CID RDF to conduct the following hazardous waste activities in accordance with the approved permit application and the conditions of this Permit.

Post-Closure Care of two closed landfills (Area 3 and Area 4) (D80)
Groundwater Monitoring: Detection Monitoring and Corrective Action Program
Corrective Action for two closed landfills (Area 1 and Area 2) (SWMUs)

This Permit consists of the conditions contained herein and those in the sections and attachments in this Permit. The Permittee must comply with all terms and conditions of this Permit and the applicable regulations contained in 35 Ill. Adm. Code Parts 702, 703, 705, and 720 through 729 in effect on the effective date of this Permit.

This Permit is issued based on the information submitted in the approved permit application identified in Attachment E of this Permit and any subsequent amendments. Any inaccuracies found in this information provided in the permit application may be grounds for the termination or modification of this Permit (see 35 Ill. Adm. Code 702.187 and 702.186) and potential enforcement action (415 ILCS 5/44(h)).

Joshua L. Rhoades, P.G.
Permit Section Manager
Bureau of Land

KDH TNH DMA AMB GLS

JLR: 0310390001-RCRA-B27R2M8-B27R2M10-Approval.docx

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RCRA POST-CLOSURE PERMIT

ISSUED TO

CID RDF

CALUMET CITY, ILLINOIS

STATE ID # 0310390001

ILD010284248

LOG NO. B-27R2-M-8; M-10

**RCRA POST-CLOSURE PERMIT
CID RDF
LOG NO. B-27R2-M-8; M-10
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GENERAL FACILITY DESCRIPTION

A. OWNER AND OPERATOR

The facility is owned and operated by Waste Management of Illinois, Inc. (WMIL), herein referred to as the "Permittee." (35 Ill. Adm. Code 702.121, 702.123, & 703.181)

Waste Management of Illinois, Inc.
720 East Butterfield Road, Suite 400
Lombard, Illinois 60148

B. LOCATION

1. Location of Facility

The CID Recycling and Disposal Facility (CID RDF) is owned and operated by WMIL and is located upon approximately 400 acres of land in the incorporated limits of Chicago, Calumet City, and Burnham in Cook County, Illinois. The CID RDF facility is located at:

CID Recycling and Disposal Facility
138th Street and Interstate 94
Calumet City, Illinois 60409

The facility contact is the District Manager. They can be reached at 224-523-1736.

2. Facility Map

A general facility map is provided in Attachment J. The location of the two closed landfills (known as Area 3 and Area 4) (D80) and the two closed solid waste management units (known as Area 1 and Area 2 landfills) are shown on this map.

C. DESCRIPTION OF HAZARDOUS WASTE MANAGEMENT ACTIVITIES

The CID RDF owned and operated by Waste Management of Illinois, Inc., was a commercial facility involved in the treatment and disposal of hazardous waste. Nearly all the hazardous waste handled at this facility was generated off-site by various industries. In particular, the largest generators of wastes accepted at the facility were the metal finishing industry, the iron and steel industry, and the petroleum refining industry. Only a small portion of the waste disposed at the facility was generated on-site.

0310390001-CID RDF
B-27R2-M-8; M-10
Page ii

A 25.9-acre closed hazardous waste landfill (known as Area 4) exists at the facility. The Illinois EPA approved closure of the Area 4 landfill on April 23, 2010 (Log No. B-27R-M-13).

A 173-acre closed landfill (known as Area 3) also exists at the facility. Approximately 83 acres of this landfill received hazardous waste during operation between 1980 and January 1983, when hazardous waste was co-disposed with municipal waste disposed at Area 3. Since January 1983, Area 3 had only received municipal refuse and other non-hazardous special wastes. However, as this landfill did receive hazardous waste, it was closed in accordance with the closure plan approved by the Illinois EPA on June 6, 1986 (including any adjudicated revisions as a result of the appeal) and receives post-closure care and monitoring in accordance with this RCRA Post-Closure permit. The Illinois EPA approved closure of the Area 3 landfill in a letter dated October 10, 2008 (Log No. C-187-CERT).

SECTION I: POST-CLOSURE**A. SUMMARY**

Hazardous waste management units where waste is left in-place must receive post-closure care for at least 30 years after they are closed. As Area 3 was used for the disposal of hazardous waste prior to January 26, 1983, and Area 4 was used for the disposal of hazardous waste, post-closure care must be provided for both units. Activities required during post-closure care include, but are not limited to, (1) maintenance of the final cover, (2) management of leachate, and (3) monitoring of the groundwater. Post-closure care for Area 3 began on May 30, 2008. Post-closure care for Area 4 began on February 18, 2010.

B. UNIT IDENTIFICATION

1. The Permittee must provide post-closure care for the following hazardous waste management unit(s), as described in the approved permit application, subject to the terms and conditions of this Permit:

<u>Unit Designation</u>	<u>Capacity (c.v.)</u>	<u>Surface Area Dimensions of Unit (acres)</u>	<u>Description of Waste Hazardous Waste No.</u>
Area 3 Landfill (D80)	27,000,000 (approximate)	173	Mostly municipal waste and some hazardous waste
Area 4 Landfill (D80)	2,500,000 (approximate)	25.9	Industrial hazardous waste that met Land Disposal Restrictions

2. The location and horizontal extent of the Area 3 landfill is identified in Attachment J, Site Layout Map, of this Permit. The lowest elevation of the sumps in the base collection system for Area 3 landfill is at or above elevation 555 feet mean seal level (MSL). The highest elevation of the final cover system is at or below elevation 746 feet MSL. The slopes of the final cover on the Area 3 landfill shall not be steeper than 3:1. The Area 3 landfill was designed and constructed to achieve a minimum static slope factor of safety greater than or equal to 1.5 and a seismic factor of safety greater than or equal to 1.3.
3. The liner system on the bottom and sides of the Area 3 landfill is constructed of a minimum of 20-feet of natural, low permeability clay.
4. The cover system on the top of the Area 3 landfill is constructed of the following layers, described from the top to bottom:

- a. Minimum six-inch vegetative layer with sustained vegetation
 - b. Minimum of four feet of compacted clayey soil
5. A survey plat indicating the location and dimensions of the Area 3 landfill and any other hazardous waste disposal units with respect to permanently surveyed benchmarks was prepared and certified by a professional land surveyor. The notes on the plat state the owner's and operator's obligation to restrict disturbance of the Area 3 landfill in accordance with the applicable Subpart G regulations. These notes state:
- a. The waste materials contained in the Area 3 landfill are considered RCRA hazardous wastes. They include mostly municipal waste and some hazardous waste.
 - b. Any material removed from the Area 3 landfill during future activities must be managed as a hazardous waste in accordance with 35 Ill. Adm. Code Subtitle G: Waste Disposal.
 - c. The use of this area is restricted.
6. The Plat of Survey (PIN No. 25-35-200-004-0000, 25-35-201-014-0000, 25-35-202-003-0000, 25-35-203-001-0000, 25-36-100-026-0000, 25-35-203-007-0000, 25-35-203-003-0000, 25-36-100-002-0000, 25-35-203-006-0000) for that Area 3 landfill, Project No. 89-11-2, was filed with the Cook County Recorder's Office in Chicago, IL on March 18, 2010. The record data is Document No. 1007703015.
- The Plat of Survey was attached to the deed to the property and serves as an instrument which is normally examined during title search that will in perpetuity notify any potential purchaser of the property that:
- a. The waste material in the Area 3 landfill is considered a RCRA hazardous waste;
 - b. Use of the area is restricted; and
 - c. A survey plat and record of the type, location and quantity of waste material in the Area 3 landfill was filed with the IEPA and the County Recorder.
7. The location and horizontal extent of the Area 4 landfill is identified in Attachment J, Site Layout Map, of this Permit. The lowest elevation of the sumps in the Area 4 landfill is at or above elevation 549 feet MSL. The highest elevation of the final cover system is at or below elevation 660 feet MSL. The slopes of the final cover on the Area 4 landfill shall not be steeper than 3:1.

The Area 4 landfill was designed and constructed to achieve a minimum static slope factor of safety greater than or equal to 1.5 and a seismic factor of safety greater than or equal to 1.3.

8. The liner system on the bottom and sides of the Area 4 landfill is constructed of the following layers, described in the table below.

Area 4 Landfill Liner systems (top to bottom)			
Phase I (West)	Phase I (East) and Phase II West	Phase II (East) and Phase III (North & South)	Phase IV (North & South), Phase V and Phase VI
2-feet compacted clay	150-mil geotextile fabric	1-foot granular drainage layer (primary leachate collection system on the base)	Geotextile (filter on the base)
10-feet natural clay	30-mil HDPE synthetic liner	Geotextile protective filter fabric	1-foot granular drainage layer (primary leachate collection system on the base)
	2-feet compacted clay	Drainage layer (side slopes)	Geotextile (on base and side slopes)
	10-feet natural clay	60-mil HDPE (side slope) & 100-mil HDPE (base)	HDPE geonet (on side slopes)
		Geosynthetic clay liner	Primary liner: 60-mil HDPE (side slope) & 100-mil HDPE (base)
		60-mil HDPE (primary liner)	Geosynthetic clay liner
		HDPE geonet secondary leachate system with collection network	60-mil HDPE (secondary liner)
		60-mil HDPE (secondary liner)	HDPE geonet: secondary leachate detection system (Phase VI only)
		2-feet compacted clay	60-mil HDPE (tertiary liner)
		10-feet natural clay	3-feet compacted clay
			10-feet natural clay

9. The cover system on the top of the Area 4 landfill is constructed of the following layers, described from the top to bottom:
- Three-foot protective soil layer, with six-inches capable of supporting vegetation

double-sided geocomposite (an HDPE geonet sandwiched between two geotextile fabric filter layers)

- b. 40-mil HDPE textured geomembrane
 - c. Geosynthetic clay liner (GCL)
 - d. Two-foot layer of compacted bioremediated or other clean soils
10. A survey plat indicating the location and dimensions of the Area 4 landfill and any other hazardous waste disposal units with respect to permanently surveyed benchmarks was prepared and certified by a professional land surveyor. The notes on the plat state the owner's and operator's obligation to restrict disturbance of the Area 4 landfill in accordance with the applicable Subpart G regulations. These notes state:
- a. The waste materials contained in the Area 4 landfill are considered RCRA hazardous wastes. They include asbestos-containing waste, industrial hazardous waste and commercial hazardous waste.
 - b. Any material removed from the Area 4 landfill during future activities must be managed as a hazardous waste in accordance with 35 Ill. Adm. Code Subtitle G: Waste Disposal.
 - c. The use of this area is restricted.
11. The Plat of Survey (PIN No. 29-01-100-009-0000 and 29-01-200-011-0000) for the Area 4 landfill, Drawing No. S09-01-413, was filed with the Cook County Recorder's Office in Chicago, IL on March 18, 2010. The record data is Document No. 1007703015. The Plat of Survey was attached to the deed to the property and serves as an instrument which is normally examined during title search that will in perpetuity notify any potential purchaser of the property that:
- a. The waste material in the Area 4 landfill is considered a RCRA hazardous waste;
 - b. Use of the area is restricted; and
 - c. A survey plat and record of the type, location and quantity of waste material in the Area 4 landfill was filed with the Illinois EPA and the County Recorder.
12. The Permittee must develop a scaled topographic drawing of each unit identified in Condition I.B.1 to determine the vertical and horizontal dimensions of each unit at least once every 10 years. If a topographic drawing of a unit has not been developed in the 10

years prior to the date of this permit, it must be developed within 180 days of the date of the effective date of this permit, and every 10 years thereafter. The topographic drawings must be maintained as part of the operating record.

If differential settlement is observed to have occurred on a unit that adversely impacts the integrity or effectiveness of the barrier layers of the cover and requires repairs to those layers, the Permittee must notify the Illinois EPA Bureau of Land (BOL) Permit Section within 30 days of this finding. The notification must include a drawing showing the location of this settlement on the unit and a plan that includes a schedule for repairing the cover system. Repairs to the cover system, and/or its components, may be considered a permit modification. Differential settlement will be evaluated, at a minimum, by comparing the 10-year topographic maps required in Condition I.B.12.

C. POST-CLOSURE CARE PERIOD

1. The post-closure care period for the Area 3 landfill began on May 30, 2008, the date of certification of completion of closure of the unit listed in Condition I.B.1 of this Permit and continues for at least 30 years after that date. The post-closure care period for the Area 4 landfill began on February 18, 2010, the date of certification of completion of closure of the unit listed in Condition I.B.1 of this Permit and continues for at least 30 years after that date.
2. Prior to the anticipated completion of the post-closure care period, the Illinois Pollution Control Board (Board) will extend, or the Illinois EPA may propose extension of the post-closure care period if it finds that the extended period is necessary to protect human health and the environment (e.g., waste remains in place, or leachate or groundwater monitoring results indicate a potential for migration of waste at levels which may be harmful to human health and the environment).
3. The Illinois EPA may include restrictions upon the future use of the site if necessary, to protect public health and the environment, including permanent prohibition of the use of the site for purposes which may create an unreasonable risk of injury to human health or the environment. After any administrative and judicial challenges to such restrictions have been exhausted, the Illinois EPA shall file such restrictions of record in the Office of the Recorder of the county in which the hazardous waste disposal site is located.
4. The Permittee must not allow the property where the units designated in Condition I.B.1 are located to be used in a way that could disturb the integrity of the final cover, liners, any components of the containment system, or function of the facility's monitoring systems, unless the Illinois EPA finds, by way of a permit modification, that such use is necessary for either of the following reasons:

- a. It is necessary to the proposed use of the property, and will not increase the potential hazard to public health or the environment, or
 - b. It is necessary to reduce a threat to human health or the environment.
5. The Illinois EPA will require continuation of the security procedures set forth in the approved permit application during the post-closure period. At a minimum, Area 3 and Area 4 must be totally fenced and must have locked gates at each entrance. Any additional requirements beyond this shall be subject to the permit modification procedures set forth in 35 Ill. Adm. Code 705.128.

D. INSPECTIONS

1. The Permittee must inspect the components, structures, and equipment at the site in accordance with the inspection schedule in the approved permit application and the conditions in this Permit (Attachment D). The forms in Appendix D-2 of the Post-Closure Plan in the approved permit application must be used to document inspections and any repairs done at the facility.
2. The Permittee must inspect the facility semi-annually for evidence of any of the following:
 - a. Deterioration, malfunctions, or improper operation of run-on and run-off systems.
 - b. The presence of leachate in, and proper functioning of, the leachate collection and removal systems.
 - c. The deterioration of the liner or cover systems.
3. The facility must be inspected within 72 hours of any rain fall event of three or more inches in 24 hours to detect evidence of any of deterioration, malfunctions, or improper operation of run-on and run-off systems.
4. Appropriate corrective action must be taken if problems, including erosion, blockage of the channels, slope failure, etc. are observed. If corrective action is taken, the site must be revisited one month later to ensure that the actions taken have indeed corrected the problem(s) noted.
5. The Permittee must inspect the benchmark(s) used to identify the location of the hazardous waste management units (HWMUs) and solid waste management units (SWMUs) within 60 days of the effective date of this Permit and thereafter in accordance with the Inspection Schedule in the approved permit application.

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Benchmark(s) must be repaired and resurveyed whenever an inspection of the benchmarks indicates they have been damaged. The inspection results, repairs, and surveys of the benchmark(s) must be maintained as part of the operating record.

6. Results of all inspections and a description of any remedial actions taken must be documented in the Repair Log in the operating record and maintained for the entire post-closure period.

E. MONITORING, MAINTENANCE, AND RECORDKEEPING

1. The Permittee must keep and maintain a written operating record that includes all the records, reports, notifications, and data required by 35 Ill. Adm. Code 724.173 and the conditions in this Permit for the entirety of the post-closure care period. The operating record must be kept on-site at the facility and available for Illinois EPA review.
2. The Permittee must maintain and monitor the groundwater monitoring system and comply with the other applicable regulations of 35 Ill. Adm. Code 724 Subpart F (Groundwater Protection) during the post-closure period.
3. The Permittee must 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, and other events.
4. The Permittee must prevent run-off from eroding or otherwise damaging the final cover. At a minimum, the run-off management system shall be capable of collecting and controlling the volume of water resulting from a 24 hour, 25-year storm event.
5. The Permittee must comply with the requirements for landfills described in the approved permit application and the condition of this Permit as follows:
 - a. 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, cracking or other events.
 - b. Corrective action must be taken if ponding has been observed, if cracks or erosion channels greater than one inch wide have formed for whatever reason, if gas, odor, vegetative or vector problems arise, if leachate pop-outs or seeps are present, or if vegetation with tap roots is found to be growing in areas which are not designed to accommodate such vegetation.
6. The Permittee must maintain the leachate collection systems (LCS) in Area 3 (Fig. E-5a of approved permit application) and Area 4 (Fig. E-4a of approved permit application), and

leak detection system (LDS) in Phase VI of Area 4 in accordance with the design plans and specifications contained in the approved permit application and the conditions in this Permit. Including the following:

- a. Initiate troubleshooting of the LCS and LDS if the control system detects abnormal operating conditions or site personnel observe unexpected performance during daily routine system inspections.
 - b. Troubleshooting will include checks of electrical, mechanical, piping and control system components, as necessary depending on the nature of the operating condition. Routine maintenance, such as cleaning LCS and LDS pumps and pipe jetting, will be performed as needed to achieve compliance with designated liquid levels within the LCS and LDS.
 - c. Repairs will be documented in the facility operating record.
7. The Permittee must remove leachate from the Area 3 and Area 4 landfills until leachate is no longer detected in the LCS or LDS.
8. Leachate collected in the LCS and LDS must be managed in the facility's on-site Biological Liquid Treatment Center.
9. The Permittee must operate, monitor, and maintain the LCS in accordance with the approved permit application and the following conditions:
 - a. The leachate level in Area 3 must not exceed the following compliance elevations as measured in the sumps of the following collection systems:
 - i. 555 feet MSL for the base collection system. This system consists of a base grade lateral piping system with the eastern half of the system containing a one-foot gravel drainage layer. Leachate levels are monitored quarterly at LW3, MH8, MH9, MH10, MH17, MH18, and W450R.
 - ii. 566 feet MSL for the elevated base collection system. This system collects leachate from a small area in the northeast portion of the landfill with lateral piping and a gravel drainage layer. Leachate levels are monitored quarterly at LW19 and MH20.
 - iii. 580 feet MSL for the piezometer system. This system consists of a series of leachate collection manholes and wells in the western portion of the landfill. Leachate levels are monitored quarterly at MH5, MH6, MH16, L430,

L702, L704, G705, W434, and W435.

- b. Maintenance of the leachate level at or below this elevation is necessary to create and maintain an inward gradient in the soil layer surrounding the landfill.
- c. The leachate level in Area 4 must not exceed the compliance elevations as measured in the sumps listed in the following table:

Monitoring Point	Compliance Elevation (ft) above sump invert	Monitoring Point	Compliance Elevations (ft) above sump invert
4AN Primary	1.5	4F Primary	1.5
4AW Primary	1.6	4B Secondary	1.0
4B Primary	3.0	4D Secondary	1.0
4C Primary	4.2	4E Secondary	1.0
4D Primary	2.5	4F Secondary	1.0
4E Primary	1.6	4G Secondary	4.1

- d. All leachate removed from the leachate collection system must be managed as a hazardous waste.
 - e. The Permittee must record the amount of liquid removed from each LCS sump (in gallons) at least monthly. The results of the leachate quantity testing data from the LCS must be maintained in the facility's operating record and submitted electronically to the Illinois EPA.
10. Three representative samples of leachate from Area 3 and one from Area 4 must be collected annually and analyzed individually for constituents provided on their respective Reduced Appendix I Sampling List found in Attachment I. These samples must be collected during the first quarter inspections. The four samples will be taken from the withdrawal points listed in Condition I.F.7. The results of these analyses must be submitted electronically to the Illinois EPA by June 1st of each year.
- a. The constituents listed in 35 Ill. Adm. Code 724, Appendix I (Full Appendix I List) were analyzed annually in 2015 through 2018 on samples taken from the withdrawal points listed in Condition I.F.7. A permit modification request to reduce the annual leachate monitoring lists for each given sampling point was approved in Log No. B-27R-M-88. The reduced list (Reduced Appendix I List) will be used in lieu of the Full Appendix I List for three out of four years, with the fourth year reverting back to analysis of the Full Appendix I List. Any parameters not included on the existing Reduced Appendix I List that are detected in the fourth-year Full Appendix I List analysis must be added to the Reduced Appendix I

List by means of a Class 1* permit modification request in accordance with 35 Ill. Adm. Code 703.280. This cycle of three years of Reduced Appendix I List analysis, followed by one year of Full Appendix I List analysis, must repeat during the post-closure period. The approved Reduced Appendix I List for calendar years 2023, 2024, and 2025 can be found in Attachment I. The next Full Appendix I List analysis will take place in 2026.

11. The Permittee must operate, monitor, and maintain the LDS in Phase VI of Area 4 in accordance with the approved permit application and the following conditions:

- a. The elevation of leachate in each Leachate Monitoring/Withdrawal Well in the LDS must be continuously monitored and recorded in feet above MSL.**
- b. As far as is practicable, leachate that collects in each leak detection sump must be removed.**
- c. All leachate removed from the LDS must be managed as a hazardous waste.**
- d. The Permittee must record the amount of liquid removed from each LDS sump (in gallons) at least monthly. The results of the leachate quantity testing data from the LDS must be maintained in the facility's operating record and submitted electronically to the Illinois EPA.**

12. The action leakage rate (ALR) was calculated to be 1,532 gallons per day or 214 gallons/acre/day for the Phase VI LDS sump at Area 4 landfill. The pump operating level for the LDS is 551 feet MSL. The Permittee must inspect, operate, and monitor all components of the LDS in accordance with the requirements in 35 Ill. Adm. Code 724.403(c). The monthly volume of leachate removed from the LDS sump must be included in the report required in Condition I.F.2. If at any point the action leakage rate is exceeded, this event must be included on the graphical representation of the data.

13. The action leakage rate is the maximum design flow rate that the LDS can remove without the fluid head on the bottom liner exceeding one foot. The Permittee must monitor the quantity of leachate removed from the LDS sump(s) each month to determine if the rate of leachate removed from each LDS sump exceeds the action leakage rate.

To determine if the action leakage rate has been exceeded, the Permittee must convert the monthly flow rate from the monitoring data obtained under Section 724.403(c) to an average daily flow rate (gallons per acre per day) for each sump. The average daily flow rate for each sump must be calculated monthly during the post-closure care period and recorded in the operating record.

F. REPORTING AND NOTICES

1. The quarterly leachate levels, monthly leachate extraction volume and the total volume of leachate extracted from Area 3 landfill (not including contaminated ground water) shall be submitted to the Illinois EPA annually by January 31st, for the previous calendar year. A graphical representation of the data shall also be included as follows:
 - a. A graphical representation of the volumes of leachate removed from the LCS each month. The scale of the x axis (time) must be such that no more than one year of data (starting with January each year) is presented on each sheet of paper.
 - b. A graphical representation of the elevation of the liquid level in each Leachate Monitoring/Withdrawal Well/Sump for the quarter. For each Well, the graph needs to identify the following: the elevation of leachate over time, elevation of the top of liner, and elevation of the bottom of the cover system all in feet above MSL. Compliance levels should also be marked on the graph.
2. Monthly leachate levels observed in each sump, amount of leachate removed from each sump and total volume removed for the year for Area 4 landfill must be submitted to the Illinois EPA annually by January 31st, for the previous calendar year. A graphical representation of the data must also be included as follows:
 - a. A graphical representation of the volumes of leachate removed from the LCS and LDS each month. The leachate generation rates (gallons/month) from the LCS and LDS must be presented on the same graph. The scale of the x axis (time) must be such that no more than one year of data (starting with January each year) is presented on each sheet of paper. If at any point the action leakage rate is exceeded, this event must also be indicated on the graph.
 - b. A graphical representation of the elevation of the liquid level in each Leachate Monitoring/Withdrawal Well/Sump for the month. For each Sump, the graph needs to identify the following: the elevation of leachate over time, elevation of the top of liner, and elevation of the bottom of the cover system all in feet above MSL. Compliance levels should also be marked on the graph.

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3. A completed "RCRA Facility Groundwater, Leachate and Gas Reporting Form" (LPC- 592) must accompany all Leachate Data Reports required by this Permit. A copy of this form is provided in Attachment A. This form is not to be used for permit modification requests. This form is available on the Illinois EPA web site.
4. If quarterly leachate level measurements at Area 3 landfill indicate non-compliance at any of the leachate monitoring points listed in Conditions I.E.9.a.i, I.E.9.a.ii, and I.E.9.a.iii, a written notification must be sent to Illinois EPA BOL Permit Section and Illinois EPA BOL Regional Office. For instances of non-compliance in the first and second quarter, the notice must be sent by July 31st of that year. For instances of non-compliance in the third and fourth quarter, the notice must be sent by January 31st of the following year.
5. If monthly leachate level measurements at Area 4 landfill indicate non-compliance at any of the leachate monitoring points, a notification must be sent to Illinois EPA BOL and Illinois EPA BOL Regional Office. For instances of non-compliance in the first and second quarter, the notice must be sent by July 31st of that year. For instances of non-compliance in the third and fourth quarter, the notice must be sent by January 31st of the following year.
6. Information required by Condition I.E.10 and I.E.10.a must be submitted in an electronic format. The information is to be submitted as fixed-width text files formatted as found in Attachment A.

Additional guidance regarding the submittal of the information in an electronic format can be found on the Illinois EPA website.

7. The following leachate withdrawal points will be used in leachate quality analysis required by conditions I.E.10 and I.E.10.a. For purposes of electronic reporting, the points will be renamed as shown below.

<u>Name in Application</u>	<u>Name for Electronic Reporting</u>
A3LC (Area 3 Composite)	L311
A3L3 (Area 3 LW 3)	L312
A3M6 (Area 3 MH 6)	L313
A4LC (Area 4 Composite)	L331

8. The Permittee must notify the Illinois EPA BOL Permit Section in writing within 30 days of the leachate quality analysis report received by the Permittee required in Condition I.E.10 if the following occurs:
 - a. If the analysis of the leachate detects a parameter for which the groundwater was not analyzed for in the last sampling event. The Illinois EPA may require the

Permittee to modify their groundwater monitoring program based on this additional information.

9. In accordance with 35 Ill. Adm. Code 724.404(b), if the flow rate in the Area 4 Phase VI leak detection sump 4G-SEC exceeds the action leakage rate described above, the Permittee must:
- a. Notify the Illinois EPA BOL Permit Section and the Illinois EPA BOL Regional Office in writing of the exceedance within seven days of the determination;
 - b. Submit a preliminary written assessment to the Illinois EPA BOL Permit Section and the Illinois EPA BOL Regional Office within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size and cause of any leaks, and short-term actions taken and planned;
 - c. Determine to the extent practicable the location, size and cause of any leak;
 - d. Determine whether any waste should be removed from the unit for inspection, repairs or controls;
 - e. Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and
 - f. Within 30 days after the notification that the action leakage rate has been exceeded, submit to the Illinois EPA BOL Permit Section and the Illinois EPA BOL Regional Office the results of the determinations specified above, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the Permittee must submit to the Illinois EPA BOL Permit Section and the Illinois EPA BOL Regional office a report summarizing the results of any remedial actions taken and action planned.

The Permittee must follow the procedures listed in 35 Ill. Adm. Code 724.404(c) to make the determinations required above.

The address for the Illinois EPA BOL Regional Office cited in this condition is:

Illinois EPA Field Office
9511 West Harrison
Des Plaines, Illinois 60016

G. NOTICES AND CERTIFICATION

1. A request to change the Post-Closure Plan must be submitted in the form of a permit modification request. This request must be in accordance with applicable requirements of Parts 702, 703 and 724 and must include a copy of the amended Post-Closure Plan for approval by the Illinois EPA.
2. If the Permittee or any subsequent owner or operator of the land upon which the Area 3 and Area 4 landfills listed in Condition I.B.1 is located wishes to remove hazardous wastes, hazardous waste residues, the liner, if any, or contaminated soil, they must request a modification to this RCRA post-closure permit in accordance with the applicable requirements in 35 Ill. Adm. Code Parts 703, 705 and 724. At a minimum, the owner or operator must demonstrate that the removal of such material will satisfy the criteria of 35 Ill. Adm. Code 724.217(c).
3. If the Permittee seeks to demonstrate that they should be allowed to end the post-closure care period (e.g., all waste has been removed, and leachate and groundwater monitoring results do not indicate a potential for migration of waste at levels which may be harmful to human health and the environment), the Permittee must submit an Environmental Covenant (EC) for the future land use and management of the property on which the Area 3 landfill and Area 4 landfill is located. The EC must be submitted at least one year prior to the date the Permittee expects to submit the Certification of Completion of Post-Closure.

Pursuant to Section 39(g) of the Act, the purpose of the EC is to place restrictions upon the future use of the site necessary to protect public health and the environment, including permanent prohibition of the use of the site for purposes which may create an unreasonable risk of injury to human health or the environment. The EC must be pursuant to a consent order between the Permittee and the State of Illinois and in the form and format specified by Illinois EPA.

4. If the Permittee seeks to exit post-closure care, the Permittee must submit the following documents to the Illinois EPA Bureau of Land Permit Section by registered mail no later than 60 days after completion of the established post-closure care period for Area 3 landfill and Area 4 landfill listed in Condition I.B.1:
 - a. A properly completed Certification of Completion of Post-Closure Form provided in Appendix H that states the post-closure care for the hazardous waste disposal unit (Area 3 or Area 4) was performed in accordance with the specifications in the approved Post-Closure Plan in the approved permit application and the conditions in this Permit. The owner and operator and a qualified Illinois licensed Professional Engineer must sign the Certification Form.

- b. A Post-Closure Documentation Report that documents the post-closure care conditions and activities at the facility during the post-closure period. The Post-Closure Documentation Report must include the following:
- i. Background information about the facility and the unit subject to the post-closure certification. Describe the facility and RCRA permit history of the unit.
 - ii. A detailed description of the unit subject to the post-closure care certification that includes:
 - 1. The Unit's design, including liner system, sumps, leachate collection, leak detection, gas systems, and cover system including stormwater run-off and run-on controls. Provide this information in both a narrative form, and scaled drawings.
 - 2. How it was operated, and how it was closed.
 - 3. When it was operated, and when it was closed.
 - 4. The wastes disposed of in the unit (including waste codes).
 - 5. The amount of leachate pumped each year from each sump (combined amount for Area 3) in the unit's leachate collection and leak detection systems during the post-closure period. Provide this information in both a table and graphically. Demonstrate the unit has met the requirements of 35 Ill. Adm. Code 724.410(b)(2).
 - 6. A scaled map showing location of the unit within the facility. Include all wells in the groundwater monitoring system for the unit on this map.
 - 7. Scaled drawings (plan view and cross-section) showing the horizontal and vertical extent of the unit at the time it was certified closed, every 10 years after it was closed (if available), and at the time the Post-Closure Documentation Report is submitted (e.g. at the end of the post-closure period). The scale of the plan view should be one inch = 200 feet. All design components of the unit must be shown on the drawings.

When the drawings are compared; if a difference in elevation of more than two feet exists at any location on the unit, the Post-Closure Documentation Report needs to indicate the reason for the change in elevation, and why it would not be a concern in the future.

8. A survey of the unit when it was certified closed and at the time the Post-Closure Documentation Report is submitted (e.g. when the post-closure period ended). The surveys must be certified by a professional land surveyor.
 - iii. A general discussion on the inspection and maintenance of, and repairs to, the cover system, leachate collection, leak detection, gas collection, stormwater run-off and run-on controls, and wells in the groundwater monitoring system. Describe any problems and/or repairs to these systems that were addressed over the post-closure care period in chronological order. Show the locations of each of the repairs to these systems during post-closure care on a scaled drawing of the unit.
 - iv. A discussion on the groundwater monitoring program, including any corrective measures that were completed during the post-closure care period and a summary of the three most recent years of groundwater data. Identify the horizontal and vertical extent of any groundwater contaminant plume from the unit that existed at the beginning of the post-closure period and every five years after that.
- The facility must have complied with all requirements of 35 Ill. Adm. Code Parts 620 and 724 in order to certify completion of post-closure care activities.
- v. Colored photos of unit(s) at post-closure completion. Photo documentation of the unit should include at least one aerial (satellite) photo and representative photos of above-ground design features of the unit.
 - vi. Illinois EPA form LPC-PA23.
- c. Documentation that the IC/ EC required by Condition I.G.3 has been placed on the deed to the property on which Area 3 and Area 4 are located and has been filed with the County Recorder's Office.

5. The certification of completions of post-closure care shall not be approved by the Illinois EPA until the Permittee demonstrated that the IC/EC required by Condition I.G.3 has been properly filed with the appropriate governmental office (e.g. State of Illinois, or County Recorder's office).
6. Within 60 days after receiving certifications from the owner or operator and a qualified Illinois licensed Professional Engineer that the post-closure care period has been completed for Area 3 and/or Area 4 landfills listed in Condition I.B.1 in accordance with the approved post-closure plan, the Illinois EPA shall notify the owner or operator that it is no longer required to maintain financial assurance for post-closure care of that unit unless the Illinois EPA determines that post-closure care has not been in accordance with the approved post-closure plan. The Illinois EPA shall provide the owner or operator with a detailed written statement of any such determination that post-closure care has not been in accordance with the approved post-closure plan.

H. SUBSURFACE GAS MANAGEMENT

The Permittee must operate the gas monitoring and collection system for the Area 3 landfill in accordance with Section E.5 of the approved permit application, the approved Clean Air Act Program Permit issued January 13, 2022, and any subsequent modifications to the permit, and the following conditions:

1. The Permittee must recover or flare the subsurface gas generated at Area 3 during the post-closure care period.
 - a. Condensate from any gas recovery system is considered hazardous and must be managed as hazardous waste.
2. If subsurface gas problems occur, a corrective action plan must be submitted, for approval, to the Illinois EPA BOL within 30 days of discovering such gas problems.

I. FINANCIAL ASSURANCE

1. The Permittee must maintain financial assurance for post-closure care of the closed Area 3 landfill of at least the amount of \$12,585,185 (2021 dollars). The Permittee must maintain financial assurance for post-closure care of the closed Area 4 landfill of at least the amount of \$2,901,051 (2021 dollars). A summary of the cost estimate for post-closure care of this facility is shown in Attachment C. The financial assurance maintained by the facility must be sufficient to meet the requirements of 35 Ill. Adm. Code 724, Subpart H.

SECTION II: AREA 4 DETECTION MONITORING PROGRAM**A. SUMMARY**

The detection monitoring program consists of 19 existing groundwater monitoring wells. This includes nine monitoring wells that are utilized to monitor the Silurian Dolomite and 10 that are utilized to monitor the Dolton Sand. Due to highly variable groundwater flow conditions in the Silurian Dolomite in the vicinity of the facility, intrawell statistical analyses will be conducted at each monitoring well. Therefore, there will not be designated upgradient and downgradient monitoring wells in this program.

B. DEFINITIONS

As used herein, the words or phrases set forth below shall have the following definitions:

1. "Uppermost Aquifer" refers to the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically connected with this aquifer in the vicinity of the facility. The uppermost aquifer underlying Area 4 has been identified as a weathered, fractured, and/or jointed Silurian dolomite which overlies a bedrock aquitard and underlies a perched outwash sand unit with minimal hydraulic connection.
2. "Point of Compliance" refers to the vertical surface located at the hydraulically downgradient limits of the waste management area (Area 4) extending down into the uppermost aquifer underlying the regulated unit.
3. "Ft - bgs" refers to the number of feet below the ground surface.
4. "Ft-MSL" refers to elevation referenced feet above mean sea level.
5. "Detected" shall mean a concentration equal to or above the practical quantitation level (PQL) listed in USEPA's SW-846 (Third Edition) or as approved by the Illinois EPA for the applicable analytical methods specified in the approved Sampling and Analysis Procedures, which are incorporated by reference in Condition II.H of the Permit.
6. "Progressive Increase" shall mean an increase in the concentration of a constituent in successive sampling events.
7. "Stick-up" refers to the height of the reference survey datum. This point is determined within ± 0.01 foot in relation to mean sea level (MSL), which in turn is established by reference to an established National Geodetic Vertical Datum.

C. IMPLEMENTATION

1. The Permittee must implement the detection monitoring program established in the Permit to determine if the regulated unit is in compliance with the groundwater protection standard listed in Condition II.E.1. The detection monitoring requirements set forth in this permit shall supersede those established in the 35 Ill. Adm. Code Part 724 compliance monitoring program previously approved by the Illinois EPA.
2. The Permittee must carry out the detection monitoring program specified in this Permit on the groundwater found in the Silurian Dolomite and the Dolton Sand beneath the CID-RDF facility in Calumet City, Illinois. Groundwater occurring within the Silurian Dolomite beneath the CID-RDF facility has been designated a 35 Ill. Adm. Code Part 620, Class I: Potable Resource Groundwater. Groundwater occurring within the Dolton Sand beneath the CID-RDF facility has been designated a 35 Ill. Adm. Code Part 620, Class II: General Resource Groundwater.
3. The point of compliance, defined as a vertical surface located at the hydraulically downgradient limits of Area 4 that extends down into the uppermost aquifer underlying the waste management units, is shown on Figure C-2c of the approved permit application.

D. WELL LOCATION AND CONSTRUCTION

1. The Permittee must maintain the groundwater monitoring wells identified in the following table in accordance with the approved permit application to allow for the collection of groundwater samples and elevation from the uppermost aquifer. The location of these wells is specified in Figure C-2c of the approved permit application.

IEPA Well No.	Facility Well No.	Well Depth (ft.)	Well Depth Elevation (Ft.-MSL)	Well Screen Interval
Area 4 Dolomite Monitoring Wells				
G02D*V	G202	67.2	521.13	530.13-521.13
R06D*V	R06D	80.0	510.80	520.80-510.80
R08D*V	R08D	64.6	523.79	533.79-523.79
G10D*V	G210	71.9	515.16	524.36-515.16
G16D*V	G216	66.3	517.70	524.00-517.70
G18D*V	G218	77.5	508.66	517.56-508.66
G20D*V	G220	77.9	511.56	520.46-511.56
R04D*V	G04DR	90.9	503.98	513.98-503.98

G05D* ^V	G05D	88.7	502.76	512.76-502.76
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Area 4 Dolton Sand Monitoring Wells

G01S* ^{VII}	G201	11.3	577.36	581.64 – 577.36
G04S* ^{VII}	G204	18.6	575.22	579.42 – 575.22
G05S* ^{VII}	G205	17.1	574.72	578.92 – 574.72
G07S* ^{VI}	G207	13.8	574.70	578.90 – 574.70
G09S* ^{VI}	G209	11.5	576.33	580.53 – 576.33
G13S* ^{VII}	G213	21.3	573.13	581.67 – 573.13
R15S* ^{VII}	G215R	12.4	575.54	581.54 – 575.54
R17S* ^{VI}	R17S	13.6	576.97	581.67 – 576.97
G19S* ^{VI}	G219	12.1	573.95	579.15 – 573.95
G21S* ^{VII}	G221	11.8	577.02	581.75 – 577.02

NOTE:

* – Denotes point of compliance monitoring well.

^V – Analysis of List G1, G2, G3, G4 and G5 parameters in accordance with Condition II.E.1.

^{VI} – Analysis of List G1 and G2 parameters in accordance with Condition II.E.1.

^{VII} – Analysis of Lists G1, G2, G6 and G7 parameters in accordance with Condition II.E.1.

2. Construction of any new monitoring well/piezometer must be at a minimum in accordance with the diagram contained in Attachment A to this Permit unless otherwise approved in writing by the Illinois EPA. Any new monitoring wells/piezometers must be continuously sampled and logged on an Illinois EPA boring log and well completion report as provided in Attachment A unless otherwise approved by the Illinois EPA.
3. The Permittee must notify the Illinois EPA within 30 days in writing if any of the wells identified in Condition II.D.1 are damaged, or the structure integrity has been compromised causing the well not to serve its function or to act as a contaminant pathway. A proposal for the replacement of the subject well requires Illinois EPA approval and must accompany this notification. The well must not be plugged until the new well is on-line and monitoring data has been obtained and verified, unless the well is extremely damaged and would create a potential route for groundwater contamination.
4. Should any well become consistently dry or unserviceable, a replacement well must be provided within 10 feet of the existing well. This well must monitor the same zone as the existing well and be constructed in accordance with the current Illinois EPA groundwater monitoring well construction standards at the time that the well is replaced. A well which is more than 10 feet from the existing well or which does not monitor the same geologic zone must be approved by the Illinois EPA and designated as a new well. If the facility determines that a replacement well will be a dry well, then it must submit for

Illinois EPA approval either a proposal to install a new monitoring well or a proposal not to replace the well with appropriate rationale.

5. The Permittee must submit boring logs, construction diagrams, and data sheets from the installation and development of a new or replacement well to the Illinois EPA at the address below within 30 days of the date that installation of the well is completed. In addition, the Permittee must submit certification that plugging and abandonment of a well was carried out in accordance with the approved procedures (see Attachment A to this Permit) to the Illinois EPA at the address below within 30 days of the date that the well is plugged and abandoned. All information should be submitted to the appropriate State Agencies.

Illinois Environmental Protection Agency
Bureau of Land - #33
Permit Section
2520 West Iles Avenue
Springfield, Illinois 62702

6. All wells/piezometers must be clearly identified and must be equipped with protective caps and locks. Monitoring wells or piezometers in high traffic areas must be protected with bumper guards.
7. All monitoring wells and piezometers not utilized in the approved groundwater monitoring system, but retained by the facility, must be constructed and maintained in accordance with 77 Ill. Adm. Code Part 920 regulations. Monitoring wells and piezometers that are improperly constructed must be abandoned in accordance with Attachment A to this Permit.

E. GROUNDWATER PROTECTION STANDARD

1. The following hazardous constituents and concentration limits comprise the groundwater protection standard in the vicinity of the CID-RDF facility. Total (unfiltered) values, derived from the applicable USEPA SW-846 (Latest Version) method or equivalent methods listed in Section C of the approved permit application, will be used for comparison with the concentration limits.

<u>List G1 – Field Parameters</u>	<u>STORET</u>	<u>Units</u>	<u>Concentration Limit</u> (µg/L)	
			<u>Class I</u>	<u>Class II</u>
pH	00400	standard	6.5-9.0	--
Specific Conductance at 25°C	00094	µmhos/cm	--	--

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Temperature of Water Sample	00011	Fahrenheit	--	--
Turbidity	00076	NTUs	--	--
Depth to Water (below land surface)	72019	Feet	--	--
Depth to Water (below measuring point)	72109	Ft-bgs	--	--
Elevation of Groundwater Surface	71993	Ft-MSL	--	--
Elevation of Bottom of Well#	72020	Ft-MSL	--	--
Elevation of Measuring Point (Top of Casing) ##	72110	Ft-MSL	--	--

Must be determined in accordance with Condition II.G.3

Must be determined in accordance with Condition II.G.2

Hazardous Waste Constituents

<u>List G2 – Organics</u>	<u>STORET</u>	<u>PQL (µg/L)</u>	<u>Concentration Limit</u> (µg/L)	
			<u>Class I</u>	<u>Class II</u>
Toluene	34010	1	1,000	2,500
Benzene	34030	1	5	25
Ethylbenzene	78113	1	700	1,000
Xylene (total)	81551	2	10,000	10,000
BTEX (total)	11750	3	11,705	13,525
1,4-dioxane	81582	5	7.7	7.7

List G3 – Organics

Naphthalene	34696	5	140	220
Acetone	81552	10	6,300	6,300
bis(2-ethylhexyl)phthalate	39100	5	6	60
Chlorobenzene	34301	1	100	500
Methylene Chloride	34423	1	5	50

List G4 – Inorganics (total)

Barium, total	01007	TBD	1,000	--
Chloride, total	00940	1,000	200,000	--
Chromium, total	01034	TBD	100	--
Cobalt, total	01037	TBD	1,000	--
Lead, total	01051	TBD	7.5	--
Nickel, total	01067	TBD	100	--
Zinc, total	01092	TBD	5,000	--

List G5 – Inorganics (dissolved)

Barium, dissolved	01005	2	--	--
Chloride, dissolved	00941	1,000	--	--
Chromium, dissolved	01030	4	--	--
Cobalt, dissolved	01035	4	--	--
Lead, dissolved	01049	10	--	--
Nickel, dissolved	01065	10	--	--
Zinc, dissolved	01090	10	--	--

List G6 – Inorganics (total)

Arsenic, total	01002	TBD	--	200
Chromium, total	01034	TBD	--	1,000
Cobalt, total	01037	TBD	--	1,000
Vanadium, total	01087	TBD	--	100

List G7 – Inorganics (dissolved)

Arsenic, dissolved	01000	TBD	--	--
Chromium, dissolved	01030	TBD	--	--
Cobalt, dissolved	01035	TBD	--	--
Vanadium, dissolved	01055	TBD	--	--

2. The background values established for the purpose of intrawell statistical analysis, must initially be established from the historical groundwater data from the initial sampling of each monitoring well under the initial RCRA Part B Permit (March 1988) to the Fourth Quarter 2006, utilizing the following procedures. This may include data from original monitoring wells and replacement wells as appropriate. This submittal must include example calculations and must include, in table form, all groundwater data used in the calculation for each well, the number of pieces of data used to determine the mean, and a list of derived prediction limits.
 - a. For those parameters or constituents which are found to be above the PQL in 85% - 100% of the background data set, the background values for that parameter or constituent must be calculated using the methodology described in Attachment B, Page 1. The facility must utilize a value of one half the PQL for non-detect results included in the data set.
 - b. For the parameters or constituents which are found to be above the PQL in 50% - 85% of the background data set, the background values for that parameter must be calculated using methodology described in Attachment B, Page 2 or 5 as appropriate.

- c. For those parameters or constituents from the background data set which do not meet the requirements of Conditions II.E.2.a or II.E.2.b, the average background value must be set at the PQL as shown in Condition II. E.1.
 - d. Sampling and analytical procedures utilized to establish background values shall be in accordance with Condition II.F below.
 - e. The Permittee must determine the distribution of the background data set for each parameter that meets the requirements of II.E.2.a and II.E.2.b.
 - i. The Permittee must calculate a coefficient of variation for the background data set from each monitoring well in accordance with Attachment B.
 - ii. If the coefficient of variation is less than or equal to 1.00, the Permittee may assume a normal data distribution for statistical analysis.
 - iii. In the event that the coefficient of variation is greater than 1.00, the Permittee may choose to transform the background data in lieu of proposing a non-parametric statistical procedure in accordance with Condition II.E.2.e.iv below. The Permittee must demonstrate that the original non-transformed data are inappropriate for a normal theory test.
 - iv. If the Permittee determines that the transformed background data does not pass the test described in Condition II.E.2.e.ii, it must assume that the background data set is not appropriate for normal theory statistical analysis. In this event, the Permittee must submit for Illinois EPA review and approval a proposed statistical procedure that is appropriate for the distribution of the data used to establish background values and provides a reasonable balance between the probability of falsely identifying a non-contaminating regulated unit and the probability of failing to identify a contaminating unit.
 - v. The Permittee may submit for Illinois EPA review and approval a proposal for an alternative procedure for evaluation of background data distribution.
3. The facility must reestablish intrawell background values every two years as follows:
- Background values must be established for each List G2, G3, and G5 parameter listed in Condition II.E.1 in each Silurian Dolomite monitoring well listed in Condition II.D.1, and each List G2 and G7 parameter listed in Condition II.E.1 for each Dolton Sand monitoring well listed in Condition II.D.1 where sampling is required by the notes at the end of Condition II.D.1.

- a. The facility must use a data set consisting of the results of the eight most recent sampling events;
 - b. The facility must utilize the procedures outlined in Conditions II.E.2.a through II.E.2.e.
 - c. Recalculated background values must be submitted for Illinois EPA review and approval by July 15 of each odd numbered calendar year beginning with July 15, 2023. This submittal must include example calculations and must include, in table form, all groundwater data used in the calculation for each well, the number of pieces of data used to determine the mean, and a list of derived prediction limits.
4. For those parameters and constituents which have not been sampled and analyzed in eight previous sampling events, background values must be established by the methodology approved by Condition II.E.2 following four sampling events after the effective date of this Permit. The results of this determination must be submitted to the Illinois EPA for review and approval within 90 days from the fourth sampling event.
 5. Each of the monitoring wells listed in Condition II.D.1 must be sampled semi-annually in accordance with the schedule in Condition II.J.2. The groundwater samples collected at each well must be analyzed for the appropriate Condition II.E.1 constituents indicated by footnotes provided in Condition II.D.1.
 6. Alternate concentration limits may be established in accordance with 35 Ill. Adm. Code 724.194(b) where the Permittee can determine a constituent will not pose a substantial hazard to human health and the environment. The alternative concentration limits proposed by the facility must be approved by the Illinois EPA.

F. DETECTION MONITORING PROGRAM

The Permittee must conduct the Detection Monitoring Program in accordance with Section C of the approved permit application, and in accordance with the following:

1. The Permittee must collect, preserve, and analyze samples pursuant to Condition II.H.
2. The Permittee must determine groundwater quality at each monitoring well identified in Condition II.D.1 semi-annually (as defined in Condition II.J.2) during the active life of the Area 4 landfill (including the closure and post-closure care periods), beginning with the effective date of this Permit. The Permittee must express the groundwater quality data in a form necessary for the determination of statistically significant increases, as described in Condition II.I. Replicate measurements are not required.

Groundwater quality at each well must be determined by analyzing a sample from the well for the appropriate Condition II.E.1 constituents indicated by footnotes provided in Condition II.D.1.

3. After determination of background water quality, the Permittee must determine whether there is a statistically significant increase over the background values for each parameter identified in Condition II.E.1 each time groundwater quality is determined at the point of compliance as required by Condition II.F.2. In determining whether such an increase has occurred, the Permittee must compare the groundwater quality at each monitoring well specified in Condition II.D.1 to the background values in accordance with the statistical procedures specified in Condition II.I. All activities described in Condition II.I must be completed within the same quarter that the initial sample required by Condition II.F.2 was collected.
4. The Permittee must determine the groundwater flow rate and direction in the Silurian Dolomite unit at least annually from the Silurian Dolomite monitoring wells listed in Condition II.D.1.
5. The Permittee must evaluate the results of the analyses required by Condition II.F.2 and identify:
 - a. The concentration of any Condition II.E.1 List G2, G3, G4, G5, G6, and G7 constituent, which is above the appropriate PQL, or estimated quantitation limit (EQL) listed in the approved analytical method(s) specified in Section C of the approved permit application.
 - b. The concentration of any constituent detected which was not detected during the previous sampling event.
 - c. The concentration of any Condition II.E.1 List G2, G3, G4, G5, G6, and G7 constituent that exhibits a progressive increase over four consecutive sampling events.
6. Originally beginning the Second Quarter 2015, and for the Second Quarter every five years thereafter, the Permittee must report the concentration of any tentatively identified compound (TIC) detected by laboratory analysis of that monitoring event. This information must be provided in the report required by Condition II.J.10.
7. For any 35 Ill. Adm. Code 724, Appendix I constituent found in the analysis required by Condition II.F.6 that is not currently included in Condition II.E.1, the Permittee must, within 30 days, resample all of the monitoring wells listed in Condition II.D.1 for the detected constituent. If the results of the second analysis confirm the presence of the

constituent in groundwater, the Permittee must follow the procedures of Condition II.J.13.

G. GROUNDWATER ELEVATION

1. The Permittee must determine the groundwater surface elevation referenced to the nearest ± 0.01 Ft.-MSL at each well each time groundwater is sampled in accordance with Condition II.J.3.
2. The Permittee must report the surveyed elevation of stick-up, referenced to MSL, when the well is installed (with as-built diagrams) and every two years (during the First or Second Quarter), or at the request of the Illinois EPA, or whenever the elevation changes in accordance with Condition II.J.5.
3. Elevation, as referenced to MSL, of the bottom of each monitoring well (STORET 72020), must be taken in the event a performance problem is identified with the dedicated pumps found in the monitoring wells, or whenever the downhole equipment is removed from the monitoring well in accordance with Condition II.J.7.

H. SAMPLING AND ANALYTICAL PROCEDURES

The Permittee must use the following techniques and procedures described in the approved permit application, as modified below, when obtaining and analyzing samples from the groundwater monitoring wells described in Condition II.D.1:

1. Samples must be collected using the techniques described in the approved permit application.
2. Samples must be preserved, shipped, and handled in accordance with the procedures specified in the approved permit application.
3. Samples must be analyzed in accordance with the procedures specified in the approved permit application.
4. Samples must be tracked and controlled using the chain-of-custody procedures specified in the approved permit application.

I. STATISTICAL PROCEDURES

When evaluating the monitoring results in accordance with Section II.F, the Permittee must use the following procedures:

1. The groundwater quality for each well must be collected in accordance with Condition II.H and must be compared to the background values which were established for that well in accordance with Condition II.E.2 or II.E.3. The value for each parameter must be compared to the background value established for that parameter at that well.
2. For those constituents identified in Condition II.E.1 which have background values established in accordance with Conditions II.E.2.a and II.E.2.b, the Permittee must conduct the following statistical analysis (NOTE: This procedure must not be used if the coefficient of variation of the background values is greater than 1.00):
 - a. The difference between the measured concentration of the constituent in a sample from each well and the background value for that constituent must be evaluated using prediction limits as described in Attachment B. If the test indicates the difference is significant at the 0.01 level, the Permittee may resample the monitoring well(s), or the Permittee may choose not to resample and must conclude that a statistically significant increase has occurred.
 - b. If a resample is obtained, it must be analyzed for the constituent(s) which was (were) initially found to be present in the sample at a value significantly different from its background value. Collection, preservation, and analysis of this resample must be carried out in accordance with Condition II.H. The results of this resample must be compared to the background value for the constituent, again using the statistical procedure describe in this condition. If the second round of analysis indicated the difference is significant, the Permittee must conclude that a statistically significant increase has occurred.
3. For those constituents identified in Condition II.E.1 which have background values established in accordance with Condition II.E.2.c, the Permittee must conduct the following statistical analysis at each well:
 - a. The measured concentration of each of these constituents present in a sample collected from each well must be compared to the PQL. If, for a given well, (A) the measured concentration of a single constituent is greater than two times the PQL, or (B) the measured concentration of any two or more of these constituents is greater than the PQL, the Permittee may immediately resample that well(s), or the Permittee may choose not to resample and must conclude evidence of statistically significant increase has occurred.
 - b. If a resample is obtained, it must be analyzed for the constituents detected above the PQL in the initial sample collected and analyzed in accordance with this condition. Collection, preservation, and analysis of this sample must be carried out in accordance with Condition II.H. The results of this resampling must again be

compared to the PQL's as described in this condition. If the measured concentrations for this resampling fail either of the comparisons, the Permittee must conclude that a significant change has occurred.

4. For those constituents that have intrawell background values that exceed appropriate 35 III. Adm. Code Part 620 Groundwater Quality Standards (GQSs), the facility must conduct the following statistical evaluation:

- a. The Permittee must conclude that there has been a statistically significant increase if either of the following has occurred:
 - i. The measured concentration of the constituent exceeds the background value calculated in accordance with Conditions II.E.2 or II.E.3; or
 - ii. A trend analysis (e.g., Mann-Kendall Trend test or Sen's Trend Estimator) of the 10 most recent sampling events indicates a statistically significant increasing trend at the 95% confidence level.
- b. If the statistical evaluation required in Condition II.I.4.a indicates a statistically significant increase, the facility may immediately resample the monitoring well(s), or the Permittee may choose not to resample and must conclude that a statistically significant increase has occurred.
- c. If a resample is obtained, it must be analyzed for the constituent(s) that failed the evaluation in Condition II.I.4.a. Collection, preservation, and analysis of the resample must be carried out in accordance with Condition II.H. The results of this resample must again be evaluated as required by Condition II.I.4.a substituting the resample result for the most recent sampling event.

If the resample results again fail the evaluation required by Condition II.I.4.a, the facility must conclude that a statistically significant increase has occurred.

5. Each time samples are collected for the statistical comparisons required by Conditions II.I.2, II.I.3, or II.I.4, the Permittee must prepare lab (trip) blanks in accordance with the procedures described in the approved permit application.
- a. If any volatile organic compound identified in Condition II.E.1 cause the initial sample from a given well to fail the tests required by Conditions II.I.2, II.I.3, or II.I.4, and the constituent(s) is (are) found above the PQL in a field and/or lab blank associated with the collection or analysis of the sample, the Permittee must immediately resample the well of concern. This sample, taken to verify the concentration of those

constituents found in the initial sample, must be collected, preserved, and analyzed in accordance with the procedures set forth in Condition II.H.

- i. Analysis of the resample.
 - A. If the constituent found in the blank is statistically evaluated in accordance with Condition II.I.2, the resample must be analyzed for the constituents which failed the test and were also found in the blanks.
 - B. If the constituent found in the blank is statistically evaluated in accordance with Condition II.I.3, the resample must be analyzed for all the constituents statistically evaluated in accordance with Condition II.I.3.
 - C. If the constituent found in the blank is statistically evaluated in accordance with Condition II.I.4, the resample must be analyzed for all the constituents statistically evaluated in accordance with Condition II.I.4.
- ii. The measured concentration of the constituents in the resample must be compared to background values in accordance with Conditions II.I.2, II.I.3, and II.I.4.
 - A. If this comparison passes the tests set forth in Condition II.I.2, II.I.3, and/or II.I.4, the Permittee may conclude that no significant increase has occurred for the constituents of concern at the well in question.
 - B. If this comparison fails the test set forth in Conditions II.I.2, II.I.3, and/or II.I.4, the Permittee must immediately collect a "verification sample" in accordance with Conditions II.I.2, II.I.3, and II.I.4.
- b. If the same problem described in Condition II.I.5.a occurs in the analysis of the "resample" required by Conditions II.I.2, II.I.3, and II.I.4, the Permittee may collect and analyze a verification sample in accordance with Condition II.I.5.a. as modified below:
 - i. The phrase "resample" must be substituted for "initial sample."
 - ii. The verification sample need only be analyzed for those constituents which the "resample" was analyzed for.
 - iii. If the comparison of the analytical results fails the tests in Conditions II.I.2, II.I.3, and/or II.I.4, the Permittee must conclude that a significant change has occurred.

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- c. Chemical and statistical analyses which are not affected by the interpretation of blank data must not be repeated, except as described above.

J. REPORTING AND RECORDKEEPING

1. The Permittee must enter all monitoring, testing, and analytical data obtained in accordance with Conditions II.E, II.F, II.G, II.H, and II.I above in the operating record. The data must include all computations, calculated means, variances, prediction limits and statistical or results of statistical tests that the Illinois EPA has determined to be equivalent.
2. Samples collected to meet the requirements of the groundwater monitoring program described in Conditions II.E, II.F, II.G, II.H, and II.I must be collected and reported as identified in the table below. All additional information required by the groundwater monitoring program (as specified in Conditions II.E, II.F, II.G, and II.I) must also be submitted to the Illinois EPA at the address listed in Condition II.D.5 in accordance with this schedule.

<u>Sampling Event of Calendar Year</u>	<u>Samples to be Collected During the Months of</u>	<u>Results Submitted to the Illinois EPA by the Following</u>
Second Quarter	April – June	July 15
Fourth Quarter	October – December	January 15

3. Groundwater surface elevation data measured pursuant to Condition II.G.1, must be collected semi-annually and submitted to the Illinois EPA as identified in Condition II.J.2.
4. The Permittee must report the groundwater flow rate and direction in the Silurian Dolomite, as required by Condition II.F.4, by July 15 of each year.
5. The Permittee must report the surveyed elevation, as required by Condition II.G.2, of the top of the well casing ("stick-up"), referenced to MSL, in accordance with the following schedule:
 - a. For wells identified in Condition II.D.1, every two years (during the First or Second Quarter), or at the request of the Illinois EPA, or whenever the elevation changes.
 - b. For any new wells, at the time of installation and reported in the as-built diagrams. Subsequent measurements must be made every two years (during the First or Second Quarter) or at the request of the Illinois EPA, or whenever the elevation changes.

6. Elevation of the bottom of each monitoring well identified in Condition II.D.1 referenced to MSL, is to be reported when maintenance activities are conducted in accordance with Condition II.J.7. This measurement must be taken during the first semi-annual sampling event and reported by July 15 of that year.
7. The Permittee must maintain all equipment associated with groundwater monitoring wells. Dedicated pumps found in monitoring wells identified in Condition III.D.1 must be removed, inspected, and repaired, if necessary, every five years. Information regarding the inspection and maintenance of pumps must be reported by July 15 of that year.
8. The Permittee must submit a completed "RCRA Facility Groundwater, Leachate and Gas Reporting Form" (LPC-592) as a cover sheet for any notices or reports required by the facility's Permit for identification purposes. Only one copy of the LPC-592 must accompany the submittal. However, the Permittee must submit one original and a minimum of two copies of each notice or report submitted to the Illinois EPA. The form is not to be used for permit applications.
9. Information required by Conditions II.G.3, II.J.2, II.J.3, II.J.5, and II.J.6 must be submitted in an electronic format. The information is to be submitted, as fixed-width text files formatted as found in Attachment A, in accordance with the schedule in Condition II.J.2. Additional guidance regarding the submittal of the information in an electronic format can be found on the Illinois EPA website.
10. In addition to submitting analytical results electronically as required by Condition II.J.9, a summary report describing the results of the groundwater sampling event must be submitted after each sampling event in accordance with the schedule found in Condition II.J.2. These reports must include, but not be limited to:
 - a. A description of any problems encountered during the event.
 - b. A tabulated summary of groundwater and analytical data collected during the sampling event including the appropriate groundwater quality standard, appropriate PQL or EQL, and appropriate derived background value for each parameter.
 - c. A summary table of groundwater elevations collected during the sampling event and potentiometric map(s) based on that data.
 - d. Copies of any statistical analysis required to be conducted in accordance with Conditions II.I.2, II.I.3, and II.I.4.
 - e. Information required by Conditions II.F.5, II.F.6, and II.F.7.

11. If the Permittee determines, pursuant to Condition II.I, that there is a statistically significant increase for any of the parameters specified in Condition II.E.1 at any monitoring well at the compliance point, the Permittee must:
- a. Notify the Illinois EPA in writing indicating what parameters and wells have shown statistical increases and provide all statistical calculations which have been completed. This notification must be submitted to the Illinois EPA within seven days of the date that the increase is discovered.
 - b. Sample the groundwater in all wells listed in Condition II.D.1 screened within the hydrostratigraphic unit in which the statistically significant increase was identified and determine the concentration of all constituents identified in 35 Ill. Adm. Code 724, Appendix I such that the results will accompany the permit modification required by Condition II.J.11.d.
 - c. For any Appendix I compounds found in the analysis pursuant to this condition, the Permittee may resample within one month and repeat the analysis for those compounds detected. If the results of this second analysis confirm the initial results, then these constituents will form the basis for compliance monitoring. If the Permittee does not resample for the compounds pursuant to this condition, the hazardous constituents found during this initial Appendix I analysis will form the basis for compliance monitoring.
 - d. Within 90 days, submit to the Illinois EPA a permit application to establish a compliance monitoring program meeting the requirements of 35 Ill. Adm. Code 724.199. The permit application must include the following information:
 - i. An identification of the concentration of any 35 Ill. Adm. Code 724, Appendix I constituents found in the groundwater at each monitoring well at the compliance point;
 - ii. Any proposed changes to the groundwater monitoring system at the facility necessary to meet the requirements of 35 Ill. Adm. Code 724.199;
 - iii. Any proposed changes to the monitoring frequency, sampling and analysis procedures, or methods or statistical procedures used at the facility necessary to meet the requirements of 35 Ill. Adm. Code 724.199; and
 - iv. For each hazardous constituent found at the compliance point, a proposed concentration limit under 35 Ill. Adm. Code 724.194(a)(1) or 724.194(a)(2), or a notice of intent to seek an alternate concentration limit for a hazardous constituent under 35 Ill. Adm. Code 724.194(b).

- e. Submit to the Illinois EPA a corrective action feasibility plan to meet the requirements of 35 Ill. Adm. Code 724.200 unless all hazardous constituents identified under Condition II.J.11.b are listed in 35 Ill. Adm. Code 724.194 and their concentrations do not exceed the respective values given in that table or the Permittee has sought an alternate concentration limit under II.J.11.d.iv for every hazardous constituents identified under Condition II.J.11.b.
 - f. Within 180 days, submit to the Illinois EPA all data necessary to justify any alternate concentration limits for a hazardous constituent sought under Condition II.J.11.d.iv.
12. If the Permittee determines, pursuant to Condition II.F, that there is a statistically significant increase above the background values for the parameters specified in Condition II.E.1, the Permittee may demonstrate that a source other than a regulated unit caused the increase or that the increase resulted from error in sampling, analysis, or statistical evaluation, or natural variation in groundwater. To make this demonstration, the Permittee must:
- a. Notify the Illinois EPA in writing within seven days of the date that it intends to make a demonstration under 35 Ill. Adm. Code 724.198(g).
 - b. Within 90 days submit a report to the Illinois EPA which demonstrates that a source other than a regulated unit caused the increase, or that the increase resulted from error in sampling, analysis, or evaluation.
 - c. Within 90 days submit to the Illinois EPA an application to make any appropriate changes to the detection monitoring program at the facility.
 - d. Continue to monitor in accordance with the detection monitoring program established under Condition II.F.
13. If the Permittee determines that additional hazardous constituents not currently part of the Groundwater Protection Standard are present in the groundwater, the Permittee must:
- a. Report the concentration of these additional constituents detected in the groundwater to the Illinois EPA within seven days after the receipt of the analytical data from the laboratory, and
 - b. Within 30 days of the date that the additional constituents are confirmed, submit a Class 1* permit modification request to add the additional constituents to the monitoring list of the Groundwater Protection Standard, Lists G2 through G7 as

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necessary and establish the concentration limit for each additional constituent following procedures in Condition II.E.2.

14. Area 1 RFI activities do not relieve the facility of the responsibility to meet the requirements of 35 Ill. Adm. Code 724.198(g), which among other things, requires the reporting of statistically significant increases for 1,4-dioxane and chloride in Area 4 monitoring wells adjacent to Area 1.

K. REQUEST FOR PERMIT MODIFICATION

1. If the Permittee or the Illinois EPA determines that the detection monitoring program no longer satisfies the requirements of 35 Ill. Adm. Code 724, Subpart F, the Permittee must, within 90 days, submit a permit application to the Illinois EPA to make any appropriate changes to the program which will satisfy the regulations.
2. Conditions in this section of the Permit may be modified in accordance with 35 Ill. Adm. Code 705.128 if there is cause for such modification, as defined in 35 Ill. Adm. Code 702.184. Causes for modification identified in this section include, but are not limited to, alterations to the permitted facility, additional information which would have justified the application of different permit conditions at the time of issuance, and new regulations.

SECTION III
AREA 3 GROUNDWATER CORRECTIVE ACTION PROGRAM

A. SUMMARY

Groundwater contamination has been detected in groundwater monitoring wells in the Dolton Sand and the upper Silurian Dolomite aquifer at Area 3 of the CID-RDF. The groundwater contamination is in the form of light non-aqueous phase liquid (LNAPL), as well as organic constituents at concentrations which exceed the Groundwater Protection Standards established by 35 Ill. Adm. Code 724.192. Therefore, this corrective action program, meeting the requirements of 35 Ill. Adm. Code 724.200, must be implemented at Area 3.

The Area 3 Groundwater Corrective Action Program required by this Permit includes:

1. A Groundwater Management Zone (GMZ), established pursuant to 35 Ill. Adm. Code 620.250, as a three-dimensional region containing groundwater being managed through a corrective action system to mitigate impairment caused by the release of contamination;
2. Extraction of the LNAPL and groundwater contaminated with organic constituents found in the weathered Silurian Dolomite inside the northern portion of the GMZ.
3. Extraction of groundwater contaminated with organic constituents inside the southern portion of the GMZ.
4. Implementation of a phytoremediation system at the southern portion of the GMZ.
5. Monitoring of groundwater to ensure the effectiveness of the Corrective Action System within the GMZ. This monitoring will involve: (a) evaluating the zone of influence of the Corrective Action system; and (b) groundwater sampling and analysis to ensure the reduction of contaminant concentrations.
6. Monitoring of groundwater at uncontaminated wells that are situated at the perimeter of the GMZ. This monitoring system ensures wells located at the perimeter of the GMZ are in compliance with the Groundwater Protection Standard.
7. Monitoring of groundwater at the portions of Area 3 that are not included in the GMZ.

B. DEFINITIONS

1. "Uppermost Aquifer" refers to the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically connected with this aquifer in the vicinity of the facility. The uppermost aquifer underlying Area 3 has been identified as a weathered, fractured and/or jointed Silurian dolomite which overlies a bedrock aquitard, and underlies a perched outwash sand unit with minimal hydraulic connection.
2. "GMZ" refers to the three-dimensional region containing groundwater being managed to mitigate impairment caused by the release of contaminants from a site.
3. "Point of Compliance" refers to the vertical surface located at the hydraulically downgradient limits of the waste management area (Area 3) extending down into the uppermost aquifer underlying the regulated unit.
4. "Ft-bgs" refers to the number of feet below the ground surface.
5. "Ft-MSL" refers to elevation referenced to mean sea level.
6. "Detected" shall mean a concentration equal to or above the PQL listed in USEPA's SW-846 (Third Edition) or as approved by the Illinois EPA for the applicable analytical methods specified in the approved Sampling and Analysis Procedures, which are incorporated by reference in Condition III.H.
7. "Progressive Increase" shall mean an increase in the concentration of a constituent in successive sampling events.
8. "Stick-up" refers to the height of the reference survey datum. This point is determined within ± 0.01 foot in relation to MSL, which in turn is established by reference to an established National Geodetic Vertical Datum.

C. IMPLEMENTATION

1. The Permittee must implement the Corrective Action Program upon the effective date of this Permit. On that date, the corrective action and groundwater monitoring requirements set forth in this Permit shall supersede those previously established in the previous Permit for the facility.
2. The Permittee must carry out the corrective action monitoring program specified in this Permit on the groundwater beneath the CID-RDF facility in the City of Chicago, Illinois. The uppermost aquifer in the vicinity of the CID-RDF has been identified as a composite zone consisting of a perched outwash sand and gravel, where present and the underlying

weathered, fractured and/or jointed Silurian dolomite which lies above a bedrock aquitard.

3. Monitoring wells at the facility are screened in the shallow outwash sand and gravel referred to as the "Dolton Sand", historic overlying fill material, and the deeper dolomite unit referred to as the "Silurian Dolomite". For the purposes of this Permit and in accordance with 35 Ill. Adm. Code Part 620 regulations: (1) the Dolton Sand has been designated Class II: General Resource Groundwater; and (2) the Silurian Dolomite has been designated Class I: Potable Resource Groundwater. The analytical results obtained from the groundwater monitoring wells must be compared to the appropriate Class I or Class II concentration limits that comprise the groundwater protection standard found in Condition III.E.1 or to established background values as appropriate.
4. Upon the effective date of this Permit, a GMZ is established as a three-dimensional region containing groundwater within the previously defined uppermost aquifer pursuant to 35 Ill. Adm. Code 620.250. The GMZ consist of a northern portion and a southern portion. The geographic location of the northern portion of the GMZ is currently bound by monitoring wells H28D, C28D, D28D, R13D, M28D, P28D, and K28D. The geographic location of the southern portion of the GMZ is currently bound on the north by monitoring wells G23DR, G10S, RW8S, G38D, and G25D. The geometry of the GMZ and the corrective action activities conducted within the GMZ may be modified in accordance with Condition III.K.11 as corrective action activities progress.
5. The GMZ must apply to the constituents comprising the groundwater protection standard found in Condition III.E.1. The GMZ must remain in place as long as corrective action activities are being conducted in a timely and appropriate manner.
6. The facility must remediate groundwater such that it meets appropriate groundwater quality standards at the Point of Compliance. At this time, the Point of Compliance shall be postponed for the Area 3 GMZ until such time that the GMZ monitoring wells have attained the applicable concentration limits that comprise the groundwater protection standard found in Condition III.E.1 and the GMZ expires. At that time, the CID-RDF facility must submit a proposal for establishment of a point of compliance which satisfies the regulatory requirements found in 35 Ill. Adm. Code 724, Subpart F and reflects the current conditions at the facility.

D. WELL LOCATIONS AND CONSTRUCTION

1. The Permittee must maintain the groundwater monitoring wells identified in the following table in accordance with the approved permit application to allow for the collection of groundwater samples. The location of these wells is specified in Figures C-2a, C-2b, and C-2c of the approved permit application.

IEPA Well No.	Permittee Well No.	Well Depth (ft.)	Well Depth Elevation (Ft.-MSL)	Well Screen Interval
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**List 1 – GMZ Observation Zone Monitoring Wells/LNAPL/Groundwater Extraction Network
(GMZ wells located within the area of groundwater contamination)**

G1A1 ^{*M}	A28D	74.7	518.90	528.40-518.90
G1A2 ^{*M}	B28D	82.0	512.51	522.51-512.51
G1A3 ^{*M}	C28D	71.6	521.54	531.54-521.54
G1A4 ^{RM}	D28D	77.6	516.81	526.81-516.41
G1A5 ^{*M}	E28DR	84.4	505.71	515.71-505.71
R1A6 ^{*M}	F28DR	84.6	508.81	518.87-508.81
G1A7 ^{*M}	G29D	88.2	505.24	515.24-505.24
G1B1 ^{*M}	K28D	85.5	503.23	513.23-503.23
G1B2 ^{*M}	L28D	93.8	496.76	506.76-496.76
G601 ^{RE}	RW-1	79.52	511.97	511.97-522.14
G602 ^{RE}	RW-2	84.17	506.58	506.63-516.63
G603 ^{RM}	RW-3	90.9	502.07	512.07-502.07
A24D ^O	A24D	94.1	498.84	508.84-498.84
G36D ^M	G36D	90.7	497.97	507.97-497.97
G37D ^M	G37D	92.8	496.61	506.61-496.61
GU2D ^M	IW302D	89.0	503.44	513.44-503.44
G604 ^E	EW1	79.00	509.06	519.56-509.56
G605 ^E	EW2	11.50	576.73	583.23-577.23
P106 ^P	P6W	13.6	577.12	582.12-577.12
G1C1 ^P	RW1S	13.7	578.50	583.50-578.50
G1C2 ^P	RW2S	18.0	576.14	586.14-576.14
G1C3 ^P	RW3S	10.3	578.18	583.18-578.18
G1C4 ^P	RW4S	10.7	579.73	584.73-579.73

List 2 – GMZ Perimeter Monitoring Wells (GMZ wells located outside the area of groundwater contamination)

R13D ^M	R13D	82.3	509.21	519.21-509.21
G1A8 ^{*M}	H28D	71.6	520.74	530.74-520.74
G1B3 ^M	M28D	96.3	494.27	504.27-494.27
G1B5 ^M	P28D	94.5	495.61	505.61-495.61
G10S ^P	G10S	7.7	581.22	586.22-581.22
G25D ^O	G25D	102.6	488.46	498.46-488.46

G38D ^M	G38D	96.9	495.14	505.14-495.14
R23D ^M	G23DR	69.5	522.45	532.45-522.45
G1C5 ^P	RW5S	11.0	579.51	585.51-579.51
R1C6 ^P	RW6S	12.5	578.70	583.40-578.70
G1C7 ^S	RW7S	11.9	580.99	585.64-580.99
G1C8 ^P	RW8S	12.6	579.56	583.99-579.56

List 3 – Area 3 Dolomite Monitoring Wells (Outside the GMZ)

A12D ^O	A12D	54.7	534.65	544.65-534.65
R15D ^O	G15DR	97.7	490.85	495.85-490.85
G1B6 ^M	O28D	60.8	529.06	539.06-529.06
G21D ^O	G21D	60.5	530.13	535.13-530.13
R107 ^O	G107R	83.0	508.19	517.59-508.19
AW01 ^O	AW01	98.9	490.39	500.39-490.39
R16D ^O	R16D	84.3	505.66	515.66-505.66
R26D ^O	G26DR	87.4	502.96	512.96-502.96
R27D ^O	G27DR	89.6	501.96	511.96-501.96

List 4 – Area 3 Dolton Sand Monitoring Wells (Outside the GMZ)

G12S ^P	G12S	7.3	581.21	582.21-581.21
R13S ^P	G13SR	7.6	583.92	588.92-583.92
G14S ^P	G14S	17.3	572.62	573.62-572.62
G15S ^P	G15S	18.1	570.33	571.33-570.33
G16S ^P	G16S	11.8	577.56	578.56-577.56

NOTE:

E -- Groundwater extraction well

M -- Analysis of List G1, G2, G3, G4 and G5 parameters in accordance with Condition III.E.1

O -- Analysis of List G1, G2, G3, G4 and G5 parameters in accordance with Condition III.E.1

P -- Analysis of List G1 and G2 parameters in accordance with Condition III.E.1

R -- Denotes LNAPL recovery well.

S -- Denotes monitoring well used only for groundwater elevation measurements

* -- Denotes well to be used for groundwater quality monitoring and supplemental LNAPL recovery.

2. Construction of each new or replacement monitoring well/piezometer must be at a minimum in accordance with the diagram contained in Attachment A, unless otherwise approved in writing by the Illinois EPA. All new monitoring wells/piezometers must be continuously sampled and logged on an Illinois EPA boring log and well completion report, as provided in Attachment A unless otherwise approved by the Illinois EPA.

3. The Permittee must notify the Illinois EPA within 30 days in writing if any of the wells identified in Condition III.D.1 are damaged, the structural integrity has been compromised causing the well not to serve its function or to act as a contaminant pathway. A proposal for the replacement of the subject well(s) must accompany this notification. The well must not be plugged until the new well is on-line and monitoring data has been obtained and verified, unless the well is extremely damaged and would create a potential route for groundwater contamination.
4. Should any well become consistently dry or unserviceable, a replacement well must be provided within 10 feet of the existing well. This well must monitor the same zone as the existing well and be constructed in accordance with the current Illinois EPA groundwater monitoring well construction standards at the time that the wells are replaced. A well which is more than 10 feet from the existing well and which does not monitor the same geologic zone must be approved by the Illinois EPA and designated as a new well. If the facility determines that a replacement well will be a dry well, then it must submit for Illinois EPA approval either a proposal to install a new monitoring well or a proposal not to replace the well with appropriate rationale.
5. The Permittee must submit boring logs, construction diagrams, and data sheets from the installation and development of each new or replacement well to the Illinois EPA at the address below within 30 days of the date that installation of the well is completed. In addition, the Permittee must submit certification that plugging and abandonment of a well was carried out in accordance with the approved procedures (see Attachment A) to the Illinois EPA at the address below within 30 days of the date that the well is plugged and abandoned. All information must be submitted to the appropriate Agencies.

**Illinois Environmental Protection Agency
Bureau of Land -- #33
2520 West Iles Avenue
Permit Section
Springfield, Illinois 62794-9276**
6. All wells/piezometers must be clearly identified and must be equipped with protective caps and locks. Monitoring wells or piezometers located in high traffic areas must be protected with bumper guards.
7. All groundwater monitoring wells and piezometers not utilized in the approved groundwater monitoring system, but retained by the facility, must be constructed and maintained in accordance with 77 Ill. Adm. Code Part 920 regulations. Monitoring wells and piezometers that are improperly constructed must be abandoned in accordance with Attachment A.

E. GROUNDWATER PROTECTION STANDARD

1. The following hazardous constituents and concentration limits comprise the groundwater protection standard in the vicinity of the CID-RDF facility. Total (unfiltered) values, derived from the applicable USEPA SW-846 (latest version) or equivalent methods listed in Section C of the approved permit application, will be used for comparison with the concentration limits.

	<u>STORET</u>	<u>Units</u>	<u>Concentration Limit</u>	
			<u>Class I</u>	<u>Class II</u>
<u>List G1 – Field Parameters</u>				
pH	00400	standard	6.5-9.0	
Specific Conductance at 25°C	00094	µmhos/cm	--	--
Temperature of Water Sample	00011	Fahrenheit	--	--
Turbidity	00076	NTUs	--	--
Depth to Water (below land surface)	72019	Feet	--	--
Depth to Water (below measuring point)	72109	Ft-bgs	--	--
Elevation of Groundwater Surface	71993	Ft-MSL	--	--
Elevation of Bottom of Well#	72020	Ft-MSL	--	--
Elevation of Measuring Point (Top of Casing) ##	72110	Ft-MSL	--	--
<u>Hazardous Waste Constituents</u>				

	<u>STORET</u>	<u>PQL</u> <u>(µg/L)</u>	<u>Concentration Limit</u>	
			<u>Class I</u>	<u>Class II</u>
<u>List G2 – Organics</u>				
Toluene	34010	6	1,000	2,500
Benzene	34030	5	5	25
Ethylbenzene	78113	7.2	700	1,000
Xylene (total)	81551	5	10,000	10,000
BTEX(total)	11750	--	11,705	13,525
1,4-dioxane	81582	5	7.7	7.7
Chlorobenzene	34301	6	100	500

List G3 – Organics

Naphthalene	34696	10	140	220
Acetone	81552	100	6,300	6,300
bis(2-ethylhexyl)phthalate	39100	6	6	60
Methylene Chloride	34423	5	5	50

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1,4-dichlorobenzene	34571	2	25	375
Vinyl Chloride	39175	2	2	10
Fluoranthene	34376	5	280	1,400

List G4 – Inorganics (total)

Chloride, total	00940	1,000	200,000	200,000
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List G5 – Inorganics (dissolved)

Chloride, dissolved	00941	1,000	--	--
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Must be determined in accordance with Condition III.G.3

Must be determined in accordance with Condition III.G.2

2. Alternate concentration limits may be established in accordance with 35 Ill. Adm. Code 724.194 (b) where the Permittee can determine a constituent will not pose a substantial hazard to human health or the environment. The alternate concentration limits proposed by the facility must be approved by the Illinois EPA.
3. The compliance period when the Groundwater Protection Standard applies is the number of years equal to the active life of the waste management area (including any waste management activity prior to permitting and the closure period). The compliance period at the CID-RDF facility has been defined as 30 years following certification of closure of the Area 3 Landfill.
4. This Corrective Action Program must continue during the compliance period until the Permittee demonstrates that the LNAPL has been removed to the greatest extent practicable, and that the Groundwater Protection Standard has not been exceeded for four consecutive monitoring events. However, if the owner or operator is engaged in a corrective action at the end of the defined compliance period, the compliance period is extended until the owner or operator can demonstrate that the Groundwater Protection Standard has not been exceeded for three consecutive years.
5. The Permittee shall not be relieved of the responsibility to remediate a release that has migrated beyond the facility boundary where off-site access is denied.

F. CORRECTIVE ACTION PROGRAM

The Permittee must conduct the corrective action program and perform groundwater monitoring detailed in this section, in accordance with the following:

1. List 1, Observation Zone Monitoring Wells/LNAPL/Groundwater Extraction Network

- a. The GMZ Observation Zone monitoring wells identified in Condition III.D.1, List 1 are the wells that comprise the Groundwater Remediation System. The Groundwater Remediation System consists of wells that are used for recovery of LNAPL, contaminated groundwater, and for groundwater quality monitoring when LNAPL is not present. For the northern portion of the GMZ, the Permittee must implement, at these wells, the corrective measures detailed in Section C.8 of the approved permit application as modified by Illinois EPA Log No. B-27R-M-67. For the southern portion of the GMZ, the Permittee must implement the corrective measures detailed in the document entitled, "Class 2 Permit Modification", dated May 24, 2013 and additional information to that document dated July 30, 2013, with the following conditions:
- i. Extraction using the LNAPL Extraction System shall begin within 30 days of the effective date of this Permit. Extraction at newly installed extraction wells shall begin within 30 days of the date of installation of the new well.
 - ii. The facility must extract LNAPL from each northern GMZ well identified in Condition III.D.1, List 1 on a quarterly basis. LNAPL extraction must be conducted in accordance with the procedures described in Section C.8.3 of the approved permit application.
 - iii. Written approval in the form of a Class 1* Permit Modification must be obtained from the Illinois EPA prior to the installation of additional LNAPL extraction well(s).
 - iv. LNAPL extraction must be evaluated quarterly and reported semi-annually in accordance with Conditions III.I.1 and III.K.2.
- b. The Permittee must demonstrate the effectiveness of the Corrective Action Program by monitoring the groundwater from the GMZ Observation Zone well network identified in Condition III.D.1, List 1. The effectiveness must be evaluated in accordance with the procedures described in the approved permit application and the following conditions:
- i. Groundwater samples must be collected semi-annually (second and fourth quarters) in accordance with the schedule provided in Condition III.K.2 and analyzed for List G1, G2, G3, G4, and G5 parameters as identified by the Notes in Condition III.D.1. However, if measurable LNAPL is present within a well at the time of a sampling event, the well must be monitored for the presence and thickness of LNAPL in lieu of the above lists.

- ii. Wells that exhibit measurable quantities of LNAPL must be recorded as containing free product and are not required to be sampled for pH, specific conductance, water temperature, turbidity, or Lists G2, G3, G4, and G5 parameters during that event. Wells that do not exhibit measurable quantities of LNAPL (i.e., wells with sheens, emulsions or no evidence of free product) must be sampled for pH, specific conductance, water temperature, turbidity, and Lists G2, G3, G4, and G5 parameters, as identified by the Notes to Condition III.D.1, during that event.
- iii. The volume of LNAPL removed by each well in the LNAPL Extraction System must be determined quarterly during the time that measurable LNAPL is extracted from the LNAPL Extraction System. If no measurable LNAPL is extracted by the LNAPL Extraction System, the facility must note that no LNAPL was recovered during this period.
- iv. The facility must report the method of LNAPL extraction utilized for each well during each extraction event and the criteria used to determine the extraction method.
- v. The volume of groundwater extracted by each well must be reported in accordance with the requirements of Condition III.K.2.
- vi. Sampling and analytical procedures utilized in the Observation Zone wells must be in accordance with Condition III.H.
- vii. Statistical analysis of the data collected from Observation Zone wells must be conducted in accordance with Condition III.I.1.a.
- viii. Results of the Observation Zone monitoring and LNAPL/groundwater extraction activities must be reported in accordance with Condition III.K.

2. Perimeter Wells

- a. The Permittee must determine whether the Groundwater Protection Standard has been exceeded at the GMZ Perimeter (non-impacted) wells. The wells identified in Condition III.D.1, List 2 must be used for this evaluation. These wells must be evaluated during the compliance period as follows:
 - i. Groundwater samples must be collected semi-annually (second and fourth quarters) in accordance with the schedule provided in Condition III.K.2 and analyzed for Lists G1, G2, G3, G4, and G5 parameters as identified by the Notes in Condition III.D.

- ii. Sampling and analytical procedures must be in accordance with Condition III.H.
- iii. Statistical analysis of the data collected from the GMZ Perimeter wells must be conducted in accordance with Condition III.I.1.b.
- iv. Results of the GMZ Perimeter well monitoring must be reported in accordance with Condition III.K.

3. List 3 – Area 3 Dolomite Monitoring Wells (Outside the GMZ)

- a. The facility must monitor groundwater in the Silurian Dolomite for releases from portions of Area 3 that are not associated with the current GMZ. The wells identified in Condition III.D.1, List 3 must be used for this evaluation. These wells must be evaluated during the compliance period as follows:
 - i. Groundwater samples must be collected semi-annually (second and fourth quarters) in accordance with the schedule provided in Condition III.K.2 and analyzed for List G1, G2, G3, G4, and G5 parameters identified in Condition III.E.
 - ii. Sampling and analytical procedures must be in accordance with Condition III.H.
 - iii. Statistical analysis of the data collected from the List 3 – Area 3 Dolomite Monitoring wells must be conducted for the List G2, G3, and G5 parameters in accordance with Conditions III.J.
 - iv. Results of the List 3 well monitoring must be reported in accordance with Condition III.K.

4. List 4 – Area 3 Dolton Sand Monitoring Wells (Outside the GMZ)

- a. The facility must monitor groundwater in the Dolton Sand for releases from portions of Area 3 that are not associated with the current GMZ. The wells identified in Condition III.D.1, List 4 must be used for this evaluation. These wells must be evaluated during the compliance period as follows:
 - i. Groundwater samples must be collected semi-annually (second and fourth quarters) in accordance with the schedule provided in Condition III.K.2 and analyzed for List G1 and G2 parameters identified in Condition III.E.
 - ii. Sampling and analytical procedures must be in accordance with Condition III.H.

- iii. Statistical analysis of the data collected from the List 4 – Area 3 Dolton Sand Monitoring wells must be conducted for the List G2 parameters in accordance with Condition III.J.
 - iv. Results of the List 4 well monitoring must be reported in accordance with Condition III.K.
- 5. The Permittee must determine the groundwater flow rate and direction in the Dolton Sand and the Silurian Dolomite at least annually from the wells listed in Condition III.D, Lists 1, 2, 3, and 4. The groundwater flow rate should be reported as a minimum and maximum range.
 - 6. The Permittee must provide, on a semi-annual basis (second and fourth quarters), isoconcentration maps, by monitored zone, of the extent of contamination in groundwater at the corrective action area.
 - 7. The Permittee must evaluate the effectiveness of the Groundwater Remediation System to hydraulically capture and withdraw the off-site plume of groundwater contamination. This evaluation must be conducted semi-annually (second and fourth quarters). If the evaluation indicates the off-site plume of contamination is not completely captured by the current corrective action system design, the Permittee must submit within 30 days of the semi-annual evaluation proper notification or modification request to achieve capture of the groundwater contamination.
 - 8. The Permittee must evaluate the results of the analyses required by Conditions III.F.1, III.F.2, III.F.3, and III.F.4, excluding the List G1 parameters, and identify:
 - a. The concentration of any constituent listed in Condition III.E.1 which is above the appropriate PQL or EQL listed in the approved analytical method(s) specified in Section C of the approved permit application.
 - b. The concentration of any constituent detected which was not detected during the previous sampling event.
 - c. The concentration of any constituent that exhibits a progressive increase over four consecutive sampling events.
 - 9. Originally beginning the Second Quarter 2015, and for the Second Quarter every five years thereafter, the Permittee must report the concentration of any TIC detected by laboratory analysis of that monitoring event. This information must be provided in the report required by Condition III.K.10.

10. For any 35 Ill. Adm. Code 724, Appendix I constituent found in the analysis required by Condition III.F.8 that is not currently included in Condition III.E.1 the Permittee must, within 30 days, resample all of the monitoring wells listed in Condition III.D.1 for the detected constituent. If the results of the second analysis confirm the presence of the constituent in groundwater, the Permittee must follow the procedures of Condition III.K.13.

G. GROUNDWATER ELEVATION

1. The Permittee must determine the groundwater surface elevation referenced to the nearest ± 0.01 Ft.-MSL at each well each time groundwater is sampled in accordance with Condition III.K.3.
2. The Permittee must report the surveyed elevation of stick-up, referenced to MSL, when the well is installed (with as-built diagrams) and every two years (during the First or Second Quarter), or at the request of the Illinois EPA, or whenever the elevation changes in accordance with Condition III.K.5.
3. Elevation, as referenced to MSL, of the bottom of each monitoring well (STORET 72020), must be taken in the event a performance problem is identified with the dedicated pumps found in the monitoring wells. Additionally, the elevation of the bottom of each monitoring well must be taken whenever the downhole equipment is removed from the monitoring well.

H. SAMPLING AND ANALYSIS PROCEDURES

The Permittee must use the techniques and procedures described in the approved permit application when obtaining samples from the groundwater monitoring wells described in Condition III.D.1 with the following conditions:

1. Samples must be collected by the techniques described in the approved permit application.
2. Samples must be preserved, shipped, and handled in accordance with the procedures specified in the approved permit application.
3. Samples must be analyzed according to the procedures specified in the approved permit application.
4. Samples must be tracked and controlled using the chain-of-custody procedures specified in the approved permit application.

I. STATISTICAL PROCEDURES FOR THE GMZ MONITORING WELLS

To determine the effectiveness of the corrective action system in reducing the concentration of contaminants within the GMZ the facility must conduct the following activities:

1. The Permittee must evaluate the quality of groundwater samples acquired during the semi-annual sampling events identified in Condition III.K.2.
 - a. List 1 GMZ Observation Zone wells must be evaluated according to the following procedures:
 - i. When measurable LNAPL is present, LNAPL thickness and elevation referenced to Ft.-MSL for each well must be tabulated and graphed to indicate historical trends.
 - ii. Measurable LNAPL/groundwater volume recovered from each recovery well must be tabulated and graphed to indicate historical trends.
 - iii. Concentrations of each List G2, G3, and G5 parameter analyzed in accordance with Condition III.F.1.b at each well must be tabulated and graphed to indicate historical trends.
 - iv. The results of Observation Zone analyses must be reported in accordance with Condition III.K.2.
 - b. List 2 GMZ Perimeter wells must be evaluated according to the following procedures:
 - i. The concentration of each List G2, G3, and G4 parameter must be compared to its PQL and its respective Concentration Limit. If a List G2, G3, or G4 constituent is found to exceed the appropriate concentration limit(s) in the sample collected from the well, the Permittee may resample within 30 days. If the Permittee chooses not to resample, it must conclude that a statistically significant increase has occurred and follow the procedures in Conditions III.K.11 or III.K.12.
 - ii. If the Permittee chooses to resample, it must repeat the analysis for those compounds detected. Collection preservation and analysis of this resample must be carried out in accordance with Condition III.H. If the second round of analysis indicates an exceedance of appropriate concentration limit(s), the Permittee must conclude that a statistically significant increase has occurred and shall follow the procedures specified in Conditions III.K.11 or III.K.12.

- iii. Constituents detected below the PQL must be determined to be showing no change and no action is necessary.
- iv. Constituents detected above the PQL must be plotted on graphs which show historical concentration versus time. Plots indicating statistically significant increasing trends must be reported, in accordance with Condition III.K.14, as a potential area of increasing contamination. The trend analysis must be based on data from a minimum of four and a maximum of the 10 most recent consecutive sampling events and use of an appropriate trend test (e.g. Mann-Kendall Trend Test or Sen's Trend Estimator) of the 95% confidence level. In addition, this report must contain an evaluation as to whether the corrective actions are operating effectively and whether adjustments or additional remedial actions are necessary based on this trend.
- v. If the Permittee determines at any time that free product is present in any GMZ Perimeter well listed in Condition III.D.1, List 2, it must be reported and addressed in accordance with Condition III.K.11 and III.K.12.

J. STATISTICAL PROCEDURES FOR THE AREA 3 MONITORING WELLS OUTSIDE THE GMZ

To monitor for releases of contamination to groundwater underlying Area 3 that are not associated with the GMZ, the facility must conduct the following activities:

1. The background values established for the purpose of intrawell statistical analysis for the groundwater parameters monitored at the List 3 and List 4 monitoring wells listed in Condition III.D.1, must initially be established from the historical groundwater data from the initial sampling of each monitoring well under the initial RCRA Part B Permit (1988) to the Fourth Quarter 2006. This may include data from original monitoring wells and replacement wells as appropriate. The parameters for which background values must be established at the List 3 wells include the List G2, G3, and G5 parameters. The parameters monitored at the List 4 wells for which background values must be established include the List G2 parameters.
2. The background values established for the purpose of intrawell statistical analysis, must be established from the background data set, utilizing the following procedures. This submittal must include example calculations and must include, in table form, all groundwater data used in the calculation for each well, the number of pieces of data used to determine the mean, and a list of derived prediction limits.
 - a. For those parameters or constituents which are found to be above the PQL in 85% - 100% of the background data set, the background values for that parameter or constituent must be calculated using the methodology described in Attachment B,

Page 1. The facility must utilize a value of one half the PQL for non-detect results included in the data set.

- b. For the parameters or constituents which are found to be above the PQL in 50% - 85% of the background data set, the background values for that parameter must be calculated using methodology described in Attachment B, Page 2 or 5 as appropriate.**
- c. For those parameters or constituents in the background data set which do not meet the requirements of Conditions III.J.2.a or III.J.2.b, the average background value must be set at the PQL as shown in Condition III.E.1.**
- d. Sampling and analytical procedures utilized to establish background values must be in accordance with Condition III.H.**
- e. The Permittee must determine the distribution of the background data set for each parameter that meets the requirements of III.J.2.a and III.J.2.b.**
 - i. The Permittee must calculate a coefficient of variation for the background data set from each monitoring well in accordance with Attachment B.**
 - ii. If the coefficient of variation is less than or equal to 1.00, the Permittee may assume a normal data distribution for statistical analysis.**
 - iii. In the event that the coefficient of variation is greater than 1.00, the Permittee may choose to transform the background data in lieu of proposing a non-parametric statistical procedure in accordance with Condition III.J.2.e.iv. The Permittee must demonstrate that the original non-transformed data are inappropriate for a normal theory test.**
 - iv. If the Permittee determines that the transformed background data does not pass the test described in Condition III.J.2.e.ii, it must assume that the background data set is not appropriate for normal theory statistical analysis. In this event, the Permittee must submit for Illinois EPA review and approval a proposed statistical procedure that is appropriate for the distribution of the data used to establish background values and provides a reasonable balance between the probability of falsely identifying a non-contaminating regulated unit and the probability of failing to identify a contaminating unit.**
 - v. The Permittee may submit for Illinois EPA review and approval a proposal for an alternative procedure for evaluation of background data distribution.**

3. The facility must reestablish intrawell background values at the List 3 and List 4 monitoring wells every two years as follows:
 - a. The parameters for which background values must be established at the List 3 wells include the List G2, G3, and G5 parameters. The parameters monitored at the List 4 wells for which background values must be established include the List G2 parameters.
 - b. The facility must use a data set consisting of the results of the eight most recent sampling events.
 - c. The facility must utilize the procedures outlined in Conditions III.J.2.a through II.J.2.e.
 - d. Recalculated background values must be submitted for Illinois EPA review and approval by July 15 of each odd numbered calendar year beginning with July 15, 2023. This submittal must include example calculations and must include, in table form, all groundwater data used in the calculation for each well, the number of pieces of data used to determine the mean, and a list of derived prediction limits.
4. For those parameters and constituents which have not been sampled and analyzed in eight previous sampling events, background values must be established by the methodology approved by Condition III.J.2 following four sampling events after the effective date of this Permit. The results of this determination must be submitted to the Illinois EPA for review and approval within 90 days from the fourth sampling event.
5. Each of the List 3 and List 4 monitoring wells in Condition III.D.1 must be sampled semi-annually in accordance with the schedule in Condition III.K.2. The semi-annual sampling events must be conducted during the Second and Fourth Quarters of each calendar year during the compliance period.
6. The groundwater quality for each List 3 and List 4 monitoring well must be collected in accordance with Condition III.H and must be compared to the background values which were established for that well in accordance with Condition III.J.2 or III.J.3. The value for each parameter must be compared to the background value established for that parameter at that well.
7. For those constituents identified in Condition III.E.1 which have background values established in accordance with Conditions III.J.2.a and III.J.2.b, the Permittee must conduct the following statistical analysis (NOTE: This procedure must not be used if the coefficient of variation of the background values is greater than 1.00):

- a. The difference between the measured concentration of the constituent in a sample from each well and the background value for that constituent must be evaluated using prediction limits as described in Attachment B. If the test indicates the difference is significant at the 0.01 level, the Permittee may resample the monitoring well(s), or the Permittee may choose not to resample and must conclude that a statistically significant increase has occurred.
 - b. If a resample is obtained, it must be analyzed for the constituent(s) which was (were) initially found to be present in the sample at a value significantly different from its background value. Collection, preservation and analysis of this resample must be carried out in accordance with Condition III.H. The results of this resample must be compared to the background value for the constituent, again using the statistical procedure describe in this condition. If the second round of analysis indicated the difference is significant, the Permittee must conclude that a statistically significant increase has occurred.
8. For those constituents identified in Condition III.E.1 which have background values established in accordance with Condition III.J.2.c, the Permittee must conduct the following statistical analysis at each well:
 - a. The measured concentration of each of these constituents present in a sample collected from each well must be compared to the PQL. If, for a given well, (A) the measured concentration of a single constituent is greater than two times the PQL, or (B) the measured concentration of any two or more of these constituents is greater than the PQL, the Permittee may immediately resample from that well(s), or the Permittee may choose not to resample and must conclude evidence of statistically significant increase has occurred.
 - b. If a resample is obtained, it must be analyzed for the constituents detected above the PQL in the initial sample collected and analyzed in accordance with this condition. Collection, preservation and analysis of this sample must be carried out in accordance with Condition III.H. The results of this resampling must again be compared to the PQLs as described in this condition. If the measured concentrations for this resampling fail either of the comparisons, the Permittee must conclude that a significant change has occurred.
9. For those constituents that have intrawell background values that exceed appropriate 35 III. Adm. Code Part 620 GQSS, the facility must conduct the following statistical evaluation:
 - a. The Permittee must conclude that there has been a statistically significant increase if any one of the following has occurred:

- i. The measured concentration of the constituent exceeds the intrawell background value calculated in accordance with Conditions III.J.1, III.J.2, or III.J.3; or
 - ii. A trend analysis (e.g., Mann-Kendall Trend test or Sen's Trend Estimator) of the 10 most recent sampling events indicates a statistically significant increasing trend at the 95% confidence level.
 - b. If the statistical evaluation required in Condition III.J.9.a indicates a statistically significant increase, the facility may immediately resample the monitoring well(s), or the Permittee may choose not to resample and must conclude that a statistically significant increase has occurred.
 - c. If a resample is obtained, it must be analyzed for the constituent(s) that failed the evaluation in Condition III.J.9.a. Collection, preservation and analysis of the resample must be carried out in accordance with Condition III.H. The results of this resample must again be evaluated as required by Condition III.J.9.a substituting the resample result for the most recent sampling event. If the resample results again fail the evaluation required by Condition III.J.9.a, the facility must conclude that a statistically significant increase has occurred.
10. Each time samples are collected for the statistical comparisons required by Conditions III.J.7, III.J.8, or III.J.9, the Permittee must prepare lab (trip) blanks in accordance with the procedures described in the approved permit application.
- a. If any volatile organic compound identified in Condition III.E.1 cause the initial sample from a given well to fail the tests required by Conditions III.J.7 or III.J.8, and the constituent(s) is (are) found above the PQL in a field and/or lab blank associated with the collection or analysis of the sample, the Permittee must immediately resample the well of concern. This sample, taken to verify the concentration of those constituents found in the initial sample, must be collected, preserved and analyzed in accordance with the procedures set forth in Condition III.H.
 - i. Analysis of the resample:
 - A. If the constituent found in the blank is statistically evaluated in accordance with Condition III.J.7, the resample must be analyzed for the constituents which failed the test and were also found in the blanks.

- B. If the constituent found in the blank is statistically evaluated in accordance with Condition III.J.8, the resample must be analyzed for all the constituents statistically evaluated in accordance with Condition III.J.8.
 - C. If the constituent found in the blank is statistically evaluated in accordance with Condition III.J.9, the resample must be analyzed for the constituents statistically evaluated in accordance with Condition III.J.9.
- ii. The measured concentration of the constituents in the resample must be compared to background values in accordance with Conditions III.J.7, III.J.8, and III.J.9.
 - A. If this comparison passes the tests set forth in Condition III.J.7, III.J.8, and/or III.J.9, the Permittee may conclude that no significant increase has occurred for the constituents of concern at the well in question.
 - B. If this comparison fails the test set forth in Conditions III.J.7, III.J.8, and/or III.J.9, the Permittee must immediately collect a "verification sample" in accordance with Conditions III.J.7, III.J.8, and III.J.9.
 - b. If the same problem described in Condition III.J.10.a occurs in the analysis of the "resample" required by Conditions III.J.7, III.J.8, and III.J.9, the Permittee may collect and analyze a verification sample in accordance with Condition III.J.10.a as modified below:
 - i. The phrase "resample" must be substituted for "initial sample."
 - ii. The verification sample need only be analyzed for those constituents which the "resample" was analyzed for.
 - iii. If the comparison of the analytical results fails the tests in Conditions III.J.7, III.J.8, and/or III.J.9, the Permittee must conclude that a significant change has occurred.
 - c. Chemical and statistical analyses which are not affected by the interpretation of blank data must not be repeated, except as described above.

K. REPORTING AND RECORDKEEPING

- 1. The Permittee must enter all monitoring, testing and analytical data obtained in accordance with Conditions III.E, III.F, III.G, III.H, III.I, and III.J into the operating record. The data must include all computations, calculated means, variance, prediction limits, and statistical or results of statistical tests that the Illinois EPA has determined to be equivalent.

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2. Samples collected to meet the requirements of the groundwater monitoring described in Conditions III.E, III.F, III.G, III.H, III.I, and III.J must be collected and reported as identified in the table below. All additional information required by the groundwater monitoring program (as specified in Conditions III.E, III.F, III.G, III.H, III.I, and III.J) must also be submitted to the Illinois EPA at the address listed in Condition III.D.5 in accordance with this schedule.

<u>Sampling Event of Calendar Year*</u>	<u>Samples to be Collected in the Months of</u>	<u>Results Submitted to the Illinois EPA by the Following</u>
Second Quarter	April-June	July 15
Fourth Quarter	October-December	January 15

Note: Quarterly LNAPL extraction results and evaluations must be submitted semi-annually. First and second quarter LNAPL results and evaluations are to accompany the report due July 15; third and fourth quarter LNAPL results and evaluations are to accompany the report due January 15.

3. Groundwater surface elevation data measured pursuant to Condition III.G.1, must be collected and submitted to the Illinois EPA as identified in Condition III.K.2.
4. The Permittee must report the groundwater flow rate and direction in the Dolton Sand and the Silurian Dolomite, as required by Condition III.F.5 by July 15 of each year.
5. The Permittee must report the surveyed elevation, as required by Condition III.G.2, of the top of the well casing ("stick-up"), referenced to MSL, in accordance with the following schedule:
- For wells identified in Condition III.D.1, every two years (during the First or Second quarter), or at the request of the Illinois EPA, or whenever the elevation changes.
 - For any new wells, at the time of installation and reported in the as-built diagrams. Subsequent measurements must be made every two years (during the First or Second quarter), or at the request of the Illinois EPA, or whenever the elevation changes.
6. Elevation of the bottom of each monitoring well identified in Condition III.D.1 referenced to MSL, is to be reported when maintenance activities are conducted in accordance with Condition III.K.7. This measurement must be taken during the first semi-annual sampling event and reported by July 15 of that year.

7. The Permittee must maintain all equipment associated with groundwater monitoring wells. Dedicated pumps found in monitoring wells identified in Condition III.D.1 must be removed, inspected and repaired if necessary every five years. Information regarding the inspection and maintenance of pumps must be reported by July 15 of that year.
8. The Permittee must submit a completed "RCRA Facility Groundwater, Leachate and Gas Reporting Form" (LPC-592) as a cover sheet for any notices or reports required by the facility's Permit for identification purposes. Only one copy of the LPC-592 must accompany the submittal. However, the Permittee must submit one original and a minimum of two copies of each notice or report submitted to the Illinois EPA. The form is not to be used for permit applications.
9. Information required by Conditions III.F must be submitted in an electronic format. The information is to be submitted, as fixed-width text files formatted as found in Attachment A, in accordance with the schedule in Condition III.K.2. Additional guidance regarding the submittal of the information in an electronic format can be found on the Illinois EPA website.
10. In addition to submitting analytical results electronically as required by Condition III.K.9, a summary report describing the results of the groundwater sampling event must be submitted after each sampling event in accordance with the schedule found in Condition III.K.2. These reports must include, but not be limited to:
 - a. A description of any problems encountered during the event.
 - b. A tabulated summary of groundwater and analytical data collected during the sampling event including the appropriate groundwater quality standard, appropriate PQL, and appropriate derived background value for each parameter.
 - c. A summary table of groundwater elevations collected during the sampling event and potentiometric map(s) based on that data.
 - d. Copies of any statistical analysis required to be conducted in accordance with Conditions III.I and III.J.
 - e. Information required by Conditions III.F.6, III.F.7, III.F.8, III.F.9, and III.F.10.
11. If the Permittee determines pursuant to Condition III.I.1.b that any Concentration Limits specified in the Groundwater Protection Standard are being exceeded at any monitoring well within the List 2 GMZ Perimeter wells, or pursuant to Condition III.J.6 that a statistically significant increase has occurred in any of the List 3 Dolomite or List 4 Dolton Sand monitoring wells, the Permittee must:

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- a. **Notify the Illinois EPA of this finding in writing within seven days. The notification must indicate what exceedances have been observed.**
 - b. **Within 90 days of the date that the increase is discovered, submit to the Illinois EPA a request for modification to the Corrective Action Program to meet the requirements of 35 Ill. Adm. Code 724.200. The application must at a minimum include the following information:**
 - i. **A detailed description of corrective actions that will achieve compliance with the Groundwater Protection Standard.**
 - ii. **A plan for a groundwater monitoring program that will demonstrate the effectiveness of the corrective action. Such a groundwater monitoring program may be based on a compliance monitoring program.**
12. **If the Permittee determines, pursuant to Condition III.I.1.b that the groundwater Concentration Limits in Condition III.E are being exceeded at any GMZ Perimeter well, or that a statistically significant increase has occurred in any of the List 3 Dolomite or List 4 Dolton Sand monitoring wells, the Permittee may demonstrate that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis or statistical evaluation, or natural variation in groundwater. In making a demonstration under this condition, the Permittee must:**
- a. **Notify the Illinois EPA in writing within seven days of the date that the increase is discovered that they intend to make this demonstration under this condition;**
 - b. **Within 90 days, submit a report to the Illinois EPA, which demonstrates that a source other than a regulated unit caused the increase, or that the increase resulted from an error in sampling analysis or evaluation;**
 - c. **Within 90 days, submit to the Illinois EPA an application to make any appropriate changes to the corrective action monitoring program at the facility; and**
 - d. **Continue to monitor in accordance with Condition III.F.**
13. **If the Permittee determines that additional constituents not currently part of the Groundwater Protection Standard are present in the groundwater, the Permittee must:**
- a. **Report the concentration of these additional constituents detected in the groundwater to the Illinois EPA within seven days of receipt of the analytical data from the laboratory; and**

- b. Within 30 days of the date that the additional constituents are confirmed, submit a permit application to add the additional constituents to the monitoring list of the Groundwater Protection Standard, Lists G2 and G3 and establish the concentration limit for each additional constituent following procedures in Condition III.J.2.
14. The Permittee must submit a written report to the Illinois EPA annually which discusses the effectiveness of the Corrective Action Program and place it in the operating record for the facility. The report must be submitted by July 15 of each year that the Corrective Action Program is in effect. At a minimum, the report must:
- a. Present a detailed summary of the information requirements in Conditions III.E, III.F, III.G, III.H, III.I, and III.J presented during the previous calendar year;
 - b. Evaluate the effectiveness of the hydraulic control and contaminant removal from the Groundwater Remediation System; and
 - c. Provide recommendations for the Corrective Action Program based on the information provided in Conditions III.K.14.a and III.K.14.b.
 - d. This annual report may also be used to fulfill the Second Quarter reporting requirements listed in Conditions II.J.10 and III.K.10, provided that all information required by Conditions II.J.10 and III.K.10 is included.
15. In accordance with 35 Ill. Adm. Code 620.250(c), a review of the GMZ must take place no less often than every five years and the results must be presented to the Illinois EPA in a written report. The most recent review was approved by permit modification B-27R-M-87 dated March 23, 2020. The next GMZ review must be submitted to the Illinois EPA by March 31, 2025.

L. REQUEST FOR PERMIT MODIFICATION

- 1. If the Permittee or the Illinois EPA determines that the corrective action program no longer satisfies the requirements of 35 Ill. Adm. Code 724, Subpart F, the Permittee must, within 90 days, submit a permit application to make any appropriate changes to the program which will satisfy the regulations.
- 2. Conditions in this section of this Permit may be modified in accordance with 35 Ill. Adm. Code 705.128 if there is cause for such modification, as defined in 35 Ill. Adm. Code 702.184. Causes for modification identified in this section include, but are not limited to, alteration to the permitted facility, additional information which would have justified the application of different permit conditions at the time of issuance, and new regulations.

**SECTION IV:
CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS**

A. INTRODUCTION

1. In accordance with Section 3004(u) and (v) of RCRA and 35 Ill. Adm. Code 724.201, the Permittee must institute such corrective action as necessary to protect human health and the environment from all releases of hazardous wastes or hazardous waste constituents from any solid waste management unit (SWMU) at its facility in Calumet City, Illinois. This section contains the conditions which must be followed to ensure these requirements are met.
2. The Illinois EPA may include restrictions upon the future use of Area 1 and Area 2 if necessary, to protect public health and the environment, including permanent prohibition of the use of Area 1 and Area 2 for purposes which may create an unreasonable risk of injury to human health or the environment. After any administrative and judicial challenges to such restrictions have been exhausted, the Illinois EPA shall file such restrictions of record in the Office of the Recorder of the county in which the waste disposal site is located.
3. The Permittee must not allow the property where Area 1 and Area 2 are located to be used in a way that could disturb the integrity of the final cover, liners, any components of the containment system, or function of the facility's monitoring systems, unless the Illinois EPA finds, by way of a permit application, that such use is necessary for either of the following reasons:
 - a. It is necessary for the proposed use of the property and will not increase the potential hazard to public health or the environment, or
 - b. It is necessary to reduce a threat to human health or the environment.
4. The original USEPA RCRA Permit, issued March 4, 1988, contained, among other things, corrective action requirements for SWMUs at the facility. A summary of the corrective action activities completed under the initial RCRA Permit overseen by USEPA is provided in Condition IV.C. This summary also discusses completed closure efforts at several former HWMUs at the facility. The Permittee has implemented corrective measures, which will be maintained and monitored under this Permit.
5. The Illinois EPA now has authority for imposing corrective action requirements at RCRA permitted facilities and thus will now be responsible for overseeing future corrective action activities at this facility.

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6. The Permittee must provide corrective action, as appropriate, for: (1) any newly discovered SWMUs; or (2) future releases from existing SWMUs.
7. The requirements of 35 Ill. Adm. Code Parts 620 and 742 must be met, when applicable, in establishing remediation objectives for corrective action. In addition, all corrective action efforts must meet the requirements of 35 Ill. Adm. Code 724.201.
8. All Illinois EPA final decisions regarding RCRA corrective action at this facility are subject to the appeal provisions of Sections 39(a) and 40(a) of the Act.

B. CORRECTIVE ACTION REQUIREMENTS

1. Groundwater contamination has been detected in groundwater monitoring wells in the Dolton Sand and the upper Silurian Dolomite aquifer at Area 3 of the CID-RDF. The groundwater contamination is in the form of LNAPL, as well as organic constituents at concentrations which exceed the Groundwater Protection Standards established by 35 Ill. Adm. Code 724.192. A corrective action program, meeting the requirements of 35 Ill. Adm. Code 724.200, has been implemented at Area 3. Detailed information about this program may be found in Section III of this Permit.
2. Corrective measures have been completed at two SWMUs. These units, which must be monitored and maintained, are Area 1 and 2 landfills. Condition IV.C contains a summary of corrective action activities completed at these SWMUs.
3. A summary of the approved corrective action program for the SWMUs still of concern (the Areas 1 and 2 landfills) consists of:
 - a. Operation and maintenance of a landfill gas management system for the Area 1 landfill;
 - b. Operation and maintenance of a leachate management system for each landfill;
 - c. Inspecting/maintaining the final cover of each landfill.

The monitoring and maintenance program for Areas 1 and 2 landfills must be in accordance with the approved operating and maintenance plan for the Areas 1 and 2 landfills found in Appendix F-5 of the approved permit application.

4. Based on the current groundwater conditions at the facility and the requirements of the October 29, 1997 USEPA letter, the Illinois EPA has determined that groundwater monitoring of the Areas 1 and 2 landfills will continue to be accomplished via the groundwater monitoring programs for the Areas 3 and 4 landfills. The Illinois EPA

reserves the right to require the installation of additional groundwater monitoring wells, as well as implementation of groundwater monitoring programs specific to the Area 1 and/or Area 2 landfill, in the event that groundwater flow conditions change or groundwater contamination has been determined to be present in the vicinity of those landfills.

5. Leachate maintenance elevations for seven Area 1 leachate trench risers (PLC-184 through PLC-190) and 11 Area 2 leachate trench risers (PLC-270 through PLC-280) are based on quarterly measurement of groundwater elevations at seven piezometers located around Area 1 (P-1 and P-2) and Area 2 (P-3E, P-4E, P-5E, P-6W, and P-7W) screened in the Dolton Sand. Leachate maintenance elevations are established relative to groundwater elevations in the Dolton Sand because both Areas 1 and 2 are surrounded by slurry walls and an inward gradient across each slurry wall is integral to the approved corrective action. Maintenance elevations are defined as one-foot below the average groundwater elevation in the Dolton Sand and are measured quarterly.
6. The Permittee must record the leachate level in all wells at the Area 1 landfill (gas and leachate) on a monthly basis and submit the results electronically with their quarterly reports to the Illinois EPA.
7. The Permittee must record monthly leachate extraction volumes and the total volume of leachate extracted from Area 1 and Area 2 landfills. This information must be electronically submitted to the Illinois EPA every January 31st, for the previous calendar year.
8. An annual report must be submitted to the Illinois EPA by February 1st of each year (for the preceding calendar year). This report must document the dates of inspections, problems discovered, and actions completed to remedy any problems. This report must also contain an evaluation of the leachate collection efforts at Area 1 landfill including recommendations, as appropriate, to modify the leachate management system to reduce the amount of leachate in the landfill so that it has minimal impact on the groundwater beneath and around Area 1.
9. The Permittee may modify the approved plans and programs set forth in this subsection; such modifications must first be approved by the Illinois EPA. Requests to modify the approved plans and programs set forth in the subsection must be submitted as requests to modify the approved corrective action program for Areas 1 and 2.
10. The Plat of Survey for the Area 1 landfill (PIN No. 29-01-100-008-0000, 29-01-200-010-0000, and 29-01-201-001-0000) and Area 2 landfill (PIN No. 25-36-300-002-0000 and 25-36-300-003-0000), Drawing No. 19-R0710, was filed with the Cook County Recorder's Office in Chicago, IL on July 19, 2019. The record data is Document No. 1920006110.

The Plat of Survey was attached to the deed to the property and serves as an instrument which is normally examined during title search that will in perpetuity notify any potential purchasers of the property that:

- a. The property has been used to manage hazardous wastes;
- b. The use of the property is restricted under 35 Ill. Adm. Code 724, Subpart G;
- c. A survey plat and record of the type of waste material in the Area 1 landfill and Area 2 landfill was filed with the Illinois EPA and the County Recorder.

C. CORRECTIVE ACTION EFFORTS COMPLETED TO DATE

The Permittee performed corrective action activities with oversight from the USEPA for Area 1 and Area 2 landfills. In a letter dated October 29, 1997, USEPA determined no additional remediation activities were required for Area 1 and Area 2 landfills. As part of the RCRA corrective action program, the Permittee conducted corrective measures to prevent releases that may occur to the Dolton Sand layer adjacent to the closed Areas 1 and 2 landfills. The USEPA and Illinois EPA have determined that corrective measures are complete. Continued monitoring of the groundwater, landfill gas management system, leachate management system, and final cover for the Areas 1 and 2 landfills will be required.

Corrective measures for the Dolton Sand included construction of a slurry wall along the boundaries of Area 1 and 2 landfills. Additional corrective measures at Areas 1 and 2 landfills included: (1) installation of a leachate collection system inside the slurry wall; (2) upgrading the Landfill Gas Removal System; and (3) repair, regrading, reseeding and maintenance of the final cover for Areas 1 and 2 landfills.

The following table is a list of former HWMUs at the facility, and thus solid waste management unit, which have been clean closed in accordance with plans approved by Illinois EPA and which need no further action.

Name of HWMU	Description
Pug Mill	This unit was used between 1980 and February 1987 for acid neutralization and solidification of liquid hazardous wastes. Illinois EPA approved certification of closure for the Pug Mill on March 27, 1992 (Illinois EPA Log No. C-317).
Drum Tipping Unit	This unit was a hydraulically operated table-like unit housed in a small roofed structure, which transferred liquid waste from drums into bulk containers for subsequent treatment, processing or disposal. Illinois EPA approved certification of closure for the

Name of HWMU	Description
	Drum Tipping Unit on June 8, 1989 (Illinois EPA Log No. C-317-M-1).
Surface Impoundments	These units were operated for storage of acidic, metal-bearing waste prior to treatment. They were referred to as the 'North Pond', the 'South Pond', the 'East Pond', and the 'West Pond'. These units were closed in accordance with a plan approved by Illinois EPA (Log No. C-317 and associated modifications). Certification of closure of these units was accepted by Illinois EPA on August 24, 2005 (Log No. C-317).
Dewatering Plant	Certified closed on July 29, 1991. IEPA acknowledged closure of this on December 7, 1999 (Log No B-27-M-73, 81, 83) by removing the tanks associated with this plant from the facility's RCRA Permit.
Drum Storage Building	Certified closed on June 14, 1995 (IEPA Log No. B-27-M-54).
Stabilization Facility	Certified closed on December 7, 1999 (IEPA Log No. B-27-M-73).
Container Storage Area	Certified closed January 13, 2005 (IEPA Log No. PS04-169).

D. GROUNDWATER SPECIFIC CORRECTIVE ACTION

1,4-dioxane has been detected in the shallow and deep groundwater present between the Area 1 and 4 landfills. A plan to investigate this contamination in the shallow groundwater, which included soil investigations, groundwater investigation, and an evaluation of the construction/operation details of the Area 1 and Area 4 landfills, was approved by the Illinois EPA on January 19, 2010 (B-27R-CA-1). On July 16, 2010, CID submitted the results of that investigation. In a letter from Illinois EPA, dated January 20, 2011 (B-27R-CA-2), the Illinois EPA concurred with CID that the source of the 1,4-dioxane is Area 1 and required CID to submit a RFI work plan and a Current Conditions Report (CCR) for Area 1. On April 18, 2011, CID submitted their RFI and CCR to the Illinois EPA. The Illinois EPA conditionally approved the work plan and CCR on June 21, 2011 (B-27R-CA-3). Following investigation activities, a January 2012 investigation report was conditionally approved by the Illinois EPA on July 16, 2012 (B-27R-CA-3 and 5). A Basis of Design Report was submitted by the facility on October 12, 2012, and the report was conditionally approved by the Illinois EPA on December 18, 2012 (B-27R-CA-6). A Final Design Report was submitted by the facility on March 18, 2013, and the report was conditionally approved by the Illinois EPA on October 28, 2013 (B-27R-CA-7). Installation of the approved corrective measures began in the spring of 2014. A Construction Completion Report and a proposed GMZ was submitted to Illinois EPA on July 7, 2017 (B-27R-CA-12). This application is currently under review by Illinois EPA.

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1. The Permittee must submit quarterly reports documenting the operation, maintenance, and monitoring of the groundwater extraction system and phytoremediation system at the Area 1 landfill. The reports must contain the following information:
 - a. Introduction. This portion of the document should provide a brief description of the facility operations, scope of the corrective measures project, and summary of the project objectives.
 - b. System Description. This portion of the document should provide a description of the corrective measures constructed/installed at the site and identify significant equipment.
 - c. Monitoring Results. This portion of the document should provide a description of the monitoring and inspection procedures to be performed on the corrective measures. A summary of the monitoring results for the corrective measure, including copies of any laboratory analyses which document system effectiveness, provide a description of the monitoring procedures, and inspections performed.
 - d. Effectiveness Determination. This portion of the document should provide calculations and other relevant documentation that demonstrates the effectiveness of the selected corrective measure in remediating/stabilizing contamination to the extent anticipated by the corrective measures final design. Copies of relevant analytical data should be provided to substantiate this determination.
 - e. System Effectiveness Recommendation. Based upon the results of the effectiveness determination required under 1.d above, this portion of the report should provide a recommendation on continuance of the corrective measure. If the corrective measure is not performing in accordance with the final design, a recommendation on revisions or expansion of the system should be provided. Additionally, based upon the monitoring result, a schedule for achieving the cleanup objective should be included with each evaluation.

Eventually, the Permittee must submit a final report documenting that the required corrective measures have achieved the established remediation objectives.

2. The quarterly report required by Conditions IV.D.1 must be prepared and submitted to the Illinois EPA in accordance with the following table:

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<u>Quarter of Calendar Year</u>	<u>Report for the Month of</u>	<u>Report to the Illinois EPA by the Following</u>
First Quarter	January - March	April 15 th
Second Quarter	April - June	July 15 th
Third Quarter	July - September	October 15 th
Fourth Quarter	October - December	January 15 th

E. CORRECTIVE MEASURES REQUIREMENTS

1. If it is determined that corrective measures must be taken at a newly identified SWMU, then the Permittee must implement a Corrective Measures Program (CMP) for such SWMUs in general accordance with the procedures set forth in Attachment G. The corrective measures implemented by the Permittee must be sufficient to ensure the appropriate requirements of 35 Ill. Adm. Code Parts 302, 620, 724, and 742 are met.
2. The types of corrective measures which may be implemented include, but are not limited to:
 - a. Removal of the contaminants or the contaminated media so that the remaining media meet remediation objectives developed in accordance with 35 Ill. Adm. Code Part 742;
 - b. Closing the SWMU as a landfill by establishing a proper final cover over the SWMU and then providing proper long-term monitoring/maintenance/management of: (1) leachate; (2) subsurface gas; (3) final cover system; and (4) groundwater;
 - c. Establishing engineered barriers to restrict exposure to the contaminants remaining at the SWMU (necessary to certain remediation objectives developed in accordance with 35 Ill. Adm. Code Part 742);
 - d. Establishing institutional controls to restrict activities at the facility, as necessary, to support remediation objectives established in accordance with 35 Ill. Adm. Code Part 742.
3. The Corrective Measures Program described in Attachment G consists of five phases:
 - Phase I--conceptual design of the selected corrective measure;
 - Phase II--development of the final design plans for the corrective measure, including installation and operation/maintenance plans;

- Phase III--actual construction/installation/implementation of the corrective measure;
- Phase IV--operation/maintenance/monitoring, as necessary, of the corrective measure to ensure it is being properly implemented and is properly protecting human health and the environment.
- Phase V--demonstration/verification that the corrective measure has been completed and that the established remediation objectives have been achieved.

The phases may be combined or skipped, depending on the actual corrective measure selected. The overall CMP implemented at a given SWMU must: (1) be logical in nature; and (2) allow for Illinois EPA oversight and approval throughout the entire process.

As such, it will be necessary for the Permittee to submit workplans and reports regarding all aspects of corrective measures for the Illinois EPA review and approval prior to carrying out any corrective measure activity.

4. A Phase I CMP Plan, or its equivalent, must be submitted to the Illinois EPA within 90 days of the date that the Illinois EPA notifies the Permittee of the need for a CMP.
5. Subsequent CMP related workplans and reports must be submitted to the Illinois EPA for review and approval in accordance with a schedule approved by the Illinois EPA.
6. For units closed as landfills:
 - a. The Phase II report must include a plan for the construction of a final cover system as well as a post-closure care plan (the post-closure care plan must include provisions for (1) inspecting the final cover; (2) monitoring the groundwater and soil gas; and (3) taking corrective action if any problems are observed during the inspection/monitoring effort.
 - b. The Phase III report must document the construction of the approved final cover system and any other systems required for closure of the unit.
 - c. During Phase IV, quarterly reports must be submitted documenting the results of the inspection/monitoring efforts as well as any corrective measures taken in response to problems observed during these efforts. It will be necessary to submit plans to the Illinois EPA for review and approval to address any groundwater quality or gas migration problems.

- d. The Phase V report will not be submitted until the post-closure care period has been completed. This report must demonstrate that all applicable post-closure requirements have been met and that the groundwater at the site meets the applicable standards.
7. Once all corrective measures have been completed, a report must be developed documenting all efforts and results associated with the completed measure, including, as appropriate, information demonstrating the approved remediation objectives for the project have been achieved.
8. The Illinois EPA's action on all CMP submittals shall be subject to the appeal provisions of Sections 39(a) and 40(a) of the Act.

F. FINANCIAL ASSURANCE FOR CORRECTIVE ACTION

1. The current cost estimate for corrective action at this facility is \$11,317,166 (in 2024 dollars). This corrective action cost estimate includes costs associated with inspection and maintenance of Areas 1 and Area 2 landfills, operation of gas collection system at Area 1 landfill, leachate collection system at Areas 1 and 2 landfills, and groundwater remediation systems at Area 1 landfill. Attachment C provides a summary of cost estimates.
2. The Permittee must demonstrate compliance with 35 Ill. Adm. Code 724.201 by providing documentation of financial assurance using a mechanism specified in 35 Ill. Adm. Code 724.243, in at least the amount of the cost estimate required under Condition IV.F.1. The words "completion of corrective action" must be substituted for "closure and/or post-closure", as appropriate in the financial instrument specified in 35 Ill. Adm. Code 724.251. The Illinois EPA may accept financial assurance for completion of corrective action in combination with another financial mechanism that is acceptable under 35 Ill. Adm. Code 724.246.
3. The cost estimate must be supported by a detailed breakdown of the estimated third-party cost for completing each required task. The amount of the various resources needed to complete each task must be provided, as well as the unit cost of these resources and an adjustment for contingencies. Justification for all data used in these calculations must also be provided.
4. The financial assurance requirements of 35 Ill. Adm. Code 724.201 must also be met for any investigative or corrective action efforts carried out in accordance with Condition IV.G or IV.H. Detailed cost estimates must be developed for any activities carried out under this Section and must accompany any workplan/report submitted to Illinois EPA for review and approval.

Appropriate documentation of financial assurance in at least the amount of the approved cost estimate must be submitted to Illinois EPA within 60 days after the cost estimates are approved.

5. All cost estimates prepared under the requirements of Conditions IV.F.1 through IV.F.4 must be submitted as a Class 1* permit application request in accordance with 35 Ill. Adm. Code 703.281.

G. REQUIREMENTS FOR ADDRESSING NEWLY IDENTIFIED SWMU(S) AND AREAS OF CONCERN (AOCs)

1. The Permittee must notify the Illinois EPA in writing of any newly identified SWMU(s) or Areas of Concern (AOCs) discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means, no later than 30 days after discovery. The notification must provide the following information, as available:
 - a. The location of the newly identified SWMUs/AOCs in relation to other SWMUs/AOCs on a scaled map or drawing;
 - b. The type and past and present function of the unit;
 - c. The general dimensions, capacities, and structural description of the unit (available drawings and specifications provided);
 - d. The time period during which the unit(s) was operated;
 - e. The specifics on all materials, including but not limited to, wastes and hazardous waste constituents, that have been or are being managed at the SWMU/AOC, to the extent available; and,
 - f. The results of any relevant available sampling and analysis which may aid in determining whether releases of hazardous wastes or hazardous constituents have occurred or are occurring from the unit.
2. If the submitted information demonstrates a potential for a release of hazardous waste or hazardous constituents from the newly identified SWMU/AOC, the Illinois EPA may request, in writing, that the Permittee prepare a SWMU Assessment Plan (Plan) and a proposed schedule of implementation of the Plan for any additional SWMUs/AOCs discovered subsequent to the issuance of this Permit. This Plan must propose investigations, including field investigations, if necessary, to determine the release potential to specific environmental media for the newly-identified SWMU/AOC. The Plan must demonstrate that the sampling and analysis program, if applicable, is capable of

yielding representative samples and must include parameters sufficient to identify migration of hazardous waste and hazardous constituents from the newly discovered SWMUs/AOCs to the environment.

3. Within 90 days after receipt of the Illinois EPA's request for a Plan, the Permittee must submit the Plan to the Illinois EPA for review and approval.
4. The Illinois EPA shall either approve, conditionally approve or disapprove the Plan in writing. If the Plan is approved, the Permittee must implement the Plan within 45 days of receiving such written notification or in accordance to the terms and schedule established within the Plan and any conditions placed on it. If the Plan is disapproved, the Illinois EPA shall notify the Permittee, in writing, of the Plan's deficiencies and specify a due date for submittal of a revised plan.
5. The Permittee must submit a report documenting the results of the approved Plan to the Illinois EPA in accordance with the schedule in the approved Plan. The report must describe all results obtained from the implementation of the approved Plan.
6. The Permittee must implement a CMP, as necessary, to properly address any contamination encountered during the assessment. Guidance regarding the implementation of this program will be provided at the time Illinois EPA notifies the Permittee of the need for such a program.

H. FUTURE RELEASES FROM SWMUs

There exists a potential that a release may occur in the future from SWMUs/AOCs identified in the RFA or RFI which did not require any corrective action at the time that the RFA or RFI was completed. If the Permittee discovers that a release has occurred from a SWMU/AOC in the future, then the Illinois EPA must be notified of this release within 30 days after its discovery following the procedures set forth in Condition IV.G.1.

Additional investigation and, as necessary, corrective measures efforts at this SWMU/AOC must be carried out in accordance with the procedure set forth in Section G. The results of all corrective action efforts required by this condition must meet the requirements of 35 Ill. Adm. Code 724.201.

I. INTERIM MEASURES

At any time during the course of this Permit, the Permittee may initiate interim measures for the purpose of preventing continuing releases and/or mitigating the results of releases and/or mitigating the migration of hazardous wastes or hazardous waste constituents. It shall not be necessary to conduct all phases of an investigation prior to implementing an

interim measure if the Illinois EPA and the Permittee agree that a problem can be corrected, or a release cleaned up, without additional study and/or without a formal Corrective Measures Study (CMS).

1. Prior to implementing any interim measures, the Permittee must submit detailed information regarding the proposed interim measure to the Illinois EPA for approval. This information shall include, at a minimum:
 - a. Objectives of the interim measure, how the measure is mitigating a potential threat to human health and the environment; and/or, is consistent with, and integrated into, any long-term solution at the facility;
 - b. Design, construction, and maintenance requirements;
 - c. Schedules for design and construction; and
 - d. Schedule for progress reports.
2. If the Illinois EPA determines that a release cannot be addressed without additional study and/or a formal CMS, then the Illinois EPA will notify the Permittee that these must be performed. Any proposal made under this provision or any other activity resulting from such proposal, including the invocation of dispute resolution, shall not affect the schedule for implementation of any other portion of the Permit.
3. If the Illinois EPA determines that interim measures are necessary to protect human health or the environment, the Permittee will be notified by way of a permit application.

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SECTION V: SPECIAL CONDITIONS

A. REPOSITORY

1. The Permittee must maintain a repository at the Hegewisch Branch of the Chicago Public Library, located at 3048 East 130th Street, Chicago, Illinois. The following information must be sent to the repository:
 - a. A copy of the approved RCRA Post-Closure Renewal Permit.
 - b. All permit applications and permit modification requests.
 - c. All Illinois EPA responses to modification requests made to the RCRA Post-Closure Permit (Log No. B-27R2).

B. 39(i) CERTIFICATION

1. The Permittee must submit a current 39(i) certification and supporting documentation with all applications for a Permit.

SECTION VI: STANDARD CONDITIONS FOR POST-CLOSURE CARE**GENERAL REQUIREMENTS**

1. **EFFECT OF PERMIT.** The existence of a RCRA permit shall not constitute a defense to a violation of the Act or Subtitle G, except for development, modification or operation without a Permit. Issuance of this Permit does not convey property rights or any exclusive privilege. Issuance of this Permit does not authorize any injury to persons or property or invasion of other private rights, or infringement of state or local law or regulations. (35 Ill. Adm. Code 702.181)
2. **PERMIT ACTIONS.** This Permit may be modified, reissued or revoked for cause as specified in 35 Ill. Adm. Code 703.270 through 703.273 and Section 702.186. The filing of a request by the Permittee for a permit modification or reissuance, or a notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition. (35 Ill. Adm. Code 702.146)
3. **SEVERABILITY.** The provisions of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby. (35 Ill. Adm. Code 705.202)
4. **PERMIT CONDITION CONFLICT.** In case of conflict between a special permit condition and a standard condition, the special condition will prevail. (35 Ill. Adm. Code 702.160)
5. **DUTY TO COMPLY.** The Permittee must comply with all conditions of this Permit except for the extent and for the duration such noncompliance is authorized by an emergency permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; permit revocation or modification; or for denial of a permit renewal application. (35 Ill. Adm. Code 702.141 and 703.242)
6. **DUTY TO REAPPLY.** If the Permittee wishes to continue an activity allowed by this Permit after the expiration date of this Permit, the Permittee must apply for a new permit at least 180 days before this Permit expires, unless permission for a later date has been granted by the Illinois EPA. (35 Ill. Adm. Code 702.142 and 703.125)
7. **PERMIT EXPIRATION.** This Permit and all conditions herein will remain in effect beyond the Permit's expiration date if the Permittee has submitted a timely, complete application (see 35 Ill. Adm. Code 703.181-703.209) and through no fault of the Permittee the Illinois EPA has not issued a new permit as set forth in 35 Ill. Adm. Code 702.125.

8. **NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE.** It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit. (35 Ill. Adm. Code 702.143)
9. **DUTY TO MITIGATE.** In the event of noncompliance with the Permit, the Permittee must take all reasonable steps to minimize releases to the environment and must carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment. (35 Ill. Adm. Code 702.144)
10. **PROPER OPERATION AND MAINTENANCE.** The Permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance include effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory, and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the Permit. (35 Ill. Adm. Code 702.145)
11. **DUTY TO PROVIDE INFORMATION.** The Permittee must furnish to the Illinois EPA, within a reasonable time, any relevant information which the Illinois EPA may request to determine whether cause exists for modifying, revoking and reissuing or terminating this Permit, or to determine compliance with this Permit. The Permittee must also furnish to the Illinois EPA, upon request, copies of records required to be kept by this Permit. (35 Ill. Adm. Code 702.148)
12. **INSPECTION AND ENTRY.** The Permittee must allow an authorized representative of the Illinois EPA, upon the presentation of credentials and other documents as may be required by law, to:
 - a. Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Permit;
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and

- d. Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the appropriate Act, any substances or parameters at any location. (35 Ill. Adm. Code 702.149)

13. MONITORING AND RECORDS. (35 Ill. Adm. Code 702.150)

- a. Samples and measurements taken for the purpose of monitoring must be representative of the monitored activity. The method used to obtain a representative sample of the waste must be the appropriate method from 35 Ill. Adm. Code 721, Appendix A. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, third edition (SW-846) and finalized updates; Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, latest versions; or an equivalent method as specified in the approved waste analysis plan.
- b. The Permittee must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports and records required by this Permit, and records of all data used to complete the application for this Permit for a period of at least three years from the date of the sample, measurement, report or application. These periods may be extended by request of the Illinois EPA at any time. The Permittee must maintain records from all groundwater monitoring wells and associated groundwater surface elevations, for the active life of the facility, and for disposal facilities for the post-closure care period as well.
- c. Records of monitoring information must include:
 - i. The date(s), exact place, and time of sampling or measurements;
 - ii. The individual(s) who performed the sampling or measurements;
 - iii. The date(s) analyses were performed;
 - iv. The individual(s) who performed the analyses;
 - v. The analytical technique(s) or method(s) used; and
 - vi. The result(s) of such analyses. (35 Ill. Adm. Code 702.150)

14. REPORTING PLANNED CHANGES. The Permittee must give written notice to the Illinois EPA as soon as possible of any planned physical alterations or additions to the permitted

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facility. In general, proposed changes to the facility will need to be submitted to the Illinois EPA as a permit modification request that complies with the requirements of 35 Ill. Adm. Code 703.280. (35 Ill. Adm. Codes 702.152(a))

15. **CONSTRUCTION CERTIFICATION.** For a new hazardous waste management facility (HWM), the Permittee must not commence treatment, storage, or disposal of hazardous waste; and for a facility being modified the Permittee must not treat, store, or dispose of hazardous waste in the modified portion of the facility, until:
 - a. The Permittee has submitted to the Illinois EPA by certified mail or hand delivery a letter signed by the Permittee and a qualified Illinois licensed professional engineer stating that the facility has been constructed or modified in compliance with the Permit; and
 - b.
 1. The Illinois EPA has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the Permit; or
 2. If, within 15 days of the date of submission of the letter in paragraph (a), the Permittee has not received notice from the Illinois EPA of its intent to inspect, prior inspection is waived, and the Permittee may commence treatment, storage, or disposal of hazardous waste. (35 Ill. Adm. Code 703.247)
16. **ANTICIPATED NONCOMPLIANCE.** The Permittee must give advanced written notice to the Illinois EPA of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements, regulations, or the Act. (35 Ill. Adm. Code 702.152(b))
17. **TRANSFER OF PERMITS.** This Permit may not be transferred by the Permittee to a new owner or operator unless the Permit has been modified or reissued pursuant to 35 Ill. Adm. Code 703.260(b) or 703.272. Changes in the ownership or operational control of a facility must be made as a Class 1 modification with the prior written approval of the Illinois EPA. The new owner or operator must submit a revised permit application no later than 90 days prior to the scheduled change. (35 Ill. Adm. Code 703.260)
18. **MONITORING REPORTS.** Monitoring results must be reported at the intervals specified in the Permit. (35 Ill. Adm. Code 702.152(d))
19. **COMPLIANCE SCHEDULES.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Permit must be submitted no later than specified in 35 Ill. Adm. Code 702.162. (35 Ill. Adm. Code 702.152(e))

20. TWENTY-FOUR HOUR REPORTING.

- a. The Permittee must report to the Illinois EPA any noncompliance with the Permit which may endanger human health or the environment. Any such information must be reported orally within 24 hours from the time the Permittee becomes aware of the following circumstances. This report must include the following:**
 - i. Information concerning the release of any hazardous waste that may cause an endangerment to public drinking water supplies.**
 - ii. Information concerning the release or discharge of any hazardous waste or of a fire or explosion at the HWM facility, which could threaten the environment or human health outside the facility.**
- b. The description of the occurrence and its cause must include:**
 - i. Name, address, and telephone number of the owner or operator;**
 - ii. Name, address, and telephone number of the facility;**
 - iii. Date, time, and type of incident;**
 - iv. Name and quantity of material(s) involved;**
 - v. The extent of injuries, if any;**
 - vi. An assessment of actual or potential hazards to the environment and human health outside the facility, where applicable; and**
 - vii. Estimated quantity and disposition of recovered material that resulted from the incident.**
- c. A written submission must also be provided within five days of the time the Permittee becomes aware of the circumstances. The written submission must contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times and if the noncompliance has not been corrected; the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Illinois EPA may waive the five-day written notice requirement in favor of a written report within 15 days. (35 Ill. Adm. Code 702.152(f) and 703.245(b))**

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21. **OTHER NONCOMPLIANCE.** The Permittee must report all instances of noncompliance not otherwise required to be reported under Standard Conditions 18, 19, and 20, at the time monitoring reports, as required by this Permit, are submitted. The reports must contain the information listed in Standard Condition 20. (35 Ill. Adm. Code 702.152(g))
22. **OTHER INFORMATION.** Where the Permittee becomes aware that it failed to submit any relevant facts in the permit application or submitted incorrect information in a permit application or in any report to the Illinois EPA, the Permittee must promptly submit such facts or information. (35 Ill. Adm. Code 702.152(h))
23. **SUBMITTAL OF REPORTS OR OTHER INFORMATION.** All written reports or other written information required to be submitted by the terms of this Permit must be sent to:

 Illinois Environmental Protection Agency
 Bureau of Land -- #33
 Permit Section
 2520 West Iles Avenue
 Post Office Box 19276
 Springfield, Illinois 62794-9276
24. **SIGNATORY REQUIREMENT.** All permit applications, reports or information submitted to the Illinois EPA must be signed and certified as required by 35 Ill. Adm. Code 702.126. (35 Ill. Adm. Code 702.151)
25. **CONFIDENTIAL INFORMATION.** Any claim of confidentiality must be asserted in accordance with 35 Ill. Adm. Code 702.103 and 35 Ill. Adm. Code Part 161.
26. **DOCUMENTS TO BE MAINTAINED AT FACILITY SITE.** The Permittee must maintain at the facility, until post-closure is complete, the following documents and amendments, revisions and modifications to these documents:
 - a. Post-closure plan as required by 35 Ill. Adm. Code 724.218(a) and this Permit.
 - b. Cost estimate for post-closure care as required by 35 Ill. Adm. Code 724.244(d) and this Permit.
 - c. Operating record as required by 35 Ill. Adm. Code 724.173 and this Permit.
 - d. Inspection schedules as required by 35 Ill. Adm. Code 724.115(b) and this Permit.

GENERAL FACILITY STANDARDS

27. **GENERATOR REQUIREMENTS.** Any hazardous waste generated at this facility must be managed in accordance with the generator requirements at 35 Ill. Adm. Code Part 722.
28. **SECURITY.** The Permittee must comply with the security provisions of 35 Ill. Adm. Code 724.114(b) and (c).
29. **GENERAL INSPECTION REQUIREMENTS.** The Permittee must follow the approved inspection schedule. The Permittee must remedy any deterioration or malfunction discovered by an inspection as required by 35 Ill. Adm. Code 724.115(c). Records of inspections must be kept as required by 35 Ill. Adm. Code 724.115(d).
30. **CLOSURE REQUIREMENTS FOR ACCUMULATION AREAS.** The Permittee must close container storage areas, tanks, drip pads, or containment buildings used for the accumulation of on-site generated hazardous waste in accordance with the requirements identified at 35 Ill. Adm. Code 722.117(a)(8).

PREPAREDNESS AND PREVENTION

31. **DESIGN AND OPERATION OF FACILITY.** The Permittee must maintain and operate the facility to minimize the possibility of fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment. (35 Ill. Adm. Code 724.131)

RECORD KEEPING

32. **OPERATING RECORD.** The Permittee must maintain a written operating record at the facility in accordance with 35 Ill. Adm. Code 724.173.

POST-CLOSURE

33. **CARE AND USE OF PROPERTY.** The Permittee must provide post-closure care for the facility as required by 35 Ill. Adm. Code 724.217 and in accordance with the approved post-closure plan.
34. **AMENDMENT TO POST-CLOSURE PLAN.** The Permittee must amend the post-closure plan whenever a change in the facility operation plans or facility design affects the post-closure plan or when an unexpected event has occurred which has affected the post-closure plan pursuant to 35 Ill. Adm. Code 724.218(d).

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35. **COST ESTIMATE FOR POST-CLOSURE.** The Permittee's original post-closure cost estimate, prepared in accordance with 35 Ill. Adm. Code 724.244, must be:
- a. Adjusted for inflation either 60 days prior to each anniversary of the date on which the first closure cost estimate was prepared or if using the financial test or corporate guarantee, within 30 days after close of the firm's fiscal year.
 - b. Revised whenever there is a change in the facility's post-closure plan increasing the cost of post-closure.
 - c. Kept on record at the facility and updated. (35 Ill. Adm. Code 724.244)
 - d. Maintained at the value approved by the Illinois EPA with annual adjustment for inflation and cannot be decreased unless approved by the Illinois EPA in a permit modification.
36. **FINANCIAL ASSURANCE FOR POST-CLOSURE CARE.** The Permittee must demonstrate compliance with 35 Ill. Adm. Code 724.245 by providing documentation of financial assurance, as required by 35 Ill. Adm. Code 724.251, in at least the amount of the cost estimates required by Standard Condition 35. Changes in financial assurance mechanisms must be approved by the Illinois EPA pursuant to 35 Ill. Adm. Code 724.245.

Financial assurance documents submitted to Illinois EPA should be directed to the following address:

Illinois Environmental Protection Agency
Bureau of Land -- #24
Materials Management and Compliance Section
2520 West Iles Avenue
Post Office Box 19276
Springfield, IL. 62794-9276

37. **INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS.** The Permittee must comply with 35 Ill. Adm. Code 724.248 whenever necessary.

SECTION VII: REPORTING AND NOTIFICATION REQUIREMENTS

The reporting and notification requirements of each Section of the RCRA Permit are summarized below. This summary is provided to highlight the various reporting and notification requirements of this Permit.

Condition	Submittal	Due Date
SECTION I: POST-CLOSURE		
E.6.c. iv	Leachate analyses from Area 3 and Area 4	June 1 of each year
E.8.a	Notify Illinois EPA in writing that flow into the leak detection system exceeds the action leakage rate	seven days after the determination is made
E.8.b	Submit a preliminary assessment of the liner and leachate collection/detection system	14 days after the Permittee determines flow into the leak detection system has exceeded the action leakage rate
E.8.f	Submit a report meeting the requirements of 35 Ill. Adm. Code 724.404(b) if the action leakage rate has been exceeded	30 days after the notification that the action leakage rate has been exceeded
F.1	Quarterly leachate levels, monthly volumes across all sumps and total volume of leachate removed from Area 3 for the previous calendar year	January 31 of each year
F.2	Monthly leachate levels, monthly leachate volumes and total volume of leachate removed from Area 4 for the previous calendar year	January 31 of each year
F.4, F.5	Non-compliance of leachate level for Area 3 and Area 4	July 31 (1 st and 2 nd Qtr.) January 31 (3 rd and 4 th Qtr.)
G.3	Submit certification for completion of post-closure care and post-closure documentation report	60 days after completion of post-closure care
SECTION II: AREA 4 DETECTION MONITORING PROGRAM		
D.3	Notification/proposal to replace damaged monitoring well	30 days from date of determination
D.5	Submit as-built of additional wells to be installed	30 days after they have been installed and developed
D.5	Submit well plugging and abandonment certifications	30 days after well abandonment

Condition	Submittal	Due Date
E.3.c	Submit recalculated intrawell background values	July 15 of each odd numbered calendar year
E.4	Submit proposed background values for constituents not sampled during eight previous sampling events	90 days after fourth sampling event
F.4	Report groundwater flow rate and direction in accordance with Condition II.J.4	July 15 of every year
G.2	Report surveyed elevation of stick-up	July 15 every two years
G.3	Report elevation of well bottom when a problem is identified, or when downhole equipment is removed	With groundwater report
J.2	Groundwater monitoring data/summary report All information collected during preceding months of April-June and October-December	Results to Illinois EPA by: July 15 January 15
J.6 and J.7	Report elevation of well bottom when downhole equipment is removed for five-year inspection	July 15
J.11.a	Notify Illinois EPA of statistically significant increase	seven days after discovery of increase
J.11.b	Apply for permit modification establishing corrective action program	90 days after discovery of increase
J.12.a	Notify Illinois EPA that the Permittee intends to demonstrate that a source other than the regulated unit is responsible for a statistical increase or that the increase was due to error	seven days after discovery of increase
J.12.b	Submit report which demonstrates that a source other than the regulated unit caused a statistical increase or that the increase resulted from error in sampling, analysis or evaluation	90 days after discovery of increase
J.12.c	Submit application for modification of Detection Monitoring program	90 days after discovery of increase
J.13.a	Report concentration of additional constituents detected	seven days after receipt of data confirming increase
J.13.b	Permit modification request to add additional constituents to Groundwater Protection Standard	30 days after the date of the confirmation of the increase
K.1	Submit application for permit modification	90 days after determination that the compliance monitoring program no longer satisfies

Condition	Submittal	Due Date
		35 Ill. Adm. Code 724, Subpart F requirements
SECTION III: AREA 3 GROUNDWATER CORRECTIVE ACTION PROGRAM		
D.3	Notification/proposal to replace damaged monitoring well	30 days from date of determination
D.5	Submit well plugging and abandonment	30 days after well abandonment from monitoring program
D.5	Submit as-built diagrams, boring logs, drawing for new and replacement wells	30 days after they have been installed and developed data sheets, grid coordinates, and location
F.5	Report groundwater flow rate and direction in accordance with Condition III.K.4	July 15 of each year
G.2	Report surveyed elevation of stick-up	July 15 every two years
G.3	Report elevation of well bottom when a problem is identified, or when downhole equipment is removed	with groundwater monitoring
J.3.d	Submit recalculated intrawell background values	July 15 of each odd numbered calendar year
J.4	Submit proposed background values for constituents not sampled during eight previous sampling events	90 days after fourth sampling event
K.2	Groundwater monitoring data/summary report All information collected during preceding months of April-June and October-December	July 15 January 15
K.6 and K.7	Report elevation of well bottom when downhole equipment is removed for five-year inspection	July 15
K.11.a	Notify Illinois EPA of statistically significant increase	seven days after discovery of increase
K.11.b	Submit request to modify Corrective Action Program	90 days after discovery of increase
K.12.a	Notify Illinois EPA that the Permittee intends to demonstrate that a source other than the regulated unit is responsible for a statistical increase or that the increase was due to error	seven days after discovery of increase
K.12.b	Submit report which demonstrates that a source other than the regulated unit caused a	90 days after discovery of increase

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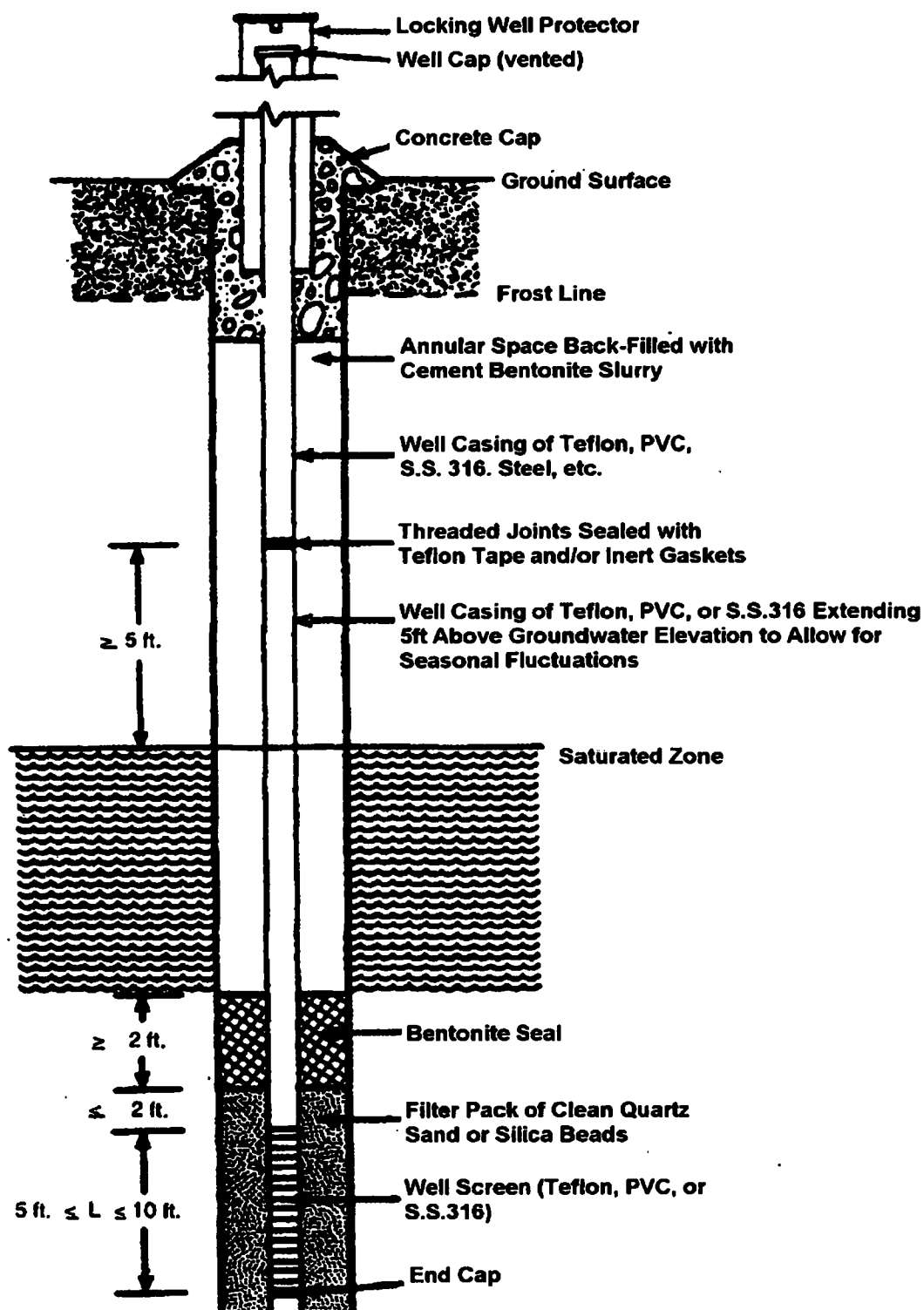
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Condition	Submittal	Due Date
	statistical increase or that the increase resulted from error in sampling, analysis or evaluation	
K.12.c	Submit application for modification of Corrective Action monitoring program	90 days after discovery of increase
K.13.a	Report concentration of additional constituents detected	seven days after receipt of data confirming increase
K.13.b	Permit modification request to add additional constituents to Groundwater Protection Standard	30 days after the date of the confirmation of the increase
K.14	Annual evaluation of Corrective Action Program	July 15
SECTION IV: CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS		
B.6	Submit quarterly leachate levels and quantity removed report for Area 1 landfill	April 15 July 15 October 15 January 15
B.7	Submit monthly leachate volumes and total volume of leachate removed from Area 1 and Area 2 for the previous calendar year	January 31 st of each year
B.8	Submit annual monitoring and maintenance report for Area 1 and Area 2 landfills	February 1 of each year
D.1	Submit quarterly ground water remediation report for Area 1 landfill	April 15 July 15 October 15 January 15
E.4	Phase I Corrective Measures Program Plan	Within 90 days of notification from Illinois EPA
F.4	Shall meet the requirements of 35 Ill. Adm. Code 724.201 and provide financial assistance to Illinois EPA in the amount approved	Within 60 days after the cost estimates are approved by Illinois EPA
G.1	Notify Illinois EPA in writing of any newly identified SWMUs discovered during the course of groundwater monitoring	30 calendar days after discovery
G.3	SWMU Assessment Plan	Within 90 days of request from Illinois EPA
G.5	SWMU Assessment Plan Report	In accordance with approved Plan
H	Notify Illinois EPA of any releases from SWMUs	30 days after its discovery

Condition	Submittal	Due Date
SECTION V: SPECIAL CONDITIONS		
B	Current 39(i) certification and supporting documentation	With all applications for a permit
SECTION VI: STANDARD CONDITIONS		
6	Complete application for new permit	180 days prior to permit expiration
11	Information requested by the Illinois EPA and copies of records required to be kept by this permit	Submittal date to be determined by the Illinois EPA
14	Notify Illinois EPA of planned physical alterations or additions	As soon as possible
16	Notify Illinois EPA of changes which may result in permit noncompliance	Within 15 days of change
17	Application for permit modification indicating permit is to be transferred	at least 90 days prior to transfer date
19	Submission of any information required in a compliance schedule	14 days after each schedule date
20	Report to the Illinois EPA any non-compliance which may endanger health or environment	
	By telephone	24 hours after discovery, and
	In writing	five days after discovery
21	Report all other instances of non-compliance.	With monitoring report required by this permit
34	Application for permit modification amending post-closure plan	When a change in operation or design affects the post-closure plan
35(a)	Adjust post-closure cost estimate for inflation	60 days prior to anniversary date
35(b)	Revision of post closure-cost estimate.	Whenever there is a change that increases costs
36	Change in financial assurance mechanism for post-closure	As needed
37	Notify Illinois EPA of commencement of voluntary or involuntary bankruptcy proceedings	10 days after commencement of proceeding

ATTACHMENT A
GROUNDWATER MONITORING ATTACHMENTS
STATE ID # 0310390001
ILD010284248
POST-CLOSURE PERMIT LOG NO. B-27R2-M-8; M-10

Monitoring Well Diagram



ILLINOIS EPA MONITOR WELL PLUGGING AND ABANDONMENT PROCEDURES

	Well Construction		Plugging Procedure
I. Unconsolidated Sediment Wells	I-A	...if backfilled with cement grout above bentonite seal and/or sandpack:	1. Cut casing off at desired depth. 2. Mix neat cement slurry (5 gal. water per 94 lb. bag cement). 3. Insert tremi pipe (1" i.d. pvc) into well and extend to bottom. 4. Slowly pump slurry under low pressure through tremi pipe. 5. Slowly withdraw tremi pipe - making sure bottom of pipe remains below pure slurry. 6. Continue slow pumping until all formation water and the watery slurry mix is displaced from top of casing.
	I-B	...if backfilled with soft sediments (cuttings) above bentonite seal and/or sandpack:	1. Knock out and remove thin surface concrete plug, if present. 2. Re-auger entire length of well. 3. Remove well casing from re-augured borehole. 4. Mix neat cement slurry (5 gal. water per 94 lb. bag cement). 5. Insert tremi pipe (1" i.d. pvc) into augers and extend to bottom. 6. Slowly pump slurry under low pressure through tremi pipe. 7. Continue slow pumping until all formation water and the water slurry mix is displaced from top of casing. 8. Slowly withdraw tremi pipe - making sure bottom of pipe remains below pure slurry. 9. Pull a flight of augers (5" if in unstable materials and hole collapse is likely or 10" if in competent material and collapse is unlikely). 10. Top off cement slurry after each flight is removed.
	I-C	...if monitor well construction is unknown:	1. Follow procedures in I-A.
II. Bedrock Wells	II-A	...All bedrock monitor wells:	1. Cut casing off at desired depth. 2. Mix neat cement slurry (5 gal. water per 94 lb. bag cement). 3. Insert tremi-pipe (1" i.d. pvc) into well and extend to bottom. 4. Slowly pump slurry under low pressure through tremi pipe. 5. Slowly withdraw pipe making sure bottom of pipe remains below pure slurry. 6. Continue slow pumping until all formation water and the watery slurry mix is displaced from top of casing.

Field Boring Log

Page ____ of ____

Site File No. _____ Federal ID No. _____

Site File Name: _____

Quadrangle: _____ Sec. _____ T. _____ R. _____

UTM (or State
Plane) Coord. N. (X) _____ E (Y): _____

Latitude ° ° ° Longitude ° ° °

Drilling Location: _____

Drilling Equipment: _____

County: _____

Boring No. _____ **Monitoring Well No.:** _____

Surface Elevation: _____ **Completion Depth:** _____

Auger Depth: _____ **Rotary Depth:** _____

Date: Start _____ **Finish:** _____

SAMPLES

Personnel

Graphic Log

Depth in Feet

Sample No.

Sample Type

Sample

Potentiometer

N Value (B)

1

Readings

D
H
H

G

D

H

H

[illegible]

Elev.

Description of Material

Remarks


Illinois Environmental Protection Agency
Well Completion Report

Site Number: _____

County: _____

Site Name: _____

Well #: _____

State _____

Plane Coordinate: X Y (or) Latitude: ° ' " Longitude: ° ' " Borehole #: _____

Surveyed by: _____

IL Registration #: _____

Drilling Contractor: _____

Driller: _____

Consulting Firm: _____

Geologist: _____

Drilling Method: _____

Drilling Fluid (Type): _____

Logged By: _____

Date Started: _____ Date Finished: _____

Report Form

Completed By: _____

Date: _____

ANNULAR SPACE DETAILS

Type of Surface Seal: _____

Type of Annular Sealant: _____

Installation Method: _____

Setting Time: _____

 Type of Bentonite Seal – Granular, Pellet, Slurry
(Choose One)

Installation Method: _____

Setting Time: _____

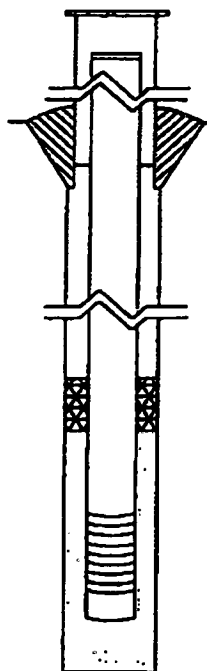
Type of Sand Pack: _____

Grain Size: _____ (Sieve Size)

Installation Method: _____

 Type of Backfill Material: _____
(if applicable)

Installation Method: _____


 Elevations
(MSL)*

 Depth
(BGS) (01ft.)

_____ Top of Protective Casing

_____ Top of Riser Pipe

_____ Ground Surface

_____ Top of Annular Sealant

 _____ Static Water Level
(After Completion)

_____ Top of Seal

_____ Top of Sand Pack

_____ Top of Screen

_____ Bottom of Screen

_____ Bottom of Well

_____ Bottom of Borehole

* Referenced to a National Geodetic Datum

CASING MEASUREMENTS

Diameter of Borehole (inches)

ID of Riser Pipe (inches)

Protective Casing Length (feet)

Riser Pipe Length (feet)

Bottom of Screen to End Cap (feet)

Screen Length (1" slot to last slot) (feet)

Total Length of Casing (feet)

Screen Slot Size**

WELL CONSTRUCTION MATERIAL

(Choose one type of material for each area)

Protective Casing	SS304, SS316, PTFE, PVC, or Other
Riser Pipe Above W.T.	SS304, SS316, PTFE, PVC, or Other
Riser Pipe Below W.T.	SS304, SS316, PTFE, PVC, or Other
Screen	SS304, SS316, PTFE, PVC, or Other

Well Completion Form (revised 11/21/2011)

**Hand-Slotted Well Screens are Unacceptable



Illinois Bureau of Land
Environmental 1021 North Grand Avenue East
Protection Agency Box 19276
Springfield, IL 62794-9276

RCRA FACILITY GROUNDWATER, LEACHATE AND GAS REPORTING FORM

This form must be used as a cover sheet for the notices and reports, identified below as required by: (1) a facility's RCRA interim status closure plan; (2) the RCRA interim status regulations; or (3) a facility's RCRA permit. All reports must be submitted to the Illinois EPA's Bureau of Land Permit Section. This form is for use by Hazardous Waste facilities only. Reporting for Solid Waste facilities should be submitted on a separate form. All reports submitted to the Illinois EPA's Bureau of Land Permit Section must contain an original, plus a minimum of two copies.

Note: This form is not to be used with permit or closure plan modification requests. The facility's approved permit or closure plan will state whether the document you are submitting is required as a report or a modification request.

Facility Name: _____ Site ID #: _____
Facility Address: _____ Fed ID #: _____

Check the appropriate heading. Only one heading may be checked for each corresponding submittal. Check the appropriate sub-heading, where applicable. Attach the original and all copies behind this form.

- ___ **LPC-160 Forms**
- | | |
|---|--|
| <p>___ <u>Groundwater</u></p> <p>___ Quarterly – Indicate one: 1 2 3 4</p> <p>___ Semi-Annual</p> <p>___ Annual</p> <p>___ Biennial</p> | <p>___ <u>Leachate</u></p> <p>___ Quarterly – Indicate one: 1 2 3 4</p> <p>___ Semi-Annual</p> <p>___ Annual</p> <p>___ Biennial</p> |
|---|--|
- ___ **Groundwater Data (without LPC-160 Forms)**
- ___ Quarterly – Indicate one: 1 2 3 4
- ___ Annual ___ Semi-Annual ___ Biennial
- ___ **Well Construction Information**
- ___ Well Construction Forms, Boring Logs and/or Abandonment Forms
- ___ Well Survey Data (e.g., Stick-up Elevation Data)
- ___ **Notice of Statistically Significant Evidence of Groundwater Contamination**
(35 Ill. Adm. Code 724.198)
- ___ **Notice of Exceedence of Groundwater Concentration Limit (35 Ill. Adm. Code 724.199(h))**
- ___ **Notice of Alternate Source or Error in Sampling Analysis or Evaluation of Groundwater**
(35 Ill. Adm. Code 724.199(i))
- ___ **Gas Monitoring Reports**
- ___ **Other (identify)** _____

Formatting Requirements for the 01 Record of the Electronically Submitted
Groundwater and Leachate Data (the 01 Record portion of the LPC-160 is included
for example purposes)

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF LAND POLLUTION CONTROL
CHEMICAL ANALYSIS FORM

Page 1 of _____

RECORD CODE						TRANS CODE	
L	P	C	S	M	0	1	A
						7	8
REPORT DUE DATE ____/____/____							
36 M D Y 41							

FEDERAL ID NUMBER _____

SITE INVENTORY NUMBER	9	18	MONITOR POINT NUMBER (see Instructions)	19	22
REGION	CO.		DATE COLLECTED	23 M	D Y 28
FACILITY NAME _____					

FOR IEPA USE ONLYLAB _____
29DATE RECEIVED ____/____/____
42 M D Y 47

BACKGROUND SAMPLE (X) _____ 54 TIME COLLECTED (24 Hr. Clock) 55 11 M 58

UNABLE TO COLLECT SAMPLE (see Instructions) 59
MONITOR POINT SAMPLED BY (see Instructions) 60

OTHER (SPECIFY) _____

SAMPLE FIELD FILTERED - INORGANICS (X)

61

ORGANICS (X)

62

SAMPLE APPEARANCE

63 _____

102

COLLECTOR COMMENTS

103 _____

142

LAB COMMENTS

150 _____

199

II 532 1213
LPC 160 12/2011

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 ½, Section 1004 and 1021. Disclosure of this information is required. Failure to do so may result in a civil penalty up to \$25,000 for each day the failure continues a fine up to \$1,000.00 and imprisonment up to one year. This form has been approved by the Forms Management Center.

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

*Only Key punch with Data in Column 35 or Columns 38-47

KEY:

<u>Spaces Numbered</u>	<u>Description</u>	<u>Format</u>
Spaces 1-7	Record Code	LPCSM01
Space 8	Trans Code	A
Spaces 9-18	Site ID	0000000000
Spaces 19-22	Mon Pt ID	G000
Spaces 23-28	Date Collected	000000
Space 29	Lab	
Spaces 30-35	Filler	
Spaces 36-41	Report Due Date	000000
Spaces 42-47	Date Received	000000
Spaces 48-53	Filler 2	
Space 54	Background Sample	
Spaces 55-58	Time Collected	0000
Space 59	Unable to Collect Sample	
Space 60	Monitoring Point Sampled By	
Space 61	Field Filtered – Inorganic	
Space 62	Field Filtered – Organic	
Spaces 63-102	Sample Appearance	
Spaces 103-142	Collector Comments	
Spaces 143-149	Filler 3	
Spaces 150-159	Lab Comments	

FIELD MEASUREMENTS CONSTITUENT DESCRIPTION AND REQUIRED UNIT OF MEASURE		STORET NUMBER	Remarks See Inst.	Replicate	< or >	Value
Q	TEMP OF WATER (unfiltered ° F)	0 0 0 1 1 30 34	35	36	37	38 _____ • _____ 47
Q	SPEC COND (unfiltered umhos)	0 0 0 9 4				_____ • _____
Q	pH (unfiltered units)	0 0 4 0 0				_____ • _____
Q	ELEV OF GW SURF (ft ref MSL)	7 1 9 9 3				_____ • _____
Q	DEPTH OF WATER (ft below LS)	7 2 0 1 9				_____ • _____
A	BTM WELL ELEV (ft ref MSL)	7 2 0 2 0				_____ • _____
Q	DEPTH TO WATER FR MEA PT (ft)	7 2 1 0 9				_____ • _____
						_____ • _____
						_____ • _____

All analytical procedures must be performed in accordance with the methods contained in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 3rd Edition, September 1986 or equivalent methods approved by the Agency. Proper sample chain of custody control and quality assurance/quality control procedures must be maintained in accordance with the facility sampling and analysis plan.

KEY:

Page 1 of 1

ATTACHMENT B

STATISTICAL PROCEDURE

STATE ID # 0310390001

ILD010284248

POST-CLOSURE PERMIT LOG NO. B-27R2-M-8; M-10

Attachment B-1

The following statistical procedure must be followed as referenced in Section II (Area 4 Compliance Monitoring Program) and Section III (Area 3 Groundwater Corrective Action Program). This statistical procedure is only valid for normally distributed data sets.

1. Calculate the arithmetic mean, $\bar{x}_b$, of the background values as follows:

$$\bar{x}_b = \frac{x_{b1} + x_{b2} + \dots + x_{bn}}{n}$$

where: x_b = background concentration
 n = number of observations

2. Calculate the variance, S_b^2 , of the background values:

$$S_b^2 = \frac{(x_{b1} - \bar{x}_b)^2 + (x_{b2} - \bar{x}_b)^2 + \dots + (x_{bn} - \bar{x}_b)^2}{n - 1}$$

3. Calculate the standard deviation, S_b , of the background values:

$$S_b = \sqrt{S_b^2}$$

4. Specify the number of future observations per well (k) and calculate the prediction limit (PL) using the following equation:

$$PL = \bar{x}_b + C * S_b$$

where: $\bar{x}_b$ = background mean value

C = factor for obtaining a one-sided 99% prediction limit for k additional samples given a background sample size of n (see "Note" below)

S_b = Background standard deviation

Note: C is determined from Tables 1-3 of "Standard Prediction Intervals for the Evaluation of Groundwater Quality", R. Gibbons, Ground Water, Vol. 25, No. 4, July-August 1987. Refer to Attachment F, pages F-6 through F-8.

Reference: "Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Interim Final Guidance", USEPA, February 1989.

Attachment B-2**Cohen's Method for Calculating Estimates of the Mean and Variance of Background Measurements when Some Observations ($\leq 50\%$) are Below the Practical Quantitation Limit (PQL)**

This method is to be used only when PQLs are equal for the data set. Let n be the total number of observations, m represents the number of data points above the PQL, and x_i represents the value of the i^{th} constituent value above the PQL.

1. Compute the sample mean $\bar{x}_d$ from the data above the PQL as follows:

$$\bar{x}_d = 1/m \sum_{i=1}^m x_i$$

2. Compute the sample variance S_d^2 from the data above the PQL as follows:

$$S_d^2 = \sum_{i=1}^m \frac{(x_i - \bar{x}_d)^2}{m-1} = \frac{\sum_{i=1}^m x_i^2 - \frac{1}{m} (\sum_{i=1}^m x_i)^2}{m-1}$$

3. Compute the two parameters, h and γ (lower case gamma), as follows:

$$h = \frac{(n-m)}{n} \qquad \gamma = \frac{S_d^2}{(\bar{x} - PQL)^2}$$

where n is the total number of observations (i.e. above and below the PQL). These values are then used to determine the value of the parameter $\hat{\lambda}$ from Appendix B, Table 7 (see Attachment F.2A).

4. Estimate the corrected sample mean, which accounts for the data below the PQL, as follows:

$$\bar{x} = \bar{x}_d - \hat{\lambda}(\bar{x}_d - PQL)$$

5. Estimate the corrected sample standard deviation, which accounts for the data below the PQL, as follows:

$$S = (S_d^2 + \hat{\lambda}(\bar{x}_d - PQL)^2)^{1/2}$$

6. Use the corrected values of $\bar{x}$ and S in the procedure for constructing a prediction limit outlined in Attachment F-1.

$\bar{x}_d$ = sample mean

x_i = i^{th} value above the PQL

m = number of data points above the PQL

h = parameter to determine λ from Appendix B, Table 7 (see Attachment B-2A).

γ = parameter to determine λ from Appendix B, Table 7 (see Attachment B-2A).

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n = number of observations

S^2 = Sample variance

PQL = Practical Quantitation Limit

$\hat{\lambda}$ = parameter used to derive corrected $\bar{x}$ and corrected S

$\bar{x}$ = corrected sample mean

S = corrected sample standard deviation

Reference: "Statistical analysis of Ground-water Monitoring Data at RCRA Facilities, Interim Final Guidance", USEPA, February 1989.

Attachment B-2A

Appendix B, Table 7, from: "Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Interim Final Guidance," USEPA, February 1989.

Table 7. Values of the Parameter $\hat{\lambda}$ for Cohen's Estimates Adjusting for Nondetected Values

γ	h											
	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.15	.20
.00	.010100	.020400	.030902	.041583	.052507	.063625	.074953	.08649	.09824	.11020	.17342	.24268
.05	.010551	.021294	.032225	.043350	.054670	.066159	.077909	.08983	.10197	.11431	.17925	.25633
.10	.010950	.022082	.033398	.044902	.056596	.068483	.080563	.09285	.10534	.11804	.18479	.25741
.15	.011310	.022798	.034466	.046318	.058356	.070586	.083009	.09563	.10845	.12148	.18985	.26405
.20	.011642	.023459	.035453	.047829	.059990	.072539	.085280	.09822	.11135	.12469	.19460	.27031
.25	.011952	.024076	.036377	.048858	.061522	.074372	.087413	.10065	.11408	.12772	.19910	.27626
.30	.012243	.024658	.037249	.050018	.062969	.076106	.089433	.10295	.11667	.13059	.20338	.28193
.35	.012520	.025211	.038077	.051120	.064345	.077736	.091355	.10515	.11914	.13333	.20747	.28737
.40	.012784	.025738	.038866	.052173	.065660	.079332	.093193	.10725	.12150	.13595	.21129	.29250
.45	.013036	.026243	.039624	.053182	.066921	.080845	.094958	.10926	.12377	.13847	.21517	.29765
.50	.013279	.026728	.040352	.054153	.068135	.082301	.096657	.11121	.12595	.14090	.21882	.30253
.55	.013513	.027196	.041054	.055089	.069306	.083708	.098298	.11208	.12806	.14325	.22225	.30725
.60	.013739	.027849	.041733	.055995	.070439	.085068	.099887	.11490	.13011	.14552	.22578	.31184
.65	.013958	.028087	.042391	.056874	.071538	.086388	.10143	.11666	.13209	.14773	.22910	.31630
.70	.014171	.028513	.043030	.057726	.072505	.087670	.10292	.11837	.13402	.14987	.23234	.32065
.75	.014378	.029927	.043652	.058556	.073643	.088917	.10438	.12004	.13590	.15196	.23550	.32489
.80	.014579	.029330	.044258	.059364	.074655	.090133	.10580	.12167	.13775	.15400	.23858	.32903
.85	.014773	.029723	.044848	.060153	.075642	.091319	.10719	.12325	.13952	.15599	.24158	.33307
.90	.014967	.030107	.045425	.060923	.075606	.092477	.10854	.12480	.14126	.15793	.24452	.33703
.95	.015154	.030483	.045989	.061676	.077549	.093611	.10987	.12632	.14297	.15983	.24740	.34091
1.00	.015338	.030850	.046540	.062413	.078471	.094720	.11116	.12780	.14465	.16170	.25022	.34471

γ	h											
	.25	.30	.35	.40	.45	.50	.55	.60	.65	.70	.80	.90
.00	.31862	.4021	.4941	.5961	.7096	.8388	.9808	1.145	1.336	1.561	2.176	3.283
.05	.32793	.4130	.5066	.6101	.7252	.8540	.9994	1.166	1.358	1.585	2.203	3.314
.10	.33662	.4233	.5184	.6234	.7400	.8703	1.017	1.185	1.379	1.608	2.229	3.345
.15	.34480	.4330	.5296	.6361	.7542	.8860	1.035	1.204	1.400	1.630	2.255	3.376
.20	.35255	.4422	.5403	.6483	.7673	.9012	1.051	1.222	1.419	1.651	2.280	3.405
.25	.35993	.4510	.5506	.6600	.7810	.9158	1.067	1.240	1.439	1.672	2.305	3.435
.30	.36700	.4595	.5604	.6713	.7937	.9300	1.083	1.257	1.457	1.693	2.329	3.464
.35	.37379	.4676	.5699	.6821	.8060	.9437	1.098	1.274	1.475	1.713	2.353	3.492
.40	.38033	.4735	.5791	.6927	.8179	.9570	1.113	1.290	1.494	1.732	2.376	3.520
.45	.38665	.4831	.5880	.7029	.8295	.9700	1.127	1.306	1.511	1.751	2.399	3.547
.50	.39276	.4904	.5967	.7129	.8408	.9826	1.141	1.321	1.528	1.770	2.421	3.575
.55	.39679	.4976	.6061	.7225	.8517	.9950	1.155	1.337	1.545	1.788	2.443	3.601
.60	.40447	.5045	.6133	.7320	.8625	1.007	1.169	1.351	1.561	1.806	2.465	3.628
.65	.41008	.5114	.6213	.7412	.8729	1.019	1.182	1.368	1.577	1.824	2.486	3.654
.70	.41555	.5180	.6291	.7502	.8832	1.030	1.195	1.380	1.593	1.841	2.507	3.679
.75	.42090	.5245	.6367	.7590	.8932	1.042	1.207	1.394	1.608	1.851	2.528	3.705
.80	.42612	.5308	.6441	.7676	.9031	1.053	1.220	1.408	1.624	1.875	2.548	3.730
.85	.43122	.5370	.6515	.7781	.9127	1.064	1.232	1.422	1.639	1.892	2.568	3.754
.90	.43622	.5430	.6586	.7844	.9222	1.074	1.244	1.435	1.653	1.908	2.588	3.779
.95	.44112	.5490	.6656	.7925	.9314	1.085	1.255	1.448	1.668	1.924	2.607	3.803
1.00	.44592	.5548	.6724	.8005	.9406	1.095	1.267	1.461	1.682	1.940	2.626	3.827

Source: Cohen, A.C., Jr. 1961. "Tables for Maximum Likelihood Estimates: Singly Truncated and Singly Censored Samples." *Technometrics*.

Attachment B-3**Aitchison's Method for Calculating Estimates of the Mean and Variance of Background Measurements when Some Observations ($\leq 50\%$) are Below the Practical Quantitation Limit (PQL)**

This method may be used when PQLs are not equal for the dataset.

1. The corrected sample mean is calculated using the following equation:

$$\bar{X} = \left(1 - \frac{d}{n}\right) \bar{X}^*$$

2. The corrected standard deviation is calculated using the following equation:

$$S = \frac{n - (d + 1)}{n - 1} (S^*)^2 + \frac{d}{n} \left(\frac{n - d}{n - 1} \right) (\bar{X}^*)^2$$

3. Use the corrected values of $\bar{X}$ and S in the procedure for constructing a prediction limit outlined in Attachment F-1.

$\bar{X}$ = corrected sample mean

$\bar{X}^*$ = sample mean of detected values

n = number of samples

S = corrected sample standard deviation

d = number of values below the PQL

Reference: "Statistical analysis of Ground-water Monitoring Data at RCRA Facilities, Addendum to Interim Final Guidance", USEPA, July 1992.

Attachment B-4**Coefficient of Variation Test**

This test is a simple check for evidence of gross nonnormality in groundwater monitoring data.

1. Calculate the sample mean ($\bar{x}$) of n observations x_i , $i=1, \dots, n$.

$$\bar{x} = \frac{(\sum_{i=1}^n x_i)}{n}$$

2. Calculate the sample standard deviation, S .

$$S = \left[\sum_{i=1}^n (x_i - \bar{x})^2 / (n-1) \right]^{1/2}$$

3. Divide the sample standard deviation by the sample mean. This ratio is the Coefficient of Variation (CV).

$$CV = S / \bar{x}$$

4. Determine if the result of Step 3 exceeds 1.00. If so, this is evidence that the assumption of normal distribution does not fit the data adequately.

Reference: "Statistical analysis of Ground-water Monitoring Data at RCRA Facilities, Interim Final Guidance", USEPA, February 1989.

Attachment B-5

Table 1. Factors for Obtaining One-Sided 99% Prediction Limits for k
Additional Samples Given a Background Sample of Size n

Previous n	Number of new measurements (k)														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
4	4.70	5.81	6.52	7.06	7.49	7.86	8.17	8.45	8.71	8.94	9.15	9.35	9.53	9.70	9.86
5	3.96	4.77	5.28	5.66	5.96	6.22	6.44	6.63	6.81	6.97	7.11	7.24	7.37	7.48	7.59
6	3.67	4.23	4.63	4.93	5.17	5.37	5.54	5.69	5.83	5.95	6.06	6.16	6.26	6.35	6.43
7	3.32	3.89	4.24	4.49	4.69	4.86	5.00	5.13	5.24	5.34	5.43	5.52	5.60	5.67	5.74
8	3.16	3.67	3.98	4.20	4.38	4.52	4.65	4.75	4.85	4.94	5.02	5.09	5.16	5.22	5.28
9	3.04	3.61	3.79	3.99	4.16	4.28	4.39	4.49	4.58	4.66	4.73	4.79	4.85	4.91	4.96
10	2.95	3.39	3.65	3.84	3.98	4.10	4.21	4.30	4.37	4.45	4.51	4.57	4.62	4.68	4.72
11	2.88	3.30	3.54	3.72	3.85	3.97	4.06	4.14	4.22	4.28	4.34	4.40	4.45	4.50	4.54
12	2.82	3.22	3.46	3.62	3.76	3.86	3.95	4.03	4.09	4.16	4.21	4.26	4.31	4.36	4.40
13	2.78	3.16	3.39	3.54	3.67	3.77	3.85	3.93	3.99	4.05	4.11	4.16	4.20	4.24	4.28
14	2.74	3.11	3.33	3.48	3.60	3.70	3.78	3.85	3.91	3.97	4.02	4.07	4.11	4.15	4.19
15	2.71	3.07	3.28	3.43	3.64	3.63	3.71	3.78	3.84	3.90	3.95	3.99	4.03	4.07	4.11
16	2.68	3.03	3.24	3.38	3.49	3.58	3.66	3.72	3.78	3.84	3.88	3.93	3.97	4.00	4.04
17	2.66	3.00	3.20	3.34	3.46	3.54	3.61	3.68	3.73	3.78	3.83	3.87	3.91	3.95	3.98
18	2.64	2.97	3.17	3.31	3.41	3.50	3.57	3.63	3.69	3.74	3.78	3.82	3.86	3.89	3.93
19	2.62	2.95	3.14	3.28	3.38	3.46	3.53	3.60	3.65	3.70	3.74	3.78	3.82	3.85	3.88
20	2.60	2.93	3.12	3.25	3.35	3.43	3.50	3.56	3.61	3.66	3.70	3.74	3.78	3.81	3.84
21	2.69	2.91	3.10	3.22	3.32	3.41	3.47	3.53	3.58	3.63	3.67	3.71	3.75	3.78	3.81
22	2.57	2.89	3.08	3.20	3.30	3.38	3.45	3.51	3.56	3.60	3.64	3.68	3.71	3.75	3.78
23	2.66	2.88	3.06	3.18	3.28	3.36	3.42	3.48	3.53	3.58	3.62	3.65	3.69	3.72	3.75
24	2.65	2.86	3.04	3.17	3.26	3.34	3.40	3.46	3.51	3.55	3.59	3.63	3.66	3.69	3.72
25	2.64	2.85	3.03	3.15	3.24	3.32	3.39	3.44	3.49	3.53	3.57	3.61	3.64	3.67	3.70
26	2.63	2.84	3.01	3.14	3.23	3.30	3.37	3.42	3.47	3.51	3.55	3.59	3.62	3.65	3.68
27	2.62	2.83	3.00	3.12	3.21	3.29	3.35	3.41	3.45	3.50	3.53	3.57	3.60	3.63	3.66
28	2.62	2.82	2.99	3.11	3.20	3.27	3.34	3.39	3.44	3.48	3.52	3.55	3.58	3.61	3.64
29	2.61	2.81	2.98	3.10	3.19	3.26	3.32	3.38	3.42	3.46	3.50	3.54	3.57	3.60	3.62
30	2.60	2.80	2.97	3.09	3.18	3.25	3.31	3.36	3.41	3.45	3.49	3.52	3.55	3.58	3.61
31	2.50	2.79	2.96	3.08	3.17	3.24	3.30	3.35	3.40	3.44	3.47	3.51	3.54	3.57	3.59
32	2.49	2.79	2.95	3.07	3.16	3.23	3.29	3.34	3.39	3.43	3.46	3.50	3.53	3.55	3.58
33	2.49	2.78	2.94	3.06	3.16	3.22	3.28	3.33	3.37	3.41	3.45	3.48	3.51	3.54	3.57
34	2.48	2.77	2.94	3.05	3.14	3.21	3.27	3.32	3.36	3.40	3.44	3.47	3.50	3.53	3.56
35	2.48	2.77	2.93	3.04	3.13	3.20	3.26	3.31	3.35	3.39	3.43	3.46	3.49	3.52	3.54
36	2.47	2.76	2.92	3.04	3.12	3.19	3.25	3.30	3.35	3.39	3.42	3.45	3.48	3.51	3.53
37	2.47	2.76	2.92	3.03	3.12	3.19	3.24	3.29	3.34	3.38	3.41	3.44	3.47	3.50	3.53
38	2.46	2.75	2.91	3.02	3.11	3.18	3.24	3.29	3.33	3.37	3.40	3.44	3.46	3.49	3.52
39	2.46	2.75	2.91	3.02	3.10	3.17	3.23	3.28	3.32	3.36	3.40	3.43	3.46	3.48	3.51
40	2.46	2.74	2.90	3.01	3.10	3.17	3.22	3.27	3.31	3.35	3.39	3.42	3.45	3.47	3.50
41	2.45	2.74	2.90	3.01	3.09	3.16	3.22	3.27	3.31	3.35	3.38	3.41	3.44	3.47	3.49
42	2.45	2.73	2.89	3.00	3.09	3.15	3.21	3.26	3.30	3.34	3.37	3.41	3.43	3.46	3.48
43	2.45	2.73	2.89	3.00	3.08	3.15	3.20	3.25	3.30	3.33	3.37	3.40	3.43	3.45	3.48
44	2.44	2.73	2.88	2.99	3.08	3.14	3.20	3.25	3.29	3.33	3.36	3.39	3.42	3.45	3.47
45	2.44	2.72	2.88	2.99	3.07	3.14	3.19	3.24	3.28	3.32	3.36	3.39	3.41	3.44	3.46
46	2.44	2.72	2.88	2.98	3.07	3.13	3.19	3.24	3.28	3.32	3.35	3.38	3.41	3.43	3.46
47	2.44	2.72	2.87	2.98	3.06	3.13	3.18	3.23	3.27	3.31	3.34	3.38	3.40	3.43	3.45
48	2.43	2.71	2.87	2.98	3.06	3.12	3.18	3.23	3.27	3.31	3.34	3.37	3.40	3.42	3.45
49	2.43	2.71	2.86	2.97	3.06	3.12	3.18	3.22	3.26	3.30	3.34	3.37	3.39	3.42	3.44
50	2.43	2.71	2.86	2.97	3.05	3.12	3.17	3.22	3.26	3.30	3.33	3.36	3.39	3.41	3.44
60	2.41	2.68	2.84	2.94	3.02	3.08	3.14	3.18	3.22	3.26	3.29	3.32	3.35	3.37	3.40
70	2.40	2.67	2.82	2.92	3.00	3.06	3.12	3.16	3.20	3.24	3.27	3.30	3.32	3.35	3.37
80	2.39	2.66	2.80	2.91	2.98	3.05	3.10	3.14	3.18	3.22	3.25	3.28	3.30	3.33	3.35
90	2.38	2.65	2.79	2.89	2.97	3.03	3.08	3.13	3.17	3.20	3.23	3.26	3.29	3.31	3.33
100	2.38	2.64	2.79	2.89	2.96	3.02	3.07	3.12	3.16	3.19	3.22	3.25	3.27	3.30	3.32

$$\text{Factor} = t_{(n-1, 1-\alpha/k)} \sqrt{1 + 1/n}$$

Table 2. Factors for Obtaining One-Sided 99% Prediction Limits for k
Additional Samples Given a Background Sample of Size n

Previous n	Number of new measurements (k)													
	16	17	18	19	20	21	22	23	24	25	26	27	28	29
4	10.01	10.16	10.30	10.43	10.55	10.67	10.79	10.90	11.00	11.11	11.21	11.30	11.40	11.49
5	7.70	7.79	7.89	7.97	8.06	8.14	8.22	8.29	8.36	8.43	8.50	8.56	8.62	8.68
6	6.51	6.58	6.65	6.72	6.79	6.85	6.90	6.96	7.02	7.07	7.12	7.17	7.21	7.26
7	5.80	5.86	5.92	5.98	6.03	6.08	6.13	6.17	6.21	6.26	6.30	6.34	6.38	6.41
8	5.34	5.39	5.44	5.49	5.53	5.57	5.61	5.65	5.69	5.73	5.76	5.80	5.83	5.86
9	5.01	5.06	5.10	5.14	5.18	5.22	5.25	5.29	5.32	5.35	5.39	5.42	5.44	5.47
10	4.77	4.81	4.85	4.89	4.92	4.96	4.99	5.02	5.05	5.08	5.11	5.14	5.16	5.19
11	4.58	4.62	4.66	4.69	4.73	4.76	4.79	4.82	4.84	4.87	4.90	4.92	4.94	4.97
12	4.44	4.47	4.51	4.54	4.57	4.60	4.63	4.65	4.68	4.71	4.73	4.75	4.77	4.80
13	4.32	4.35	4.38	4.42	4.44	4.47	4.50	4.52	4.55	4.57	4.59	4.62	4.64	4.66
14	4.22	4.25	4.28	4.31	4.34	4.37	4.39	4.42	4.44	4.46	4.48	4.50	4.52	4.54
15	4.14	4.17	4.20	4.23	4.25	4.28	4.30	4.33	4.35	4.37	4.39	4.41	4.43	4.45
16	4.07	4.10	4.13	4.15	4.18	4.20	4.23	4.25	4.27	4.29	4.31	4.33	4.35	4.37
17	4.01	4.04	4.07	4.09	4.12	4.14	4.16	4.18	4.20	4.22	4.24	4.26	4.28	4.30
18	3.96	3.99	4.01	4.04	4.06	4.08	4.11	4.13	4.15	4.17	4.18	4.20	4.22	4.24
19	3.91	3.94	3.97	3.99	4.01	4.04	4.06	4.08	4.10	4.11	4.13	4.15	4.17	4.18
20	3.87	3.90	3.92	3.95	3.97	3.99	4.01	4.03	4.05	4.07	4.09	4.10	4.12	4.14
21	3.84	3.86	3.89	3.91	3.93	3.95	3.97	3.99	4.01	4.03	4.05	4.06	4.08	4.09
22	3.80	3.83	3.85	3.88	3.90	3.92	3.94	3.96	3.98	3.99	4.01	4.03	4.04	4.06
23	3.77	3.80	3.82	3.85	3.87	3.89	3.91	3.93	3.94	3.96	3.98	3.99	4.01	4.02
24	3.75	3.77	3.80	3.82	3.84	3.86	3.88	3.90	3.92	3.93	3.95	3.96	3.98	3.99
25	3.72	3.75	3.77	3.79	3.82	3.84	3.85	3.87	3.89	3.91	3.92	3.94	3.95	3.97
26	3.70	3.73	3.75	3.77	3.79	3.81	3.83	3.85	3.87	3.88	3.90	3.91	3.93	3.94
27	3.68	3.71	3.73	3.75	3.77	3.79	3.81	3.83	3.84	3.86	3.87	3.89	3.90	3.92
28	3.66	3.69	3.71	3.73	3.75	3.77	3.79	3.81	3.82	3.84	3.85	3.87	3.88	3.90
29	3.65	3.67	3.69	3.71	3.73	3.75	3.77	3.79	3.80	3.82	3.83	3.85	3.86	3.88
30	3.63	3.66	3.68	3.70	3.72	3.74	3.75	3.77	3.79	3.80	3.82	3.83	3.85	3.86
31	3.62	3.64	3.66	3.68	3.70	3.72	3.74	3.75	3.77	3.79	3.80	3.81	3.83	3.84
32	3.60	3.63	3.65	3.67	3.69	3.71	3.72	3.74	3.76	3.77	3.79	3.80	3.81	3.83
33	3.59	3.61	3.64	3.66	3.67	3.69	3.71	3.73	3.74	3.76	3.77	3.79	3.80	3.81
34	3.58	3.60	3.62	3.64	3.66	3.68	3.70	3.71	3.73	3.74	3.76	3.77	3.78	3.80
35	3.57	3.59	3.61	3.63	3.65	3.67	3.69	3.70	3.72	3.73	3.75	3.76	3.77	3.78
36	3.56	3.58	3.60	3.62	3.64	3.66	3.67	3.69	3.71	3.72	3.73	3.75	3.76	3.77
37	3.55	3.57	3.59	3.61	3.63	3.65	3.66	3.68	3.69	3.71	3.72	3.74	3.75	3.76
38	3.54	3.56	3.58	3.60	3.62	3.64	3.65	3.67	3.68	3.70	3.71	3.73	3.74	3.75
39	3.53	3.55	3.57	3.59	3.61	3.63	3.64	3.66	3.67	3.69	3.70	3.72	3.73	3.74
40	3.52	3.54	3.56	3.58	3.60	3.62	3.63	3.65	3.67	3.68	3.69	3.71	3.72	3.73
41	3.51	3.54	3.56	3.58	3.59	3.61	3.63	3.64	3.66	3.67	3.68	3.70	3.71	3.72
42	3.51	3.53	3.55	3.57	3.59	3.60	3.62	3.63	3.65	3.66	3.68	3.69	3.70	3.71
43	3.50	3.52	3.54	3.56	3.58	3.59	3.61	3.63	3.64	3.65	3.67	3.68	3.69	3.71
44	3.49	3.51	3.53	3.56	3.57	3.59	3.60	3.62	3.63	3.65	3.66	3.67	3.69	3.70
45	3.49	3.51	3.53	3.56	3.56	3.58	3.60	3.61	3.63	3.64	3.65	3.67	3.68	3.69
46	3.48	3.50	3.52	3.54	3.56	3.57	3.59	3.61	3.62	3.63	3.65	3.66	3.67	3.68
47	3.48	3.50	3.52	3.53	3.55	3.57	3.58	3.60	3.61	3.63	3.64	3.65	3.67	3.68
48	3.47	3.49	3.51	3.53	3.55	3.56	3.58	3.59	3.61	3.62	3.63	3.65	3.66	3.67
49	3.46	3.48	3.50	3.52	3.54	3.56	3.57	3.59	3.60	3.62	3.63	3.64	3.65	3.66
50	3.46	3.48	3.50	3.52	3.53	3.55	3.57	3.58	3.60	3.61	3.62	3.64	3.65	3.66
60	3.42	3.44	3.46	3.47	3.49	3.51	3.52	3.54	3.55	3.56	3.58	3.59	3.60	3.61
70	3.39	3.41	3.43	3.45	3.46	3.48	3.49	3.51	3.52	3.53	3.54	3.56	3.57	3.58
80	3.37	3.39	3.41	3.42	3.44	3.45	3.47	3.48	3.50	3.51	3.52	3.53	3.54	3.56
90	3.35	3.37	3.39	3.41	3.42	3.44	3.45	3.47	3.48	3.49	3.50	3.51	3.53	3.54
100	3.34	3.36	3.38	3.39	3.41	3.42	3.44	3.45	3.46	3.48	3.49	3.50	3.51	3.52

$$\text{Factor} = t_{(n-1, 1-\alpha/k)} \sqrt{1 + 1/n}$$

Table 3 Factors for Obtaining One-Sided 99% Prediction Limits for k
Additional Samples Given a Background Sample of Size n

Previous n	Number of new measurements (k)														
	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
4	11.57	11.98	12.34	12.66	12.95	13.22	13.47	13.70	13.91	14.11	14.31	14.49	14.66	14.82	14.98
6	8.74	9.01	9.25	9.46	9.65	9.83	9.99	10.14	10.29	10.42	10.64	10.66	10.77	10.88	10.98
6	7.30	7.51	7.68	7.84	7.99	8.12	8.24	8.35	8.46	8.55	8.65	8.73	8.82	8.90	8.97
7	6.45	6.61	6.76	6.89	7.00	7.11	7.20	7.29	7.38	7.46	7.53	7.60	7.67	7.73	7.79
8	5.89	6.03	6.15	6.26	6.36	6.45	6.53	6.61	6.68	6.74	6.81	6.87	6.92	6.97	7.02
9	5.50	5.62	5.73	5.82	5.91	5.99	6.06	6.13	6.19	6.25	6.30	6.35	6.40	6.45	6.49
10	5.21	5.32	5.42	5.50	5.58	5.65	5.72	5.77	5.83	5.88	5.93	5.98	6.02	6.06	6.10
11	4.99	5.09	5.18	5.26	5.33	5.39	5.45	5.51	5.56	5.60	5.65	5.69	5.73	5.77	5.80
12	4.82	4.91	4.99	5.07	5.13	5.19	5.25	5.30	5.34	5.39	5.43	5.47	5.50	5.54	5.57
13	4.68	4.77	4.84	4.91	4.97	5.03	5.08	5.13	5.17	5.21	5.25	5.28	5.32	5.35	5.38
14	4.56	4.65	4.72	4.78	4.84	4.89	4.94	4.99	5.03	5.07	5.10	5.14	5.17	5.20	5.23
15	4.46	4.54	4.61	4.68	4.73	4.78	4.83	4.87	4.91	4.95	4.98	5.01	5.04	5.07	5.10
16	4.38	4.46	4.53	4.59	4.64	4.69	4.73	4.77	4.81	4.84	4.88	4.91	4.94	4.96	4.99
17	4.31	4.39	4.45	4.51	4.56	4.61	4.65	4.69	4.72	4.76	4.79	4.82	4.85	4.87	4.90
18	4.25	4.32	4.39	4.44	4.49	4.54	4.58	4.61	4.65	4.68	4.71	4.74	4.77	4.79	4.82
19	4.20	4.27	4.33	4.38	4.43	4.47	4.51	4.55	4.58	4.61	4.64	4.67	4.70	4.72	4.75
20	4.15	4.22	4.28	4.33	4.38	4.42	4.46	4.49	4.53	4.56	4.59	4.61	4.64	4.66	4.68
21	4.11	4.18	4.23	4.28	4.33	4.37	4.41	4.44	4.48	4.50	4.53	4.56	4.58	4.61	4.63
22	4.07	4.14	4.19	4.24	4.29	4.33	4.36	4.40	4.43	4.46	4.49	4.51	4.54	4.56	4.58
23	4.04	4.10	4.16	4.21	4.25	4.29	4.32	4.36	4.39	4.42	4.44	4.47	4.49	4.51	4.54
24	4.01	4.07	4.12	4.17	4.21	4.25	4.29	4.32	4.35	4.38	4.41	4.43	4.45	4.48	4.50
25	3.98	4.04	4.09	4.14	4.18	4.22	4.26	4.29	4.32	4.35	4.37	4.40	4.42	4.44	4.46
26	3.95	4.01	4.07	4.11	4.16	4.19	4.23	4.26	4.29	4.31	4.34	4.36	4.39	4.41	4.43
27	3.93	3.99	4.04	4.09	4.13	4.17	4.20	4.23	4.26	4.29	4.31	4.33	4.36	4.38	4.40
28	3.91	3.97	4.02	4.06	4.11	4.14	4.17	4.21	4.23	4.26	4.28	4.31	4.33	4.35	4.37
29	3.89	3.95	4.00	4.04	4.08	4.12	4.15	4.18	4.21	4.24	4.26	4.28	4.30	4.32	4.34
30	3.87	3.93	3.98	4.02	4.06	4.10	4.13	4.16	4.19	4.21	4.24	4.26	4.28	4.30	4.32
31	3.85	3.91	3.96	4.00	4.04	4.08	4.11	4.14	4.17	4.19	4.22	4.24	4.26	4.28	4.30
32	3.84	3.90	3.94	3.99	4.03	4.06	4.09	4.12	4.15	4.17	4.20	4.22	4.24	4.26	4.28
33	3.82	3.88	3.93	3.97	4.01	4.04	4.08	4.10	4.13	4.16	4.18	4.20	4.22	4.24	4.26
34	3.81	3.87	3.91	3.96	3.99	4.03	4.06	4.09	4.11	4.14	4.16	4.18	4.20	4.22	4.24
35	3.80	3.85	3.90	3.94	3.98	4.01	4.04	4.07	4.10	4.12	4.15	4.17	4.19	4.21	4.22
36	3.79	3.84	3.89	3.93	3.97	4.00	4.03	4.06	4.08	4.11	4.13	4.15	4.17	4.19	4.21
37	3.77	3.83	3.88	3.92	3.95	3.99	4.02	4.04	4.07	4.09	4.12	4.14	4.16	4.18	4.19
38	3.76	3.82	3.86	3.90	3.94	3.97	4.00	4.03	4.06	4.08	4.10	4.12	4.14	4.16	4.18
39	3.75	3.81	3.85	3.89	3.93	3.96	3.99	4.02	4.05	4.07	4.09	4.11	4.13	4.15	4.17
40	3.74	3.80	3.84	3.88	3.92	3.95	3.98	4.01	4.03	4.06	4.08	4.10	4.12	4.14	4.15
41	3.73	3.79	3.83	3.87	3.91	3.94	3.97	4.00	4.02	4.05	4.07	4.09	4.11	4.12	4.14
42	3.73	3.78	3.82	3.86	3.90	3.93	3.96	3.99	4.01	4.04	4.06	4.08	4.10	4.11	4.13
43	3.72	3.77	3.82	3.85	3.89	3.92	3.95	3.98	4.00	4.03	4.05	4.07	4.09	4.10	4.12
44	3.71	3.76	3.81	3.85	3.88	3.91	3.94	3.97	3.99	4.02	4.04	4.06	4.08	4.09	4.11
45	3.70	3.75	3.80	3.84	3.87	3.91	3.93	3.96	3.98	4.01	4.03	4.05	4.07	4.08	4.10
46	3.70	3.75	3.79	3.83	3.87	3.90	3.93	3.95	3.98	4.00	4.02	4.04	4.06	4.08	4.09
47	3.69	3.74	3.78	3.82	3.80	3.89	3.92	3.94	3.97	3.99	4.01	4.03	4.05	4.07	4.08
48	3.68	3.73	3.78	3.82	3.86	3.88	3.91	3.94	3.96	3.98	4.00	4.02	4.04	4.06	4.07
49	3.68	3.73	3.77	3.81	3.84	3.88	3.90	3.93	3.95	3.98	4.00	4.02	4.03	4.05	4.07
50	3.67	3.72	3.76	3.80	5.84	3.87	3.90	3.92	3.95	3.97	3.99	4.01	4.03	4.04	4.06
60	3.62	3.67	3.71	3.75	3.78	3.81	3.84	3.87	3.89	3.91	3.93	3.95	3.97	3.98	4.00
70	3.59	3.64	3.68	3.72	3.75	3.78	3.80	3.83	3.85	3.87	3.89	3.91	3.93	3.94	3.96
80	3.57	3.61	3.65	3.69	3.72	3.76	3.78	3.80	3.82	3.84	3.86	3.88	3.89	3.91	3.93
90	3.55	3.59	3.63	3.67	5.70	3.73	3.75	3.78	3.80	3.82	3.84	3.85	3.87	3.89	3.90
100	3.53	3.58	3.62	3.65	3.68	3.71	3.74	3.76	3.78	3.80	3.82	3.84	3.85	3.87	3.88

$$\text{Factor} = t_{(n-1, 1-\alpha/k)} \sqrt{1 + 1/n}$$

Attachment B-6, Table 1
CID-RDF Area 4 Landfill
Silurian Dolomite
Intrawell Background Values (ug/L)
April 2023
Illinois EPA Log No. B-27R2-M-1

List G2	Concentration Limit	G02D	R06D	R08D	G10D	G16D	G18D	G20D	R04D	G05D
Toluene	1000	6	6	6	6	6	6	6	1	6
Benzene	5	5	5	5	5	5	5	5	1	5
Ethylbenzene	700	7.2	7.2	7.2	7.2	7.2	7.2	7.2	1	7.2
Xylene (total)	10000	5	5	5	5	5	5	5	2	5
BTEX (total)	11705	23.2	23.2	23.2	23.2	23.2	23.2	23.2	3	23.2
1,4-dioxane	7.7	5	5	5	5	5	5	5	5	5
List G3										
Naphthalene	140	10	10	10	10	10	10	10	5	10
Acetone	6300	100	100	100	100	100	100	100	10	100
bis(2-ethylhexyl)phthalate	6	6	6	6	6	6	6	6	5	6
chlorobenzene	100	6	6	6	6	6	6	6	1	6
methylene chloride	5	5	5	5	5	5	5	5	1	5
List G5										
Barium, dissolved (ug/L)	--	84.8	41.4	54.4	334	35.4	26.5	216	316	1330
Chloride, dissolved (mg/L)	--	72.6	47.6	33.2	193	35.8	34.8	73.7	473.0	162.0
Chromium, dissolved (ug/L)	--	PQL	PQL	PQL	PQL	PQL	PQL	PQL	4	19
Cobalt, dissolved (ug/L)	--	PQL	PQL	PQL	PQL	PQL	PQL	PQL	4	7
Lead, dissolved (ug/L)	--	PQL	PQL	PQL	PQL	PQL	PQL	PQL	10	PQL
Nickel, dissolved (ug/L)	--	PQL	PQL	PQL	PQL	PQL	PQL	PQL	10	151
Zinc, dissolved (ug/L)	--	PQL	PQL	PQL	PQL	PQL	PQL	PQL	10	PQL

Shaded value shall be evaluated in accordance with Condition II.1.4 of the Permit.

Attachment B-6, Table 2
CID-RDF Area 3 Landfill
Silurian Dolomite
Intrawell Background Values (ug/L)
April 2023
Illinois EPA Log No. B-27R2-M-1

Concentration		A12D	R15D	G186	G21D	R107	AW01	R16D	R26D	R27D
List G2	Limit									
Toluene	1000	6	6	6	6	6	6	6	6	6
Benzene	5	5	5	5	5	5	5	5	5	5
Ethylbenzene	700	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
Xylene (total)	10000	5	5	5	5	5	5	5	5	5
BTEX (total)	11705	23.2	7	23.2	23.2	23.2	23.2	23.2	23.2	23.2
1,4-dioxane	7.7	5	5	5	5	5	3.6	5	5	5
List G3										
Naphthalene	140	10	10	10	10	10	10	10	10	10
Acetone	6300	100	100	100	100	100	100	100	100	100
bis(2-ethylhexyl)phthalate	6	6	6	6	6	6	6	6	6	6
chlorobenzene	100	6	6	6	6	6	6	6	6	6
methylene chloride	5	5	5	5	5	5	5	5	5	5
1,4-dichlorobenzene	75	2	2	2	2	2	2	2	2	2
vinyl chloride	2	2	2	2	2	2	2	2	2	2
List G5										
Chloride, dissolved (mg/L)	--	30.7	53.9	44.9	47.4	48.0	50.2	109.5	42.5	43.7

Shaded value shall be evaluated in accordance with Condition III.J.9 of the Permit.

Attachment B-6, Table 3
 CID-RDF Area 4 Landfill
 Dolton Sand
 IntraWell Background Values (ug/L)
 April 2023
 Illinois EPA Log No. B-27R2-M-1

List G2	Concentration Limit	G01S	G04S	G05S	G07S	G09S	G13S	R15S	R17S	G19S	G21S
Toluene	2500	6	6	6	6	6	6	6	6	6	6
Benzene	25	5	5	5	5	5	5	5	5	5	5
Ethylbenzene	1000	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
Xylene (total)	10000	5	5	5	5	5	5	5	5	5	5
BTEX (total)	13525	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2	23.2
1,4-dioxane	7.7	5	5	5	PQL	5	498	5	10.3	4.9	3588
List G6											
Arsenic, dissolved(ug/L)	--	PQL	PQL	PQL	NA	NA	PQL	PQL	NA	NA	84
Chromium, dissolved (ug/L)	--	PQL	70.90	PQL	NA	NA	PQL	PQL	NA	NA	11.7
Cobalt, dissolved (ug/L)	--	PQL	PQL	PQL	NA	NA	PQL	PQL	NA	NA	15.44
Vanadium,dissolved(ug/L)	--	PQL	PQL	PQL	NA	NA	PQL	PQL	NA	NA	16.4

Shaded value shall be evaluated in accordance with Condition II.1.4 of the Permit.

Attachment B-6, Table 4
CID-RDF Area 3 Landfill
Dolton Sand
Intrawell Background Values (ug/L)
April 2023
Illinois EPA Log No. B-27R2-M-1

List G2	Concentration Limit	G12S	R13S	G14S	G15S	G16S
Toluene	2500	6	6	6	6	6
Benzene	25	5	5	5	5	5
Ethylbenzene	1000	7.2	7.2	7.2	7.2	7.2
Xylene (total)	10000	5	5	5	5	5
BTEX (total)	13525	23.2	23.2	23.2	23.2	23.2
1,4-dioxane	7.7	5	5	5	5	5

ATTACHMENT C

POST-CLOSURE AND CORRECTIVE ACTION COST ESTIMATES

STATE ID # 0310390001

ILD010284248

POST-CLOSURE PERMIT LOG NO. B-27R2-M-8; M-10

POST-CLOSURE AND CORRECTIVE ACTION**COST ESTIMATE SUMMARY****CID RDF**

The post-closure care cost estimates are based on 2021 dollars and the corrective action cost estimates are based on 2024 dollars and include the cost of: (1) activities carried out each year (i.e., annual costs); and (2) one-time or non-annual costs. Post-closure care for Area 3 began on May 30, 2008. Post-closure care for Area 4 began on February 18, 2010.

COST ESTIMATES

ACTIVITY	Area 1 & Area 2 landfills (SWMUs)	Area 3 landfill (HWMU)	Area 4 landfill (HWMU)	Total
Corrective Action	\$11,317,166			\$11,317,166
Post-Closure Care		\$12,585,185	\$2,901,051	\$15,486,236

Notes:

Post-closure care shall continue for a minimum of 30 years from the start dates listed above for Area 3 and Area 4.

ATTACHMENT D
POST-CLOSURE INSPECTION SCHEDULE
&
POST-CLOSURE MAINTENANCE
STATE ID # 0310390001
ILD010284248
POST-CLOSURE PERMIT LOG NO. B-27R2-M-8; M-10

ATTACHMENT D**Area 3 and Area 4 Post-Closure Inspections****Inspection Schedule**

Post-closure inspections will be conducted quarterly during the first two years following closure certification, and semi-annually thereafter. Findings made during each inspection will be recorded on the post-closure inspection log. Copies of all inspection logs will be kept at CID RDF or a local Waste Management, Inc., office or storage facility. Documentation of all repairs performed, or replacements required to properly maintain the site will be kept with the inspection logs. General post-closure inspection procedures will include the following:

1. Visually inspect the perimeter fence and all gates. Check for fence integrity and note any areas of damage. Note the working condition of each gate and check to ensure that all locks and other security systems are in place and functioning.
2. Visually inspect each benchmark. Report any missing benchmarks and note any damage to the benchmarks.
3. Visually inspect the landfill cover, drainage system, and surrounding areas. Note any evidence of cover erosion, settling, or vegetative stress. Also note any unusual conditions such as odors, ponded water, or bubbling. Report any areas requiring further inspection or repairs so arrangements can be made to efficiently make all necessary repairs.
4. Visually inspect each leachate collection riser and note any damage. Check and record the liquid level in each riser. If the liquid level is found to be approaching or above the maximum acceptable level, make arrangements for leachate removal.
5. Check the secondary leachate detection system in Area 4 for the presence of liquids. Make arrangements for leachate removal if liquid is detected. Record the amount withdrawn, if applicable.
6. Visually inspect each groundwater well protective casing for damage. Check the protective casing and lock to ensure they are functioning and have not been tampered with. Note area around wells for erosion, settling or negative stress.
7. Visually inspect any required safety and emergency equipment. Report missing and/or damaged equipment.

8. Visually inspect the run-on and run-off control measures. Note any erosion, missing riprap, or other disrepair.

Following each inspection, a copy of the inspection log will be sent to the appropriate WMI personnel for review. Arrangements will also be made to repair or replace any items in order to maintain the site at a condition equal to that in the application.

Area 3 and Area 4 Post-Closure Maintenance

Post-Closure Maintenance

Maintenance activities will respond to the needs determined from the inspections. Items that may require repair include:

- Inoperative security control devices;
- slopes damaged by erosion;
- areas of differential settlement, subsidence, and displacement;
- run-on and run-off control structures; and
- leachate and gas collection and removal systems.

Groundwater monitoring wells will be repaired or replaced as needed and will be decommissioned upon Illinois EPA approval.

The final cover system will be mowed at least annually and fertilized as needed (except for areas where shrubbery or other structures are present).

Corrective action for the cover materials will be taken if the following problems occur:

- ponding;
- cracks greater than one inch wide;
- gas problems;
- odor problems;
- larger areas of dead or stressed vegetation (areas greater than 50 square feet);
- vegetation with taproots growing in areas not designed to accommodate such;
- vector problems; or
- leachate popouts or seeps.

Corrective action measures for these types of problems could include regrading, addition of soils to repair cracks or to eliminate ponding, or re-seeding to re-establish vegetation.

ATTACHMENT E

APPROVED PERMIT APPLICATION IDENTIFICATION

STATE ID # 0310390001

ILD010284248

POST-CLOSURE PERMIT LOG NO. B-27R2-M-8; M-10

ATTACHMENT E**IDENTIFICATION OF APPROVED PERMIT APPLICATION**

1. RCRA Post-Closure Renewal Application dated May 3, 2019 (completely replaced January 17, 2018 application)
2. Additional Information dated July 9, 2019
3. Additional Information dated August 15, 2019
4. Additional Information dated February 3, 2020
5. Additional Information dated June 30, 2020
6. Additional Information dated August 6, 2020
7. B-27R2-M-1; Class 1* modification dated July 14, 2021

Did not approve the following:
 - a. Revised intrawell background values for wells G04S, G05S, G13S, R15S, G21S, R04D, G05D, and G20D.
 - b. Revised intrawell background values for benzene and dissolved chloride in Well R15D.
 - c. Revised intrawell background values for p-dioxane, dissolved chloride, and dissolved barium at Well G02D and p-dioxane at Well G09S.
8. B-27R2-M-2; Class 1* modification dated October 5, 2022; additional information dated December 9, 2022
9. B-27R2-M-3; Class 1* modification dated February 13, 2023
10. B-27R2-M-4; Class 1* modification dated May 18, 2023 (partial approval)
11. B-27R2-M-5; Class 1* modification dated June 15, 2023
12. B-27R2-M-7; Class 1* modification dated July 8, 2024
13. B-27R2-M-8; Class 1* modification dated October 27, 2023 (partial approval)
14. B-27R2-M-10; Class 1* modification dated October 28, 2024; additional information dated August 7, 2025 (partial approval)

ATTACHMENT F

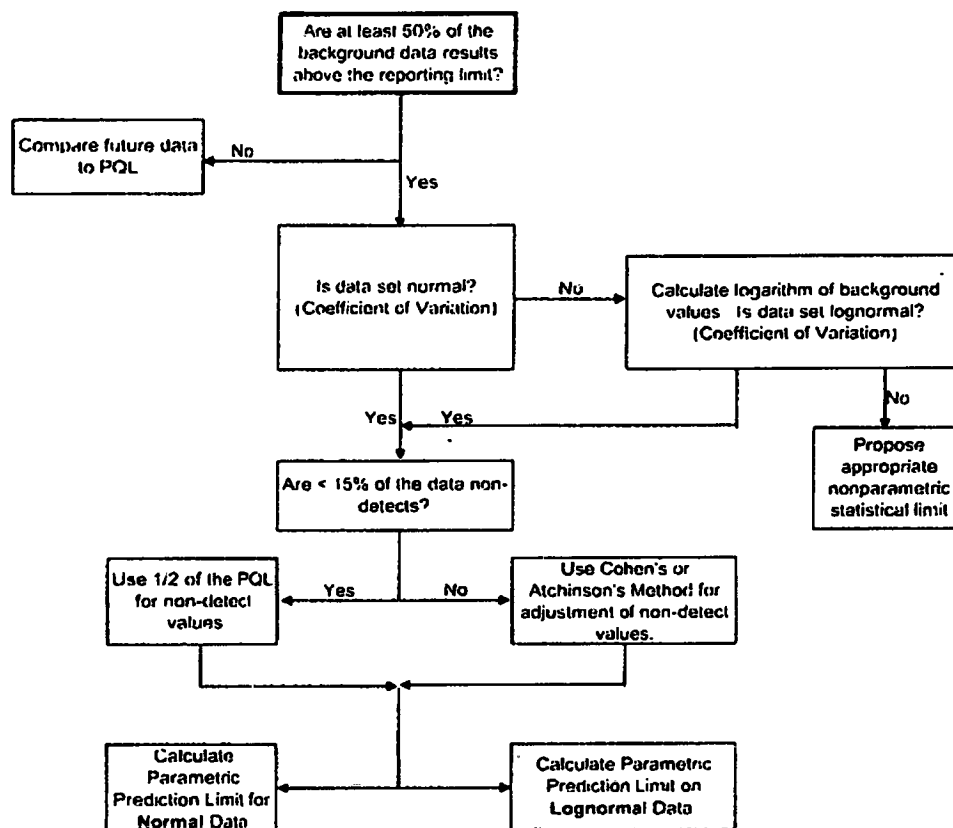
STATISTICAL PROCEDURES FLOW CHART

STATE ID # 0310390001

ILD010284248

POST-CLOSURE PERMIT LOG NO. B-27R2-M-8; M-10

**CID Recycling and Disposal Facility
Background Statistical Calculations
Flow Chart**



ATTACHMENT G

CORRECTIVE MEASURES PROGRAM REQUIREMENTS

STATE ID # 0310390001

ILD010284248

POST-CLOSURE PERMIT LOG NO. B-27R2-M-8; M-10

Attachment G**Corrective Measures Program Requirements****1.0 INTRODUCTION/PURPOSE**

RCRA Corrective Action projects typically consist of two phases: (1) A RCRA Facility Investigation (RFI) where an investigation is conducted at the SWMU's of concern at a facility; and (2) implementation of corrective measures needed to properly address any contaminant encountered during the RFI. This document has been developed to outline the procedures to be carried out to implement a corrective measure program.

2.0 BRIEF OVERVIEW OF A RCRA CORRECTIVE MEASURES PROGRAM

Typically, at the end of an RFI, the concentration of contaminants present in the soil/sediments/groundwater/surface waters at a SWMU or other area of concern is compared to remediation objectives developed in accordance with 35 Ill. Adm. Code Part 742. If the contaminant levels are above these objectives, then some type of corrective measure must be completed to achieve these objectives. In addition, certain corrective measures may need to be carried out to support the established remediation objectives (i.e., the establishment of engineered barriers and/or institutional controls). However, at a unit where waste or high levels of contamination remains, a decision may be made to close the unit as a landfill and then provide post-closure rather than removing the material and/or achieving remediation objectives developed in accordance with 35 Ill. Adm. Code Part 742.

To allow for a logical and orderly progression in developing and implementing necessary corrective measures, the CMP being carried out in accordance with this RCRA Permit should be carried out in five phases which build on each other. It is not necessary for a corrective measures program at a given SWMU or other areas of concern to follow these five phases step-by-step; rather, phases can be combined and/or skipped, depending on the actual remedial measure selected. The overall CMP implemented must set forth a logical path for its implementation and allow for Illinois EPA oversight and approval throughout the entire process.

A brief discussion of the five phases of a CMP is as follows:

1. Phase I is the conceptual design of the selected corrective measure(s).
2. Phase II is the development of final design plans for the corrective measure, including installation and operation/maintenance plans.

3. Phase III is the actual construction/installation of the selected corrective measure.
4. Phase IV is the operation, maintenance, and monitoring of the selected corrective measure to ensure it is properly protecting human health and the environment.
5. Phase V is the final demonstration/verification that the implemented corrective measure achieved the approved remedial objectives.

Sections 3.0 through 7.0 which follow provide a more detailed discussion of each of these five phases. Section 8.0 has been developed to describe the CMP which may be used in lieu of the afore-mentioned five phase procedure when soil removal is the selected remedy. It must be noted that work plans, reports, etc. must be developed to document how the Permittee carries out the required corrective measures program at each SWMU or other areas of concern. All such documents must be reviewed and approved by Illinois EPA prior to their implementation.

3.0 PHASE I OF THE CMP

Phase I of the CMP includes selection of the corrective measure to be taken and developing a basis for completing the final design of the measure. This effort should be documented in a Conceptual Design Report which describes the proposed corrective measure for each SWMU and other areas of concern and provides a conceptual design for these measures. The main criteria for Illinois EPA review is whether the proposed corrective measures are able to achieve the final cleanup objectives previously established by the Permittee and the Illinois EPA and/or provide the necessary institutional controls to prevent the migration of contaminants from the SWMU of concern. Based upon a review of the Conceptual Design Report, the Illinois EPA may approve the corrective measures, require revisions to the proposed corrective measures, or require that a totally new corrective measures proposal be submitted to the Illinois EPA.

The Conceptual Design Report should contain the following sections:

1. Introduction/Purpose. This section should contain: (1) general background information regarding the project; (2) the purpose and goals of the submittal; and (3) the scope of the project.
2. Existing Site Conditions. This section should contain a summary of the investigative activities conducted for each of the units of concern. Investigation analytical results should be provided in tabular form, and maps depicting both the horizontal and vertical extent of contamination at the site should be provided.

3. **Evaluation for Potential Future Migration.** Based on the existing site conditions, a conceptual model of the site should be developed and presented in this section. The potential for additional future migration of contamination for each of the units of concern must then be evaluated, especially those units which have been determined to have released hazardous waste/hazardous constituents to the groundwater. It may be helpful to develop conceptual models for contaminant migration. Of special concern in this evaluation are (1) the physical properties of the contaminants (solubility, volatility, mobility, etc.); and (2) existing site conditions (types of soil present, location of contamination, hydrology, geology, etc.).
4. **Corrective Measures Objectives.** This section should discuss the general objectives of the proposed corrective measure to be constructed/installed, and the ability of the proposed corrective measure to achieve the established remediation objectives (unless the selected corrective measure is closure as a landfill which will require proper establishment of a final cover and proper post-closure care of the closed unit.
5. **Identification of Options Available.** This section should contain a brief discussion of the various options available to achieve the corrective measures objectives for each unit. This discussion should identify: (1) a general overview of each option available, including how the option will achieve the stated objective; (2) the advantages associated with each option; (3) the disadvantages associated with each option and (4) an estimate of the cost associated with choosing each remedial option.
6. **Description of Selected Corrective Measure.** This section should contain a qualitative discussion of the corrective measure chosen, along with the rationale which was used to select this measure from all those identified initially. This discussion should include documentation that the selected corrective measure will be effective.
7. **Identification of Design Criteria.** This section should identify what information must be available to design the selected corrective measure.
8. **Review of Available Information.** This section should contain an evaluation of the existing information to ensure that it is sufficient to complete the design of the selected corrective measure. If insufficient information is available, then the report should contain procedures for collecting the required additional information.

9. **Procedures for Completing the Design.** This section should contain a description of the procedures which will be followed to complete the design of the corrective measure. This should include as appropriate:
- a. Identification of the references and established guidance which will be used in designing the selected corrective measure. Justification for the selection of this procedure should also be provided.
 - b. A description of the procedures which will be used to complete the design of the corrective measure.
 - c. Identification of assumptions to be used in the design, and the impact these assumptions have on the overall corrective measure;
 - d. Significant data to be used in the design effort;
 - e. Identification and discussion of the major equations to be used in the design effort (including a reference to the source of the equations);
 - f. Sample calculations to be used in the design effort;
 - g. Conceptual process/schematic diagrams;
 - h. A site plan showing a preliminary layout of the selected corrective measure;
 - i. Tables giving preliminary mass balances;
 - j. Site safety and security provisions.

This information will form the technical basis for the detailed design of the remedial measure and the preparation of construction plans/specifications.

10. **Identification of Required Permits.** This section should identify and describe any necessary permits associated with the selected corrective measure, as well as the procedures which will be used to obtain these permits.
11. **Long-lead Procurement Considerations.** This section should identify any elements/components of the selected corrective measure which will require a large amount of time to obtain/install. The following issues should also be discussed: (1) the reason why it will take a large amount of time to obtain/install the item; (2) the length of time necessary for procurement, and (3) recognized sources of such items.

12. **Project Management.** This section should contain information regarding the procedures and personnel which will be involved in completing the design of the selected corrective measure. A schedule for completing the design should also be provided.

4.0 PHASE II OF THE CMP

Once the Illinois EPA approves the Conceptual Design Report, the facility should complete the design of the approved corrective action (Phase II of the CMP). Upon final completion of the design, a Final Design Report, consisting of final plans, specifications, construction work plan, etc., must be submitted to the Illinois EPA for review and approval.

Several documents must be submitted to the Illinois EPA as part of Phase II of the CMP. The following text describes the expected contents of the various documents which should be developed and submitted to the Illinois EPA as part of Phase II of the CMP.

1. **Final Design Report and Construction Work Plan.** The Final Design Report and Construction Work Plan must contain the detailed plans, specifications and drawings needed to construct the corrective measure. In addition, this document must contain (1) calculations, data etc., in support of the final design; and (2) a detailed description of the overall management strategy, construction quality assurance procedures and schedule for constructing the corrective measure. It must be noted that the approved Conceptual Design Report forms the basis for this final report. The information which should be provided in this document includes:
 - a. **Introduction/Purpose.** This portion of the document should: (1) provide background information regarding the project, (2) describe the purpose and goals of the project, and (3) describe the scope of the project.
 - b. **Detailed Plans of the Design System,** including the following:
 1. Plan views;
 2. Section and supplementary views which, together with the specifications and general layouts, facilitate construction of the designed system;
 3. Dimensions and relative elevations of structures;
 4. Location and outline form of the equipment;

5. Ground elevations; and
 6. Descriptive notations, as necessary, for clarity.
- c. **Technical Specifications.** Complete technical specifications for the construction of the system, including, but are not limited to, the following:
1. All construction information, not shown in the drawings, which is necessary to inform the contractor in detail as to the required quality of materials, workmanship, and fabrication of the project;
 2. The type, size, strength, and operating characteristics of the equipment;
 3. The complete requirements for all mechanical and electrical equipment, including machinery, valves, piping and jointing of pipe;
 4. Electrical apparatus, wiring and meters;
 5. Construction materials;
 6. Chemicals, when used;
 7. Miscellaneous appurtenances;
 8. Instruction for testing materials and equipment as necessary; and
 9. Availability of soil boring information.
- d. **Project Management.** A description of the construction management approach, including the levels of authority and responsibility, lines of communication and qualifications of key personnel who will direct corrective measures construction/installation must be provided in the work plan.
- e. **Construction Quality Assurance/Quality Control.** A construction quality assurance/quality control plan describing the procedures which will be followed to ensure the corrective measure is constructed/installed in accordance with the approved plans and specifications.

- f. **Schedule.** The work plan must contain a schedule for completion of all major activities associated with construction/installation of the selected corrective measures. All major points of the construction/installation should be highlighted.
 - g. **Waste Management Practices.** This portion of the document should identify the wastes anticipated to be generated during the construction/installation of the corrective measures, and provide a description of the procedures for appropriate characterization and management of these wastes.
 - h. **Required Permits.** Copies of permit applications submitted to other Bureaus of the Illinois EPA for the selected corrective measure must be provided in the report. If it is determined that no permit is required for construction/installation and implementation of the corrective measures, rationale and justification must be provided to support this contention.
 - i. **Cleanup Verification.** The report must contain the procedures which will be followed that the approved remediation objectives have been achieved when operation of the system is completed.
2. **Operation and Maintenance Plan.** An Operation and Maintenance Plan must be developed and submitted as part of Phase II of the CMP. This plan should outline the procedures for performing operations, long term maintenance, and monitoring of the corrective measure.
- a. **Introduction and Purpose.** This portion of the document should provide a brief description of the facility operations, scope of the corrective measures project, and summary of the project objectives.
 - b. **System Description.** This portion of the document should provide a description of the corrective measure and significant equipment, including manufacturer's specifications. This portion of the permit should also include a narrative of how the selected system equipment is capable of complying with the final engineered design of the corrective measure.
 - c. **Operation and Maintenance Procedures.** This portion of the document should provide a description of the normal operation and maintenance procedures for the corrective measures system, including:
 - 1. Description of tasks for operation;

2. Description of tasks for maintenance;
 3. Description of prescribed treatment or operation conditions; and
 4. Schedule showing the frequency of each operation and maintenance task.
- d. Inspection Schedule. This portion of the document should provide a description of the procedures for inspection of the corrective measures system, including problems to look for during the inspection procedure, specific inspection items, and frequency of the inspections.
- e. Waste Management Practices. This portion of the document should provide a description of the wastes generated by the corrective measure, and the appropriate procedures for proper characterization/management of these wastes.
- f. Contingency Procedures. This portion of the document should provide a description of the procedures which will address the following items:
1. System breakdowns and operational problems including a list of redundant and emergency backup equipment and procedures;
 2. Alternative procedures (i.e., stabilization) which are to be implemented in the event that the corrective measure fails. The alternative procedures must be able to prevent release or threatened releases of hazardous wastes/hazardous constituents which may endanger human health and the environment, or exceed cleanup standards.
 3. Notification of facility and regulatory personnel in the event of a breakdown in the corrective measures, including written notification identifying what occurred, what response action is being taken and any potential impacts on human health and the environment.

5.0 PHASE III OF THE CMP

Once the final design report is approved by the Illinois EPA, construction/installation of the approved corrective measure must commence. During this period, quarterly reports should be submitted which contain the following information:

1. Summary of activities completed during the reporting period;
2. An estimate of the percentage of the work completed;
3. Summaries of all actual or proposed changes to the approved plans and specifications or its implementation;
4. Summaries of all actual or potential problems encountered during the reporting period;
5. Proposal for correcting any problems; and
6. Projected work for the next reporting period.

Upon completion of construction/installation of the approved corrective measure, a Construction Completion Report must be submitted to the Illinois EPA documenting that these efforts were carried out in accordance with the Illinois EPA approved plans and specifications. This report should contain a thorough description of the efforts that went into constructing/installing the corrective measure and demonstrate that the procedures in the Illinois EPA-approved Final Design Report were followed during this effort. Such a report should be formatted in a logical and orderly manner and contain the following information:

1. An introduction discussing the background of the project and the purpose and scope of the corrective measure described in the report.
2. Identification of the plans, technical specifications and drawings which were used in constructing/installing the corrective measure. These specifications and drawings should have been approved by the Illinois EPA during Phase II.
3. Identification of any variations from the Illinois EPA approved plans, technical specifications and drawings used in construction/installing the corrective measure. Justification regarding the need to vary from the approved plans and specifications must also be provided.
4. A description of the procedures used to construct/install the corrective measure, including the procedures used for quality assurance and quality control.
5. As-built drawings, including identification of any variations from the approved plans, technical specifications, and drawings.
6. A summary of all test results from the construction/installation effort, including quality assurance/quality control testing.

7. Actual test results, including quality assurance/quality control test results. These results should be located in an attachment/appendix and be well organized.
8. Identification of any test results which did not meet the specified value and a description of the action taken in response to this failure, including re-testing efforts.
9. Photographs documenting the various phases of construction.
10. A detailed discussion of how the construction/installation effort met the requirements of the approved Final Design Report.
11. A certification meeting the requirements of 35 Ill. Adm. Code 702.126 by an independent qualified, licensed professional engineer and by an authorized representative of the owner/operator.

6.0 PHASE IV OF THE CMP

Once the corrective measure has been constructed/installed, it must be operated, maintained and monitored in accordance with the approved plans and specifications (this is Phase IV of the CMP). During this period, quarterly reports must be submitted to the Illinois EPA documenting the results of these efforts. These reports include the following:

1. Introduction. -- A brief description of the facility operations, scope of the corrective measures project, and summary of the project objectives.
2. System Description. -- A description of the corrective measures constructed/installed at the site and identify significant equipment. Describe the corrective measure and identify significant equipment.
3. Monitoring Results. -- A description of the monitoring and inspection procedures to be performed on the corrective measures. A summary of the monitoring results for the corrective measures, including copies of any laboratory analyses which document system effectiveness, provide a description of the monitoring procedures and inspections performed, and include a summary of the monitoring results for the corrective measure. Copies of all laboratory analytical results which document system monitoring must be provided.
4. Effectiveness Determination. -- Calculations and other relevant documentation which demonstrates the effectiveness of the selected corrective measure in remediating/stabilizing contamination to the extent anticipated by the corrective

measures final design. Copies of relevant analytical data should be provided to substantiate this determination.

5. System Effectiveness Recommendation. -- Based upon the results of the effectiveness determination required under Item 4 above, recommendations on continued operation of the corrective measure must be provided. If the corrective measure is not performing in accordance with the final design, a recommendation on revisions or expansion of the system should be provided.

7.0 PHASE V OF THE CMP

Once all corrective measures have been completed, a report must be developed documenting all the efforts which were carried out as part of implementing the corrective measure and demonstrating, as appropriate, that the approved remediation objectives have been achieved. This report should contain a compilation of all previous reports and also contain sufficient information to demonstrate that the approved remediation objectives have been achieved. It must be noted that such a report will not be developed for a unit closed as a landfill until the post-closure care period has been completed.

8.0 PROCEDURES WHICH SHOULD BE FOLLOWED WHEN SOIL REMOVAL IS THE SELECTED CORRECTIVE MEASURE

Sections 2.0 through 6.0 above describe the procedures which should be followed when it is necessary to design some type of physical corrective measure (e.g., a final cover system, some type of treatment system, etc.). However, such detail is not necessary if excavation/removal is selected as the remedial action for the contaminated soil encountered at the site. In general, a work plan should be developed for this effort (for Illinois EPA review and approval) which fully describes each step to be used in removing the contaminated soil from the property. This includes a description of (1) the equipment utilized in the removal effort; (2) the pattern followed in removing the soil; (3) the depth to which the soil will be removed; (4) management of the soil on-site after it is removed from the ground; (5) loading areas; (6) the ultimate destination of the soil; and (7) any other steps critical to the removal effort.

One way to conduct a soil removal effort is to collect and analyze a sufficient number of soil samples to clearly determine the horizontal and vertical extent of soil contamination prior to conducting the soil removal effort. The boundaries of soil which must be removed are defined by the Illinois EPA established cleanup objectives for the project. Soil excavation must extend to sample locations where soil test results indicate that the remediation objectives are met. Closure verification sampling is not necessary in such

cases, if a registered professional engineer oversees the soil removal effort and certifies that the remediation limits extend to these boundaries.

Another way to conduct a soil removal effort is to collect and analyze a limited number of soil samples prior to the soil removal effort and to rely mainly on field observation to determine the extent of the soil removal. In such cases closure verification sampling is necessary. Soil samples must be collected for analysis from the bottom and sidewalls of the final excavation. The following sampling/analysis effort is necessary to demonstrate that the remaining soil meets the established cleanup objectives:

1. A grid system should be established over the excavation.
2. Samples should be collected from the floor of the excavation at each grid intersection, including intersections along the perimeter of the excavation.
3. Samples should be collected at 6 inches - 12 inches bgs along the excavation sidewalls at each grid intersection around the excavation perimeter. Samples must also be collected at the midpoint of the excavation wall at each grid intersection along the excavation perimeter.
4. Collection/analysis of all required samples must be in accordance with the procedures set forth in the approved plan.
5. Soil samples which must be analyzed for volatile organic compounds (VOCs) must be collected in accordance with the procedures set forth in Method 5035 of SW-846. In addition, such samples must be collected 6 inches – 12 inches beneath the floor/sidewalls of the excavation to minimize the possibility of volatilization of the contaminants prior to the collection of the samples.
6. No random sampling may be conducted to verify achievement of cleanup objectives have been met.
7. Additional soil must be removed, as necessary, until it can be demonstrated that the remaining soil in and around the area of concern meets the established cleanup objectives. Additional samples must be collected and analyzed in accordance with the procedures described above from areas where additional soil has been removed.

ATTACHMENT H

CERTIFICATION OF COMPLETION OF POST-CLOSURE CARE

STATE ID # 0310390001

ILD010284248

POST-CLOSURE PERMIT LOG NO. B-27R2-M-8; M-10

CERTIFICATION OF COMPLETION OF POST-CLOSURE CARE

CID Recycling and Disposal Facility (0310390001) – Cook County

USEPA ID: ILD010284248

RCRA Permit Log No. B-27R2

To meet the requirements of 35 Ill. Adm. Code 724.220, this statement is to be completed by both a responsible officer of the owner/operator (as defined in 35 Ill. Adm. Code 702.126) and by a qualified Illinois licensed professional engineer upon completion of post-closure care of the UNIT NAME. Submit one copy of the certification with original signatures and two additional copies.

The hazardous waste management unit closed as a landfill, known as the UNIT NAME, has been closed in accordance with the specifications in the approved closure plan. Post-Closure care required for the UNIT NAME has been provided and completed in accordance with the RCRA Permit. A report documenting that required post-closure care have been carried out and completed in accordance with the approved post-closure care plan is attached.

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 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.

A 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/44(h))

Facility Name

Printed Name of Responsible Officer

Signature of Owner/Operator **Date**
Responsible Officer

Printed Title of Responsible Officer

Signature of Licensed P.E. **Date**

Printed Name of Licensed P.E. and Illinois License Number

Mailing Address of P.E.:

Licensed P.E.'s Seal:

ATTACHMENT I

APPROVED REDUCED LISTS FOR APPENDIX I PARAMETERS

LEACHATE SAMPLING POINTS

L311, L312, L313, L331

STATE ID # 0310390001

ILD010284248

POST-CLOSURE PERMIT LOG NO. B-27R2-M-8; M-10

Reduced Appendix I Sampling List (LEACHATE) for Calendar Year 2023, 2024, and 2025

L311		L311 Continued		L331	
Storet	Parameter	Storet	Parameter	Storet	Parameter
00720	Cyanide	78113	Ethylbenzene	00720	Cyanide
00745	Sulfide	78133	4-Methyl-2-pentanone	00745	Sulfide
01002	Arsenic	81302	Dibenzofuran	01002	Arsenic
01007	Barium	81551	Xylenes (total)	01007	Barium
01027	Cadmium	81552	Acetone	01027	Cadmium
01034	Chromium	81582	1,4-Dioxane	01034	Chromium
01037	Cobalt	81595	2-Butanone (MEK)	01037	Cobalt
01042	Copper			01042	Copper
01067	Nickel		L312	01051	Lead
01087	Vanadium	00720	Cyanide	01067	Nickel
01092	Zinc	01007	Barium	01087	Vanadium
01097	Antimony	01034	Chromium	01092	Zinc
01102	Tin	01037	Cobalt	01147	Selenium
34010	Toluene	01042	Copper	34010	Toluene
34030	Benzene	01067	Nickel	34030	Benzene
34205	Acenaphthene	01087	Vanadium	34301	Chlorobenzene
34220	Anthracene	01092	Zinc	34408	Isophorone
34301	Chlorobenzene	39310	4,4'-DDD	34423	Methylene Chloride
34366	Endrin aldehyde	39782	gamma-BHC(Lindane)	34496	1,1-Dichloroethane
34381	Fluorene	81582	1,4-Dioxane	34586	2-Chlorophenol
34408	Isophorone		L313	34591	2-Nitrophenol
34423	Methylene Chloride	00720	Cyanide	34601	2,4-Dichlorophenol
34461	Phenanthrene	00745	Sulfide	34606	2,4-Dimethylphenol
34571	1,4-Dichlorobenzene	01002	Arsenic	34621	2,4,6-Trichlorophenol
34606	2,4-Dimethylphenol	01007	Barium	34646	4-Nitrophenol
34626	2,6-Dinitrotoluene	01027	Cadmium	34694	Phenol
34671	Aroclor 1016	01034	Chromium	34696	Naphthalene
34694	Phenol	01037	Cobalt	39310	4,4'-DDD
34696	Naphthalene	01042	Copper	39730	2,4-D
39300	4,4'-DDT	01051	Lead	39782	gamma-BHC(Lindane)
39310	4,4'-DDD	01067	Nickel	46323	Delta-BHC
39337	Alpha-BHC	01087	Vanadium	73501	2-Acetylaminofluorene
39480	Methoxychlor	01092	Zinc	77033	Isobutyl alcohol
39492	Aroclor 1232	01102	Tin	77041	Carbon disulfide
39496	Aroclor 1242	34010	Toluene	77045	Pyridine
39760	2,4,5-TP (Silvex)	34030	Benzene	77089	ANILINE
39782	gamma-BHC (Lindane)	34220	Anthracene	77146	4-Methylphenol (p-cresol)
46323	Delta-BHC	34301	Chlorobenzene	77147	Benzyl alcohol
77033	Isobutyl alcohol	34606	2,4-Dimethylphenol	77151	3-Methylphenol (m-cresol)
77041	Carbon disulfide	39782	Gamma-BHC(Lindane)	77152	2-Methylphenol (o-cresol)
77089	Aniline	46323	Delta-BHC	78133	4-Methyl-2-pentanone
77146	4-Methylphenol (p-cresol)	77089	ANILINE	81551	Xylenes (total)
77147	Benzyl alcohol	78113	Ethylbenzene	81552	Acetone
77151	3-Methylphenol (m-cresol)	81551	Xylenes (total)	81553	Acetophenone
77152	2-Methylphenol (o-cresol)	81582	1,4-Dioxane	81582	1,4-Dioxane
77416	2-Methylnaphthalene			81595	2-Butanone (MEK)

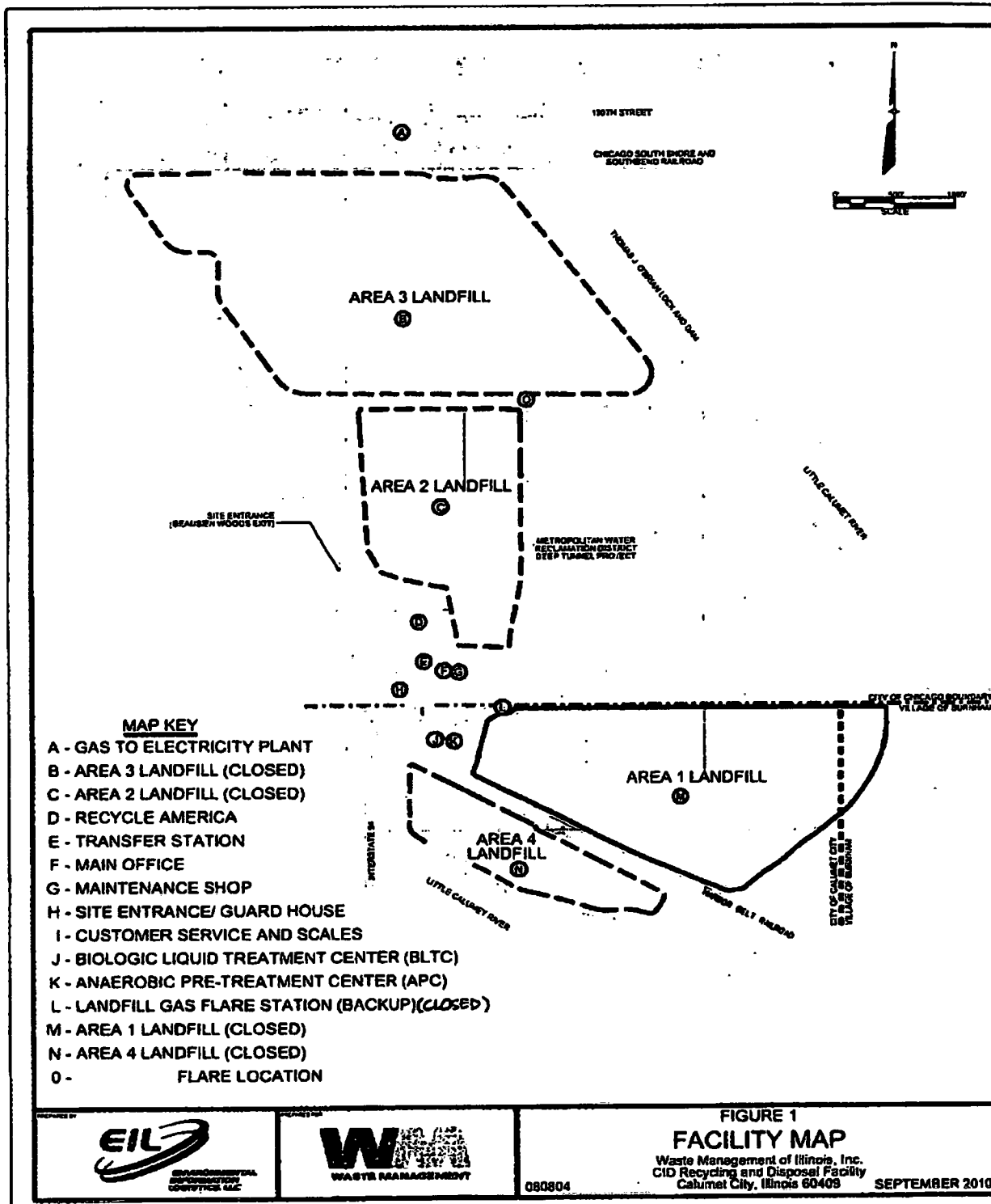
ATTACHMENT J

SITE LAYOUT MAP

STATE ID # 0310390001

ILD010284248

POST-CLOSURE PERMIT LOG NO. B-27R2-M-8; M-10



EJ Review

Huser, Kelly

From: DoNotReply.EJRequest@illinois.gov
Sent: Monday, November 6, 2023 2:44 PM
To: Mara.McGinnis@illinois.gov; Frost, Brad; Pressnall, Chris; Herr, Alane; Mensah, James; Lopez, Luis A.; Lopez-Santos, Paulina; Huser, Kelly
Subject: Outreach Status Change for Waste Mgmt of IL Inc CID Landfill | 0310390001 | B-27R2-M-8 | Land

The EJ source (Waste Mgmt of IL Inc CID Landfill) has moved forward in the outreach process on 11/06/2023.

The status has changed from *Review Pending* to *Complete - No Outreach*.

Huser, Kelly

From: DoNotReply.EJRequest@illinois.gov
Sent: Monday, November 6, 2023 2:31 PM
To: Huser, Kelly; Mara.McGinnis@illinois.gov; Frost, Brad; Pressnall, Chris; Herr, Alane; Mensah, James; Lopez, Luis A.; Lopez-Santos, Paulina; Huser, Kelly
Subject: Request for EJ Review for Waste Mgmt of IL Inc CID Landfill | 0310390001 | B-27R2-M-8 | Land

A new request has been submitted to the EJ Outreach database.

Source Name: Waste Mgmt of IL Inc CID Landfill

Activity/Subactivity Type: Permit / RCRA/HW

Decision Due Date:

Reviewer - When the permit is ready to be issued, [click this link](#) to view the request. When viewing the request, click the button labeled 'Ready for issuance' to mark the record for EJ Release.

EJ Review Request #6538**Site/Facility Information**

Site Name: Waste Mgmt of IL Inc CID Landfill Site ID: 170000015953
Bureau Site ID: 0310390001 Bureau: LAND
Address: 138th Street and Interstate 94 EJ Status: 3 - EJ Area, Both Minority & Low Income
City/State/Zip: Calumet City, Illinois 60409
Contact Name: Steve Chillson Contact Title: District Manager
Contact Address: 720 East Butterfield Road, Suite 400
Contact City/State/Zip: Lombard, Illinois 60148
Phone: 224-523-1736 Email: schillso@wm.com

Application Information

Reference Number: B-27R2-M-8
Activity Type: Permit Activity Subtype: RCRA/HW
Application Scope/Description:
Class 1* permit modification to updated post-closure care and corrective action cost estimates.
Other Relevant Information:
Request Submitted: 11/6/2023 Submitted by: Kelly.Huser
Application Received: 10/30/2023 Decision Due:
Reviewer Name: Kelly.Huser Review Status: Review Pending
Review Status Notes:

Additional Permit Information

Waste Type: Hazardous
Operating Status: Closed Activity Status: In Progress
Any Changes to footprint of facility, design, or operating procedures, and if construction is required:
no changes to the footprint, design or operating procedures. No construction required.

EJ Review

Huser, Kelly

From: DoNotReply.EJRequest@illinois.gov
Sent: Wednesday, August 6, 2025 9:56 AM
To: Mara.McGinnis@illinois.gov; Frost, Brad; Pressnall, Chris; Herr, Alane; Lopez, Luis A.; Lopez-Santos, Paulina; Huser, Kelly
Subject: Outreach Status Change for Waste Mgmt of IL Inc CID Landfill | 0310390001 | B-27R2-M-10 | Land

The EJ source (Waste Mgmt of IL Inc CID Landfill) has moved forward in the outreach process on 08/06/2025.

The status has changed from *Review Pending* to *Complete - No Outreach*.

Huser, Kelly

From: DoNotReply.EJRequest@illinois.gov
Sent: Wednesday, August 6, 2025 9:45 AM
To: Huser, Kelly; Mara.McGinnis@illinois.gov; Frost, Brad; Pressnall, Chris; Herr, Alane; Lopez, Luis A.; Lopez-Santos, Paulina; Huser, Kelly
Subject: Request for EJ Review for Waste Mgmt of IL Inc CID Landfill | 0310390001 | B-27R2-M-10 | Land

A new request has been submitted to the EJ Outreach database.

Source Name: Waste Mgmt of IL Inc CID Landfill

Activity/Subactivity Type: Permit / RCRA/HW

Decision Due Date:

Reviewer - When the permit is ready to be issued, [click this link](#) to view the request. When viewing the request, click the button labeled 'Ready for issuance' to mark the record for EJ Release.

EJ Review Request #8349**Site/Facility Information**

Site Name: Waste Mgmt of IL Inc CID Landfill Site ID: 170000015953
Bureau Site ID: 0310390001 Bureau: LAND
Address: 138th Street and Interstate 94 EJ Status: 3 - EJ Area, Both Minority & Low Income
City/State/Zip: Calumet City, Illinois 60409
Contact Name: Steven Chillson Contact Title: District Manager
Contact Address: 720 East Butterfield Road, Suite 400
Contact City/State/Zip: Lomabrd, Illinois 60148
Phone: 224-523-1736 Email: schillso@wm.com

Application Information

Reference Number: B-27R2-M-10
Activity Type: Permit Activity Subtype: RCRA/HW
Application Scope/Description:
Class 1* permit modification to update the facility's post-closure care cost estimate.
Other Relevant Information:
Request Submitted: 8/6/2025 Submitted by: Kelly.Huser
Application Received: 10/29/2024 Decision Due:
Reviewer Name: Kelly.Huser Review Status: Review Pending
Review Status Notes:

Additional Permit Information

Waste Type: Hazardous
Operating Status: Closed Activity Status: Completed
Any Changes to footprint of facility, design, or operating procedures, and if construction is required:
no changes to the footprint, design or operating procedures of the facility. No construction required.

Huser, Kelly

From: Erin Yargicoglu <eyargicoglu@eilllc.com>
Sent: Thursday, August 7, 2025 12:10 PM
To: Huser, Kelly
Cc: Chillson, Steven; Ed Doyle
Subject: [External] RE: CID Cost Estimate - CID Log No. B-27R2-M-10
Attachments: B-27R2-M-10- CID PC Cost Estimate Tables - Rev 1 - 2025-08-07.pdf

Kelly,

Attached are the updated tables with the revised note. In the process of reviewing the note and calculations, one math error was found on Area 4 Table I-5, line 13 and this number was corrected from \$1,261 to \$1,385. No other issues were found and no other numbers were updated. Please let us know if you'd like us to submit the updated tables as an addendum, or if this email update is acceptable.

Thank you,
 Erin

Erin Yargicoglu, Ph.D.
 Environmental Information Logistics, LLC
 1323 Butterfield Road
 Suite 104
 Downers Grove, IL 60515
 P: (630) 605-0564

From: Huser, Kelly <Kelly.Huser@Illinois.gov>
Sent: Thursday, August 7, 2025 10:52 AM
To: Erin Yargicoglu <eyargicoglu@eilllc.com>
Cc: Chillson, Steven <schillso@wm.com>; Ed Doyle <edoyle@eilllc.com>
Subject: RE: CID Cost Estimate

Erin, if the numbers in the table will not change and it is just a typo, you can just email be the revised tables. Please reference B-27R2-M-10.

Kelly D. Huser
 Environmental Protection Engineer
 Bureau of Land/Permits/RCRA
 217-524-3867
Kelly.Huser@illinois.gov



From: Erin Yargicoglu <eyargicoglu@eilllc.com>
Sent: Thursday, August 7, 2025 10:38 AM

To: Huser, Kelly <Kelly.Huser@Illinois.gov>
Cc: Chillson, Steven <schillso@wm.com>; Ed Doyle <edoyle@eilllc.com>
Subject: [External] RE: CID Cost Estimate

Good morning Kelly,

It appears we have included a typographical error in the note indicating how the inflation factors were used. Our numbers did incorporate the 1.036 inflation factor, however note 3 on Table I-4 and Table I-5 and note 2 on Table I-6 don't reflect that. We will prepare revised tables that correct this error and send as an addendum as soon as possible.

Thank you,
Erin

Erin Yargicoglu, Ph.D.
Environmental Information Logistics, LLC
1323 Butterfield Road
Suite 104
Downers Grove, IL 60515
P: (630) 605-0564

From: Huser, Kelly <Kelly.Huser@Illinois.gov>
Sent: Thursday, August 7, 2025 8:10 AM
To: Chillson, Steven <schillso@wm.com>; Ed Doyle <edoyle@eilllc.com>; Erin Yargicoglu <eyargicoglu@eilllc.com>
Subject: CID Cost Estimate

Good morning,
I am reviewing CID's October 28, 2024 cost estimate. I have a few comments/questions as follows:

- It appears the same inflation factors were used to get to the 2024 numbers as the same ones used to get to 2023 numbers in your October 27, 2023 submittal. I feel you are missing the inflation factor of 1.036 for 2023 to 2024 dollars.
- Can you please provide your Air Permit number for the Lifetime Operating Permit?

If you want to discuss anything, I am free today until 3pm. The Log No. for you October 28, 2024 submittal is B-27R2-M-10.

Regards,

Kelly D. Huser
Environmental Protection Engineer
Bureau of Land/Permits/RCRA
217-524-3867
Kelly.Huser@illinois.gov



TABLE I-4
CID RDF POST-CLOSURE COST ESTIMATE

AREA 3 LANDFILL

NOTE: Post-closure activities for the Area 3 Landfill commenced on October 10, 2008 when it was certified closed. Costs are based on 14 years of post-closure remaining and 10 years of corrective action.

#	TASK	Units	Quantity	#/yr	# yrs	Unit Cost ¹	Extended Cost ²	Qual. ³
1	Mow and fertilize (if required) cover area (170 acres total)	acre	170	1	14	\$76	\$180,880	I
2	Dress and re-seed 3% of cover area (PC Year 17, 22 and 27)	acre	5	1	3	\$2,320	\$35,496	I
3	Landfill cap and surface water management system maintenance	LS	1	1	14	\$1,384	\$19,376	I
4	Semi-annual Inspection	each	1	2	14	\$416	\$11,648	I
5	Groundwater monitoring (Sampling & Analysis)							
6	- Routine Sampling (14 wells)	each	1	2	14	\$3,300	\$92,400	C
7	- Routine Analyses (14 wells)	each	1	2	14	\$3,891	\$108,948	C
8	- North Side GMZ Monitoring and Sampling (14 wells)	each	1	2	10	\$4,520	\$90,400	C
9	- South Side GMZ Monitoring and Sampling (16 wells)	each	1	2	10	\$3,375	\$67,500	C
10	- North Side GMZ Analyses (14 wells)	each	1	2	10	\$4,960	\$99,200	I
11	- South Side GMZ Analyses (16 wells)	each	1	2	10	\$3,916	\$78,320	I
12	5-Year GMZ Re-evaluation	each	1	1	2	\$10,360	\$20,720	I
13	Groundwater remediation system operation and maintenance	LS	1	1	10	\$13,382	\$133,820	I
14	Groundwater Well Survey (Biennial)	each	1	0.5	14	\$1,316	\$9,212	I
15	Groundwater Data Review, Reporting and Statistics	each	1	1	14	\$10,949	\$153,286	I
16	Security and fencing maintenance (10,200 lineal feet total)	feet	2% total	1	14	\$7.21	\$20,583	I
17	Leachate, condensate and extracted groundwater treatment and disposal (average of last 4 yrs)	gal	8,891,582	1	14	\$0.0700	\$8,713,750	A ⁴ , C
18	Leachate level monitoring and reporting	LS	1	1	14	\$6,009	\$84,126	I
19	Leachate Sampling & Analysis (35 IAC 724 Appendix I parameters)	LS	1	1	14	\$3,741	\$52,374	I
20	Leachate/Gas system maintenance	LS	1	1	14	\$34,607	\$484,498	I
21	Gas flare system maintenance	LS	1	1	14	\$11,076	\$155,064	I
22	Decommissioning of landfill gas system	LS	1	1	1	\$83,058	\$83,058	I
23	Landfill Gas monitoring - Gas Turbine: Quarterly sulfur sampling	LS	1	4	14	\$2,400	\$134,400	C
24	Air Monitoring - Subpart BB and CC Monitoring	each	1	1	14	\$6,550	\$91,700	C
25	Post-closure certification report	LS	1	1	1	\$13,843	\$13,843	I
26	Inspect benchmarks semi-annually and survey unit once every 10 years (annualized cost for survey in 2033)	LS	1	1	14	\$214	\$2,996	I
27	TOTAL						\$10,937,598	

Notes:

1. Unit costs are rounded to the number of decimal places shown.

2. Extended costs are rounded to the nearest dollar.

3. Qualifiers: C - Current cost; I - Costs were inflated to 2024 dollars by multiplying 2023 unit costs by the inflation factor of 1.036 provided by the IEPA.

4. A - Average (2020 = 10,675,389; 2021 = 6,812,333; 2022 = 10,002,909; 2023 = 8,075,698)

CID RDF POST-CLOSURE COST ESTIMATE

AREA 4 LANDFILL

NOTE: Post-closure activities for the Area 4 Landfill commenced on April 23, 2010 when it was certified closed. Costs are based on 16 years of post-closure remaining.

[illegible]

TABLE I-6

CID RDF - CORRECTIVE ACTION COST ESTIMATE

The approved correction action program for the Area 1 and Area 2 SWMU's consists of the following tasks. Costs are based on 10 years of corrective action.

#	TASK	Cost Per Year	# yrs	Extended Cost ¹	Qual. ²
1	Operation and maintenance of a landfill gas management system for each landfill (Area 1)				
2	Landfill gas monitoring system - monthly checks of the extraction wells	\$4,629	10	\$46,290	I
3	Landfill gas monitoring system - semi-annual bar hole probe monitoring and river observations	\$600	10	\$6,000	C
4	Operation and maintenance of a leachate management system for each landfill				
5	Leachate management system - monthly checks of the removal wells and underground storage tank systems.	\$32,262	10	\$322,620	I
6	Leachate/contaminated groundwater treatment and disposal (14,458,266 gallons/year)	\$1,012,079	10	\$10,120,790	A ³ ,C
7	Quarterly groundwater piezometer level measurements for leachate compliance determinations	\$500	10	\$5,000	C
8	Inspecting/maintaining the final cover of each landfill				
9	Landfill cover for Areas 1 and 2 – quarterly checks for settlement, erosion and vegetative stress	\$1,387	10	\$13,870	I
10	Landfill cover maintenance (erosion, stressed vegetative areas, mowing, fertilizing and reseeding)	\$15,701	10	\$157,010	I
11	Maintenance of signs, fencing, security systems (6,460 lineal feet total)	\$931	10	\$9,310	I
12	Maintenance of run-on, run-off and stormwater control structures	\$3,178	10	\$31,780	I
13	TOTAL OPERATION AND MAINTENANCE COST			\$10,712,670	
14	Corrective Measures as required by B-27R2-M-7 and B-27R-CA-7, issued July 29, 2024				
15	Groundwater remediation system operation and maintenance	\$6,083	10	\$60,830	I
16	Groundwater remediation system quarterly inspection	\$15,800	10	\$158,000	C
17	Extracted groundwater treatment (included in Line 6, Leachate/contaminated groundwater treatment and disposal)	\$0	10	\$0	C
18	Groundwater Management Zone permit applications	\$8,516	1	\$8,516	I
19	Phytoremediation system inspection and maintenance	\$6,708	10	\$67,080	I
20	Phytoremediation system quarterly Corrective Measures Reports	\$10,981	10	\$109,810	I
21	Leachate level and volume reporting	\$3,600	10	\$36,000	C
22	Area 1 GMZ Monitoring Well Sampling	\$5,400	10	\$54,000	C
23	Area 1 GMZ Monitoring Well Analyses	\$2,926	10	\$29,260	C
24	Area 1 GMZ Groundwater Monitoring Data Review and Reporting	\$8,100	10	\$81,000	C
25	TOTAL CORRECTIVE MEASURES COST			\$604,496	
26	TOTAL			\$11,317,166	

Notes:

- Extended costs are rounded to the nearest dollar.
- Qualifiers: C - Current cost; I - Costs were inflated to 2024 dollars by multiplying 2023 unit costs by the inflation factor of 1.036 provided by the IEPA.
- A = Average (2020 = 15,584,838; 2021 = 10,420,768; 2022 = 15,708,795; 2023 = 16,118,664)

Huser, Kelly

From: Erin Yargicoglu <eyargicoglu@eilllc.com>
Sent: Thursday, August 7, 2025 10:38 AM
To: Huser, Kelly
Cc: Chillson, Steven; Ed Doyle
Subject: [External] RE: CID Cost Estimate

Good morning Kelly,

It appears we have included a typographical error in the note indicating how the inflation factors were used. Our numbers did incorporate the 1.036 inflation factor, however note 3 on Table I-4 and Table I-5 and note 2 on Table I-6 don't reflect that. We will prepare revised tables that correct this error and send as an addendum as soon as possible.

Thank you,
 Erin

Erin Yargicoglu, Ph.D.
 Environmental Information Logistics, LLC
 1323 Butterfield Road
 Suite 104
 Downers Grove, IL 60515
 : (630) 605-0564

From: Huser, Kelly <Kelly.Huser@Illinois.gov>
Sent: Thursday, August 7, 2025 8:10 AM
To: Chillson, Steven <schillso@wm.com>; Ed Doyle <edoyle@eilllc.com>; Erin Yargicoglu <eyargicoglu@eilllc.com>
Subject: CID Cost Estimate

Good morning,
 I am reviewing CID's October 28, 2024 cost estimate. I have a few comments/questions as follows:

- It appears the same inflation factors were used to get to the 2024 numbers as the same ones used to get to 2023 numbers in your October 27, 2023 submittal. I feel you are missing the inflation factor of 1.036 for 2023 to 2024 dollars.
- Can you please provide your Air Permit number for the Lifetime Operating Permit?

If you want to discuss anything, I am free today until 3pm. The Log No. for you October 28, 2024 submittal is B-27R2-M-10.

Regards,

Kelly D. Huser
 Environmental Protection Engineer
 Bureau of Land/Permits/RCRA
 217-524-3867
Kelly.Huser@Illinois.gov



State of Illinois - CONFIDENTIALITY NOTICE: The information contained in this communication is confidential, may be attorney-client privileged or attorney work product, may constitute inside information or internal deliberative staff communication, and is intended only for the use of the addressee. Unauthorized use, disclosure or copying of this communication or any part thereof is strictly prohibited and may be unlawful. If you have received this communication in error, please notify the sender immediately by return e-mail and destroy this communication and all copies thereof, including all attachments. Receipt by an unintended recipient does not waive attorney-client privilege, attorney work product privilege, or any other exemption from disclosure.

Huser, Kelly

From: Chillson, Steven <schillso@wm.com>
Sent: Thursday, August 7, 2025 8:54 AM
To: Huser, Kelly; Ed Doyle; Erin Yargicoglu (eyargicoglu@eillc.com)
Subject: [External] RE: CID Cost Estimate
Attachments: CID LOP July 25 2024.pdf

Good morning Kelly, we'll review and get back with you. I have attached a copy of LOP for your files, permit No. 031600FHJ.

Thanks!

Steven Chillson, P.G.
 District Manager
 Environmental Legacy Management Group
schillso@wm.com

WM
 CID RDF
 138th & I-94 (Calumet Expressway)
 Calumet City, IL 60409
 Cell: 224-523-1736

From: Huser, Kelly <Kelly.Huser@Illinois.gov>
Sent: Thursday, August 7, 2025 8:10 AM
To: Chillson, Steven <schillso@wm.com>; Ed Doyle <edoyle@eillc.com>; Erin Yargicoglu (eyargicoglu@eillc.com) <eyargicoglu@eillc.com>
Subject: [EXTERNAL] CID Cost Estimate

Good morning,
 I am reviewing CID's October 28, 2024 cost estimate. I have a few comments/questions as follows:

- It appears the same inflation factors were used to get to the 2024 numbers as the same ones used to get to 2023 numbers in your October 27, 2023 submittal. I feel you are missing the inflation factor of 1.036 for 2023 to 2024 dollars.
- Can you please provide your Air Permit number for the Lifetime Operating Permit?

If you want to discuss anything, I am free today until 3pm. The Log No. for you October 28, 2024 submittal is B-27R2-M-10.

Regards,

Kelly D. Huser
 Environmental Protection Engineer
 Bureau of Land/Permits/RCRA
 17-524-3867
Kelly.Huser@illinois.gov



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24A

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Illinois Environmental Protection Agency

2520 West Iles Avenue • P.O. Box 19276 • Springfield, Illinois • 62794-9276 • 217-782-3397

JB Pritzker, Governor

James Jennings, Acting Director

217/524-3301

CERTIFIED MAIL

RETURN RECEIPT REQUESTED

OCT 27 2025

9589 0710 5270 2887 3004 09

Waste Management of Illinois, Inc.

Attn: James A. Wilson

720 E. Butterfield Road

Suite 400

Lombard, IL 60148-5671

RE: 0310390001 -- Cook County
CID Recycling and Disposal Facility
ILD010284248
Log No. B-27R2-M-8; M-10
RCRA Permit – 24A
Permit Approval

IEPA - Division of Records Management
Releasable

NOV 20 2025

Reviewer: EMI

Dear Mr. Wilson:

This letter is in response to the documents described below that were submitted by Steven Chillson, P.G., of Waste Management of Illinois, Inc. (WMIL) CID Recycling and Disposal Facility (CID), for the above- referenced RCRA permitted facility. The facility's RCRA Post-Closure Permit (Permit) requires CID to provide post-closure care, including groundwater monitoring/remediation at the closed Area 3 and Area 4 hazardous waste landfills and required CID to properly address the closed Area 1 and Area 2 landfills as solid waste management units (SWMUs) of concern at the facility.

Submittal No. 1 – A document entitled, "Updated Post-Closure Care Cost Estimates", dated October 27, 2023, and received by the Illinois EPA on October 30, 2023. The subject document contained revised post-closure cost estimates for Area 3 and 4 landfills and a revised corrective action cost estimate for Area 1 and 2 SWMUs. The subject submittal was assigned Log No. B-27R2-M-8.

Submittal No. 2 – A document entitled, "Updated Post-Closure Care Cost Estimates", dated October 28, 2024, and received by the Illinois EPA on October 29, 2024. The subject document contained revised post-closure cost estimates for Area 3 and 4 landfills and a

2125 S. First Street, Champaign, IL 61820 • 217-278-5800
1101 Eastport Plaza Dr., Suite 100, Collinsville, IL 62234 • 618-346-5120
595 S. State Street, Elgin, IL 60123 • 847-608-3131
412 SW Washington Street, Suite D, Peoria, IL 61602 • 309-671-3022

115 S. LaSalle Street, Suite 2203, Chicago, IL 60603
9511 Harrison Street, Des Plaines, IL 60016 • 847-294-4000
2309 W. Main Street, Suite 116, Marion, IL 62959 • 618-993-7200
4302 N. Main Street, Rockford, IL 61103 • 815-987-7760

Please print on recycled paper.

0310390001-CID RDF
B-27R2-M-8; M-10
Page 2

revised corrective action cost estimate for Area 1 and 2 SWMUs. The subject submittal was assigned Log No. B-27R2-M-10.

Submittal No. 3 – An email entitled, “B-27R2-M-10- CID PC Cost Estimate Tables – Rev 1 – 2025-08-07”, dated August 7, 2025, and submitted by Environmental Information Logistics, LLC (EIL) on behalf of CID. The subject email provided revised Table I-4, I-5, and I-6 to correct typographical errors that were noted by the Illinois EPA in an August 7, 2025 email. The revised tables were accepted as additional information to Submittal No. 2.

In accordance with Title 35 Illinois Administrative Code (35 IAC) 703.280(d)(2)(A), the subject submittals were reviewed as a Class 1* permit modification request. The Illinois EPA has reviewed the information in the subject submittals and hereby partially approves the updated post-closure care and corrective action cost estimates.

This determination was based on the review of: (1) the RCRA Permit issued to CID; (2) the regulations [35 IAC Subtitle G]; and (3) the information contained in the subject submittals.

1. The Illinois EPA can approve the following information in the subject submittals:
 - a. The corrective action cost estimate for Area 1 and 2 SWMUs in the amount of \$11,317,166 (in 2024 dollars).
 - b. The tasks listed in the post-closure cost estimates for Area 3 and 4 landfills.
2. The Illinois EPA cannot approve the post-closure cost estimates for Area 3 and 4 landfills at this time.
3. A RCRA-permitted facility must maintain financial assurance for 30 years for the entire post-closure care period unless it has completed a post-closure activity or changed the frequency of an activity, that would cause a reduction in the post-closure cost estimate. The Permittee must adjust the post-closure cost estimate for inflation each year.
4. Within 60 days of the date of this letter, CID must submit a revised post-closure cost estimate and financial assurance to meet the required minimum 30 years post-closure care costs for Area 3 and 4 landfills as a Class 1* permit modification.

Attachment A to this letter contains a summary of the changes made to the RCRA Permit. A modified RCRA Permit reflecting partial approval of the subject submittals is enclosed with this letter. The approved information in the subject submittals has been incorporated into CID's approved permit application.

0310390001-CID RDF

B-27R2-M-8; M-10

Page 3

Post-closure care and corrective action activities at the above-referenced facility must be performed in accordance with the RCRA Permit issued to the CID facility and all subsequent approved modifications to the RCRA Permit.

Pursuant to 35 Ill. Adm. Code 703.281(a)(2), a notice of this modification must be sent to all persons on the facility mailing list, maintained by the Illinois EPA in accordance with 35 Ill. Adm. Code 705.163(a)(4), and the appropriate units of state and local government as specified in 35 Ill. Adm. Code 705.163(a)(5). For a Class 1* modification, the notice must be made within 90 days after the Illinois EPA approves the request.

This action shall constitute Illinois EPA's final action on the subject submittal. The applicant may appeal this final decision to the Illinois Pollution Control Board pursuant to Section 40 of the Act by filing a petition for a hearing within 35 days after the date of issuance of the final decision. However, the 35-day period may be extended for a period of time not to exceed 90 days by written notice from the applicant and the Illinois EPA within the initial 35-day appeal period. If the owner or operator wishes to receive a 90-day extension, a written request that includes a statement of the date the final decision was received, along with a copy of this decision, must be sent to the Illinois EPA as soon as possible.

For information regarding the request for an extension, please contact:

Illinois Environmental Protection Agency
Division of Legal Counsel
2520 West Iles Avenue
Post Office Box 19276
Springfield, IL 62794-9276
217/782-5544

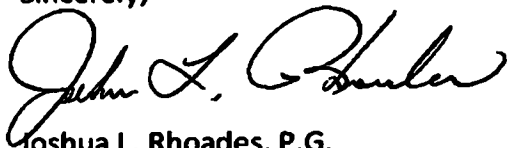
For information regarding the filing of an appeal, please contact:

Illinois Pollution Control Board, Clerk
60 East Van Buren St., Suite 630
Chicago, IL 60601-1241
312/814-3620

0310390001-CID RDF
B-27R2-M-8; M-10
Page 4

Any questions concerning the groundwater aspects of this RCRA Permit, please contact Garrett Strittmatter at 217/558-0073 or garrett.strittmatter@illinois.gov. For all other questions, please contact Kelly Huser at 217/524-3867 or kelly.huser@illinois.gov.

Sincerely,



Joshua L. Rhoades, P.G.
Permit Section Manager
Bureau of Land

JLR: KDH:0310390001-RCRA-B27R2M8-B27R2M10-Approval.docx

KDH DMK GLS TWH AMB
Attachment: Attachment A: Changes to the RCRA Post-Closure Permit
Modified RCRA Post-Closure Permit

cc: Norberto Gonzalez, U.S. EPA – Region V
Emily Keener, U.S. EPA – Region V
Steven Chillson, WMIL
Ed Doyle, P.E., EIL
Erin Yargicoglu, Ph.D., EIL

**ATTACHMENT A
CHANGES TO THE RCRA POST-CLOSURE PERMIT
CID Recycling & Disposal Facility (RDF)**

**STATE ID No. 0310390001
USEPA No. ILD010284248
LOG No. B-27R2-M-8; M-10**

The following changes were made to CID RDF's RCRA Post-Closure permit in response to permit modification requests B-27R2-M-8; M-10. These changes reflect approval of some of the proposed permit modifications.

1. Condition IV.F.1 has been revised as follows:

"The current cost estimate for corrective action at this facility is ~~\$10,303,004~~ 11,317,166 (in ~~2021~~ 2024 dollars)."

2. Attachment C, Post-Closure and Corrective Action Cost Estimate Summary has been updated as follows:

"POST-CLOSURE AND CORRECTIVE ACTION

COST ESTIMATE SUMMARY

CID RDF

The post-closure care cost estimates are based on 2021 dollars and the corrective action cost estimates are based on 2024 dollars ~~These estimates are based on using 2021 dollars and~~ include the cost of: (1) activities carried out each year (i.e., annual costs); and (2) one-time or non-annual costs. Post-closure care for Area 3 began on May 30, 2008. Post-closure care for Area 4 began on February 18, 2010.

COST ESTIMATES

ACTIVITY	Area 1 & Area 2 landfills (SWMUs)	Area 3 landfill (HWMU)	Area 4 landfill (HWMU)	Total
Corrective Action	\$10,303,004 <u>\$11,317,166</u>			\$10,303,004 <u>\$11,317,166</u>
Post Closure Care		\$12,585,185	\$2,901,051	\$15,486,236

Attachment A
Page 2 of 2

Notes: Post-closure care shall continue for a minimum of 30 years from the start dates listed above for Area 3 and Area 4."

3. Attachment E, Approved Permit Application Identification, has been updated as follows:

"13. B-27R2-M-8, Class 1* modification dated October 27, 2023 (partial approval)

14. B-27R2-M-10, Class 1* modification dated October 28, 2024 (partial approval)"

4. Corrected typographical and formatting errors throughout the Permit.



Illinois Environmental Protection Agency

2520 West Iles Avenue • P.O. Box 19276 • Springfield, Illinois • 62794-9276 • 217-782-3397

JB Pritzker, Governor

James Jennings, Acting Director

217/524-3301

CERTIFIED MAIL

RETURN RECEIPT REQUESTED

OCT 27 2025

9589 0710 5270 2887 3004 09

Waste Management of Illinois, Inc.

Attn: James A. Wilson

720 E. Butterfield Road

Suite 400

Lombard, IL 60148-5671

RE: 0310390001 -- Cook County
CID Recycling and Disposal Facility
ILD010284248
Log No. B-27R2-M-8; M-10
RCRA Permit – 24A
Permit Approval

Dear Mr. Wilson:

This letter is in response to the documents described below that were submitted by Steven Chillson, P.G., of Waste Management of Illinois, Inc. (WMIL) CID Recycling and Disposal Facility (CID), for the above- referenced RCRA permitted facility. The facility's RCRA Post-Closure Permit (Permit) requires CID to provide post-closure care, including groundwater monitoring/remediation at the closed Area 3 and Area 4 hazardous waste landfills and required CID to properly address the closed Area 1 and Area 2 landfills as solid waste management units (SWMUs) of concern at the facility.

Submittal No. 1 – A document entitled, "Updated Post-Closure Care Cost Estimates", dated October 27, 2023, and received by the Illinois EPA on October 30, 2023. The subject document contained revised post-closure cost estimates for Area 3 and 4 landfills and a revised corrective action cost estimate for Area 1 and 2 SWMUs. The subject submittal was assigned Log No. B-27R2-M-8.

Submittal No. 2 – A document entitled, "Updated Post-Closure Care Cost Estimates", dated October 28, 2024, and received by the Illinois EPA on October 29, 2024. The subject document contained revised post-closure cost estimates for Area 3 and 4 landfills and a

2125 S. First Street, Champaign, IL 61820 • 217-278-5800
1101 Eastport Plaza Dr., Suite 100, Collinsville, IL 62234 • 618-346-5120
595 S. State Street, Elgin, IL 60123 • 847-608-3131
412 SW Washington Street, Suite D, Peoria, IL 61602 • 309-671-3022

115 S. LaSalle Street, Suite 2203, Chicago, IL 60603
9511 Harrison Street, Des Plaines, IL 60016 • 847-294-4000
2309 W. Main Street, Suite 116, Marion, IL 62959 • 618-993-7200
4302 N. Main Street, Rockford, IL 61103 • 815-987-7760

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revised corrective action cost estimate for Area 1 and 2 SWMUs. The subject submittal was assigned Log No. B-27R2-M-10.

Submittal No. 3 – An email entitled, "B-27R2-M-10- CID PC Cost Estimate Tables – Rev 1 – 2025-08-07", dated August 7, 2025, and submitted by Environmental Information Logistics, LLC (EIL) on behalf of CID. The subject email provided revised Table I-4, I-5, and I-6 to correct typographical errors that were noted by the Illinois EPA in an August 7, 2025 email. The revised tables were accepted as additional information to Submittal No. 2.

In accordance with Title 35 Illinois Administrative Code (35 IAC) 703.280(d)(2)(A), the subject submittals were reviewed as a Class 1* permit modification request. The Illinois EPA has reviewed the information in the subject submittals and hereby partially approves the updated post-closure care and corrective action cost estimates.

This determination was based on the review of: (1) the RCRA Permit issued to CID; (2) the regulations [35 IAC Subtitle G]; and (3) the information contained in the subject submittals.

1. The Illinois EPA can approve the following information in the subject submittals:
 - a. The corrective action cost estimate for Area 1 and 2 SWMUs in the amount of \$11,317,166 (in 2024 dollars).
 - b. The tasks listed in the post-closure cost estimates for Area 3 and 4 landfills.
2. The Illinois EPA cannot approve the post-closure cost estimates for Area 3 and 4 landfills at this time.
3. A RCRA-permitted facility must maintain financial assurance for 30 years for the entire post-closure care period unless it has completed a post-closure activity or changed the frequency of an activity, that would cause a reduction in the post-closure cost estimate. The Permittee must adjust the post-closure cost estimate for inflation each year.
4. Within 60 days of the date of this letter, CID must submit a revised post-closure cost estimate and financial assurance to meet the required minimum 30 years post-closure care costs for Area 3 and 4 landfills as a Class 1* permit modification.

Attachment A to this letter contains a summary of the changes made to the RCRA Permit. A modified RCRA Permit reflecting partial approval of the subject submittals is enclosed with this letter. The approved information in the subject submittals has been incorporated into CID's approved permit application.

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Post-closure care and corrective action activities at the above-referenced facility must be performed in accordance with the RCRA Permit issued to the CID facility and all subsequent approved modifications to the RCRA Permit.

Pursuant to 35 Ill. Adm. Code 703.281(a)(2), a notice of this modification must be sent to all persons on the facility mailing list, maintained by the Illinois EPA in accordance with 35 Ill. Adm. Code 705.163(a)(4), and the appropriate units of state and local government as specified in 35 Ill. Adm. Code 705.163(a)(5). For a Class 1* modification, the notice must be made within 90 days after the Illinois EPA approves the request.

This action shall constitute Illinois EPA's final action on the subject submittal. The applicant may appeal this final decision to the Illinois Pollution Control Board pursuant to Section 40 of the Act by filing a petition for a hearing within 35 days after the date of issuance of the final decision. However, the 35-day period may be extended for a period of time not to exceed 90 days by written notice from the applicant and the Illinois EPA within the initial 35-day appeal period. If the owner or operator wishes to receive a 90-day extension, a written request that includes a statement of the date the final decision was received, along with a copy of this decision, must be sent to the Illinois EPA as soon as possible.

For information regarding the request for an extension, please contact:

Illinois Environmental Protection Agency
Division of Legal Counsel
2520 West Iles Avenue
Post Office Box 19276
Springfield, IL 62794-9276
217/782-5544

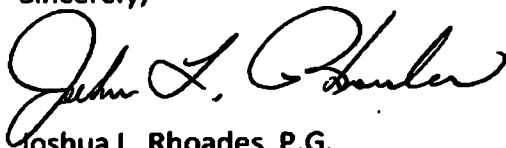
For information regarding the filing of an appeal, please contact:

Illinois Pollution Control Board, Clerk
60 East Van Buren St., Suite 630
Chicago, IL 60601-1241
312/814-3620

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Any questions concerning the groundwater aspects of this RCRA Permit, please contact Garrett Strittmatter at 217/558-0073 or garrett.strittmatter@illinois.gov. For all other questions, please contact Kelly Huser at 217/524-3867 or kelly.huser@illinois.gov.

Sincerely,



Joshua L. Rhoades, P.G.
Permit Section Manager
Bureau of Land

JLR: KDH:0310390001-RCRA-B27R2M8-B27R2M10-Approval.docx

KDH DMK GLS TWH AMB
Attachment: Attachment A: Changes to the RCRA Post-Closure Permit
Modified RCRA Post-Closure Permit

cc: Norberto Gonzalez, U.S. EPA – Region V
Emily Keener, U.S. EPA – Region V
Steven Chillson, WMIL
Ed Doyle, P.E., EIL
Erin Yargicoglu, Ph.D., EIL

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