

## **COVER PAGE**

**Site Number:** 0978020001  
**Site Name:** Zion Site 1 Phase A Landfill  
**Category:** 24D RCRA Permits Administrative Record  
**Document Date:** 09/25/2025  
**Permit ID:**  
**Permit Log:** B-23R2

# **Volume 1 of 7**

**THIS PAGE FOR IMAGING PURPOSES**

**ADMINISTRATIVE RECORD**  
for  
**Zion Site 1 Phase A Landfill**  
**0978020001 -- Lake County**  
**ILD980700728**  
**Log No. B-23R2**

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# Illinois Environmental Protection Agency

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JB Pritzker, Governor

James Jennings, Acting Director

217/524-3301

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SEP 25 2025

9589 0710 5270 0389 7166 43

Republic Services Co.  
Attn: Matthew R. Healy  
8525 W. 183<sup>rd</sup> St., Suite K  
Tinley Park, IL 60487-3702

GFL Environmental, Inc.  
Attn: Mike Stoeckigt  
701 Green Bay Road  
Zion, IL 60099-9564

Re: 0978020001 -- Lake County  
Zion Site 1 Phase A Landfill  
ILD980700728  
Log No. B-23R2  
RCRA Permits Administrative Record – 24D  
Permit Approval

Dear Mr. Healy and Mr. Stoeckigt:

Attached is a final renewed Resource Conservation and Recovery Act (RCRA) Hazardous Waste Management Post-Closure permit (Permit) for the above-referenced facility. The final permit decision is based on the administrative record contained in the Illinois EPA's files. The contents of the administrative record are described in Title 35 Illinois Administrative Code (35 IAC) 705.211.

Please read the RCRA Permit carefully. Failure to meet any portion of the RCRA Permit could result in civil and/or criminal penalties. The only comments received on the draft RCRA Permit were from BFI Waste Systems of North America (BFI). The Illinois EPA's responses to BFI's comments are attached to this letter.

This action shall constitute the 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 Environment Protection Act (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.

2125 S. First Street, Champaign, IL 61820 • 217-278-5800  
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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  
60 East Van Buren St., Suite 630  
Chicago, IL 60605-1241  
312/814-3620

Any questions concerning this final RCRA Permit, please contact Kelly Huser at 217/524-3867 or kelly.huser@illinois.gov. Any groundwater specific questions, please contact Shawntay Dial at 217/558-0177 or shawntay.dial@illinois.gov.

Sincerely,



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

JLR: KDH:0978020001-RCRA-B23R2-Approval.docx

KDH TNH SDD JMB

Attachments: Illinois EPA's Response to Comments  
Renewed RCRA Post-Closure Permit

cc: Jim Hitzeroth, BFI Waste Systems of North America, LLC  
Brad Stenzel, GFL Environmental, Inc.  
Ed Doyle, P.E., Environmental Information Logistics, LLC  
Norberto Gonzalez, USEPA Region V  
Emily Keener, USEPA Region V

ILLINOIS EPA'S RESPONSE TO COMMENTS  
DRAFT RCRA HAZARDOUS WASTE MANAGEMENT POST-CLOSURE PERMIT  
DATED July 24, 2025  
Zion Site 1 Phase A Landfill  
RCRA PERMIT LOG NO. B-23R2

The Illinois EPA's responses below address comments from BFI Waste Systems of North America, LLC. (BFI) dated September 5, 2025, pertaining to the draft RCRA Post-Closure permit issued July 24, 2025. BFI's comments are listed in *italics* and the Illinois EPA responses follow.

**Comment 1**

*The addresses listed for Matthew Healy and Michael Stoeckigt should be revised to:*

|                                   |                            |
|-----------------------------------|----------------------------|
| <b>Matthew Healy</b>              | <b>Mike Stoeckigt</b>      |
| <i>Vice President</i>             | <i>Area Vice President</i> |
| <i>Republic Services</i>          | <i>GFL Environmental</i>   |
| <i>8525 W. 183rd St., Suite K</i> | <i>701 Green Bay Road</i>  |
| <i>Tinley Park, IL 60487-3702</i> | <i>Zion, IL 60099-9564</i> |

**Illinois EPA Response**

The addresses for Matthew Healy and Michael Stoeckigt have been revised.

**Comment 2**

*Condition II.B.1; The approximate capacity of Site 1A is listed as 165,714 cubic yards. This is incorrect. From 1982 to 1990 (the time period when accurate data was maintained), approximately 232,000 tons of hazardous waste were disposed in Site 1A.*

**Illinois EPA Response**

Condition II.B.1 has been revised to 232,000 tons (approx. 177,370 yd<sup>3</sup>) for the capacity of the landfill.

**Comment 3**

*Condition II.C.1 and II.C.2; "Post-closure care shall continue to be extended for an additional 30-year period or until such time as no unacceptable risks to human health and the environment are present in the Phase A landfill, as determined by the Illinois EPA."*

*Per 35 IAC 724.217(a)(2), only the Pollution Control Board has the authority to extend the post-closure care period beyond 30 years. The sentence above should be removed from condition II.C.1. Condition II.C.2 should be deleted.*

*If the permit is issued with this language, BFI may appeal it to the Pollution Control Board.*

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**Illinois EPA Response**

The Illinois EPA is required to establish permit conditions that are protective of human health and the environment and can request a facility to establish or modify their RCRA Permit to meet these conditions in accordance with 35 IAC 703.241 and 35 IAC 724.218(d). The evaluation to determine if there are unacceptable risks to human health and the environment that make it necessary to continue post-closure care and to extend post-closure care for a RCRA Landfill is based on the following applicable regulations and reference materials:

- a. The following sections of 35 IAC Part 724: 724.131, 724.210 through 724.220, 724.410.
- b. 35 IAC 703.241, 35 IAC 724.218(d), and 35 IAC 703 Appendix A, E.2;
- c. Sections 12(a), 21(n) and 39(g) of the Illinois Environmental Protection Act (Act);
- d. USEPA's Guideline for Evaluating Post-Closure Care Period, dated December 15, 2016; and
- e. ASTSWMO Position Paper, dated July 20, 2022 "Post-Closure Care Beyond 30 Years at RCRA Subtitle C Facilities".

The following is a summary of applicable regulations.

**Establishing Necessary Permit Conditions under 35 IAC 703.241 and 35 IAC 703 Appendix A, E.2**

In accordance with 35 IAC 703.241(a)(1), each RCRA permit must include permit conditions necessary to achieve compliance with each of the applicable requirements specified in 35 IAC Part 724. 35 IAC 703.241(a)(2) further requires that each RCRA permit issued pursuant to Section 39(d) the Act must contain terms and conditions that the Illinois EPA determines are necessary to adequately protect human health and the environment. This permit condition requires the facility to submit a permit modification request to extend the post-closure care period by modifying the post-closure plan as allowed under 35 IAC 724.218(d).

In accordance with 35 IAC 703, Appendix A, E.2, extension of post-closure care period is classified as a Class 2 modification request. It is appropriate for the Illinois EPA to request the facility to submit a permit modification to extend the post-closure care period by a specified date in a compliance schedule of the RCRA permit. Extending post-closure care is a necessary requirement to meet the terms of 35 IAC Part 724 and the requirements of the Act. It is also appropriate for the Illinois EPA to address such matters at the time of a permit renewal (reissuance).

**Maintenance of Facility under 35 IAC 724.131**

In accordance with 35 IAC 724.131, RCRA post-closure facilities must be designed, constructed, maintained and operated to minimize the possibility of any release of hazardous waste or

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hazardous waste constituents to air, soil, or surface water that could threaten human health or the environment.

**Post-Closure Use of Property 35 IAC 724.217 (c)(1)**

35 IAC 724.217(c)(1) prohibits any disturbance of the integrity of the final cover, liner, or any other components of the containment system or the function of the monitoring system unless it is necessary to protect and reduce the threat to human health and the environment.

**Land Disposal Unit Specific Requirements for Closure/Post-Closure under 35 IAC 724.410**

35 IAC 724.410 lists specific closure/post-closure requirements for landfills. 35 IAC 724.410(a) specifies the minimum standards for construction of the final closure of a landfill, which includes, among other things, long-term minimization of liquid through the closed landfill and maintenance of the cover integrity be maintained.

35 IAC 724.410 (b) requires the facility to maintain the integrity and maintenance of the final cover and to continue operation of leachate collection and removal system until leachate is no longer detected. Zion Site 1 Phase A Landfill is generating a significant amount of leachate each year and the facility must continue to collect leachate past the initial 30-year post-closure care period. This is an unacceptable risk to human health and the environment. This regulation also requires maintaining and monitoring of the Leachate Detection System (LDS) and the groundwater monitoring system.

**Comment 4**

*Condition II.D.2; The requirement to inspect the Site 1A cover "quarterly and within 72 hours of any rainfall event of three or more inches in a 24-hour period" is redundant with the facility's NPDES permit which requires quarterly inspections following a significant rainfall event. Furthermore, the final cover has been maintained in accordance with 35 IAC 724.401.b.1.*

*Dozens of significant rain events, many of which resulted in more than 3 inches of rainfall in a 24-hour period, have occurred since post-closure care began in 1998, and no significant erosion issues have occurred.*

*724.410.b.1 requires BFI to "Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events."*

*Given the performance history of the final cover and the fact that inspections are already required under the NPDES permit, the proposed inspection requirement is duplicative and should be removed.*

**Illinois EPA Response**

Condition II.D.1 requires the Permittee to inspect all structures on a quarterly basis and

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document the results in the facility's operating record. Condition II.D.3 requires the facility to take appropriate corrective action if problems occur. In addition, the facility's NPDES permit requires quarterly inspections following a significant rain event. Because all these conditions are in place, Condition II.D.2 is redundant and will be deleted. The subsequent conditions will be renumbered.

**Comment 5**

*Condition II.D.4; The requirement to maintain the results of all inspections and remedial actions taken for the "entire post-closure care period" is not necessary and may be impossible to comply with as it is being applied retroactively.*

*Records of "all inspections" may not be available since 35 IAC 724.173 requires records to be maintained in the operating record for only three years.*

**Illinois EPA Response**

The operating record must be maintained for the entire post-closure care period. Although the Illinois EPA understands the results of inspections are only kept for three years in accordance with 35 IAC 724.173, at the time of the request for completion of post-closure care, the facility must provide documentation to support that the required post-closure care was performed in accordance with the post-closure plan for the entire post-closure care period in accordance with 35 IAC 724.220.

**Comment 6**

*Condition II.F.1; The addition of temperature to the list of gas monitoring probe parameters is unnecessary. Gas monitoring probes, which are located outside the waste limits, do not experience temperature fluctuations like gas extraction wells that are located inside the waste limits. The temperature of gas in monitoring probes does not fluctuate; it reflects the stable temperature of the subsurface.*

*Temperature should be deleted from the list of parameters to be measured in gas monitoring probes.*

**Illinois EPA Response**

In accordance with the approved permit application, Appendix E-20, Gas Monitoring Plan, Section 3.2, BFI proposed temperature as one of the parameters to monitor in the gas probes. A Class 1 permit modification may be submitted to request this change.

**Comment 7**

*Condition II.F.5; Gas probe monitoring frequency following an exceedance for methane was not revised to reflect the proposed monitoring frequency in the 2021 Renewal Application (Appendix E-20, Section 4.2). BFI requests that this section be revised in accordance with the proposed monitoring frequency.*

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**Illinois EPA Response**

Condition II.F.5 has been revised to reflect the approved monitoring frequency in the approved permit application.

**Comment 8**

*Condition II.G.4; Quarterly monitoring of heat value of the landfill gas flowing to the flare is more stringent than, and redundant with, the annual requirement in the facility's CAAPP permit. An annual determination of heat content of the landfill gas burned at the flare is required by CAAPP Permit Condition 4.1.2.(c)(ii)(B)(V) to verify compliance with 40 CFR 61.18(c)(ii).*

*The requirement to measure heat content on a quarterly basis should be deleted. A more appropriate quarterly measurement would be the percentage of methane in the landfill gas. A methane measurement would complement the other required parameters (percent oxygen and percent carbon dioxide).*

**Illinois EPA Response**

The Illinois EPA has deleted heat value from Condition II.G.4 and added percent methane.

**Comment 9**

*Condition II.I.2.a.i; The requirement to repair "cracks greater than one inch wide in the final cover" is impractical for the vegetated final cover. Grass during the growing season is typically tall enough to prevent an inspector from identifying a 1-inch crack in the soil.*

*Small, surficial cracks are common in soils with a high clay content, such as those used in the final cover at Site 1A, particularly during the hottest summer months when solar radiation is strongest. It is important to note that these cracks are in the vegetative soil layer, which is not part of the barrier layer of the final cover. Further, the cracks self-heal after rainfall when soil moisture content increases. For these reasons, they have no adverse impact on the hydraulic performance of the final cover.*

*This requirement should be deleted, or a more appropriate crack width of 6 inches and a crack depth of greater than 6 inches should be used.*

**Illinois EPA Response**

Although this condition was identical to the previously issued permit, the Illinois EPA can concur with the comment regarding one-inch width with well-established vegetation cover. In addition, as allowed for solid waste landfills in Illinois, a non-significant crack up to six-inch deep may be acceptable.

However, the Illinois does not concur to consider a six-inch wide and six-inch deep crack to be non-significant as it may lead to a significant integrity issue for the cover. Conditions II.D.4.a and II.I.2.a.i have been revised to state all rills, gullies, and crevices greater than six inches deep.

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**Comment 10**

*Condition II.J.1; There is a typographical error in the lettered list under II.J.1. Condition II.J.1.e is followed by II.J.1.g instead of II.J.1.f, which is missing.*

**Illinois EPA Response**

The typographical error has been corrected in Condition II.J.1.

**Comment 11**

*Condition II.L.4.b.iii; The locations of minor repairs are irrelevant to the long-term post-closure care of the facility and records of their locations may not have been maintained for the entire duration of post-closure care, as 35 IAC 724.173(b) only requires these records to be maintained in the operating record for three years.*

*The requirement to "describe any problems and/or repairs...that were addressed over the post-closure care period in chronological order" and "to show the locations of each of the repairs...on a scaled drawing of the unit" is impractical and unnecessary. It should be deleted.*

**Illinois EPA Response**

Condition II.L.4.b.iii has been revised to include significant problems and/or major repairs (e.g. when a Construction Acceptance Report is submitted to the Illinois EPA) to clarify which repairs should be included in the Post-Closure Documentation Report.

**Comment 12**

*Condition II.L.4.b.v; Typographical error: "Colored photos of unit at post-closure completion" should be revised to "Color photos."*

**Illinois EPA Response**

The typographical error has been corrected in Condition II.L.4.b.v.

**Comment 13**

*Condition II.M.2; "Post-closure care costs are determined by multiplying annual costs by the full 30-year post-closure care period."*

*See Comment 3.*

*35 IAC 724.244(a)(2) states that 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 724.217. Illinois financial assurance regulations specifically allow a permittee to request annual reductions in the total amount of financial assurance that is held as each year passes and the total cost of post-closure care is reduced. See e.g., 35 IAC 724.245(a-f).*

*If the permit is issued with this language, BFI may appeal it to the Pollution Control Board.*

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**Illinois EPA Response**

Zion Site 1 Phase A Landfill is in the initial 30-year post-closure care period. In accordance with 35 IAC 724.244 (a)(2), the post-closure care cost estimate is calculated by multiplying the annual post-closure cost estimate by the number of years of post-closure care required under 35 IAC 724.217. 35 IAC 724.217(a) Post-Closure Care Period; 35 IAC 724.217(a)(1) states;

**"1) Post-closure care for each hazardous waste management unit subject to the requirements of Section 724.217 through 724.220 must begin after completion of closure of the unit and continue for 30 years after that date and must consist of at least the following:"**

The requirements in 35 IAC 724.217 through 724.220 do not state number of years remaining in the post-closure care period. The Illinois EPA has evaluated the requirements for post-closure care, cost estimates, and financial assurance for the hazardous waste management unit based on the applicable regulations and documents referenced in the Illinois EPA's response to Comment 3 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 and the citizens of Illinois if any hazardous waste is left in place at the unit.

Therefore, the post-closure cost estimate must be calculated by multiplying the annual post-closure cost estimate by 30 (the number of years required in Zion Site 1 Phase A Landfill's post-closure care period).

35 IAC 724.245 outlines the financial assurance mechanisms required and available to RCRA facilities. 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 made changes to the post-closure plan, which would cause a reduction in the post-closure cost estimate. If a post-closure activity is completed or a change in a post-closure plan is approved, the facility may submit a request for a reduced post-closure cost estimate to Illinois EPA.

**Comment 14**

*Condition III.D.1, List G1; The "# Note" under List G1 indicates the elevation of the bottom of the well "must be determined once every two or five years during the annual sampling event in accordance with Condition III.F.3."*

*Condition III.F.3 states that this measurement is to be reported every 5 years, when pumps are pulled, or whenever the elevation changes in accordance with III.I.6 which indicates this measurement is to be reported annually.*

*A measurement every 5 years is also consistent with the frequency required for 811 landfills per 811.3180(e)(7). There is no technical justification for measuring well depths at a RCRA landfill more frequently than the well depths at a solid waste landfill.*

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*The "#" Note should be revised to state that the elevation of well bottom must be determined every 5 years and "every 2" should be deleted.*

**Illinois EPA Response**

The comment is acknowledged, and the footnote has been updated to remove "every 2".

**Comment 15**

*Condition III.D.1, List G2; The background quality standard for total and dissolved cyanide is incorrect.*

*The value is listed as 0.005 ug/L; it should be 5 µg/L (or 0.005 mg/L). The 5 µg/L value is consistent with the interwell background quality standards listed in the November 15, 2013 Class 1\* permit modification application and approved in Log No. B-23R-M-3.*

*Furthermore, the laboratory has attested that it cannot report dissolved or total cyanide to a reporting limit of 0.005 µg/L using SW-846 methods.*

**Illinois EPA Response**

The comment is acknowledged, and List G2 Parameters Table has been updated to the correct values.

**Comment 16**

*Condition III.D.2.b; This condition states that for monitoring parameters "not detected above the Lower Limit of Quantitation (LLOQ) during background gathering, the LLOQ must be the established background value." The term LLOQ should be revised to Practical Quantitation Limit (PQL).*

*The term Lower Limit of Quantitation (LLOQ) does not appear in the RCRA regulations pertaining to groundwater monitoring. The term Practical Quantitation Limit (PQL) appears in 35 IAC 724.197(h) and 724.197(i)(5) with regard to the statistical evaluation of groundwater monitoring data and therefore was included in the 2021 Permit Renewal Application. Because the term LLOQ does not appear in the 724 regulations, it is not clear that this term is applicable to the groundwater monitoring program at Site 1A.*

*Regardless of the regulatory applicability of the term LLOQ to the groundwater monitoring program at Site 1A, the analytical laboratory that analyzes Site 1A's groundwater has stated that LLOQ and PQL are nearly the same, with one important difference: the LLOQ can vary among laboratories depending on differences in analytical precision, whereas the PQL is not lab specific. Therefore, PQL is the more appropriate standard.*

**Illinois EPA Response**

All groundwater in the State is subject to 35 IAC Part 620, regardless of individual program

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requirements. Therefore, both 35 IAC Part 620 and Part 724 apply with regards to groundwater, which includes any updates to those regulations. The condition remains the same.

1. Since the submittal of the Permit application, 35 IAC Part 620 was updated March 28, 2025. In part, the regulations now require the Lower Limit of Quantitation (LLOQ), instead of the Practical Quantitation Limit (PQL), includes different standards, and more chemical constituents have been added. To meet the requirements of 35 IAC 620.510(b)(4), the draft permit will continue to include the condition as written.
2. The LLOQ and PQL are independent of any background or 35 IAC Part 620 value. The historical PQLs used by the laboratory are no longer adequate if they do not meet the LLOQ.
  - a. "Lower limit of quantitation" or "LLOQ" means the minimum concentration of a substance that can be measured or reported under "Test Methods of Evaluation Solid Wastes, Physical/Chemical Methods", incorporated by reference in Section 620.125.
  - b. "Practical quantification limit" or "PQL" means the lowest concentration or level that can be reliably measured within specified limits of precision and accuracy during routine laboratory operating conditions.
3. In addition, the LLOQ may be used for background values if constituents are not detected. These values should not be defaulted to 35 IAC Part 620 values.

**Comment 17**

*Condition III.E.2.a; The requirement to identify the concentration of any parameter not detected during a previous sampling event is unnecessary and not required by 35 IAC 724.197 or 724.198.*

*This evaluation is not part of the detection monitoring program outlined in Section C.6.7 of the permit renewal application, which describes the statistical procedures used to evaluate groundwater monitoring data.*

*This requirement should be deleted from the permit.*

**Illinois EPA Response**

The comment is acknowledged. A review of Section C.6.7 and C.6.8 of the permit application verifies the approved statistical method (Section C.6.7) and evaluating statistically significant increases (Section C.6.8) is adequate. Therefore, Condition III.E.2 has been removed and conditions renumbered accordingly. Condition III-A.E.2 has also been removed and conditions

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renumbered accordingly.

**Comment 18**

*Condition III.E.2.b; The requirement to identify a progressive increase of any parameter over four consecutive sampling events is unnecessary and not required by 35 IAC 724.197 or 724.198.*

*This evaluation is not part of the detection monitoring program outlined in Section C.6.7 or Section C.6.8 of the permit renewal application, which describes the statistical procedures used to evaluate groundwater monitoring data and identify statistically significant increases.*

*This requirement should be deleted from the permit.*

**Illinois EPA Response**

The comment is acknowledged. Please see Illinois EPA's response to Comment 17.

**Comment 19**

*Condition III.H.1; This condition states that the permittee must use the statistical methods specified in Section C.6.7 of the permit application.*

*However, it neglects to include Section C.6.8 which indicates that for constituents not present in the background data, a preliminary statistically significant increase occurs if the measured concentration of a single constituent is greater than two times the PQL, or the measured concentration of two or more constituents is greater than the PQL for each constituent.*

*Employing a trigger value of two times the PQL in determining statistically significant increases reduces "false positive" detections (i.e., reporting a detection that does not persist over several quarters) without increasing "false negatives" (i.e., not reporting a detection that proves to be persistent).*

*As evidence of this, since 2020, Site 1A recorded 16 detections greater than the PQL but less than two times the PQL. None of these detections proved to be persistent, thus no SSI notifications were required.*

*The trigger value of two times the PQL has been in place at Site 1A for over 25 years and has proven to be an effective method that prevents IEPA reviewers from having to review ultimately needless submittals (16 in the last five years, as noted above) while posing no additional risk to human health and the environment. This criterion has also been in place at other RCRA facilities in Illinois and has proven to be equally effective for them.*

*The condition should be revised to reference the statistical methods in Section C.6.8 (Statistically Significant Increases) in addition to Section C.6.7 (Statistical Evaluation) of the permit renewal application.*

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**Illinois EPA Response**

The comment is acknowledged, and Condition III.H.1 of the Permit has been updated to include Section C.6.8 of the approved permit application.

**Comment 20**

*Condition III.I.6; This condition requires the elevation of well bottom to be reported "at least annually". This conflicts with condition III.F.3 which requires this measurement every five years.*

*This requirement should be revised to "reported every 5 years" to be consistent with condition III.F.3.*

**Illinois EPA Response**

The comment is acknowledged, and Condition III.I.6 of the Permit has been updated to include "annually without dedicated pumps; every five years with dedicated pumps or whenever the pump is pulled" in place of "at least annually".

**Comment 21**

*Condition III.I.10.b; This condition requires the permittee to "sample the groundwater in all wells listed in Condition III.C.1 and determine the concentration of all constituents identified in 35 IAC 724, Appendix I and 35 IAC 620" following a statistically significant change in groundwater quality. This is beyond what is required by the 35 IAC 724 regulations, which do not reference the parameters in 35 IAC 620.*

*Groundwater monitoring at RCRA landfill facilities is regulated under 35 IAC Subpart F. The requirements for a detection monitoring program are specified in 724.198, which requires sampling for Appendix I parameters if there is statistically significant evidence of contamination.*

*724.198(g)(2) also specifies that a site-specific subset of Appendix I may be monitored if it is determined to be more economical and equally effective at determining whether groundwater contamination has occurred; it does not specify or require any 620 parameters to be analyzed.*

*Although Site 1A is currently implementing a Detection Groundwater Monitoring program, if statistically significant concentrations of detection indicator parameters are confirmed, a Compliance Groundwater Monitoring program would be required. The hazardous constituents monitored in the groundwater under Compliance Monitoring are specified in the facility permit but 35 IAC 724.193 regulates which parameters are to be included. According to 724.193, the "hazardous constituents are constituents identified in Appendix H of 35 Ill. Adm. Code 721 that have been detected in the groundwater in the uppermost aquifer underlying a regulated unit that are reasonably expected to be in or derived from waste in the regulated unit".*

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*In summary, the groundwater monitoring parameters / constituents monitored following a statistically significant change under the current permit and proposed to continue being monitored within the Permit Renewal Application are sufficient to meet the above applicable regulations.*

*The reference to 35 IAC 620 should be deleted.*

**Illinois EPA Response**

All groundwater in the State is subject to 35 IAC Part 620, regardless of individual program requirements. Therefore, both 35 IAC Part 620 and Part 724 apply with regards to groundwater, which includes any updates to those regulations. The current routine groundwater sampling list consists of adequate indicator parameters, while evidence of a statistically significant exceedance warrants investigation of potential groundwater impacts to protect human health and the environment and groundwater resources. Therefore, the condition remains the same.

**Comment 22**

*Condition III.I.11.d; There is a typographical error. Item (d) is missing the (d) prior to the listed condition.*

**Illinois EPA Response**

The comment is acknowledged. The typographical error has been corrected in Condition III.I.11.d.

**Comment 23**

*Condition III-A.D.1; See Comment 15.*

**Illinois EPA Response**

The comment is acknowledged, and List G2 Parameters Table has been updated to the correct values.

**Comment 24**

*Condition III-A.H.1; See Comment 19.*

**Illinois EPA Response**

The comment is acknowledged, and Condition III-A.H.1 of the Permit has been updated to include Section C.6.7 and Section C.6.8 of the approved permit application.

**Comment 25**

*Condition V.D.1.a; This condition requires the facility to revise Section C.6.4 of the Permit Renewal Application to include the following statement: "Purged groundwater will be collected, containerized, and upon receipt of groundwater analysis, disposed of properly."*

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*Site 1A has completed over 27 years of post-closure care groundwater monitoring (in addition to multiple years of groundwater monitoring performed prior to certification of post-closure in 1998). Groundwater monitoring data collected semi-annually over the 27 years of post-closure care has not identified confirmed statistically significant concentrations of indicator parameters.*

*Given the extensive data documenting that no adverse groundwater impacts have occurred, returning purged groundwater to the ground surface (where it will infiltrate back into the monitored aquifer) poses no threat to human health or the environment.*

*If confirmed statistical exceedances are identified in the future, a permit modification to begin a Compliance Groundwater Monitoring Program is required to be submitted and approved by the Agency.*

*BFI acknowledges that containerization of purged groundwater would be appropriate if Compliance Monitoring is necessary.*

*The condition should be revised to require the facility to revise Section C.6.4 of the Permit Renewal Application to include the following statement: "if a Compliance Monitoring Program is implemented, purged groundwater from the Compliance Monitoring wells will be collected, containerized, and upon receipt of groundwater analysis, disposed of properly."*

**Illinois EPA Response**

The comment is acknowledged. The need for analysis continues to be necessary to determine proper disposal; therefore, Condition V.D.1.a remains the same.

**Comment 26**

*Condition V.D.1.b; See Comment 16.*

**Illinois EPA Response**

The comment is acknowledged. Please see Illinois EPA's response to Comment 16.

**Comment 27**

*Condition V.D.1.c; This condition requires BFI to propose a timeline for establishing background values for all new and existing parameters based on the revisions to 35 IAC 620, effective March 28, 2025.*

*The parameters for Detection Groundwater Monitoring listed in the 2021 Permit Renewal Application are consistent with the parameters in the Detection Groundwater Monitoring*

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*Program of the existing permit. These parameters comply with 35 IAC 724.197(a)(3), which requires the groundwater monitoring system "allow for the detection of contamination when hazardous waste or hazardous constituents have migrated from the hazardous waste management area to the uppermost aquifer". Monitoring for these constituents also "provide[s] a reliable indication of groundwater quality below the waste management area" pursuant to 35 IAC 724.197(d).*

*Under 35 IAC 724.198(a) requirements for a Detection Groundwater Monitoring Program, the "owner or operator must monitor for indicator parameters (e.g., specific conductance, total organic carbon, or total organic halogen), waste constituents or reaction products that provide a reliable indication of the presence of hazardous constituents in groundwater". The parameters monitored are to be included in the permit after considering the following factors:*

1. *The types, quantities, and concentrations of constituents in wastes managed at the regulated unit;*
2. *The mobility, stability, and persistence of waste constituents or their reaction products in the unsaturated zone beneath the waste management area;*
3. *The detectability of indicator parameters, waste constituents, and reaction products in groundwater; and*
4. *The concentrations or values and coefficients of variation of proposed monitoring parameters or constituents in the groundwater background.*

*The indicator parameters included in the Detection Groundwater Monitoring section under both the existing permit and the 2021 Permit Renewal Application comply with the above regulations / factors. Issuance of revised 35 IAC 620 regulations has no bearing on the background data previously established in prior permits for the Detection Monitoring indicator parameters.*

*BFI acknowledges that if the Class I Groundwater Quality Standard for indicator parameters listed in the permit has decreased with the issuance of the revised 35 IAC 620 regulations, then the lower Class I standard will be utilized in future comparisons to groundwater quality data, as specified in the permit and proposed in the Permit Renewal Application. Finally, none of the new parameters added to 35 IAC 620 in 2025 have served as indicator parameters during the prior 27 years of post-closure care groundwater monitoring.*

*Although the facility is currently implementing a Detection Groundwater Monitoring program, if confirmed statistically significant concentrations of detection indicator parameters are identified in the groundwater, a Compliance Groundwater Monitoring program would be*

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*required. The hazardous constituents monitored in the groundwater under Compliance Monitoring are specified in 35 IAC 724.193. This regulation states that the "hazardous constituents are constituents identified in Appendix H of 35 Ill. Adm. Code 721 that have been detected in the groundwater in the uppermost aquifer underlying a regulated unit that are reasonably expected to be in or derived from waste in the regulated unit". None of the new 620 constituents are listed in 35 IAC 721 Appendix H.*

*In summary, the groundwater monitoring parameters / constituents listed in the current permit and proposed to continue being monitored within the Permit Renewal Application are fully compliant with the regulations.*

*This condition should be deleted.*

#### **Illinois EPA Response**

The comment is acknowledged. The Illinois EPA also acknowledges the current indicator parameter list does not contain any new parameters added to 35 IAC Part 620 updates; therefore, the requirement now refers to parameters identified in Condition III.D.1 for clarification. The requirement to establish background values relative to the LLOQ remains, and Condition V.D.1.c has been revised to require a Class 1\* permit modification be provided within 60 days of the effective date of the permit to propose background values using the LLOQ. This includes instances where the Class I Groundwater Quality Standard is lower based on updates to 35 IAC Part 620.

The Illinois EPA agrees the new constituents listed in 35 IAC Part 620 are not listed in 35 IAC 721, Appendix H. Any new background value development must utilize the LLOQ.

#### **Comment 28**

*Condition V.D.2; This condition requires Section E.7.3.1 of Permit Application to be revised to indicate if the leachate analyses detected a parameter for which the groundwater is/was not being analyzed and the actions taken if this occurred.*

*The approved detection monitoring program uses indicator parameters in accordance with 724.197 and 724.198 to determine if there is evidence of landfill impacts to groundwater. If there is statistically significant evidence of a change in groundwater quality, all monitoring wells will be sampled and monitored for Appendix I constituents in accordance with 724.198(g).*

*If any of these constituents in groundwater are confirmed, BFI will submit a permit modification application to establish a compliance monitoring program in accordance with 724.198(g)(4).*

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*The presence of constituents in leachate that are not monitored in groundwater does not diminish the effectiveness of detection monitoring, as the indicator parameters monitored are selected to identify contamination in groundwater from leachate. The facility has a leachate collection system in place that effectively removes leachate from the landfill and prevents impacts to the groundwater. Moreover, the use of indicator parameters to identify groundwater contamination has been standard practice in the industry for decades.*

*Therefore, the detection of a leachate parameter that is not on the routine groundwater monitoring list does not require further action if there is no other evidence of a statistically significant change in groundwater quality.*

*This condition should be deleted.*

**Illinois EPA Response**

The comment is acknowledged. All groundwater in the State is subject to 35 IAC Part 620, regardless of individual program requirements. When statistical evidence is present, there is a potential for any constituent in leachate to be released to groundwater; therefore, Condition V.D.2 has been revised to require, "at a minimum, propose addition of any parameter detected in leachate be added to Section III and III-A for sampling if conditions determine there is statistically significant evidence in accordance with 35 IAC 724.198(g)." This does not require addition to the routine groundwater sampling list.

**Comment 29**

*Condition V.D.3; Per 724.244(a)(2), the cost estimate for post-closure care is estimated by multiplying the annual cost by the number of years of post-closure care required under 724.217. Therefore, the cost estimate for post-closure care is determined based on the number of years remaining in the 30-year post-closure care period.*

*Only the Pollution Control Board has the authority to extend the post-closure care period beyond 30 years in accordance with 724.217(a)(2)(B).*

*If the permit is issued with this language, BFI may appeal it to the Pollution Control Board.*

**Illinois EPA Response**

See Illinois EPA Responses to Comments 3 and 13.

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**Comment 30**

*Condition VII, Section II, Condition C.2; This condition requires BFI to submit a Class 2 permit modification to extend the post-closure care period on or prior to February 10, 2027.*

*Only the Pollution Control Board has the authority to extend the post-closure care period in accordance with 724.217(a)(2)(B) and this would not be done via a Class 2 permit modification submitted by the facility.*

*If the permit is issued with this language, BFI may appeal it to the Pollution Control Board.*

**Illinois EPA Response**

See Illinois EPA's Response to Comment 3.



# Illinois Environmental Protection Agency

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JB Pritzker, Governor

James Jennings, Acting Director

## RCRA HAZARDOUS WASTE MANAGEMENT POST-CLOSURE PERMIT

0978020001 -- Lake County

Zion Site 1 Phase A Landfill

ILD980700728

Log No. B-23R2

RCRA Permits Administrative Record – 24D

Issue Date: SEP 25, 2025

Effective Date: OCT 30, 2025

Expiration Date: OCT 30, 2035

### PERMITTEE/OPERATOR

BFI Waste Systems of North America, LLC

Attn: James Hitzeroth

26 W 580 Schick Road

Hanover Park, Illinois 60103

### OWNER

Zion Landfill, Inc.

Attn: Brad Stenzel

701 Green Bay Road

Zion, Illinois 60099

### FACILITY LOCATION

701 Green Bay Road

A renewed RCRA post-closure permit is hereby granted to BFI Waste Systems of North America, LLC (BFI) as Operator and Permittee pursuant to Section 39(d) of the Illinois Environmental Protection Act (Act), and Title 35 Illinois Administrative Code (35 IAC) Subtitle G.

### **PERMITTED HAZARDOUS WASTE ACTIVITY**

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

1. Post-Closure Care of a closed landfill (D80)
2. Groundwater Monitoring Detection Monitoring
3. Corrective Action as necessary

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 IAC 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 B of this Permit and any subsequent amendments. Any inaccuracies found in this information may be grounds for the termination or modification of this Permit (see 35 IAC 702.186 and 702.187) and potential enforcement action (415 ILCS 5/44(h)).

Joshua L. Rhoades, P.G.

Permit Section Manager

Bureau of Land

KDH SDD AMB TNH  
JLR: KDH:0978020001-RCRA-B23R2-Approval.docx

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**RCRA HAZARDOUS WASTE MANAGEMENT  
POST-CLOSURE PERMIT**

**Log No. B-23R2**

**Zion Site 1 Phase A Landfill**

**LPC No. 0978020001**

**USEPA ID No. ILD980700728**

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ATTACHMENTS

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**SECTION I: GENERAL FACILITY DESCRIPTION**

**A. OWNER**

The facility is owned by Zion Landfill, Inc., herein referred to as the "owner". (35 IAC 702.123 and 703.181)

Zion Landfill, Inc.  
701 Green Bay Road  
Zion, Illinois 60099

**B. OPERATOR**

The facility operator is BFI Waste Systems of North America, LLC, herein referred to as the "Permittee". (35 IAC 702.121, 702.123, and 703.181)

BFI Waste Systems of North America, LLC  
26 West 580 Schick Road  
Hanover Park, Illinois 60133

**C. LOCATION**

**1. Location of Facility**

The Zion Site 1 Landfill facility is located in Lake County in Illinois. Zion Landfill, Inc. owns approximately 290 acres at this location with approximately 40 acres being used for the management of hazardous waste (Phase A landfill). The Zion Site 1 Landfill facility is located at:

Zion Site 1 Landfill  
701 Green Bay Road  
Zion, Illinois 60099

The facility contact is the Environmental Manager. They can be reached at 630/894-5001.

**2. Facility Layout Maps**

The general facility layout and location of the closed hazardous waste management unit, Phase A landfill, regulated by this Permit is shown in Attachment A.

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**D. DESCRIPTION OF HAZARDOUS WASTE MANAGEMENT ACTIVITIES**

On October 30, 1976, Illinois issued Browning-Ferris Industries (BFI) a state permit to operate a 59-acre solid waste disposal site at the location now known as Zion Site 1 Landfill (Permit No.1976-53-OP); this facility is located at 701 Green Bay Road, Zion, Illinois. BFI disposed of waste in an approximately 40-acre portion of the overall permitted facility under the terms and conditions of this permit until November 1980, at which time the regulations governing the management of hazardous wastes came into effect. After November 1980 and until April 1988, BFI operated this landfill in accordance with this state permit and associated supplemental permits) and the hazardous waste interim status regulations. On April 5, 1988, The Illinois EPA issued this facility a RCRA Permit which set forth detailed requirements for the management of hazardous wastes at this facility.

During the time that BFI operated the approximately 40-acre landfill, mainly non-hazardous waste was disposed in it, but some hazardous waste was also disposed there. BFI ceased disposing of hazardous waste in this unit in 1990; it did however continue to dispose of non-hazardous waste there until 1993. Closure activities of the Phase A landfill were completed in 1997 and on February 10, 1998, BFI certified completion of closure of this unit.

Ten acres of the initially permitted site were re-permitted by Illinois EPA for the disposal of only non-hazardous waste on June 24, 1994 (Permit No. 1992-328-LFM). The actual portions of this 10-acre parcel used for landfilling purposes were Cell 1 which consists of 4.9 acres and Cell 2 which consists of 4.7 acres. Non-hazardous waste was disposed in these units from 1994 until 1996. Closure activities for both cells were completed in 1998, and the Illinois EPA approved the certification of closure of these units on August 28, 1998. The post-closure care period of these units, to be carried out in accordance with the facility's permit, began on April 25, 1998. Closed Cells 1 and 2 are typically referred to as the Phase B landfill.

The remaining 9.4 acres of the originally permitted facility house ancillary equipment and structures associated with the Phase A and B landfills. Leachate and landfill gas management systems have been installed in the Phase A and Phase B landfills and the following equipment/structures associated with these systems are present in this area:

1. The tanks and associated loading areas used to accumulate the collected leachate before it is sent off-site for treatment; and
2. The blowers and flare associated with the gas management system at the facility.

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In addition to the units mentioned above, BFI permitted a 74.38-acre solid waste disposal site on the land just east of Phase A landfill. The Illinois EPA issued the operating permit for this site on December 31, 1981 (Permit No. 1980-24-OP); this Permit only allowed for the disposal of non-hazardous waste at this site, known as Site 2. On March 21, 1997, the Illinois EPA issued a permit (1995-343-LFM) which allowed for an expansion of this landfill to the east and allowed for a vertical expansion over a portion of the initially permitted disposal area.

BFI was purchased by Allied Waste Systems in May 1999, and thus became a part of Allied Waste Systems. In May 2000, the three landfills discussed above (Phase A landfill; Phase B landfill; and Site 2) were sold to Onyx. As part of this transaction, BFI retained the post-closure care responsibilities for the Phase A and Phase B landfills associated with Zion Site 1 Landfill while Onyx took over operation of the Site 2.

Onyx became a part of Veolia and Veolia sold its North American sites to Advanced Disposal Services. GFL Environmental, Inc. (GFL) acquired the site from Advanced Disposal Services in 2020-2021. Allied Waste Systems has become a part of Republic Services, Inc. BFI Waste Systems of North America, LLC, a subsidiary of Republic Services, Inc., is the operator of the Phase A landfill and is responsible for providing post-closure care of this landfill.

Zion Landfill, Inc., a subsidiary of GFL, is the owner of the Phase A and Phase B landfills and continues to own and operate Site 2. The facility boundary is approximately 318 acres. A map showing the layout of the three landfill areas within the parcel is provided in Attachment A to this Permit.

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## SECTION II: POST-CLOSURE

### A. SUMMARY

The Illinois EPA initially issued a Permit to dispose of waste in the Phase A landfill on October 30, 1976 (Permit No. 1975-53-OP). The Phase A landfill is trapezoidal in nature; it is approximately 2450 feet (ft) long from north to south. Its northern boundary is approximately 630 ft wide while its southern boundary is approximately 740 ft wide. In total, the Phase A landfill covers approximately 40 acres.

While both hazardous and non-hazardous wastes were disposed in the Phase A landfill after it began operation in 1976, the majority of the waste disposed in the landfill is non-hazardous waste. Hazardous waste ceased to be disposed of in this landfill in 1990 and in 1993 the landfill ceased receiving non-hazardous waste. From 1982 to 1990 (the time period when accurate data was maintained), approximately 232,000 tons of hazardous waste were disposed in this landfill. Closure activities for the landfill were completed in 1997 and it was formally certified closed on February 10, 1998. The Permittee has been providing post-closure care of the Phase A landfill since that time.

A minimum of 10 ft of in-situ or recompacted clay was to be present along the sidewalls and beneath the bottom of the landfill. The bottom of the landfill slopes north to south from an elevation approximately 750 ft mean sea level (MSL) to an elevation of approximately 730 ft MSL. In general, the bottom of the landfill is between 10 ft and 20 ft below the initial grade of the area where the landfill is located.

A bentonite-soil slurry wall was constructed around the southern portions of the Phase A landfill in the late 1980s and keyed into low permeable soils located beneath the subsurface. This slurry wall is present, in part, along the southern boundary of the landfill and extends approximately 330 ft from the southeast corner of the landfill north along the landfill's eastern property boundary (the average depth of this portion of the slurry wall is 25 ft). The other portion of the slurry wall extends approximately 1400 ft north of the southwest corner of the landfill along the landfill's western boundary (the average depth of this portion of the slurry wall is 35 ft).

A separate permitted solid waste landfill is located directly east of the Phase A landfill (this second landfill is Site 2, owned and operated by GFL Environmental). A minimum of 10 ft of clay soil separates this second landfill from the Phase A landfill, both below grade and above grade. The final grades of these two landfills coincide along their intersection.

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A leachate management system and a landfill gas management system have been installed in the closed Phase A landfill. Both systems use the same 28 wells to extract either leachate or landfill gas.

The collected leachate flows to an 8,000 gal above-ground tank where it is accumulated until it is shipped off-site by truck for treatment. The collected landfill gas is burned in an on-site flare.

**B. UNIT IDENTIFICATION**

1. The Permittee must provide post-closure care for the landfill, identified in the following table, and as described in the approved permit application, subject to the terms and conditions of this Permit:

| Unit Designation | Approximate Capacity                            | Approximate Surface Area (acres) |
|------------------|---|----------------------------------|
| Phase A          | 232,000 tons (approx. 177,370 yd <sup>3</sup> ) | 40                               |

2. The location and horizontal extents of the landfill is identified on the map in Appendix B-1 of the approved permit application and Attachment A. The bottom of the landfill is located at an elevation of approximately 750 ft MSL at the northern portion, sloping to 730 ft MSL at the southern end. The sidewalls were built at a 2:1 slope.
3. The bottom liner of the landfill is a 10-foot-thick in-situ clay.
4. The components of the final cover system consist of the following from bottom to top:
  - a. A minimum of two ft of compacted clay;
  - b. A 40-mil linear low-density polyethylene (LLDPE) geomembrane over the top of the landfill where the elevation ranges from approximately 790 ft MSL to 810 ft MSL (this area is approximately 450 ft (east/west) by 1770 ft (north/south) in size (approximately 18.3 acres); it begins approximately 100 ft south of the northern boundary of the landfill and is adjacent to eastern boundary of the Phase A landfill);
  - c. A geocomposite drainage layer. On the top of the landfill, this layer consisted of a polypropylene drainage grid and a non-woven geotextile (the drainage grid was placed on top of the geomembrane).

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**On the sideslopes of the landfill, this layer consisted of a polypropylene drainage grid emplaced between two non-woven geotextiles;**

- d. A minimum of 2.5 ft of protective soil layer (the upper six inches of this layer is topsoil); and
- e. A vegetative layer.

5. A survey plat indicating the location and dimensions of the Phase A landfill with respect to permanently surveyed benchmarks was prepared and certified by an Illinois professional land surveyor. The notes on the plat state the owner's and operator's obligation to restrict disturbance of the Phase A landfill in accordance with the applicable requirements in 35 IAC 724, Subpart G. These notes state:

- a. The waste materials contained in the hazardous waste disposal units are considered RCRA hazardous wastes.
- b. Any material removed from the hazardous waste disposal units during future activities must be managed as a hazardous waste in accordance with 35 IAC Subtitle G: Waste Disposal.
- c. The use of this area is restricted.

6. The Plat of Survey (PINs 03-12-200-016 and 04-07-200-013) was filed with the Lake County Recorder's Office in Waukegan, IL on January 9, 2012. The record data is File No. 6807285.

**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 hazardous waste disposal units is considered a RCRA hazardous waste;
- b. Any material removed from the hazardous waste disposal units during future activities must be managed as a hazardous waste in accordance with 35 IAC Subtitle G: Waste Disposal;
- c. Use of the area is restricted; and

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- d. A survey plat and record of the type, location, and quantity of waste material in the hazardous waste disposal unit was filed with the Illinois EPA and the County Recorder.

C. **POST-CLOSURE CARE PERIOD**

- 1. The post-closure care period for the closed Phase A landfill began February 10, 1998. Post-closure care of this landfill must continue until at least 30 years after that date.

Post-closure care shall continue to be extended for an additional 30-year period or until such time as no unacceptable risks to human health and the environment are present in the Phase A landfill, as determined by the Illinois EPA.

- 2. On or prior to February 10, 2027 (one year before February 10, 2028), the Permittee must submit a Class 2 permit modification request to the Illinois EPA in accordance with 35 IAC 703.241(a)(2) and 35 IAC 703, Appendix A, E.2, to extend the post-closure care of the Phase A landfill for an additional 30-year period or until such time as no unacceptable risks to human health and the environment are present in the Phase A landfill, as determined by Illinois EPA, as specified in Condition II.C.1.
- 3. The Illinois EPA may include restrictions upon the future use of the site if necessary to protect human health and the environment, including permanent prohibition of the use of the site for purposes which create an unreasonable risk to human health or the environment. After administrative and judicial challenges to such restrictions have been exhausted, the Illinois EPA shall file such restrictions of record in the Office of Recorder of the county in which the hazardous waste disposal site is located.
- 4. The Permittee must not allow the property where the Phase A landfill identified in Condition II.B.1 is located to be used in a way that could disturb the integrity of the final cover, berms or any other components associated with the closed landfill or the function of the facility's monitoring system, unless the Illinois EPA determines, by way of a permit modification, that such use is necessary for either of the following reasons:
  - a. Is necessary for the proposed use of the property and will not increase the potential hazard to human health or the environment; or
  - b. Is necessary to reduce a threat to human health or the environment.

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D. **INSPECTIONS**

1. The Permittee must inspect the final cover, berms, and drainage structures of the closed Phase A landfill on a quarterly basis in accordance with the procedures in Section D.3 of the approved permit application as modified by this Permit. The results of each inspection must be documented in the facility's operating record. The general inspection schedule for the Phase A landfill is provided in Attachment C.
2. Appropriate corrective action must be taken if problems, including erosion, blockage of channels, slope failure, etc. are observed at any time.

If corrective action is taken, the area involved must be reinspected one month following completion of the work to ensure the corrective actions have adequately corrected the problem(s) noted.

3. Results of all inspections and a description of any remedial actions taken must be documented in the facility's operating record and maintained for the entire post-closure care period.
4. The Permittee must maintain the integrity and effectiveness of the final cover, berms, and drainage structures of the Phase A landfill. This includes making repairs as necessary to correct the effects of settling, subsidence, erosion, etc. Corrective action must be taken if any problem listed below is encountered when inspecting the final cover, berms, and drainage structures of the landfill:
  - a. All rills, gullies, and crevices greater than six inches deep;
  - b. Depressions (ponds) and holes in the final cover;
  - c. Eroded or scoured drainage channels;
  - d. Little or no vegetation is present in an area in excess of 100 square ft in size;
  - e. Gas and/or odor problems;
  - f. Growth of vegetation with taproots;
  - g. Vectors; and
  - h. Leachate popouts or seeps.

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5. Appropriate follow-up inspections must be conducted to verify the corrective action taken adequately addresses the observed problem. In addition, the corrective action taken, and results of all follow-up inspections must be documented in the facility's operating record.
6. The Permittee must protect and maintain the surveyed benchmarks present at or near the closed Phase A landfill.
7. The Permittee must place additional warning signs (DANGER -UNAUTHORIZED PERSONNEL KEEP OUT) around the closed Phase A landfill as necessary such that one is clearly legible at any point near the perimeter of the landfill.

**E. OPERATION OF THE LEACHATE AND GAS MANAGEMENT SYSTEMS**

1. A landfill gas extraction/management system was installed within the closed Phase A landfill in 1997. This system currently consists of a blower, 28 vertical extraction wells located throughout the Phase A landfill, piping required to carry the extracted gas to a treatment unit and equipment to treat/burn the extracted landfill gas.
2. In 1998, modifications were made to the gas extraction wells mentioned above so that they could also be used to remove leachate from the landfill (i.e., submersible pumps and associated piping were placed in each of the wells). Additional piping, etc. was installed during this effort so that the extracted leachate could be routed to an above-ground tank where it is accumulated before being sent off-site for treatment.
3. Several minor modifications have been made to the leachate and landfill gas management since they were first installed. A drawing showing the current layout of these systems is provided in Appendix E-13 of the approved permit application.
4. One of the aspects of the leachate and landfill gas management systems for the Phase A landfill is the interval over which each extraction well is screened. A tabular summary of this information is as follows (\* = no leachate extraction pump present in the well; the well is only for removal of landfill gas):

| Extraction Well No. | Surface Elevation (Ft-MSL) | Approximate Screened Interval (Ft-MSL) |
|---------------------|----------------------------|--|
| EW-1                | 789.3                      | 750.4-774.3                            |
| EW-2                | 802.5                      | 748.4-781.2                            |

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| Extraction<br>Well No. | Surface Elevation<br>(Ft-MSL) | Approximate<br>Screened Interval<br>(Ft-MSL) |
|------------------------|-------------------------------|--|
| EW-3                   | 807.3                         | 747.6-780.3                                  |
| EW-4*                  | 789.0                         | 750.9-773.7                                  |
| EW-6*                  | 797.3                         | 749.3-781.2                                  |
| EW-7*                  | 799.1                         | 747.5-780.5                                  |
| EW-8                   | 798.0                         | 747.8-784.8                                  |
| EW-9                   | 795.2                         | 746.8-780.8                                  |
| EW-10                  | 812.4                         | 747.2-788.2                                  |
| EW-11                  | 799.0                         | 746.3-780.5                                  |
| EW-12                  | 797.1                         | 746.5-783.6                                  |
| EW-12A                 | 787.1                         | 751.2-776.5                                  |
| EW-13                  | 811.4                         | 744.7-788.7                                  |
| EW-14                  | 795.0                         | 744.8-780.0                                  |
| EW-15                  | 791.7                         | 743.1-777.1                                  |
| EW-16                  | 809.0                         | 745.0-787.5                                  |
| EW-17                  | 782.5                         | 742.7-767.2                                  |
| EW-18                  | 801.2                         | 741.8-779.8                                  |
| EW-19                  | 776.7                         | 740.6-760.4                                  |
| EW-20                  | 771.6                         | 739.9-753.9                                  |
| EW-21                  | 763.5                         | 740.0-749.3                                  |
| EW-22                  | 767.8                         | 739.3-750.4                                  |
| EW-23*                 | 766.4                         | 740.5-750.5                                  |
| EW-24                  | 777.7                         | 740.0-762.0                                  |
| EW-25                  | 785.9                         | 741.2-770.0                                  |
| EW-26                  | 783.2                         | 739.4-768.2                                  |
| EW-27                  | 804.6                         | 741.8-783.8                                  |

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| Extraction Well No. | Surface Elevation (Ft-MSL) | Approximate Screened Interval (Ft-MSL) |
|---------------------|----------------------------|--|
| EW-28               | 809.7                      | 744.5-789.0                            |

6. The leachate and gas management systems at the Phase A landfill must be operated, monitored, maintained, and inspected in accordance with the procedures of this Permit and Sections E.3 and E.5 of the approved permit application. Additional requirements associated with these systems are set forth in Conditions II.F, II.G, and II.H.

**F. LANDFILL GAS MONITORING PROGRAM**

The landfill gas monitoring program to be implemented for the closed Phase A landfill is set forth in Appendix E-20 of the approved permit application subject to the following conditions and modifications:

1. The five perimeter gas monitoring probes and four ambient air locations (three down-wind and one up-wind) must be sampled on an annual basis and the samples analyzed for the following parameters:
  - a. Pressure (determined before collecting any samples);
  - b. Temperature;
  - c. Methane;
  - d. Oxygen; and
  - e. Carbon Dioxide.
2. All ambient air samples must be collected: (1) no more than one inch above the ground surface; and (2) within 100 ft downwind from the edge of the unit (or at the property boundary if it is closer).
3. During the annual monitoring required in Condition II.F.1, the presence of any malodors near the sample points and beyond the property boundary must be noted in the field notes for the sampling effort. At a minimum, these notes must document that the presence of malodors was evaluated at each sampling location.

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4. The steps described in Condition II.F.5 must be carried out if any of the following occur during the required annual landfill gas monitoring program:
  - a. A methane concentration greater than 50% of the lower explosive limit in air is detected in any of the below ground monitoring devices outside the waste boundary;
  - b. A methane concentration greater than 50% of the lower explosive limit in air is detected during ambient air monitoring;
  - c. A methane concentration greater than 25% of the lower explosive limit in air is detected in any building on or near the facility; and
  - d. Malodors attributed to the unit are detected beyond the property boundary.
5. If any of the items identified in Condition II.F.4 occur, the Permittee must:
  - a. Take immediate action, as appropriate, to protect human health from the adverse conditions;
  - b. Within two business days of the occurrence, notify the Illinois EPA in writing of the occurrence, including its location and a description of its nature (quantitatively if possible);
  - c. Monitor the gas probes and ambient air monthly for a period of at least six months for the parameters set forth in Condition II.F.1. Appropriate action will have been taken when the results of the monitoring program are below all the criteria identified in Condition II.F.4; and
  - d. If the initial concentrations, described in Condition II.F.4, are consistently observed during the verification period, then within 90 days of the date of verification, the Permittee must submit a Class 1\* permit modification request which describes the changes which must be made at the landfill to remedy the problem. Until such time as the modification request is approved, the Permittee must still comply with the requirements of Conditions II.F.5.a through II.F.5.c.
6. At the end of the post-closure care period, the gas monitoring probes must be decommissioned. The probes outside the waste boundary must be decommissioned using Illinois EPA's groundwater monitoring well plugging procedures. In decommissioning probes within the waste boundary, the pipe

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must be cut off at least two ft below the compacted clay layer and plugged. The final cover in this area must then be reconstructed, as appropriate.

**G. GAS MANAGEMENT SYSTEM**

1. Except as modified in this permit, the landfill gas extraction system associated with the closed Phase A landfill must be operated, maintained, and inspected in accordance with Appendix E-21 of the approved permit application.
2. The Permittee must operate the landfill gas collection system installed in the closed Phase A landfill in such a manner that:
  - a. The criteria set forth in Condition II.F.4 are not exceeded; and
  - b. It is capable of removing landfill gas from the entire landfill.
3. The landfill gas collected from this facility is directed to a flare where it is burned.
4. The following measurements shall be made quarterly on the landfill gas flowing into the flare: flow rate, percent methane, percent oxygen and percent carbon dioxide.
5. At a minimum, all equipment and appurtenances associated with the gas management system must be inspected and maintained, as necessary on a quarterly basis.
6. The Permittee must comply with the terms and conditions of their Title V Operating Permit No. 97030064 issued by Illinois EPA's Bureau of Air in regard to emissions from the landfill and from the flare used to burn collected landfill gas.
7. Condensate from the landfill gas extraction system must be managed as a listed hazardous waste (F039). Currently, this condensate is collected and discharged into the on-site leachate collection tank.

**H. LEACHATE MANAGEMENT**

1. The leachate pumps in the extraction wells identified in Condition II.E.5 are located approximately one foot above the bottom of the well. These pumps automatically turn on when the leachate level is approximately 3.5 ft above the bottom of the pump.
2. A manhole/sump is present just outside the southwest corner of the landfill

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which receives leachate from the original leachate collection trenches installed along the perimeter of the landfills base. The bottom of this sump is at an elevation of approximately 726 ft MSL. A pump similar to that described above is present in the sump and its intake is located approximately one foot above the bottom of the sump/manhole.

3. The level of leachate in each extraction well and the manhole/sump (relative to MSL) must be monitored on a quarterly basis.
4. The total amount of leachate removed from the site shall be determined on a quarterly basis. This determination must be made using the reported leachate loads removed from the tank each quarter. The counter devices associated with each extraction pump will be read on a quarterly basis to determine if the pumps are working.
5. A record of the date each load of leachate is sent off-site for treatment must be maintained in the operating record, as well as the volume shipped. In maintaining this record, adjustments must be made for the amount of gas condensate generated and transferred to the leachate accumulation tank.
6. Prior to shipping a load of leachate off-site for treatment, a sample must be collected and analyzed for:
  - a. Five-day biological oxygen demand (BOD<sub>5</sub>);
  - b. Chemical Oxygen demand;
  - c. Total solids;
  - d. Total suspended solids;
  - e. Dissolved solids;
  - f. Total iron;
  - g. pH;
  - h. The groundwater monitoring constituents set forth in Lists G1 and G2 of Condition III.D.1 of this Permit;
  - i. Any other parameters deemed necessary by the facility receiving the leachate for treatment.

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**The results of this sampling/analysis effort must be documented in the facility's operating record.**

7. **A sample of leachate must be collected from an extraction well within the landfill annually and analyzed for the constituents set forth in 35 IAC 811, Appendix C.**
  - a. **The four extraction wells EW-2, EW-6, EW-20, and EW-24 must be used for leachate sampling on a rotating basis.**
  - b. **The following order must be used annually; (1st) EW-2; (2nd) EW-6; (3<sup>rd</sup>) EW-20; (4<sup>th</sup>) EW-24; and then it will start over.**

**The results of this sampling/analysis effort must be documented in the facility's operating record and submitted electronically to the Illinois EPA.**

8. **Leachate sample analysis in Conditions II.H.6 and II.H.7 must be in accordance with the latest promulgated version of USEPA's "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods", Third Edition (SW-846) and finalized updates for the applicable analytical methods.**
9. **The Permittee must continue to operate the leachate collection and removal system throughout the post-closure care period until pumpable quantities of leachate are no longer present.**

**I. MONITORING, MAINTENANCE, AND RECORDKEEPING**

1. **The Permittee must keep and maintain a written operating record that includes all the records, reports, notifications, monitoring data, testing or analytical data, and corrective action data required by 35 IAC 724.173 and the conditions in this Permit, for the entirety of the post-closure care period.**  
**The operating record must be maintained at this facility and be available for the Illinois EPA review.**
2. **The Permittee must comply with the requirements for landfills described in the approved permit application and the conditions of this Permit as follows:**
  - a. **The Permittee must maintain the integrity and effectiveness of the final cover, berms, and drainage structures of the Phase A landfill. This includes making repairs as necessary to correct the effects of settling, subsidence, erosion, cracking or other events. Corrective action must be taken if any problem listed below is encountered when inspecting the final cover, berms, and drainage structures of the landfill:**

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- i. All rills, gullies, and crevices greater than six inches deep;
  - ii. Depressions (ponds) and holes in the final cover;
  - iii. Eroded or scoured drainage channels;
  - iv. Little or no vegetation is present in an area in excess of 100 square ft in size;
  - v. Gas and/or odor problems;
  - vi. Growth of vegetation with taproots;
  - vii. Vectors; and
  - viii. Leachate popouts or seeps.
- b. Continue to operate the landfill leachate/gas collection and removal systems until the volume of leachate is such that leachate can no longer be removed from the systems.
- c. Prevent run-on and run-off from eroding or otherwise damaging the final cover. At a minimum the run-on control system must be capable of preventing flow onto the landfill area during peak discharge from a 24-hour, 25-year storm event. At a minimum the run-off control system must be capable of collecting and controlling the volume of water resulting from a 24-hour, 25-year storm event.
- d. Maintain and monitor the groundwater monitoring systems and comply with all other applicable requirements of 35 Ill. Adm. Code 724, Subpart F (Groundwater Protection) during the post-closure care period.
- e. Protect and maintain surveyed benchmarks used in complying with surveying and recordkeeping requirements.
- f. The Permittee must place additional warning signs (DANGER -UNAUTHORIZED PERSONNEL KEEP OUT) around the closed Phase A landfill as necessary such that one is clearly legible at any point near the perimeter of the landfill.

J. **REPORTING AND NOTIFICATION REQUIREMENTS**

1. **By March 1<sup>st</sup> of each year, the Permittee must submit a report to the Illinois EPA which summarizes the post-closure care activities completed during the previous calendar year. This report should contain:**
  - a. **Background information about the facility and a general discussion of the post-closure care activities carried out during the year;**
  - b. **Dates quarterly inspections were conducted and copies of completed inspection checklists (these inspections include those required by Condition II.D.5);**
  - c. **A general discussion of the observations from the quarterly inspections. Problems observed during the quarterly inspections must also be discussed and documentation must be provided regarding actions taken to correct the problem;**
  - d. **A discussion of all maintenance activities carried out during the year, including mowing the vegetative cover over the landfill;**
  - e. **The results of the landfill gas monitoring required by Condition II.F.2 and the action taken if any exceedances identified in Condition II.F.4 occur;**
  - f. **Information regarding the landfill gas being sent to the flare as required by Condition II.G.3;**
  - g. **Identification of any time periods when either the leachate or gas management systems were not operating or not operating properly; and**
  - h. **Information regarding the leachate management program being carried out:**
    - i. **The information required by Condition II.H.5 as it relates to the amount of leachate sent off-site throughout the year;**
    - ii. **The amount of leachate removed from each leachate extraction well during the year as required by Condition II.H.4;**
    - iii. **The level of leachate observed each quarter in each leachate extraction well as required by Condition II.H.3; and**
    - iv. **The results of the analyses conducted on leachate as required by Conditions II.H.6 and II.H.7.**

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- i. An evaluation of the data collected for the leachate and gas management programs at the facility to determine if they are operating effectively.
- j. Recommended changes which should be made to the leachate or gas management units to increase their effectiveness in removing leachate or landfill gas from the landfill.

**K. CONTACT INFORMATION/REQUIREMENTS**

- 1. This Permit sets forth requirements which the Permittee must carry out at the facility whose address is:

**Zion Landfill Site 1  
701 North Green Bay Road  
Zion, Illinois 60099**

- 2. The contact person for the operator, BFI Waste Systems of North America, LLC is:

**James W. Hitzeroth  
26 W. 580 Schick Road  
Hanover Park, Illinois 60133  
Telephone No.: 630/894-5001  
e-mail address: [JHitzeroth@republicservices.com](mailto:JHitzeroth@republicservices.com)**

- 3. The contact person for the owner, Zion Landfill, Inc. is:

**Brad Stenzel  
GFL Environmental, Inc.  
701 North Green Bay Road  
Zion, Illinois 60099-9564  
Telephone No.: 847/623-3870**

- 4. A copy of this Permit and associated approved permit application must be maintained: (1) at this facility; and (2) by Mr. Hitzeroth.

- 5. Requests to change the contact persons identified above must be submitted as a Class 1 permit modification request to the Illinois EPA within five days after the change is made.

**L. NOTICES AND CERTIFICATION**

- 1. The Permittee must submit a request for permit modification to change any aspect of the approved post-closure plan, as modified by the conditions of this Permit. The request must be in accordance with the applicable requirements of 35 IAC Parts 702,

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703, 705, and 724 and must include a copy of the amended post-closure plan for approval by the Illinois EPA. The request must be submitted at least 180 days prior to the date that the change is needed. Post-closure care of the landfill must be in accordance with the conditions of this Permit until such time as the proposed modification is properly incorporated into the facility's RCRA permit.

2. If the Permittee or any subsequent owner or operator of the land upon which a hazardous waste disposal unit is located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, or contaminated soils, a modification to this Permit in accordance with the applicable requirements in 35 IAC Parts 703, 705, and 724 must be submitted for the Illinois EPA's review and approval at least 180 days prior to the date they wish to remove the materials. The owner or operator must, at a minimum, demonstrate that the removal of hazardous wastes will satisfy the criteria of 35 IAC 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 leachate removed, 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 a proposed Environmental Covenant (EC) for the future land use and long-term management of the property on which the closed landfill unit is located. The proposed EC shall 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 shall be pursuant to a consent order between the Permittee and the State of Illinois and in the format specified by the Illinois EPA.

4. If the Permittee seeks to end 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 the closed Phase A landfill.

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- a. A properly completed Certification of Completion of Post-Closure that states the post-closure care for the landfill 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.
- b. A Post-Closure Documentation Report that documents the post-closure care conditions and activities at the facility during the post-closure care period. The Post-Closure Documentation Report must include the following:
  - i. Background information about the facility and the unit subject to the post-closure care 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. 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.
    6. 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 significant problems and/or major repairs (e.g., when a Construction Acceptance Report is submitted to the

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Illinois EPA) to these systems that were addressed over the post-closure care period in chronological order. Show the locations of each of the major 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 care period and every five years after that. The facility must have complied with all requirements of 35 IAC Parts 620 and 724 in order to certify completion of post-closure care activities.
- v. Color photos of unit 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 LPC-PA23 Form.

c. Documentation that the EC required by Condition II.L.3 has been placed on the deed to the property on which the landfill area is located and has been filed with the County Recorder's Office.

5. The certification of completion of post-closure care shall not be approved by the Illinois EPA until the Permittee demonstrated that the EC required by Condition II.L.3 has been properly filed with the appropriate governmental office (e.g., State of Illinois, or County Recorder's office).

6. Illinois EPA shall notify the owner or operator that it is no longer required to maintain financial assurance for post-closure care of the unit in accordance with 35 IAC 724.220 and 724.245(i) within 60 days after receiving an approvable application and certifications from the owner and operator and a qualified Illinois licensed Professional Engineer that the post-closure care has been completed in accordance with the approved post-closure plan. Should the Illinois EPA determine that post-closure care has not been in accordance with the approved post-closure plan and conditions of this Permit, 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 and conditions of this Permit.

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**M. FINANCIAL ASSURANCE FOR POST-CLOSURE CARE**

- 1. The Permittee must maintain financial assurance for post-closure care of the Phase A landfill of at least \$4,571,652 (currently approved cost estimate in 2024 dollars) until such time as it is required to be modified pursuant to Condition V.D.3. This amount must be adjusted annually for inflation. Financial assurance meeting the requirements of 35 IAC 724, Subpart H must be maintained for post-closure care of the closed Phase A landfill.**
  
- 2. Post-closure care costs are determined by multiplying annual costs by the full 30-year post-closure care period.**

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### SECTION III: GROUNDWATER DETECTION MONITORING PROGRAM

#### A. SUMMARY

Groundwater parameters monitored in the uppermost aquifer below the facility indicate that, at the present time, no groundwater impacts have occurred. Therefore, a Groundwater Detection Monitoring Program meeting the requirements of 35 IAC 724.198 must be implemented at the facility. Phase A of the Zion Site 1 Landfill has 11 existing monitoring wells which monitor the interglacial sand unit at a depth of approximately 100 feet (ft) below ground surface (bgs).

#### B. IMPLEMENTATION

1. The Permittee must implement the Groundwater Detection Monitoring Program upon the effective date of this Permit. On that date, the groundwater monitoring requirements set forth in this Permit shall supersede those previously established.

The Permittee shall carry out the detection monitoring specified in this Permit on the groundwater beneath Phase A of the Zion Site 1 Landfill facility in Zion, Illinois. The uppermost aquifer in the vicinity of the facility has been identified as interglacial sand deposits. For the purpose of this Permit and in accordance with the 35 IAC Part 620 regulations, the uppermost aquifer has been designated Class I: Potable Resource Groundwater. "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.

2. The Point of Compliance, defined as the vertical surface located at the hydraulically downgradient limit of the waste management area that extends down into the uppermost aquifer underlying the regulated unit, is delineated by the wells identified as the point of compliance wells in Condition III.C.1 and illustrated in Figure E-1 of the approved permit application.

#### C. WELL LOCATION AND CONSTRUCTION

1. The Permittee must install and maintain groundwater monitoring wells and piezometers at the locations specified in the table below to allow for the collection of groundwater samples and elevations from the shallow zone and uppermost aquifer. The locations of these wells are specified in Figure E-1 of the approved permit application.

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| <b>IEPA<br/>Well<br/>No.</b>            | <b>Facility<br/>Well<br/>No.</b> | <b>Well<br/>Depth<br/>(Ft-bgs)</b> | <b>Well Depth<br/>Elevation<br/>(Ft-MSL)</b> | <b>Well Screen<br/>Interval<br/>(Ft-MSL)</b> | <b>State Plane<br/>Coordinates<br/>(Northing/Easting)</b> |
|---|----------------------------------|------------------------------------|--|--|---|
| <b><u>Background Wells</u></b>          |                                  |                                    |  |  |   |
| G121                                    | G121                             | 102.0                              | 627.0  | 632.0-627.0                                  | 2118052.00N<br>1105338.00E                                |
| R123                                    | R123                             | 122.6                              | 640.4  | 645.6-640.4                                  | 2120132.00N<br>1106426.00E                                |
| R136                                    | R136                             | 113.8                              | 634.2  | 644.5-634.7                                  | 2118277.00N<br>1106162.00E                                |
| R127                                    | R127                             | 112.2                              | 650.9  | 656.1-651.4                                  | 2118819.00N<br>1106043.00E                                |
| <b><u>Point of Compliance Wells</u></b> |                                  |                                    |  |  |   |
| R124                                    | R124                             | 153.4                              | 634.8  | 644.8-634.8                                  | 2119943.00N<br>1106905.00E                                |
| R126                                    | R126                             | 159.4                              | 648.4  | 658.4-648.4                                  | 2119368.00N<br>1106907.00E                                |
| R128                                    | R128                             | 155.2                              | 647.7  | 652.7-647.7                                  | 2119635.00N<br>1106903.00E                                |
| C129                                    | C129                             | 168.1                              | 644.4  | 649.6-644.9                                  | 2119123.00N<br>1106905.00E                                |
| G131                                    | G131                             | 161.3                              | 649.8  | 654.8-649.8                                  | 2118637.00N<br>1106910.00E                                |
| G132                                    | G132                             | 167.9                              | 637.3  | 647.3-637.3                                  | 2118361.00N<br>1106904.00E                                |
| R133                                    | R133                             | 119.7                              | 639.0  | 649.0-639.0                                  | 2117947.00N<br>1106954.00E                                |

**Note:** "Ft-bgs" refers to feet below ground surface and "Ft-MSL" refers to feet above mean sea level.

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2. Construction of each monitoring well/piezometer must be in accordance with the "Monitoring Well Diagram" and "Well Completion Report" forms located on the Illinois EPA website, unless otherwise approved in writing by the Illinois EPA. All new monitoring wells/piezometers to be installed must be continuously sampled and logged on Illinois EPA boring logs contained in the "Field Boring Log" form on the Illinois EPA website, 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.C.1 are damaged, or the structural integrity has been compromised. A proposal for the replacement of the subject well shall accompany this notification. The well shall 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. Prior to replacing the subject well, the Permittee must obtain written approval from the Illinois EPA regarding the proposed installation procedures and construction.
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 geologic zone as the existing well and be constructed in accordance with the current Illinois EPA groundwater monitoring well construction standards at the time the wells are replaced. A well which is more than 10 feet from the existing well or does not monitor the same geologic zone must be approved by the Illinois EPA and designated as a new well.
5. The Permittee must submit boring logs, construction diagrams, and data sheets from 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 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  
Post Office Box 19276  
Springfield, Illinois 62794-9276

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6. All wells/piezometers shall be clearly identified and shall be equipped with protective caps and locks. Monitoring wells or piezometers located in high traffic areas must be protected with bumper guards or other alternate barriers.
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 IAC Part 920 regulations. Monitoring wells and piezometers that are improperly constructed must be abandoned in accordance with Condition III.C.3.

**D. MONITORING PARAMETERS**

1. The Permittee must determine groundwater quality at each groundwater monitoring well identified in Condition III.C.1, at both background and point of compliance locations, semi-annually during the active life (including closure and post-closure care period) of the landfill. Samples collected during the semi-annual and annual sampling events of each year must be analyzed for the field parameters and hazardous waste constituents below. Total (unfiltered) values must be used for comparison with background quality standards. Dissolved (filtered) must be used for statistical analysis.

**List G1 – Semi-Annual Groundwater Sampling**

| <u>Field Parameters</u>                        | <u>STORET Number</u> | <u>Reporting Units</u> |
|--|----------------------|------------------------|
| pH *   | 00400                | Standard Units         |
| Specific Conductance **                        | 00094                | micromos/cm            |
| Temperature of Water Sample                    | 00011                | (°F)                   |
| Turbidity                                      | 45626                | Ntus                   |
| Depth to Water (below land surface)            | 72019                | Ft                     |
| Depth to Water (below measuring point)         | 72109                | Ft                     |
| Elevation of Bottom of Well#                   | 72020                | Ft-MSL                 |
| Elevation of Groundwater Surface               | 71993                | Ft-MSL                 |
| Elevation of Measuring Point (top of casing)## | 72110                | Ft-MSL                 |

# Must be determined once every five years during the annual sampling event in accordance with Condition III.F.3.

## Must be surveyed once every five years, or at the request of the Illinois EPA, or whenever the elevation changes as required by Condition III.F.2.

\* Background Groundwater Quality values (BGQs) for pH in well G131 (8.45-10.23) and well G132(8.03-9.64).

\*\* BGQs for specific Conductance in Well R126 (2495 micromos/cm).

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**SITE SPECIFIC CONSTITUENT INFORMATION**

| <u>Parameters</u>         | <u>STORET<br/>Number</u> | <u>BGQs (ug/L)</u> |
|---------------------------|--------------------------|--------------------|
| Acetone                   | 81552                    | 100                |
| Acrolein                  | 34210                    | 25                 |
| Acrylonitrile             | 34215                    | 10                 |
| Benzene                   | 34030                    | 5                  |
| Bromodichloromethane      | 32101                    | 5                  |
| Bromoform                 | 32104                    | 5                  |
| Bromomethane              | 34413                    | 5                  |
| Carbon Tetrachloride      | 32102                    | 5                  |
| Chlorobenzene             | 34301                    | 5                  |
| Chloroethane              | 34311                    | 10                 |
| 2-Chloroethyl Vinyl Ether | 34576                    | 10                 |
| Chloroform                | 32106                    | 5                  |
| Chloromethane             | 34418                    | 10                 |
| 1,1-Dichloroethane        | 34496                    | 5                  |
| 1,2-Dichloroethane        | 34531                    | 5                  |
| 1,1-Dichloroethene        | 34501                    | 5                  |
| trans-1,2-Dichloroethene  | 34546                    | 5                  |
| 1,2-Dichloropropane       | 34541*                   | 5                  |
| cis-1,3-Dichloropropene   | 34704                    | 5                  |
| trans-1,3-Dichloropropene | 34699                    | 5                  |
| 1,4-Dioxane               | 81582                    | 120                |
| Ethyl Benzene             | 78113                    | 5                  |
| Isobutyl Alcohol          | 77033                    | 100                |
| Methylene Chloride        | 34423                    | 5                  |
| Pyridine                  | 77045                    | 5                  |
| 1,1,2,2-Tetrachloroethane | 34516                    | 5                  |
| Toluene                   | 34010                    | 5                  |
| 1,1,1-Trichloroethane     | 34506                    | 5                  |
| 1,1,2-Trichloroethane     | 34511                    | 5                  |
| Trichloroethene           | 39180                    | 5                  |
| Vinyl Chloride            | 39175                    | 2                  |
| 1,2-Dichlorobenzene       | 34536                    | 10                 |
| 1,3-Dichlorobenzene       | 34566                    | 10                 |
| 1,4-Dichlorobenzene       | 34571                    | 10                 |
| Hexachlorobutadiene       | 39702                    | 10                 |
| Hexachloroethane          | 34396                    | 10                 |
| Naphthalene               | 34696                    | 10                 |

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| <u>Parameters</u>      | <u>STORET</u> | <u>BGQs (ug/L)</u> |
|------------------------|---------------|--------------------|
| <u>Number</u>          |               |                    |
| Nitrobenzene           | 34447         | 10                 |
| 1,2,4-Trichlorobenzene | 34551         | 10                 |

List G2 – Annual Groundwater Sampling

| <u>Parameters</u>    | <u>STORET</u> | <u>BGQs (ug/L)</u> |
|----------------------|---------------|--------------------|
| <u>Number</u>        |               |                    |
| Barium (dissolved)   | 01005         | 1000               |
| Barium (total)       | 01007         | 1000               |
| Cadmium (dissolved)  | 01025         | 2                  |
| Cadmium (total)      | 01027         | 3                  |
| Chromium (dissolved) | 01030         | 10                 |
| Chromium (total)     | 01034         | 10                 |
| Cyanide (dissolved)  | 00723         | 5                  |
| Cyanide (total)      | 00720         | 5                  |
| Lead (dissolved)     | 01049         | 5                  |
| Lead (total)         | 01051         | 5                  |
| Mercury (dissolved)  | 71890         | 0.2                |
| Mercury (total)      | 71900         | 0.2                |
| Nickel (dissolved)   | 01065         | 100                |
| Nickel (total)       | 01067         | 100                |

Note: All constituents with "dissolved" labeled to the right must be determined using groundwater samples which have been filtered through a 0.45-micron filter and used for statistical purposes. All other parameters must be determined from unfiltered samples.

\* = The STORET number and name previously used for 1,2-Dichloropropane was Dichloropropane (1,2) and STORET 31541.

2. The Permittee must establish background values in accordance with the procedures specified in the approved permit application as well as the following procedures:
  - a. Background groundwater quality for a monitoring parameter or constituent must be based on data from four consecutive sampling events of the upgradient groundwater monitoring wells for two years.

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- b. For those monitoring parameters or constituents not detected above the Lower Limit of Quantitation (LLOQ) during background gathering, the LLOQ must be the established background value.
3. Alternate concentration limits may be established where the Permittee can determine a constituent will not pose a substantial hazard to human health or the environment.
  - a. Where a hazardous constituent has a standard in 35 IAC Part 620, the facility must apply for an adjusted standard as outlined in Section 28.1 of the Environmental Protection Act.
  - b. For those hazardous constituents without a 35 IAC Part 620 standard, the alternative concentration limit(s) proposed by the facility must be approved by the Illinois EPA.

**E. DETECTION MONITORING PROGRAM**

1. The Permittee must determine groundwater quality at each monitoring well identified in Condition III.C.1 semi-annually and annually during the active life of the regulated unit (including the closure and post-closure care periods) for constituents found in Condition III.D.1. The Permittee must express the groundwater quality at each monitoring well in a form necessary for the determination of statistically significant changes (i.e. means, variances, etc.).
2. The Permittee must determine the groundwater flow rate and direction in the uppermost aquifer semi-annually, and report to the Illinois EPA at least annually from monitoring wells identified in Condition III.C.1
3. The Permittee must determine whether there is a statistically significant increase, (and/or decrease in the case of pH) over the background values established for each parameter identified in Condition III.D.1 each time groundwater quality is determined at each well. In determining whether such a change has occurred, the Permittee must compare groundwater quality at each monitoring well identified in Condition III.C.1 to the background value derived in accordance with the statistical procedures specified in the approved permit application.

**F. GROUNDWATER ELEVATION**

1. The Permittee must determine the groundwater surface elevation referenced to MSL at each well each time groundwater is sampled in accordance with Condition III.I.3.
2. The Permittee must determine the surveyed elevation of "stick-up" referenced to MSL when the well is installed (with as-built diagrams) and every five years; or at the request of the Illinois EPA; or whenever the elevation changes in accordance with Condition III.I.5. "Stick-up" refers to the height of the referenced survey datum. This point is determined within  $\pm$  0.01 foot in relation to mean seal level, which in turn is established by referenced to an established National Geodetic Vertical Datum.
3. Elevation, as referenced to MSL, of the bottom of each monitoring well (STORET 72020), is to be reported once every five years, or whenever the pumps are removed from the well for maintenance; or at the request of the Illinois EPA; or whenever the elevation changes in accordance with Condition III.I.6. The mandatory measurement shall be taken during the annual sampling events.

**G. SAMPLING AND ANALYTICAL PROCEDURES**

1. The Permittee must use the techniques and procedures described in the approved permit application except as modified, when obtaining and analyzing samples from the groundwater monitoring wells described in Condition III.C.1:
  - a. Samples must be collected by the techniques described in the approved permit application.
  - b. Samples must be preserved and shipped (when shipped off-site for analysis) in accordance with the procedures specified in the approved permit application.
  - c. Samples must be analyzed in accordance with the procedures specified in the approved permit application. Groundwater analysis must be in accordance with the most current version of the applicable methods found in USEPA's "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," Third Edition (SW-846) and finalized updates.
  - d. Samples must be tracked and controlled using the chain-of-custody procedures specified in the approved permit application.

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**H. STATISTICAL PROCEDURES**

**When evaluating the monitoring results in accordance with Condition III.E, the Permittee must use the following procedure:**

- 1. The statistical methods to be used must be as specified in Section C.6.7 and Section C.6.8 of the approved permit application.**
- 2. Analytical data must be compared to the parameter background values established in Condition III.D.1 as outlined in Section C.6.8 of the approved permit application.**
- 3. The establishment of background values must utilize the LLOQ as required by 35 IAC Part 620.**

**I. REPORTING AND RECORDKEEPING**

- 1. The Permittee must enter all monitoring, testing, and analytical data obtained in accordance with Conditions III.D, III.E, III.F, III.G, and III.H in the facility's operating record. The data must include all computations, calculated means, variances, t-statistic values, and t-statistic results 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 III.D, III.E, III.F and III.H must be collected and reported, as identified in the included table. All additional information required by the groundwater monitoring program (as specified in Conditions III.D, III.E, III.F, III.H) must also be submitted to the Illinois EPA at the address listed in Condition III.C.5 in accordance with this schedule.**

| <b>Samples to be<br/>Collected During<br/><u>The Months of</u></b>  | <b>Results Submitted<br/>to the Illinois EPA<br/><u>by the Following</u></b> | <b><u>Parameters</u></b> |
|---|--|--------------------------|
| April – May   | July 15  | List G1 and G2           |
| October – November  | January 15   | List G1                  |
| <b>3. Groundwater surface elevation data measured pursuant to Condition III.F.1 must be collected semi-annually and submitted to the Illinois EPA according to the schedule in Condition III.I.2.</b> |  |                          |

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4. The Permittee must report the groundwater flow rate and direction in the uppermost aquifer as required by Condition III.E.2 during the annual sampling event of the year.
5. The Permittee must report the surveyed elevation, as required by Condition III.F.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 III.C.1, every five years (during the annual sampling event); 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 five years (during the annual sampling event), 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.C.1, as referenced to MSL, is to be reported annually without dedicated pumps; every five years with dedicated pumps or whenever the pump is pulled. This measurement must be taken during the annual sampling event (STORET 72020) in accordance with Condition III.F.3.
7. Information required by Conditions III.I.2, III.I.3, III.I.5 and III.I.6 must be submitted in an electronic format. The information is to be submitted, as fixed-width text files formatted as found in the form, "Formatting Requirements for the 01 (and 02) Record of the Electronically Submitted Groundwater and Leachate Data" (LPC 160) located on the Illinois EPA webpage titled, "Electronic Reporting of Groundwater Data," and in accordance with the schedule found in Condition III.I.2. Additional guidance regarding the submittal of the information in an electronic format can be found on the Illinois EPA website.
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 this Permit for identification purposes. Only one copy of the LPC-592 with wet signatures must accompany the submittal. However, the Permittee must submit one original copy of each notice or report submitted to the Illinois EPA in paper format and (excluding the groundwater and leachate monitoring results submitted in an electronic format) a minimum of two copies of each notice or report (one addressed to the Bureau of Land Permit Section, and one addressed to the regional Field Operation Section). The Form is not to be used for permit modification requests.

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9. The Permittee must report all information to the Illinois EPA in a form which can be easily reviewed. All submittals must contain tables of data drawings and text (as necessary) to accurately describe the information contained in the submittal.
10. If the Permittee determines, pursuant to Condition III.E.4, that there is a statistically significant change for any of the parameters specified in Condition III.D.1 at any monitoring well at the compliance point, the Permittee must:
  - a. Notify the Illinois EPA in writing indicating which parameters and wells have shown statistically significant increases and provide all statistical calculations. This notification must be submitted to the Illinois EPA within seven days of the date that the increases are discovered.
  - b. Sample the groundwater in all wells listed in Condition III.C.1 and determine the concentration of all constituents identified in 35 IAC 724, Appendix I, and 35 IAC Part 620 to determine whether constituents are present, and if so, at what concentration. The results will accompany the permit modification required by Condition III.I.10.d.
  - c. For any 35 IAC 724, Appendix I, and Part 620 constituents found in the analysis pursuant to condition III.I.10.b, the Permittee may resample within one month and repeat the analysis for those compounds detected. If results of the 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 the initial 35 IAC 724, Appendix I, and 35 IAC Part 620 analysis will form the basis for compliance monitoring.
  - d. Submit to the Illinois EPA an application for a permit modification to establish a compliance monitoring program meeting the requirements of 35 IAC 724.199. The application must be submitted to the Illinois EPA within 90 days of the date that the increase is discovered. Furthermore, the application must include the following information:
    - i. An identification of the concentration of any 35 IAC 724, Appendix I, and 35 IAC Part 620 constituents found in the groundwater at each monitoring well at the point of compliance;
    - ii. Any proposed changes to the groundwater monitoring system at the facility necessary to meet the requirements 35 IAC 724.199;

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- 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 IAC 724.199; and
- iv. For each hazardous constituent found at the compliance point, a proposed concentration limit under 35 IAC 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 IAC 724.194(b).

e. Submit to the Illinois EPA a corrective action feasibility plan to meet the requirements of 35 IAC 724.200 unless the concentrations of all hazardous constituents identified under Condition III.I.10.b are listed in 35 IAC 620.410 and their concentrations do not exceed the respective concentration limit values given in that table or the Permittee has sought an alternate concentration limits under Condition III.I.10.d.iv for every hazardous constituent identified under Condition III.I.10.b. This plan must be submitted to the Illinois EPA within 180 days of the date the increases is discovered.

f. Submit to the Illinois EPA all data necessary to justify any alternate concentration limit for a hazardous constituent sought under Condition III.I.10.d.iv. This plan must be submitted to the Illinois EPA within 180 days of the date the increases is discovered.

11. If the Permittee determines, pursuant to Condition III.E.4, that there is a statistically significant increase above the background values for the parameters specified in Condition III.D.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 evaluation. The Permittee must submit a permit modification application in accordance with Condition III.I.10.d unless the demonstration successfully shows that a source other than the regulated unit caused the increase or that the increase resulted from errors in sampling, analysis or evaluation and the Illinois EPA concurs.

To make this demonstration, the Permittee must:

- a. Notify the Illinois EPA in writing that they intend to make this demonstration. This notification must be submitted to the Illinois EPA within seven days of the date that the increase is discovered.

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- b. 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. This report must be submitted within 90 days of the date that the increase is discovered.
- c. Submit to the Illinois EPA an application to make any appropriate changes to the Groundwater Detection Monitoring Program. This application must be submitted within 90 days of the date that the increase is discovered.
- d. Continue to monitor in accordance with the detection monitoring program at the facility.

J. **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 IAC 724.198, the Permittee must, within 90 days, submit an application for a permit modification to the Illinois EPA Bureau of Land, Permit Section, 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 IAC 705.128 if there is cause for such modification, as defined in 35 IAC 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.

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**SECTION III-A: SHALLOW ZONE OBSERVATION MONITORING PROGRAM**

**A. SUMMARY**

In addition to the Groundwater Detection Monitoring Program utilized to monitor the uppermost aquifer at the facility, Zion Site 1 Phase A Landfill has two existing wells to monitor groundwater in the shallow groundwater zone at the facility. These groundwater monitoring wells are intended to detect any releases from the landfill to the shallow groundwater zone that could potentially impact the uppermost aquifer at the facility.

**B. IMPLEMENTATION**

1. The Permittee shall implement the Shallow Zone Observation Monitoring Program upon the effective date of this permit. On that date, the shallow zone observation monitoring requirements set forth in this Permit shall supersede previously established requirements.
2. The Permittee must carry out the shallow zone observation monitoring specified in this Permit on the groundwater beneath the Zion Site 1 Phase A Landfill. For the purpose of this Permit the shallow zone consists of discontinuous sand and silt lenses.

**C. WELL LOCATION AND CONSTRUCTION**

1. The Permittee must install and maintain groundwater monitoring wells at the locations specified on the map presented in the approved permit application and in conformance with the following list:

| <u>Well<br/>No.</u> | <u>Well Depth<br/>top of Inner<br/>Casing (ft)</u> | <u>Well Bottom<br/>Elevation (ft-MSL)</u> | <u>Well Screen<br/>Interval (ft-MSL)</u> |
|---------------------|--|---|--|
| GT02                | 33.4   | 712.3                                     | 717.3-712.3                              |
| GT05                | 54.4   | 707.9                                     | 712.9-707.9                              |

2. Construction of each new monitoring well/piezometer must be in accordance with the "Monitoring Well Diagram" and "Well Completion Report" forms located on the Illinois EPA website, unless otherwise approved in writing by the Illinois EPA. All new monitoring wells/piezometers to be installed must be continuously sampled and logged on Illinois EPA boring logs contained in the

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"Field Boring Log" form on the Illinois EPA website, 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-A.C.1 are damaged or the structural integrity has been compromised. A proposal for the replacement of the subject well 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. Prior to replacing the subject well, the Permittee must obtain written approval from the Illinois EPA regarding the proposed installation procedures and construction.
4. Should any well become consistently dry or unserviceable, a replacement well must be provided within 10 ft of the existing well. This well must monitor the same geologic zone as the existing well and be constructed in accordance with the current Illinois EPA groundwater monitoring well construction standards at the time the wells are replaced. A well which is more than 10 ft from the existing well or does not monitor the same geologic zone must be approved by the Illinois EPA and designated as a new well.
5. The Permittee must submit boring logs, construction diagrams, and data sheets from 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 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  
Post Office Box 19276  
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 or other alternate barriers.

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7. All wells/piezometers not utilized in the approved groundwater monitoring system, but retained by the facility, must be constructed, and maintained in accordance with 77 IAC Part 920 regulations. Monitoring wells and piezometers that are improperly constructed must be abandoned in accordance with Condition III-A.C.3.

**D. MONITORING PARAMETERS**

1. The Permittee must determine groundwater quality at the monitoring wells identified in III-A.C.1, semi-annually and annually during the active life (including closure and post-closure care period) of the landfill. Samples collected during the semi-annual and annual sampling events of each year must be analyzed for the field parameters and hazardous waste constituents below. Total (unfiltered) values must be used for comparison with groundwater quality standards. Dissolved (filtered) must be used for statistical analysis.

List G1 – Semi-Annual Groundwater Sampling

| <u>Field Parameters</u>                        | <u>STORET Number</u> | <u>Reporting Units</u> |
|--|----------------------|------------------------|
| pH *   | 00400                |                        |
| Specific Conductance **                        | 00094                | micromos/cm            |
| Temperature of Water Sample                    | 00011                | (°F)                   |
| Turbidity                                      | 45626                | Ntus                   |
| Depth to Water (below land surface)            | 72019                | Ft                     |
| Depth to Water (below measuring point)         | 72109                | Ft                     |
| Elevation of Bottom of Well#                   | 72020                | Ft-MSL                 |
| Elevation of Groundwater Surface               | 71993                | Ft-MSL                 |
| Elevation of Measuring Point (top of casing)## | 72110                | Ft-MSL                 |

# Must be determined once every five years during the annual sampling event in accordance with Condition III-A.F.3.

## Must be surveyed once every five years, or at the request of the Illinois EPA, or whenever the elevation changes as required by Condition III-A.F.2.

\* BGQs for pH in well GT02 (6.80-7.52) and well GT05 (6.67-7.65).

\*\* BGQs for Specific Conductance in Well GT02 (2098 micromos/cm) and well GT05 (4142 micromos/cm).

| <u>Parameters</u> | <u>STORET Number</u> | <u>BGQs (ug/L)</u> |
|-------------------|----------------------|--------------------|
| Acetone           | 81552                | 100                |
| Acrolein          | 34210                | 25                 |
| Acrylonitrile     | 34215                | 10                 |
| Benzene           | 34030                | 5                  |

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| <u>Parameters</u>         | <u>STORET<br/>Number</u> | <u>BGQs (ug/L)</u> |
|---------------------------|--------------------------|--------------------|
| Bromodichloromethane      | 32101                    | 5                  |
| Bromoform                 | 32104                    | 5                  |
| Bromomethane              | 34413                    | 5                  |
| Carbon Tetrachloride      | 32102                    | 5                  |
| Chlorobenzene             | 34301                    | 5                  |
| Chloroethane              | 34311                    | 10                 |
| 2-Chloroethyl Vinyl Ether | 34576                    | 10                 |
| Chloroform                | 32106                    | 5                  |
| Chloromethane             | 34418                    | 10                 |
| 1,1-Dichloroethane        | 34496                    | 5                  |
| 1,2-Dichloroethane        | 34531                    | 5                  |
| 1,1-Dichloroethene        | 34501                    | 5                  |
| trans-1,2-Dichloroethene  | 34546                    | 5                  |
| 1,2-Dichloropropane       | 34541*                   | 5                  |
| cis-1,3-Dichloropropene   | 34704                    | 5                  |
| trans-1,3-Dichloropropene | 34699                    | 5                  |
| 1,4-Dioxane               | 81582                    | 120                |
| Ethyl Benzene             | 78113                    | 5                  |
| Isobutyl Alcohol          | 77033                    | 100                |
| Methylene Chloride        | 34423                    | 5                  |
| Pyridine                  | 77045                    | 5                  |
| 1,1,2,2-Tetrachloroethane | 34516                    | 5                  |
| Toluene                   | 34010                    | 5                  |
| 1,1,1-Trichloroethane     | 34506                    | 5                  |
| 1,1,2-Trichloroethane     | 34511                    | 5                  |
| Trichloroethene           | 39180                    | 5                  |
| Vinyl Chloride            | 39175                    | 2                  |
| 1,2-Dichlorobenzene       | 34536                    | 10                 |
| 1,3-Dichlorobenzene       | 34566                    | 10                 |
| 1,4-Dichlorobenzene       | 34571                    | 10                 |
| Hexachlorobutadiene       | 39702                    | 10                 |
| Hexachloroethane          | 34396                    | 10                 |
| Naphthalene               | 34696                    | 10                 |
| Nitrobenzene              | 34447                    | 10                 |
| 1,2,4-Trichlorobenzene    | 34551                    | 10                 |

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**List G2 – Annual Groundwater Sampling**

| <u>Parameters</u>    | <u>STORET</u> | <u>Well GT02</u>   | <u>Well GT05</u>   |
|----------------------|---------------|--------------------|--------------------|
|                      | <u>Number</u> | <u>BGQs (ug/L)</u> | <u>BGQs (ug/L)</u> |
| Barium (dissolved)   | 01005         | 1000               | 1000               |
| Barium (total)       | 01007         | 1000               | 1000               |
| Cadmium (dissolved)  | 01025         | 2                  | 6                  |
| Cadmium (total)      | 01027         | 1                  | 2                  |
| Chromium (dissolved) | 01030         | 10                 | 20                 |
| Chromium (total)     | 01034         | 56                 | 10                 |
| Cyanide (dissolved)  | 00723         | 5                  | 5                  |
| Cyanide (total)      | 00720         | 5                  | 5                  |
| Lead (dissolved)     | 01049         | 7                  | 5                  |
| Lead (total)         | 01051         | 6                  | 5                  |
| Mercury (dissolved)  | 71890         | 0.2                | 0.2                |
| Mercury (total)      | 71900         | 0.2                | 0.2                |
| Nickel (dissolved)   | 01065         | 100                | 299                |
| Nickel (total)       | 01067         | 125                | 338                |

**Note: All constituents with "dissolved" labeled to the right must be determined using groundwater samples which have been filtered through a 0.45-micron filter and used for statistical purposes along with TOC.**

\* = The STORET number and name previously used for 1,2-Dichloropropane was Dichloropropane (1,2) and STORET 31541.

2. Background Groundwater Quality (BGQ) values for those constituents listed in Condition III-A.D.1 were previously established using a minimum of four quarters of monitoring data.
3. The Permittee must establish background values in accordance with the procedures specified in the approved permit application as well as the following procedures:
  - a. Background groundwater quality for a monitoring parameter or constituent must be based on data from four consecutive sampling events of the upgradient groundwater monitoring wells for two years.
  - b. For those monitoring parameters or constituents not detected above the Lower Limit of Quantitation (LLOQ) during background gathering, the LLOQ must be the established background value.

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4. Alternate concentration limits may be established in accordance with 35 IAC 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.
5. The Permittee must establish the intrawell background values in accordance with the procedures specified in the approved permit application.

**E. SHALLOW ZONE OBSERVATION MONITORING PROGRAM**

1. The Permittee must determine groundwater quality at each monitoring well identified in Condition III-A.C.1 semi-annually and annually during the active life of the regulated unit (including the closure and post-closure care periods) for constituents found in Condition III-A.D.1. The Permittee must express the groundwater quality at each monitoring well in a form necessary for the determination of statistically significant changes (i.e. means, variances, etc.).
2. The Permittee must determine the groundwater elevations in the shallow groundwater zone semi-annually, and report to the Illinois EPA at least annually from monitoring wells identified in Condition III-A.C.1.
3. The Permittee must determine whether there is a statistically significant increase, (or decrease in the case of pH) over the background values established for each parameter identified in Condition III-A.D.1 each time groundwater quality is determined at each well. In determining whether such a change has occurred, the Permittee must compare the groundwater quality at each monitoring well specified in Condition III-A.C.1 to the background value derived in accordance with the statistical procedures specified in the approved permit application.

**F. GROUNDWATER ELEVATION**

1. The Permittee must determine the groundwater surface elevation referenced to mean sea level (MSL) at each well each time groundwater is sampled in accordance with Condition III-A.I.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 five years; or at the request of the Illinois EPA; or whenever the elevation changes in accordance with Condition III-A.I.4. "Stick-up" refers to the height of the referenced survey datum. This point is determined within  $\pm$  0.01 foot in relation to mean seal level,

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which in turn is established by referenced to an established National Geodetic Vertical Datum.

3. Elevation, as referenced to MSL, of the bottom of each monitoring well (STORET 72020), is to be reported at least annually, or whenever the pumps are removed from the well for maintenance; or at the request of the Illinois EPA; or whenever the elevation changes in accordance with III-A.I.5. The mandatory measurement must be taken during the annual sampling events.

**G. SAMPLING AND ANALYTICAL PROCEDURES**

1. The Permittee must use the following techniques and procedures described in the approved permit application except as modified, when obtaining and analyzing samples from the groundwater monitoring wells described in Condition III-A.C.1.
  - a. Samples must be collected using the techniques described in the approved permit application.
  - b. Samples must be preserved and shipped (when shipped off-site for analysis) in accordance with the procedures specified in the approved permit application.
  - c. Samples must be analyzed in accordance with the procedures specified in the approved permit application.
  - d. Samples must be analyzed in accordance with the procedures specified in the approved permit application. Groundwater analysis must be in accordance with the most current version of the applicable methods found in USEPA's "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," Third Edition (SW-846) and finalized updates.
  - e. Samples must be tracked and controlled using the chain-of-custody procedures specified in the approved permit application.

**H. STATISTICAL PROCEDURES**

When evaluating the monitoring results in accordance with Condition III-A.E, the Permittee must use the following procedures:

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1. The statistical methods to be used must be as specified in Section C.6.7 and Section C.6.8 of the approved permit application.
2. Analytical data must be compared to the parameter background values established in accordance with the approved permit application.

**I. REPORTING AND RECORDKEEPING**

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

| <u>Samples to be<br/>Collected During<br/>The Months of</u> | <u>Results Submitted<br/>to the Illinois EPA<br/>by the Following</u> | <u>Parameters</u> |
|---|---|-------------------|
| April – June  | July 15   | List G1 and G2    |
| October – December  | January 15  | List G1           |

3. Groundwater surface elevation data measured pursuant to Condition III-A.F.1 must be collected semi-annually and submitted to the Illinois EPA as identified in the table in Condition III-A.I.2.
4. The Permittee must report the surveyed elevation, as required by Condition III-A.F.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 III-A.C.1, every five years (during the annual sampling event); or at the request of the Illinois EPA; or whenever the elevation changes.

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- b. For any new wells, at the time of installation and reported in the as-built diagrams, subsequent measurements must be made every five years (during the annual sampling event), or at the request of the Illinois EPA, or whenever the elevation changes.
5. Elevation of the bottom of each monitoring well identified in Condition III-A.C.1, as referenced to MSL, is to be reported at least annually without dedicated pumps; every five with dedicated pumps or whenever the pump is pulled. This measurement must be taken during the annual sampling event (STORET 72020) in accordance with Condition III-A.F.3.
6. Information required by Conditions III-A.I.2, III-A.I.3, III-A.I.4 and III-A.I.5 must be submitted in an electronic format. The information is to be submitted, as fixed-width text files formatted as found in the form, "Formatting Requirements for the 01 (and 02) Record of the Electronically Submitted Groundwater and Leachate Data" (LPC 160) located on the Illinois EPA webpage titled, "Electronic Reporting of Groundwater Data," and in accordance with the schedule found in Condition III-A.I.2. Additional guidance regarding the submittal of the information in an electronic format can be found on the Illinois EPA website.
7. 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 permit for identification purposes. Only one copy of the LPC-592 with wet signatures must accompany the submittal. However, the Permittee must submit one original copy of each notice or report submitted to the Illinois EPA in paper format and (excluding the groundwater and leachate monitoring results submitted in an electronic format) a minimum of two copies (one addressed to the Bureau of Land Permit Section, and one addressed to the regional Field Operation Section). The Form is not to be used for permit modification requests.
8. The Permittee must report all information to the Illinois EPA in a form which can be easily reviewed. All submittals contain tables of data drawings and text (as necessary) to accurately describe the information contained in the submittal.
9. If the Permittee determines, pursuant to Condition III-A.E.4, that there is a statistically significant increase for any of the parameters specified in Condition III-A.D.1 at any monitoring well in Condition III-A.C.1 the Permittee must:

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- a. Notify the Illinois EPA in writing indicating which parameters and wells have shown statistical changes and provide the statistical calculations. 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 III.C.1 and determine the concentration of all constituents identified in 35 IAC 724, Appendix I, and 35 IAC Part 620 to determine whether constituents are present, and if so, at what concentration. The results will accompany the permit modification required by Condition III-A.I.9.d.
- c. For any 35 IAC 724, Appendix I, and 35 IAC Part 620 constituents found in the analysis pursuant to Condition III-A.I.9.c, the Permittee may resample within one month and repeat analysis for those compounds detected. If results of the 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 the initial 35 IAC Part 724, Appendix I, and Part 620 constituent analysis will form the basis for compliance monitoring.
- d. Submit to the Illinois EPA an application for a permit modification to establish a compliance monitoring program meeting the requirements of 35 IAC 724.199. The application must be submitted to the Illinois EPA within 90 days of the date that the exceedance is discovered. Furthermore, the application must include the following information:
  - i. An identification of the concentration of any 35 IAC 724, Appendix I, and Part 620 constituents found in the groundwater at each monitoring well at the compliance point; and
  - ii. Any proposed changes to the groundwater monitoring system at the facility necessary to meet the requirements of 35 IAC 724.199; and
  - iii. Any proposed changes to the monitoring frequency, sampling and analysis procedure or methods or statistical procedures used at the facility necessary to meet the requirements of 35 IAC 724.199.
  - iv. For each hazardous constituent found, a proposed concentration limit under 35 IAC 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 IAC 724.194(b).

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- e. Submit to the Illinois EPA a corrective action feasibility plan to meet the requirements of 35 IAC 724.200 unless the concentrations of all hazardous constituents identified under Condition III-A.I.9.b are listed in 35 IAC 620.410 and their concentrations do not exceed the respective Groundwater Quality Standards or the Permittee has sought an alternate concentration limits under Condition III-A.I.9.d.iv for every hazardous constituent identified under Condition III-A.I.9.b.  
This plan must be submitted to the Illinois EPA within 180 days of the date the increases is discovered.
- f. Submit to the Illinois EPA all data necessary to justify and alternate concentration limit for a hazardous constituent sought under Condition III-A.I.9.d.iv. This plan must be submitted to the Illinois EPA within 180 days of the date the increases is discovered.

10. If the Permittee determines, pursuant to Condition III-A.E.4, that there is a statistically significant increase above or for pH below the background values for the parameters specified in Condition III-A.D.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 evaluation. The Permittee must submit a permit modification application in accordance with Condition III-A.I.9.d unless the demonstration successfully shows that a source other than the regulated unit caused the increase or that the increase resulted from errors in sampling, analysis or evaluation and the Illinois EPA concurs.

To make this demonstration, the Permittee must:

- a. Notify the Illinois EPA in writing that they intend to make this demonstration. This notification must be submitted to the Illinois EPA within seven days of the date that they intend to make this demonstration.
- b. Submit a report to the Illinois EPA which demonstrates that a source other than the regulated unit caused the increase, or that the increase resulted from error in sampling, analysis, or evaluation. This report must be submitted within 90 days of the date that the increase is discovered.
- c. Submit to the Illinois EPA an application to make any appropriate changes to the Shallow Zone Observation Monitoring Program. This report must be submitted within 90 days of the date that the increase is discovered.

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- d. Continue to monitor in accordance with the Shallow Zone Observation Monitoring Program at the facility.

**J. REQUEST FOR PERMIT MODIFICATION**

1. If the Permittee or the Illinois EPA determines that the Shallow Zone Observation Monitoring Program no longer satisfies the requirements of 35 IAC 724.198, the Permittee must, within 90 days, submit an application for a permit modification to the Illinois EPA Bureau of Land, Permit Section, 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 IAC 705.128 if there is cause for such modification, as defined in 35 IAC 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 IV: CORRECTIVE ACTION

### A. INTRODUCTION

1. In accordance with Section 3004(u) and (v) of RCRA and 35 IAC 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 constituents from any solid waste management unit (SWMU) and any area(s) of concern (AOCs) at the facility. This section contains the conditions which must be followed to ensure these requirements are met.
2. The Permittee must conduct, as appropriate: (1) a RCRA Facility Investigation (RFI) to characterize each AOC or SWMU of concern at the facility; (2) determine whether releases of hazardous wastes and hazardous constituents have occurred from each AOC or SWMU of concern, and if so, the nature and extent of the release(s); and (3) gather other data, as necessary, to be used in determining the need, scope and design of a Corrective Measures Program (CMP).
3. Based upon the results of the RFI, the Permittee must develop and implement a CMP to protect human health and the environment from any of the SWMUs or AOCs at the facility.
4. The Permittee must provide corrective action, as appropriate, for: (1) any newly discovered SWMUs and AOCs; and/or (2) future releases for existing SWMUs at the facility.
5. The Permittee must carry out interim measures in accordance with the terms, conditions, and requirements of this Permit, as appropriate, to address existing contamination at the facility until such time as a final corrective measure can be developed and implemented.
6. The requirements of 35 IAC Parts 620 and 742 must be met, when applicable, in establishing remediation objectives for corrective action activities. In addition, all corrective action efforts must meet the requirements of 35 IAC 724.201.
7. The Permittee must incorporate, as necessary, climate change resilience and adaptation considerations into the corrective action required at this facility.
8. All Illinois EPA final decisions regarding RCRA corrective action at this facility are subject to the appeal provisions of the Act.

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9. The Illinois EPA and USEPA issued a joint RCRA permit to this facility in 1988. The USEPA portion of that permit contained requirements for addressing two SWMUs at the facility. The Permittee has adequately addressed corrective action at these two SWMUs.
10. Unless there is a desire to modify specific requirements set forth in this Section, information submitted to the Illinois EPA regarding the corrective action requirements set forth in this Section is not a request to modify this Permit nor subject to the requirements of 35 IAC 703, Subpart G.
  - a. A completed Illinois EPA RCRA Corrective Action Certification Form (LPC-632) must accompany all corrective action related information submitted to the Illinois EPA.
  - b. To allow for proper review of all corrective action related information submitted to the Illinois EPA, the original and two copies of the information must be submitted.

**B. CORRECTIVE ACTION REQUIREMENTS**

1. Any additional corrective action required to meet the requirements of 35 IAC 724.201 and 35 IAC Parts 742 and 620 must be conducted, as necessary, to address on-site and off-site contamination.
2. The indoor inhalation exposure route was incorporated into 35 IAC Part 742 and became effective in July 2013. The Permittee must address the indoor vapor inhalation exposure route at the facility, as necessary, in accordance with the requirements of 35 IAC Part 742 and obtain an NFA determination.

**C. REQUIREMENTS FOR ADDRESSING NEWLY IDENTIFIED SWMU(s)AND AOC(s)**

1. The Permittee must notify the Illinois EPA in writing of any newly identified SWMU and/or AOC discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means, no later than 30 days after discovery. The notification shall provide the following information, as available:
  - a. The location of the newly identified SWMU and/or AOC in relation to other SWMUs or AOCs on a scaled map or drawing;
  - b. The type and past and present function of the unit;

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- c. The general dimensions, capacities, and structural description of the unit (available drawings and specifications provided);
- d. The period during which the unit was operated;
- e. The specifics on all materials, including but not limited to, wastes and hazardous 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 and completion of the Plan for any additional SWMU(s)/AOC(s) discovered subsequent to the issuance of this Permit. The 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 identified SWMU/AOC to the environment.

3. Within 90 days after receipt of the Illinois EPA's request for a Plan, the Permittee must submit a Plan to the Illinois EPA for review and approval.

4. After the Permittee submits the Plan, the Illinois EPA shall either approve, conditionally approve, or disapprove the Plan in writing. If the Plan is approved, the Permittee must begin to implement the Plan within 45 days of receiving such written notification or according to the terms and schedule established within the Plan and any conditions placed on it. If the Plan is disapproved, the Illinois EPA will 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 SWMU Assessment Report must describe all results obtained from the implementation of the approved Plan.

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6. Additional investigation plans and reports must be submitted to and approved by the Illinois EPA, as necessary, to ensure the nature and extent of contamination at the SWMU/AOC is adequately characterized. Once the contamination is characterized, the Permittee must develop remedial objectives for the SWMU/AOC in accordance with 35 IAC Part 742; such objectives are subject to the Illinois EPA review and approval.
7. The Permittee must implement a Corrective Measures Program (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 the Illinois EPA notifies the Permittee of the need for such a program.
8. All efforts carried out at the newly identified SWMU(s)/AOC(s) must meet the requirements of 35 IAC 724.201.

D. **FUTURE RELEASES FROM SWMUS**

There exists a potential that a release may occur in the future from SWMUs identified in the RCRA Facility Assessment (RFA) 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 such a SWMU 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.C.1. Additional investigation and, as necessary, corrective measures efforts at this SWMU must be carried out in accordance with the procedures set forth in Condition IV.E. The results of all corrective action efforts required by this condition must meet the requirements of 35 IAC 724.201.

E. **INTERIM MEASURES/STABILIZATION**

The Permittee must carry out interim measures/stabilization activities to prevent or mitigate the migration of a release of hazardous substances to the environment, and to provide adequate protection to human health and the environment.

1. At any time during the corrective action process, 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 constituents. It shall not be necessary to conduct all phases of a RFI or a corrective measure study (CMS) 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 CMS.

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2. 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 must include, at a minimum:
  - a. Objectives of the interim measures; 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. Schedules for progress reports.
3. 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, must not affect the schedule for implementation of any other corrective action efforts being carried out at the facility or of any other portion of the Permit.
4. 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 modification.
5. Consistent with the annual reporting requirements of this Permit, the Permittee must submit a report assessing the effectiveness of any interim measures being carried out in accordance with this Permit. Based on a review of this report, the Illinois EPA reserves the right to require additional interim measures be carried out if it is determined that the interim measure is unable to protect human health and the environment. This annual report should at a minimum contain the following information regarding each system which comprises the interim measure:
  - a. A discussion of each system's operation during the year. This discussion should address: (1) actual daily, weekly and monthly flow rates through each system; (2) any periods when the systems were not operating; and (3) deviations from the design operating procedures for the system (such as problems with drawing an adequate vacuum, downtime due to equipment failure, etc.);

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- b. Results of all monitoring efforts carried out during the year;
- c. A discussion of the effectiveness of the system supported as appropriate with data and calculations; and
- d. Recommended changes, if any, which should be made to the system to improve its effectiveness.

6. The Illinois EPA reserves the right to require the Permittee to remove or treat soil if the Illinois EPA determines that contaminants are present in the soils at levels such that the remediation system is unable to protect human health and the environment. Remediation objectives for corrective measures will be established by the Illinois EPA at a later date.

7. The interim measure approved for a SWMU may not be sufficient to meet the final requirements for corrective action for remediation for the unit. The adequacy of the interim measure will be addressed upon the Illinois EPA review and approval of the RFI reports and the CMP, as required by this Permit. As such, the Permittee may be required to expand this interim measure as necessary to address existing or additional contamination detected through RFI investigations.

8. The Illinois EPA reserves the right to require revision and modification of the interim measures implemented by the facility should it be determined by the Illinois EPA through information obtained through facility monitoring that the interim measures approved by this portion of the Permit are ineffective in protecting human health and the environment.

F. FINANCIAL ASSURANCE

35 IAC 724.201 requires that financial assurance be established for completing required corrective action at SWMUs. As all corrective action efforts at this facility have been completed, the current cost estimate for corrective action at this facility is \$0.

1. The Permittee must demonstrate continuous compliance with 35 IAC 724.201 by providing documentation of financial assurance using a mechanism specified in 35 IAC 724.243, in at least the amount of the approved corrective action cost estimate. The words "completion of corrective action" must be substituted for "closure and/or post-closure," as appropriate in the financial instrument specified in 35 IAC 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 IAC 724.246 at its discretion.

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- 2. The financial assurance requirements of 35 IAC 724.201 must also be met for any investigative or corrective action efforts carried out in accordance with Conditions IV.C and IV.E. 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.**
- 3. Financial assurance for corrective action must be updated, as necessary, to reflect the current status of the hazardous waste cleanup program at this facility. In addition, this financial assurance must be adjusted annually for inflation.**

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**SECTION V: SPECIAL CONDITIONS**

**A. HAZARDOUS WASTE MANAGEMENT ACTIVITIES**

1. In addition to the terms and conditions of this Permit, the requirements of 35 IAC Part 722 must be met in regard to the management of hazardous waste generated in carrying out the requirements of this Permit. The main hazardous waste generated at this facility is leachate extracted from the closed Phase A landfill.
2. Documentation of compliance with the requirements of 35 IAC Part 722 must be maintained by the Permittee.

**B. PUBLIC NOTIFICATION AND PARTICIPATION**

1. A repository of all information submitted to the Illinois EPA as part of the requirements of this Permit must be established and maintained at the Zion-Benton Public Library. This repository must be well organized and kept up to date. A comprehensive list of all documents in the repository must be provided, as well as a brief description of each document in the repository. The Permittee must visit the repository on a regular basis to ensure its organization and integrity is maintained.
2. The public participation and public notification requirements of 35 IAC Parts 703 and 705 must be met any time requests to modify this facility are submitted to the Illinois EPA for review and approval.
3. An appropriate facility mailing list as required by 35 IAC Part 705 must be maintained and updated on a regular basis.

**C. 39(i) CERTIFICATION**

1. The Permittee must provide a completed Illinois EPA permit application form LPC-PA23 with all permit modification requests, additional information, and permit applications that are submitted to the Illinois EPA.
2. The Permittee must submit a current 39(i) certification and supporting documentation with all permit applications.

**D. COMPLIANCE SCHEDULE**

The following information must be submitted within 60 days of the effective date of this Permit.

- 1. Approved Permit Application; Section C.6.4 Description of Sampling and Analysis Procedures**
  - a. Revise Section C.6.4. The description of Sampling and Analysis Procedures states that, "groundwater purged from detection monitoring wells will be directed into the adjacent perimeter stormwater ditch and disposed of on the ground within the waste limits". The statement must be revised to include "Purged groundwater will be collected, containerized, and upon receipt of groundwater analysis, disposed of properly." The facility may expand upon how groundwater will be addressed following receipt of the results in the revisions to the Groundwater Sampling and Analysis Plan to indicate how uncontaminated and contaminated groundwater will be managed. Uncontaminated groundwater may be disposed of as described, while contaminated groundwater would need to be disposed in accordance with regulations.**
  - b. To meet the requirements of 35 IAC 620.510(b)(4), the sampling and analysis plan must be revised to propose a methodology for analyzing constituents which complies with the Lower Limit of Quantitation (LLOQ) instead of the Practical Quantitation Limit (PQL) and those values must be equal to or less than the groundwater standards of 35 IAC Part 620, Subpart D, effective March 28, 2025.**
    - i. The LLOQ (and PQL) are independent of any background or 35 IAC Part 620 value. The historical PQLs used by the laboratory are no longer adequate if they do not meet the LLOQ.**
  - c. Submit a Class 1\* permit modification request to propose sampling and development of new background values which meets 35 IAC Part 620 for all parameters, identified in Condition III.D.1, and their respective standards based on the revisions to 35 IAC Part 620, effective March 28, 2025. Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, Third Edition (SW-846) and finalized updates using the respective LLOQ must be used.**
- 2. Approved Permit Application; Section E.7.3.1 Leachate Quality**
  - a. Parameter Comparison: Indicate if any of the leachate analyses detected a**

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**parameter for which the groundwater is/was not being analyzed and the actions taken if this occurred. At a minimum, propose addition of any parameter detected in leachate be added to Section III and III-A for sampling if conditions determine there is statistically significant evidence in accordance with 35 IAC 724.198(g).**

3. **Submit a revised post-closure cost estimate to reflect a 30-year post-closure care period in accordance with 35 IAC 724.244 and 724.217(a)(1) and provide the required financial assurance in accordance with 35 IAC 724.245, as a stand-alone Class 1\* permit modification request.**

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**SECTION VI: STANDARD CONDITIONS**

**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 prohibitions against 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 IAC 702.181)
2. **PERMIT ACTIONS.** This Permit may be modified, reissued, or revoked for cause as specified in 35 IAC 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 IAC 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 IAC 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 IAC 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 IAC 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 IAC 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 IAC 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 IAC 702.125.

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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 IAC 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 IAC 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 IAC 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 shall also furnish to the Illinois EPA, upon request, copies of records required to be kept by this Permit. (35 IAC 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

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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 IAC 702.149)

**13. MONITORING AND RECORDS.**

- 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 IAC 721, Appendix A. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, third addition (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 IAC 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 IAC 703.280. (35 IAC 702.152(a))

**15. CONSTRUCTION CERTIFICATION.** For a new hazardous waste management (HWM) facility, 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. The Illinois EPA has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the Permit; or

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 IAC 703.247)

**16. ANTICIPATED NONCOMPLIANCE.** The Permittee must give advance 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 IAC 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 IAC 703.260(b) or 703.272. Changes in the ownership or operational control of a facility must be made as a Class 1 permit 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 IAC 703.260)

**18. MONITORING REPORTS.** Monitoring results shall be reported at the intervals specified in the Permit. (35 IAC 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 IAC 702.162. (35 IAC 702.152(e))

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**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:
  - (1) Information concerning the release of any hazardous waste that may cause an endangerment to public drinking water supplies.
  - (2) 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 shall include:
  - (1) Name, address, and telephone number of the owner or operator;
  - (2) Name, address, and telephone number of the facility;
  - (3) Date, time, and type of incident;
  - (4) Name and quantity of material(s) involved;
  - (5) The extent of injuries, if any;
  - (6) An assessment of actual or potential hazards to the environment and human health outside the facility, where applicable; and
  - (7) 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 IAC 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 IAC 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 IAC 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 IAC 702.126. (35 IAC 702.151)

**25. CONFIDENTIAL INFORMATION.** Any claim of confidentiality must be asserted in accordance with 35 IAC 702.103 and 35 IAC Part 161.

**26. DOCUMENTS TO BE MAINTAINED AT FACILITY SITE.** The Permittee must maintain at the facility, until closure is complete, the following documents and amendments, revisions, and modifications to these documents:

- a. The post-closure care plan as required by 35 IAC 724.218(a) and this Permit.
- b. Cost estimate for facility post-closure care as required by 35 IAC 724.244(d) and this permit.
- c. Operating record as required by 35 IAC 724.173 and this Permit.
- d. Inspection schedules as required by 35 IAC 724.115(b) and this Permit.

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#### GENERAL FACILITY STANDARD

- 27. GENERATOR REQUIREMENTS.** Any hazardous waste generated at this facility must be managed in accordance with the generator requirements at 35 IAC Part 722.
- 28. SECURITY.** The Permittee must comply with the security provisions of 35 IAC 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 IAC 724.115(c). Records of inspections must be kept as required by 35 IAC 724.115(d).
- 30. CLOSURE REQUIREMENTS FOR ACCUMULATION AREAS.** The Permittee must close containers 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 IAC 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 IAC 724.173.

#### POST-CLOSURE

- 33. CARE AND USE OF PROPERTY.** The Permittee must provide post-closure care for the facility as required by 35 IAC 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 IAC 724.218(d).

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

- a. Adjusted for inflation either 60 days prior to each anniversary of the date on which the first post-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 IAC 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 IAC 724.245 by providing documentation of financial assurance, as required by 35 IAC 724.251, in at least the amount of the cost estimates required by the Standard Condition 35. Changes in financial assurance mechanisms must be approved by the Illinois EPA pursuant to 35 IAC 724.245. Financial assurance documents submitted to the 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  
P.O. Box 19276  
Springfield, IL 62794-9276

**37. INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS.**  
The Permittee must comply with 35 IAC 724.248 whenever necessary.

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**SECTION VII: REPORTING AND NOTIFICATION REQUIREMENTS**

The reporting and notification requirements of each section of the RCRA Permit are summarized below. This summary table is provided to "highlight" the various reporting and notification requirements of this Permit but is not meant to supersede the requirements of the various sections of this Permit.

| <b><u>Condition</u></b>                                      | <b><u>Action</u></b>  | <b><u>Due Date</u></b>  |                                 |                               |            |                       |                  |                          |
|--|---|---|---------------------------------|-------------------------------|------------|-----------------------|------------------|--------------------------|
| <b>SECTION II: POST-CLOSURE</b>                              |   |   |                                 |                               |            |                       |                  |                          |
| C.2  | Submit Class 2 permit modification to extend post-closure care period   | On or prior to February 10, 2027  |                                 |                               |            |                       |                  |                          |
| F.5.b  | Notification of exceedances of specified levels detected during the required landfill gas monitoring program.         | Within two business days  |                                 |                               |            |                       |                  |                          |
| F.5.d  | Reports documenting action being taken to address landfill gas monitoring exceedances.                                | Weekly  |                                 |                               |            |                       |                  |                          |
| F.5.e  | Class 1* permit modification request proposing changes to the approved landfill gas management plan.                  | 30 days after landfill gas monitoring program exceedances observed, unless able to correct these exceedances prior to this due date   |                                 |                               |            |                       |                  |                          |
| J.1  | Annual report regarding post-closure care efforts carried out each year.  | March 1 <sup>st</sup> of the following year   |                                 |                               |            |                       |                  |                          |
| K.5  | Submit notification that post-closure contact person has changed.   | Within five days after change is made   |                                 |                               |            |                       |                  |                          |
| L.1  | Permit modification request to change any aspect of the approved post-closure care plan.                              | 180 days prior to date change is needed   |                                 |                               |            |                       |                  |                          |
| L.2  | Submit application for permit modification, if the Permittee wishes to remove any materials from the closed landfill. | At least 180 days prior to the date they wish to remove the materials   |                                 |                               |            |                       |                  |                          |
| L.4  | Submit certification of completion of post-closure and post-closure documentation report.                             | Within 60 days of completion of post-closure  |                                 |                               |            |                       |                  |                          |
| <b>SECTION III: GROUNDWATER DETECTION MONITORING PROGRAM</b> |   |   |                                 |                               |            |                       |                  |                          |
| 1.2  | Groundwater monitoring data and statistical calculations required semi-annually.                                      | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"><u>Samples Collected During</u></td><td style="width: 50%;"><u>Results Due to IEPA by</u></td></tr> <tr> <td>April-June</td><td>July 15<sup>th</sup></td></tr> <tr> <td>October-December</td><td>January 15<sup>th</sup></td></tr> </table> | <u>Samples Collected During</u> | <u>Results Due to IEPA by</u> | April-June | July 15 <sup>th</sup> | October-December | January 15 <sup>th</sup> |
| <u>Samples Collected During</u>                              | <u>Results Due to IEPA by</u>   |   |                                 |                               |            |                       |                  |                          |
| April-June   | July 15 <sup>th</sup>   |   |                                 |                               |            |                       |                  |                          |
| October-December   | January 15 <sup>th</sup>  |   |                                 |                               |            |                       |                  |                          |

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| <u>Condition</u> | <u>Action</u>  | <u>Due Date</u>  |
|------------------|--|--|
| I.3              | Groundwater Surface Elevation.   | Semi-annually  |
| I.4              | Groundwater flow rate and direction.   | Annually with the groundwater data due July 15 <sup>th</sup>   |
| I.5              | Surveyed elevation.  | Every five years or at the request of the IEPA or whenever the elevation changes. In addition, for new wells, at the time of installation. |
| I.6              | Elevation of the bottom of each well.  | Every five years due July 15 <sup>th</sup>   |
| I.10.a           | Notify the IEPA in writing of statistically significant increase.  | Within seven days the increase was discovered  |
| I.10.b           | Sample groundwater in all wells for required constituents.   | Immediately after increase is discovered   |
| I.10.d           | Apply for permit modification establishing a compliance monitoring program.  | Within 90 days the increase was discovered   |
| I.10.e           | Provide the IEPA with corrective action feasibility plan.  | Within 180 days the increase was discovered  |
| I.11.a           | Notify the IEPA in writing of intent to make demonstration.  | Within seven days the increase was discovered  |
| I.11.b           | Submit a report to the IEPA which demonstrates that a source other than a regulated unit caused the increase or resulted from error. | Within 90 days the increase was discovered   |
| I.11.c           | Submit to the Illinois EPA an application to change detection monitoring program .   | Within 90 days the increase was discovered   |
| J.1              | Submit permit modification to make changes to detection monitoring program   | Within 90 days of determination changes are needed   |

**SECTION III-A: SHALLOW ZONE OBSERVATION MONITORING PROGRAM**

| I.2 | Groundwater monitoring data and statistical calculations required semi-annually. | <u>Samples Collected During</u> | <u>Results Due to IEPA by</u> |
|-----|--|---------------------------------|-------------------------------|
|     |  | April-June                      | July 15 <sup>th</sup>         |
|     |  | October-December                | January 15 <sup>th</sup>      |
| I.3 | Groundwater surface elevation.   | Semi-annually                   |                               |

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| <b>Condition</b>                     | <b>Action</b>   | <b>Due Date</b>  |
|--------------------------------------|---|--|
| I.4                                  | <b>Surveyed elevation.</b>  | Every five years or at the request of Illinois EPA or whenever the elevation changes. In addition, for new wells, at the time of installation. |
| I.5                                  | <b>Elevation of the bottom of each well.</b>  | Every five years due July 15 <sup>th</sup>   |
| I.9.a                                | <b>Notify the IEPA in writing of statistically significant increase.</b>  | Within seven days the increase was discovered  |
| I.9.b                                | <b>Sample groundwater in all wells for required constituents.</b>   | Immediately after increase is discovered   |
| I.9.d                                | <b>Apply for permit modification establishing a compliance monitoring program.</b>  | Within 90 days the increase was discovered   |
| I.9.e                                | <b>Provide the IEPA with corrective action feasibility plan.</b>  | Within 180 days the increase was discovered  |
| I.10.a                               | <b>Notify the IEPA in writing of intent to make demonstration.</b>  | Within seven days the increase was discovered  |
| I.10.b                               | <b>Submit a report to the IEPA which demonstrates that a source other than a regulated unit caused the increase or resulted from error.</b> | Within 90 days the increase was discovered   |
| I.10.c                               | <b>Submit to the IEPA an application to change the shallow zone observation monitoring program.</b>   | Within 90 days the increase was discovered.  |
| J.1                                  | <b>Submit permit modification to make changes to shallow zone observation monitoring program</b>  | Within 90 days of determination changes are needed   |
| <b>SECTION IV: CORRECTIVE ACTION</b> |   |  |
| C.1                                  | <b>Notification of a newly identified SWMU/AOC.</b>   | Within 30 days of discovery  |
| C.3                                  | <b>Submit SWMU Assessment Plan.</b>   | Within 90 days of Illinois EPA's request for Plan  |
| C.5                                  | <b>Submit SWMU Assessment Report.</b>   | In accordance with the schedule in the approved Plan   |
| D.                                   | <b>Notification of release from existing SWMU.</b>  | Within 30 days of discovery  |
| F.2                                  | <b>Financial assurance.</b>   | Within 60 days of approved cost estimate   |
| F.3                                  | <b>Updating financial assurance for corrective action.</b>  | As necessary   |

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| <u>Condition</u>                       | <u>Action</u>  | <u>Due Date</u>   |
|--|--|---|
| <b>SECTION V: SPECIAL CONDITIONS</b>   |  |   |
| C.1                                    | Submit LPC-PA23 Form.  | With all permit modifications, additional information, and permit applications  |
| C.2                                    | Submit 39i Certification Form.   | With all permit applications  |
| <b>SECTION VI: STANDARD CONDITIONS</b> |  |   |
| 6                                      | Submit complete application for new permit.  | At least 180 days prior to permit expiration  |
| 11                                     | Information requested by the IEPA, and copies of records required to be kept by this Permit. | Within a reasonable time  |
| 14                                     | Notify the IEPA of planned physical alteration or additions.                                 | As soon as possible   |
| 16                                     | Notify the IEPA of changes which may result in permit noncompliance.                         | As soon as possible   |
| 17                                     | Application for permit modification indicating the Permit is to be transferred.              | At least 90 days prior to transfer date   |
| 20                                     | Report to IEPA any noncompliance which may endanger human health or the environment.         |   |
|  | - by telephone   | Within 24 hours after discovery   |
|  | - in writing   | Within five days after discovery  |
| 21                                     | Report all other instances of noncompliance.   | March 1 of each year along with Annual Report   |
| 34                                     | Application for permit modification amending post-closure plan.                              | Within 60 days prior to the proposed change in facility design or operation, or not later than 60 days after an unexpected event has occurred |
| 35.a                                   | Adjust post-closure cost estimate for inflation.   | Within 60 days before anniversary date, or within 30 days after close of the firm's fiscal year   |
| 35.b                                   | Revision of post-closure cost estimate.  | As needed, within 90 days of discovery of revision  |
| 36                                     | Change in financial assurance mechanism for post-closure care.                               | As needed   |

0978020001-Zion Site 1 Phase A Landfill  
Log No. B-23R2  
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| <u>Condition</u> | <u>Action</u>  | <u>Due Date</u>  |
|------------------|--|--|
| 37               | <b>Notify the Illinois EPA of commencement of voluntary or involuntary bankruptcy proceedings.</b> | <b>Within 10 days after commencement of proceeding</b> |

**Attachment A: Site Layout Map**

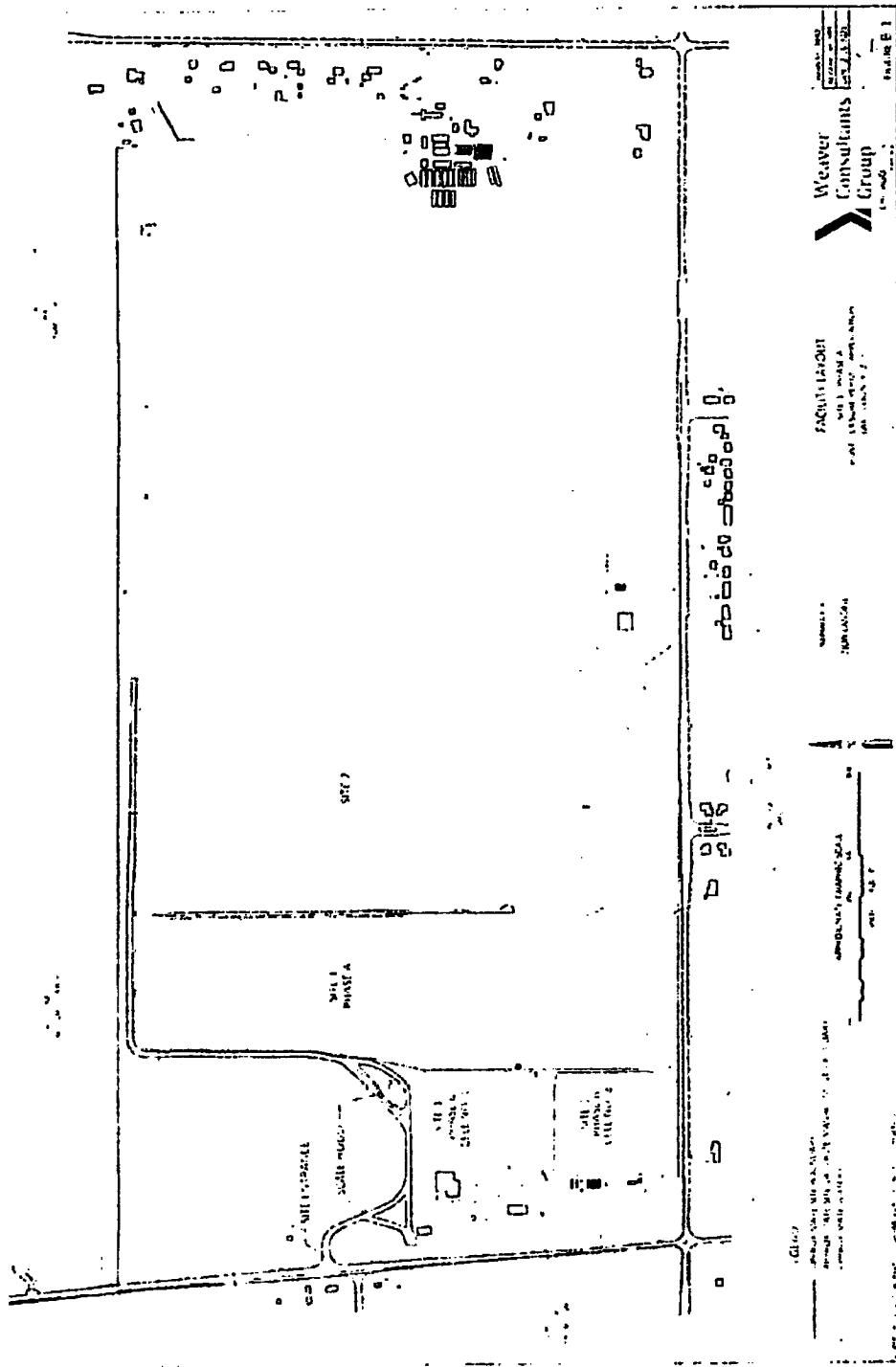
**Log No. B-23R2**

**Zion Site 1 Phase A Landfill**

**LPC No. 0978020001**

**USEPA ID No. ILD980700728**

**0978020001-Zion Site 1 Phase A Landfill  
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Page A-1**



**Attachment B: Approved Permit Application Identification**

**Log No. B-23R2**

**Zion Site 1 Phase A Landfill**

**LPC No. 0978020001**

**USEPA ID No. ILD980700728**

0978020001-Zion Site 1 Phase A Landfill  
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**APPROVED PERMIT APPLICATION IDENTIFICATION**

The following documents comprise the approved permit application for the renewed RCRA Permit being issued to the Zion Site 1 Phase A Landfill facility in Zion, Illinois (the Illinois EPA log number for this renewed permit is B-23R2; the Illinois EPA identification number for this facility is 0978020001; the USEPA Identification number for this facility is ILD980700728).

| <u>Document</u>                              | <u>Date</u>   | <u>Date Received</u> |
|--|---------------|----------------------|
| RCRA Post-Closure Permit Renewal Application | May 6, 2021   | May 10, 2021         |
| Addendum No. 1                               | June 6, 2025  | June 9, 2025         |
| Addendum No. 2                               | June 20, 2025 | June 23, 2025        |

**Attachment C: General Inspection Schedule**

**Log No. B-23R2**

**Zion Site 1 Phase A Landfill**

**LPC No. 0978020001**

**USEPA ID No. ILD980700728**

0978020001-Zion Site 1 Phase A Landfill  
Log No. B-23R2  
Page C-1

**GENERAL INSPECTION SCHEDULE**

| <u>Inspection Item</u>            | <u>Frequency</u> | <u>Procedure</u>                                    |
|-----------------------------------|------------------|---|
| Leachate Accumulation Tank        | Weekly           | Section D.3.1.1 of the approved permit application. |
| Gas Collection and Control System | Monthly          | Section D.3.1.2 of the approved permit application  |
| Leachate Collection System        | Monthly          | Section D.3.1.2 of the approved permit application  |
| Site Security                     | Quarterly        | Section D.3.1.2 of the approved permit application  |
| Vegetation, run-off, erosion      | Quarterly        | Section D.3.1.2 of the approved permit application  |
| Run-off control, spill prevention | Quarterly        | Section D.3.1.2 of the approved permit application  |
| Blower building                   | Quarterly        | Section D.3.1.2 of the approved permit application  |
| Groundwater monitoring system     | Semi-annually    | Section D.3.1.2 of the approved permit application  |

# BOL Permit Section RCRA Tracking Sheet

BOLSiteCode 0978020001

Federal ID(s) ILD980700728

Respond by: 10/25/2025

Site: Zion Site 1 Phase A Landfill

Region: Des Plaines

City: Zion

County: Lake

Data Regarding Logged Submittal(s) per Log # B-23R2

| Review Status | PermitClass        | AppType     | Reviewers:          | RCRA |
|---------------|--------------------|-------------|---------------------|------|
|               |                    |             | RCRA, CAU, DAU, GAU |      |
| Inactive      | Renewal Part B Pmt | RCRA Part B | KDH                 | SDD  |

| DocTitle_Description  | Submittal Type  | Review Type | Agency Response |
|---|-----------------|-------------|-----------------|
| Addendum 2 - provides updated permit forms:<br>RCRA Subtitle C Site ID form, RCRA Permit<br>App LPC-PA23, 39(i) owner, 39(i) operator | Additional Info | Technical   | Draft Permit    |

Date Received 06/23/2025 Date Due 09/21/2025 Date Mailed 07/24/2025

## Submittal Comment:

|                             |                          |                     |             |
|-----------------------------|--------------------------|---------------------|-------------|
| Response to NOD sent 5/7/25 | Resp-Technical NOD       | Technical           |             |
|                             | Date Received 06/09/2025 | Date Due 09/07/2025 | Date Mailed |

## Submittal Comment:

|                     |                          |                     |                        |
|---------------------|--------------------------|---------------------|------------------------|
| Renewal application | 1st Submittal            | Technical           | Technical NOD          |
|                     | Date Received 05/07/2021 | Date Due 08/05/2021 | Date Mailed 05/07/2025 |

## Submittal Comment:

## Final Action Data

For Log No: B-23R2

| Units Addressed | Final Action Status | Date FA Issued | Date NFA | Date Closure       |
|-----------------|---------------------|----------------|----------|--------------------|
|                 | Approved            | 09/25/2025     |          | Cert Accepted      |
|                 |                     |                |          | Acres Remediated 0 |

| Closure Type: | Institutional Control | Clean Closed: | 1 Institutional Control: | 2 Institutional Control: |
|---------------|-----------------------|---------------|--------------------------|--------------------------|
|               |                       |               |                          |                          |

**0978020001 -- Lake County  
Zion Site 1 Phase A Landfill  
ILD980700725  
Log No. B-23R2  
RCRA Permit Renewal  
RCRA Administrative Record – Final Permit Decision**

**REVIEW NOTES: Kelly Huser**

**7-24-25**

The draft permit was mailed to the facility on July 24, 2025, and electronic copies sent. The public notice dates are July 25, 2025 – September 8, 2025.

**9-5-25**

EIL has submitted 30 comments on the draft permit electronically to me on behalf of BFI. They will mail the hard copy to Community Relations.

I have reviewed the comments, and I will address 16 of the comments (#1-13, #22, #29, and #30). Shawntay as the groundwater reviewer will address 15 comments (#14-21, and #23-28).

**Comment 1**

*The addresses listed for Matthew Healy and Michael Stoeckigt should be revised to:*

|                                   |                            |
|-----------------------------------|----------------------------|
| <b>Matthew Healy</b>              | <b>Mike Stoeckigt</b>      |
| <b>Vice President</b>             | <b>Area Vice President</b> |
| <b>Republic Services</b>          | <b>GFL Environmental</b>   |
| <b>8525 W. 183rd St., Suite K</b> | <b>701 Green Bay Road</b>  |
| <b>Tinley Park, IL 60487-3702</b> | <b>Zion, IL 60099-9564</b> |

**Illinois EPA Response**

The address from Matthew Healy and Michael Stoeckigt have been revised.

**Comment 2**

*Condition II.B.1; The approximate capacity of Site 1A is listed as 165,714 cubic yards. This is incorrect. From 1982 to 1990 (the time period when accurate data was maintained), approximately 232,000 tons of hazardous waste were disposed in Site 1A.*

**Illinois EPA Response**

Condition II.B.1 has been revised to 232,000 tons for the capacity of the landfill.

**Comment 3**

*Condition II.C.1 and II.C.2; "Post-closure care shall continue to be extended for an additional 30-year period or until such time as no unacceptable risks to human health and the environment are present in the Phase A landfill, as determined by the Illinois EPA."*

*Per 35 IAC 724.217(a)(2), only the Pollution Control Board has the authority to extend the post-closure care period beyond 30 years. The sentence above should be removed from condition II.C.1. Condition II.C.2 should be deleted.*

*If the permit is issued with this language, BFI may appeal it to the Pollution Control Board.*

Reviewer's Comment: The Illinois Environmental Protection Act, 35 IAC Parts 724 and 703, Guidance Document USEPA's Guideline for Evaluating Post-Closure Care Period, and ASTSWMO Position Paper, Post-Closure Care Beyond 30 Years at RCRA Subtitle C Facilities, were all reviewed when preparing Illinois EPA's final response to Comment #3.

#### **Illinois EPA Response**

The Illinois EPA is required to establish permit conditions that are protective of human health and the environment and can request a facility to establish or modify their RCRA Permit to meet these conditions in accordance with 35 IAC 703.241(a)(2) and 35 IAC 724.218(d). The evaluation to determine if there are unacceptable risks to human health and the environment that make it necessary to continue post-closure care and to extend post-closure care for a RCRA Landfill is based on the following applicable regulations and reference materials:

- a. The following sections of 35 IAC Part 724: 724.131, 724.210 through 724.220, 724.410.
- b. 35 IAC 703.241(a)(2), 35 IAC 724.218(d), and 35 IAC 703 Appendix A, E.2;
- c. Sections 12(a), 21(n) and 39(g) of the Illinois Environmental Protection Act (Act);
- d. USEPA's Guideline for Evaluating Post-Closure Care Period, dated December 15, 2016; and
- e. ASTSWMO Position Paper, dated July 20. 2022 "Post-Closure Care Beyond 30 Years at RCRA Subtitle C Facilities".

The following is a summary of applicable regulations.

#### Establishing Necessary Permit Conditions under 35 IAC 703.241 and 35 IAC 703 Appendix A, E.2

In accordance with 35 IAC 703.241(1), each RCRA permit must include permit conditions necessary to achieve compliance with each of the applicable requirements specified in 35 IAC Part 724. 35 IAC 703.241(a)(2) further requires that each RCRA permit issued pursuant to Section 39(d) the Act must contain terms and conditions that the Illinois EPA determines are necessary to adequately protect human health and the environment. This permit condition requires the facility to submit a permit modification request to extend the post-closure care period by modifying the post-closure plan as allowed under 35 IAC 724.218(d).

In accordance with 35 IAC 703, Appendix A, E.2, extension of post-closure care period is classified as a Class 2 modification request. It is appropriate for the Illinois EPA to request the

facility to submit a permit modification to extend the post-closure care period by a specified date in a compliance schedule of the RCRA permit. Extending post-closure care is a necessary requirement to meet the terms of 35 IAC Part 724 and the requirements of the Act. It is also appropriate for the Illinois EPA to address such matters at the time of a permit renewal (reissuance).

#### Maintenance of Facility under 35 IAC 724.131

In accordance with 35 IAC 724.131, RCRA post-closure facilities must be designed, constructed, maintained and operated to minimize the possibility of any release of hazardous waste or hazardous waste constituents to air, soil, or surface water that could threaten human health or the environment.

#### Post-Closure Use of Property 35 IAC 724.217 (c)(1)

35 IAC 724.217(c)(1) prohibits any disturbance of the integrity of the final cover, liner, or any other components of the containment system or the function of the monitoring system unless it is necessary to protect and reduce the threat to human health and the environment.

#### Land Disposal Unit Specific Requirements for Closure/Post-Closure under 35 IAC 724.410

35 IAC 724.410 lists specific closure/post-closure requirements for landfills. 35 IAC 724.410(a) specifies the minimum standards for construction of the final closure of a landfill, which includes, among other things, long-term minimization of liquid through the closed landfill and maintenance of the cover integrity be maintained.

35 IAC 724.410 (b) requires the facility to maintain the integrity and maintenance of the final cover and to continue operation of leachate collection and removal system until leachate is no longer detected. Zion Site 1 Phase A Landfill is generating a significant amount of leachate each year and the facility must continue to collect leachate past the initial 30-year post-closure care period. This is an unacceptable risk to human health and the environment. This regulation also requires maintaining and monitoring of the Leachate Detection System (LDS) and the groundwater monitoring system.

#### **Comment 4**

*Condition II.D.2; The requirement to inspect the Site 1A cover "quarterly and within 72 hours of any rainfall event of three or more inches in a 24-hour period" is redundant with the facility's NPDES permit which requires quarterly inspections following a significant rainfall event. Furthermore, the final cover has been maintained in accordance with 35 IAC 724.401.b.1.*

*Dozens of significant rain events, many of which resulted in more than 3 inches of rainfall in a 24-hour period, have occurred since post-closure care began in 1998, and no significant erosion issues have occurred.*

*724.410.b.1 requires BFI to "Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events."*

*Given the performance history of the final cover and the fact that inspections are already required under the NPDES permit, the proposed inspection requirement is duplicative and should be removed.*

#### **Illinois EPA Response**

Condition II.D.1 requires the Permittee to inspect all structures on a quarterly basis and document the results in the facility's operating record. Condition II.D.3 requires the facility to take appropriate correct action if problems occur. In addition, the facility's NPDES permit requires quarterly inspections following a significant rain event. Because all these conditions are in place, Condition II.D.2 is redundant and will be deleted. The subsequent conditions will be renumbered.

#### **Comment 5**

*Condition II.D.4; The requirement to maintain the results of all inspections and remedial actions taken for the "entire post-closure care period" is not necessary and may be impossible to comply with as it is being applied retroactively.*

*Records of "all inspections" may not be available since 35 IAC 724.173 requires records to be maintained in the operating record for only three years.*

#### **Illinois EPA Response**

The operating record must be maintained for the entire post-closure care period. The Illinois EPA understands the results of inspections are only kept for three years in accordance with 35 IAC 724.173.

#### **Comment 6**

*Condition II.F.1; The addition of temperature to the list of gas monitoring probe parameters is unnecessary. Gas monitoring probes, which are located outside the waste limits, do not experience temperature fluctuations like gas extraction wells that are located inside the waste limits. The temperature of gas in monitoring probes does not fluctuate; it reflects the stable temperature of the subsurface.*

*Temperature should be deleted from the list of parameters to be measured in gas monitoring probes.*

#### **Illinois EPA Response**

In accordance with the approved permit application, Appendix E-20, Gas Monitoring Plan, Section 3.2, BFI proposed temperature as one of the parameters to monitor in the gas probes.

#### **Comment 7**

*Condition II.F.5; Gas probe monitoring frequency following an exceedance for methane was not revised to reflect the proposed monitoring frequency in the 2021 Renewal Application (Appendix E-20, Section 4.2). BFI requests that this section be revised in accordance with the proposed*

monitoring frequency.

#### **Illinois EPA Response**

Condition II.F.5 has been revised to reflect the proposed monitoring frequency in BFI's approved permit application.

#### **Comment 8**

*Condition II.G.4; Quarterly monitoring of heat value of the landfill gas flowing to the flare is more stringent than, and redundant with, the annual requirement in the facility's CAAPP permit. An annual determination of heat content of the landfill gas burned at the flare is required by CAAPP Permit Condition 4.1.2.(c)(ii)(B)(V) to verify compliance with 40 CFR 61.18(c)(ii).*

*The requirement to measure heat content on a quarterly basis should be deleted. A more appropriate quarterly measurement would be the percentage of methane in the landfill gas. A methane measurement would complement the other required parameters (percent oxygen and percent carbon dioxide).*

#### **Illinois EPA Response**

The Illinois EPA has deleted heat value from Condition II.G.4 and added percent methane. In accordance with 35 IAC 811.312(f), heat value is required to be monitored for devices other than flares.

#### **Comment 9**

*Condition II.I.2.a.i; The requirement to repair "cracks greater than one inch wide in the final cover" is impractical for the vegetated final cover. Grass during the growing season is typically tall enough to prevent an inspector from identifying a 1-inch crack in the soil.*

*Small, surficial cracks are common in soils with a high clay content, such as those used in the final cover at Site 1A, particularly during the hottest summer months when solar radiation is strongest. It is important to note that these cracks are in the vegetative soil layer, which is not part of the barrier layer of the final cover. Further, the cracks self-heal after rainfall when soil moisture content increases. For these reasons, they have no adverse impact on the hydraulic performance of the final cover.*

*This requirement should be deleted, or a more appropriate crack width of 6 inches and a crack depth of greater than 6 inches should be used.*

#### **Illinois EPA Response**

Condition II.I.2.a.i has been revised to state all rills, gullies, and crevices greater than six inches deep.

#### **Comment 10**

*Condition II.J.1; There is a typographical error in the lettered list under II.J.1. Condition II.J.1.e is followed by II.J.1.g instead of II.J.1.f, which is missing.*

**Illinois EPA Response**

The typographical error has been corrected.

**Comment 11**

*Condition II.L.4.b.iii; The locations of minor repairs are irrelevant to the long-term post-closure care of the facility and records of their locations may not have been maintained for the entire duration of post-closure care, as 35 IAC 724.173(b) only requires these records to be maintained in the operating record for three years.*

*The requirement to "describe any problems and/or repairs...that were addressed over the post-closure care period in chronological order" and "to show the locations of each of the repairs...on a scaled drawing of the unit" is impractical and unnecessary. It should be deleted.*

**Illinois EPA Response**

Condition II.L.4.b.iii has been revised to only include significant problems and/or major repairs (e.g. when a Construction Acceptant Report is submitted to the Illinois EPA) to clarify which repairs should be included in the Post-Closure Documentation Report.

**Comment 12**

Condition II.L.4.b.v; Typographical error: "Colored photos of unit at post-closure completion" should be revised to "Color photos."

**Illinois EPA Response**

The typographical error has been corrected.

**Comment 13**

*Condition II.M.2; "Post-closure care costs are determined by multiplying annual costs by the full 30-year post-closure care period."*

*See Comment 3.*

*35 IAC 724.244(a)(2) states that 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 724.217. Illinois financial assurance regulations specifically allow a permittee to request annual reductions in the total amount of financial assurance that is held as each year passes and the total cost of post-closure care is reduced. See e.g., 35 IAC 724.245(a-f).*

*If the permit is issued with this language, BFI may appeal it to the Pollution Control Board.*

**Illinois EPA Response**

**Comment 22**

*Condition III.I.11.d; There is a typographical error. Item (d) is missing the (d) prior to the listed condition.*

**Illinois EPA Response**

The typographical error has been corrected.

**Comment 29**

*Condition V.D.3; Per 724.244(a)(2), the cost estimate for post-closure care is estimated by multiplying the annual cost by the number of years of post-closure care required under 724.217. Therefore, the cost estimate for post-closure care is determined based on the number of years remaining in the 30-year post-closure care period.*

*Only the Pollution Control Board has the authority to extend the post-closure care period beyond 30 years in accordance with 724.217(a)(2)(B).*

*If the permit is issued with this language, BFI may appeal it to the Pollution Control Board.*

**Illinois EPA Response**

Zion Site 1 Phase A Landfill is in their initial 30-year post-closure care period. In accordance with 35 IAC 724.244 (a)(2), the post-closure care 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. 35 IAC 724.217(a) Post-Closure Care Period; specifically 724.217(a)(1) states;

- 1) Post-closure care for each hazardous waste management unit subject to the requirements of Section 724.217 through 724.220 must begin after completion of closure of the unit and continue for 30 years after that date and must consist of at least the following:

The regulation does not state number of years remaining in the post-closure care period and therefore the post-closure cost estimate must be calculated by multiplying the annual post-closure cost estimate by 30 (the number of years required in Zion Site 1 Phase A Landfill's post-closure care period).

**Comment 30**

*Condition VII, Section II, Condition C.2; This condition requires BFI to submit a Class 2 permit modification to extend the post-closure care period on or prior to February 10, 2027.*

*Only the Pollution Control Board has the authority to extend the post-closure care period in accordance with 724.217(a)(2)(B) and this would not be done via a Class 2 permit modification submitted by the facility.*

*If the permit is issued with this language, BFI may appeal it to the Pollution Control Board.*

**Illinois EPA Response**

See Illinois EPA's Response to Comment 3.

**9-15-25**

I received the hard copy of BFI's comments on the draft permit and the public participation checklist with the required documentation from Community Relations. I will add them to the administrative record.

In our final approval letter of the renewed permit the Illinois EPA will respond to all of BFI's comments.

The final RCRA Permit will become effective 35 days after the issue date.

The renewed RCRA Permit will expire 10 years after the effective date.

**9-18-25**

I have received Shawntay's memo on the response to groundwater comments submitted by BFI. We have completed our response to comments and can issue the final permit.

Gwalt

Review

ILLINOIS EPA'S RESPONSE TO COMMENTS  
Zion Site 1 Phase A Landfill  
Draft Hazardous Waste Management RCRA Permit

SDD 9/18/2025

AMB

The Illinois EPA's responses below address comments from Zion Site 1 Phase A Landfill (Zion) dated Illinois EPA on September 5, 2025 pertaining to the draft RCRA permit for Zion issued on July 24, 2025. Note that italicized language on each comment, paraphrases the comments by Zion.

**Comment 14: Section III.D.1:**

*Condition III.D.1, List G1; The "# Note" under List G1 indicates the elevation of the bottom of the well "must be determined once every two or five years during the annual sampling event in accordance with Condition III.F.3."*

*Condition III.F.3 states that this measurement is to be reported every 5 years, when pumps are pulled, or whenever the elevation changes in accordance with III.I.6 which indicates this measurement is to be reported annually.*

*A measurement every 5 years is also consistent with the frequency required for 811 landfills per 811.3180(e)(7). There is no technical justification for measuring well depths at a RCRA landfill more frequently than the well depths at a solid waste landfill.*

*The "#" Note should be revised to state that the elevation of well bottom must be determined every 5 years and "every 2" should be deleted.*

**ILLINOIS EPA RESPONSE**

The comment is acknowledged, and the footnote has been updated to remove "every 2".

**Comment 15: Section III.D.1:**

*Condition III.D.1, List G2; The background quality standard for total and dissolved cyanide is incorrect. The value is listed as 0.005 ug/L; it should be 5 ug/L (or 0.005 mg/L). The 5 ug/L value is consistent with the interwell background quality standards listed in the November 15, 2013 Class 1\* permit modification application and approved in Log No. B-23R-M-3.*

*Furthermore, the laboratory has attested that it cannot report dissolved or total cyanide to a reporting limit of 0.005 ug/L using SW-846 methods.*

**ILLINOIS EPA RESPONSE**

Log No. B-23R-M-3 did approve 5 ug/L for List G2 Parameters Cyanide (dissolved) and Cyanide (Total). List G2 Parameters Table has been updated to the correct values.

**Comment 16: Section III.D.2.b:**

*Condition III.D.2.b; This condition states that for monitoring parameters "not detected above the Lower Limit of Quantitation (LLOQ) during background gathering, the LLOQ must be the established background value." The term LLOQ should be revised to Practical Quantitation Limit (PQL).*

*The term Lower Limit of Quantitation (LLOQ) does not appear in the RCRA regulations pertaining to groundwater monitoring. The term Practical Quantitation Limit (PQL) appears in 35 IAC 724.197(h) and 724.197(i)(5) with regard to the statistical evaluation of groundwater monitoring data and therefore was included in the 2021 Permit Renewal Application. Because the term LLOQ does not appear in the 724 regulations, it is not clear that this term is applicable to the groundwater monitoring program at Site 1A.*

*Regardless of the regulatory applicability of the term LLOQ to the groundwater monitoring program at Site 1A, the analytical laboratory that analyzes Site 1A's groundwater has stated that LLOQ and PQL are nearly the same, with one important difference: the LLOQ can vary among laboratories depending on differences in analytical precision, whereas the PQL is not lab specific. Therefore, PQL is the more appropriate standard.*

#### **ILLINOIS EPA RESPONSE**

All groundwater in the State is subject to 35 IAC Part 620, regardless of individual program requirements. Therefore, both 35 IAC Part 620 and Part 724 apply with regards to groundwater, which includes any updates to those regulations. The condition remains the same.

1. Since the submittal of the Permit application, 35 IAC Part 620 was updated March 28, 2025. In part, the regulations now require the Lower Limit of Quantitation (LLOQ) instead of the Practical Quantitation Limit (PQL), includes different standards, and more chemical constituents have been added. To meet the requirements of 35 IAC 620.510(b)(4), the draft permit will continue to include the condition as written.
2. The LLOQ (and PQL) are independent of any background or 35 IAC Part 620 value. The historical PQLs used by the laboratory are no longer adequate if they do not meet the LLOQ.
  - a. "Lower limit of quantitation" or "LLOQ" means the minimum concentration of a substance that can be measured or reported under "Test Methods of Evaluation Solid Wastes, Physical/Chemical Methods", incorporated by reference in Section 620.125.
  - b. "Practical quantification limit" or "PQL" means the lowest concentration or level that can be reliably measured within specified limits of precision and accuracy during routine laboratory operating conditions.
3. In addition, the LLOQ may be used for background values if constituents are not detected. These values should not be defaulted to 35 IAC Part 620 values.

**Comment 17: Section III.E.2.a:**

*Condition III.E.2.a; The requirement to identify the concentration of any parameter not detected during a previous sampling event is unnecessary and not required by 35 IAC 724.197 or 724.198. This evaluation is not part of the detection monitoring program outlined in Section C.6.7 of the permit renewal application, which describes the statistical procedures used to evaluate groundwater monitoring data.*

*This requirement should be deleted from the permit.*

**ILLINOIS EPA RESPONSE**

A review of Section C.6.7 and C.6.8 of the permit application verifies the approved statistical method (Section C.6.7) and evaluating statistically significant increases (Section C.6.8) is adequate. Therefore, Condition III.E.2 has been removed and conditions renumbered accordingly. Condition III-A.E.2 has also been removed and conditions renumbered accordingly.

**Comment 18: Section III.E.2.b:**

*Condition III.E.2.b; The requirement to identify a progressive increase of any parameter over four consecutive sampling events is unnecessary and not required by 35 IAC 724.197 or 724.198. This evaluation is not part of the detection monitoring program outlined in Section C.6.7 or Section C.6.8 of the permit renewal application, which describes the statistical procedures used to evaluate groundwater monitoring data and identify statistically significant increases.*

*This requirement should be deleted from the permit.*

**ILLINOIS EPA RESPONSE**

A review of Section C.6.7 and C.6.8 of the permit application verifies the approved statistical method (Section C.6.7) and evaluating statistically significant increases (Section C.6.8) is adequate. Therefore, Condition III.E.2 has been removed and conditions renumbered accordingly. Condition III-A.E.2 has also been removed and conditions renumbered accordingly.

**Comment 19: Section III.H.1:**

*Condition III.H.1; This condition states that the permittee must use the statistical methods specified in Section C.6.7 of the permit application.*

*However, it neglects to include Section C.6.8 which indicates that for constituents not present in the background data, a preliminary statistically significant increase occurs if the measured concentration of a single constituent is greater than two times the PQL, or the measured concentration of two or more constituents is greater than the PQL for each constituent.*

*Employing a trigger value of two times the PQL in determining statistically significant increases reduces "false positive" detections (i.e., reporting a detection that does not persist over several quarters) without increasing "false negatives" (i.e., not reporting a detection that proves to be persistent).*

*As evidence of this, since 2020, Site 1A recorded 16 detections greater than the PQL but less*

*than two times the PQL. None of these detections proved to be persistent, thus no SSI notifications were required.*

*The trigger value of two times the PQL has been in place at Site 1A for over 25 years and has proven to be an effective method that prevents IEPA reviewers from having to review ultimately needless submittals (16 in the last five years, as noted above) while posing no additional risk to human health and the environment. This criterion has also been in place at other RCRA facilities in Illinois and has proven to be equally effective for them.*

*The condition should be revised to reference the statistical methods in Section C.6.8 (Statistically Significant Increases) in addition to Section C.6.7 (Statistical Evaluation) of the permit renewal application.*

#### **ILLINOIS EPA RESPONSE**

The comment is acknowledged, and Condition III.H.1 of the Permit has been updated to include Section C.6.8 of the approved permit application.

#### **Comment 20: Section III.I.6:**

*Condition III.I.6; This condition requires the elevation of well bottom to be reported "at least annually". This conflicts with condition III.F.3 which requires this measurement every five years. This requirement should be revised to "reported every 5 years" to be consistent with condition III.F.3.*

#### **ILLINOIS EPA RESPONSE**

The comment is acknowledged, and Condition III.I.6 of the Permit will be updated to include "annually without dedicated pumps; every five years with dedicated pumps or whenever the pump is pulled" in place of "at least annually".

#### **Comment 21: Section III.I.10.b:**

*Condition III.I.10.b; This condition requires the permittee to "sample the groundwater in all wells listed in Condition III.C.1 and determine the concentration of all constituents identified in 35 IAC 724, Appendix I and 35 IAC 620" following a statistically significant change in groundwater quality. This is beyond what is required by the 35 IAC 724 regulations, which do not reference the parameters in 35 IAC 620.*

*Groundwater monitoring at RCRA landfill facilities is regulated under 35 IAC Subpart F. The requirements for a detection monitoring program are specified in 724.198, which requires sampling for Appendix I parameters if there is statistically significant evidence of contamination. 724.198(g)(2) also specifies that a site-specific subset of Appendix I may be monitored if it is determined to be more economical and equally effective at determining whether groundwater contamination has occurred; it does not specify or require any 620 parameters to be analyzed. Although Site 1A is currently implementing a Detection Groundwater Monitoring program, if statistically significant concentrations of detection indicator parameters are confirmed, a Compliance Groundwater Monitoring program would be required. The hazardous constituents monitored in the groundwater under Compliance Monitoring are specified in the facility permit*

but 35 IAC 724.193 regulates which parameters are to be included. According to 724.193, the "hazardous constituents are constituents identified in Appendix H of 35 Ill. Adm. Code 721 that have been detected in the groundwater in the uppermost aquifer underlying a regulated unit that are reasonably expected to be in or derived from waste in the regulated unit".

In summary, the groundwater monitoring parameters / constituents monitored following a statistically significant change under the current permit and proposed to continue being monitored within the Permit Renewal Application are sufficient to meet the above applicable regulations.

The reference to 35 IAC 620 should be deleted.

#### **ILLINOIS EPA RESPONSE**

All groundwater in the State is subject to 35 IAC Part 620, regardless of individual program requirements. Therefore, both 35 IAC Part 620 and Part 724 apply with regards to groundwater, which includes any updates to those regulations. The current routine groundwater sampling list consists of adequate indicator parameters, while evidence of a statistically significant exceedance warrants investigation of potential groundwater impacts to protect human health and the environment and groundwater resources. Therefore, the condition remains the same.

#### **Comment 23: Section III-A.D.1:**

Condition III-A.D.1; See Comment 15.

#### **ILLINOIS EPA RESPONSE**

Log No. B-23R-M-3 did approve 5 ug/L for List G2 Parameters Cyanide (dissolved) and Cyanide (Total). List G2 Parameters Table has been updated to the correct values.

#### **Comment 24: Section III-A.H.1:**

Condition III-A.H.1; See Comment 19.

#### **ILLINOIS EPA RESPONSE**

The comment is acknowledged, and Condition III-A.H.1 of the Permit has been updated to include Section C.6.7 and Section C.6.8 of the approved permit application.

#### **Comment 25: Section V.D.1.a:**

Condition V.D.1.a; This condition requires the facility to revise Section C.6.4 of the Permit Renewal Application to include the following statement: "Purged groundwater will be collected, containerized, and upon receipt of groundwater analysis, disposed of properly."

Site 1A has completed over 27 years of post-closure care groundwater monitoring (in addition to multiple years of groundwater monitoring performed prior to certification of post-closure in 1998). Groundwater monitoring data collected semi-annually over the 27 years of post-closure care has not identified confirmed statistically significant concentrations of indicator parameters.

*Given the extensive data documenting that no adverse groundwater impacts have occurred, returning purged groundwater to the ground surface (where it will infiltrate back into the monitored aquifer) poses no threat to human health or the environment.*

*If confirmed statistical exceedances are identified in the future, a permit modification to begin a Compliance Groundwater Monitoring Program is required to be submitted and approved by the Agency.*

*BFI acknowledges that containerization of purged groundwater would be appropriate if Compliance Monitoring is necessary.*

*The condition should be revised to require the facility to revise Section C.6.4 of the Permit Renewal Application to include the following statement: "if a Compliance Monitoring Program is implemented, purged groundwater from the Compliance Monitoring wells will be collected, containerized, and upon receipt of groundwater analysis, disposed of properly."*

#### **ILLINOIS EPA RESPONSE**

The comment is acknowledged. The need for analysis continues to be necessary to determine proper disposal; therefore, Condition V.D.1.a remains the same.

#### **Comment 26: Section V.D.1.b:**

*Condition V.D.1.b; See Comment 16.*

#### **ILLINOIS EPA RESPONSE**

The comment is acknowledged. Please see Illinois EPA response to Comment 16.

#### **Comment 27: Section V.D.1.c:**

*Condition V.D.1.c; This condition requires BFI to propose a timeline for establishing background values for all new and existing parameters based on the revisions to 35 IAC 620, effective March 28, 2025.*

*The parameters for Detection Groundwater Monitoring listed in the 2021 Permit Renewal Application are consistent with the parameters in the Detection Groundwater Monitoring Program of the existing permit. These parameters comply with 35 IAC 724.197(a)(3), which requires the groundwater monitoring system "allow for the detection of contamination when hazardous waste or hazardous constituents have migrated from the hazardous waste management area to the uppermost aquifer". Monitoring for these constituents also "provide[s] a reliable indication of groundwater quality below the waste management area" pursuant to 35 IAC 724.197(d).*

*Under 35 IAC 724.198(a) requirements for a Detection Groundwater Monitoring Program, the "owner or operator must monitor for indicator parameters (e.g., specific conductance, total organic carbon, or total organic halogen), waste constituents or reaction products that provide a reliable indication of the presence of hazardous constituents in groundwater". The parameters monitored are to be included in the permit after considering the following factors:*

1. *The types, quantities, and concentrations of constituents in wastes managed at the regulated unit;*

2. *The mobility, stability, and persistence of waste constituents or their reaction products in the unsaturated zone beneath the waste management area;*
3. *The detectability of indicator parameters, waste constituents, and reaction products in groundwater; and*
4. *The concentrations or values and coefficients of variation of proposed monitoring parameters or constituents in the groundwater background.*

*The indicator parameters included in the Detection Groundwater Monitoring section under both the existing permit and the 2021 Permit Renewal Application comply with the above regulations / factors. Issuance of revised 35 IAC 620 regulations has no bearing on the background data previously established in prior permits for the Detection Monitoring indicator parameters.*

*BFI acknowledges that if the Class I Groundwater Quality Standard for indicator parameters listed in the permit has decreased with the issuance of the revised 35 IAC 620 regulations, then the lower Class I standard will be utilized in future comparisons to groundwater quality data, as specified in the permit and proposed in the Permit Renewal Application. Finally, none of the new parameters added to 35 IAC 620 in 2025 have served as indicator parameters during the prior 27 years of post-closure care groundwater monitoring.*

*Although the facility is currently implementing a Detection Groundwater Monitoring program, if confirmed statistically significant concentrations of detection indicator parameters are identified in the groundwater, a Compliance Groundwater Monitoring program would be required. The hazardous constituents monitored in the groundwater under Compliance Monitoring are specified in 35 IAC 724.193. This regulation states that the "hazardous constituents are constituents identified in Appendix H of 35 Ill. Adm. Code 721 that have been detected in the groundwater in the uppermost aquifer underlying a regulated unit that are reasonably expected to be in or derived from waste in the regulated unit". None of the new 620 constituents are listed in 35 IAC 721 Appendix H.*

*In summary, the groundwater monitoring parameters / constituents listed in the current permit and proposed to continue being monitored within the Permit Renewal Application are fully compliant with the regulations.*

*This condition should be deleted.*

#### **ILLINOIS EPA RESPONSE**

The comment is acknowledged. The Illinois EPA also acknowledges the current indicator parameter list does not contain any new parameters added to 35 IAC Part 620 updates; therefore, the requirement now refers to parameters identified in Condition III.D.1 for clarification. The requirement to establish background values relative to the LLOQ remains, and Condition V.D.1.c has been revised to require a Class 1\* permit modification be provided within 60 days of the effective date of the permit to propose background values using the LLOQ. This includes instances where the Class I Groundwater Quality Standard is lower based on updates to 35 IAC Part 620.

The Illinois EPA agrees the new constituents listed in 35 IAC Part 620 are not listed in Appendix H. Any new background value development must utilize the LLOQ.

**Comment 28: Section V.D.2 :**

*Condition V.D.2; This condition requires Section E.7.3.1 of Permit Application to be revised to indicate if the leachate analyses detected a parameter for which the groundwater is/was not being analyzed and the actions taken if this occurred.*

*The approved detection monitoring program uses indicator parameters in accordance with 724.197 and 724.198 to determine if there is evidence of landfill impacts to groundwater. If there is statistically significant evidence of a change in groundwater quality, all monitoring wells will be sampled and monitored for Appendix I constituents in accordance with 724.198(g).*

*If any of these constituents in groundwater are confirmed, BFI will submit a permit modification application to establish a compliance monitoring program in accordance with 724.198(g)(4).*

*The presence of constituents in leachate that are not monitored in groundwater does not diminish the effectiveness of detection monitoring, as the indicator parameters monitored are selected to identify contamination in groundwater from leachate. The facility has a leachate collection system in place that effectively removes leachate from the landfill and prevents impacts to the groundwater. Moreover, the use of indicator parameters to identify groundwater contamination has been standard practice in the industry for decades.*

*Therefore, the detection of a leachate parameter that is not on the routine groundwater monitoring list does not require further action if there is no other evidence of a statistically significant change in groundwater quality.*

*This condition should be deleted.*

**ILLINOIS EPA RESPONSE**

All groundwater in the State is subject to 35 IAC Part 620, regardless of individual program requirements. When statistical evidence is present, there is a potential for any constituent in leachate to be released to groundwater; therefore, Condition V.D.2 has been revised to require, "at a minimum, propose addition of any parameter detected in leachate be added to Section III and III-A for sampling if conditions determine there is statistically significant evidence in accordance with 35 IAC 724.198(g)." This does not require addition to the routine groundwater sampling list.



**PUBLIC PARTICIPATION CHECKLIST  
FOR  
RCRA RENEWAL PERMIT  
ADMINISTRATIVE RECORD**

**FACILITY: Zion Site 1 Phase A Landfill**

**PUBLIC COMMENT PERIOD: 7/25/2025 – 9/8/2025**

- Public Notice
- Radio paid advertisement and/or payment voucher  
Cover letters (legislative, concerned citizens, etc.)
- Repository cover letter
- Verification that materials were received by repository location  
Press release or evidence of any other public participation activity
- Dated mailing list
- Newspaper tear sheets or affidavit of publications and payment voucher  
Public hearing transcript or hearing record # (if hearing held)
- Public comment(s) (Copy of comments or hearing record # where comments may be found)
- Response summary (if prepared)
- Final permit issuance or denial notice (if any)

**RECEIVED**

AUG 12 2025

IEPA-BOL  
**PERMIT SECTION****Illinois Environmental Protection Agency****PUBLIC NOTICE OF HAZARDOUS WASTE PERMIT RENEWAL**

Zion Site 1 Phase A Landfill in Zion

The Illinois Environmental Protection Agency (Illinois EPA) hereby gives notice of its intent to approve a renewed Resource Conservation and Recovery Act (RCRA) post-closure permit that requires BFI Waste Systems of North America, LLC to continue providing post-closure care for a closed 40-acre landfill located at 701 North Green Bay Road in Zion, Illinois. The closed landfill, referred to as Zion Site 1 Phase A Landfill, is currently operating under a RCRA post-closure permit. The owner of the closed 40-acre Phase A Landfill and the 290-acre Zion Site 1 Landfill site on which the facility is located is Zion Landfill, Inc.

The interested public is invited to review copies of the renewal permit application, draft post-closure renewal permit, and facility fact sheet at the Zion-Benton Public Library, 2400 Gabriel Avenue, Zion, Illinois 60099.

**Written comments on the draft post-closure renewal permit may be submitted during the 45-day comment period. Send comments to the Illinois EPA contact listed below postmarked by 11: 59 PM, September 8, 2025.** In response to public requests or at the discretion of the Illinois EPA, a public hearing may be held to clarify technical issues concerning the draft post-closure renewal permit. A public hearing request must be made in writing, express opposition to the draft post-closure renewal permit and state the nature of the issue(s) to be raised during the hearing. Written hearing requests should be sent to the Illinois EPA contact listed below by the end of the comment period. If applicable, public notice of a public hearing will be given at least 30 days in advance of a hearing.

Sarah Brubaker, Office of Community Relations (#5)

Illinois Environmental Protection Agency  
2520 West Iles Avenue, P.O. Box 19276  
Springfield, Illinois 62794-9276

Email: [Sarah.Brubaker@illinois.gov](mailto:Sarah.Brubaker@illinois.gov)

Phone: (217) 786-0790

TDD phone number (866) 273-5488

All comments received will become part of the Administrative Record (AR) and will be evaluated by the Illinois EPA in making the final post-closure renewal permit decision. The Illinois EPA will respond to comments on the draft post-closure renewal permit and indicate whether additional documents have been included in the AR. Commenters will be notified of the final post-closure renewal permit decision and the permit decision appeal process.

The AR, including the renewal permit application, draft renewal permit, related information and all data submitted by the applicant, is now available for public inspection. Please call the Illinois EPA contact above for an appointment to view the documents at Illinois EPA office in Springfield. Copies of the draft permit and fact sheet are available at <https://epa.illinois.gov/public-notices/bol-permit-public-notice.html>.

The facility is located in an area of Environmental Justice concern. More information concerning Environmental Justice may be found at <https://epa.illinois.gov/topics/environmental-justice.html>.

For further RCRA information, please visit <https://www.epa.gov/rcra>.

**Illinois EPA- BOL Permit Reviewer, #33  
Kelly Huser  
1021 North Grand Avenue, East, PO Box 19276  
Springfield IL 62794**

**Illinois Environmental Protection Agency**  
**PUBLIC NOTICE OF HAZARDOUS WASTE PERMIT RENEWAL**  
Zion Site 1 Phase A Landfill in Zion

The Illinois Environmental Protection Agency (Illinois EPA) hereby gives notice of its intent to approve a renewed Resource Conservation and Recovery Act (RCRA) post-closure permit that requires BFI Waste Systems of North America, LLC to continue providing post-closure care for a closed 40-acre landfill located at 701 North Green Bay Road in Zion, Illinois. The closed landfill, referred to as Zion Site 1 Phase A Landfill, is currently operating under a RCRA post-closure permit. The owner of the closed 40-acre Phase A Landfill and the 290-acre Zion Site 1 Landfill site on which the facility is located is Zion Landfill, Inc.

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**Sarah Brubaker, Office of Community Relations (#5)**  
**Illinois Environmental Protection Agency**      **Email: [Sarah.Brubaker@illinois.gov](mailto:Sarah.Brubaker@illinois.gov)**  
**2520 West Iles Avenue, P.O. Box 19276**      **Phone: (217) 786-0790**  
**Springfield, Illinois 62794-9276**      **TDD phone number (866) 273-5488**

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For further RCRA information, please visit <https://www.epa.gov/rcra>.

**9001646895  
6031563126**

**INVOICE**



**Alpha Media LLC**  
6170 W. Grand Ave  
Ste. 111  
Gurnee, IL 60031  
Main: (262) 694-7800  
Billing: (262) 694-7800

Billing Address:

**Illinois EPA**  
Attention: IEPA Fiscal Services  
2520 West Iles Avesnue  
Springfield, IL 62704

Send Payment To:

**Alpha Media LLC**  
6170 W. Grand Ave  
Ste. 111  
Gurnee, IL 60031  
Pay Online: [payalphamedia.com](http://payalphamedia.com)

|                   |   |              |                     |
|-------------------|---|--------------|---------------------|
| Property          | WLIP-AM                                     |              |                     |
| Invoice #         | 1839818-1                                   | Order #      | 1839818             |
| Invoice Date      | 07/31/25                                    | Alt Order #  |                     |
| Invoice Month     | July 2025                                   | Deal #       |                     |
| Invoice Period    | 07/01/25 - 07/28/25                         | Flight Dates | 07/28/25 - 07/28/25 |
| Advertiser        | Illinois EPA                                |              |                     |
| Product           | Paid Radio Announcement Zion Site 1 Phase A |              |                     |
| Estimate #        |   |              |                     |
| Account Executive | Jerry Boothe                                |              |                     |
| Sales Office      | Local-Waukegan/Kenosha                      |              |                     |
| Sales Region      | Local                                       |              |                     |
| Agency Code       |   |              |                     |
| Advertiser Code   |   |              |                     |
| Billing Calendar  | Calendar                                    |              |                     |
| Billing Type      | Cash  |              |                     |
| Special Handling  |   |              |                     |
| Agency Ref        |   |              |                     |
| Advertiser Ref    |   |              |                     |
| Product 1         |   |              |                     |
| Product 2         |   |              |                     |

| Line  | Start Date | End Date | Description  | Start/End Time | MTWTFSS | Length | Spots/Week | Rate    | Type |
|---|------------|----------|--------------|----------------|---------|--------|------------|---------|------|
| 1   | 07/28/25   | 07/28/25 | Mo-Fr 6a-10a | 6a-10a         | M-----  | :30    | 1          | \$50.00 | NM   |
| <hr/>   |            |          |              |                |         |        |            |         |      |
| Weeks: <u>Start Date</u> <u>End Date</u> <u>MTWTFSS</u> <u>Spots/Week</u> <u>Rate</u>   |            |          |              |                |         |        |            |         |      |
| <u>07/28/25</u> <u>08/03/25</u> <u>M-----</u> <u>1</u> <u>\$50.00</u>   |            |          |              |                |         |        |            |         |      |
| Spots: # <u>Ch</u> <u>Day</u> <u>Air Date</u> <u>Air Time</u> <u>Description</u> <u>Start/End Time</u> <u>Length</u> <u>Ad-ID</u> <u>Rate</u> <u>Type</u>   |            |          |              |                |         |        |            |         |      |
| 1 <u>WLIP</u> <u>M</u> <u>07/28/25</u> <u>6:11 AM</u> <u>Mo-Fr 6a-10a</u> <u>6a-10a</u> <u>:30</u> <u>Illinois EPA - Zion Site</u> <u>\$50.00</u> <u>NM</u> |            |          |              |                |         |        |            |         |      |
| <hr/>   |            |          |              |                |         |        |            |         |      |
| <u>Total Spots</u> <u>1</u>   |            |          |              |                |         |        |            |         |      |

**Payment Terms 30 Days - USD**

|   |                |
|---|----------------|
| <u>Net Total</u>                                    | <b>\$50.00</b> |
| <u>Invoice Balance as of 08/01/25 1:18:40 PM ET</u> | <b>\$50.00</b> |

**APPROVED**

*By Sarah Brubaker at 10:49 am, Aug 21, 2025*

**RECEIVED**

*By Janelle Dee at 12:34 pm, Aug 01, 2025*



# Illinois Environmental Protection Agency

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

## Purchase Request Form

Requestor Name: Jeff Guy

Email Address: Jeff.Guy@Illinois.gov

Phone: (217) 785-8724

Request Type: Small Purchase under \$10,000

Type of Procurement: Services, Non-IT

Delivery Address:

Date: 7/2/2025

Location: Headquarters

Bureau: Associate Director

Section: Community Relations

Proposed Contract Dates

Start: 7/2/2025

End: 12/31/2025

↓↓ For Staff Use Only ↓↓

Tracking Number: 26156

| Approver                           | Approvals  |
|------------------------------------|--|
| Bureau Chief                       | <u>Heather Nifong</u><br><small>Digitally signed by Heather Nifong<br/>Date: 2025.07.03 11:08:03 -0500</small> |
| Accounts Payable                   | <u>MJB</u><br><small>Digitally signed by MJB<br/>Date: 2025.07.03 11:45:10 -0500</small>                       |
| Cost Recovery / Grants             |  |
| Finance Manager                    | <u>Max Paller</u><br><small>Digitally signed by Max Paller<br/>Date: 2025.07.03 14:14:35 -0500</small>         |
| CFO                                | <u>Jake Poeschel</u><br><small>Digitally signed by Jake Poeschel<br/>Date: 2025.07.07 12:35:43 -0500</small>   |
| IT/DoIT Manager<br>(if applicable) |  |

### Suggested Vendor #1

Name: Alpha Media USA- WLIP-AM (News-Talk)

Address: 6170 W. Grand Ave Suite 111

City: Gurnee State: IL Zip: 60031

Contact: Karl Wertzler

Email: Karl.Wertzler@alphamediausa.com

Phone: (262) 694-7800

### Suggested Vendor #2

Name:

Address:

City:  State:  Zip:

Contact:

Email:

Phone:

### Description of Services

Describe what it is that you intend to procure (software, hardware, services, maintenance, etc.) including quantity if relevant. Describe business need for the procurement, and how the procurement will meet objectives of your agency and the State. Please make sure to spell out acronyms. Explain the potential consequences if this procurement is not approved. If other than a one-time purchase, explain solicitation method and pricing structure (hourly, per item, not-to-exceed, etc.).

Pursuant to 35 Ill. Admin. Code 705.163(b), Resource Conservation and Recovery Act (RCRA) permit radio advertisements for Zion Landfill Site 1. 30-second ad to air once on an English broadcast radio station serving the Zion area. WLIP-AM (News-Talk)

Run Dates TBD.

| Object Code | Item Description (Include catalog # or MFG) <sup>1</sup> | Equipment? <sup>2</sup> | Quantity | Unit of Measure   | Unit Price | Total Price |
|-------------|--|-------------------------|----------|-------------------|------------|-------------|
|             | Radio Ad Notice- Zion Landfill Site 1                    | No                      | 1        | :30 advertisement | 50         | \$50.00     |
|             |  |                         |          |                   |            |             |
|             |  |                         |          |                   |            |             |
|             |  |                         |          |                   |            |             |
|             |  |                         |          |                   |            |             |

<sup>1</sup> Any IT purchases must be approved by EPA DoIT COI.

<sup>2</sup> Mark "No" if unit price is under \$100.

Note: Attach detailed specification, if required, on separate sheet of paper.

Shipping

Request Total

\$50.00

**Small Purchase with Sole Source Conditions Justification**

Yes  No Is this a small purchase with sole source conditions?

**Quality Management Plans (EPA QA/R-2)**

Yes  No Will the recipient of this contractual agreement perform environmentally related measurements or data generation? ([View QMP details here.](#))

| Estimated Multi-Year Funding |        |    |        |
|------------------------------|--------|----|--------|
| FY                           | Amount | FY | Amount |
|                              |        |    |        |
|                              |        |    |        |
|                              |        |    |        |
|                              |        |    |        |
|                              |        |    |        |

↓↓ For Fiscal Use Only ↓↓

| Funding Source(s) |                  |             |            |                |        |
|-------------------|------------------|-------------|------------|----------------|--------|
| Fund              | Functional Area  | Cost Center | GL         | Internal Order | Amount |
| 0065900000        | 19000006PY000000 | 5323030100  | 5127300000 | 301300         |        |
|                   |                  |             |            |                |        |
|                   |                  |             |            |                |        |
|                   |                  |             |            |                |        |
|                   |                  |             |            |                |        |
|                   |                  |             |            |                |        |

R 000127

STATE OF ILLINOIS

**ORDER FOR DELIVERY**

|   |
|---|
| <b>VENDOR</b>   |
| Alpha media<br>6170 W. Grand Ave Suite 111<br>Gurnee, IL 60031<br>Attn: Karl Wertzler<br><a href="mailto:Karl.Wertzler@alphamediausa.com">Karl.Wertzler@alphamediausa.com</a><br>(262) 694-7800 |

|  |
|--|
| <b>Ship To</b><br>(Transportation Charges To Be Prepaid)             |
| Illinois EPA<br>2520 West Iles Avenue<br>Springfield, IL 62704<br>US |

|   |
|---|
| <b>Bill To</b>  |
| IEPA Fiscal Services<br>(217) 782-3250<br>Submit invoices to <a href="mailto:EPA.FiscalServ@illinois.gov">EPA.FiscalServ@illinois.gov</a> |

Agency Phone Number: Purchasing (217) 782-1249

| Item No. | Description of Article   | Qty | U/M | Unit Price | Total Price    |
|----------|--|-----|-----|------------|----------------|
|          | Pursuant to 35 Ill. Admin. Code 705.163(b), Resource Conservation and Recovery Act (RCRA) permit radio advertisements for Zion Landfill Site 1. 30-second ad to air once on an English broadcast radio station serving the Zion area. WLIP-AM (News-Talk)<br><br>Run Dates TBD. .... | 1   | Ea  | \$50.00    | <u>\$50.00</u> |



## 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

July 22, 2025

Lindsay Frey  
 Zion-Benton Public Library  
 2400 Gabriel Avenue  
 Zion, Illinois 60099

Dear Lindsay Frey:

Enclosed are the repository documents regarding the Illinois Environmental Protection Agency (Illinois EPA) Resource Conservation and Recovery Act (RCRA) draft renewal permit for the Zion Site 1 Phase A Landfill in Zion. The draft permit allows the facility to continue providing post-closure care for a closed 40-acre landfill located at 701 North Green Bay Road in Zion, Illinois.

It is important that the public have the opportunity to review the permit application submitted by the company and the draft renewal permit proposed by the Illinois EPA. If citizens have questions regarding this process, please contact Sarah Brubaker, Office of Community Relations, Illinois Environmental Protection Agency, 2520 W. Iles Ave, PO Box 19276, Springfield, Illinois 62794-9276, phone (217) 786-0790, TDD phone number (866) 273-5488, [sarah.brubaker@illinois.gov](mailto:sarah.brubaker@illinois.gov). Written comments should be submitted by September 8, 2025. Please include "Zion Site 1 Phase A Landfill" on any comments submitted.

The documents should not be allowed to circulate since interested citizens might then be prevented from reviewing the materials during the 45-day comment period. At the end of the process, you may recycle all of the repository documents or keep the documents for your community archives.

Please complete the attached verification form and return it to me in the enclosed postage-paid envelope. Thank you again for your cooperation in this effort.

Sincerely,

Jeffrey J. Guy  
 Office of Community Relations  
 (217) 785-8724  
[jeff.guy@illinois.gov](mailto:jeff.guy@illinois.gov)

Attachment and Enclosure

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



# 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

R 000130

## VERIFICATION OF REPOSITORY RECEIPT

Please fill out this form and return it to Sarah Brubaker in the enclosed envelope or send to [sarah.brubaker@illinois.gov](mailto:sarah.brubaker@illinois.gov).

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JUL 25 2025

Repository Location: Zion-Benton Public Library  
2400 Gabriel Avenue  
Zion, Illinois 60999

Community Relations  
Illinois EPA

Facility: Zion Site 1 Phase A Landfill  
701 North Green Bay Road  
Zion, Illinois 60099

Date documents arrived: 7/23/25

Signature of documents recipient:

Lindsay Frey  
Lindsay Frey

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**IEPA - DIVISION OF RECORDS MANAGEMENT  
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OCT 21 2025

REVIEWER: MED

Citizen Action Illinois

Citizen Action Illinois  
Ducks Unlimited National Headquarters  
National Audubon Society  
WWF-Lake-Habitat-Council

DELEGATED

LAKE COUNTY

Mark A. Pfister, Director  
Greg Giroux, Environmental Protection Specialist  
Michael Adam, Solid Waste Unit Coordinator

EMAILS:

American Bottoms Conservancy  
IL League of Women Voters

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Website: [www.lakecountyil.gov/health/resources/solidwaste](http://www.lakecountyil.gov/health/resources/solidwaste)

IPC / County: 0978020001 / Lake County  
Municipality / Facility Name: Zion / Zion Site 1 Landfill  
Facility Address: 701 Green Bay Road, Zion, IL  
Repository location: Zion-Benton Public Library  
Radio\* options to consider: WJUP-AM  
Newspaper\*: Waukegan Lake County News  
Updated: 4/23/2025

This mailing list is modeled after 35 Ill. Adm. Code 705.163(a), to be used whenever a permit application is denied, a draft permit has been prepared, or a hearing has been scheduled.  
\* 35 Ill. Adm. Code 705.163(b)

# 'Grandeur, beauty and abundance'

**National park signs**  
about anything else  
subject to scrutiny

By Maxine Jacobson  
and Lisa Friedman  
The New York Times

WASHINGTON — At Cape Hatteras National Seashore in North Carolina, the Trump administration is set to review and possibly remove as many signs about how climate change is causing sea levels to rise.

At Independence National Historical Park in Philadelphia, the administration will soon decide whether to take down exhibits on the trial of George Washington.

And at Castillo de San Marcos National Monument in Florida, Trump officials are scrutinizing language about the imprisonment of Native Americans inside the Spanish colony's fortresses.

According to internal documents reviewed by The New York Times, employees of the National Park Service have flagged descriptions and displays at scores of parks and historic sites for review in connection with President Donald Trump's directive to remove or cover up materials that "inappropriately disparage Americans."

In an executive order in March, the president instructed the Park Service to review plaques, films and other exhibits at more than 400 sites visited by 430 million visitors in 2017 around the country, with the aim of curbing their emphasis the "progress of the American people" and the "grandeur of the American landscape."

Employees found exhibits were "inappropriate" and should be removed, and the Trump administration said it would remove all "inappropriate" content by Sept. 17, according to the agency's documents. The agency also has been asked to review plaques.

In response, a coalition of historians, historians and others organized through



Visitors at Independence National Historical Park in Philadelphia view an exhibit July 18 on the brutality of slavery. (Courtesy of the National Park Service)

the University of Minnesota — groups.

"The national parks have launched a campaign called 'Save Our Signs.' It is asking the public to take photographs of existing exhibits at national parks and upload it," said Dan Wenk, a former superintendent of Yellowstone National Park. "We need to build a public archive to serve any materials may be altered. So far, it has more than 500 submissions."

The directive, the group's spokesman said, was issued by Trump to promote a more positive view of the nation's history. In his executive order, the president also took aim at the Smithsonian Institution, claiming that it had promoted "radical" and "pervasive" American and Western values as inherently biased and oppressive."

Critics have warned that these moves could lead to the erasure of difficult periods of American history, as well as the removals of diverse, non-white, gay and transgender figures, women and other marginalized

"interpretive materials that disproportionately emphasize negative aspects of U.S. history or historical figures, which weaken or undermine broader current or national progress, or intentionally distort understanding rather than enrich it," Pease said in a statement.

"Our goal is to foster honest, respectful, and accurate exhibits that educate visitors to the complexity of our nation's shared history."

Several Republican lawmakers have applauded the administration's efforts to "purge the federal government of 'woke' initiatives that purport to rewrite history to fit a narrow, anti-white narrative,"

"People are here to bind here," Bruegel said. "If they don't comply with this directive, they could lose their jobs."

Elizabeth Pease, a spokeswoman for the Interior Department, the parent agency of the Park Service, said the Trump administration's move "is not about rewriting the past."

Government has taken down

plaques that Park Service employees used to an-

teach an exhibit at Muir Woods National Monument in California.

The sticky notes, which

park staff added in 2021, anticipated to present a more

comprehensive history of

the monument.

"Our goal is to foster honest, respectful, and accurate exhibits that educate visitors to the complexity of our nation's shared history."

In addition to reshaping the way the parks present history, the executive order called for the removal of interpretive displays that emphasize climate change, as well as those that eliminate changes in the present day.

At Cape Hatteras National

Seashore, for instance, the internal documents show

that Park Service employees

asked the Trump adminis-

tration to review a sign that

explained how rising seas are

threatening the habitat of

Albatrosses.

Already, the Interior De-

"We do not believe it to be in violation, but would like someone to review if messages of climate change and sea level rise reduces the focus on the grandeur, beauty and abundance" the employee wrote.

As global warming has caused ice sheets and glaciers to melt, water levels around Cape Hatteras have risen by about a foot in the last century, according to the National Oceanic and Atmospheric Administration.

"From a scientific perspective, there's no question that a warming planet is causing long-term sea level rise," said Robert Young, the director of the Program for the Study of Developed Shorelines at Western Carolina University. "I guess you could have a discussion as to what degree it is the National Park Service's job to point that out."

But Patrick Gonzalez, who was an environmental climate change scientist at the Park Service during Trump's first term, said that is precisely the agency's job to point that out."

Communicating the science of climate change helps to educate the public on complex scientific issues, and it is important for people to live more sustainably and reduce their carbon pollution," said Gonzalez, who is now with the University of California, Berkeley.

The bulk of the comment

identified the review in

the internal documents

as addressing the struggle for

equity of Black Americans

from slavery to the Civil Rights Movement.

"Text addresses slavery as the primary cause of the American Civil War," one Park Service employee said in a plaque at the Stones River National Battlefield in Tennessee, the site of one of the bloodiest conflicts of the Civil War.

"This is both historically correct and legislatively correct," the employee said. "But we also feel further review is important if it is aligned" with the executive order, the official wrote.



A woman in Kharkiv, Ukraine, carries her pet dog as she flees her home after a Russian bomb attack on an apartment building. (Courtesy of the New York Times)

## Zelenskyy moves to restore anti-graft agencies' freedom

By Illia Novikov and Hanna Arshirova  
Associated Press

KYIV, Ukraine — President Volodymyr Zelenskyy on Thursday submitted a new bill that would restore the independence of Ukraine's anti-corruption agencies in an effort to finish reforms that his predecessor had stalled. The bill is the latest in a week of controversial laws that weakened their autonomy.

The previous bill was seen as undermining the agencies' independence and sparked a public outcry and protests. But the new bill is seen as a breakthrough, as well as a sharp criticism from the European Union.

Zelenskyy said parliament would review the new bill, which "guarantees real strengthening of Ukraine's anti-corruption system, the independence of anti-corruption bodies, and reliable protection of the legal system from any Russian interference."

Ukraine's two main anti-graft agencies — the National Anti-Corruption Bureau of Ukraine and the Specialized Anti-Corruption Prosecutor's Office

— quickly welcomed Zelenskyy's new proposal, saying it restores all their previous powers and guarantees their independence.

The agencies said they helped draft the new bill, and urged lawmakers to adopt it "as soon as possible" to prevent criminal cases.

Critics said the original bill had been水印

水印

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**BFI Waste Systems of North America, LLC.**  
26W580 Schick Road  
Hanover Park, IL 60133

Sustainability in Action

Via Fed Ex  
8841 1778 4130

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SEP 8 2025

Community Relations  
Illinois EPA

September 5, 2025  
Jeff Guy  
Office of Community Relations (#5)  
Illinois Environmental Protection Agency  
Bureau of Land  
2520 W. Iles Ave  
Springfield, Illinois 62704

**Subject: 0978020001 - Lake County  
Zion Site 1 Phase A Landfill  
ILD980700728  
Log No. B-23R2  
RCRA Permits Administrative Record - 24D  
Comments on Draft Permit B-23R2**

Dear Mr. Guy:

BFI Waste Systems of North America, LLC submits the attached comments on the draft RCRA Post-Closure Permit for the Zion Site 1 Phase A Landfill (Log No. B-23R2) issued July 24, 2025.

If you have any questions concerning this submittal, please contact me at 224-970-1129 or [JHitzeroth@republicservices.com](mailto:JHitzeroth@republicservices.com).

Sincerely,  
BFI Waste Systems of North America, LLC



James Hitzeroth  
Environmental Manager

Attachments

Copy: Mike Stoeckigt, GFL Environmental  
Eric Ballenger, Republic Services  
Ed Doyle, Environmental Information Logistics, LLC  
Mike Maxwell, Weaver Consultants Group



September 5, 2025

Jim Hitzeroth  
Environmental Manager  
BFI Waste Systems of North America, LLC  
26W580 Schick Rd.  
Hanover Park, IL 60133

**Subject: 0978020001 - Lake County  
Zion Site 1 Phase A Landfill  
ILD980700728  
Log No. B-23R2  
RCRA Permits Administrative Record - 24D  
Comments on Draft Permit B-23R2**

Dear Jim,

This letter provides comments on the draft RCRA post-closure permit issued July 24, 2025 (Log No. B-23R2).

If you have any questions or need more information, please contact us as noted below.

Thank you,  
Environmental Information Logistics, LLC

*Erin Yargicoglu*

Erin Yargicoglu, Ph.D.  
Senior Environmental Scientist  
[eyargicoglu@eillc.com](mailto:eyargicoglu@eillc.com)  
630-605-0564

*Ed Doyle*

Ed Doyle, P.E.  
Senior Engineer  
[edoyle@EILLC.com](mailto:edoyle@EILLC.com)  
630-254-9388

Attachment - Comments on Draft Permit B-23R2

*September 5, 2025*  
*Zion Site 1 Phase A Landfill*  
*Log No. B-23R2*  
*RCRA Permits Administrative Record - 24D*  
*Comments on Draft Permit B-23R2*

**Attachment 1**  
**Comments on Draft Permit B-23R2**

September 5, 2025  
 Zion Site 1 Phase A Landfill  
 Log No. B-23R2  
 RCRA Permits Administrative Record - 24D  
 Comments on Draft Permit B-23R2

Page 1

| Item #<br>Section of<br>Permit<br>Page No.              | Comment  |               |                |                |                     |                   |                   |                            |                    |                            |                     |
|---|--|---------------|----------------|----------------|---------------------|-------------------|-------------------|----------------------------|--------------------|----------------------------|---------------------|
| 1.<br>Cover<br>Letter,<br>Pg. 1                         | <p>The addresses listed for Matthew Healy and Michael Stoeckigt should be revised to:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">Matthew Healy</td> <td style="width: 60%;">Mike Stoeckigt</td> </tr> <tr> <td>Vice President</td> <td>Area Vice President</td> </tr> <tr> <td>Republic Services</td> <td>GFL Environmental</td> </tr> <tr> <td>8525 W. 183rd St., Suite K</td> <td>701 Green Bay Road</td> </tr> <tr> <td>Tinley Park, IL 60487-3702</td> <td>Zion, IL 60099-9564</td> </tr> </table>  | Matthew Healy | Mike Stoeckigt | Vice President | Area Vice President | Republic Services | GFL Environmental | 8525 W. 183rd St., Suite K | 701 Green Bay Road | Tinley Park, IL 60487-3702 | Zion, IL 60099-9564 |
| Matthew Healy   | Mike Stoeckigt   |               |                |                |                     |                   |                   |                            |                    |                            |                     |
| Vice President  | Area Vice President  |               |                |                |                     |                   |                   |                            |                    |                            |                     |
| Republic Services                                       | GFL Environmental  |               |                |                |                     |                   |                   |                            |                    |                            |                     |
| 8525 W. 183rd St., Suite K                              | 701 Green Bay Road   |               |                |                |                     |                   |                   |                            |                    |                            |                     |
| Tinley Park, IL 60487-3702                              | Zion, IL 60099-9564  |               |                |                |                     |                   |                   |                            |                    |                            |                     |
| 2.<br>II.B.1<br>Pg. II-2                                | <p>The approximate capacity of Site 1A is listed as 165,714 cubic yards. This is incorrect. From 1982 to 1990 (the time period when accurate data was maintained), approximately 232,000 tons of hazardous waste were disposed in Site 1A.</p>   |               |                |                |                     |                   |                   |                            |                    |                            |                     |
| 3.<br>Sec. II.C.1<br>and II.C.2<br>Pg. II-3 and<br>II-4 | <p>"Post-closure care shall continue to be extended for an additional 30-year period or until such time as no unacceptable risks to human health and the environment are present in the Phase A landfill, as determined by the Illinois EPA."</p> <p>Per 35 IAC 724.217(a)(2), only the Pollution Control Board has the authority to extend the post-closure care period beyond 30 years. The sentence above should be removed from condition II.C.1. Condition II.C.2 should be deleted.</p> <p>If the permit is issued with this language, BFI may appeal it to the Pollution Control Board.</p>   |               |                |                |                     |                   |                   |                            |                    |                            |                     |
| 4.<br>II.D.2<br>Pg. II-4                                | <p>The requirement to inspect the Site 1A cover "quarterly and within 72 hours of any rainfall event of three or more inches in a 24-hour period" is redundant with the facility's NPDES permit which requires quarterly inspections following a significant rainfall event. Furthermore, the final cover has been maintained in accordance with 35 IAC 724.401.b.1.</p> <p>Dozens of significant rain events, many of which resulted in more than 3 inches of rainfall in a 24-hour period, have occurred since post-closure care began in 1998, and no significant erosion issues have occurred.</p> <p>724.410.b.1 requires BFI to "Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events."</p> <p>Given the performance history of the final cover and the fact that inspections are already required under the NPDES permit, the proposed inspection requirement is duplicative and should be removed.</p> |               |                |                |                     |                   |                   |                            |                    |                            |                     |
| 5.<br>II.D.4<br>Pg. II-5                                | <p>The requirement to maintain the results of all inspections and remedial actions taken for the "entire post-closure care period" is not necessary and may be impossible to comply with as it is being applied retroactively.</p>   |               |                |                |                     |                   |                   |                            |                    |                            |                     |

September 5, 2025  
 Zion Site 1 Phase A Landfill  
 Log No. B-23R2  
 RCRA Permits Administrative Record - 24D  
 Comments on Draft Permit B-23R2

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|  | Records of "all inspections" may not be available since 35 IAC 724.173 requires records to be maintained in the operating record for only three years.  |
| 6.<br>II.F.1<br>Pg. II-8                   | <p>The addition of temperature to the list of gas monitoring probe parameters is unnecessary. Gas monitoring probes, which are located outside the waste limits, do not experience temperature fluctuations like gas extraction wells that are located inside the waste limits. The temperature of gas in monitoring probes does not fluctuate; it reflects the stable temperature of the subsurface.</p> <p>Temperature should be deleted from the list of parameters to be measured in gas monitoring probes.</p>   |
| 7.<br>II.F.5<br>Pg. II-9                   | Gas probe monitoring frequency following an exceedance for methane was not revised to reflect the proposed monitoring frequency in the 2021 Renewal Application (Appendix E-20, Section 4.2). BFI requests that this section be revised in accordance with the proposed monitoring frequency.   |
| 8.<br>II.G.4<br>Pg. II-9                   | <p>Quarterly monitoring of heat value of the landfill gas flowing to the flare is more stringent than, and redundant with, the annual requirement in the facility's CAAPP permit. An annual determination of heat content of the landfill gas burned at the flare is required by CAAPP Permit Condition 4.1.2.(c)(ii)(B)(V) to verify compliance with 40 CFR 61.18(c)(ii).</p> <p>The requirement to measure heat content on a quarterly basis should be deleted. A more appropriate quarterly measurement would be the percentage of methane in the landfill gas. A methane measurement would complement the other required parameters (percent oxygen and percent carbon dioxide).</p>  |
| 9.<br>II.I.2.a.i<br>Pg. II-12              | <p>The requirement to repair "cracks greater than one inch wide in the final cover" is impractical for the vegetated final cover. Grass during the growing season is typically tall enough to prevent an inspector from identifying a 1-inch crack in the soil.</p> <p>Small, surficial cracks are common in soils with a high clay content, such as those used in the final cover at Site 1A, particularly during the hottest summer months when solar radiation is strongest. It is important to note that these cracks are in the vegetative soil layer, which is not part of the barrier layer of the final cover. Further, the cracks self-heal after rainfall when soil moisture content increases. For these reasons, they have no adverse impact on the hydraulic performance of the final cover.</p> <p>This requirement should be deleted, or a more appropriate crack width of 6 inches and a crack depth of greater than 6 inches should be used.</p> |
| 10.<br>II.J.1                              | There is a typographical error in the lettered list under II.J.1. Condition II.J.1.e is followed by II.J.1.g instead of II.J.1.f, which is missing.   |

September 5, 2025  
 Zion Site 1 Phase A Landfill  
 Log No. B-23R2  
 RCRA Permits Administrative Record - 24D  
 Comments on Draft Permit B-23R2

Page 3

| Item #<br>Section of<br>Permit<br>Page No. | Comment  |
|--|--|
| Pg. II-13                                  |  |
| 11.<br>II.L.4.b.iii<br>Pg. II-16           | <p>The locations of minor repairs are irrelevant to the long-term post-closure care of the facility and records of their locations may not have been maintained for the entire duration of post-closure care, as 35 IAC 724.173(b) only requires these records to be maintained in the operating record for three years.</p> <p>The requirement to "describe any problems and/or repairs...that were addressed over the post-closure care period in chronological order" and "to show the locations of each of the repairs...on a scaled drawing of the unit" is impractical and unnecessary. It should be deleted.</p>  |
| 12.<br>II.L.4.b.v<br>Pg. II-17             | <p>Typographical error: "Colored photos of unit at post-closure completion" should be revised to "Color photos."</p>   |
| 13.<br>II.M.2<br>Pg. II-18                 | <p>"Post-closure care costs are determined by multiplying annual costs by the full 30-year post-closure care period."</p> <p>See Comment 3.</p> <p>35 IAC 724.244(a)(2) states that 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 724.217. Illinois financial assurance regulations specifically allow a permittee to request annual reductions in the total amount of financial assurance that is held as each year passes and the total cost of post-closure care is reduced. See e.g., 35 IAC 724.245(a-f).</p> <p>If the permit is issued with this language, BFI may appeal it to the Pollution Control Board.</p>   |
| 14.<br>III.D.1, List<br>G1<br>Pg. III-4    | <p>The "# Note" under List G1 indicates the elevation of the bottom of the well "must be determined once every two or five years during the annual sampling event in accordance with Condition III.F.3."</p> <p>Condition III.F.3 states that this measurement is to be reported every 5 years, when pumps are pulled, or whenever the elevation changes in accordance with III.I.6 which indicates this measurement is to be reported annually.</p> <p>A measurement every 5 years is also consistent with the frequency required for 811 landfills per 811.3180(e)(7). There is no technical justification for measuring well depths at a RCRA landfill more frequently than the well depths at a solid waste landfill.</p> <p>The "#" Note should be revised to state that the elevation of well bottom must be determined every 5 years and "every 2" should be deleted.</p> |

September 5, 2025  
 Zion Site 1 Phase A Landfill  
 Log No. B-23R2  
 RCRA Permits Administrative Record - 24D  
 Comments on Draft Permit B-23R2

Page 4

| Item #<br>Section of<br>Permit<br>Page No. | Comment  |
|--|--|
| 15.<br>III.D.1, List<br>G2<br>Pg. III-6    | <p>The background quality standard for total and dissolved cyanide is incorrect. The value is listed as 0.005 ug/L; it should be 5 µg/L (or 0.005 mg/L). The 5 µg/L value is consistent with the interwell background quality standards listed in the November 15, 2013 Class 1* permit modification application and approved in Log No. B-23R-M-3.</p> <p>Furthermore, the laboratory has attested that it cannot report dissolved or total cyanide to a reporting limit of 0.005 µg/L using SW-846 methods.</p>  |
| 16.<br>III.D.2.b<br>Pg. III-6              | <p>This condition states that for monitoring parameters "not detected above the Lower Limit of Quantitation (LLOQ) during background gathering, the LLOQ must be the established background value." The term LLOQ should be revised to Practical Quantitation Limit (PQL).</p> <p>The term Lower Limit of Quantitation (LLOQ) does not appear in the RCRA regulations pertaining to groundwater monitoring. The term Practical Quantitation Limit (PQL) appears in 35 IAC 724.197(h) and 724.197(i)(5) with regard to the statistical evaluation of groundwater monitoring data and therefore was included in the 2021 Permit Renewal Application. Because the term LLOQ does not appear in the 724 regulations, it is not clear that this term is applicable to the groundwater monitoring program at Site 1A.</p> <p>Regardless of the regulatory applicability of the term LLOQ to the groundwater monitoring program at Site 1A, the analytical laboratory that analyzes Site 1A's groundwater has stated that LLOQ and PQL are nearly the same, with one important difference: the LLOQ can vary among laboratories depending on differences in analytical precision, whereas the PQL is not lab specific. Therefore, PQL is the more appropriate standard.</p> |
| 17.<br>III.E.2.a<br>Pg. III-7              | <p>The requirement to identify the concentration of any parameter not detected during a previous sampling event is unnecessary and not required by 35 IAC 724.197 or 724.198.</p> <p>This evaluation is not part of the detection monitoring program outlined in Section C.6.7 of the permit renewal application, which describes the statistical procedures used to evaluate groundwater monitoring data.</p> <p>This requirement should be deleted from the permit.</p>  |
| 18.<br>III.E.2.b<br>Pg. III-7              | <p>The requirement to identify a progressive increase of any parameter over four consecutive sampling events is unnecessary and not required by 35 IAC 724.197 or 724.198.</p> <p>This evaluation is not part of the detection monitoring program outlined in Section C.6.7 or Section C.6.8 of the permit renewal application, which describes the statistical procedures used to evaluate groundwater monitoring data and identify statistically significant increases.</p> <p>This requirement should be deleted from the permit.</p>   |

September 5, 2025  
 Zion Site 1 Phase A Landfill  
 Log No. B-23R2  
 RCRA Permits Administrative Record - 24D  
 Comments on Draft Permit B-23R2

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| Item #<br>Section of<br>Permit<br>Page No. | Comment   |
|--|---|
| 19.<br>III.H.1<br>Pg. III-9                | <p>This condition states that the permittee must use the statistical methods specified in Section C.6.7 of the permit application.</p> <p>However, it neglects to include Section C.6.8 which indicates that for constituents not present in the background data, a preliminary statistically significant increase occurs if the measured concentration of a single constituent is greater than two times the PQL, or the measured concentration of two or more constituents is greater than the PQL for each constituent.</p> <p>Employing a trigger value of two times the PQL in determining statistically significant increases reduces "false positive" detections (i.e., reporting a detection that does not persist over several quarters) without increasing "false negatives" (i.e., not reporting a detection that proves to be persistent).</p> <p>As evidence of this, since 2020, Site 1A recorded 16 detections greater than the PQL but less than two times the PQL. None of these detections proved to be persistent, thus no SSI notifications were required.</p> <p>The trigger value of two times the PQL has been in place at Site 1A for over 25 years and has proven to be an effective method that prevents IEPA reviewers from having to review ultimately needless submittals (16 in the last five years, as noted above) while posing no additional risk to human health and the environment. This criterion has also been in place at other RCRA facilities in Illinois and has proven to be equally effective for them.</p> <p>The condition should be revised to reference the statistical methods in Section C.6.8 (Statistically Significant Increases) in addition to Section C.6.7 (Statistical Evaluation) of the permit renewal application.</p> |
| 20.<br>III.I.6<br>Pg. III-10               | <p>This condition requires the elevation of well bottom to be reported "at least annually". This conflicts with condition III.F.3 which requires this measurement every five years.</p> <p>This requirement should be revised to "reported every 5 years" to be consistent with condition III.F.3.</p>  |
| 21.<br>III.I.10.b<br>Pg. III-11            | <p>This condition requires the permittee to "sample the groundwater in all wells listed in Condition III.C.1 and determine the concentration of all constituents identified in 35 IAC 724, Appendix I and 35 IAC 620" following a statistically significant change in groundwater quality. This is beyond what is required by the 35 IAC 724 regulations, which do not reference the parameters in 35 IAC 620.</p> <p>Groundwater monitoring at RCRA landfill facilities is regulated under 35 IAC Subpart F. The requirements for a detection monitoring program are specified in 724.198, which requires sampling for Appendix I parameters if there is statistically significant evidence of contamination.</p> <p>724.198(g)(2) also specifies that a site-specific subset of Appendix I may be monitored if it is determined to be more economical and equally effective at</p>  |

September 5, 2025  
 Zion Site 1 Phase A Landfill  
 Log No. B-23R2  
 RCRA Permits Administrative Record - 24D  
 Comments on Draft Permit B-23R2

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| Item #<br>Section of<br>Permit<br>Page No.  | Comment  |
|---|--|
|   | <p>determining whether groundwater contamination has occurred; it does not specify or require any 620 parameters to be analyzed.</p> <p>Although Site 1A is currently implementing a Detection Groundwater Monitoring program, if statistically significant concentrations of detection indicator parameters are confirmed, a Compliance Groundwater Monitoring program would be required. The hazardous constituents monitored in the groundwater under Compliance Monitoring are specified in the facility permit but 35 IAC 724.193 regulates which parameters are to be included. According to 724.193, the "hazardous constituents are constituents identified in Appendix H of 35 Ill. Adm. Code 721 that have been detected in the groundwater in the uppermost aquifer underlying a regulated unit that are reasonably expected to be in or derived from waste in the regulated unit".</p> <p>In summary, the groundwater monitoring parameters / constituents monitored following a statistically significant change under the current permit and proposed to continue being monitored within the Permit Renewal Application are sufficient to meet the above applicable regulations.</p> <p>The reference to 35 IAC 620 should be deleted.</p> |
| 22.<br>III.I.11.d<br>Pg. III-12             | There is a typographical error. Item (d) is missing the (d) prior to the listed condition.   |
| 23.<br>III-A.D.1,<br>List G2<br>Pg. III-A-5 | See Comment 15.  |
| 24.<br>III-A.H.1<br>Pg. III-A-7             | See Comment 19.  |
| 25.<br>V.D.1.a<br>Pg. V-2                   | <p>This condition requires the facility to revise Section C.6.4 of the Permit Renewal Application to include the following statement: "Purged groundwater will be collected, containerized, and upon receipt of groundwater analysis, disposed of properly."</p> <p>Site 1A has completed over 27 years of post-closure care groundwater monitoring (in addition to multiple years of groundwater monitoring performed prior to certification of post-closure in 1998). Groundwater monitoring data collected semi-annually over the 27 years of post-closure care has not identified confirmed statistically significant concentrations of indicator parameters.</p> <p>Given the extensive data documenting that no adverse groundwater impacts have occurred, returning purged groundwater to the ground surface (where it will infiltrate back into the monitored aquifer) poses no threat to human health or the environment.</p>   |

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|  | <p>If confirmed statistical exceedances are identified in the future, a permit modification to begin a Compliance Groundwater Monitoring Program is required to be submitted and approved by the Agency.</p> <p>BFI acknowledges that containerization of purged groundwater would be appropriate if Compliance Monitoring is necessary.</p> <p>The condition should be revised to require the facility to revise Section C.6.4 of the Permit Renewal Application to include the following statement: "if a Compliance Monitoring Program is implemented, purged groundwater <u>from the Compliance Monitoring wells</u> will be collected, containerized, and upon receipt of groundwater analysis, disposed of properly."</p>  |
| 26.<br>V.D.1.b<br>Pg. V-2                  | See Comment 16.  |
| 27.<br>V.D.1.c<br>Pg. V-2                  | <p>This condition requires BFI to propose a timeline for establishing background values for all new and existing parameters based on the revisions to 35 IAC 620, effective March 28, 2025.</p> <p>The parameters for Detection Groundwater Monitoring listed in the 2021 Permit Renewal Application are consistent with the parameters in the Detection Groundwater Monitoring Program of the existing permit. These parameters comply with 35 IAC 724.197(a)(3), which requires the groundwater monitoring system "allow for the detection of contamination when hazardous waste or hazardous constituents have migrated from the hazardous waste management area to the uppermost aquifer". Monitoring for these constituents also "provide[s] a reliable indication of groundwater quality below the waste management area" pursuant to 35 IAC 724.197(d).</p> <p>Under 35 IAC 724.198(a) requirements for a Detection Groundwater Monitoring Program, the "owner or operator must monitor for indicator parameters (e.g., specific conductance, total organic carbon, or total organic halogen), waste constituents or reaction products that provide a reliable indication of the presence of hazardous constituents in groundwater". The parameters monitored are to be included in the permit after considering the following factors:</p> <ol style="list-style-type: none"> <li>1. The types, quantities, and concentrations of constituents in wastes managed at the regulated unit;</li> <li>2. The mobility, stability, and persistence of waste constituents or their reaction products in the unsaturated zone beneath the waste management area;</li> <li>3. The detectability of indicator parameters, waste constituents, and reaction products in groundwater; and</li> </ol> |

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|  | <p>4. The concentrations or values and coefficients of variation of proposed monitoring parameters or constituents in the groundwater background. The indicator parameters included in the Detection Groundwater Monitoring section under both the existing permit and the 2021 Permit Renewal Application comply with the above regulations / factors. Issuance of revised 35 IAC 620 regulations has no bearing on the background data previously established in prior permits for the Detection Monitoring indicator parameters.</p> <p>BFI acknowledges that if the Class I Groundwater Quality Standard for indicator parameters listed in the permit has decreased with the issuance of the revised 35 IAC 620 regulations, then the lower Class I standard will be utilized in future comparisons to groundwater quality data, as specified in the permit and proposed in the Permit Renewal Application. Finally, none of the new parameters added to 35 IAC 620 in 2025 have served as indicator parameters during the prior 27 years of post-closure care groundwater monitoring.</p> <p>Although the facility is currently implementing a Detection Groundwater Monitoring program, if confirmed statistically significant concentrations of detection indicator parameters are identified in the groundwater, a Compliance Groundwater Monitoring program would be required. The hazardous constituents monitored in the groundwater under Compliance Monitoring are specified in 35 IAC 724.193. This regulation states that the "hazardous constituents are constituents identified in Appendix H of 35 Ill. Adm. Code 721 that have been detected in the groundwater in the uppermost aquifer underlying a regulated unit that are reasonably expected to be in or derived from waste in the regulated unit". None of the new 620 constituents are listed in 35 IAC 721 Appendix H.</p> <p>In summary, the groundwater monitoring parameters / constituents listed in the current permit and proposed to continue being monitored within the Permit Renewal Application are fully compliant with the regulations.</p> <p>This condition should be deleted.</p> |
| 28.<br>V.D.2<br>Pg. V-2                    | <p>This condition requires Section E.7.3.1 of Permit Application to be revised to indicate if the leachate analyses detected a parameter for which the groundwater is/was not being analyzed and the actions taken if this occurred.</p> <p>The approved detection monitoring program uses indicator parameters in accordance with 724.197 and 724.198 to determine if there is evidence of landfill impacts to groundwater. If there is statistically significant evidence of a change in groundwater quality, all monitoring wells will be sampled and monitored for Appendix I constituents in accordance with 724.198(g).</p>   |

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 Zion Site 1 Phase A Landfill  
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|  | <p>If any of these constituents in groundwater are confirmed, BFI will submit a permit modification application to establish a compliance monitoring program in accordance with 724.198(g)(4).</p> <p>The presence of constituents in leachate that are not monitored in groundwater does not diminish the effectiveness of detection monitoring, as the indicator parameters monitored are selected to identify contamination in groundwater from leachate. The facility has a leachate collection system in place that effectively removes leachate from the landfill and prevents impacts to the groundwater. Moreover, the use of indicator parameters to identify groundwater contamination has been standard practice in the industry for decades.</p> <p>Therefore, the detection of a leachate parameter that is not on the routine groundwater monitoring list does not require further action if there is no other evidence of a statistically significant change in groundwater quality.</p> <p>This condition should be deleted.</p> |
| 29.<br>V.D.3<br>Pg. V-2                                      | <p>Per 724.244(a)(2), the cost estimate for post-closure care is estimated by multiplying the annual cost by the number of years of post-closure care required under 724.217. Therefore, the cost estimate for post-closure care is determined based on the number of years remaining in the 30-year post-closure care period.</p> <p>Only the Pollution Control Board has the authority to extend the post-closure care period beyond 30 years in accordance with 724.217(a)(2)(B).</p> <p>If the permit is issued with this language, BFI may appeal it to the Pollution Control Board.</p>  |
| 30.<br>VIII,<br>Section II,<br>Condition<br>C.2<br>Pg. VII-1 | <p>This condition requires BFI to submit a Class 2 permit modification to extend the post-closure care period on or prior to February 10, 2027.</p> <p>Only the Pollution Control Board has the authority to extend the post-closure care period in accordance with 724.217(a)(2)(B) and this would not be done via a Class 2 permit modification submitted by the facility.</p> <p>If the permit is issued with this language, BFI may appeal it to the Pollution Control Board.</p>  |

DRAFT

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**ADMINISTRATIVE RECORD**  
for  
**Zion Site 1 Landfill, Phase A**  
**0978020001 – Lake County**  
**ILD980700728**  
**Log No. B-23R2**

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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**

JUL 24 2025

**9589 0710 5270 0389 7035 68**

Republic Services Co.  
 Attn: Matthew R. Healy  
 9813 Flying Cloud Drive  
 Eden Prairie, MN 55347

GFL Environmental, Inc.  
 Attn: Mike Stoeckigt  
 2124 Kohler Memorial Drive  
 Sheboygan, WI 53081

Re: 0978020001 -- Lake County  
 Zion Site 1 Phase A Landfill  
 ILD980700728  
 Log No. B-23R2  
 RCRA Permits Administrative Record – 24D  
 Permit Draft

Dear Mr. Healy and Mr. Stoeckigt:

Attached is a draft renewed Resource Conservation and Recovery Act (RCRA) Hazardous Waste Management Post-Closure permit (draft permit) and fact sheet for the above-referenced facility. The draft permit is based on the administrative record contained in the Illinois EPA's files. The contents of the administrative record are described in Title 35 Illinois Administrative Code (35 IAC) 705.144.

Under the provisions of 35 IAC 705.141(d), the draft permit, and administrative record must be publicly noticed and made available for public review and comment. The Illinois EPA must also provide an opportunity for a public hearing. Copies of the draft permit, fact sheet, and renewal permit application are available for review at the Zion-Benton Public Library located at 2400 Gabriel Avenue, Zion, Illinois 60099. The Illinois EPA has not scheduled a public hearing at the current time. However, any interested party may request a public hearing. The public comment period will close on September 8, 2025.

During the comment period, the applicant or any interested party may submit comments to the Illinois EPA on the draft permit. At the close of the comment period, the Illinois EPA will prepare a response to significant comments. Comments on the draft permit may be submitted to:

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

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Jeff Guy, Office of Community Relations (#5)  
Illinois Environmental Protection Agency  
2520 West Iles Avenue  
Post Office Box 19276  
Springfield, Illinois 62794-9276

The Illinois EPA will issue a final renewed RCRA Post-Closure permit after the close of the public comment period unless the Illinois EPA decides to reverse the tentative decision. The appeal process and limitations are addressed in 35 IAC 705.212.

Any questions concerning this draft permit, please contact Kelly Huser at 217/524-3867 or [kelly.huser@illinois.gov](mailto:kelly.huser@illinois.gov). Any groundwater specific questions, please contact Shawntay Dial at 217/558-0177 or [shawntay.dial@illinois.gov](mailto:shawntay.dial@illinois.gov).

Sincerely,



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

JLR: KDH:0978020001-RCRA-B23R2-Draft.docx

KDH SDD TNH AMB

Attachments: Fact Sheet  
Draft Renewed RCRA Post-Closure Permit

cc: Jim Hitzeroth, BFI Waste Systems of North America, LLC  
Brad Stenzel, GFL Environmental, Inc.  
Ed Doyle, P.E., Environmental Information Logistics, LLC

**FACT SHEET**  
**Draft Renewed RCRA Hazardous Waste Management Post-Closure Permit**  
**Zion Site 1 Phase A Landfill**  
**701 North Green Bay Road**  
**Zion, Illinois**  
**Illinois EPA ID No. 0978020001**  
**USEPA ID No. ILD980700728**  
**Log No. B-23R2**

## **1.0 INTRODUCTION/PURPOSE**

The Illinois EPA has prepared a draft renewed Resource Conservation and Recovery Act (RCRA) hazardous waste management post-closure permit (draft permit) for public comment which requires BFI Waste Systems of North America, LLC to continue providing post-closure care for a closed 40-acre landfill located at the Zion Site 1 Landfill facility in Zion, Illinois. The closed landfill, referred to as Zion Site 1 Phase A Landfill (Phase A landfill) received mainly non-hazardous waste, but some hazardous waste was also accepted.

This fact sheet has been prepared pursuant to the requirements of Title 35 Illinois Administrative Code (35 IAC) 705.143 and is intended to be a brief summary of the principal facts and significant factual, legal, methodological, and policy questions considered in preparing a draft permit for the above-mentioned facility. The Illinois EPA initially issued this facility a RCRA permit in 1988 and has modified it several times since that date. BFI has been operating the facility under the terms and conditions of these permits and is presently operating it under the provisions of its current RCRA permit.

## **2.0 FACILITY LOCATION**

The Zion Site 1 Landfill facility is located within a 290-acre parcel of land whose address is 701 North Green Bay Road, Zion, Illinois. The 290-acre parcel of land lies between North Green Bay Road and North Kenosha Road and is located just north of 9<sup>th</sup> Street. The Zion Site 1 Landfill facility is located on the western 59 acres of this larger parcel of the land. A facility map is provided at the end of this fact sheet.

## **3.0 FACILITY OWNER AND OPERATOR**

The owner of the closed 40-acre Phase A landfill and the 290-acre Zion Site 1 Landfill site on which the facility is located is:

**Zion Landfill, Inc.**  
**701 North Green Bay Road**  
**Zion, Illinois 60099**

The operator of the closed 40-acre Phase A landfill, and the entity responsible for carrying out post-closure care of the landfill is:

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**Fact Sheet - Log No. B-23R2**  
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**BFI Waste Systems of North America, LLC**  
**26 W 580 Shick Road**  
**Hanover Park, Illinois 60133**

#### **4.0 FACILITY BACKGROUND**

On October 30, 1976, Illinois EPA issued Browning-Ferris Industries (BFI) a state permit to operate a 59-acre solid waste disposal site at the location now known as Zion Landfill Site 1 (Permit No.1976-53-OP). BFI disposed of waste in a portion of the overall permitted facility approximately 40 acres in size under the terms and conditions of that permit until November 1980, at which time the regulations governing the management of hazardous wastes came into effect. This landfill, approximately 40 acres in size, is the closed Phase A landfill which is the subject of this draft permit.

After November 1980 and until May 1988, the Phase A landfill was operated in accordance with state permit mentioned above (and associated supplemental permits) and the hazardous waste interim status regulations. On April 5, 1988, Illinois EPA issued this facility a RCRA Permit which set forth detailed requirements for the management of hazardous wastes at this facility.

During the time that BFI operated the Phase A landfill, mainly non-hazardous waste was disposed in it, but some hazardous waste was also disposed there. BFI ceased disposing of hazardous waste in the Phase A landfill in 1990; it did however continue to dispose of non-hazardous waste there until 1993. Closure activities of the Phase A landfill were completed in 1997 and on February 10, 1998, BFI certified completion of closure of the Phase A landfill.

Ten acres of the initially permitted Zion Landfill Site 1 were re-permitted by the Illinois EPA for the disposal of only non-hazardous waste on June 24, 1994 (Permit No. 1992-328-LFM). This portion of the facility came to be known as Zion Landfill Site 1, Phase B (Phase B landfill), which is not part of this draft permit. This landfilling operation occurred in two cells: Cell 1, consisting of approximately 4.9 acres and Cell 2, consisting of approximately 4.7 acres. Non-hazardous waste was disposed in these units from 1994 until 1996.

Closure activities for both cells were completed in 1998, and the Illinois EPA approved the certification of closure of these units on August 28, 1998.

The remaining 9.4 acres of the originally permitted 59-acre facility house ancillary equipment and structures associated with the Site 1, Phase A and B landfills. Leachate and landfill gas management systems have been installed in Phase A and Phase B and the following equipment/structures associated with these systems are located in this area:

1. The tanks and associated loading areas used to accumulate the collected leachate before it is sent off-site for treatment; and

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2. The blowers and the flare associated with the gas management system at the facility.

The area to the east of the Phase A landfill is a permitted operating non-hazardous waste landfill currently owned and operated by GFL Environmental, Inc. (Permit No. 1976-7-DE and 1976-7-OP; Supplemental Permit No. 2022-034-SP). This facility is not part of this draft permit. The landfill is referred to as Site 2.

Zion Landfill, Inc. is the entity that owns the Zion Landfill Site 1, however, as the operator, BFI has retained the post-closure care responsibilities for the Phase A landfill (RCRA unit).

## 5.0 OVERVIEW OF DRAFT RENEWED RCRA PERMIT

The Phase A landfill addressed in this draft permit is approximately 40 acres in size and is trapezoidal in shape (it is approximately 2,450 feet (ft) long from north to south, approximately 630 ft wide along its northern boundary and 740 ft wide along its southern boundary).

As indicated above, the Phase A landfill has been receiving post-closure care in accordance with the requirements of a RCRA permit previously issued for this facility by the Illinois EPA. This draft permit contains updated post-closure care requirements which must be carried out at the closed Phase A landfill until at least February 9, 2028.

The main components of post-closure care of a closed landfill are: (1) inspecting and maintaining the integrity of the final cover constructed over the landfill; (2) proper operation of the gas and leachate management systems installed within the landfill and ancillary equipment of these systems; and (3) monitoring the groundwater around the closed landfill to ensure detection of any release of contaminants from the landfill and into the underlying groundwater. This draft permit also establishes a process for corrective action in case of a release of contaminants to groundwater.

## 5.1 INSPECTION AND MAINTENANCE OF THE LANDFILL'S FINAL COVER

The final cover system constructed on top of the waste at the Phase A landfill consists of the following components (listed from top to bottom):

1. A vegetative cover;
2. Six inches of topsoil which supports the vegetative cover;
3. A minimum of two ft thick protective soil layer;
4. A drainage layer; and
5. A minimum of two ft of compacted clay.

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In addition, a 0.04-inch-thick Linear Low Density Polyethylene liner was placed on top of the compacted clay layer over the top portion of the landfill which is relatively flat (the area covered was approximately 18 acres in size).

The draft permit contains requirements for inspecting the final cover on a quarterly basis and properly maintaining it. Regular inspection and maintenance of the final cover should minimize: (1) the amount of rainwater which infiltrates into the landfill and produces leachate; and (2) releases of landfill gas directly from the landfill to the atmosphere.

## **5.2 LANDFILL GAS AND LEACHATE MANAGEMENT SYSTEMS**

A total of 28 extraction wells have been installed within the closed Phase A landfill. Leachate and landfill gas can both be extracted from these wells via separate systems. The collected leachate flows to an accumulation tank before it is sent off-site for treatment. The collected landfill gas is directed to an on-site flare where it is burned. The draft permit contains requirements for the proper operation, maintenance, and monitoring of these systems to ensure they are effective.

## **5.3 GROUNDWATER MONITORING**

There are two groundwater monitoring programs required by this draft permit. One to monitor the groundwater quality in the uppermost aquifer beneath the facility and one to monitor shallow groundwater in discontinuous sand and silt zones at the facility.

### **5.3.1 GROUNDWATER DETECTION MONITORING PROGRAM**

Groundwater parameters monitored in the uppermost aquifer below the facility indicate that, at the present time, no groundwater impacts have occurred. Therefore, a Groundwater Detection Monitoring Program meeting the requirements of 35 IAC 724.198 must be implemented at the facility.

The Phase A landfill has 11 existing monitoring wells, which monitor the shallow drift aquifer (interglacial sands) at a depth of approximately 100 ft below ground surface.

### **5.3.2 SHALLOW ZONE OBSERVATION MONITORING PROGRAM**

In addition to the Groundwater Detection Monitoring Program utilized to monitor the uppermost aquifer at the facility, the Phase A landfill has two existing wells to monitor groundwater in the shallow zone (discontinuous sand and silt lenses) at the facility. These groundwater monitoring wells are intended to detect any releases from the landfill to the shallow zone that could potentially impact the uppermost aquifer at the facility.

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## 6.0 CONSIDERED PERMIT ACTIONS OTHER THAN RCRA

### A. Clean Air Act

The air emissions from this facility are regulated under the Clean Air Act (CAA), the Illinois Environmental Protection Act (Act) and 35 IAC, Subtitle B: Air Pollution. Under these regulations, a permit is required to install or operate any process which is or may be a source of air pollutants.

1. Emissions from the landfill itself and from the flare used on occasion are regulated by Title V Operating Permit No. 97030064 issued by the Illinois EPA, Bureau of Air (BOA).

### B. Clean Water Act

A discharge of any waste waters from this facility into the waters of the State, is required to have a National Pollutant Discharge Elimination System (NPDES) permit, issued by the Illinois EPA Bureau of Water (BOW) under Section 39(b) of the Act. The only water discharged to the waters of the State at this RCRA permitted facility is storm water runoff from the closed Phase A landfill. This water is discharged in accordance with NPDES Permit IL0067724 issued by Illinois EPA, BOW.

## 7.0 PROCEDURES FOR REACHING A FINAL DECISION

Pursuant to 35 IAC 705.162(a)(2), the public is given at least 45 days to review the application and draft permit and provide comments on the draft permit conditions prior to the Illinois EPA taking any final permitting action on the application for this draft permit. The comment period will begin on, July 25, 2025 the date of the first publication of the public notice in the newspaper of general circulation in the area. The comment period will end on September 8, 2025.

Copies of the permit application, draft permit, and fact sheet are available for review at:

Zion-Benton Public Library  
2400 Gabriel Avenue  
Zion, Illinois 60099  
(847) 872-4680

This administrative record contains the permit application, draft permit, fact sheet, and other supporting documents and correspondence submitted to the Illinois EPA. The administrative record is available for public inspection by appointment only at the Illinois EPA's Springfield headquarters from 9:00 a.m. to 5:00 p.m., Monday through Friday. Inspection of the administrative record must be scheduled in advance by contacting Mr. Jeff Guy of the Illinois EPA at the address listed below.

In response to requests received during the comment period or at the discretion of the Illinois EPA, a public hearing may be held to clarify issues concerning the permit

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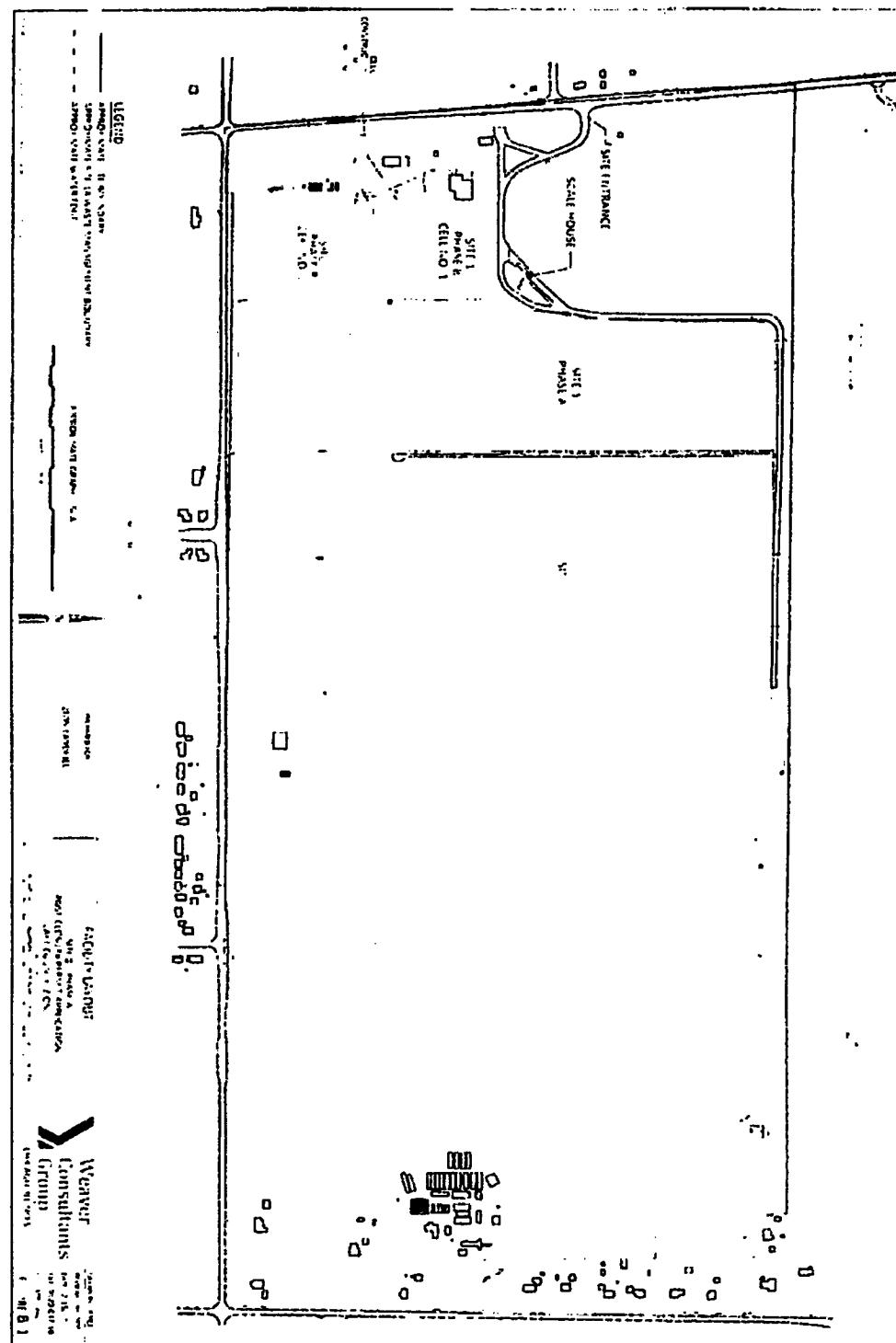
application. A request for a public hearing must be submitted in writing, must indicate opposition to the draft permit and must state the nature of the issues proposed to be raised at the hearing. Public notice of the public hearing will be issued at least 45 days before the hearing date.

For further information regarding the permit process, to submit written comments on the draft permit, or to request a public hearing, please contact:

**Jeff Guy, Office of Community Relations #5  
Illinois Environmental Protection Agency  
2520 West Iles Avenue  
P.O. Box 19276  
Springfield, Illinois 62794-9276  
(217) 785-8724**

When the Illinois EPA makes a final permit decision, notice will be given to the applicant and each person who has submitted written comments or requested notice of the final permit decision. The permit will become effective 35 days after service of notice of the decision or at a later date if stated in the permit unless the decision is appealed.

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Fact Sheet - Log No. B-23R2  
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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

## RCRA HAZARDOUS WASTE MANAGEMENT POST-CLOSURE PERMIT

0978020001 -- Lake County  
 Zion Site 1 Phase A Landfill  
 ILD980700728  
 Log No. B-23R2  
 RCRA Permits Administrative Record – 24D

Issue Date: DRAFT  
 Effective Date: DRAFT  
 Expiration Date: DRAFT

| <b>PERMITTEE/OPERATOR</b>  | <b>OWNER</b>  | <b>FACILITY LOCATION</b>                   |
|--|---|--|
| BFI Waste Systems of North America, LLC<br>Attn: James Hitzeroth<br>26 W 580 Schick Road<br>Hanover Park, Illinois 60103 | Zion Landfill, Inc.<br>Attn: Brad Stenzel<br>701 Green Bay Road<br>Zion, Illinois 60099 | 701 Green Bay Road<br>Zion, Illinois 60099 |

A RCRA post-closure permit is hereby granted to BFI Waste Systems of North America, LLC (BFI) as Operator and Permittee pursuant to Section 39(d) of the Illinois Environmental Protection Act (Act), and Title 35 Illinois Administrative Code (35 IAC) Subtitle G.

### PERMITTED HAZARDOUS WASTE ACTIVITY

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

1. Post-Closure Care of a closed landfill (D80)
2. Groundwater Monitoring Detection Monitoring
3. Corrective Action as necessary

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 IAC 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 B of this Permit and any subsequent amendments. Any inaccuracies found in this information may be grounds for the termination or modification of this Permit (see 35 IAC 702.186 and 702.187) and potential enforcement action (415 ILCS 5/44(h)).

### DRAFT

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

JLR: KDH:0978020001-RCRA-B23R2-Draft.docx

2125 S. First Street, Champaign, IL 61820 (217) 278-5800  
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 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

**RCRA HAZARDOUS WASTE MANAGEMENT  
POST-CLOSURE PERMIT**

**Log No. B-23R2**

**Zion Site 1 Phase A Landfill**

**LPC No. 0978020001**

**USEPA ID No. ILD980700728**

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## SECTION I: GENERAL FACILITY DESCRIPTION

### A. OWNER

The facility is owned by Zion Landfill, Inc., herein referred to as the "owner". (35 IAC 702.123 and 703.181)

Zion Landfill, Inc.  
701 Green Bay Road  
Zion, Illinois 60099

### B. OPERATOR

The facility operator is BFI Wastes Systems of North America, LLC, herein referred to as the "Permittee". (35 IAC 702.121, 702.123, and 703.181)

BFI Waste Systems of North America, LLC  
26 West 580 Schick Road  
Hanover Park, Illinois 60103

### C. LOCATION

#### 1. Location of Facility

The Zion Site 1 Landfill facility is located in Lake County in Illinois. Zion Landfill, Inc. owns approximately 290 acres at this location with approximately 40 acres being used for the management of hazardous waste (Phase A landfill). The Zion Site 1 Landfill facility is located at:

Zion Site 1 Landfill  
701 Green Bay Road  
Zion, Illinois 60099

The facility contact is the Environmental Manager. They can be reached at 630/894-5001.

#### 2. Facility Layout Maps

The general facility layout and location of the closed hazardous waste management unit, Phase A landfill, regulated by this Permit is shown in Attachment A.

### D. DESCRIPTION OF HAZARDOUS WASTE MANAGEMENT ACTIVITIES

On October 30, 1976, Illinois issued Browning-Ferris Industries (BFI) a state permit to operate a 59-acre solid waste disposal site at the location now known as Zion Site 1 Landfill (Permit No.1976-53-OP); this facility is located at 701 Green Bay Road, Zion, Illinois. BFI disposed of waste in an approximately 40-acre portion of the overall

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permitted facility under the terms and conditions of this permit until November 1980, at which time the regulations governing the management of hazardous wastes came into effect. After November 1980 and until April 1988, BFI operated this landfill in accordance with this state permit and associated supplemental permits) and the hazardous waste interim status regulations. On April 5, 1988, The Illinois EPA issued this facility a RCRA Permit which set forth detailed requirements for the management of hazardous wastes at this facility.

During the time that BFI operated the approximately 40-acre landfill, mainly non-hazardous waste was disposed in it, but some hazardous waste was also disposed there. BFI ceased disposing of hazardous waste in this unit in 1990; it did however continue to dispose of non-hazardous waste there until 1993. Closure activities of the Phase A landfill were completed in 1997 and on February 10, 1998, BFI certified completion of closure of this unit.

Ten acres of the initially permitted site were re-permitted by Illinois EPA for the disposal of only non-hazardous waste on June 24, 1994 (Permit No. 1992-328-LFM). The actual portions of this 10-acre parcel used for landfilling purposes were Cell 1 which consists of 4.9 acres and Cell 2 which consists of 4.7 acres. Non-hazardous waste was disposed in these units from 1994 until 1996. Closure activities for both cells were completed in 1998, and the Illinois EPA approved the certification of closure of these units on August 28, 1998. The post-closure care period of these units, to be carried out in accordance with the facility's permit, began on April 25, 1998. Closed Cells 1 and 2 are typically referred to as the Phase B landfill.

The remaining 9.4 acres of the originally permitted facility house ancillary equipment and structures associated with the Phase A and B landfills. Leachate and landfill gas management systems have been installed in the Phase A and Phase B landfills and the following equipment/structures associated with these systems are present in this area:

1. The tanks and associated loading areas used to accumulate the collected leachate before it is sent off-site for treatment; and
2. The blowers and flare associated with the gas management system at the facility.

In addition to the units mentioned above, BFI permitted a 74.38-acre solid waste disposal site on the land just east of Phase A landfill. The Illinois EPA issued the operating permit for this site on December 31, 1981 (Permit No. 1980-24-OP); this Permit only allowed for the disposal of non-hazardous waste at this site, known as Site 2. On March 21, 1997, the Illinois EPA issued a permit (1995-343-LFM) which allowed for an expansion of this landfill to the east and allowed for a vertical expansion over a portion of the initially permitted disposal area.

BFI was purchased by Allied Waste Systems in May 1999, and thus became a part of Allied Waste Systems. In May 2000, the three landfills discussed above (Phase A

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landfill; Phase B landfill; and Site 2) were sold to Onyx. As part of this transaction, BFI retained the post-closure care responsibilities for the Phase A and Phase B landfills associated with Zion Site 1 Landfill while Onyx took over operation of the Site 2.

Onyx became a part of Veolia and Veolia sold its North American sites to Advanced Disposal Services. GFL Environmental, Inc. (GFL) acquired the site from Advanced Disposal Services in 2020-2021. Allied Waste Systems has become a part of Republic Services, Inc. BFI Waste Systems of North America, LLC, a subsidiary of Republic Services, Inc., is the operator of the Phase A landfill and is responsible for providing post-closure care of this landfill.

Zion Landfill, Inc., a subsidiary of GFL, is the owner of the Phase A and Phase B landfills and continues to own and operate Site 2. The facility boundary is approximately 318 acres. A map showing the layout of the three landfill areas within the parcel is provided in Attachment A to this Permit.

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## SECTION II: POST-CLOSURE

### A. SUMMARY

The Illinois EPA initially issued a Permit to dispose of waste in the Phase A landfill on October 30, 1976 (Permit No. 1975-53-OP). The Phase A landfill is trapezoidal in nature; it is approximately 2450 feet (ft) long from north to south. Its northern boundary is approximately 630 ft wide while its southern boundary is approximately 740 ft wide. In total, the Phase A landfill covers approximately 40 acres.

While both hazardous and non-hazardous wastes were disposed in the Phase A landfill after it began operation in 1976, the majority of the waste disposed in the landfill is non-hazardous waste. Hazardous waste ceased to be disposed of in this landfill in 1990 and in 1993 the landfill ceased receiving non-hazardous waste. From 1982 to 1990 (the time period when accurate data was maintained), approximately 232,000 tons of hazardous waste were disposed in this landfill. Closure activities for the landfill were completed in 1997 and it was formally certified closed on February 10, 1998. The Permittee has been providing post-closure care of the Phase A landfill since that time.

A minimum of 10 ft of in-situ or recompacted clay was to be present along the sidewalls and beneath the bottom of the landfill. The bottom of the landfill slopes north to south from an elevation approximately 750 ft mean sea level (MSL) to an elevation of approximately 730 ft MSL. In general, the bottom of the landfill is between 10 ft and 20 ft below the initial grade of the area where the landfill is located.

A bentonite-soil slurry wall was constructed around the southern portions of the Phase A landfill in the late 1980s and keyed into low permeable soils located beneath the subsurface. This slurry wall is present, in part, along the southern boundary of the landfill and extends approximately 330 ft from the southeast corner of the landfill north along the landfill's eastern property boundary (the average depth of this portion of the slurry wall is 25 ft). The other portion of the slurry wall extends approximately 1400 ft north of the southwest corner of the landfill along the landfill's western boundary (the average depth of this portion of the slurry wall is 35 ft).

A separate permitted solid waste landfill is located directly east of the Phase A landfill (this second landfill is Site 2, owned and operated by GFL Environmental). A minimum of 10 ft of clay soil separates this second landfill from the Phase A landfill, both below grade and above grade. The final grades of these two landfills coincide along their intersection.

A leachate management system and a landfill gas management system have been installed in the closed Phase A landfill. Both systems use the same 28 wells to extract either leachate or landfill gas.

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The collected leachate flows to an 8,000 gal above-ground tank where it is accumulated until it is shipped off-site by truck for treatment. The collected landfill gas is burned in an on-site flare.

**B. UNIT IDENTIFICATION**

1. The Permittee must provide post-closure care for the landfill, identified in the following table, and as described in the approved permit application, subject to the terms and conditions of this Permit:

| Unit Designation | Approximate Capacity (cubic yards) | Approximate Surface Area (acres) |
|------------------|------------------------------------|----------------------------------|
| Phase A          | 165,714                            | 40                               |

2. The location and horizontal extents of the landfill is identified on the map in Appendix B-1 of the approved permit application and Attachment A. The bottom of the landfill is located at an elevation of approximately 750 ft MSL at the northern portion, sloping to 730 ft MSL at the southern end.. The sidewalls were built at a 2:1 slope.
3. The bottom liner of the landfill is a 10-foot-thick in-situ clay.
4. The components of the final cover system consist of the following from bottom to top:
  - a. A minimum of two ft of compacted clay;
  - b. A 40-mil linear low-density polyethylene (LLDPE) geomembrane over the top of the landfill where the elevation ranges from approximately 790 ft MSL to 810 ft MSL (this area is approximately 450 ft (east/west) by 1770 ft (north/south) in size (approximately 18.3 acres); it begins approximately 100 ft south of the northern boundary of the landfill and is adjacent to eastern boundary of the Phase A landfill);
  - c. A geocomposite drainage layer. On the top of the landfill, this layer consisted of a polypropylene drainage grid and a non-woven geotextile (the drainage grid was placed on top of the geomembrane). On the sideslopes of the landfill, this layer consisted of a polypropylene drainage grid emplaced between two non-woven geotextiles;
  - d. A minimum of 2.5 ft of protective soil layer (the upper six inches of this layer is topsoil); and
  - e. A vegetative layer.

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5. A survey plat indicating the location and dimensions of the Phase A landfill with respect to permanently surveyed benchmarks was prepared and certified by an Illinois professional land surveyor. The notes on the plat state the owner's and operator's obligation to restrict disturbance of the Phase A landfill in accordance with the applicable requirements in 35 IAC 724, Subpart G. These notes state:
  - a. The waste materials contained in the hazardous waste disposal units are considered RCRA hazardous wastes.
  - b. Any material removed from the hazardous waste disposal units during future activities must be managed as a hazardous waste in accordance with 35 IAC Subtitle G: Waste Disposal.
  - c. The use of this area is restricted.
6. The Plat of Survey (PINs 03-12-200-016 and 04-07-200-013) was filed with the Lake County Recorder's Office in Waukegan, IL on January 9, 2012. The record data is File No. 6807285.

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 hazardous waste disposal units is considered a RCRA hazardous waste;
- b. Any material removed from the hazardous waste disposal units during future activities must be managed as a hazardous waste in accordance with 35 IAC Subtitle G: Waste Disposal;
- c. Use of the area is restricted; and
- d. A survey plat and record of the type, location, and quantity of waste material in the hazardous waste disposal unit was filed with the Illinois EPA and the County Recorder.

**C. POST-CLOSURE CARE PERIOD**

1. The post-closure care period for the closed Phase A landfill began February 10, 1998. Post-closure care of this landfill must continue until at least 30 years after that date.

Post-closure care shall continue to be extended for an additional 30-year period or until such time as no unacceptable risks to human health and the environment are present in the Phase A landfill, as determined by the Illinois EPA.

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2. On or prior to February 10, 2027 (one year before February 10, 2028), the Permittee must submit a Class 2 permit modification request to the Illinois EPA in accordance with 35 IAC 703.241(a)(2) and 35 IAC 703, Appendix A, E.2, to extend the post-closure care of the Phase A landfill for an additional 30-year period or until such time as no unacceptable risks to human health and the environment are present in the Phase A landfill, as determined by Illinois EPA, as specified in Condition II.C.1.
3. The Illinois EPA may include restrictions upon the future use of the site if necessary to protect human health and the environment, including permanent prohibition of the use of the site for purposes which create an unreasonable risk to human health or the environment. After administrative and judicial challenges to such restrictions have been exhausted, the Illinois EPA shall file such restrictions of record in the Office of Recorder of the county in which the hazardous waste disposal site is located.
4. The Permittee must not allow the property where the Phase A landfill identified in Condition II.B.1 is located to be used in a way that could disturb the integrity of the final cover, berms or any other components associated with the closed landfill or the function of the facility's monitoring system, unless the Illinois EPA determines, by way of a permit modification, that such use is necessary for either of the following reasons:
  - a. Is necessary for the proposed use of the property and will not increase the potential hazard to human health or the environment; or
  - b. Is necessary to reduce a threat to human health or the environment.

**D. INSPECTIONS**

1. The Permittee must inspect the final cover, berms, and drainage structures of the closed Phase A landfill on a quarterly basis in accordance with the procedures in Section D.3 of the approved permit application as modified by this Permit. The results of each inspection must be documented in the facility's operating record. The general inspection schedule for the Phase A landfill is provided in Attachment C.
2. The Permittee must inspect the closed Phase A landfill at least quarterly and within 72 hours of any rainfall event of three or more inches in a 24-hour period for evidence of any of the following:
  - a. Deterioration, malfunctions, or improper operation of run-on and run-off systems.
  - b. The deterioration of the cover system.
3. Appropriate corrective action must be taken if problems, including erosion, blockage of channels, slope failure, etc. are observed at any time.

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If corrective action is taken, the area involved must be reinspected one month following completion of the work to ensure the corrective actions have adequately corrected the problem(s) noted.

4. Results of all inspections and a description of any remedial actions taken must be documented in the facility's operating record and maintained for the entire post-closure care period.
5. The Permittee must maintain the integrity and effectiveness of the final cover, berms, and drainage structures of the Phase A landfill. This includes making repairs as necessary to correct the effects of settling, subsidence, erosion, etc. Corrective action must be taken if any problem listed below is encountered when inspecting the final cover, berms, and drainage structures of the landfill:
  - a. Cracks greater than one inch wide in the final cover or berms, rills, gullies, and crevices greater than six inches deep;
  - b. Depressions (ponds) and holes in the final cover;
  - c. Eroded or scoured drainage channels;
  - d. Little or no vegetation is present in an area in excess of 100 square ft in size;
  - e. Gas and/or odor problems;
  - f. Growth of vegetation with taproots;
  - g. Vectors; and
  - h. Leachate popouts or seeps.
6. Appropriate follow-up inspections must be conducted to verify the corrective action taken adequately addresses the observed problem. In addition, the corrective action taken, and results of all follow-up inspections must be documented in the facility's operating record.
7. The Permittee must protect and maintain the surveyed benchmarks present at or near the closed Phase A landfill.
8. The Permittee must place additional warning signs (DANGER -UNAUTHORIZED PERSONNEL KEEP OUT) around the closed Phase A landfill as necessary such that one is clearly legible at any point near the perimeter of the landfill.

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**E. OPERATION OF THE LEACHATE AND GAS MANAGEMENT SYSTEMS**

1. A landfill gas extraction/management system was installed within the closed Phase A landfill in 1997. This system currently consists of a blower, 28 vertical extraction wells located throughout the Phase A landfill, piping required to carry the extracted gas to a treatment unit and equipment to treat/burn the extracted landfill gas.
2. In 1998, modifications were made to the gas extraction wells mentioned above so that they could also be used to remove leachate from the landfill (i.e., submersible pumps and associated piping were placed in each of the wells). Additional piping, etc. was installed during this effort so that the extracted leachate could be routed to an above-ground tank where it is accumulated before being sent off-site for treatment.
3. Several minor modifications have been made to the leachate and landfill gas management since they were first installed. A drawing showing the current layout of these systems is provided in Appendix E-13 of the approved permit application.
4. One of the aspects of the leachate and landfill gas management systems for the Phase A landfill is the interval over which each extraction well is screened. A tabular summary of this information is as follows (\* = no leachate extraction pump present in the well; the well is only for removal of landfill gas):

| Extraction Well No. | Surface Elevation (Ft-MSL) | Approximate Screened Interval (Ft-MSL) |
|---------------------|----------------------------|--|
| EW-1                | 789.3                      | 750.4-774.3                            |
| EW-2                | 802.5                      | 748.4-781.2                            |
| EW-3                | 807.3                      | 747.6-780.3                            |
| EW-4*               | 789.0                      | 750.9-773.7                            |
| EW-6*               | 797.3                      | 749.3-781.2                            |
| EW-7*               | 799.1                      | 747.5-780.5                            |
| EW-8                | 798.0                      | 747.8-784.8                            |
| EW-9                | 795.2                      | 746.8-780.8                            |
| EW-10               | 812.4                      | 747.2-788.2                            |
| EW-11               | 799.0                      | 746.3-780.5                            |
| EW-12               | 797.1                      | 746.5-783.6                            |
| EW-12A              | 787.1                      | 751.2-776.5                            |

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| <b>Extraction<br/>Well No.</b> | <b>Surface Elevation<br/>(Ft-MSL)</b> | <b>Approximate<br/>Screened Interval<br/>(Ft-MSL)</b> |
|--------------------------------|---------------------------------------|---|
| EW-13                          | 811.4                                 | 744.7-788.7   |
| EW-14                          | 795.0                                 | 744.8-780.0   |
| EW-15                          | 791.7                                 | 743.1-777.1   |
| EW-16                          | 809.0                                 | 745.0-787.5   |
| EW-17                          | 782.5                                 | 742.7-767.2   |
| EW-18                          | 801.2                                 | 741.8-779.8   |
| EW-19                          | 776.7                                 | 740.6-760.4   |
| EW-20                          | 771.6                                 | 739.9-753.9   |
| EW-21                          | 763.5                                 | 740.0-749.3   |
| EW-22                          | 767.8                                 | 739.3-750.4   |
| EW-23*                         | 766.4                                 | 740.5-750.5   |
| EW-24                          | 777.7                                 | 740.0-762.0   |
| EW-25                          | 785.9                                 | 741.2-770.0   |
| EW-26                          | 783.2                                 | 739.4-768.2   |
| EW-27                          | 804.6                                 | 741.8-783.8   |
| EW-28                          | 809.7                                 | 744.5-789.0   |

6. The leachate and gas management systems at the Phase A landfill must be operated, monitored, maintained, and inspected in accordance with the procedures of this Permit and Sections E.3 and E.5 of the approved permit application. Additional requirements associated with these systems are set forth in Conditions II.F, II.G, and II.H.

**F. LANDFILL GAS MONITORING PROGRAM**

The landfill gas monitoring program to be implemented for the closed Phase A landfill is set forth in Appendix E-20 of the approved permit application subject to the following conditions and modifications:

1. The five perimeter gas monitoring probes and four ambient air locations (three down-wind and one up-wind) must be sampled on an annual basis and the samples analyzed for the following parameters:

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- a. Pressure (determined before collecting any samples);
- b. Temperature;
- c. Methane;
- d. Oxygen; and
- e. Carbon Dioxide.

2. All ambient air samples must be collected: (1) no more than one inch above the ground surface; and (2) within 100 ft of the leachate (or at the property boundary if it is closer).
3. During the annual monitoring required in Condition II.F.1, the presence of any malodors near the sample points and beyond the property boundary must be noted in the field notes for the sampling effort. At a minimum, these notes must document that the presence of malodors was evaluated at each sampling location.
4. The steps described in Condition II.F.5 must be carried out if any of the following occur during the required annual landfill gas monitoring program:
  - a. A methane concentration greater than 50% of the lower explosive limit in air is detected in any of the below ground monitoring devices outside the waste boundary;
  - b. A methane concentration greater than 50% of the lower explosive limit in air is detected during ambient air monitoring;
  - c. A methane concentration greater than 25% of the lower explosive limit in air is detected in any building on or near the facility; and
  - d. Malodors attributed to the unit are detected beyond the property boundary.
5. If any of the items identified in Condition II.F.4 occur, the Permittee must:
  - a. Take immediate action, as appropriate, to protect human health from the adverse conditions;
  - b. Within two business days of the occurrence, notify the Illinois EPA in writing of the occurrence, including its location and a description of its nature (quantitatively if possible);

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- c. Monitor the gas probes and ambient air on a daily basis for the parameters set forth in Condition II.F.1. Appropriate action will have been taken when the results of the monitoring program are below all the criteria identified in Condition II.F.4 for five consecutive days;
- d. Submit weekly reports documenting the action taken to correct the problem and summarizing all monitoring efforts carried out during the response period; and
- e. If after 30 days, problems are still occurring, the Permittee must submit a Class 1\* permit modification request which describes the changes which must be made at the landfill to remedy the problem. Until such time as the modification request is approved, the Permittee must still comply with the requirements of Conditions II.F.5.a through II.F.5.d.

6. At the end of the post-closure care period, the gas monitoring probes must be decommissioned. The probes outside the waste boundary must be decommissioned using Illinois EPA's groundwater monitoring well plugging procedures. In decommissioning probes within the waste boundary, the pipe must be cut off at least two ft below the compacted clay layer and plugged. The final cover in this area must then be reconstructed, as appropriate.

**G. GAS MANAGEMENT SYSTEM**

- 1. Except as modified in this permit, the landfill gas extraction system associated with the closed Phase A landfill must be operated, maintained, and inspected in accordance with Appendix E-21 of the approved permit application.
- 2. The Permittee must operate the landfill gas collection system installed in the closed Phase A landfill in such a manner that:
  - a. The criteria set forth in Condition II.F.4 are not exceeded; and
  - b. It is capable of removing landfill gas from the entire landfill.
- 3. The landfill gas collected from this facility is directed to a flare where it is burned.
- 4. The following measurements shall be made quarterly on the landfill gas flowing into the flare: flow rate, heat value, percent oxygen and percent carbon dioxide.
- 5. At a minimum, all equipment and appurtenances associated with the gas management system must be inspected and maintained, as necessary on a quarterly basis.

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6. The Permittee must comply with the terms and conditions of their Title V Operating Permit No. 97030064 issued by Illinois EPA's Bureau of Air in regard to emissions from the landfill and from the flare used to burn collected landfill gas.
7. Condensate from the landfill gas extraction system must be managed as a listed hazardous waste (F039). Currently, this condensate is collected and discharged into the on-site leachate collection tank.

**H. LEACHATE MANAGEMENT**

1. The leachate pumps in the extraction wells identified in Condition II.E.5 are located approximately one foot above the bottom of the well. These pumps automatically turn on when the leachate level is approximately 3.5 ft above the bottom of the pump.
2. A manhole/sump is present just outside the southwest corner of the landfill which receives leachate from the original leachate collection trenches installed along the perimeter of the landfills base. The bottom of this sump is at an elevation of approximately 726 ft MSL. A pump similar to that described above is present in the sump and its intake is located approximately one foot above the bottom of the sump/manhole.
3. The level of leachate in each extraction well and the manhole/sump (relative to MSL) must be monitored on a quarterly basis.
4. The total amount of leachate removed from the site shall be determined on a quarterly basis. This determination must be made using the reported leachate loads removed from the tank each quarter. The counter devices associated with each extraction pump will be read on a quarterly basis to determine if the pumps are working.
5. A record of the date each load of leachate is sent off-site for treatment must be maintained in the operating record, as well as the volume shipped. In maintaining this record, adjustments must be made for the amount of gas condensate generated and transferred to the leachate accumulation tank.
6. Prior to shipping a load of leachate off-site for treatment, a sample must be collected and analyzed for:
  - a. Five-day biological oxygen demand (BOD<sub>5</sub>);
  - b. Chemical Oxygen demand;

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- c. Total solids;
- d. Total suspended solids;
- e. Dissolved solids;
- f. Total iron;
- g. pH;
- h. The groundwater monitoring constituents set forth in Lists G1 and G2 of Condition III.D.1 of this Permit;
- i. Any other parameters deemed necessary by the facility receiving the leachate for treatment.

The results of this sampling/analysis effort must be documented in the facility's operating record.

- 7. A sample of leachate must be collected from an extraction well within the landfill annually and analyzed for the constituents set forth in 35 IAC 811, Appendix C.
  - a. The four extraction wells EW-2, EW-6, EW-20, and EW-24 must be used for leachate sampling on a rotating basis.
  - b. The following order must be used annually; (1st) EW-2; (2nd) EW-6; (3<sup>rd</sup>) EW-20; (4<sup>th</sup>) EW-24; and then it will start over.

The results of this sampling/analysis effort must be documented in the facility's operating record and submitted electronically to the Illinois EPA.

- 8. Leachate sample analysis in Conditions II.H.6 and II.H.7 must be in accordance with the latest promulgated version of USEPA's "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods", Third Edition (SW-846) and finalized updates for the applicable analytical methods.
- 9. The Permittee must continue to operate the leachate collection and removal system throughout the post-closure care period until pumpable quantities of leachate are no longer present.

## **I. MONITORING, MAINTENANCE, AND RECORDKEEPING**

- 1. The Permittee must keep and maintain a written operating record that includes all the records, reports, notifications, monitoring data, testing or analytical data, and corrective action data required by 35 IAC 724.173 and the conditions in this Permit,

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for the entirety of the post-closure care period. The operating record must be maintained at this facility and be available for the Illinois EPA review.

2. The Permittee must comply with the requirements for landfills described in the approved permit application and the conditions of this Permit as follows:
  - a. The Permittee must maintain the integrity and effectiveness of the final cover, berms, and drainage structures of the Phase A landfill. This includes making repairs as necessary to correct the effects of settling, subsidence, erosion, cracking or other events. Corrective action must be taken if any problem listed below is encountered when inspecting the final cover, berms, and drainage structures of the landfill:
    - i. Cracks greater than one inch wide in the final cover or berms, rills, gullies, and crevices greater than six inches deep;
    - ii. Depressions (ponds) and holes in the final cover;
    - iii. Eroded or scoured drainage channels;
    - iv. Little or no vegetation is present in an area in excess of 100 square ft in size;
    - v. Gas and/or odor problems;
    - vi. Growth of vegetation with taproots;
    - vii. Vectors; and
    - viii. Leachate popouts or seeps.
  - b. Continue to operate the landfill leachate/gas collection and removal systems until the volume of leachate is such that leachate can no longer be removed from the systems.
  - c. Prevent run-on and run-off from eroding or otherwise damaging the final cover. At a minimum the run-on control system must be capable of preventing flow onto the landfill area during peak discharge from a 24-hour, 25-year storm event. At a minimum the run-off control system must be capable of collecting and controlling the volume of water resulting from a 24-hour, 25-year storm event.
  - d. Maintain and monitor the groundwater monitoring systems and comply with all other applicable requirements of 35 Ill. Adm. Code 724, Subpart F (Groundwater Protection) during the post-closure care period.

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- e. Protect and maintain surveyed benchmarks used in complying with surveying and recordkeeping requirements.
- f. The Permittee must place additional warning signs (DANGER - UNAUTHORIZED PERSONNEL KEEP OUT) around the closed Phase A landfill as necessary such that one is clearly legible at any point near the perimeter of the landfill.

**J. REPORTING AND NOTIFICATION REQUIREMENTS**

- 1. By March 1<sup>st</sup> of each year, the Permittee must submit a report to the Illinois EPA which summarizes the post-closure care activities completed during the previous calendar year. This report should contain:
  - a. Background information about the facility and a general discussion of the post-closure care activities carried out during the year;
  - b. Dates quarterly inspections were conducted and copies of completed inspection checklists (these inspections include those required by Condition II.D.5);
  - c. A general discussion of the observations from the quarterly inspections. Problems observed during the quarterly inspections must also be discussed and documentation must be provided regarding actions taken to correct the problem;
  - d. The results of the landfill gas monitoring required by Condition II.F.2 and the action taken if any exceedances identified in Condition II.F.4 occur;
  - e. Information regarding the landfill gas being sent to the flare as required by Condition II.G.3;
  - g. Identification of any time periods when either the leachate or gas management systems were not operating or not operating properly; and
  - h. Information regarding the leachate management program being carried out:
    - i. The information required by Condition II.H.5 as it relates to the amount of leachate sent off-site throughout the year;
    - ii. The amount of leachate removed from each leachate extraction well during the year as required by Condition II.H.4;

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- iii. The level of leachate observed each quarter in each leachate extraction well as required by Condition II.H.3; and
- iv. The results of the analyses conducted on leachate as required by Conditions II.H.6 and II.H.7.
- i. An evaluation of the data collected for the leachate and gas management programs at the facility to determine if they are operating effectively.
- j. Recommended changes which should be made to the leachate or gas management units to increase their effectiveness in removing leachate or landfill gas from the landfill.

**K. CONTACT INFORMATION/REQUIREMENTS**

1. This Permit sets forth requirements which the Permittee must carry out at the facility whose address is:

Zion Landfill Site 1  
701 North Green Bay Road  
Zion, Illinois 60099

2. The contact person for the operator, BFI Waste Systems of North America, LLC is:

James W. Hitzeroth  
26 W. 850 Schick Road  
Hanover Park, Illinois 60133  
Telephone No.: 630/894-5001  
e-mail address: [JHitzeroth@republicservices.com](mailto:JHitzeroth@republicservices.com)

3. The contact person for the owner, Zion Landfill, Inc. is:

Brad Stenzel  
GFL Environmental, Inc.  
701 North Green Bay Road  
Zion, Illinois 60099-9564  
Telephone No.: 847/623-3870

4. A copy of this Permit and associated approved permit application must be maintained: (1) at this facility; and (2) by Mr. Hitzeroth.

5. Requests to change the contact persons identified above must be submitted as a Class 1 permit modification request to the Illinois EPA within five days after the change is made.

**L. NOTICES AND CERTIFICATION**

1. The Permittee must submit a request for permit modification to change any aspect of the approved post-closure plan, as modified by the conditions of this Permit. The request must be in accordance with the applicable requirements of 35 IAC Parts 702, 703, 705, and 724 and must include a copy of the amended post-closure plan for approval by the Illinois EPA. The request must be submitted at least 180 days prior to the date that the change is needed. Post-closure care of the landfill must be in accordance with the conditions of this Permit until such time as the proposed modification is properly incorporated into the facility's RCRA permit.
2. If the Permittee or any subsequent owner or operator of the land upon which a hazardous waste disposal unit is located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, or contaminated soils, a modification to this Permit in accordance with the applicable requirements in 35 IAC Parts 703, 705, and 724 must be submitted for the Illinois EPA's review and approval at least 180 days prior to the date they wish to remove the materials. The owner or operator must, at a minimum, demonstrate that the removal of hazardous wastes will satisfy the criteria of 35 IAC 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 leachate removed, 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 a proposed Environmental Covenant (EC) for the future land use and long-term management of the property on which the closed landfill unit is located. The proposed EC shall 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 shall be pursuant to a consent order between the Permittee and the State of Illinois and in the format specified by the Illinois EPA.

4. If the Permittee seeks to end 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 the closed Phase A landfill.

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- a. A properly completed Certification of Completion of Post-Closure that states the post-closure care for the landfill 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.
- b. A Post-Closure Documentation Report that documents the post-closure care conditions and activities at the facility during the post-closure care period. The Post-Closure Documentation Report must include the following:
  - i. Background information about the facility and the unit subject to the post-closure care 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. 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.
    6. 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.

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- 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 care period and every five years after that. The facility must have complied with all requirements of 35 IAC Parts 620 and 724 in order to certify completion of post-closure care activities.
- v. Colored photos of unit 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 LPC-PA23 Form.

- c. Documentation that the EC required by Condition II.L.3 has been placed on the deed to the property on which the landfill area is located and has been filed with the County Recorder's Office.

- 5. The certification of completion of post-closure care shall not be approved by the Illinois EPA until the Permittee demonstrated that the EC required by Condition II.L.3 has been properly filed with the appropriate governmental office (e.g., State of Illinois, or County Recorder's office).
- 6. Illinois EPA shall notify the owner or operator that it is no longer required to maintain financial assurance for post-closure care of the unit in accordance with 35 IAC 724.220 and 724.245(i) within 60 days after receiving an approvable application and certifications from the owner and operator and a qualified Illinois licensed Professional Engineer that the post-closure care has been completed in accordance with the approved post-closure plan. Should the Illinois EPA determine that post-closure care has not been in accordance with the approved post-closure plan and conditions of this Permit, 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 and conditions of this Permit.

**M. FINANCIAL ASSURANCE FOR POST-CLOSURE CARE**

- 1. The Permittee must maintain financial assurance for post-closure care of the Phase A landfill of at least \$4,571,652 (currently approved cost estimate in 2024 dollars) until such time as it is required to be modified pursuant to Condition V.D.3. This amount must be adjusted annually for inflation. Financial assurance meeting the requirements of 35 IAC 724, Subpart H must be maintained for post-closure care of the closed Phase A landfill.

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2. Post-closure care costs are determined by multiplying annual costs by the full 30-year post-closure care period.

## SECTION III: GROUNDWATER DETECTION MONITORING PROGRAM

### A. SUMMARY

Groundwater parameters monitored in the uppermost aquifer below the facility indicate that, at the present time, no groundwater impacts have occurred. Therefore, a Groundwater Detection Monitoring Program meeting the requirements of 35 IAC 724.198 must be implemented at the facility. Phase A of the Zion Site 1 Landfill has 11 existing monitoring wells which monitor the interglacial sand unit at a depth of approximately 100 feet (ft) below ground surface (bgs).

### B. IMPLEMENTATION

1. The Permittee must implement the Groundwater Detection Monitoring Program upon the effective date of this Permit. On that date, the groundwater monitoring requirements set forth in this Permit shall supersede those previously established.

The Permittee shall carry out the detection monitoring specified in this Permit on the groundwater beneath Phase A of the Zion Site 1 Landfill facility in Zion, Illinois. The uppermost aquifer in the vicinity of the facility has been identified as interglacial sand deposits. For the purpose of this Permit and in accordance with the 35 IAC Part 620 regulations, the uppermost aquifer has been designated Class I: Potable Resource Groundwater. "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.

2. The Point of Compliance, defined as the vertical surface located at the hydraulically downgradient limit of the waste management area that extends down into the uppermost aquifer underlying the regulated unit, is delineated by the wells identified as the point of compliance wells in Condition III.C.1 and illustrated in Figure E-1 of the approved permit application.

### C. WELL LOCATION AND CONSTRUCTION

1. The Permittee must install and maintain groundwater monitoring wells and piezometers at the locations specified in the table below to allow for the collection of groundwater samples and elevations from the shallow zone and uppermost aquifer. The locations of these wells are specified in Figure E-1 of the approved permit application.

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| IEPA Well No.                           | Facility Well No. | Well Depth (Ft-bgs) | Well Depth Elevation (Ft-MSL) | Well Screen Interval (Ft-MSL) | State Plane Coordinates (Northing/Easting) |
|---|-------------------|---------------------|-------------------------------|-------------------------------|--|
| <b><u>Background Wells</u></b>          |                   |                     |                               |                               |  |
| G121                                    | G121              | 102.0               | 627.0                         | 632.0-627.0                   | 2118052.00N<br>1105338.00E                 |
| R123                                    | R123              | 122.6               | 640.4                         | 645.6-640.4                   | 2120132.00N<br>1106426.00E                 |
| R136                                    | R136              | 113.8               | 634.2                         | 644.5-634.7                   | 2118277.00N<br>1106162.00E                 |
| R127                                    | R127              | 112.2               | 650.9                         | 656.1-651.4                   | 2118819.00N<br>1106043.00E                 |
| <b><u>Point of Compliance Wells</u></b> |                   |                     |                               |                               |  |
| R124                                    | R124              | 153.4               | 634.8                         | 644.8-634.8                   | 2119943.00N<br>1106905.00E                 |
| R126                                    | R126              | 159.4               | 648.4                         | 658.4-648.4                   | 2119368.00N<br>1106907.00E                 |
| R128                                    | R128              | 155.2               | 647.7                         | 652.7-647.7                   | 2119635.00N<br>1106903.00E                 |
| C129                                    | C129              | 168.1               | 644.4                         | 649.6-644.9                   | 2119123.00N<br>1106905.00E                 |
| G131                                    | G131              | 161.3               | 649.8                         | 654.8-649.8                   | 2118637.00N<br>1106910.00E                 |
| G132                                    | G132              | 167.9               | 637.3                         | 647.3-637.3                   | 2118361.00N<br>1106904.00E                 |
| R133                                    | R133              | 119.7               | 639.0                         | 649.0-639.0                   | 2117947.00N<br>1106954.00E                 |

Note: "Ft-bgs" refers to feet below ground surface and "Ft-MSL" refers to feet above mean sea level

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2. Construction of each monitoring well/piezometer must be in accordance with the "Monitoring Well Diagram" and "Well Completion Report" forms located on the Illinois EPA website, unless otherwise approved in writing by the Illinois EPA. All new monitoring wells/piezometers to be installed must be continuously sampled and logged on Illinois EPA boring logs contained in the "Field Boring Log" form on the Illinois EPA website, 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.C.1 are damaged, or the structural integrity has been compromised. A proposal for the replacement of the subject well shall accompany this notification. The well shall 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. Prior to replacing the subject well, the Permittee must obtain written approval from the Illinois EPA regarding the proposed installation procedures and construction.
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 geologic zone as the existing well and be constructed in accordance with the current Illinois EPA groundwater monitoring well construction standards at the time the wells are replaced. A well which is more than 10 feet from the existing well or does not monitor the same geologic zone must be approved by the Illinois EPA and designated as a new well.
5. The Permittee must submit boring logs, construction diagrams, and data sheets from 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 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  
Post Office Box 19276  
Springfield, Illinois 62794-9276

6. All wells/piezometers shall be clearly identified and shall be equipped with protective caps and locks. Monitoring wells or piezometers located in high traffic areas must be protected with bumper guards or other alternate barriers.

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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 IAC Part 920 regulations. Monitoring wells and piezometers that are improperly constructed must be abandoned in accordance with Condition III.C.3.

**D. MONITORING PARAMETERS**

1. The Permittee must determine groundwater quality at each groundwater monitoring well identified in Condition III.C.1, at both background and point of compliance locations, semi-annually during the active life (including closure and post-closure care period) of the landfill. Samples collected during the semi-annual and annual sampling events of each year must be analyzed for the field parameters and hazardous waste constituents below. Total (unfiltered) values must be used for comparison with background quality standards. Dissolved (filtered) must be used for statistical analysis.

**List G1 – Semi-Annual Groundwater Sampling**

| <u>Field Parameters</u>                        | <u>STORET Number</u> | <u>Reporting Units</u> |
|--|----------------------|------------------------|
| pH *   | 00400                | Standard Units         |
| Specific Conductance **                        | 00094                | micromos/cm            |
| Temperature of Water Sample                    | 00011                | (°F)                   |
| Turbidity                                      | 45626                | Ntus                   |
| Depth to Water (below land surface)            | 72019                | Ft                     |
| Depth to Water (below measuring point)         | 72109                | Ft                     |
| Elevation of Bottom of Well#                   | 72020                | Ft-MSL                 |
| Elevation of Groundwater Surface               | 71993                | Ft-MSL                 |
| Elevation of Measuring Point (top of casing)## | 72110                | Ft-MSL                 |

# Must be determined once every two or five years during the annual sampling event in accordance with Condition III.F.3.

## Must be surveyed once every five years, or at the request of the Illinois EPA, or whenever the elevation changes as required by Condition III.F.2.

\* Background Groundwater Quality values (BGQs) for pH in well G131 (8.45-10.23) and well G132(8.03-9.64).

\*\* BGQs for specific Conductance in Well R126 (2495 micromos/cm).

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**SITE SPECIFIC CONSTITUENT INFORMATION**

| <u>Parameters</u>         | <u>STORET<br/>Number</u> | <u>BGQs (ug/L)</u> |
|---------------------------|--------------------------|--------------------|
| Acetone                   | 81552                    | 100                |
| Acrolein                  | 34210                    | 25                 |
| Acrylonitrile             | 34215                    | 10                 |
| Benzene                   | 34030                    | 5                  |
| Bromodichloromethane      | 32101                    | 5                  |
| Bromoform                 | 32104                    | 5                  |
| Bromomethane              | 34413                    | 5                  |
| Carbon Tetrachloride      | 32102                    | 5                  |
| Chlorobenzene             | 34301                    | 5                  |
| Chloroethane              | 34311                    | 10                 |
| 2-Chloroethyl Vinyl Ether | 34576                    | 10                 |
| Chloroform                | 32106                    | 5                  |
| Chloromethane             | 34418                    | 10                 |
| 1,1-Dichloroethane        | 34496                    | 5                  |
| 1,2-Dichloroethane        | 34531                    | 5                  |
| 1,1-Dichloroethene        | 34501                    | 5                  |
| trans-1,2-Dichloroethene  | 34546                    | 5                  |
| 1,2-Dichloropropane       | 34541*                   | 5                  |
| cis-1,3-Dichloropropene   | 34704                    | 5                  |
| trans-1,3-Dichloropropene | 34699                    | 5                  |
| 1,4-Dioxane               | 81582                    | 120                |
| Ethyl Benzene             | 78113                    | 5                  |
| Isobutyl Alcohol          | 77033                    | 100                |
| Methylene Chloride        | 34423                    | 5                  |
| Pyridine                  | 77045                    | 5                  |
| 1,1,2,2-Tetrachloroethane | 34516                    | 5                  |
| Toluene                   | 34010                    | 5                  |
| 1,1,1-Trichloroethane     | 34506                    | 5                  |
| 1,1,2-Trichloroethane     | 34511                    | 5                  |
| Trichloroethene           | 39180                    | 5                  |
| Vinyl Chloride            | 39175                    | 2                  |
| 1,2-Dichlorobenzene       | 34536                    | 10                 |
| 1,3-Dichlorobenzene       | 34566                    | 10                 |
| 1,4-Dichlorobenzene       | 34571                    | 10                 |
| Hexachlorobutadiene       | 39702                    | 10                 |
| Hexachloroethane          | 34396                    | 10                 |
| Naphthalene               | 34696                    | 10                 |

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| <u>Parameters</u>      | <u>STORET<br/>Number</u> | <u>BGQs (ug/L)</u> |
|------------------------|--------------------------|--------------------|
| Nitrobenzene           | 34447                    | 10                 |
| 1,2,4-Trichlorobenzene | 34551                    | 10                 |

List G2 – Annual Groundwater Sampling

| <u>Parameters</u>    | <u>STORET<br/>Number</u> | <u>BGQs (ug/L)</u> |
|----------------------|--------------------------|--------------------|
| Barium (dissolved)   | 01005                    | 1000               |
| Barium (total)       | 01007                    | 1000               |
| Cadmium (dissolved)  | 01025                    | 2                  |
| Cadmium (total)      | 01027                    | 3                  |
| Chromium (dissolved) | 01030                    | 10                 |
| Chromium (total)     | 01034                    | 10                 |
| Cyanide (dissolved)  | 00723                    | 0.005              |
| Cyanide (total)      | 00720                    | 0.005              |
| Lead (dissolved)     | 01049                    | 5                  |
| Lead (total)         | 01051                    | 5                  |
| Mercury (dissolved)  | 71890                    | 0.2                |
| Mercury (total)      | 71900                    | 0.2                |
| Nickel (dissolved)   | 01065                    | 100                |
| Nickel (total)       | 01067                    | 100                |

Note: All constituents with "dissolved" labeled to the right must be determined using groundwater samples which have been filtered through a 0.45-micron filter and used for statistical purposes. All other parameters must be determined from unfiltered samples.

\* = The STORET number and name previously used for 1,2-Dichloropropane was Dichloropropane (1,2) and STORET 31541.

2. The Permittee must establish background values in accordance with the procedures specified in the permit application as well as the following procedures:
  - a. Background groundwater quality for a monitoring parameter or constituent must be based on data from four consecutive sampling events of the upgradient groundwater monitoring wells for two years.
  - b. For those monitoring parameters or constituents not detected above the Lower Limit of Quantitation (LLOQ) during background gathering, the LLOQ must be the established background value.

3. Alternate concentration limits may be established where the Permittee can determine a constituent will not pose a substantial hazard to human health or the environment.
  - a. Where a hazardous constituent has a standard in 35 IAC Part 620, the facility must apply for an adjusted standard as outlined in Section 28.1 of the Environmental Protection Act.
  - b. For those hazardous constituents without a 35 IAC Part 620 standard, the alternative concentration limit(s) proposed by the facility must be approved by the Illinois EPA.

#### **E. DETECTION MONITORING PROGRAM**

1. The Permittee must determine groundwater quality at each monitoring well identified in Condition III.C.1 semi-annually and annually during the active life of the regulated unit (including the closure and post-closure care periods) for constituents found in Condition III.D.1. The Permittee must express the groundwater quality at each monitoring well in a form necessary for the determination of statistically significant changes (i.e. means, variances, etc.).
2. The Permittee must evaluate the results required by Condition III.E.1 and identify:
  - a. The concentration of any constituent detected which was not detected in the previous sampling event. "Detected" shall mean a concentration equal to or above the LLOQ listed in the latest version of USEPA's "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods", Third Edition (SW-846) and finalized updates for the applicable analytical methods specified in the approved Sampling and Analysis Procedures, which are incorporated by reference in Condition III.G.1 of the Permit.
  - b. The concentration of any constituent detected which exhibits a progressive increase over four sampling events. "Progressive Increase" shall mean an increase in the concentration of a constituent in successive sampling events.
3. The Permittee must determine the groundwater flow rate and direction in the uppermost aquifer semi-annually, and report to the Illinois EPA at least annually from monitoring wells identified in Condition III.C.1
4. The Permittee must determine whether there is a statistically significant increase, (and/or decrease in the case of pH) over the background values established for each parameter identified in Condition III.D.1 each time groundwater quality is

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determined at each well. In determining whether such a change has occurred, the Permittee must compare groundwater quality at each monitoring well identified in Condition III.C.1 to the background value derived in accordance with the statistical procedures specified in the permit application.

**F. GROUNDWATER ELEVATION**

1. The Permittee must determine the groundwater surface elevation referenced to MSL at each well each time groundwater is sampled in accordance with Condition III.I.3.
2. The Permittee must determine the surveyed elevation of "stick-up" referenced to MSL when the well is installed (with as-built diagrams) and every five years; or at the request of the Illinois EPA; or whenever the elevation changes in accordance with Condition III.I.5. "Stick-up" refers to the height of the referenced survey datum. This point is determined within  $\pm 0.01$  foot in relation to mean seal level, which in turn is established by referenced to an established National Geodetic Vertical Datum.
3. Elevation, as referenced to MSL, of the bottom of each monitoring well (STORET 72020), is to be reported once every five years, or whenever the pumps are removed from the well for maintenance; or at the request of the Illinois EPA; or whenever the elevation changes in accordance with Condition III.I.6. The mandatory measurement shall be taken during the annual sampling events.

**G. SAMPLING AND ANALYTICAL PROCEDURES**

1. The Permittee must use the techniques and procedures described in the approved permit application except as modified, when obtaining and analyzing samples from the groundwater monitoring wells described in Condition III.C.1:
  - a. Samples must be collected by the techniques described in the approved permit application.
  - b. Samples must be preserved and shipped (when shipped off-site for analysis) in accordance with the procedures specified in the approved permit application.
  - c. Samples must be analyzed in accordance with the procedures specified in the approved permit application. Groundwater analysis must be in accordance with the most current version of the applicable methods found in USEPA's "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," Third Edition (SW-846) and finalized updates.

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d. Samples must be tracked and controlled using the chain-of-custody procedures specified in the permit application.

**H. STATISTICAL PROCEDURES**

When evaluating the monitoring results in accordance with Condition III.E, the Permittee must use the following procedure:

1. The statistical methods to be used must be as specified in Section C.6.7 of the permit application.
2. Analytical data must be compared to the parameter background values established in Condition III.D.1.

**I. REPORTING AND RECORDKEEPING**

1. The Permittee must enter all monitoring, testing, and analytical data obtained in accordance with Conditions III.D, III.E, III.F, III.G, and III.H in the facility's operating record. The data must include all computations, calculated means, variances, t-statistic values, and t-statistic results 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 III.D, III.E, III.F and III.H must be collected and reported, as identified in the included table. All additional information required by the groundwater monitoring program (as specified in Conditions III.D, III.E, III.F, III.H) must also be submitted to the Illinois EPA at the address listed in Condition III.C.5 in accordance with this schedule.

| <u>Samples to be Collected During The Months of</u> | <u>Results Submitted to the Illinois EPA by the Following</u> | <u>Parameters</u> |
|---|---|-------------------|
| April – May   | July 15   | List G1 and G2    |
| October – November                                  | January 15  | List G1           |

3. Groundwater surface elevation data measured pursuant to Condition III.F.1 must be collected semi-annually and submitted to the Illinois EPA according to the schedule in Condition III.I.2.
4. The Permittee must report the groundwater flow rate and direction in the uppermost aquifer as required by Condition III.E.2 during the annual sampling event of the year.

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5. The Permittee must report the surveyed elevation, as required by Condition III.F.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 III.C.1, every five years (during the annual sampling event); 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 five years (during the annual sampling event), 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.C.1, as referenced to MSL, is to be reported at least annually. This measurement must be taken during the annual sampling event (STORET 72020) in accordance with Condition III.F.3.
7. Information required by Conditions III.I.2, III.I.3, III.I.5 and III.I.6 must be submitted in an electronic format. The information is to be submitted, as fixed-width text files formatted as found in the form, "Formatting Requirements for the 01 (and 02) Record of the Electronically Submitted Groundwater and Leachate Data" (LPC 160) located on the Illinois EPA webpage titled, "Electronic Reporting of Groundwater Data," and in accordance with the schedule found in Condition III.I.2. Additional guidance regarding the submittal of the information in an electronic format can be found on the Illinois EPA website.
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 this Permit for identification purposes. Only one copy of the LPC-592 with wet signatures must accompany the submittal. However, the Permittee must submit one original copy of each notice or report submitted to the Illinois EPA in paper format and (excluding the groundwater and leachate monitoring results submitted in an electronic format) a minimum of two copies of each notice or report (one addressed to the Bureau of Land Permit Section, and one addressed to the regional Field Operation Section). The Form is not to be used for permit modification requests.
9. The Permittee must report all information to the Illinois EPA in a form which can be easily reviewed. All submittals must contain tables of data drawings and text (as necessary) to accurately describe the information contained in the submittal.
10. If the Permittee determines, pursuant to Condition III.E.4, that there is a statistically significant change for any of the parameters specified in Condition III.D.1 at any monitoring well at the compliance point, the Permittee must:

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- a. Notify the Illinois EPA in writing indicating which parameters and wells have shown statistically significant increases and provide all statistical calculations. This notification must be submitted to the Illinois EPA within seven days of the date that the increases are discovered.
- b. Sample the groundwater in all wells listed in Condition III.C.1 and determine the concentration of all constituents identified in 35 IAC 724, Appendix I, and 35 IAC Part 620 to determine whether constituents are present, and if so, at what concentration. The results will accompany the permit modification required by Condition III.I.10.d.
- c. For any 35 IAC 724, Appendix I, and Part 620 constituents found in the analysis pursuant to condition III.I.10.b, the Permittee may resample within one month and repeat the analysis for those compounds detected. If results of the 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 the initial 35 IAC 724, Appendix I, and 35 IAC Part 620 analysis will form the basis for compliance monitoring.
- d. Submit to the Illinois EPA an application for a permit modification to establish a compliance monitoring program meeting the requirements of 35 IAC 724.199. The application must be submitted to the Illinois EPA within 90 days of the date that the increase is discovered. Furthermore, the application must include the following information:
  - i. An identification of the concentration of any 35 IAC 724, Appendix I, and 35 IAC Part 620 constituents found in the groundwater at each monitoring well at the point of compliance;
  - ii. Any proposed changes to the groundwater monitoring system at the facility necessary to meet the requirements 35 IAC 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 IAC 724.199; and
  - iv. For each hazardous constituent found at the compliance point, a proposed concentration limit under 35 IAC 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 IAC 724.194(b).

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- e. Submit to the Illinois EPA a corrective action feasibility plan to meet the requirements of 35 IAC 724.200 unless the concentrations of all hazardous constituents identified under Condition III.I.10.b are listed in 35 IAC 620.410 and their concentrations do not exceed the respective concentration limit values given in that table or the Permittee has sought an alternate concentration limits under Condition III.I.10.d.iv for every hazardous constituent identified under Condition III.I.10.b. This plan must be submitted to the Illinois EPA within 180 days of the date the increases is discovered.
- f. Submit to the Illinois EPA all data necessary to justify any alternate concentration limit for a hazardous constituent sought under Condition III.I.10.d.iv. This plan must be submitted to the Illinois EPA within 180 days of the date the increases is discovered.

11. If the Permittee determines, pursuant to Condition III.E.4, that there is a statistically significant increase above the background values for the parameters specified in Condition III.D.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 evaluation. The Permittee must submit a permit modification application in accordance with Condition III.I.10.d unless the demonstration successfully shows that a source other than the regulated unit caused the increase or that the increase resulted from errors in sampling, analysis or evaluation and the Illinois EPA concurs.

To make this demonstration, the Permittee must:

- a. Notify the Illinois EPA in writing that they intend to make this demonstration. This notification must be submitted to the Illinois EPA within seven days of the date that the increase is discovered.
- b. 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. This report must be submitted within 90 days of the date that the increase is discovered.
- c. Submit to the Illinois EPA an application to make any appropriate changes to the Groundwater Detection Monitoring Program. This application must be submitted within 90 days of the date that the increase is discovered.

Continue to monitor in accordance with the detection monitoring program at the facility.

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**J. 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 IAC 724.198, the Permittee must, within 90 days, submit an application for a permit modification to the Illinois EPA Bureau of Land, Permit Section, 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 IAC 705.128 if there is cause for such modification, as defined in 35 IAC 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.

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## SECTION III-A: SHALLOW ZONE OBSERVATION MONITORING PROGRAM

### A. SUMMARY

In addition to the Groundwater Detection Monitoring Program utilized to monitor the uppermost aquifer at the facility, Zion Site 1 Phase A Landfill has two existing wells to monitor groundwater in the shallow groundwater zone at the facility. These groundwater monitoring wells are intended to detect any releases from the landfill to the shallow groundwater zone that could potentially impact the uppermost aquifer at the facility.

### B. IMPLEMENTATION

1. The Permittee shall implement the Shallow Zone Observation Monitoring Program upon the effective date of this permit. On that date, the shallow zone observation monitoring requirements set forth in this Permit shall supersede previously established requirements.
2. The Permittee must carry out the shallow zone observation monitoring specified in this Permit on the groundwater beneath the Zion Site 1 Phase A Landfill. For the purpose of this Permit the shallow zone consists of discontinuous sand and silt lenses.

### C. WELL LOCATION AND CONSTRUCTION

1. The Permittee must install and maintain groundwater monitoring wells at the locations specified on the map presented in the approved permit application and in conformance with the following list:

| <u>Well No.</u> | <u>Well Depth<br/>top of Inner<br/>Casing (ft)</u> | <u>Well Bottom<br/>Elevation (ft-MSL)</u> | <u>Well Screen<br/>Interval (ft-MSL)</u> |
|-----------------|--|---|--|
| GT02            | 33.4   | 712.3                                     | 717.3-712.3                              |
| GT05            | 54.4   | 707.9                                     | 712.9-707.9                              |

2. Construction of each new monitoring well/piezometer must be in accordance with the "Monitoring Well Diagram" and "Well Completion Report" forms located on the Illinois EPA website, unless otherwise approved in writing by the Illinois EPA. All new monitoring wells/piezometers to be installed must be continuously sampled and logged on Illinois EPA boring logs contained in the "Field Boring Log" form on the Illinois EPA website, unless otherwise approved by the Illinois EPA.

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3. The Permittee must notify the Illinois EPA within 30 days in writing if any of the wells identified in Condition III-A.C.1 are damaged or the structural integrity has been compromised. A proposal for the replacement of the subject well 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. Prior to replacing the subject well, the Permittee must obtain written approval from the Illinois EPA regarding the proposed installation procedures and construction.
4. Should any well become consistently dry or unserviceable, a replacement well must be provided within 10 ft of the existing well. This well must monitor the same geologic zone as the existing well and be constructed in accordance with the current Illinois EPA groundwater monitoring well construction standards at the time the wells are replaced. A well which is more than 10 ft from the existing well or does not monitor the same geologic zone must be approved by the Illinois EPA and designated as a new well.
5. The Permittee must submit boring logs, construction diagrams, and data sheets from 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 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  
Post Office Box 19276  
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 or other alternate barriers.
7. All wells/piezometers not utilized in the approved groundwater monitoring system, but retained by the facility, must be constructed, and maintained in accordance with 77 IAC Part 920 regulations. Monitoring wells and piezometers that are improperly constructed must be abandoned in accordance with Condition III-A.C.3.

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**D. MONITORING PARAMETERS**

1. The Permittee must determine groundwater quality at the monitoring wells identified in III-A.C.1, semi-annually and annually during the active life (including closure and post-closure care period) of the landfill. Samples collected during the semi-annual and annual sampling events of each year must be analyzed for the field parameters and hazardous waste constituents below. Total (unfiltered) values must be used for comparison with groundwater quality standards. Dissolved (filtered) must be used for statistical analysis.

List G1 – Semi-Annual Groundwater Sampling

| <u>Field Parameters</u>                        | <u>STORET Number</u> | <u>Reporting Units</u> |
|--|----------------------|------------------------|
| pH *   | 00400                |                        |
| Specific Conductance **                        | 00094                | micromos/cm            |
| Temperature of Water Sample                    | 00011                | (°F)                   |
| Turbidity                                      | 45626                | Ntus                   |
| Depth to Water (below land surface)            | 72019                | Ft                     |
| Depth to Water (below measuring point)         | 72109                | Ft                     |
| Elevation of Bottom of Well#                   | 72020                | Ft-MSL                 |
| Elevation of Groundwater Surface               | 71993                | Ft-MSL                 |
| Elevation of Measuring Point (top of casing)## | 72110                | Ft-MSL                 |

# Must be determined once every five years during the annual sampling event in accordance with Condition III-A.F.3.

## Must be surveyed once every five years, or at the request of the Illinois EPA, or whenever the elevation changes as required by Condition III-A.F.2.

\* BGQs for pH in well GT02 (6.80-7.52) and well GT05 (6.67-7.65).

\*\* BGQs for Specific Conductance in Well GT02 (2098 micromos/cm) and well GT05 (4142 micromos/cm).

| <u>Parameters</u>         | <u>STORET Number</u> | <u>BGQs (ug/L)</u> |
|---------------------------|----------------------|--------------------|
| Acetone                   | 81552                | 100                |
| Acrolein                  | 34210                | 25                 |
| Acrylonitrile             | 34215                | 10                 |
| Benzene                   | 34030                | 5                  |
| Bromodichloromethane      | 32101                | 5                  |
| Bromoform                 | 32104                | 5                  |
| Bromomethane              | 34413                | 5                  |
| Carbon Tetrachloride      | 32102                | 5                  |
| Chlorobenzene             | 34301                | 5                  |
| Chloroethane              | 34311                | 10                 |
| 2-Chloroethyl Vinyl Ether | 34576                | 10                 |

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| <u>Parameters</u>         | <u>STORET<br/>Number</u> | <u>BGQs (ug/L)</u> |
|---------------------------|--------------------------|--------------------|
| Chloroform                | 32106                    | 5                  |
| Chloromethane             | 34418                    | 10                 |
| 1,1-Dichloroethane        | 34496                    | 5                  |
| 1,2-Dichloroethane        | 34531                    | 5                  |
| 1,1-Dichloroethene        | 34501                    | 5                  |
| trans-1,2-Dichloroethene  | 34546                    | 5                  |
| 1,2-Dichloropropane       | 34541*                   | 5                  |
| cis-1,3-Dichloropropene   | 34704                    | 5                  |
| trans-1,3-Dichloropropene | 34699                    | 5                  |
| 1,4-Dioxane               | 81582                    | 120                |
| Ethyl Benzene             | 78113                    | 5                  |
| Isobutyl Alcohol          | 77033                    | 100                |
| Methylene Chloride        | 34423                    | 5                  |
| Pyridine                  | 77045                    | 5                  |
| 1,1,2,2-Tetrachloroethane | 34516                    | 5                  |
| Toluene                   | 34010                    | 5                  |
| 1,1,1-Trichloroethane     | 34506                    | 5                  |
| 1,1,2-Trichloroethane     | 34511                    | 5                  |
| Trichloroethene           | 39180                    | 5                  |
| Vinyl Chloride            | 39175                    | 2                  |
| 1,2-Dichlorobenzene       | 34536                    | 10                 |
| 1,3-Dichlorobenzene       | 34566                    | 10                 |
| 1,4-Dichlorobenzene       | 34571                    | 10                 |
| Hexachlorobutadiene       | 39702                    | 10                 |
| Hexachloroethane          | 34396                    | 10                 |
| Naphthalene               | 34696                    | 10                 |
| Nitrobenzene              | 34447                    | 10                 |
| 1,2,4-Trichlorobenzene    | 34551                    | 10                 |

List G2 – Annual Groundwater Sampling

| <u>Parameters</u>    | <u>STORET<br/>Number</u> | <u>Well GT02<br/>BGQs (ug/L)</u> | <u>Well GT05<br/>BGQs (ug/L)</u> |
|----------------------|--------------------------|----------------------------------|----------------------------------|
| Barium (dissolved)   | 01005                    | 1000                             | 1000                             |
| Barium (total)       | 01007                    | 1000                             | 1000                             |
| Cadmium (dissolved)  | 01025                    | 2                                | 6                                |
| Cadmium (total)      | 01027                    | 1                                | 2                                |
| Chromium (dissolved) | 01030                    | 10                               | 20                               |

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| <u>Parameters</u>   | <u>STORET Number</u> | <u>Well GT02 BGQs (ug/L)</u> | <u>Well GT05 BGQs (ug/L)</u> |
|---------------------|----------------------|------------------------------|------------------------------|
| Chromium (total)    | 01034                | 56                           | 10                           |
| Cyanide (dissolved) | 00723                | 0.005                        | 0.005                        |
| Cyanide (total)     | 00720                | 0.005                        | 0.005                        |
| Lead (dissolved)    | 01049                | 7                            | 5                            |
| Lead (total)        | 01051                | 6                            | 5                            |
| Mercury (dissolved) | 71890                | 0.2                          | 0.2                          |
| Mercury (total)     | 71900                | 0.2                          | 0.2                          |
| Nickel (dissolved)  | 01065                | 100                          | 299                          |
| Nickel (total)      | 01067                | 125                          | 338                          |

Note: All constituents with "dissolved" labeled to the right must be determined using groundwater samples which have been filtered through a 0.45-micron filter and used for statistical purposes along with TOC.

\* = The STORET number and name previously used for 1,2-Dichloropropane was Dichloropropane (1,2) and STORET 31541.

2. Background Groundwater Quality (BGQ) values for those constituents listed in Condition III-A.D.1 were previously established using a minimum of four quarters of monitoring data.
3. The Permittee must establish background values in accordance with the procedures specified in the permit application as well as the following procedures:
  - a. Background groundwater quality for a monitoring parameter or constituent must be based on data from four consecutive sampling events of the upgradient groundwater monitoring wells for two years.
  - b. For those monitoring parameters or constituents not detected above the Lower Limit of Quantitation (LLOQ) during background gathering, the LLOQ must be the established background value.
4. Alternate concentration limits may be established in accordance with 35 IAC 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.
5. The Permittee must establish the introwell background values in accordance with the procedures specified in the permit application.

**E. SHALLOW ZONE OBSERVATION MONITORING PROGRAM**

1. The Permittee must determine groundwater quality at each monitoring well identified in Condition III-A.C.1 semi-annually and annually during the active life of the regulated unit (including the closure and post-closure care periods) for constituents found in Condition III-A.D.1. The Permittee must express the groundwater quality at each monitoring well in a form necessary for the determination of statistically significant changes (i.e. means, variances, etc.).
2. The Permittee must evaluate the results required by Condition III-A.E.1 and identify:
  - a. The concentration of any constituent detected which was not detected in the previous sampling event. "Detected" shall mean a concentration equal to or above the LLOQ listed in the latest promulgated version of USEPA's "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods", Third Edition (SW-846) and finalized updates for the applicable analytical methods specified in the approved Sampling and Analysis Procedures, which are incorporated by reference in Condition III.G.1 of the Permit.
  - b. The concentration of any constituent detected which exhibits a progressive increase over four sampling events. "Progressive Increase" shall mean an increase in the concentration of a constituent in successive sampling events.
3. The Permittee must determine the groundwater elevations in the shallow groundwater zone semi-annually, and report to the Illinois EPA at least annually from monitoring wells identified in Condition III-A.C.1.
4. The Permittee must determine whether there is a statistically significant increase, (or decrease in the case of pH) over the background values established for each parameter identified in Condition III-A.D.1 each time groundwater quality is determined at each well. In determining whether such a change has occurred, the Permittee must compare the groundwater quality at each monitoring well specified in Condition III-A.C.1 to the background value derived in accordance with the statistical procedures specified in the permit application.

**F. GROUNDWATER ELEVATION**

1. The Permittee must determine the groundwater surface elevation referenced to mean sea level (MSL) at each well each time groundwater is sampled in accordance with Condition III-A.I.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 five years; or at the request of the Illinois EPA; or whenever the elevation changes in accordance with

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Condition III-A.I.4. "Stick-up" refers to the height of the referenced survey datum. This point is determined within  $\pm$  0.01 foot in relation to mean seal level, which in turn is established by referenced to an established National Geodetic Vertical Datum.

3. Elevation, as referenced to MSL, of the bottom of each monitoring well (STORET 72020), is to be reported at least annually, or whenever the pumps are removed from the well for maintenance; or at the request of the Illinois EPA; or whenever the elevation changes in accordance with III-A.I.5. The mandatory measurement must be taken during the annual sampling events.

**G. SAMPLING AND ANALYTICAL PROCEDURES**

1. The Permittee must use the following techniques and procedures described in the approved permit application except as modified, when obtaining and analyzing samples from the groundwater monitoring wells described in Condition III-A.C.1.
  - a. Samples must be collected using the techniques described in the permit application.
  - b. Samples must be preserved and shipped (when shipped off-site for analysis) in accordance with the procedures specified in the permit application.
  - c. Samples must be analyzed in accordance with the procedures specified in the permit application.
  - d. Samples must be analyzed in accordance with the procedures specified in the permit application. Groundwater analysis must be in accordance with the most current version of the applicable methods found in USEPA's "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," Third Edition (SW-846) and finalized updates.
  - e. Samples must be tracked and controlled using the chain-of-custody procedures specified in the permit application.

**H. STATISTICAL PROCEDURES**

When evaluating the monitoring results in accordance with Condition III-A.E, the Permittee must use the following procedures:

1. The statistical methods to be used must be as specified in the permit application.
2. Analytical data must be compared to the parameter background values established in accordance with the permit application.

**I. REPORTING AND RECORDKEEPING**

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

| <u>Samples to be Collected During The Months of</u> | <u>Results Submitted to the Illinois EPA by the Following</u> | <u>Parameters</u> |
|---|---|-------------------|
| April – June  | July 15   | List G1 and G2    |
| October – December                                  | January 15  | List G1           |

3. Groundwater surface elevation data measured pursuant to Condition III-A.F.1 must be collected semi-annually and submitted to the Illinois EPA as identified in the table in Condition III-A.I.2.
4. The Permittee must report the surveyed elevation, as required by Condition III-A.F.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 III-A.C.1, every five years (during the annual sampling event); 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 five years (during the annual sampling event), or at the request of the Illinois EPA, or whenever the elevation changes.
5. Elevation of the bottom of each monitoring well identified in Condition III-A.C.1, as referenced to MSL, is to be reported at least annually. This measurement must be taken during the annual sampling event (STORET 72020) in accordance with Condition III-A.F.3.

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6. Information required by Conditions III-A.I.2, III-A.I.3, III-A.I.4 and III-A.I.5 must be submitted in an electronic format. The information is to be submitted, as fixed-width text files formatted as found in the form, "Formatting Requirements for the 01 (and 02) Record of the Electronically Submitted Groundwater and Leachate Data" (LPC 160) located on the Illinois EPA webpage titled, "Electronic Reporting of Groundwater Data," and in accordance with the schedule found in Condition III-A.I.2. Additional guidance regarding the submittal of the information in an electronic format can be found on the Illinois EPA website.
7. 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 permit for identification purposes. Only one copy of the LPC-592 with wet signatures must accompany the submittal. However, the Permittee must submit one original copy of each notice or report submitted to the Illinois EPA in paper format and (excluding the groundwater and leachate monitoring results submitted in an electronic format) a minimum of two copies (one addressed to the Bureau of Land Permit Section, and one addressed to the regional Field Operation Section). The Form is not to be used for permit modification requests.
8. The Permittee must report all information to the Illinois EPA in a form which can be easily reviewed. All submittals contain tables of data drawings and text (as necessary) to accurately describe the information contained in the submittal.
9. If the Permittee determines, pursuant to Condition III-A.E.4, that there is a statistically significant increase for any of the parameters specified in Condition III-A.D.1 at any monitoring well in Condition III-A.C.1 the Permittee must:
  - a. Notify the Illinois EPA in writing indicating which parameters and wells have shown statistical changes and provide the statistical calculations. 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 III.C.1 and determine the concentration of all constituents identified in 35 IAC 724, Appendix I, and 35 IAC Part 620 to determine whether constituents are present, and if so, at what concentration. The results will accompany the permit modification required by Condition III-A.I.9.d.
  - c. For any 35 IAC 724, Appendix I, and 35 IAC Part 620 constituents found in the analysis pursuant to Condition III-A.I.9.c, the Permittee may resample within one month and repeat analysis for those compounds detected. If results of the 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 the initial 35 IAC Part 724,

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Appendix I, and Part 620 constituent analysis will form the basis for compliance monitoring.

- d. Submit to the Illinois EPA an application for a permit modification to establish a compliance monitoring program meeting the requirements of 35 IAC 724.199. The application must be submitted to the Illinois EPA within 90 days of the date that the exceedance is discovered. Furthermore, the application must include the following information:
  - i. An identification of the concentration of any 35 IAC 724, Appendix I, and Part 620 constituents found in the groundwater at each monitoring well at the compliance point; and
  - ii. Any proposed changes to the groundwater monitoring system at the facility necessary to meet the requirements of 35 IAC 724.199; and
  - iii. Any proposed changes to the monitoring frequency, sampling and analysis procedure or methods or statistical procedures used at the facility necessary to meet the requirements of 35 IAC 724.199.
  - iv. For each hazardous constituent found, a proposed concentration limit under 35 IAC 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 IAC 724.194(b).
- e. Submit to the Illinois EPA a corrective action feasibility plan to meet the requirements of 35 IAC 724.200 unless the concentrations of all hazardous constituents identified under Condition III-A.I.9.b are listed in 35 IAC 620.410 and their concentrations do not exceed the respective Groundwater Quality Standards or the Permittee has sought an alternate concentration limits under Condition III-A.I.9.d.iv for every hazardous constituent identified under Condition III-A.I.9.b.  
This plan must be submitted to the Illinois EPA within 180 days of the date the increases is discovered.
- f. Submit to the Illinois EPA all data necessary to justify and alternate concentration limit for a hazardous constituent sought under Condition III-A.I.9.d.iv. This plan must be submitted to the Illinois EPA within 180 days of the date the increases is discovered.

10. If the Permittee determines, pursuant to Condition III-A.E.4, that there is a statistically significant increase above or for pH below the background values for the parameters specified in Condition III-A.D.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 evaluation. The Permittee must

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submit a permit modification application in accordance with Condition III-A.I.9.d unless the demonstration successfully shows that a source other than the regulated unit caused the increase or that the increase resulted from errors in sampling, analysis or evaluation and the Illinois EPA concurs.

To make this demonstration, the Permittee must:

- a. Notify the Illinois EPA in writing that they intend to make this demonstration. This notification must be submitted to the Illinois EPA within seven days of the date that they intend to make this demonstration.
- b. Submit a report to the Illinois EPA which demonstrates that a source other than the regulated unit caused the increase, or that the increase resulted from error in sampling, analysis, or evaluation. This report must be submitted within 90 days of the date that the increase is discovered.
- c. Submit to the Illinois EPA an application to make any appropriate changes to the Shallow Zone Observation Monitoring Program. This report must be submitted within 90 days of the date that the increase is discovered.
- d. Continue to monitor in accordance with the Shallow Zone Observation Monitoring Program at the facility.

**J. REQUEST FOR PERMIT MODIFICATION**

1. If the Permittee or the Illinois EPA determines that the Shallow Zone Observation Monitoring Program no longer satisfies the requirements of 35 IAC 724.198, the Permittee must, within 90 days, submit an application for a permit modification to the Illinois EPA Bureau of Land, Permit Section, 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 IAC 705.128 if there is cause for such modification, as defined in 35 IAC 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 IV: CORRECTIVE ACTION

### A. INTRODUCTION

1. In accordance with Section 3004(u) and (v) of RCRA and 35 IAC 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 constituents from any solid waste management unit (SWMU) and any area(s) of concern (AOCs) at the facility. This section contains the conditions which must be followed to ensure these requirements are met.
2. The Permittee must conduct, as appropriate: (1) a RCRA Facility Investigation (RFI) to characterize each AOC or SWMU of concern at the facility; (2) determine whether releases of hazardous wastes and hazardous constituents have occurred from each AOC or SWMU of concern, and if so, the nature and extent of the release(s); and (3) gather other data, as necessary, to be used in determining the need, scope and design of a Corrective Measures Program (CMP).
3. Based upon the results of the RFI, the Permittee must develop and implement a CMP to protect human health and the environment from any of the SWMUs or AOCs at the facility.
4. The Permittee must provide corrective action, as appropriate, for: (1) any newly discovered SWMUs and AOCs; and/or (2) future releases for existing SWMUs at the facility.
5. The Permittee must carry out interim measures in accordance with the terms, conditions, and requirements of this Permit, as appropriate, to address existing contamination at the facility until such time as a final corrective measure can be developed and implemented.
6. The requirements of 35 IAC Parts 620 and 742 must be met, when applicable, in establishing remediation objectives for corrective action activities. In addition, all corrective action efforts must meet the requirements of 35 IAC 724.201.
7. The Permittee must incorporate, as necessary, climate change resilience and adaptation considerations into the corrective action required at this facility.
8. All Illinois EPA final decisions regarding RCRA corrective action at this facility are subject to the appeal provisions of the Act.
9. The Illinois EPA and USEPA issued a joint RCRA permit to this facility in 1988. The USEPA portion of that permit contained requirements for addressing two SWMUs at the facility. The Permittee has adequately addressed corrective action at these two SWMUs.

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10. Unless there is a desire to modify specific requirements set forth in this Section, information submitted to the Illinois EPA regarding the corrective action requirements set forth in this Section is not a request to modify this Permit nor subject to the requirements of 35 IAC 703, Subpart G.
  - a. A completed Illinois EPA RCRA Corrective Action Certification Form (LPC-632) must accompany all corrective action related information submitted to the Illinois EPA.
  - b. To allow for proper review of all corrective action related information submitted to the Illinois EPA, the original and two copies of the information must be submitted.

**B. CORRECTIVE ACTION REQUIREMENTS**

1. Any additional corrective action required to meet the requirements of 35 IAC 724.201 and 35 IAC Parts 742 and 620 must be conducted, as necessary, to address on-site and off-site contamination.
2. The indoor inhalation exposure route was incorporated into 35 IAC Part 742 and became effective in July 2013. The Permittee must address the indoor vapor inhalation exposure route at the facility, as necessary, in accordance with the requirements of 35 IAC Part 742 and obtain an NFA determination.

**C. REQUIREMENTS FOR ADDRESSING NEWLY IDENTIFIED SWMU(s) AND AOC(s)**

1. The Permittee must notify the Illinois EPA in writing of any newly identified SWMU and/or AOC discovered during the course of groundwater monitoring, field investigations, environmental audits, or other means, no later than 30 days after discovery. The notification shall provide the following information, as available:
  - a. The location of the newly identified SWMU and/or AOC in relation to other SWMUs or 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 period during which the unit was operated;

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- e. The specifics on all materials, including but not limited to, wastes and hazardous 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 and completion of the Plan for any additional SWMU(s)/AOC(s) discovered subsequent to the issuance of this Permit. The 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 identified SWMU/AOC to the environment.
3. Within 90 days after receipt of the Illinois EPA's request for a Plan, the Permittee must submit a Plan to the Illinois EPA for review and approval.
4. After the Permittee submits the Plan, the Illinois EPA shall either approve, conditionally approve, or disapprove the Plan in writing. If the Plan is approved, the Permittee must begin to implement the Plan within 45 days of receiving such written notification or according to the terms and schedule established within the Plan and any conditions placed on it. If the Plan is disapproved, the Illinois EPA will 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 SWMU Assessment Report must describe all results obtained from the implementation of the approved Plan.
6. Additional investigation plans and reports must be submitted to and approved by the Illinois EPA, as necessary, to ensure the nature and extent of contamination at the SWMU/AOC is adequately characterized. Once the contamination is characterized, the Permittee must develop remedial objectives for the SWMU/AOC in accordance with 35 IAC Part 742; such objectives are subject to the Illinois EPA review and approval.

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7. The Permittee must implement a Corrective Measures Program (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 the Illinois EPA notifies the Permittee of the need for such a program.
8. All efforts carried out at the newly identified SWMU(s)/AOC(s) must meet the requirements of 35 IAC 724.201.

**D. FUTURE RELEASES FROM SWMUs**

There exists a potential that a release may occur in the future from SWMUs identified in the RCRA Facility Assessment (RFA) 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 such a SWMU 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.C.1. Additional investigation and, as necessary, corrective measures efforts at this SWMU must be carried out in accordance with the procedures set forth in Condition IV.E. The results of all corrective action efforts required by this condition must meet the requirements of 35 IAC 724.201.

**E. INTERIM MEASURES/STABILIZATION**

The Permittee must carry out interim measures/stabilization activities to prevent or mitigate the migration of a release of hazardous substances to the environment, and to provide adequate protection to human health and the environment.

1. At any time during the corrective action process, 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 constituents. It shall not be necessary to conduct all phases of a RFI or a corrective measure study (CMS) 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 CMS.
2. 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 must include, at a minimum:
  - a. Objectives of the interim measures; 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;

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- c. Schedules for design and construction; and
  - d. Schedules for progress reports.
- 3. 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, must not affect the schedule for implementation of any other corrective action efforts being carried out at the facility or of any other portion of the Permit.
- 4. 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 modification.
- 5. Consistent with the annual reporting requirements of this Permit, the Permittee must submit a report assessing the effectiveness of any interim measures being carried out in accordance with this Permit. Based on a review of this report, the Illinois EPA reserves the right to require additional interim measures be carried out if it is determined that the interim measure is unable to protect human health and the environment. This annual report should at a minimum contain the following information regarding each system which comprises the interim measure:
  - a. A discussion of each system's operation during the year. This discussion should address: (1) actual daily, weekly and monthly flow rates through each system; (2) any periods when the systems were not operating; and (3) deviations from the design operating procedures for the system (such as problems with drawing an adequate vacuum, downtime due to equipment failure, etc.);
  - b. Results of all monitoring efforts carried out during the year;
  - c. A discussion of the effectiveness of the system supported as appropriate with data and calculations; and
  - d. Recommended changes, if any, which should be made to the system to improve its effectiveness.
- 6. The Illinois EPA reserves the right to require the Permittee to remove or treat soil if the Illinois EPA determines that contaminants are present in the soils at levels such that the remediation system is unable to protect human health and the environment. Remediation objectives for corrective measures will be established by the Illinois EPA at a later date.

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7. The interim measure approved for a SWMU may not be sufficient to meet the final requirements for corrective action for remediation for the unit. The adequacy of the interim measure will be addressed upon the Illinois EPA review and approval of the RFI reports and the CMP, as required by this Permit. As such, the Permittee may be required to expand this interim measure as necessary to address existing or additional contamination detected through RFI investigations.
8. The Illinois EPA reserves the right to require revision and modification of the interim measures implemented by the facility should it be determined by the Illinois EPA through information obtained through facility monitoring that the interim measures approved by this portion of the Permit are ineffective in protecting human health and the environment.

**F. FINANCIAL ASSURANCE**

35 IAC 724.201 requires that financial assurance be established for completing required corrective action at SWMUs. As all corrective action efforts at this facility have been completed, the current cost estimate for corrective action at this facility is \$0.

1. The Permittee must demonstrate continuous compliance with 35 IAC 724.201 by providing documentation of financial assurance using a mechanism specified in 35 IAC 724.243, in at least the amount of the approved corrective action cost estimate. The words "completion of corrective action" must be substituted for "closure and/or post-closure," as appropriate in the financial instrument specified in 35 IAC 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 IAC 724.246 at its discretion.
2. The financial assurance requirements of 35 IAC 724.201 must also be met for any investigative or corrective action efforts carried out in accordance with Conditions IV.C and IV.E. 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.
3. Financial assurance for corrective action must be updated, as necessary, to reflect the current status of the hazardous waste cleanup program at this facility. In addition, this financial assurance must be adjusted annually for inflation.

## SECTION V: SPECIAL CONDITIONS

### A. HAZARDOUS WASTE MANAGEMENT ACTIVITIES

1. In addition to the terms and conditions of this Permit, the requirements of 35 IAC Part 722 must be met in regard to the management of hazardous waste generated in carrying out the requirements of this Permit. The main hazardous waste generated at this facility is leachate extracted from the closed Phase A landfill.
2. Documentation of compliance with the requirements of 35 IAC Part 722 must be maintained by the Permittee.

### B. PUBLIC NOTIFICATION AND PARTICIPATION

1. A repository of all information submitted to the Illinois EPA as part of the requirements of this Permit must be established and maintained at the Zion-Benton Public Library. This repository must be well organized and kept up to date. A comprehensive list of all documents in the repository must be provided, as well as a brief description of each document in the repository. The Permittee must visit the repository on a regular basis to ensure its organization and integrity is maintained.
2. The public participation and public notification requirements of 35 IAC Parts 703 and 705 must be met any time requests to modify this facility are submitted to the Illinois EPA for review and approval.
3. An appropriate facility mailing list as required by 35 IAC Part 705 must be maintained and updated on a regular basis.

### C. 39(i) CERTIFICATION

1. The Permittee must provide a completed Illinois EPA permit application form LPC-PA23 with all permit modification requests, additional information, and permit applications that are submitted to the Illinois EPA.
2. The Permittee must submit a current 39(i) certification and supporting documentation with all permit applications.

### D. COMPLIANCE SCHEDULE

The following information must be submitted within 60 days of the effective date of this Permit.

1. Approved Permit Application; Section C.6.4 Description of Sampling and Analysis Procedures

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- a. Revise Section C.6.4. The description of Sampling and Analysis Procedures states that, "groundwater purged from detection monitoring wells will be directed into the adjacent perimeter stormwater ditch and disposed of on the ground within the waste limits". The statement must be revised to include "Purged groundwater will be collected, containerized, and upon receipt of groundwater analysis, disposed of properly." The facility may expand upon how groundwater will be addressed following receipt of the results in the revisions to the Groundwater Sampling and Analysis Plan to indicate how uncontaminated and contaminated groundwater will be managed. Uncontaminated groundwater may be disposed of as described, while contaminated groundwater would need to be disposed in accordance with regulations.
- b. To meet the requirements of 35 IAC 620.510(b)(4), the sampling and analysis plan must be revised to propose a methodology for analyzing constituents which complies with the Lower Limit of Quantitation (LLOQ) instead of the Practical Quantitation Limit (PQL) and those values must be equal to or less than the groundwater standards of 35 IAC Part 620, Subpart D, effective March 28, 2025.
  - i. The LLOQ (and PQL) are independent of any background or 35 IAC Part 620 value. The historical PQLs used by the laboratory are no longer adequate if they do not meet the LLOQ.
- c. Propose a timeline within the permit application for sampling and development of new background values to be conducted which meets 35 IAC Part 620 for all new and existing parameters and their respective standards based on the revisions to 35 IAC Part 620, effective March 28, 2025. Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, Third Edition (SW-846) and finalized updates no longer references PQL and instead uses LLOQ.

2. Approved Permit Application; Section E.7.3.1 Leachate Quality
  - a. Parameter Comparison: Indicate if any of the leachate analyses detected a parameter for which the groundwater is/was not being analyzed and the actions taken if this occurred.
3. Submit a revised post-closure cost estimate to reflect a 30-year post-closure care period in accordance with 35 IAC 724.244 and 724.217(a)(1) and provide the required financial assurance in accordance with 35 IAC 724.245, as a stand-alone Class 1\* permit modification request.

## SECTION VI: STANDARD CONDITIONS

### 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 prohibitions against 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 IAC 702.181)
2. **PERMIT ACTIONS.** This Permit may be modified, reissued, or revoked for cause as specified in 35 IAC 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 IAC 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 IAC 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 IAC 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 IAC 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 IAC 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 IAC 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 IAC 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 IAC 702.143)

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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 IAC 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 IAC 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 shall also furnish to the Illinois EPA, upon request, copies of records required to be kept by this Permit. (35 IAC 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 IAC 702.149)
13. **MONITORING AND RECORDS.**
  - a. Samples and measurements taken for the purpose of monitoring must be representative of the monitored activity. The method used to obtain a

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representative sample of the waste must be the appropriate method from 35 IAC 721, Appendix A. Laboratory methods must be those specified in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, third addition (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 IAC 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 IAC 703.280. (35 IAC 702.152(a))

**15. CONSTRUCTION CERTIFICATION.** For a new hazardous waste management (HWM) facility, 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

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professional engineer stating that the facility has been constructed or modified in compliance with the Permit; and

b. The Illinois EPA has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the Permit; or

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 IAC 703.247)

16. **ANTICIPATED NONCOMPLIANCE.** The Permittee must give advance 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 IAC 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 IAC 703.260(b) or 703.272. Changes in the ownership or operational control of a facility must be made as a Class 1 permit 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 IAC 703.260)

18. **MONITORING REPORTS.** Monitoring results shall be reported at the intervals specified in the Permit. (35 IAC 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 IAC 702.162. (35 IAC 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:

- (1) Information concerning the release of any hazardous waste that may cause an endangerment to public drinking water supplies.
- (2) 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.

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**b. The description of the occurrence and its cause shall include:**

- (1) Name, address, and telephone number of the owner or operator;
- (2) Name, address, and telephone number of the facility;
- (3) Date, time, and type of incident;
- (4) Name and quantity of material(s) involved;
- (5) The extent of injuries, if any;
- (6) An assessment of actual or potential hazards to the environment and human health outside the facility, where applicable; and
- (7) 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 IAC 702.152(f) and 703.245(b))**

**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 IAC 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 IAC 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:

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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 IAC 702.126. (35 IAC 702.151)
25. **CONFIDENTIAL INFORMATION.** Any claim of confidentiality must be asserted in accordance with 35 IAC 702.103 and 35 IAC Part 161.
26. **DOCUMENTS TO BE MAINTAINED AT FACILITY SITE.** The Permittee must maintain at the facility, until closure is complete, the following documents and amendments, revisions, and modifications to these documents:
  - a. The post-closure care plan as required by 35 IAC 724.218(a) and this Permit.
  - b. Cost estimate for facility post-closure care as required by 35 IAC 724.244(d) and this permit.
  - c. Operating record as required by 35 IAC 724.173 and this Permit.
  - d. Inspection schedules as required by 35 IAC 724.115(b) and this Permit.

#### **GENERAL FACILITY STANDARD**

27. **GENERATOR REQUIREMENTS.** Any hazardous waste generated at this facility must be managed in accordance with the generator requirements at 35 IAC Part 722.
28. **SECURITY.** The Permittee must comply with the security provisions of 35 IAC 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 IAC 724.115(c). Records of inspections must be kept as required by 35 IAC 724.115(d).
30. **CLOSURE REQUIREMENTS FOR ACCUMULATION AREAS.** The Permittee must close containers 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 IAC 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 IAC 724.173.

## POST-CLOSURE

**33. CARE AND USE OF PROPERTY.** The Permittee must provide post-closure care for the facility as required by 35 IAC 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 IAC 724.218(d).

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

- a. Adjusted for inflation either 60 days prior to each anniversary of the date on which the first post-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 IAC 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 IAC 724.245 by providing documentation of financial assurance, as required by 35 IAC 724.251, in at least the amount of the cost estimates required by the Standard Condition 35. Changes in financial assurance mechanisms must be approved by the Illinois EPA pursuant to 35 IAC 724.245.

0978020001-Zion Site 1 Phase A Landfill  
Log No. B-23R2  
Page VI-8 of VI-8

**Financial assurance documents submitted to the 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  
P.O. Box 19276  
Springfield, IL. 62794-9276**

**37. INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS.** The Permittee must comply with 35 IAC 724.248 whenever necessary.

0978020001-Zion Site 1 Phase A Landfill  
Log No. B-23R2  
Page VII-1 of VII-4

## SECTION VII: REPORTING AND NOTIFICATION REQUIREMENTS

The reporting and notification requirements of each section of the RCRA Permit are summarized below. This summary table is provided to "highlight" the various reporting and notification requirements of this Permit but is not meant to supersede the requirements of the various sections of this Permit.

| Condition  | Action  | Due Date  |                          |                        |            |                       |                  |                          |
|--|---|---|--------------------------|------------------------|------------|-----------------------|------------------|--------------------------|
| <b>SECTION II: POST-CLOSURE</b>                              |   |   |                          |                        |            |                       |                  |                          |
| C.2  | Submit Class 2 permit modification to extend post-closure care period   | On or prior to February 10, 2027  |                          |                        |            |                       |                  |                          |
| F.5.b  | Notification of exceedances of specified levels detected during the required landfill gas monitoring program.         | Within two business days  |                          |                        |            |                       |                  |                          |
| F.5.d  | Reports documenting action being taken to address landfill gas monitoring exceedances.                                | Weekly  |                          |                        |            |                       |                  |                          |
| F.5.e  | Class 1* permit modification request proposing changes to the approved landfill gas management plan.                  | 30 days after landfill gas monitoring program exceedances observed, unless able to correct these exceedances prior to this due date   |                          |                        |            |                       |                  |                          |
| J.1  | Annual report regarding post-closure care efforts carried out each year.  | March 1 <sup>st</sup> of the following year   |                          |                        |            |                       |                  |                          |
| K.5  | Submit notification that post-closure contact person has changed.   | Within five days after change is made   |                          |                        |            |                       |                  |                          |
| L.1  | Permit modification request to change any aspect of the approved post-closure care plan.                              | 180 days prior to date change is needed   |                          |                        |            |                       |                  |                          |
| L.2  | Submit application for permit modification, if the Permittee wishes to remove any materials from the closed landfill. | At least 180 days prior to the date they wish to remove the materials   |                          |                        |            |                       |                  |                          |
| L.4  | Submit certification of completion of post-closure and post-closure documentation report.                             | Within 60 days of completion of post-closure  |                          |                        |            |                       |                  |                          |
| <b>SECTION III: GROUNDWATER DETECTION MONITORING PROGRAM</b> |   |   |                          |                        |            |                       |                  |                          |
| I.2  | Groundwater monitoring data and statistical calculations required semi-annually.                                      | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Samples Collected During</td> <td style="width: 50%;">Results Due to IEPA by</td> </tr> <tr> <td>April-June</td> <td>July 15<sup>th</sup></td> </tr> <tr> <td>October-December</td> <td>January 15<sup>th</sup></td> </tr> </table> | Samples Collected During | Results Due to IEPA by | April-June | July 15 <sup>th</sup> | October-December | January 15 <sup>th</sup> |
| Samples Collected During                                     | Results Due to IEPA by  |   |                          |                        |            |                       |                  |                          |
| April-June   | July 15 <sup>th</sup>   |   |                          |                        |            |                       |                  |                          |
| October-December   | January 15 <sup>th</sup>  |   |                          |                        |            |                       |                  |                          |
| I.3  | Groundwater Surface Elevation.  | Semi-annually   |                          |                        |            |                       |                  |                          |

0978020001-Zion Site 1 Phase A Landfill  
Log No. B-23R2  
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| <u>Condition</u> | <u>Action</u>  | <u>Due Date</u>  |
|------------------|--|--|
| I.4              | Groundwater flow rate and direction.   | Annually with the groundwater data due July 15 <sup>th</sup>   |
| I.5              | Surveyed elevation.  | Every five years or at the request of the IEPA or whenever the elevation changes. In addition, for new wells, at the time of installation. |
| I.6              | <b>Elevation of the bottom of each well.</b>   | <b>Every five years due July 15<sup>th</sup></b>   |
| I.10.a           | Notify the IEPA in writing of statistically significant increase.  | Within seven days the increase was discovered  |
| I.10.b           | Sample groundwater in all wells for required constituents.   | Immediately after increase is discovered   |
| I.10.d           | Apply for permit modification establishing a compliance monitoring program.  | Within 90 days the increase was discovered   |
| I.10.e           | Provide the IEPA with corrective action feasibility plan.  | Within 180 days the increase was discovered  |
| I.11.a           | Notify the IEPA in writing of intent to make demonstration.  | Within seven days the increase was discovered  |
| I.11.b           | Submit a report to the IEPA which demonstrates that a source other than a regulated unit caused the increase or resulted from error. | Within 90 days the increase was discovered   |
| I.11.c           | Submit to the Illinois EPA an application to change detection monitoring program .   | Within 90 days the increase was discovered   |
| J.1              | Submit permit modification to make changes to detection monitoring program   | Within 90 days of determination changes are needed   |

**SECTION III-A: SHALLOW ZONE OBSERVATION MONITORING PROGRAM**

| I.2 | Groundwater monitoring data and statistical calculations required semi-annually. | <u>Samples Collected During</u> | <u>Results Due to IEPA by</u>  |
|-----|--|---------------------------------|--|
|     |  | April-June                      | July 15 <sup>th</sup>  |
| I.3 | Groundwater surface elevation.   | October-December                | January 15 <sup>th</sup>   |
| I.4 | Surveyed elevation.  |                                 | Semi-annually  |
|     |  |                                 | Every five years or at the request of Illinois EPA or whenever the elevation changes. In addition, for new wells, at the time of installation. |

0978020001-Zion Site 1 Phase A Landfill  
Log No. B-23R2  
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| <b>Condition</b> | <b>Action</b>  | <b>Due Date</b>                                    |
|------------------|--|--|
| I.5              | Elevation of the bottom of each well.  | Every five years due July 15 <sup>th</sup>         |
| I.9.a            | Notify the IEPA in writing of statistically significant increase.  | Within seven days the increase was discovered      |
| I.9.b            | Sample groundwater in all wells for required constituents.   | Immediately after increase is discovered           |
| I.9.d            | Apply for permit modification establishing a compliance monitoring program.  | Within 90 days the increase was discovered         |
| I.9.e            | Provide the IEPA with corrective action feasibility plan.  | Within 180 days the increase was discovered        |
| I.10.a           | Notify the IEPA in writing of intent to make demonstration.  | Within seven days the increase was discovered      |
| I.10.b           | Submit a report to the IEPA which demonstrates that a source other than a regulated unit caused the increase or resulted from error. | Within 90 days the increase was discovered         |
| I.10.c           | Submit to the IEPA an application to change the shallow zone observation monitoring program.   | Within 90 days the increase was discovered.        |
| J.1              | Submit permit modification to make changes to shallow zone observation monitoring program  | Within 90 days of determination changes are needed |

**SECTION IV: CORRECTIVE ACTION**

|     |   |  |
|-----|---|--|
| C.1 | Notification of a newly identified SWMU/AOC.        | Within 30 days of discovery                          |
| C.3 | Submit SWMU Assessment Plan.                        | Within 90 days of Illinois EPA's request for Plan    |
| C.5 | Submit SWMU Assessment Report.                      | In accordance with the schedule in the approved Plan |
| D.  | Notification of release from existing SWMU.         | Within 30 days of discovery                          |
| F.2 | Financial assurance.                                | Within 60 days of approved cost estimate             |
| F.3 | Updating financial assurance for corrective action. | As necessary   |

**SECTION V: SPECIAL CONDITIONS**

|     |                                |  |
|-----|--------------------------------|--|
| C.1 | Submit LPC-PA23 Form.          | With all permit modifications, additional information, and permit applications |
| C.2 | Submit 39i Certification Form. | With all permit applications   |

**SECTION VI: STANDARD CONDITIONS**

|   |   |  |
|---|---|--|
| 6 | Submit complete application for new permit. | At least 180 days prior to permit expiration |
|---|---|--|

0978020001-Zion Site 1 Phase A Landfill  
 Log No. B-23R2  
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| <b>Condition</b> | <b>Action</b>  | <b>Due Date</b>   |
|------------------|--|---|
| 11               | Information requested by the IEPA, and copies of records required to be kept by this Permit. | Within a reasonable time  |
| 14               | Notify the IEPA of planned physical alteration or additions.                                 | As soon as possible   |
| 16               | Notify the IEPA of changes which may result in permit noncompliance.                         | As soon as possible   |
| 17               | Application for permit modification indicating the Permit is to be transferred.              | At least 90 days prior to transfer date   |
| 20               | Report to IEPA any noncompliance which may endanger human health or the environment.         |   |
|                  | - by telephone   | Within 24 hours after discovery   |
|                  | - in writing   | Within five days after discovery  |
| 21               | Report all other instances of noncompliance.   | March 1 of each year along with Annual Report   |
| 34               | Application for permit modification amending post-closure plan.                              | Within 60 days prior to the proposed change in facility design or operation, or not later than 60 days after an unexpected event has occurred |
| 35.a             | Adjust post-closure cost estimate for inflation.   | Within 60 days before anniversary date, or within 30 days after close of the firm's fiscal year   |
| 35.b             | Revision of post-closure cost estimate.  | As needed, within 90 days of discovery of revision  |
| 36               | Change in financial assurance mechanism for post-closure care.                               | As needed   |
| 37               | Notify the Illinois EPA of commencement of voluntary or involuntary bankruptcy proceedings.  | Within 10 days after commencement of proceeding   |

**Attachment A: Site Layout Map**

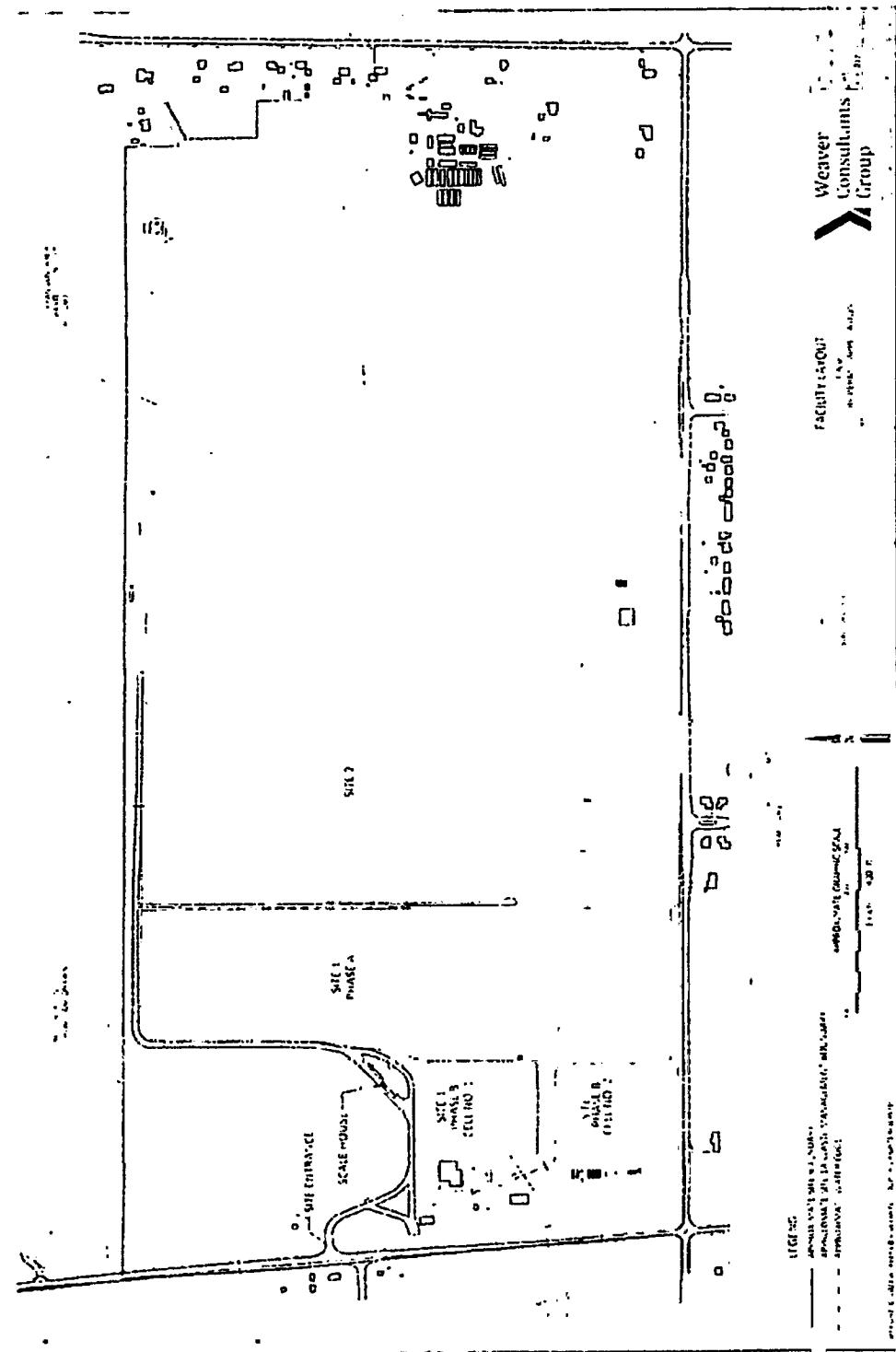
**Log No. B-23R2**

**Zion Site I Phase A Landfill**

**LPC No. 0978020001**

**USEPA ID No. ILD980700728**

0978020001-Zion Site 1 Phase A Landfill  
Log No. B-23R2  
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**Attachment B: Approved Permit Application Identification**

**Log No. B-23R2**

**Zion Site 1 Phase A Landfill**

**LPC No. 0978020001**

**USEPA ID No. ILD980700728**

0978020001-Zion Site 1 Phase A Landfill  
Log No. B-23R2  
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**APPROVED PERMIT APPLICATION IDENTIFICATION**

The following documents comprise the approved permit application for the renewed RCRA Permit being issued to the Zion Site 1 Phase A Landfill facility in Zion, Illinois (the Illinois EPA log number for this renewed permit is B-23R2; the Illinois EPA identification number for this facility is 0978020001; the USEPA Identification number for this facility is ILD980700728).

| <b><u>Document</u></b>                       | <b><u>Date</u></b> | <b><u>Date Received</u></b> |
|--|--------------------|-----------------------------|
| RCRA Post-Closure Permit Renewal Application | May 6, 2021        | May 10, 2021                |
| Addendum No. 1                               | June 6, 2025       | June 9, 2025                |
| Addendum No. 2                               | June 20, 2025      | June 23, 2025               |

**Attachment C: General Inspection Schedule**

**Log No. B-23R2**

**Zion Site 1 Phase A Landfill**

**LPC No. 0978020001**

**USEPA ID No. ILD980700728**

0978020001-Zion Site 1 Phase A Landfill  
Log No. B-23R2  
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### GENERAL INSPECTION SCHEDULE

| <u>Inspection Item</u>            | <u>Frequency</u> | <u>Procedure</u>                                    |
|-----------------------------------|------------------|---|
| Leachate Accumulation Tank        | Weekly           | Section D.3.1.1 of the approved permit application. |
| Gas Collection and Control System | Monthly          | Section D.3.1.2 of the approved permit application  |
| Leachate Collection System        | Monthly          | Section D.3.1.2 of the approved permit application  |
| Site Security                     | Quarterly        | Section D.3.1.2 of the approved permit application  |
| Vegetation, run-off, erosion      | Quarterly        | Section D.3.1.2 of the approved permit application  |
| Run-off control, spill prevention | Quarterly        | Section D.3.1.2 of the approved permit application  |
| Blower building                   | Quarterly        | Section D.3.1.2 of the approved permit application  |
| Groundwater monitoring system     | Semi-annually    | Section D.3.1.2 of the approved permit application  |

# BOL Permit Section RCRA Tracking Sheet

BOLSiteCode 0978020001

Federal ID(s) ILD980700728

Respond by: 8/20/2025

Site: Zion Site 1 Phase A Landfill

Region: Des Plaines

City: Zion

County: Lake

Data Regarding Logged Submittal(s) per Log # B-23R2

| Review Status | PermitClass        | AppType     | Reviewers:          | RCRA |
|---------------|--------------------|-------------|---------------------|------|
|               |                    |             | RCRA, CAU, DAU, GAU |      |
| Active        | Renewal Part B Pmt | RCRA Part B | KDH                 | SDD  |

| DocTitle_Description  | Submittal Type           | Review Type         | Agency Response        |
|---|--------------------------|---------------------|------------------------|
| Addendum 2 - provides updated permit forms:<br>RCRA Subtitle C Site ID form, RCRA Permit<br>App LPC-PA23, 39(i) owner, 39(i) operator | Additional Info          | Technical           | Draft Permit           |
|   | Date Received 06/23/2025 | Date Due 09/21/2025 | Date Mailed 07/24/2025 |

## Submittal Comment:

|                             |                          |                     |             |
|-----------------------------|--------------------------|---------------------|-------------|
| Response to NOD sent 5/7/25 | Resp-Technical NOD       | Technical           |             |
|                             | Date Received 06/09/2025 | Date Due 09/07/2025 | Date Mailed |

## Submittal Comment:

|                     |                          |                     |                        |
|---------------------|--------------------------|---------------------|------------------------|
| Renewal application | 1st Submittal            | Technical           | Technical NOD          |
|                     | Date Received 05/07/2021 | Date Due 08/05/2021 | Date Mailed 05/07/2025 |

## Submittal Comment:

## Final Action Data

For Log No: B-23R2

| Units Addressed | Final Action Status | Date FA Issued | Date NFA | Date Closure<br>Cert Accepted | Acres Remediated |
|-----------------|---------------------|----------------|----------|-------------------------------|------------------|
|                 |                     |                |          |                               | 0                |

|               |                       |               |                          |                          |
|---------------|-----------------------|---------------|--------------------------|--------------------------|
| Closure Type: | Institutional Control | Clean Closed: | 1 Institutional Control: | 2 Institutional Control: |
|               |                       |               |                          |                          |

# BOL Permit Section RCRA Tracking Sheet

BOLSiteCode 0978020001

Federal ID(s) ILD980700728

Respond by: 7/23/2025

Site: Zion Site 1 Phase A Landfill

Region: Des Plaines

City: Zion

County: Lake

## Data Regarding Logged Submittal(s) per Log # B-23R2

| Review Status | PermitClass        | AppType     | Reviewers:          | RCRA |
|---------------|--------------------|-------------|---------------------|------|
|               |                    |             | RCRA, CAU, DAU, GAU |      |
| Active        | Renewal Part B Pmt | RCRA Part B | KDH                 | SDD  |

| DocTitle_Description  | Submittal Type           | Review Type         | Agency Response |
|---|--------------------------|---------------------|-----------------|
| Addendum 2 - provides updated permit forms: RCRA Subtitle C Site ID form, RCRA Permit App LPC-PA23, 39(i) owner, 39(i) operator | Additional Info          | Technical           |                 |
|   | Date Received 06/23/2025 | Date Due 09/21/2025 | Date Mailed     |

## Submittal Comment:

|                             |                          |                     |             |
|-----------------------------|--------------------------|---------------------|-------------|
| Response to NOD sent 5/7/25 | Resp-Technical NOD       | Technical           |             |
|                             | Date Received 06/09/2025 | Date Due 09/07/2025 | Date Mailed |

## Submittal Comment:

|                     |                          |                     |                        |
|---------------------|--------------------------|---------------------|------------------------|
| Renewal application | 1st Submittal            | Technical           | Technical NOD          |
|                     | Date Received 05/07/2021 | Date Due 08/05/2021 | Date Mailed 05/07/2025 |

## Submittal Comment:

## Final Action Data

For Log No: B-23R2

| 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:

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|--|--|--|--|--|

# BOL Permit Section RCRA Tracking Sheet

BOLSiteCode 0978020001

Federal ID(s) ILD980700728

Respond by: 7/9/2025

Site: Zion Site 1 Phase A Landfill

Region: Des Plaines

City: Zion

County: Lake

Data Regarding Logged Submittal(s) per Log # B-23R2

| Review Status | PermitClass        | AppType     | Reviewers:          | RCRA |
|---------------|--------------------|-------------|---------------------|------|
|               |                    |             | RCRA, CAU, DAU, GAU |      |
| Active        | Renewal Part B Pmt | RCRA Part B | KDR                 | SDD  |

| DocTitle_Description        | Submittal Type      | Review Type | Agency Response |
|-----------------------------|---------------------|-------------|-----------------|
| Response to NOD sent 5/7/25 | Resp-Technical NOD  | Technical   |                 |
| Date Received 06/09/2025    | Date Due 09/07/2025 | Date Mailed |                 |

Submittal Comment:

|                          |                     |             |               |
|--------------------------|---------------------|-------------|---------------|
| Renewal application      | 1st Submittal       | Technical   | Technical NOD |
| Date Received 05/07/2021 | Date Due 08/05/2021 | Date Mailed | 05/07/2025    |

Submittal Comment:

## Final Action Data

For Log No: B-23R2

| 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: |
|---------------|-----------------------|---------------|--------------------------|--------------------------|
|               |                       |               |                          |                          |

# BOL Permit Section RCRA Tracking Sheet

R 000274  
OCT 6 2021

BOLSiteCode 0978020001

FedID: ILD980700728

Respond by: 6/9/2021

Site: Zion Site 1 Phase A Landfill

Region: Des Plaines

City: Zion

County: Lake

Facility Permit Universe:  OperatingUniverse  PostClosureUniverse  CorrActionUniverse  UIC

Facility Type:

Right-to-Know Status:

RTK Status Change Date:

Site Comments:

## Data Regarding Log #: B-23R2

| Review Status | PermitClass        | AppType     | Reviewers:                     |
|---------------|--------------------|-------------|--------------------------------|
| Active        | Renewal Part B Pmt | RCRA Part B | RCRA CAU DAU GU<br>SKID CS SDD |

LogComments:

## Submittals for Log

| DocTitle_Description           | Submittal Type       | Review Type             | Agency Response |
|--------------------------------|----------------------|-------------------------|-----------------|
| Renewal application            | 1st Submittal        | Technical               |                 |
| Submittal Received: 05/07/2021 | Date Due: 08/05/2021 | Pub Notice/Date Mailed: |                 |

Submittal Comments:

## Final Action Data

For Log No: B-23R2

| 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:

|  |  |  |  |
|--|--|--|--|
|  |  |  |  |
|--|--|--|--|



**REVIEW NOTES CHECKLIST**  
**General Information**

0978020001 – Lake County  
 Zion Site 1 Landfill  
 ILD980700728  
 Log No.: B-23R2

|   |   |   |
|---|---|---|
| <b>Start of Review (Date)</b>   | <b>June 16, 2025</b>  |   |
| <b>Project Manager</b>  | Kelly Huser <i>KH 7-7-25</i>  |   |
| <b>Groundwater Unit Reviewer</b>  | Shawntay Dial   |   |
| <b>Corr. Action Reviewer</b>  | N/A   |   |
| <b>Brief Description of Project</b>   | RCRA Post-Closure Renewal Permit Application  |   |
| <b>Site Name/Location</b>   | Zion Site 1 Phase A Landfill<br>701 Green Bay Road<br>Zion, IL. 60099-9564  |   |
| <b>Facility Contact</b><br><input checked="" type="checkbox"/> - Operator<br><input type="checkbox"/> - Owner   | BFI Waste Systems of North America<br>Attn: James Hitzeroth, Env. Manager<br>26 W. 580 Schick Rd.<br>Hanover Park, IL. 60133  | Phone #: 224-970-1129<br>Email: JHitzeroth@republicservices.com |
| <b>Owner</b><br><input type="checkbox"/> - Same as Facility Contact   | Zion Landfill, Inc.<br>Attn: Brad Stenzel<br>701 Green Bay Road<br>Zion, IL. 60099-9564   | Phone #: 847-623-3870<br>Email: brad.stenzel@gfenv.com          |
| <b>Consultant</b>   | Environmental Information Logistics<br>Attn: Edward J. Doyle<br>534 Duane St.<br>Glen Ellyn, IL 60137-4676  | Phone #: 630-254-9388<br>Email: edoyle@EILLC.com                |
| <b>Forms, Certifications and Original Signatures</b>  | <input checked="" type="checkbox"/> - All required forms are provided with the application.<br><input checked="" type="checkbox"/> - Professional Engineer and Licensed Professional Geologist have provided a certification statement and seal as required. *<br><input checked="" type="checkbox"/> - Original signatures present on all documents/forms provided with application. *<br><small>* Original signatures/seals are not required on additional copies of the application.</small> |   |
| <b>Siting (Sec. 3.330 of Act)</b><br><u>Cert. of Siting (LPC-PA8)</u>   | Has siting for facility been approved: <input type="checkbox"/> -Yes <input type="checkbox"/> -No <input checked="" type="checkbox"/> -NA   |   |
| <b>Environmental Justice Evaluation</b><br><small>(See <u>Procedure I.28</u>)</small><br><u>EJ Start</u><br><u>EJ Review Request Webpage</u><br><u>EJ Review Request System Guide</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 an EJ Review Request.<br>a. EJ Evaluation Required: <input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No    |   |

|   |   |
|---|---|
|   | <p>b. EJ SWAP Results: <input type="checkbox"/>-Not in an EJ Area <input checked="" type="checkbox"/>-Blue (1) Minority<br/> <input type="checkbox"/>-Yellow (2) Low Income <input type="checkbox"/>-Red (3) Minority &amp; Low Inc.</p> <p>c. EJ Review Request: If the facility is in an EJ area submit an EJ Review Request to the EJ Office using the <a href="#">EJ Review Request</a> webpage.</p> <p>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).<br/> <input type="checkbox"/>-Complete – No Outreach <input type="checkbox"/>-Complete – With Outreach</p> <p>e. Documentation: Emails from EJ Office documenting the EJ review should be attached to review notes.</p> <p>Notes: Submitted EJ Request #8289</p>   |
| <p><b>39(i) Certification</b><br/> <u>39(i) Cert. form (LPC 643)</u></p> <p>a. Review<br/> (See <a href="#">BOL Adm. Procedure I.25</a>,<br/> <u>39(i) Investigations</u><br/> <u>Memo &amp; Sec. 39(i) of the Act</u>)</p> | <p><input type="checkbox"/>-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.</p> <p><b>Review of 39(i) Certification:</b></p> <p><b>I. Applicant Information:</b> <input checked="" type="checkbox"/>-Complete/adequate <input type="checkbox"/>-Not complete/not adequate</p> <p><b>II. Officers &amp; Employees:</b> <input checked="" type="checkbox"/>-Complete/adequate <input type="checkbox"/>-Not complete/not adequate</p> <p><b>III. Owner, Operator, Officer, and Employee Information:</b></p> <p>A. Prior Conduct Identification:<br/> <input type="checkbox"/>-Yes <input checked="" type="checkbox"/>-No: Are one or more of the questions in this section marked "Yes"? If so, an Attachment A must be included (see below).</p> <p>B. Pending Proceedings:<br/> <input type="checkbox"/>-Yes <input checked="" type="checkbox"/>-No: Are one or more of the questions in this section marked "Yes"? If so, an Attachment A must be included (see below).</p> <p>C. Prior Application Information:</p> <p>i. <input type="checkbox"/>- Yes <input checked="" type="checkbox"/>-No: Are Previously submitted <a href="#">Attachment A</a>'s incorporated into this Certification?</p> <p>ii. <input type="checkbox"/>- Yes <input type="checkbox"/>-Not complete/adequate: If C.i. is checked yes; are the applications containing the previously submitted <a href="#">Attachment A</a>'s identified?</p> <p><b>Certification Statement:</b> <input checked="" type="checkbox"/>-Yes <input type="checkbox"/>-Not complete/not adequate: Has the certification been signed by responsible corporate officer who meets the requirements of 702.126(a)(1)?</p> <p><b>Attachment A – Information for Individual Persons:</b> Required if item III A. and/or B. above is check Yes.</p> <p><input checked="" type="checkbox"/>-N/A <input type="checkbox"/>-Yes <input type="checkbox"/>-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.</p> |

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| <p><b>b. FACES Database Review</b></p> <p><u>FACES-DB</u><br/><u>FACES – 39i Guidance</u><br/><u>FACES User Manual</u></p> | <p><input type="checkbox"/>-Yes <input checked="" type="checkbox"/>-No: Facility has more than two consent decrees. If “Yes” request Full Compliance History (FCH), see item c. below.</p> <p>Notes:</p>  |
| <p><b>c. Full Compliance History (FCH) Review</b></p>  | <p>FCH Requested: <input type="checkbox"/>-Yes <input checked="" type="checkbox"/>-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.<sup>1</sup></p> <p>Date FCH request made:</p>   |
| <p><b>d. Other Information</b></p>   | <p><b>Other Information:</b> <input type="checkbox"/>-Yes <input checked="" type="checkbox"/>-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.</p>   |
| <p><b>e. 39i violations identified that may require permit denial.</b></p>   | <p><input type="checkbox"/>-Yes <input checked="" type="checkbox"/>-No: 39i violations identified that may require permit denial. If yes, a memo to the Unit Manager should be prepared detailing the violations.</p> <p>i. <input type="checkbox"/>-A memo, dated _____, has been forwarded to the Unit Manager for evaluation.</p>  |
| <p><b>f. Revised Permit Condition for 39(i)</b></p>  | <p><input type="checkbox"/>-Yes <input type="checkbox"/>-N/A: Permit Condition VII.C.1 has been revised to require the submittal of 39(i) Certification Forms with all applications (see item 4 of <u>BOL Adm. Procedure I.25</u>).</p>   |
| <p><b>Field Office Section</b></p>   | <p>a. FOS Region/Contact: Anthony Guido Email: Anthony.Guido@illinois.gov<br/>Phone: 847-294-4072</p> <p>b. Field Inspection Required: <input type="checkbox"/>-Yes <input checked="" type="checkbox"/>-No If yes, a memo/email should be prepared and sent to the FOS contact, copy FOS Regional Manager.</p> <p>i. <input type="checkbox"/>-A memo/email, dated _____, has been forwarded to the FOS.</p> <p>c. Comments Received from FOS: <input checked="" type="checkbox"/>-Yes <input type="checkbox"/>-No</p>   |
| <p><b>CROPA Memo</b><br/><u>Procedure I.31</u><br/><b>CROPA Template</b></p>   | <p>a. <input type="checkbox"/>-Yes <input checked="" type="checkbox"/>-No: CROPA Memo distributed on _____.<br/>i. <input type="checkbox"/>-Yes <input type="checkbox"/>-No: Permit(s) from other Bureaus required.</p>   |
| <p><b>Change of Basic Facility Information</b><br/>(Change of: Name, Owner/Operator, Contact Information, etc.)</p>        | <p>a. <input type="checkbox"/>-Yes <input checked="" type="checkbox"/>-No If yes:</p> <p>i. Facility with BOL ID/Inventory Number only (Non-RCRA Facility):<br/><input type="checkbox"/>-Reviewer has completed <u>Site Inventory Data Input Form</u> -OR-<br/><input type="checkbox"/>-Facility has submitted an <u>IEPA Inventory Application Form</u>.</p> <p>ii. Facility with a Federal (RCRA) ID Number :<br/><input type="checkbox"/>- Facility has submitted a revised <u>Notification of Regulated Waste Activity Form (USEPA Form 8700-12)</u>.</p> |

<sup>1</sup> See item 2 of June 26, 2018 39(i) Investigations Memo

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|--|--|
| <p><b>Right-to-Know (RTK) Evaluation</b><br/> <u>Sec. 25d of Act</u></p> <p><b>Right-to-Know Evaluation Form (2/2025)</b></p> <p><b>Contaminant Evaluation Group (CEG) Referral Form (2/2025)</b></p> <p><b>IEPA Right-to-Know Website</b></p>   | <p>A Right-to-Know (RTK) evaluation must be performed for any review in which soil, soil gas and/or groundwater contamination data is reviewed.</p> <p>a. <input type="checkbox"/>-N/A No release near the property boundary has been documented.</p> <p>b. <input checked="" type="checkbox"/>-RTK Evaluation performed, <u>RTK Evaluation Form</u> attached.</p> <p>c. Soil, soil gas and/or groundwater contamination were evaluated. The evaluation determined:</p> <ul style="list-style-type: none"> <li>• <input type="checkbox"/>-Further evaluation required and Item d below must be completed.</li> <li>• <input type="checkbox"/>-Additional information is required to make an evaluation.</li> <li>• <input type="checkbox"/>-No criteria met; site does not warrant further evaluation.</li> </ul> <p>d. <input type="checkbox"/>-<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: _____</p> <p>e. <input type="checkbox"/>-Other: <u>Right-to-Know Evaluation Form</u> completed, met criteria for referral to CEG but was not required based on: _____</p> <p>Notes: See Groundwater Unit Memo (SDD) dated December 18, 2023 and June 26, 2025 in the administrative record for this renewal application.</p> |
| <p><b>RCRA Permit, RCRA Corrective Action, &amp; RCRA Closure Submittals</b></p> <p><u>USEPA RCRAInfo Database</u></p> <p><u>IEPA RCRAInfo Data Entry Guidance (Draft)</u></p> <p><u>USEPA R1 RCRAInfo Data Entry Walk Through</u></p> <p><u>USEPA Comprehensive RCRAInfo Help &amp; Guidance</u></p> <p><u>USEPA RCRAInfo Data Element Dictionary</u></p> | <p><input type="checkbox"/>- N/A: Submittal(s) is not a RCRA Permit, RCRA Closure or RCRA Corrective Action Submittal.</p> <p>a. <input checked="" type="checkbox"/>- RCRA Info: Enter data into the <u>USEPA RCRAInfo Database</u> for RCRA permits, permit modifications, RCRA Closure and Corrective Action submittals as required. See linked documents to the left for additional guidance.</p> <p>b. <input checked="" type="checkbox"/>-Yes <input type="checkbox"/>-No <input type="checkbox"/>-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.</p> <p>If the permit class was <u>not</u> correct:</p> <ul style="list-style-type: none"> <li>• <input type="checkbox"/>- 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.</li> <li>• <input type="checkbox"/>-Yes <input type="checkbox"/>-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)).</li> </ul>                                    |

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Zion, Illinois  
ILD980700728  
Post-Closure Renewal Permit Application  
Log No. B-23R2  
RCRA Permits Administrative Record – 24D**

**Date Received by IEPA: June 9, 2025**

| <b>LOG for B-23R2<br/>Post-Closure Permit Renewal Application</b> |  |
|---|--|
| <b>Date</b>   | <b>Description</b>   |
| 5-6-21  | BFI's Renewal Post-Closure Permit Application                            |
| 5-7-25  | Illinois EPA's Notice of Deficiencies sent to BFI and Zion Landfill Inc. |
| 6-6-25  | BFI's Response to Illinois EPA's May 7, 2025 NOD                         |
| 6-17-25   | Email from EJ stating EJ Review Request has been received                |
| 6-18-25   | Email from Chris Pressnall (EJ Officer) asking about public notice       |
| 6-18-25   | Email from EJ stating status has changed to Review In Progress           |
| 6-20-25   | Addendum 2 from BFI – signed forms                                       |
| 6-26-25   | Shawntay Dial, GU, Review Memo   |
|   |  |
|   |  |
| 7-7-25  | Kelly Huser Review Notes   |
|   |  |
|   | Final Action- Approve  |

**REVIEW NOTES – KELLY HUSER**

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Facility Contact -- James W. Hitzeroth  
BFI Waste Systems of North America, LLC. (BFI)  
26 West 580 Schick Rd.  
Hanover Park, Illinois 60133  
630/894-5001

Consultant -- Edward J. Doyle, P.E.  
Environmental Information Logistics, LLC (EIL)  
534 Duane St.  
Glen Ellyn, IL. 60137-4676  
630-254-9388

## **FACILITY BACKGROUND**

On October 30, 1976, Illinois EPA issued Browning-Ferris Industries (BFI) a state permit to operate a 59-acre solid waste disposal site at the location now known as Zion Landfill Site 1 (Permit No.1976-53-OP). BFI disposed of waste in a portion of the overall permitted facility approximately 40 acres in size under the terms and conditions of that permit until November 1980, at which time the regulations governing the management of hazardous wastes came into effect. This landfill, approximately 40 acres in size, is the closed Phase A landfill which is the subject of this Permit.

After November 1980 and until May 1988, the Phase A landfill was operated in accordance with state permit mentioned above (and associated supplemental permits) and the hazardous waste interim status regulations. On April 5, 1988, Illinois EPA issued this facility a RCRA Permit which set forth detailed requirements for the management of hazardous wastes at this facility.

During the time that BFI operated the Phase A landfill, mainly non-hazardous waste was disposed in it, but some hazardous waste was also disposed there. BFI ceased disposing of hazardous waste in the Phase A landfill in 1990; it did however continue to dispose of non-hazardous waste there until 1993. Closure activities of the Phase A landfill were completed in 1997 and on February 10, 1998, BFI certified completion of closure of the Phase A landfill.

Ten acres of the initially permitted Zion Landfill Site 1 were re-permitted by the Illinois EPA for the disposal of only non-hazardous waste on June 24, 1994 (Permit No. 1992-328-LFM). This portion of the facility came to be known as Zion Landfill Site 1, Phase B, which is not part of this draft permit. This landfilling operation occurred in two cells: Cell 1, consisting of approximately 4.9 acres and Cell 2, consisting of approximately 4.7 acres. Non-hazardous waste was disposed in these units from 1994 until 1996.

Closure activities for both cells were completed in 1998, and the Illinois EPA approved the certification of closure of these units on August 28, 1998.

The remaining 9.4 acres of the originally permitted 59-acre facility house ancillary equipment and structures associated with the Site 1, Phase A and B landfills. Leachate and landfill gas management systems have been installed in Phase A and Phase B and the following equipment/structures associated with these systems are located in this area:

1. The tanks and associated loading areas used to accumulate the collected leachate before it is sent off-site for treatment; and
2. The blowers, the flare, and the gas to energy plant associated with the gas management system at the facility.

The area to the east of the Site 1 Phase A landfill is a permitted operating non-hazardous waste landfill currently owned and operated by GFL Environmental, Inc. (Permit No. 1976-7-DE and 1976-7-OP; Supplemental Permit No. 2022-034-SP). This facility is not part of this draft permit. The landfill is referred to as Site 2.

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Zion Landfill, Inc. is the entity that owns the Zion Landfill Site 1, however, as the operator, BFI has retained the post-closure care responsibilities for the Zion Phase A Site 1 Landfill (RCRA unit) and Phase B (Non-hazardous unit).

## **INTRODUCTION**

BFI as operator of this landfill is submitting the following document for the Illinois EPA review and approval.

Submittal No. 1      Renewal permit application dated May 6, 2021, and received by the Illinois EPA on May 7, 2021. The subject document was assigned Log No. B-23R2.

Submittal No. 2      A document entitled, “Response to Permit NODs”, dated June 6, 2025, and received by the Illinois EPA on June 9, 2025. The subject document contained revisions to the renewal permit application and was considered additional information to Log No. B-23R2.

## **COMMENTS (6-17-25)**

This site was assigned to me after Kevin Lesko retired. Kevin completed the first technical review and issued an NOD on May 7, 2025. This technical review will begin with BFI’s response to the NOD.

I confirmed with Kevin that no EJ review was completed when the application was received by the Illinois EPA (Kevin is back on 75-day contract). I checked the SWAP tool, and the site is in an EJ area for Blue-Low Income. I submitted EJ Review Request #8289 (copy in this review package). I received an email stating the EJ request was under review (copy in this review package).

An LPC-PA23 form was submitted but not signed by the owner or operator but was signed by Edward J. Doyle, P.E., with EIL signed as professional engineer. *Reviewer's Comment: Ed sent an email stating they are working on the signatures from the owner and operator and hope to submit those soon.*

BFI was unable to submit responses to every deficiency in the 30-day timeframe required by the Illinois EPA. Their letter states additional response will be submitted by August 8, 2025.

## **Technical Review of BFI’s June 6, 2025 Response to NOD**

Technical Review Comment (TRC) 1 – Section E.5 and the drawings in Appendix E-13 of the application have been updated. The revised drawing is provided in Attachment 4. *Reviewer's Comment: Section E.5 has been revised to include information for repairs to GMP-2 complete to address the landfill gas exceedances as approved in B-23R-M-8. They have provided one revised figure to replace the four figures in App. E-13. The approved leachate forced main replacement section in B-23R-M-9 is included on this new figure. This response is complete.*

TRC 2 & 3 – updated versions of USEPA Form 8700-12, LPC-PA23 and 39(i) forms have been prepared and proved as Attachment 5. *Reviewer's Comment: the revised 8700-12 has been updated. The additional NAICS code of 562211 has been added as requested. Contact information for the owner has been updated. The 8700-12 form is not signed by owner or operator and the consultant emailed and said the signatures will be submitted soon. The BOA Permit has been removed from the Hazardous Waste*

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*Permit Part A Form, however, in the application it still states they have an air permit under Section E.5. I emailed the consultant to clarify. An LPC-PA23 form has been submitted signed by the P.E. Ed Doyle of EIL, no signature for the owner or operator. Ed stated this will be submitted soon. The response to NOD states an updated 39(i) form was submitted, it is not included in Att. 5. I emailed EIL and asked about the 39(i) form.*

TRC 4 – A scale of 1 inch = 400 feet is used because this is a larger hazardous waste facility and in accordance with 703.183(s) this scale may be used with Agency approval. A new topo map showing the facility + 1,000 feet has been provided as Figure B-3A in Attachment 6. New Figure B-4, water well withdrawals in the area, is also provided in Attachment 6. Multiple maps have been used to meet the topo requirements and a table listing each requirement and its location is provided. *Reviewer's Comment: the new maps provided are acceptable. However, Section B.2.2 must be revised to reference the new figures and show the locations of the items required on the topo map. In addition, this section still states the scale on the map is 1 inch = 200 feet when it should be 1 inch = 400 feet. I will email the consultant and request this revision.*

TRC 5 – For this facility BFI is the operator and GFL is the owner. BFI does not own any buildings at the facility that are suitable for storing the operating record. As an alternative the operating record is stored at the BFI office in Hanover Park, Illinois (less than 60 miles from Zion Landfill). *Reviewer's Comment: this is acceptable and Section B.4 of the application has been revised to reflect this.*

TRC 6, 7, and 8 will be revised by Shawntay Dial, GU.

TRC 9, 10, & 11 – the contractor handout in App. D-1 has been revised to include phone numbers for emergency contacts at the facility. A map showing the location of emergency equipment is also provided in the contractor handout. *Reviewer's Comment: the revisions to Section D.2.2, D.2.3, D.2.4, and App. D-1 are acceptable.*

TRC 12 – 35 IAC 724.132 requires that facilities must be equipped with certain emergency preparedness equipment “unless the owner or operator demonstrates to the Agency that none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below.” Item d of 724.132 is “water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers or water spray systems.” The only waste handled at Site 1A is landfill leachate, which is aqueous and not flammable. All the waste in Site 1A is safely contained under the final cover, thus, it is not susceptible to ignition from lighting strikes or other sparks from passing heavy equipment. The gas collection system in Site 1 Phase 1 is carefully managed to prevent oxygen intrusion into the waste mass and without oxygen combustion cannot occur. If, in the very unlikely event that the waste did begin to combust, industry-best practice is to smother the combusting waste with soil, not apply water. For these reasons, a supply of water for firefighting at Site 1A is not necessary and the application does not need to address the amount of water in the retention basin. The application has been updated accordingly. The Zion Fire Department responds to emergency service calls related to fires, injuries or hazardous material spills. Fire hydrants are located along 9<sup>th</sup> Street, the road that is the southern boundary of the Zion Landfill facility. Fire extinguishers are in buildings, in vehicles, and on heavy equipment. *Reviewer's Comment: the revisions to Section D.2.5 are acceptable.*

TRC 13 – Personal protective equipment required for workers and contractors varies depending on the task that they will perform. At a minimum, a high visibility shirt or vest and work boots with a safety toe

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are required. Other requirements could include hard hats, eye protection and gloves. *Reviewer's Comment: the revisions to Section D.2.6 are acceptable.*

TRC 14 – Contractors are required to provide first aid kits for their employees and ensure they are properly stocked, and expiration dates are current. Contractors and employees use cellular phones to communicate when at Site 1A; radios are no longer used. There has been strong cellular service at the facility for many years. Individuals used cell phones throughout each day, so they check them regularly to ensure they are operating. *Reviewer's Comment: the revisions to Section D.2.7 are acceptable.*

TRC 15 – 35 IAC 724.133 requires maintenance of “communication or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required...”, but does not require health and safety equipment to be tested and maintained. The text regarding eye bath maintenance has been deleted. Equipment used to deliver water to a potential fire as discussed in Comment 12 is not necessary for this site. *Reviewer's Comment: the revisions to Section D.2.7.1 are acceptable.*

TRC 16 – fire extinguishers are maintained by the owner and operator and are maintained and inspected in accordance with the manufacturer’s recommendations. *Reviewer's Comment: the revisions to Section D.2.7.2 are acceptable.*

#### 6-18-25

I received an email from Chris Pressnall today asking about the Zion renewal permit application and if it would require public notice. I responded and stated yes it does require public notice once a draft permit is issued. It will be noticed in local newspaper, radio ad and facility mailing list. After I responded to this email, I received an email notice from EJ stating the status had changed to “Review in Progress”. I emailed Chris again and asked what does that mean? Chris stated it means Luis Lopez is reviewing the project in preparation for generating a letter. If they move forward with the letter, the next email I will receive is “outreach in progress”. I emailed Chris back and copied Luis and requested to review any EJ letter that is prepared before it is sent out (see copies of emails in this review package).

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TRC 17 – communication equipment is exclusively cell phones. Every employee and contractor has a cell phone and they are checked daily for operation. No other equipment needs to be added to the inspection log. *Reviewer's Comment: no changes need to be made to the inspection log.*

TRC 18.a and 18.b – propose to address in a future submittal. *Reviewer's Comment: the requirement to add the additional parameters for leachate sampling was placed in the groundwater sampling requirements under Condition III.I.10 and III-A.I.9. The facility is no required to meet 620 Standards.*

TRC 18.c – propose to address in a future submittal. *Reviewer's Comment: this deficiency will be part of the compliance schedule of the draft permit and will be reviewed by Shawntay Dial, GU.*

TRC 19 – No substantial issues/failures of the leachate management system have been identified since the prior permit renewal of 2011. Leachate continues to be collected, routed to the temporary accumulation tank, and regularly removed from the facility for off-site disposal. Groundwater data collected from the beginning of post-closure care (1998) to present documents that there has been no adverse impact to groundwater from the closed landfill, including impacts from landfill leachate. No

modifications to the current system are needed. *Reviewer's Comment: no additional comments on this section.*

TRC 20 – the modifications identified in Item 1 have been added to Section E.5. *Reviewer's Comment: the revisions to Section E.5 are acceptable.*

TRC 21 – These sections have been updated to note that the gas-to-energy plant has been decommissioned. All gas collected from Site 1A as well as the other units are flared. The facility's air permits have been updated to reflect this. A revised Drawing A-14 is provided in Att. 10. *Reviewer's Comment: the revisions to Sections E.5.3, E.5.4, and Drawing A-14 in App. E-19 are acceptable.*

TRC 22 – facilities are required to maintain three years of date in their operating record (35 IAC 724.173). There have been no major upgrades to the gas system in the last three years. However, a minor upgrade was completed in 2024 when several small-diameter out-of-waste gas wells were installed on the west side of Site 1A. Section E.5 has been revised to include this information. The gas collection, monitoring and processing systems have been operating in compliance with the facility permits. Annual reports are submitted each year to the Agency. *Reviewer's Comment: the revisions to Section E.5.4 are acceptable.*

TRC 23 – *Reviewer's Comment: the facility acknowledged that this Section of the application (E.6) refers to Section D.3 Inspection Requirements. No changes were necessary.*

TRC 24 – The vegetative cover is well established and thriving. Over the past 27 years that the cover has been in place, erosion due to rainfall has been negligible. The landfill completes quarterly inspections and takes corrective action as needed. In addition, the NPDES permit requires periodic inspections of the cover and monitoring of surface water discharges from the facility. There have been numerous 2-inch-plus rain events since the cover was established and those events did not cause significant erosion. Given the performance history and the requirement for inspections the proposed inspection requirement is duplicative and unnecessary. *Reviewer's Comment: this requirement is unnecessary for this well-established cover. Corrective action will be taken as necessary during their normal inspections of the landfill cover.*

TRC 25 – Section E.7.1 of the application has been revised to note that Site 1A benchmarks used for Site 1A will be surveyed once every five years. *Reviewer's Comment: the revisions to Section E.7.1 are acceptable.*

TRC 26 – Since the landfill is closed, there is no possibility of waste being placed beyond the permitted limit of waste, nor is there a possibility of horizontal movement of the existing limit of waste. Settlement of the waste is addressed in the response to Item 27.b. Surveying this closed landfill every five years is unnecessary. *Reviewer's Comment: When this landfill was closed a survey plat was provided with surveyed benchmarks that have been maintained in accordance with 724.410(b)(6). This landfill has been closed for 27 years and BFI has maintained the cover as required and it is well established. This requirement to have the cover surveyed once every five years is not a regulatory requirement under 35 IAC 724. However, at the Illinois EPA discretion, this can be added as a requirement if the site experienced unexpected issues with abnormal settling or subsidence. Since BFI-Zion has had no history of cover issues, this requirement is not necessary at this time.*

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TRC 27a – Surveys of the landfill have not been performed every five years since the unit was closed because there was no permit requirement to do so nor a regulatory requirement. BFI has not observed any conditions that would warrant an updated topographic survey. As-built drawings of the unit have been updated regularly as repairs and modifications have been made to the gas collection and leachate management systems. These drawings are provided in App. E-13. *Reviewer's Comment: As described in the comments to TRC 26, surveys of the landfill every five years have not been required in the permit or in 35 IAC 724. The landfill has been closed for 27 years and has experienced normal settlement. As part of maintaining the landfill cover Zion is required to make repairs as necessary to correct settling, subsidence, erosion or other events in accordance with 724.410(b)(1). This documentation is required to be maintained in their operating record for three years 724.173. Since BFI-Zion has had no history of major cover issues, the requirement to submit inspection reports, corrective action, additional surveys, etc., with this application is unnecessary at this time.*

TRC 27b – It is a certainty that the entire unit has settled more than one foot since the unit was closed; the waste continues to decompose, and settlement continues to occur. When routine inspections of the landfill are performed, the inspectors look for areas of differential settlement that are significant enough to potentially impact the integrity of the final cover or the gas and leachate piping within the cover. This inspection program has been sufficient to ensure that the final cover continues to perform as designed. The differential settlement would typically be in the range of at least three feet over a distance of 50 feet or less. BFI proposes to continue the current inspection program that has been working for 27 years. *Reviewer's Comment: The landfill has been closed for 27 years and has experienced normal settlement. As part of maintaining the landfill cover Zion is required to make repairs as necessary to correct settling, subsidence, erosion or other events in accordance with 724.410(b)(1). This documentation is required to be maintained in their operating record for three years 724.173. Since BFI-Zion has had no history of major cover issues, the requirement to submit cross sections and areas where the cover has settled more than a foot in this renewal application is unnecessary at this time.*

TRC 27c – there have been no releases or incidents of damage to the cover system, settlement, erosion, stressed vegetation, or damage to a leachate well, groundwater monitoring well, or benchmark since at least 2019. Quarterly inspection reports and monthly repair logs are included in the annual reports that are submitted each year to the Agency. *Reviewer's Comment: The operating record for a site is required to keep three years of records for inspections and repairs. BFI has submitted annual reports documenting repairs, no changes to this section are necessary at this time.*

TRC 27d -- There have been no significant corrective actions in the same general area since at least 2019. *Reviewer's Comment: Ok, no changes required.*

TRC 28 – Section E.7.3.1 through E.7.3.3 provide the required information. *Reviewer's Comment: Ok, no changes required.*

TRC 29 -- Leachate quality of every landfill varies somewhat with time, including the leachate quality of this unit. This is expected and no actions are taken in response, nor do any actions need to be taken. Leachate quality data has been submitted to Illinois EPA throughout the operating life and post-closure of Site 1A. *Reviewer's Comment: BFI will submit a parameter comparison to indicate if any leachate analysis detected a parameter for which groundwater is/was not being analyzed and the actions taken if this occurred. This will be part of the compliance schedule.*

TRC 30 – quantity of leachate for each year has been provided in Section E.3.5. This information has also been submitted in the facility's annual reports. *Reviewer's Comment: no revisions to this section are required.*

TRC 31 – data from leachate quality sampling is submitted electronically and yearly quantity is submitted in the facility's annual report. *Reviewer's Comment: no revisions to this section are required.*

TRC 32 & 33 -- Performance of Site 1A's gas collection system is regulated under Zion Landfill's air permit. Gas quality data or typical operating procedures are handled under that permit and not in BFI's RCRA permit. *Reviewer's Comment: no revisions to Sections E.7.6.1 and E.7.6.2 are required.*

*Monitoring of the gas quality within the landfill is covered by Zion Landfill's Title V CAAPP Permit. Gas probe monitoring and ambient air monitoring are completed in accordance with Zion's RCRA permit and this data is submitted with their annual report due March 1<sup>st</sup> of each year. A minor upgrade was complete recently to address methane exceedances at GMP-2R. The facility is submitting the required information.*

TRC 34a & 34b-- Data from the gas collection system and gas monitoring probes is compiled soon after it is prepared. After it is reviewed by site personnel, it is placed in the operating record. There have been no major upgrades of the gas system in the last three years. However, a minor upgrade was completed in 2024 when several small-diameter out-of-waste gas wells were installed on the west side of Site 1A. These were installed in response to an exceedance of methane in gas monitoring probe GMP-2R. They are described in Section E.5. *Reviewer's Comment: the revisions to Section E.7.6.3 are acceptable.*

TRC 35 -- The procedures, equipment and materials needed to maintain the landfill are generally the same as those used to construct the listed systems and structures and should be self-evident. That is, to repair erosion damage, soil, grass seed and erosion mat are necessary along with the equipment to install those materials. To repair groundwater wells, PVC pipe, well screen, sand and bentonite are required. *Reviewer's Comment: the revisions to Section E.8.1 are acceptable.*

TRC 36 – The rationale is to make repairs to consistently met the performance standards 35 IAC 724.410.b., which are:

1. Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;
2. Continue to operate the leachate collection and removal system until leachate is no longer detected;
3. Maintain and monitor the LDS in accordance with Sections 724.401(c)(3)(D) and (c)(4) and 724.403(c), and comply with all other applicable LDS requirements of this Part;
4. Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of Subpart F;
5. Prevent run-on and run-off from eroding or otherwise damaging the final cover; and
6. Protect and maintain surveyed benchmarks used in complying with Section 724.409.

*Reviewer's Comment: the regulations in 724 do not require the rational for post-closure maintenance activities, but state you must meet the six conditions listed above at the facility to meet performance standards during post-closure care. The facility has completed quarterly inspections and has maintained these standards for the past 27 years. No further revisions to section are necessary.*

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● TRC 37 -- Inspection frequency and general repair guidelines are provided in Section D.3.1. Regarding high pressure jet flushing of the LCS collection system, BFI's experience has shown that routine jetting of piping at Site 1A is not necessary. Historically, it has been used only occasionally over the 27 years of post-closure. *Reviewer's Comment: no revisions to this section are necessary.*

#### 6-24-25

TRC 38a -- The post-closure cost estimate presented in the May 2021 Permit Renewal Application (Table E-3) has been updated to reflect current 2025 costs. *Reviewer's Comment: the cost estimate has been updated to 2025 dollars.*

*The application only provides a total cost estimate for the remaining three years in BFI's post-closure care period. I can approve the annual costs provided in their new post-closure cost estimate (Table E-3) and their one-time costs. Shawntay Dial will review the costs associated with groundwater. The amount of financial assurance that must be provided should be for the full 30-year post-closure period.*

*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 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 Permittee must adjust the post-closure cost estimate for inflation each year. I have added a condition in the compliance schedule to provide a post-closure cost estimate and financial assurance for the full 30-year period.*

*The current approved cost estimate including inflation is 4,571,652 (2024 dollars). This information was obtained on RCRA Info. The draft permit requires Zion to maintain this amount of financial assurance until a new post-closure cost estimate is submitted in accordance with Condition V.D.3 (Permit Condition II.M.1).*

TRC 38b -- A new line item has been added to the post-closure cost estimate as Line 1a to reflect regular inspections of the vacuum curtain wells installed to address an exceedance at a gas monitoring probe (see Item 1). *Reviewer's Comment: the revisions to the cost estimate to meet this requirement are acceptable.*

TRC 38c -- The current 2025 costs for groundwater and leachate monitoring included in the revised Table E-3 are based on quotes from independent third-party contractors attained in 2025. These line items are noted on the table with the notation "Current (2025) Costs Utilized" in the columns that were adjusted for inflation based on the annual inflation factor for other line items. Copies of the

documentation from the third-party contractor implementing the groundwater monitoring and laboratory analysis services are also provided in Attachment 12. *Reviewer's Comment: the third-party estimates have been added to the application as new App. E-25.*

The following is additional technical review notes for financial assurance and extension of post-closure care period requirements 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.
  - 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.
  - 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 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).

## II. Extension of Post-Closure Care Period Beyond Initial 30 Years

This section provides the rational and reasoning for evaluating a need to extend the post-closure care period beyond the initial 30 years for RCRA hazardous waste landfills undergoing post-closure care as required under 35 IAC Part 724.

### 1. Applicable Regulations, Statute, and Guidance

The Illinois EPA's evaluation to determine whether it is necessary to continue post-closure care and to extend post-closure care for a RCRA landfill is based on the following applicable regulations and reference materials:

- The following sections of 35 IAC Part 724: 724.131, 724.210 through 724.220, 724.410.
- 35 IAC 703.241(a)(2) and 35 IAC 703, Appendix A, E.2;
- Sections 12(a), 21(n) and 39(g) of the Environmental Protection Act (Act);
- USEPA's Guideline for Evaluating Post-Closure Care Period, dated December 15, 2016; and
- ASTSWMO Position Paper, dated July 20. 2022 "Post-Closure Care Beyond 30 Years at RCRA Subtitle C Facilities"; and

- Post-Closure Care Requirements under 35 IAC Part 724

Below is a list of RCRA regulations under 35 IAC Parts 702, 703, and 724 applicable in evaluation and, when necessary, modifying the permit to extend the post-closure care period beyond the initial 30-year post-closure care requirement at each facility:

#### Maintenance of Facility under 35 IAC 724.131

In accordance with Section 724.131, facilities must be designed, constructed, maintained and operated to minimize the possibility of any release of hazardous waste or hazardous waste constituents to air, soil, or surface water that could threaten human health or the environment.

#### Post-Closure Care Period under 35 IAC 724.217 (a)(1)

In accordance with Section 724.217 (Post-Closure Care and Use of Property), under Subsection 724.217(a)(1), post-closure of a hazardous waste management unit must begin after completion of closure of the unit and continue for 30 years after that date.

#### Post-Closure Use of Property 35 IAC 724.217 (c)(1) and (c)(2)

Subsection Section 724.217(c)(1) and (c)(2) prohibits any disturbance of the integrity of the final cover, liner, or any other components of the containment system or the function of the monitoring system unless it is necessary to protect and reduce the threat to human health and the environment.

#### Extending the Post-Closure Care Period under Section 724.217(b)(2)(B)

Section 724.217(b)(2)(B) allows for extending the post-closure care period when it is necessary to adequately protect human health and the environment (e.g., leachate or groundwater monitoring results indicate a potential for migration of hazardous wastes at levels that may be harmful to human health and the environment). The extension can be done through an adjusted standard issue by the Board pursuant to Section 28.1 of the Act and 35 IAC Parts 101 and 104.

#### Extending the Post-Closure Care Period under Section 724.218(d) – Amendment of Plan

In the case that Amendment of Plan for Post-Closure Care is necessary, the Permittee must submit a written notification of or request for a permit modification to authorize a change in the approved post-closure care plan in accordance with the applicable requirements of 35 IAC Parts 703 and 705. Any modification submitted per request of the Illinois EPA must meet the requirements of 35 IAC Parts 703 and 705.

#### Land Disposal Unit Specific Requirements for Closure/Post-Closure under Section 724.410

Section 724.410 lists specific closure/post-closure requirements for landfills. Subsection 724.410(a) specifies the minimum standards for construction of the final cover of a landfill at closure, which includes, among other things, long-term minimization of liquid through the closed landfill, function with minimum maintenance, promote drainage and minimize erosion or abrasion of the cover, accommodate settling and subsidence so that the cover's integrity is maintained.

Subsection 724.410 (b) specifies the requirements during post-closure which includes, among other things, requires the facility to maintain the integrity and effectiveness of the final cover and requires the facility to continue operation of the leachate collection and removal system until leachate is no longer detected. It also requires maintaining and monitoring of the Leachate Detection System (LDS) and groundwater monitoring system.

### 3. Necessary Permit Modification to RCRA Permits under 35 IAC Parts 702 & 703 and the Act

## Establishing Necessary Permit Conditions under 35 IAC 703.241(a) (1) & (2)

Section 703.241(a)(1) states that each RCRA permit must include permit conditions necessary to achieve compliance with each of the applicable requirements specified in 35 IAC Part 724. Section 703.241(a)(2) further states that each RCRA permit issued pursuant to Section 39(d) the Act must contain terms and conditions that the Illinois EPA determines are necessary to adequately protect human health and the environment.

### Modification of Permit under 35 IAC 703.270

Section 703.270 requires that when the Illinois EPA receives any information including a permit modification request, or conducts a review of the permit file, it can determine if a permit modification or reissuance is necessary. The Illinois EPA must modify or reissue the permit accordingly and may request an updated application if necessary. Permits can be modified if one or more causes for modification listed in Section 703.271 exists.

### Causes for Permit Modification under 35 IAC 703.271

The Illinois EPA must modify the permit if the Illinois EPA:

- receives a modification request of the 30-year post-closure period under 35 IAC 724.217(a) (Section 703.271(e)(2));
- must include conditions applicable to units at a facility that were not previously included in the facility's permit (Section 703.271(e)(7)); and
- as necessary to assure that the facility continues to comply with the current applicable requirements under RCRA when the Illinois EPA reviews a land disposal facility under 35 IAC 702.161(d).

### 5 Year Review of Land Disposal Facility under 35 IAC 702.161(d)

The Illinois EPA must review each RCRA Permit for a land disposal facility no later than 5 years after the date of permit issuance or reassurance and modify the permit as necessary.

### Section 39(d) of the Act

It specifies that all RCRA permits must contain terms and conditions, schedules of compliance, which may be required to accomplish the purpose and provisions of the Act.

## 4. Class of Permit Modification in 35 IAC Part 703

In accordance with 35 IAC Part 703, Appendix A, E.2, extension of post-closure care is classified as a Class 2 Modification request. According to the regulations specified in Sections II.1 through II.3 above, it is appropriate for the Illinois EPA to require the facility to submit a request to extend the post-closure care period by a specified date in a compliance schedule of the RCRA permit. Extending post-closure care is a necessary requirement to meet the terms of 35 IAC Part 724 and the requirements of the Act. A minimum of 180-day prior to the end date of the initial 30-years of post-closure care period is a recommend timeline for a facility to submit a Class 2 Modification to the permit as it involves a public comment period before making the final decision. It is also appropriate for the Illinois EPA to address

such matter at the time of a permit renewal (reissuance).

##### 5. Sections 12(a), 21(n), and 39(g) of the Act

The following three sections of the Act apply for the post-closure care of hazardous waste landfills in Illinois:

ACT – 12(a): No person shall: Cause or threaten or allow the discharge of any contaminants into the environment in any State so as to cause or tend to cause water pollution in Illinois, either alone or in combination with matter from other sources, or so as to violate regulations or standards adopted by the Pollution Control Board under this Act.

ACT - 21(n): No person shall: Use any land which has been used as a hazardous waste disposal site except in compliance with conditions imposed by the Agency under subsection (g) of Section 39 of the Act.

ACT - 39(g): The Agency shall include as conditions upon all permits issued for hazardous waste disposal sites such restrictions upon the future use of such sites as are reasonably necessary to protect public health and the environment, including permanent prohibition of the use of such sites for purposes which may create an unreasonable risk of injury to human health or to the environment. After administrative and judicial challenges to such restrictions have been exhausted, the Agency shall file such restrictions of record in the Office of the Recorder of the county in which the hazardous waste disposal site is located.

In accordance with 39(g) and 21(n) of the Act, the Illinois EPA must include land use restrictions for the hazardous waste landfill under post-closure care to protect public health and the environment. The establishment of the land use restrictions is also necessary to meet the conditions of 12(a) of the Act to prohibit discharge of any contaminants into the environment.

##### 6. USEPA Guideline for Evaluating Post-Closure Care Period, dated December 15, 2016

A Guideline for Evaluating Post-Closure Care Period, dated December 15, 2016 was distributed by USEPA. 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 example, 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.

As far as the 30-year post-closure period goes, the regulations' identification of a default 30-year post-closure care period does not reflect a determination by USEPA that 30 years of post-closure care is necessarily sufficient to eliminate potential threats to human health and the environment in all cases.

The evaluation criteria listed in the guidance document include:

- Nature of waste in the unit. USEPA 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 and understand constituents of concern which may change over time. The timing of the waste deposited in the landfill is also critical as to determine if the wastes had met the treatment requirements of the Land Disposal Restrictions (LDR) in accordance with 35 IAC Part 728 (effective November 1987). If the wastes were placed prior to effective date of LDR regulations, then the treatment standards were not required and likely applied. Furthermore, if the mix of pre-RCRA wastes were managed prior to 1980, then the volume and characteristics of the RCRA wastes in the disposal unit may not represent the actual nature of the contaminates in the unit.

- **Design of the Unit.** 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 risk on human health and the environment.
- **Leachate:** Monitoring for leachate generation serves as the most effective way of examining the integrity of the waste management unit.
- **Landfill Gas Generation.** So long as landfill gas continues to be generated, a landfill gas monitoring/management system must remain operational and be maintained.
- **Groundwater:** Groundwater monitoring serves as the primary means of detecting leachate releases and groundwater contamination.
- **Siting & Site 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.
- **Facility History:** All waste management must be adequately managed to prevent releases of contaminants to the environment. 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.
- **Integrity of cover system:** A viable cover is the most important mechanism in preventing leachate generation and, ultimately, releases of contaminants.
- **Long-Term Care:** Establishment and maintenance of physical and legal controls are necessary to prevent unacceptable exposure to hazardous waste or contaminated environmental media left in place.

A long-term stewardship (LTS) is necessary to be established to maintain the 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. USEPA also recommends that consideration be given as to whether a funding source is available to support any necessary Environmental Covenants (ECs) and Institutional Controls (ICs) in the future.

It is Illinois EPA's determination that as long as hazardous waste is left in place, the risk of future potential for the contamination continues to exist at the hazardous waste landfill. In order to prevent unacceptable exposure to hazardous waste or contaminated environmental media left in place, hazardous waste management units with waste left in place, LTS for all hazardous waste management units is necessary to continue the maintenance of the landfill in perpetuity. Furthermore, as USEPA recommends, the funding for the LTS is necessary to implement the LTS.

7. ASTSWMO Position Paper, dated July 20. 2022 “Post-Closure Care Beyond 30 Years at RCRA Subtitle C Facilities

The Association of State and Territorial Solid Waste Management Organization (ASTSWMO) Board of Directors prepared and sent a Position Paper, entitled POST-CLOSURE CARE BEYOND 30 YEARS AT RCRA SUBTITLE C FACILITIES, dated July 20, 2022, to the USEPA to recommend that USEPA either revise the RCRA regulations for post-closure or issue supplemental guidance on the implementation of the post-closure regulations under Subtitle C of RCRA. Such guidance should be congruent with the key issues highlighted in the issues section of this position paper.

This Position paper highlighted the issues that the USEPA guidance needs to be made clear to:

- State that there is a presumption that a Subtitle C post-closure care obligation remains as long as hazardous waste remains in a closed land disposal unit, even if there is no evidence of a release after 30 years of post-closure care;
- Require financial assurance obligation during the extended post-closure care period must be maintained;
- Allow for an alternate enforceable document such as an EC that can be used to control such requirements and restrictions; and
- Provide guidance for monitoring for any new emerging or newly listed wastes.

My technical review of BFI's response to the NOD is complete and now I am just waiting on Shawntay's review memo and the proper forms signed by BFI and Zion Landfill Inc.

**6-26-25**

I reviewed Addendum 2 dated June 20, 2025, and received by the Illinois EPA on June 23, 2025. This addendum contained the following forms with original “wet” signatures from the operator and owner and P.E.

- RCRA Subtitle C Site Identification Form (8700-12)
- RCRA permit application form (LPC-PA23)
- 39(i) Certification for Owner
- 39(i) Certification for Operator

The signed forms were not provided in BFI's response to comment dated June 6, 2025. All forms appear to be completed properly and with the required signatures. BFI's air permits were added back on

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the 8700-12 form as requested. I will update the application and repository copy of the application with the revisions provided.

I delivered the renewal application and repository copy to Mike Dura, FOIA, to have them both screened for public viewing.

**6-30-25**

Mike retuned the application and repository copy, and they are both stamped as releasable.

**7-7-25**

Shawntay, GU, gave me her technical review memo of Zion's response to our NOD. The memo was dated June 26, 2025. I will incorporate her deficiencies into the Compliance Schedule for the Zion Draft Permit.

**FINAL ACTION**

Issue Draft Permit

**DISCUSSION IN FINAL LETTER**

EJ 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

R 000258

June 27, 2025

Re: Zion Landfill Inc (Illinois EPA BOL ID# 0978020001)  
Resource Conservation and Recovery Act/Hazardous Waste Permit Renewal Application  
(B-23R2)

To Distribution List:

This Environmental Justice notification letter is to inform you that Zion Landfill Inc. has submitted an application to renew their Resource Conservation and Recovery Act/Hazardous Waste (RCRA/HW) permit to the Illinois EPA (IEPA) to continue providing post-closure care for a closed hazardous waste landfill at 701 Green Bay Road in Zion. The IEPA Bureau of Land (BOL) is reviewing the application. The Office of Environmental Justice welcomes your feedback.

The draft RCRA Permit and instructions for submitting comments during the public comment period will be available on the IEPA's website (<https://epa.illinois.gov/public-notices/bol-permit-public-notice.html>) once it is ready for review. For questions about the public comment period or a public hearing, contact Jeff Guy, Office of Community Relations, at (217) 785-8724 or [Jeff.Guy@illinois.gov](mailto:Jeff.Guy@illinois.gov).

If you would like additional information regarding this project, such as the permit application, please submit a Freedom of Information Act (FOIA) request via the IEPA's online portal. Direct links to information and resources regarding FOIA requests, how to sign up for EJ notification letters, contact information, and more, are available on the following pages.

For any other questions, please contact Chris Pressnall, Manager of the Office of Environmental Justice, at (217) 524-1284 or [EPA.OEJ@Illinois.gov](mailto:EPA.OEJ@Illinois.gov).

Sincerely,

Chris Pressnall, Manager  
Office of Environmental Justice

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**Organization Distribution List**

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Earthjustice – Jennifer Cassel\*

Earthjustice – Debbie Chizewer\*

Northwestern Pritzker School of Law – Robert A. Weinstock\*

Great Rivers Environmental Law Center – Sarah Rubenstein\*

Great Rivers Environmental Law Center – Caitlin Stiltner\*

Stericycle – Susan Olavarria\*

University of Illinois - Prairie Research Institute – Debra Jacobson\*

Council of State Governments – Midwest – Jess Lienhardt\*

Exxon Mobil Corporation – Brad Sims\*

Taft Law – Ryan Rudich\*

Mostardi Platt – Jena DiFiore\*

Energy Infrastructure Partners – Matt Kok\*

Geosyntec – Brian Valleskey\*

Illinois Asphalt Pavement Association – Kevin Burke III, P.E.\*

Ramboll – LaTorria Sims\*

University of Illinois Springfield – John Ferry\*

US EPA – Tess Russell\*

City of Waukegan – Thomas Maillard\*

GFL Environmental – Randy Frank\*

EIL LLC – Laura L. Niemann\*

## Additional Information and Resources

### Notices

#### **EJ Notification Letter**

EJ notification letters provide information about permit applications received by Illinois EPA (IEPA) in areas of EJ concern as determined by Illinois EPA [EJ Start](#) screening tool. EJ notification letters are sent as part of Illinois EPA's enhanced public participation process.

- To receive EJ notification letters by email, please sign up [here](#), under the Environmental Justice Notification Letter Sign-Up heading.
- To learn more about the IEPA's Notification Letter Process, visit [EJ Notification Process \(illinois.gov\)](#).

#### **Public Notices**

A public notice is a notice required by law or regulation that alerts the public to a proposed Agency action and provides instructions for submitting written comments. The Agency may hold a hearing to accept oral comments based on public interest. Hearing information may be included in the public notice or a separate hearing notice.

IEPA's Public Notices webpage includes draft permits and associated information, as well as proposed agency-wide actions such as rulemaking notices.

A Bureau's public notice on a permit application will outline:

- Type of permit application received
- Applicant information
- Start and stop dates of public comment period
- Instructions on submitting public comments
- Information on public hearings (if one being held)
- Agency contact information
- Draft permit and associated materials such as project summary will be posted on the same webpage as the public notice

- To access more information on IEPA's Public Notices, visit [Public Notices \(illinois.gov\)](#).

General IEPA public notices will outline:

- Proposed action(s) or plan(s) of the agency
- Start and stop dates of the public comment period
- Instructions on submitting public comments
- Agency contact information

### Accessing Records

#### **Illinois EPA Document Explorer**

To provide transparency and easier public access to Agency documents, certain Agency documents can be accessed through IEPA's Document Explorer.

Documents include:

- Air construction and operating permits
- National Pollution Discharge Elimination System (NPDES) water discharge permits.
- Leaking Underground Storage Tank (LUST) technical documents
- Site Remediation Program (SRP) technical documents
- State Response Action technical documents
- Final Compliance Commitment Agreements since January 1, 2014

- To access Illinois EPA's Document Explorer, visit [Home Page - IEPA Document Explorer \(illinois.gov\)](#).

### **Freedom of Information Act Requests (FOIA)**

If the information you are seeking, such as an active permit application, is not available on Document Explorer you may access information by submitting a Freedom of Information Act Request (FOIA). While requests may be made in various ways (online form, fax, the U.S. mail, or special carrier), using the online FOIA web form will usually result in getting the information the fastest. IEPA has five (5) workdays to respond unless an extension of an additional five (5) days is needed to gather the information.

- For more information on how to submit a FOIA request, visit [Freedom of Information Act \(illinois.gov\)](https://www.illinois.gov/foia).
- To access the IEPA FOIA Web Form, visit [IEPA FOIA Web Form](https://www.illinois.gov/foia).
- Records Phone Number: (217) 558-5101

### **EJ Mapping Tools**

#### **EJ Start**

The IEPA mapping tool, EJ Start, designates areas of environmental justice (EJ) concern. EJ Start informs IEPA's enhanced public outreach (for example, EJ notification letters). It is also used to incorporate EJ into other Agency activities and programs. The criteria used to designate EJ areas are census block groups and areas within one mile of census block groups that are greater than or equal to the statewide average for low-income and/or minority populations. EJ Start is publicly available and searchable by address, city, and zip code.

- To access IEPA's EJ Start, visit <https://experience.arcgis.com/experience/aa364c77db684dfa92afa5094b69f6ff>.

### **Agency Contacts**

| <b><u>Office of Environmental Justice (OEJ) Contacts:</u></b>                         |  | <b><u>Office of Community Relations (OCR) Contacts:</u></b>                             |  |
|---|--|---|--|
| <b>Chris Pressnall</b><br>Manager   | (217) 524-1284<br><a href="mailto:Chris.Pressnall@illinois.gov">Chris.Pressnall@illinois.gov</a>           | <b>Brad Frost</b><br>Manager  | (217) 782-7027<br><a href="mailto:Brad.Frost@illinois.gov">Brad.Frost@illinois.gov</a>         |
| <b>Paulina Lopez-Santos</b><br>EJ Policy Administrator<br>Spanish-Speaking<br>Chicago | (312) 832-2182<br><a href="mailto:Paulina.Lopez-Santos@illinois.gov">Paulina.Lopez-Santos@illinois.gov</a> | <b>Jeff Guy</b><br>Hearing Officer/Right-to-Know<br>Program Coordinator                 | (217) 785-8724<br><a href="mailto:Jeff.Guy@illinois.gov">Jeff.Guy@illinois.gov</a>             |
| <b>Luis Lopez</b><br>Office Associate<br>Spanish-Speaking                             | (217) 782-3440<br><a href="mailto:Luis.A.Lopez@illinois.gov">Luis.A.Lopez@illinois.gov</a>                 | <b>Rodolfo Alanis</b><br>Community Relations Coordinator<br>Spanish-Speaking<br>Chicago | (847) 553-9251<br><a href="mailto:rodolfo.alanis@illinois.gov">rodolfo.alanis@illinois.gov</a> |

**Huser, Kelly**

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**From:** DoNotReply.EJRequest@illinois.gov  
**sent:** Friday, June 27, 2025 9:47 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 Zion Landfill Inc | 0978020001 | B-23R2 | Land

The EJ source (Zion Landfill Inc) has moved forward in the outreach process on 06/27/2025.

The status has changed from **\*Review In Progress\*** to **\*Outreach In Progress\***.

**Huser, Kelly**

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**From:** DoNotReply.EJRequest@illinois.gov  
**Sent:** Wednesday, June 18, 2025 8:36 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 Zion Landfill Inc | 0978020001 | B-23R2 | Land

The EJ source (Zion Landfill Inc) has moved forward in the outreach process on 06/18/2025.

The status has changed from \*Review Pending\* to \*Review In Progress\*.

**Huser, Kelly**

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**From:** DoNotReply.EJRequest@illinois.gov  
**Sent:** Tuesday, June 17, 2025 10:49 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 Zion Landfill Inc | 0978020001 | B-23R2 | Land

A new request has been submitted to the EJ Outreach database.

**Source Name:** Zion Landfill Inc

**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 #8289

### Site/Facility Information

Site Name: Zion Landfill Inc

Site ID: 170000103938

Bureau Site ID: 0978020001

Bureau: LAND

Address: 701 Green Bay Road

EJ Status: 0 - Not an EJ area

City/State/Zip: Zion, Illinois

Contact Title: Environmental Manager

Contact Name: James Hitleroth

Contact Address: 26 W. 850 Schick Road

Contact City/State/Zip: Hanover Park, Illinois 60133

Phone: 2249701129

Email: JHitzeroth@republicservices.com

### Application Information

Reference Number: B-23R2

Activity Type: Permit

Activity Subtype: RCRA/HW

Application Scope/Description:

This is a renewal permit application to continue providing post-closure care for a closed hazardous waste landfill, Phase A.

Other Relevant Information:

Request Submitted: 6/17/2025

Submitted by: Kelly.Huser

Application Received: 5/7/2021

Decision Due:

Reviewer Name: Kelly.Huser

Review Status: Review Pending

Review Status Notes:

### Additional Permit Information

Waste Type: HW

Operating Status: Closed

Activity Status: Ongoing

Any Changes to footprint of facility, design, or operating procedures, and if construction is required:

No changes to the footprint of the facility, design, or operating procedures. No construction required.

Kevin Lesko  
Technical  
Review

OK22 Univsys

Received

Writing

**RCRA POST-CLOSURE PERMIT APPLICATION  
COMPLETENESS AND TECHNICAL REVIEW CHECKLIST**  
November 2019

|                 |                           |                             |  |
|-----------------|---------------------------|-----------------------------|--|
| Facility Name : | Zion Site 1 Landfill      | Date Application Received : | May 7, 2021  |
| Log No. :       | B-23R2                    | Revision No. :              | 0  |
| State ID No. :  | 0978020001 -- Lake County | Reviewer :                  | KL   |
| USEPA No. :     | ILD980700728              | Review Dates :              | June 24, 2021<br>December 12, 2023<br>- April 23, 2025 |

|          | Section   | Complete<br>(Y/N) | Technical<br>Adequacy<br>(Y/N) | Location | Comments   |
|----------|---|-------------------|--------------------------------|----------|--|
| <b>A</b> | <b>Forms, Certifications, Confidentiality, and Public Involvement</b>                 |                   |                                |          |  |
| A.1      | <b>RCRA Part A Application Form</b>   | Y                 | N                              | App. A-1 |  |
| A.2      | <b>Certification Using the LPC-PA23 Form</b>  | Y                 | Y                              | App. A-1 | Following Part A Application form.                       |
| A.2.1    | Facility Certification  | Y                 | Y                              | App. A-1 |  |
| A.2.2    | Technical Information Certification   | Y                 | Y                              | App. A-1 |  |
| A.2.3    | 39i Certification   | Y                 | Y                              | App. A-2 |  |
| A.3      | <b>Public Disclosure Exemption Claims and<br/>Trade Secret Claims</b>                 |                   |                                |          |  |
| A.3.1    | No information Claimed Exempt from<br>Public Disclosure                               | Y                 | Y                              | Pg. A-1  | No information claimed exempt from public<br>disclosure. |
| A.3.2    | Trade Secrets Claims  | Y                 | Y                              | Pg. A-1  | No Trade Secret claims are made for the<br>application.  |
| A.3.3    | Exempt or Exempt In-Part Data Claims  | Y                 | Y                              | Pg. A-1  | No claimed for exemption from public<br>disclosure.      |
| A.3.4    | Privileged Information  | Y                 | Y                              | Pg. A-1  | No claimed of privileged information.                    |
| A.4      | <b>Public Participation: Facility Mailing<br/>List &amp; Information Repositories</b> |                   |                                |          |  |

|            | <b>Section</b>   | <b>Complete (Y/N)</b> | <b>Technical Adequacy (Y/N)</b> | <b>Location</b>      | <b>Comments</b>                              |
|------------|--|-----------------------|---------------------------------|----------------------|--|
| A.4.1      | Facility Mailing   | Y                     | Y                               | App. A-3             |  |
| A.4.2      | Identification of Repositories   | Y                     | Y                               | Pg. A-2              |  |
| A.4.3      | Contents of Repository   | Y                     | Y                               | Pg. A-2              |  |
| A.4.4      | Public Notice of Repository Availability                                 | Y                     | Y                               | Pg. A-2,<br>App A-3  |  |
| <b>B</b>   | <b>Facility Description</b>  |                       |                                 |                      |  |
| <b>B.1</b> | <b>General Facility Description</b>                                      |                       |                                 | Pg. B-1              |  |
| B.1.1      | Operation of Facility  | Y                     | Y                               | Pg. B-2              |  |
| B.1.2      | Hazardous Waste Management Units at the Facility                         | Y                     | Y                               | Pg. B-3              |  |
| B.1.3      | Solid Waste Management Units at the Facility                             | Y                     | ?                               | Pg. B-3              | SWMU and CA are under review by Curt Samson. |
| <b>B.2</b> | <b>Topographic Map</b>   |                       |                                 | Pg. B-3              |  |
| B.2.1      | Facility + 1 mile  | Y                     | Y                               | Fig. B-2             |  |
| B.2.2      | Facility + 1000 feet   | Y                     | N                               | Fig. B-3             | Wind rose Appendix B-3                       |
| <b>B.3</b> | <b>Location Standards</b>  |                       |                                 |                      |  |
| B.3.1      | Seismic Standard   | Y                     | Y                               | Pg. B-4              |  |
| B.3.2      | Floodplain Standard  | Y                     | Y                               | Pg. B-5,<br>App. B-4 | Facility not in 100-year Floodplain          |
| B.3.3      | Facilities in the 100-year Floodplain                                    | Y                     | N/A                             | Pg. B-5              | Facility not in 100-year Floodplain          |
| B.3.3.1    | Engineering Analysis and Structural/Engineering Study                    | N/A                   | N/A                             | Pg. B-5              | Facility not in 100-year Floodplain          |
| B.3.3.2    | Procedures to Remove Waste   | N/A                   | N/A                             | Pg. B-5              | Facility not in 100-year Floodplain          |
| B.3.4      | Existing Facilities not in Compliance with 35 Ill. Admin Code 724.118(b) | N/A                   | N/A                             | Pg. B-5              | Facility not in 100-year Floodplain          |

|            | <b>Section</b>  | <b>Complete<br/>(Y/N)</b> | <b>Technical<br/>Adequacy<br/>(Y/N)</b> | <b>Location</b> | <b>Comments</b>   |
|------------|---|---------------------------|---|-----------------|---|
| <b>B.4</b> | <b>Operating Record</b>   | Y                         | N                                       | Pg. B-5         |   |
| <b>C</b>   | <b>Groundwater Monitoring</b> This section is being reviewed by Shawntay Dial, Groundwater Unit reviewer. |                           |   |                 |   |
| <b>D</b>   | <b>Procedures to Prevent Hazards</b>  |                           |   |                 |   |
| <b>D.1</b> | <b>Security</b>   |                           |   |                 |   |
| D.1.1      | Waiver from the Security Requirements   | N/A                       | Y                                       | Pg. D-1         | Waiver not being sought   |
| D.1.2      | Restricting Entry to the Facility   | Y                         | Y                                       | Pg. D-1         |   |
| D.1.3      | Warning Signs   | Y                         | Y                                       | Pg. D-2         |   |
| <b>D.2</b> | <b>Equipment Requirements</b>   |                           |   |                 |   |
| D.2.1      | Waiver  | N/A                       | Y                                       | Pg. D-2         | Waiver not being sought   |
| D.2.2      | Internal Communications   | Y                         | N                                       | Pg. D-2         |   |
| D.2.3      | External Communications   | Y                         | N                                       | Pg. D-2         |   |
| D.2.4      | Emergency Response Equipment  | Y                         | N                                       | Pg. D-2         |   |
| D.2.5      | Water for Fire Control  | Y                         | N                                       | Pg. D-3         |   |
| D.2.6      | Personnel Protection Equipment  | Y                         | N                                       | Pg. D-3         |   |
| D.2.7      | Testing & Maintenance of Emergency Equipment  | Y                         | N                                       | Pg. D-3         |   |
| D.2.7.1    | Equipment Testing   | Y                         | N                                       | Pg. D-3         |   |
| D.2.7.2    | Schedule  | Y                         | N                                       | Pg. D-3         |   |
| D.2.8      | Equipment and Power Failure   | Y                         | Y                                       | Pg. D-4         |   |
| <b>D.3</b> | <b>Inspection Requirements</b>  |                           |   |                 |   |
| D.3.1      | Inspection Log  | Y                         | N                                       | Pg. D-4         | Additional items identified in Section D.2 must be added to this section. |

|            | <b>Section</b>   | <b>Complete<br/>(Y/N)</b> | <b>Technical<br/>Adequacy<br/>(Y/N)</b> | <b>Location</b>                 | <b>Comments</b>  |
|------------|--|---------------------------|---|---------------------------------|--|
| D.3.1.1    | Items Inspected  | Y                         | N                                       | Pg. D-4                         |  |
| D.3.1.2    | Types of Problems  | Y                         | N                                       | Pg. D-6                         |  |
| D.3.1.3    | Inspection Frequency   | Y                         | N                                       | Pg. D-9                         |  |
| D.3.2      | Repair Log   | Y                         | N                                       | Pg. D-9                         |  |
| D.3.3      | 24 Hour Reporting  | Y                         | Y                                       | Pg. D-10                        |  |
|            |  |                           |   |                                 |  |
| <b>E</b>   | <b>Post-Closure Requirements</b>   |                           |   |                                 |  |
| <b>E.1</b> | <b>Information Regarding the Unit(s)<br/>Closed as a Landfill</b>            |                           |   | Pg. E-1                         |  |
| E.1.1      | General Information Regarding the Unit to<br>Receive Post-Closure Care       | Y                         |   | Pg. E-1                         |  |
| E.1.2      | Geology and Hydrogeology Around/<br>Beneath the Unit                         | Y                         |   | Pg. E-1                         |  |
| E.1.3      | Characterization of Waste/ Contaminated<br>Soil Present in the Landfill Unit | Y                         |   | Pg. E-1                         |  |
| E.1.4      | Initial Closure Activities   | Y                         |   | Pg. E-2                         |  |
| E.1.5      | Details Associated with the Closed Unit                                      | Y                         |   | Pg. E-2,<br>Pg. E-4 and Pg. E-5 | App. E-2; App. E-3A to App. E-3G; App. E-4 and Pg. E-5 |
| <b>E.2</b> | <b>Contact Person</b>  | Y                         |   | Pg. E-6                         |  |
| <b>E.3</b> | <b>Operation of the Leachate Collection<br/>System</b>                       |                           |   | Pg. E-6                         |  |
| E.3.1      | Quality of Leachate in the Leachate<br>Collection System                     | Y                         | N                                       | Pg. E-6                         | App. E-6   |
| E.3.2      | Leachate Collection System Within the<br>Landfill                            | Y                         | Y                                       | Pg. E-7                         | App. E-7 to E-13                                       |
| E.3.3      | Leachate Collection System Outside the<br>Landfill                           | Y                         | Y                                       | Pg. E-10                        |  |

|            | <b>Section</b>   | <b>Complete<br/>(Y/N)</b> | <b>Technical<br/>Adequacy<br/>(Y/N)</b> | <b>Location</b> | <b>Comments</b>  |
|------------|--|---------------------------|---|-----------------|--|
| E.3.4      | Management of Leachate Collection System                               | Y                         | N                                       | Pg. E-21        | App. E-7; App. E-13; App. E-17   |
| E.3.5      | Summary of Leachate Management Program Conducted to Date               | Y                         | N                                       |                 |  |
| <b>E.4</b> | <b>Operation of the Leak Detection System</b>                          |                           |   | Pg. E-24        | Due to the age of the facility a LDS is not present.                                 |
| E.4.1      | Description of the Leak Detection System Within the Landfill           | N/A                       | N/A                                     |                 |  |
| E.4.2      | Description of the Leak Detection System Outside the Landfill          | N/A                       | N/A                                     |                 |  |
| E.4.3      | Management of Leachate Accumulating in the Leak Detection System       | N/A                       | N/A                                     |                 |  |
| E.4.4      | Recent Operation of the Leak Detection System                          | N/A                       | N/A                                     |                 |  |
| <b>E.5</b> | <b>Operation of the Gas Monitoring/Collection System</b>               |                           | N                                       |                 | Section needs to be update with information from permit modifications B-23R-M8 & M-9 |
| E.5.1      | Detailed Description of the Landfill Gas Collection System             | Y                         | y                                       | Pg. E-25        |  |
| E.5.2      | Landfill Gas Monitoring Plan   | Y                         | y                                       | Pg. E-26        |  |
| E.5.3      | Landfill Gas Disposal/ Processing System                               | Y                         | N                                       | Pg. E-27        |  |
| E.5.4      | Summary of the Landfill Gas Collection/ Monitoring/ Processing Systems | Y                         | N                                       | Pg. E-27        |  |
| <b>E.6</b> | <b>Post-Closure Inspection Plan</b>                                    |                           |   |                 |  |
| E.6.1      | Inspection Log   | Y                         | N                                       | Pg. E-28        |  |
| E.6.1.1    | Items Inspected  | Y                         | Y                                       | Pg. E-29        |  |
| E.6.1.2    | Types of Problems  | Y                         | Y                                       | Pg. E-29        |  |
| E.6.1.3    | Inspection Frequency   | Y                         | N                                       | Pg. E-29        |  |
| E.6.2      | Repair Log   | Y                         | Y                                       | Pg. E-29        |  |

|            | <b>Section</b>  | <b>Complete<br/>(Y/N)</b> | <b>Technical<br/>Adequacy<br/>(Y/N)</b> | <b>Location</b> | <b>Comments</b>                                      |
|------------|---|---------------------------|---|-----------------|--|
| E.6.3      | 24-Hour Reporting   | Y                         | Y                                       | Pg. E-29        |  |
| <b>E.7</b> | <b>Post-Closure Monitoring Plan</b>                           |                           |   |                 |  |
| E.7.1      | Facility Controls   | Y                         | N                                       | Pg. E-29        |  |
| E.7.2      | Surveys and Corrective Action                                 | Y                         | N                                       | Pg. E-29        |  |
| E.7.2.1    | Provide the Following   | Y                         | N                                       | Pg. E-29        |  |
| E.7.3      | Leachate Collection System (LCS)                              | Y                         | N                                       | Pg. E-30        |  |
| E.7.3.1    | Leachate Quality  | Y                         | N                                       | Pg. E-30        |  |
| E.7.3.2    | Leachate Quantity   | Y                         | N                                       | Pg. E-30        |  |
| E.7.3.3    | Leachate Reporting  | Y                         | N                                       | Pg. E-30        |  |
| E.7.4      | Leak Detection System (LDS)                                   | N/A                       | N/A                                     | Pg. E-30        | Due to the age of the facility a LDS is not present. |
| E.7.4.1    | LDS Leachate Quantity   | N/A                       | N/A                                     |                 |  |
| E.7.4.2    | Action Leakage Rate (ALR)                                     | N/A                       | N/A                                     |                 |  |
| E.7.5      | Groundwater Monitoring System                                 | Y                         |   | Pg. E-30        | Ground Water Unit will Review                        |
| E.7.6      | Gas Collection System   | Y                         | Y                                       | Pg. E-31        |  |
| E.7.6.1    | Gas Quality   | Y                         | N                                       | Pg. E-31        | App. E-20  |
| E.7.6.2    | Gas Quantity  | Y                         | N                                       | Pg. E-31        |  |
| E.7.6.3    | Summary of Results from the Gas Collection/ Monitoring System | Y                         | N                                       | Pg. E-31        |  |
| <b>E.8</b> | <b>Post-Closure Maintenance Plan</b>                          |                           |   | Pg. E-31        |  |
| E.8.1      | Procedures, Equipment & Materials                             | Y                         | N                                       | Pg. E-31        |  |
| E.8.2      | Rationale   | Y                         | N                                       | Pg. E-32        |  |
| E.8.3      | Frequency   | Y                         | N                                       | Pg. E-32        |  |
| <b>E.9</b> | <b>Survey Plat</b>  | Y                         | Y                                       | Pg. E-32        | App. E-1   |

|             | <b>Section</b>   | <b>Complete<br/>(Y/N)</b> | <b>Technical<br/>Adequacy<br/>(Y/N)</b> | <b>Location</b> | <b>Comments</b> |
|-------------|--|---------------------------|---|-----------------|-----------------|
| <b>E.10</b> | <b>Notice in Deed and Certification</b>  | Y                         | Y                                       | Pg. E-32        | App. E-1        |
| <b>E.11</b> | <b>Post Closure Cost Estimate</b>  | Y                         | N                                       | Pg. E-33        |                 |
| <b>E.12</b> | <b>Financial Assurance Mechanism for Post-Closure Care</b>                                   | Y                         | Y                                       | Pg. E-33        | App. E-23       |
| <b>E.13</b> | <b>State Mechanisms</b>  | N/A                       | N/A                                     | Pg. E-33        |                 |
| <b>F</b>    | <b>Corrective Action (CA)</b> This section is being reviewed by Curtis Samson, CAU reviewer. |                           |   |                 |                 |

Post-Closure Permit Checklist Nov 2019.docx

KL:kl\0978020001\_RCRA\_B-23R2\_Post-Closure Permit Checklist.docx

## RCRA ADMINISTRATIVE RECORD

## Review Notes

## First Technical Review

## RCRA Post-Closure Permit Renewal

0978020001 -- Lake County

Zion Site 1 Phase A Landfill

ILD980700728

Log No. B-23R2

RCRA Permit Administrative Record -24D

December 13, 2023 to April 24, 2025

Kevin Lesko

---

BFI Waste Systems of North America, LLC submitted a RCRA Post-Closure Permit Renewal application for a former RCRA Hazardous waste landfill located at 701 Green Bay Road, Zion, Illinois. The application, dated May 6, 2021, was received by the Agency on May 7, 2021.

The former landfill, currently known as Site 1, Phase A, covered approximately 40-acres and disposed of mainly non-hazardous waste. Some RCRA hazardous waste was also disposed in the landfill into 1990 with disposal of non-hazardous solid waste continuing until 1993. Closure activities of this landfill were completed in 1997 and on February 10, 1998 certification of completion of closure was completed.

**TECHNICAL REVIEW**

The purpose of this review is to determine if the application is technically adequate. The completeness review was based on the Illinois EPA's guidance document entitled, Information Which Must be Provided in an Application for a RCRA Post-Closure Permit - November 2019. The November 2019 guidance was updated in May 2021, the following technical review will be based on the newer May 2021 guidance document.

Text presented in italicized quotation in the following notes are taken from the section of the application the quote appears in unless otherwise noted.

**SECTION A--FORMS, CERTIFICATIONS, CONFIDENTIALITY, and PUBLIC INVOLVEMENT****A.1 RCRA Part A Application Form****RCRA Subtitle C Site Identification Form**

Item 7, North American Industrial Classification System (NAICS) Codes for the Site

The NAICS code provided for the site is 562212, Solid Waste Landfill.

**IEPA Comment:** The Zion Landfill, Site 1, Phase A, was a co-disposal landfill that disposed of solid waste and hazardous waste. The RCRA Subtitle C Site Identification Form, Item 7, should be revised to include NAICS code 562211 (Hazardous waste disposal facilities) to identify the co-disposal of hazardous waste at the landfill.

- Site name: Zion Landfill, Site 1, Phase A
- Legal Owner: Zion Landfill, Inc.
- Legal Operator: BFI Waste Systems of North America, LLC
- Hazardous Waste Activities
  - LQG
  - TSD
  - Does not receive hazardous waste from off-site.
  - Hazardous Waste Codes: F039 - Multi-source leachate resulting from the disposal of more than one restricted waste classified as hazardous under this Subpart D.
  - Units
    - Landfill (D80), capacity 5,160,000 yards
    - Leachate Storage Tank 1-(S02), 8,000 gallons
      - Handling 200,000 gallons of F039 waste annually
- Other Environmental Permits
  - Stormwater Discharge Permit - 0067724
  - Illinois Solid Waste Permit - 1995-343
  - Air Permit - 93080012
  - Illinois Solid Waste Permit - 1992-328

**IEPA Comment:** Item 4, Other Environmental Permits, of the United States Environmental Protection Agency (USPEA) Hazardous Waste Permit Part A Form must be updated with the current permits for the facility. The Air Permit 93080012 listed is not valid and was withdrawn in 2011.

- Photographs - A series of photographs of the landfill, leachate storage unit, and landfill gas management system are provided.
- Map - The Part A references Figure B-2 of the Part B permit application to meet the map requirements.
- Certification - Signatures
  - Mike Stoecklot, Regional Vice President (Owner)
  - Matthew R Healy, Vice President, Republic Services, (Operator)

**IEPA Comment:** The Part A Application appears to be completed adequately, except as noted above for Item 4.

### **A.2 Certification Using the LPC-PA23 Form**

LPC-PA23 form is located in Appendix A-1 of Part B Application, following the Part A form.

#### **A.2.1. Facility Certification**

The form is signed by:

- Mike Stoecklot, Regional Vice President (Owner)
- Matthew R Healy, Vice President, Republic Services, (Operator)

Notary Public certifications are provided.

#### **A.2.2. Technical Information Certification**

Illinois Professional Engineer Certification is provided by John Bossert.

**IEPA Comment:** The LPC-PA23 form appears to be completed adequately.

#### **A.2.3 39i Certification**

See the 39(i) Certification section of the General Review Notes for additional information.

Two forms are provided, one for the operator and one for the owner.

##### **Operator**

The 39(i) Certification form for the operator, BFI Waste Systems of North America, LLC, includes:

- Officer: Matthew R Healy, Vice President, Republic Services, and
- Employee: James Hitzeroth, Environmental Manager

The Certification Statement is signed by Matthew Healy, Vice President.

##### **Owner**

The 39(i) Certification form for the owner, Zion Landfill, Inc., includes:

- Officer: Mike Stoecklot, Regional Vice President, and
- Employee: James Lewis

The Certification Statement is signed by Mike Stoecklot, Regional Vice President.

**IEPA Comment:** The 39i Certification appears to be adequately completed.

### **A.3 Public Disclosure Exemption Claims and Trade Secret Claims**

Section A.3 is not applicable because the owner/operator:

- Is not requesting a public disclosure exemption;
- Is not invoking a trade secret claim; or
- Is not asserting that any portion of the submittal is privileged in relation to this application.

### **A.4 Public Participation: Facility Mailing List & Information Repositories**

#### **A.4.1 Facility Mailing List**

The most recent version of the Facility Mailing List, obtained from Illinois EPA in April 2021, is included in Appendix A-3. The Permittee acknowledges that the list will be updated as needed and submitted for IEPA review and approval.

#### **A.4.2 Identification of Repository**

A copy of the has been placed on file at the following locations:

Zion-Benton Public Library  
2400 Gabriel Ave.  
Zion, IL 60099  
Ph: (847) 872-4680

Office of County Board Chair  
Lake Co. Board Office  
18 North County Street  
Waukegan, IL 60085

#### **A.4.3 Contents of Repository**

The repositories contain a copy of the Permit Renewal Application. Revisions and/or additional information will be added to the repository as required.

#### **A.4.4. Public Notice of Repository Availability**

The public notice (copy provided in Appendix A-3), dated May 6, 2021, was sent via certified mail to persons on the facility mailing list.

**IEPA Comment:** The requirements of Section A.4 have been met and are technically adequate.

## B. FACILITY DESCRIPTION

### B.1 General Facility Description

October 1976 - A waste disposal permit (pre-RCRA) was issued for operation of a 59-acre solid waste disposal facility with the initial disposal area comprising of 40-acres. The facility received mainly non-hazardous waste, but some hazardous waste was disposed in the unit currently known as Site 1, Phase A. BFI ceased disposing hazardous waste in this unit in 1990. Closure activities were completed.

February 10, 1998 -Certification of closure for the 40 acre unit currently known as Site 1, Phase 66A. Site 1, Phase A was accepted.

June 24, 1994 - Ten acres of the initially permitted 59-acre disposal facility were re-permitted for disposal of non-hazardous waste. This portion of the facility came to be known as the Zion Landfill Site 1, Phase B. Certification of closure of Phase B was submitted August 28, 1998

The remaining approximately 10 acres of the original 59-acre facility house ancillary equipment and structures associated with the Site 1, Phase A and B landfills, including:

- Tanks and associated loading areas used to manage the collected leachate before it is sent off-site for treatment; and
- Blowers, flare, and gas to energy station associated with the gas management system at the facility.

#### B.1.1 Operation of the Facility

Identify the owner and operator of the facility are provide in the Part A application.

*The facility is located at 9th Street and Green Bay Road within the City limits of Zion, Lake County, Illinois.*

*The closed hazardous waste landfill identified as the Zion Landfill Site 1A is in Benton Township. The RCRA permit addresses the post-closure care for the closed hazardous waste landfill located on approximately 49 acres of the facility with the surrounding acreage is utilized for non-hazardous solid waste disposal related activities, including the following:*

- *Site 1, Phase B, which is comprised of two cells (Cell No. 1 and Cell No. 2) that contain non-hazardous waste (no hazardous waste), which are also closed, as described above; and*
- *Site 2, which also contains only solid waste (no hazardous waste), in which the western portion is closed, but the eastern portion is still active and currently owned and operated by GFL Environmental.*

*The closed landfill operated as a commercial facility accepting waste from off-site, however, currently, the landfill is closed and no longer accepts waste.*

*A legal description of the facility developed and certified by a professional land surveyor licensed to practice in Illinois is presented in Appendix B-2.*

*The Tax Property Identification Number(s) of the facility is 03-12-200-016 and 04-07-200-013.*

**IEPA Comment:** The requirements of this section have been met and are technically adequate.

### **B.1.2 Hazardous Waste Management Units at the Facility**

The unit, Site 1A, has a disposal footprint of approximately 40 acres and commercially accepted RCRA hazardous waste from a range of business and industry including manufacturing, petrochemical, steel, utilities, and government. The Site 1 Phase A landfill has been closed since 1998 and Permit Condition III.A, requires the permittee to provide post-closure care for Site 1A until at least February 9, 2028.

A copy of the effective facility Permit (including both the March 12, 2018 and July 28, 2015 versions of the document) are presented in **Appendix B-1**.

**IEPA Comment:** The requirements of this section have been met and are technically adequate.

### **B.1.3 Solid Waste Management Units at the Facility**

No solid waste management units (SWMUs) that are currently subject to RCRA Corrective Action have been identified at the facility to date.

**IEPA Comment:** There are no SWMUs at the facility. See the June 28, 2021, Completeness Evaluation of Corrective Action memo from Curtis Samson, page 2:

“In conclusion, my completeness evaluation of the Corrective Action section of the RCRA Part B Renewal Application for the above-referenced site indicates that all applicable check list items to this facility are correctly addressed in the subject application. Corrective actions pertinent to the subject SWMUs in the referenced renewal application were adequately addressed prior to the permit issued in 2011. The Permittee has also not identified new SMWUs since the 2011 permit issuance. Therefore, the corrective action section of the subject application is considered complete.”

## **B.2 Topographic Map**

### **B.2.1 Facility + 1 Mile**

Figure B-2 is a 2018 USGS topographic map which includes areas 1 mile around the closed Site 1A RCRA unit. The map identifies the boundary of the Site 1A facility and the surrounding land uses.

**IEPA Comment:** The requirements of this section have been met and are technically adequate.

### **B.2.2. Facility + 1000 feet**

**IEPA Comment:** Figure B-3 is at a scale of 1 inch equal to 400 feet rather than the required 1 inch equal to not more than 200 feet. The figure does not include the surrounding area 1,000 feet outside the facility's property line.

## **B.3 Location Standards: 703.184, 724.118**

### **B.3.1 Seismic Standard**

*“Nothing has changed relative to the seismic standards described in the originally approved RCRA Part B Permit Application prepared prior to issuance of the 1988 permit. Therefore, no additional information is provided in this Application and no permit modifications are requested relative to the seismic standards.”*

### **B.3.2 Floodplain Standard**

*Appendix B-4 contains an April 24, 1996 letter from the Federal Emergency Management Agency (FEMA) reflecting that the site is not located within the limits of a 100-year floodplain area. The FEMA map included in the original Part B Permit Application showed a small area approximately 400-feet north and a larger around approximately 1,600 feet east of the Site 1 Phase A landfill as being A Zones which are considered flood hazards. The updated FEMA map has removed these A Zones. The latest available FIRM maps from FEMA (confirming that the site is not located within a 100-year floodplain) are dated 2013 and are also included in Appendix B-4.*

**IEPA Comment:** The facility does not appear to be located in the 100-year floodplain. In addition, based on a review of the FEMA's National Flood Hazard Layer Viewer (link below) the facility is not in the floodplain:

<https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd&extent=-87.90611035910273,42.475085012766655,-87.86303955832146,42.491491836520126>

**B.3.3 Facilities in the 100-year Floodplain**

This section is not applicable as the facility is not in the 100-year floodplain.

**B.3.4. Existing Facilities Not in Compliance with 35 Ill. Admin. Code 724.118(b)**

This section is not applicable as the facility is not in the 100-year floodplain.

**B.4 Operating Record**

The Permittee must keep and maintain a written operating record that includes all the records, reports, notifications, and data required by 35 Ill. Admin. Code 724.173 and the conditions in this permit for the entirety of the post-closure care period. Identify the location where the Operating Record is maintained at the facility. Describe the procedures used to record the following information described in 724.173 in the facility's operating record (as such information becomes available) during the post-closure period:

1. Records of inspections, and repairs
2. Monitoring, testing, analytical data, and corrective action data when required,
3. All closure and **post-closure cost estimates**,
4. **Annual certification that a program** is in place to reduce the volume/toxicity of hazardous waste generated at the facility.

**Application text:**

*"The operating record will include results of post-closure groundwater sampling, analyses, and statistical evaluation; inspection reports; training records; leachate removal records; and annual reports. The operating record will be retained at the facility or a secure location at another office of the owner or operator."*

**IEPA Comment:** The application does not describe the location where the operating record is located and maintained at the facility, or the procedures used to record the required records. If details describing how the requirements of this section are met are provided in other sections of the application the locations of the required information must be provided in this section.

**SECTION C - GROUNDWATER MONITORING**

Section C. of the application was reviewed by Shawntay Dial, Groundwater Unit reviewer. Documentation of the review is contained in the December 18, 2023 (Modified February 28, 2024) memo.

## **SECTION D--PROCEDURES TO PREVENT HAZARDS**

### **D.1.1. Waiver from Security Requirements**

The Permittee is not seeking a waiver from applicable security requirements.

### **D.1.2. Restricting Entry to the Facility**

#### **24-Hour Surveillance System and/or Barrier and Controlled Entry**

The landfill is closed and in post-closure, the activities near the unit will be minimal. Activities limited inspection, monitoring and repair/maintenance.

The perimeter is fenced, and routinely inspected with repairs made as necessary. Normal traffic enters and exits through the main gate on Green Bay Road. When the site is open the main gate is continuously monitored. The gate is locked when the site is closed. Other gates, located along 9th Street and onto Kenosha Road (see Figure B-2), are kept locked and are only opened by permittee personnel for planned or emergency activities.

The fence is routinely inspected, and repairs are made as necessary to maintain an adequate barrier. Traffic enters and exits the Zion 1A Landfill through the main gate on Green Bay Road. When the site is open, this gate is continuously monitored. The gate is locked when the site is closed. Other gates, located along 9th Street and onto Kenosha Road (see Figure B-2), are kept locked and are only opened by permittee personnel for planned or emergency activities.

Section 724.114(b) requires that the facility must have the (1) a 24-hour surveillance system; or (2) physical barriers consisting of:

- A) An artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff), which completely surrounds the active portion of the facility; and
- B) A means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television monitors, locked entrance, or controlled roadway access to the facility).

**IEPA Comment:** The fence and controlled entry during operating hours satisfy the requirements of Section 724.114.

### **D.1.3. Warning Signs**

Signs are posted at all gates to the facility and along the perimeter of Site 1A. The signs, which have been created to be legible from 25-feet, and reads: "DANGER – UNAUTHORIZED PERSONNEL KEEP OUT".

**IEPA Comment:** The warning signs meet the requirement of Section 724.114(c).

**D.2. Equipment Requirements: 703.183, 724.132, 724.133, 724.134, 724.135****D.2.1. Waiver**

The permittee is not requesting a waiver.

**D.2.2 Internal Communications**

The primary means of internal and external communication on-site are 2-way radio and/or cellular phone. Personnel at Site 1A will have either a radio and/or cell phone with them. Staff performing the work regularly carry cellular telephones, which can be used in the event of an emergency.

Section 724.132 states,

All facilities must be equipped with the following, unless the owner or operator demonstrates to the Agency that none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:

- a) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;
- b) A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams;

**IEPA Comment:** 2-way radios and/or cellular phones appear to be an adequate means of communication at a closed landfill with a limited number of people that are intermittently present on-site.

All contractors and facility personnel must be provided with 2-way radios to communicate with other on-site personnel that can communicate with emergency responders or if cellular phones will be used, they must have immediate access to phone numbers to communicate with facility personnel and local emergency responders. This information must be provided to contractors as part of the contractor handout (Appendix D-1).

**D.2.3. External Communications**

See D.2.2 above.

**D.2.4. Emergency Response Equipment**

The facility will maintain the following emergency equipment:

1. Fire extinguishers located throughout each building at the facility, around fuel storage areas, and on mobile landfill equipment.
2. Landfill equipment capable of carrying supplies of water and capable of dispersing water as necessary.
3. Landfill equipment capable of moving and placing earth material.
4. First aid stations located at various locations around the facility.
5. Communications equipment (two-way radios and telephones) which allows various personnel at the facility to contact each other.

**IEPA Comment:** The location of first aid stations, eyewash, and showers should be identified on a facility map available to facility personnel and contractors. The map with this information should be provided to contractors as part of the contractor handout (Appendix D-1). Contractors should be provided with a facility contact (person and phone number).

The application must describe the capabilities of the water supply tanks and water dispersion equipment.

#### **D.2.5. Water for Fire Control**

*The application states, “A water detention basin that regularly holds water is located west of Site 1A that can serve as a source of water for firefighting purposes, in the unlikely event of a fire at the Site 1A facility.”*

**IEPA Comment:** The applicant did not provide the following information requested in Section D.2.5 of the guidance document, Information Which Must be Provided in an Application for a RCRA Post-Closure Permit - May 2021.

Provide a statement signed by an independent fire control professional, or the responsible fire department, certifying that the facility has water at adequate volume and pressure to supply water hose streams, foam producing equipment, automatic sprinklers, or water spray systems. The document must include an original signature from the fire control professional or responsible fire department.

Nothing in the referenced regulations ([703.183](#), [724.132](#), [724.133](#), [724.134](#), [724.135](#)), requires, “a statement signed by an independent fire control professional, or the responsible fire department, certifying that the facility has water at adequate volume . . .”

Section 724.132(d) states:

All facilities must be equipped with the following, unless the owner or operator demonstrates to the Agency that none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:

\*\*\*

- (c) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment and decontamination equipment; and
- (d) Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers or water spray systems.

Section 724.132(d) discusses equipment and water supplies to address “hazards posed by waste handled at the facility”. In this case, the structures subject to potential fire damage would be the grass landfill cover, monitoring wells, and leachate/gas extraction wells. The critical waste management equipment subject to fire are the leachate/gas extraction wells which handle waste leachate and gas being generated within the landfill. Should the cover vegetation burn there is the potential for erosion issues until the vegetative cover is restored, however, this is not an immediate threat to the containment of the waste.

**IEPA Comment:** 35 IAC 724.132(d) requires, and the application does not provide information on the adequacy of the water retention basin to provide water to address concerns of the “hazards posed by waste handled at the facility”. The amount of water present in the retention basin and the equipment used to deliver water to a potential fire must be identified. Since the permitted unit is a closed landfill and does not include buildings the threat from fire is limited.

Municipal fire departments that may respond should also be identified along with any fire hydrants that may be used to as a source of water.

#### **D.2.6. Personnel Protection Equipment**

Describe the procedures, structures, and clothing equipment used to protect personnel from undue exposure to hazardous waste.

This section provides a general description of emergency equipment available in buildings. The Personnel Protection Equipment (PPE) is described as follows:

*“Employees are required to wear applicable personal protective equipment while performing their work. . . Contractors performing closure and post-closure services at the site will be provided a fact sheet concerning the nature of the landfill prior to working. A sample contractor handout is provided in Appendix D-1.”*

Appendix D-1, identifies hazards expected to be encountered at the site, such as hazardous waste leachate, and methane gas. It requires contractors performing post-closure work that has the potential for exposure to hazardous waste or hazardous waste constituents must be trained in accordance with the requirements of 29 CFR 1910.120(p) prior to commencing work.

**IEPA Comment:** The application must describe PPE required for workers, including contractors, performing tasks that are expected to be performed at the facility, such as collection of groundwater samples, gas monitoring, and maintenance of the cover.

#### **D.2.7. Testing & Maintenance of Emergency Equipment**

The facility is not regularly staffed with personnel as it is a closed landfill. There is no internal communication system. Personnel are required to carry cellular telephones when performing task on-site. Fire extinguishers and a safety eye bath are present. "These items will be maintained in accordance with the manufacturer's recommendations."

**IEPA Comment:** The application should include a description of the testing and maintenance of emergency equipment identified in the application, including:

- Equipment used to deliver water for fire control (Section D.2.5).
- First aid kits, assure the kits are properly stocked and have not exceeded the kits expiration date.
- Radios and cellphones used by contractors or employees should be checked prior to entering the site to ensure that they are operating, and cellular service is available.
- PPE maintained on-site.

##### **D.2.7.1. Equipment Testing**

The application states "*the safety eye bath requires no periodic testing or maintenance.*"

**IEPA Comment:** It is unlikely that the safety eye bath requires no periodic testing or maintenance. Provide documentation that the safety eye bath requires no periodic testing or maintenance.

Equipment used to deliver water to a potential fire, discussed in Section 2.5 of the application, must be identified and a schedule for maintenance and testing of the equipment must be included in the application.

##### **D.2.7.2. Schedule**

Fire extinguishers on-site will be tested a minimum of one time per year.

**IEPA Comment:** Schedules for inspection, maintenance and/or testing of equipment identified in Section D.2.7.1 and D.2.7.2, must be provided.

### **D.2.8. Equipment and Power Failure**

As this is a closed landfill a short-term loss of power does not present an immediate threat. Leachate pumps will automatically resume operation when power is restored. In the event of an extended outage portable generators are available.

**IEPA Comment:** There does not appear to be a concern with the short-term loss of power at the facility, as discussed in the application.

### **D.3 Inspection Requirements: 703.183(e), 724.115**

The application states, copies of the inspection log and repair log are maintained at the facility as part of the operating record.

#### **D.3.1. Inspection Log**

Copies of the Post-Closure Inspection Log Forms are presented in **Appendix D-2**. The forms include the date and time of each inspection, the name of inspector, notation of the observations made, and date of required repairs or remedial actions. Alternate documentation forms/spreadsheets may be utilized, if the information listed below is provided.

Inspections to be conducted include the final cap, the groundwater monitoring network, and the leachate/gas collection system, including the leachate accumulation tank.

**IEPA Comment:** Section 724.155 (b)(1), requires the Permittee to develop a written schedule for inspecting monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.

The application must include an inspection log for the equipment and other items identified in Section D.2. These items must be added to the remainder of this Section D.3 as appropriate.

#### **D.3.1.1. Items Inspected**

##### **Weekly inspections:**

- Less than 90-day Leachate Accumulation Tank - The Less than 90-day Leachate Accumulation Tank will be inspected in accordance with 35 IAC 725.295.

**IEPA Comment:** The Leachate Accumulation Tank is regulated pursuant to 35 IAC 725.295 Interim Status regulations.

##### **Monthly Basis:**

- Gas Collection and Control System (GCSS)
- Leachate Collection System (LCS)

**Quarterly Basis:**

- Site security
- Vegetation, run-off, erosion
- Runoff control & spill prevention
- Leachate collection system
- Gas collection system
- Blower building

**Semi-Annual basis:**

- Groundwater monitoring system

**IEPA Comment:** The items to be inspected must include items included identified in Section D.2. This should include additional items identified as being deficient in this NOD.

**D.3.1.2. Types of Problems**

**IEPA Comment:** The types of problems identified in this section appear to be appropriate for the facility and the systems being inspected. However, as noted above additional items from Section D.2 must be added to this list.

**D.3.1.3. Inspection Frequency**

The frequency for inspections is listed above in Section D.3.1.1. and appear to be appropriate for this facility.

**D.3.2. Repair Log**

Appendix D-2 contains copies of inspection and repair logs. These logs appear to be appropriate for the site. The 8 items contained in the Agency guidance documents are present in the logs.

**D.3.3. 24-Hour Reporting**

The application states, “any noncompliance with the permit which may endanger human health or the environment, then 1) the appropriate information will be reported to Illinois EPA within 24 hours from the time the Permittee becomes aware of the circumstances and 2) provide a written description of the incident within 5 days of the time the Permittee became aware of the circumstances.”

**IEPA Comment:** This section appears to be technically adequate.

**SECTION E--POST-CLOSURE REQUIREMENTS**

See 703.183(m), 703.203(f), 703.204(h), 703.207(e), 724.218, 724.297(b) and (c), 724.328(b), 724.328(c)(1)(B), 724.380(c), 724.410(b)

### **E.1 Information Regarding the Unit(s) Closed as a Landfill**

#### **E.1.1. General Information Regarding the Unit to Receive Post-Closure Care**

1. *A scaled drawing showing the location and boundaries of the unit within the facility is provided in Figures B-3.*
2. *A copy of Illinois EPA's letter accepting certification of closure of the unit as a landfill.*
3. *The beginning of the 30-year post closure period for Site is February 1998.*
4. *A certified copy of the survey plat and post-closure notices are provided in Appendix E-1.*

**IEPA Comment:** A copy of Illinois EPA's letter accepting certification of closure of the unit as a landfill was not found in the application. BFI submitted a closure certification report to the Illinois EPA in February 1998. This closure certification report does not appear to have been approved. The landfill closure date was noted in the September 30, 2011 Renewal permit, Log No. B-23R is the first Post-Closure permit for the facility with the closure date of February 1998.

#### **E.1.2. Geology and Hydrogeology Around/Beneath the Unit**

A description of the geology and hydrogeology around/beneath the unit is presented above in Section C.3 (Historical Hydrogeological Summary). Section C is being reviewed by the groundwater reviewer.

#### **E.1.3. Characterization of Waste/Contaminated Soil Present in the Landfill Unit**

Zion Landfill Site 1A was a co-disposal landfill containing both hazardous waste and solid waste in the same landfill. The quantity of hazardous waste compared to the total quantity of solid, non-hazardous, municipal waste accepted in Site 1 Phase A was relatively small. The unit was in operation from the early 1970s until its final closure in February 1998.

The description of the waste present in the landfill is acceptable.

#### **E.1.4. Initial Closure Activities**

Site 1A was closed in place with the installation of a final cover system. Waste materials/contaminated soil were not removed, and stabilization was not required. Significant quantities of structural fill were not required to establish final contours.

#### **E.1.5. Details Associated with the Closed Unit**

The first permit allowing development of the Site 1A waste disposal facility was issued in 1975. From page E-2 of the application:

“Although facility files have been searched to locate detailed documentation pertaining to construction of the Site 1A landfill, due to the age of the facility and the scope of the regulations relative to record keeping during landfill construction that occurred in the 1970s, detailed construction completion reports have not been identified. However, various engineering cross sections illustrating the bottom of the landfill have been located. These cross sections indicate “excavation limits” believed to represent the bottom of the landfill. A copy of these cross sections is provided in Appendix E-2.”

**IEPA Comment:** Sufficient available details are provided in this section, and the Construction Acceptance Report for Site 1 – Phase A Final Closure, February 1998 (Appendix E-5), to meet the requirements of this section.

The first permit allowing development of the Site 1A waste disposal facility was issued in 1975. Hazardous waste was accepted for disposal until 1991. The landfill closure was submitted to the Illinois EPA in February 1998. The 30-year post closure period for Site 1A began in February 1998. The 30-year post-closure period will end in February 2028.

## **E.2 Contact Person**

The Zion Site 1 Phase A Landfill contact person is:

Mr. Jim Hitzeroth  
BFI Waste Systems of North America, LLC  
26 West 580 Schick Road  
Hanover Park, IL 60133  
Phone: (224) 970-1129

The post-closure permit and associated permit modifications will be maintained at the above location.

## **E.3 Operation of the Leachate Collection System**

### **E.3.1. Quality of Leachate in the Leachate Collection System**

Leachate samples are collected and analyzed in accordance with Permit Condition III.G.7 with samples collected on a rotating basis from EW-2, EW-6, EW-20, and EW-23.

From page E-7 of the application:

“... leachate samples are collected annually and analyzed for the constituents listed in 35 Ill. Adm. Code 811, Appendix C., which include: various inorganic constituents, metals, VOCs, Pesticides/PCBs, SVOCs, Herbicides, and Dioxins. The analytical results from the last several years of sampling are presented in Appendix E-6.”

**IEPA Comment:** The proposed leachate sampling parameters do not meet the requirements of this section. The leachate sampling parameter list has been expanded since the permit was last renewed and the current list of analytes is not acceptable. The Permittee must revise the list in accordance with items 1 and 2 below from the agency's guidance document:

1. The leachate needs to be analyzed for the parameters listed below, and the results of annual analyses conducted on representative samples of leachate must be provided in the permit application. This will give an indication of the potential contaminants in a subsurface release from the unit to the groundwater. The leachates need to be analyzed for:
  - a. Those constituents for which a public or food processing water supply standard has been established in 35 Ill. Admin. Code 302;
  - b. Those constituents for which a groundwater quality standard has been established in 35 IAC 620;
  - c. The 51 organic chemicals in drinking water described in 40 CFR 141.40.
  - d. Any other contaminants expected to be present in the leachate, based on the characteristics of the waste and materials present in the unit.
2. If the list of analytes has been reduced, provide an analysis for all constituents listed in E.3.1.1 each time the post-closure permit is renewed. Compare the reduced list, to the full list. If no new parameters are detected, the application can propose to resume analyzing leachate for the previously approved reduced list. If any new parameters are detected, they must be added to the reduced list and the list of groundwater monitoring parameters.

The application states:

“Leachate samples will be collected and handled in accordance with SW-846, Test Methods for Evaluating of Solid Waste by trained personnel, directly from leachate extraction wells or tank, so that representative samples are obtained. The samples will be submitted to an accredited analytical laboratory under standard chain of custody procedures and analyzed pursuant to standard SW-846 Methods. No changes to the current leachate sampling/analysis protocol contained in the current Effective Permit are being proposed.”

**IEPA Comment:** A March 28, 2025, update to 35 IAC Part 620 added groundwater quality standards for the following constituents:

- HFPO-DA (hexafluoropropylene oxide dimer acid GenX);
- PFBS (perfluorobutanesulfonic acid);
- PFHxS (perfluorohexanesulfonic acid);

- PFNA (perfluororononanoic acid);
- PFOA (perfluorooctanoic acid); and
- PFOS (perfluorooctanesulfonic acid).

In addition, this update, specifically to 35 IAC 620.510(b)(4), revised the acceptable analytical limits. Analytical data must meet the Lower Limit of Quantitation (LLOQ) instead of the Practical Quantitation Limit (PQL) and those values must be equal to or less than the 35 IAC Part 620 standards.

**IEPA Comment:** The sampling and analysis plan for the leachate monitoring plan must also be revised to address the above updates to 35 IAC Part 620.

See the attached April 24, 2025 Email - Zion Renewal - Part 620 - March 28, 2025 Update and Groundwater and Leachate Monitoring Programs, for additional discussion on this topic.

#### **E.3.2. Leachate Collection System Within the Landfill**

23 leachate extraction air actuated pumps are installed on Site 1A. The operation of the pump is controlled by a ball valve on the air supply piping. In addition, a needle valve on the air exhaust line from the pump can also be used to control pump operation. Leachate is currently collected in an 8,000-gallon dual-walled above ground storage tank located on a concrete loadout containment pad.

The general components of the leachate collection system (LCS) within the landfill and description of the procedures used to construct the leachate collection system are provided in the Construction Acceptance Report, Site 1 Phase A Leachate Extraction System, Onyx Zion Landfill, IEPA Site No. 0978020001, RCRA Permit Log No. B-23-M-21, prepared by Weaver Boos & Gordon, Inc., dated September 27, 2000. A copy of this report is contained in **Appendix E-7**.

The history of the modifications to the leachate collection system is provided in this section along with the documentation of the modifications provided in the following appendices:

#### **Appendix**

- E-7: Construction Acceptance Report, Site 1, Phase A Leachate Extraction System, September 27, 2000
- E-8: Forcemain Profile and Details, 2000 Manhole Upgrades
- E-9: Construction Acceptance Report, Improvements to Leachate Collection System, Zion Site 1, Phase A Landfill, December 2009
- E-10: Construction Acceptance Report, February 2012
- E-11: Construction Acceptance Report, February 2016

- E-12: Construction Acceptance Report, February 2018
- E-13: Leachate/Gas Collection System Layout and Flow Figures
- E-14: Hazardous Waste Tank Assessment for Existing Leachate Collection Tank
- E-17: As Built Extraction Well Detail and Boring Logs
- E-18: Historical O&M Records
- E-19: Blower Building, Flare, and Power Plant As-Built Drawings
- E-20: Gas Monitoring Plan
- E-21: Operation & Maintenance Manual, Landfill Gas Extraction System
- E-22: Gas Collection and Control System Data
- E-24: Construction Acceptance Report, Gas Extraction System, February 1998

**IEPA Comment:** The information provided in E.3.2, items 1, 2 and the above referenced appendices is adequate to:

- identify the general components of the leachate collection system (LCS) within the landfill;
- describe the procedures used to construct the LCS within the landfill; and
- Provide detailed information regarding all equipment (pumps, monitoring equipment, etc.) associated with the LCS within the landfill.

**IEPA Comment:** The requirement that the leachate depth over the liner not exceed one foot does not apply to existing landfills as noted in 724.401(a), and this requirement is part of the liner system requirements under 724.401(a)(2). Similarly, the leachate level requirements of 724.401(c)(2) do not apply to landfills which were constructed prior to January 29, 1992. Site 1A (Site 1 Phase A) was constructed in the 1970s. This issue was addressed in the RCRA Permit Renewal (Log No. B-23R), issued on September 30, 2011, in Item 4 of the response to public comments attached to the permit cover letter and new/revised Conditions III.G.2 and III.G.8 (see attached permit cover letter: 1 -10 and permit pages III-11 – III-13).

The initial RCRA Permit did included 2 new landfill cells in an area identified as Site 1 Phase B. These new cells would be subject to the requirements of 724.401, however, Site 1 Phase B was removed from the RCRA permit in a permit modification request date, August 17, 1993, permit modification (Log No. B-23-M-13). Site 1 Phase B never received hazardous waste and was eventually permit for disposal of non-hazardous solid waste.

#### **Section 724.401 Design and Operating Requirements**

- a) Any landfill that is not covered by subsection (c) or 35 Ill. Adm. Code 725.401(a) must have a liner system for all portions of the landfill (except for existing portions of such landfill). The liner system must have the following:

1. \*\*\*
2. A leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the landfill. The Agency must specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm (one foot).

Information from past operations of the LCS is provided in Section E.3.5 of the application.

### **E.3.3. Leachate Collection System Outside the Landfill**

#### **E.3.3.1 Leachate Tank – 90 Day Storage Requirement (Part 725, Subpart J)**

Leachate and gas condensate is stored in an 8,000-gallon dual-walled above ground tank (Figure E-1) located on a concrete containment pad. Gas condensate from is routed from two condensate sumps to the storage tank.

This tank is regulated as a 90-day accumulation tank under 35 IAC 722.117, Conditions for Exemption for a Large Quantity Generator That Accumulates Hazardous Waste and is exempt from permitting under the RCRA Post-Closure Permit.

#### **E.3.3.2 Leachate Tank – Applicable Subpart J Requirements**

- **Design/Installation of Tank (35 IAC 725.292)**  
A “Hazardous Waste Tank Assessment” was performed by a licensed P.E. in 2014, see Appendix E-14.
- **Secondary Containment (35 IAC 725.293)**
- **Leak Detection System (35 IAC 725.293(c)(3))**
- **General Tank Operating Requirements (35 IAC 725.294)**
- **Labeling/Marking of Tank (35 IAC 722.117(a)(5)(B))**

#### **Emergency Procedures (35 IAC 722 Subpart M - Preparedness, Prevention and Emergency Procedures for LQGs)**

- **Contingency Plan (Appendix E-15).** The content of the Contingency Plan is based upon the requirements contained in 35 IAC 724 Subpart D, Sections 724.150 through 724.156.
- **Training (35 IAC 722.117)**
  - Facility personnel
  - Hazardous Waste Management Procedures

- o Emergency Response Training (Appendix E-15)

**IEPA Comment:** The information on the design and operation of the leachate collection and storage tank system are adequate. The system appears to meet the requirements for the operation of a less than 90-day storage system.

#### **E.3.4. Management of Leachate Collection System (LCS)**

Describe how the LCS is managed. Discuss how all parts of the leachate collection system are operated.

*"Leachate is extracted from wells by a submersible pump and drains to the manhole where it is pumped back into the forcemain to the 8,000 gallon dual-walled above ground tank (see Figure E-1). Gas condensate is routed to one of two condensate sumps and then pumped to the storage tank."*

1. Provide piping and instrumentation diagrams and other schematics which depicts the overall leachate collection system, from the pump within each leachate collection sump/well to the leachate accumulation tank.

*Piping and instrumentation diagrams are included in Appendix E-13 and Appendix E-17 - As Built Extraction Well Detail and Boring Logs.*

For each leachate collection sump/well, identify:

- a. The approximate elevation of the bottom of the sump or landfill at that location,

*Appendix E-17 - As Built Extraction Well Detail and Boring Logs, provides the elevation of the bottom of the extraction wells.*

*Table E-1:*

- *Northing/Easting coordinates;*
- *Bottom of landfill at each location;*
- *Total feet at drilling;*
- *Reported and measured well depth; and*
- *Depth to pump top and bottom.*

- b. The leachate elevation which activates the pump in each sump or extraction well,
- c. The leachate level which activates the pump within the sump/well,

*Page E-22: The extraction pumps are typically set within one foot of the bottom of the extraction wells. The leachate extraction pumps are set to pump whenever liquid reaches the top of the pump (which are typically 3 feet long).*

- d. The leachate elevation when the pump shuts off, and

*The pump shuts down automatically when the well drops below pumping level.*

- e. A description of the instrumentation in place so that the amount of leachate removed from a given sump/well over a given time period can be determined.

**IEPA Comment:** This requirement derives from 724.401(c)(3)(E) which does not apply to this facility as the landfill was constructed after January 29, 1992, see 724.401(c). This landfill was built prior to the requirement for installation of a LCS above the liner. A LCS was constructed following installation of the final cap by installing individual leachate extraction wells across the landfill.

*The quantity of leachate hauled from the accumulation tank will be kept in the operating record. Copies of the manifests for shipment of the hazardous waste offsite are maintained in the post closure operating record. The manifests detail the date of shipment, amount hauled, hauling facility, and final treatment and/or disposal facility.*

2. Describe the procedures which will be followed to document/record all aspects of the management of the leachate collection system(s). At a minimum, the results of leachate quality analyses and the amount of leachate removed from a given sump/well each month must be documented in the operating record.

**IEPA Comment:** The amount of leachate generated from each well is not tracked. Leachate samples are collected and analyzed in accordance with the existing Permit Condition III.G.7 with samples collected on a rotating basis from EW-2, EW-6, EW-20, and EW-23.

As noted in the previous comment the requirement to track the amount of leachate removed from a given sump/well each month, does not apply to this facility.

3. Describe how the collected leachate will ultimately be managed and provide copies of the permits in place to take the leachate to an off-site facility for treatment or disposal.

*Leachate, which classified as a F039 listed hazardous waste, is transported off-site in 5,000 gallon tanker trucks by the following transporter:*

*ERC Midwest Carriers  
360C South Curtis Rd.  
West Allis, Wisconsin 53214  
Transporter's ID No. UPW508337MN  
USEPA Id No. WIR000140988  
Illinois Special Waste Hauling Permit No.: 5363*

*Leachate is transported to the following facility for disposal:*

*CID Recycling and Disposal Facility  
P. O. Box 1309  
138th and Interstate 94  
Calumet City, Illinois 60409*

*CID is a permitted treatment facility, and wastewater discharges are required to meet the requirements of their water permit obtained pursuant to 35 IAC 309. Copies of the manifests are maintained in the postclosure operating record.*

#### **E.3.5. Summary of Leachate Management Program Conducted to Date**

Provide information addressing the items in Section E.3.4 regarding the leachate management program implemented during the past ten years. This information should discuss the efficiency of the existing leachate management program or identify deficiencies which must be addressed to ensure leachate is adequately managed in the landfill.

**IEPA Comment:** This application should discuss the efficiency of the existing leachate management program or identify deficiencies which must be addressed to ensure leachate is adequately managed in the landfill.

#### **E.4 Operation of the Leak Detection System: 724.402, 724.403 and 724.404**

This section does not apply as the facility does not have a leak detection system (LDS) because the landfill was constructed prior to the requirements for installation of an LDS.

#### **E.5 Operation of the Gas Monitoring/Collection System**

A dual leachate and gas extraction system has been installed at the facility. The leachate and gas extraction wells are combined into a single well. Gas monitoring wells have also been installed at the perimeter of the landfill footprint.

**IEPA Comment:** Permit modification request/applications related to the gas monitoring/collection system have been submitted to the Illinois EPA.

- Permit modification request submitted to address a landfill gas exceedance reported at gas monitoring well GMP-2. This modification request was assigned Log No.: Log B-23R-M-8 by the Illinois EPA and included the following submittals:
  - Initial submittal, dated October 11, 2024;
  - Notification of Connection of Probe GMP2 to GCCS, dated October 16, 2024 and
  - Notification of Installation of Vacuum Curtain Wells, dated December 16, 2024.

The renewal application must be updated to include the above permit modification request.

#### **E.5.1. Detailed Description of the Landfill Gas Collection System**

*Landfill gas is collected from wells (EW-1 through EW-28) routed through a piping network through a moisture separator and to an energy recovery system located north of the leachate collection tank. The gas may also be disposed through an enclosed flare system.*

*The gas collection system (GCS) was initially installed in 1997 as part of closure activities. Details of the installation of the GCS, including details of the extraction wells and other components is provided in the Construction Acceptance Report, BFI Zion Landfill Site I/II Landfill Gas Extraction System, Lake County, Zion, Illinois, dated February 1998, prepared by RMT, Inc.*

*A plan view of the existing GCS is included in Figures 2 and 3 in Appendix E-13. The plan view details include the air flow lines, piping locations, gas extraction wells, cleanouts, one manhole, liquid storage tank and loadout, blower building, and gas to energy facility.*

*A description of the machinery, compressors, flare, piping, and appurtenances are included within the Construction Acceptance Report (Appendix E-24). This report includes:*

- *Photographic documentation related to the gas collection system;*
- *Extraction well boring logs and construction details;*
- *Air pressure test results;*
- *Soil test results;*
- *Survey data;*
- *Daily field notes;*
- *Condensate tank information; and*
- *Blower building and flare information.*

*The current layout of the blower building, and flare system is shown on Drawing A-14 in Appendix E-19.*

*Landfill gas condensate is collected and sent to the leachate storage tank for storage prior to disposal.*

**IEPA Comment:** The description of the previously approved landfill GCS is adequate.

### **E.5.2. Landfill Gas Monitoring Plan**

*The previously approved Landfill Gas Monitoring Plan (LGMP) is provided as Appendix E-20.*

*A traditional leachate collection system was not installed due to the age of the landfill. The gas monitoring/collection system within the landfill footprint are dual use wells that collect leachate and landfill gas.*

Provide the following information regarding the landfill gas monitoring system's ability to monitor the buildup and composition of landfill gas.

1. A narrative and plan sheets describing the most likely paths of migration for gas generated by the unit and demonstrating that the proposed gas monitoring program will detect any gas buildup and/or migration.

*Appendix E-20 page 2 addresses the most likely paths of migration for the landfill gas. A plan view of the gas collection system as it is designed to date is included in Figures 2 and 3 in Appendix E-13.*

2. Detailed drawings and material specifications of the four types of gas monitoring devices required (i.e., devices within the waste unit, below ground devices around the unit, air ambient monitoring devices and continuous air monitoring devices within buildings) on site or near the facility if there is an indication of gas.

*Appendix E-20, Attachment 1 - Boring Logs and Gas Probe Construction, contains drawings and specification of the below ground monitoring probes.*

*Appendix E-20, Section 3.1 Monitoring Within Waste Unit, Air within the waste unit will be monitored in accordance with the Title V Clean Air Act Permit Program (CAAPP) Permit No. 097200AAV.*

*Ambient air monitoring procedures are identified in Appendix E-20, Section 3.3. One (1) upwind ambient air monitoring location and three (3) downwind ambient air monitoring locations will be sampled annually in accordance with the procedures identified in Section 3.3.*

3. A map showing the locations of the below ground monitoring devices and the continuous air monitoring devices.

*Appendix E-20, Figure 1 (dated 2/21/2021), identifies the locations of the below ground monitoring devices.*

4. Documentation that the various types of below ground gas monitoring devices:
  - a. Are placed at intervals and elevations within the waste to provide a representative sampling of the composition and buildup of gases within the unit.
  - b. Are placed around the unit at locations and elevations capable of detecting migrating gas from the ground surface to the lowest elevation of the liner system or the top elevation of the groundwater, whichever is higher.
  - c. Are constructed from materials that will not react with or be corroded by the landfill gas.
  - d. Have been designed and constructed to measure pressure and allow collection of a representative sample of gas.
  - e. Are constructed and maintained to minimize gas leakage.
  - f. Do not interfere with the operation of the liner, leachate collection system or delay the construction of the final cover system.

**IEPA Comment:** A landfill gas exceedance was reported at gas monitoring well GMP-2 in the fall of 2024 and a permit modification application, Log B-23R-M-8, was submitted to address the exceedance. The proposed remedy includes:

- Replacement of gas monitoring well GMP-2. Following inspection of the well it was found to be bent 2.5 feet below ground surface. Replacement well GMP-2R was installed 8 ft. to the west of GMP-2. The gas exceedance is not related to the damaged well GMP-2.
- Adjustment of the gas collection system within the landfill to optimize gas collection; and
- The application of vacuum to GMP-2R to evaluate its use as an out-of-waste gas collector.

**IEPA Comment:** The below ground gas monitoring devices have been operating since 1997 with minimal modifications and appear to be adequate.

5. A description of the procedures and prerequisite weather conditions for performing ambient air monitoring including the location standards for placement of the monitoring devices and maximum wind speed.

*Ambient air monitoring procedures are identified in Appendix E-20, Section 3.3.*

6. A description (narrative or graphic) of the location of the continuous air monitoring devices inside the buildings within the facility (and nearby buildings if applicable).

*No continuous air monitoring devices are present in any buildings on-site. Appendix E-20, 2.2.4 Air Devices Within Buildings, describes air monitoring that will be done in the Blower Building “in the event of a confirmed exceedance at the perimeter gas monitoring probe located nearest the building (i.e., GP-10) and monitoring will only be required when the building is occupied. Monitoring may take the form of personal gas monitoring devices.”*

7. A schedule specifying the frequency and minimum duration of gas monitoring.
8. Identification of the parameters that samples from each type of monitoring device will be analyzed.

*Appendix E-20, Section 3.3.*

*“Consistent with Permit Condition III.E.1, gas monitoring will be performed on an annual basis.*

*Gas monitoring equipment must have infrared sensor technology for CH<sub>4</sub> and CO<sub>2</sub> measurements, galvanic fuel cell/chemical sensor for O<sub>2</sub> measurement, temperature probe to measure the temperature of the gas stream, internal pressure sensors to measure static, available, and differential pressures, . . .”*

*Permit Condition III.E.1*

#### *E. LANDFILL GAS MONITORING*

*The Landfill Gas Monitoring Program to be implemented for the closed Phase A landfill is set forth in Appendix E of “Leachate and Gas Collection Control Documentation” and is hereby approved subject to the following conditions and modifications:*

1. *The six perimeter gas monitoring probes and four ambient air locations (three down-wind and one up-wind) must be sampled on an annual basis and the samples analyzed for the following parameters:*
  - a. *Pressure (determined before collecting any samples)*
  - b. *Methane*
  - c. *Oxygen*
  - d. *Carbon Dioxide*

9. A description of the procedures which will be used to collect and analyze the various air samples to be obtained as part of the landfill gas monitoring program.

*Appendix E-21, Chapter 4.2 contains testing procedures for the gas monitoring program.*

**IEPA Comment:** The testing procedures appear to be adequate.

#### **E.5.3. Landfill Gas Disposal/Processing System**

**IEPA Comment:** Provide information required in this section for the current landfill gas disposal/processing system. Installation of a landfill gas processing to pipeline quality to be delivered to a commercial distribution system.

The following information must be provided regarding the gas disposal system or gas processing system at this facility. These systems can be either an on-site or an off-site facility.

1. For on-site facilities (either flare systems or facilities which process the gas for beneficial use) the following information must be provided:

- a. A map showing the location of the facility;

*The location of the power station and flare is shown on Figure E-1.*

- b. Engineered drawings showing the layout and details of landfill gas processing and disposal system, including compressors, blowers, raw gas monitoring systems, devices used to control the flow of gas from the unit, flares, gas treatment devices, air pollution control devices and monitoring equipment;

*A drawing showing the layout and details of the power station is included in Appendix E-19.*

- c. A copy of the approved air discharge permit or, if the permit is pending, a copy of the air discharge permit application required by 35 Ill. Admin. Code 200 through 245; and

**IEPA Comment:** The application should include a copy of the approved air discharge permit or, if the permit is pending, a copy of the air discharge permit application required by 35 IAC 200 through 245.

- d. A list of the parameters and constituents for which the gas shall be monitored.

**IEPA Comment:** The application should include a list of the parameters and constituents for which the gas shall be monitored.

2. For off-site processing facilities the following information must be provided:

**IEPA Comment:** Item E.5.3 (2) does not apply because the landfill gas is processed on-site.

#### **E.5.4. Summary of the Landfill Gas Collection / Monitoring / Processing Systems**

1. Describe the procedures followed to document/record information associated with the operation of the landfill gas collection, monitoring, and processing systems in the operating record.
2. Summarize the operation of the landfill gas collection, monitoring, and processing systems during the past ten years. Describe any adjustments to the design or operation of the systems since the unit was closed.

**IEPA Comment:** The information provided in this section are not adequate. The application must include:

- (1) The procedures followed to document/record information associated with the operation of the landfill gas collection, monitoring, and processing systems in the operating record is not provided.
- (2) A summary of the operation of the landfill gas collection, monitoring, and processing systems during the past ten years is not provided.

#### **E.6 Post-Closure Inspection Plan**

Describe the procedures followed to inspect/ensure the functionality of everything needed to provide adequate post-closure care of the unit closed as a landfill at the facility in accordance with the RCRA requirements.

Copies of the inspection log and repair log that are used to document inspections and repairs at the facility in accordance with the RCRA requirements must be provided as part of the permit application.

Indicate that copies of the inspection log and repair log are maintained at the facility as part of the operating record and where they are located.

*“The procedures to be followed to inspect the functionality of the various components of the post-closure care at the Zion Site 1A Landfill were previously presented above in Section D.3.”*

**IEPA Comment:** This section (E.6) refers to Section D.3 Inspection Requirements to meet the requirement of this section. Deficiencies identified in Section D.3 apply to the subsections below. Additional deficiencies specific to the requirements of this section are identified below.

**E.6.1. Inspection Log**

An inspection log must be maintained which includes all of the items listed below. The log must include the date and time of each inspection, the name of the inspector, notation of the observations made, and the date of any repairs or remedial actions.

*“The inspection logs are discussed above in Section D.3.1.”*

**E.6.1.1. Items Inspected**

The plan must identify each item to be inspected in order to comply with the RCRA requirements. These include, but not necessarily limited to:

1. All RCRA regulated units;
2. Monitoring equipment;
3. Safety and emergency equipment;
4. Security control devices;
5. Erosion damage;
6. Cover settlement, subsidence and displacement;
7. Vegetative cover condition;
8. Integrity of run-on and run-off control measures;
9. Cover drainage system functioning;
10. Leachate collection and removal system;
11. Leak detection system;
12. Gas monitoring/extraction system;
13. Condition of the groundwater monitoring wells;
14. Benchmark integrity; and
15. All operating and structural equipment that are vital to prevent, detect, or respond to environmental or human health hazards.

*“The inspection logs are discussed above in Section D.3.1.”*

IEPA Comment: The inspection log is adequate, however, they will need to be updated to include any additional items added that may be added in response to other deficiencies.

#### E.6.1.2. Types of Problems

For each item to be inspected as identified above, describe the types of problems (e.g. malfunctions or deterioration) the inspector must look for during an inspection (e.g. inoperable sump pump, leaking fitting, cracks, eroding berm, etc.).

*"The types of problems the inspector must look for during an inspection are discussed above in Section D.3.1.2."*

**IEPA Comment:** The types of problems identified is adequate, however, they will need to be updated to include any additional items added that may be added in response to other deficiencies.

#### E.6.1.3. Inspection Frequency

Identify the inspection frequency for each item in the log. In addition, provide justification for the inspection frequency proposed for each item. (This justification should be separate from the actual inspection log.). The frequency of inspection needs to be based on the rate of possible deterioration of equipment and the probability of an environmental or human health incident if the deterioration, malfunction, or operator error goes undetected between inspections.

Indicate the facility will be inspected within 24 hours of any rain fall event of 2 or more inches in 24 hours to detect evidence of any of deterioration, malfunctions, or improper operation of run-on and run off systems. Indicate that appropriate corrective action shall be taken if problems, including erosion, blockage of the channels, slope failure, etc. are observed.

*"The inspection frequency for each item to be inspected is presented above in Section D.3.1.3. and D.3.1.1."*

**IEPA Comment:** The inspection frequency identified in Section D.3.1.1. and D.3.1.3 does not include inspections to be completed within 24 hours of any rain fall event of 2 or more inches in 24 hours to detect evidence of any of deterioration, malfunctions, or improper operation of run-on and run off systems.

#### E.6.2. Repair Log:

The repair log must be used to schedule and record repairs (deterioration, or malfunction of equipment or structures) revealed by an inspection of the items listed in the inspection log. The repair log must include the following items:

1. The item needing repair;
2. The problem identified during the inspection that needs repair;
3. The date the inspection took place;
4. The name of the person who conducted the inspection;

5. The name of the person who made the corrected repair;
6. The date the repair was made;
7. The efforts carried out in making the repair;
8. Any other appropriate comments.

Most repairs should be made at the time it is determined to be necessary and all repairs should be made within 24 hours. The timeliness of the repair is dependent on the potential impact the problem needing repair may have on protecting human health, the environment, and the safe operation of the facility.

*"A repair log, to be utilized if inspections identify items needing repair, is presented above in Section D.3.2."*

**IEPA Comment:** This section appears to be adequate.

#### **E.6.3. 24 Hour Reporting (702.152(f), 703.245(b))**

Describe the how the Permittee will take the following actions if an inspection reveals any noncompliance with the permit which may endanger health or the environment: 1) report the required information about the incident orally within 24 hours from the time the Permittee becomes aware of the circumstances, and 2) provide a written description of the incident within 5 days of the time the Permittee becomes aware of the circumstances.

*If an inspection identifies an issue that may endanger human health or the environment, the 24-hour reporting procedures are presented above in Section D.3.3.*

#### **E.7 Post-Closure Monitoring Plan**

Describe the monitoring to be conducted during the post-closure care period, including, as applicable, the procedures for conducting and evaluating the data gathered in accordance with the RCRA requirements.

Indicate that copies of the monitoring reports and data are maintained at the facility as part of the operating record.

##### **E.7.1. Facility Controls**

Indicate that the benchmarks used to identify the location of disposal units, solid waste management units, and units/areas covered by an Environmental Land Use Controls (ELUCs) or the Uniform Environmental Covenants Act (UECA) are surveyed at least once every five (5) years.

### **E.7.2. Surveys and Corrective Action**

Identify the units at the facility that will be surveyed every five years. The following units need to be surveyed at least once every five years:

- Units subject to post-closure requirements per 35 Ill. Admin. Code 724.210(b)

**IEPA Comment:** The application must indicate that the benchmarks present at or near the closed Site 1 Phase A facility will be surveyed once every (5) years.

- Solid Waste Management Units (SWMUs) with cover systems and/or engineered barriers

*No SWMUs have been identified at this facility.*

*"No solid waste management units (SWMUs) with cover systems and/or engineered barriers or units/areas subject to an Environmental Land Use Control (ELUC) or Uniform Environmental Covenants Act (UECA). Therefore, no ongoing survey requirements are applicable."*

- Units/Areas subject to an Environmental Land Use Controls (ELUCs) or the Uniform Environmental Covenants Act (UECA).

*No such units are present at this facility.*

**E.7.2.1.** Provide the following for the units identified in Item E.7.2:

1. A copy of the survey provided to the Illinois EPA when the unit was certified closed.

*A surveyed plat prepared and certified by a professional land surveyor indicating the type, location, and quantity of wastes disposed at the facility is presented in Appendix E-1. Items 2 through 5 of this section are not adequate see comment below.*

**IEPA Comment:** The application must include:

1. A copy of the survey for the closed Site 1 Phase A landfill generated every five years since the unit was closed that shows the horizontal and vertical extent of the unit, drainage control structures, leachate collection wells, and groundwater monitoring wells.
2. Scale drawing(s) (1 inch = 200ft) and cross sections that identify those areas of the cover system or engineered barrier that have changed 1 foot or more in elevation since the unit was closed.
3. If corrective action was required in response to a release, damage to the cover system, settlement, erosion, stressed vegetation, or damage to a leachate well,

groundwater monitoring well, or benchmark since post-closure care began, identify the date and location of the corrective action on the scale drawings required above. Also, provide copies of the inspection and repair logs that includes the date each incident was discovered, a description of the incident & corrective action taken, and the date corrective action was completed.

4. If corrective action occurred in the same general area two or more times since post-closure began, discuss the actions the permittee has implemented to prevent this from happening again.

#### **E.7.3. Leachate Collection System**

Describe how the information about the leachate collection system for each unit identified in E.7.2 is monitored, evaluated, and recorded. Frequent evaluation of this information is essential in ensuring the system is operating effectively and will also give insight into any adjustments that need to be made to the operations of the system.

**IEPA Comment:** The application must describe how the information about the leachate collection system for the closed Site 1 Phase A landfill is monitored, evaluated, and recorded.

##### **E.7.3.1. Leachate Quality**

Describe the procedures which are followed to monitor the quality of the leachate in the unit on a regular basis during the post-closure care period (including sample collection, sample handling and sample analysis).

**IEPA Comment:** The application must discuss if the concentrations of the constituents in the leachate have changed during the post closure period and any actions taken in response.

The samples must be analyzed for the constituents described in Item E.3.1 above.

1. **Summary of Sample Results:** Provide a summary table of the leachate sampling results for Site 1 Phase A landfill since post closure began. Identify the concentration for each parameter detected in each sampling event.
2. **Parameter Comparison:** Indicate if any of the leachate analyses detected a parameter for which the groundwater is/was not being analyzed and the actions taken if this occurred.

##### **E.7.3.2. Leachate Quantity**

**IEPA Comment:**

1. The application must provide a record of the amount of liquid removed from each leachate collection sump (in gallons) at least monthly after closure of the

Site 1 Phase A landfill. The following information regarding leachate generation rates needs to be provided both in table form and graphically:

- a. Monthly for each year for each sump since the unit was closed
- b. Annually for each sump since the unit was closed
- c. Annually for each unit since the unit was closed

2. If the leachate generation rates are not trending downward during the post closure period, discuss why this is not happening. Provide information regarding precipitation rates during the post-closure period, as well as groundwater elevations relative to the leachate extraction wells within the landfill.

#### E.7.3.3. Leachate Reporting

**IEPA Comment:** The application must describe the procedures followed to electronically report the quality and quantity of leachate generated at the facility to the Illinois EPA.

#### E.7.4. Leak Detection System (LDS) 724.402, 724.403, 724.404

*This section does not apply to this facility as no LDS is present as the landfill was constructed prior to the requirement to include an LDS.*

#### E.7.5. Groundwater Monitoring System

This section will be reviewed by the Groundwater Unit reviewer.

#### E.7.6. Gas Collection System

For units required to have a gas collection / monitoring system, describe how the information about the gas collection system is monitored, evaluated, and recorded.

Frequent evaluation of this information will be essential in ensuring the system is operating effectively and will also give insight into any adjustments that need to be made to the operations of the system.

##### E.7.6.1. Gas Quality

**IEPA Comment:** The application must include a discussion of how the parameters (Methane, Pressure, Oxygen; and Carbon Dioxide) in the gas system have changed during the post closure period and any actions taken in response to those changes.

1. **Summary of Sample Results:** Provide a summary table of the gas sampling results for each unit since post closure began for that unit. Identify the concentration for each parameter detected in each sampling event.
2. **Parameter Comparison:** Describe the parameter thresholds used to adjust the gas collection system to improve overall efficiency of the system. Describe any major gas system upgrades/ overhauls since post closure began.

#### **E.7.6.2. Gas Quantity**

**IEPA Comment:** The application must:

1. The application must include a record of the amount of gas removed from each unit at least monthly following closure. The following information regarding gas generation rates needs to be provided both in table form and graphically:
  - a. Monthly for each year for each unit since the unit was closed
  - b. Annually for each unit since the unit was closed
2. If the gas generation rates are not trending downward during the post closure period, discuss why this is not happening.

#### **E.7.6.3. Summary of Results from the Gas Collection / Monitoring System**

**IEPA Comment:** The application must:

1. Describe the procedures followed to document/record information associated with the operation of the landfill gas collection, monitoring, and processing systems in the operating record.
2. Summarize the operation of the landfill gas collection, monitoring, and processing systems since the unit was closed. Describe any adjustments to the design or operation of the systems since the unit was closed.

### **E.8 Post-Closure Maintenance Plan**

#### **E.8.1. Procedures, Equipment & Materials:**

Describe the preventive and corrective maintenance procedures, equipment and materials that will be required to properly maintain everything needed to provide adequate post-closure care of the unit closed as a landfill. Include the following items in the maintenance plan, as applicable:

1. Repair of security control devices;
2. Erosion damage repair;
3. Correction of settlement, subsidence and displacement;
4. Mowing, fertilization and other vegetative cover maintenance;
5. Repair of run-on and run-off control structures;
6. Maintenance of any leachate removal system(s) including the flushing of the LCS and LDS;
7. Maintenance of any gas monitoring/extraction system;
8. Replacement of groundwater monitoring wells; and
9. Surveyed benchmarks

**IEPA Comment:** A list of the items to be maintained and inspected is provided in the application, however, it **does not** describe the preventive and corrective maintenance procedures, equipment and materials required to provide adequate post-closure care of the unit closed as a landfill.

The application must be revised to provide a description of the preventive and corrective maintenance procedures, equipment and materials that will be required to properly maintain the required systems during post-closure care of the unit closed as a landfill.

The facility does not have a LDS.

#### **E.8.2. Rationale**

Provide the rationale which will be used to determine the need for corrective maintenance activities for each of the items mentioned above.

#### **E.8.3. Frequency**

**IEPA Comment:** The application does not provide the frequency for maintaining each of the items mentioned above if it is known. This needs to include, but not be limited to:

1. The frequency for mowing, fertilization and other vegetative cover maintenance, and
2. Annual maintenance / cleaning of pumps used in the LCS, LDS, and gas collection systems.
3. The manufacturer's recommended replacement rate for the pumps used in the LCS, LDS or gas collection systems.
4. High pressure jet flushing of the LCS & LDS collection pipes and sump every 5 years.

5. Procedures and scheduling of non-routine maintenance and change-out of equipment.

**E.9 Survey Plat: 724.216**

*A survey plat for the Zion Site 1A facility is presented in Appendix E-1. It was submitted to the City of Zion City of Zion, Commissioner of Building and Public Works, Mr. Frank Flammini in a document dated January 3, 2012.*

**IEPA Comment:** The survey plat provided in Appendix E-1 meets the requirements of this section.

**E.10 Notice in Deed and Certification: 703.183(n), 724.216, 724.217(c), 724.219**

*Appendix E-1, Plat of Survey and Post-Closure Notices. Contains a copy of the required certification, dated February 2, 2012, and signed by the operator. A notice in the deed was recorded by the Lake County Recorder on January 9, 2012.*

**IEPA Comment:** The information provided is adequate.

**E.11 Post Closure Cost Estimate: 703.183(p), 724.244**

*Table E-3 contains the cost-estimates for post-closure activities. This table identifies various task to be completed each year and their associated cost. The task to be completed, are based on the requirements identified in the permit application and those required in the existing permit.*

*The estimate of quantity of leachate removed annually is based on the average amount of leachate generated from 2018 to 2020 (232,624 gallons, 235,622 gal, and 176,763 gallons).*

*The cost-estimate for annual task to be completed in 2021 dollars is:*

|                                |                                      |
|--------------------------------|--------------------------------------|
| <i>Annual Maintenance Cost</i> | <i>\$198,583</i>                     |
| <i>10% Contingency</i>         | <i>\$19,858</i>                      |
| <i>Total</i>                   | <i>\$218,441/year (2021 dollars)</i> |

*The cost-estimate for activities to be completed at the end of post-closure care, decommissioning/abandonment of groundwater monitoring wells, leachate and gas extraction wells and gas probes, and certification of closure is:*

|   |                                |
|---|--------------------------------|
| <i>One Time Cost at End of Post-Closure Care Period</i> | <i>\$16,200</i>                |
| <i>10% Contingency</i>                                  | <i>\$1,620</i>                 |
| <i>Total</i>  | <i>\$17,820 (2021 dollars)</i> |

*Seven (7) years remain in 30-year post-closure period remained to be completed as of February 10, 2021, 23 years. The Post-Closure Care Period began on February 10, 1998.*

**IEPA Comment:** The cost identified in the cost-estimate appear to be appropriate, however, these costs must be updated to include recent changes to the gas extraction and monitoring system identified in the following permit modifications request submitted to the Illinois EPA

- Changes to the Gas Monitoring analytical parameters
- Additional inspection and maintenance cost due to deficiencies identified in Section D and Section E
- All cost must be updated for inflation to 2024 dollars.

**E.12 Financial Assurance Mechanism for Post-Closure Care: 703.183(p), 724.245**

*The permittee is utilizing post-closure insurance as the mechanism. A copy of the latest insurance policy #CPC-IL96-010 is provided in Appendix E-23. This documentation was previously provided to Illinois EPA in a separate letter from the permittee dated December 18, 2020.*

**IEPA Comment:** This information is adequate at this time.

**E.13 State Mechanisms: 40 CFR 264.149, 40 CFR 264.150, 40 CFR 264.151, 40 CFR 220.14(b)(18)**

**IEPA Comment:** This section is Not Applicable.

## **SECTION F. CORRECTIVE ACTION**

Section F of the application was reviewed by Curtis Samson, Corrective Action Unit reviewer. Documentation of his review is contained in his June 28, 2021 Memorandum (Completeness Review).

## **CONCLUSION**

An NOD should be prepared based on the technical deficiencies identified during this technical review and those identified by the Groundwater Unit reviewer.

Since no SWMUs exist at the facility contact information for the corrective action reviewer will be provided in the letter to the facility.

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Attachments: Excerpts from September 30, 2011 RCRA Permit Renewal (Log No. B-23R):

- Permit cover letter (2 pages);
- Permit cover letter attachment, Response to Public Comments and Revisions Made to the Draft Renewed RCRA Permit (8 pages); and
- New/revised Conditions III.G.2 and III.G.8 (permit pages III-11 – III-13).

April 4, 2025 Email - Zion Renewal - Part 620 - March 28, 2025 Update and Groundwater and Leachate Monitoring Programs

**Review Note Attachment**

**Excerpts from September 30, 2011, RCRA Permit Renewal (Log No. B-23R)**

**0978020001 -- Lake County  
Zion Site 1 Landfill  
Log No. B-23R2**

**Excerpts from September 30, 2011, RCRA Permit Renewal (Log No. B-23R):**

- Permit cover letter (2 pages);
- Permit cover letter attachment, Response to Public Comments and Revisions Made to the Draft Renewed RCRA Permit (8 pages); and
- New/revised Conditions III.G.2 and III.G.8 (permit pages III-11 – III-13)



# ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

R 000317

1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 • (217) 782-2829  
James R. Thompson Center, 100 West Randolph, Suite 11-300, Chicago, IL 60601 • (312) 814-6026

PAT QUINN, GOVERNOR

217/524-3300

September 30, 2011

CERTIFIED MAIL

7009 3410 0002 3751 3650  
7009 3410 0002 3751 3667

BFI Waste Systems of North America, LLC  
Attn: Bryan Zimmerman  
26 W 580 Shick Road  
Hanover Park, Illinois 60103

Veolia ES Zion Landfill, Inc.  
Attn: James M. Reavy  
701 Green Bay Road  
Zion, Illinois 60099

Re: 0978020001 -- Lake County  
Zion Site 1 Landfill  
ILD980700728  
Log No. B-23R  
RCRA Administrative Record

□□□□□

NOV 07 2011

□□□□□

Dear Mr. Zimmerman and Mr. Reavy:

Attached is a renewed RCRA Hazardous Waste Management Post-Closure Permit which requires BFI Waste Services of North America, LLC (BFI) to carry out post-closure care of a closed 40-acre landfill at the above-referenced facility located at 701 Green Bay Road, Zion, Illinois. This landfill, referred to as Phase A, received mainly non-hazardous waste but also accepted some hazardous waste. Read this permit carefully. Failure to meet any portion of the permit could result in civil and/or criminal penalties.

The final permit decision is based on the administrative record contained in the Illinois Environmental Protection Agency's files which includes the draft renewed permit issued for public comment on May 26, 2011, the application submitted by BFI to renew the subject facility's RCRA permit and comments received from the public regarding the afore-mentioned draft permit. The contents of the administrative record are described in 35 Illinois Administrative Code (Ill. Adm. Code) Section 705.211. It must be noted that a RCRA permit had previously been issued to this facility on April 5, 1988.

The only comments received on the draft permit issued for public comment on May 26, 2011, were submitted by Michael B. Maxwell, LPG. and Elizabeth A. Steinhour, Weaver Boos Consultants on behalf of BFI; a response to these comments prepared by Illinois EPA is attached. The response to comments document also identifies any changes made to the draft permit in response to BFI's comments.

This action shall constitute Illinois EPA's final permit decision on the application mentioned above. Within 35 days after the notification of a final permit decision, the permittee may petition the Illinois Pollution Control Board to contest the issuance of the RCRA permit issued by the Illinois EPA. The petition shall include a statement of the reasons supporting a review, including

Rockford • 4302 N. Main St., Rockford, IL 61103 • (815) 987-7760  
Elgin • 595 S. State, Elgin, IL 60123 • (847) 608-3131

Bureau of Land — Peoria • 7620 N. University St., Peoria, IL 61614 • (309) 693-5462  
Collinsville • 2009 Main Street, Collinsville, IL 62234 • (618) 346-5120

Des Plaines • 9511 W. Harrison St., Des Plaines, IL 60016 • (847) 294-4000

Peoria • 5415 N. University St., Peoria, IL 61614 • (309) 693-5463

Champaign • 2125 S. First St., Champaign, IL 61820 • (217) 278-5800

Marien • 2309 W. Main St., Suite 116, Marien, IL 62959 • (618) 993-7200

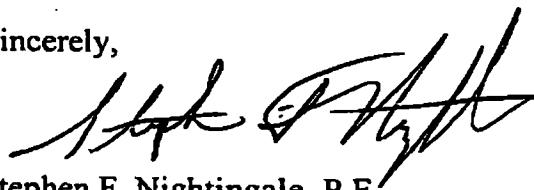
Mr. Zimmerman and Mr. Reavy  
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demonstration that any issues raised in the petition, were previously raised during the public comment period. In all other respects the petition shall be in accordance with the requirements for permit appeals as set forth in 35 Ill. Adm. Code Part 105. Nothing in this paragraph is intended to restrict appeal rights under Section 40(b) of the Environmental Protection Act (35 Ill. Adm. Code 705.212(a)).

Work required by this permit, your application or the regulations may also be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Licensing Act of 1989. This permit does not relieve anyone from compliance with these laws and the regulations adopted pursuant to these laws. All work that falls within the scope and definitions of these laws must be performed in compliance with them. The Illinois EPA may refer any discovered violation of these laws to the appropriate regulating authority.

If you have any questions concerning the groundwater related aspects of this permit, please contact Paula Stine of my staff at 217/524-3861. If you have questions regarding other aspects of this permit, please contact James K. Moore, P.E. at 217/524-3295.

Sincerely,



Stephen F. Nightingale, P.E.  
Manager, Permit Section  
Bureau of Land

SFN:JKM:bjh\111714s.doc

*JKM PSB*

Attachments: Response to Comments on Draft Renewed RCRA Permit  
Final RCRA Renewal Permit

cc: Jim Hitzeroth, BFI  
USEPA Region V  
Weaver Boos Consultants

bcc: Bureau File  
Des Plaines Region  
Terri Blake Myers  
Jim Moore  
Paula Stine

**Response to Public Comments and Revisions Made to the Draft Renewed RCRA Permit  
Issued to the Zion Site 1 Landfill in Zion, Illinois  
Log No. B-23R**

**1.0 Introduction/Purpose**

Illinois EPA issued a RCRA permit for the Zion Site 1 Landfill in Zion, Illinois on April 5, 1988 which contained requirements associated with the proper management of hazardous waste in a landfill at the facility. On May 26, 2011, Illinois EPA issued a public notice indicating that a draft renewed RCRA permit for this facility had been prepared for public comment. This draft permit contained requirements regarding post-closure care of the now-closed 40-acre landfill at this facility which received mainly hazardous waste but also some hazardous waste.

The comment period for the afore-mentioned draft renewed RCRA permit began on May 26, 2011 and ended on July 11, 2011. The only comments Illinois EPA received on the draft permit were submitted July 11, 2011 on behalf of BFI by Michael B. Maxwell, LPG and Elizabeth A. Steinhour of Weaver Boos Consultants. In accordance with 35 Ill. Adm. Code 705.210, this document provides in Section 2.0 below a response to BFI's comments and also identifies any resulting changes made to the draft permit in the development of the final renewed permit to be issued to the facility.

**2.0 Response to Comments and Associated Changes Made to the Draft Permit**

BFI's comments were based on specific portions or conditions of the draft permit. Thus, each portion/condition of concern is identified sequentially below, followed by the re-iteration of each comment. Illinois EPA's response to each comment is then provided after each comment is stated; any changes made to the draft permit in response to the comment are also identified.

1. **Comment Regarding the Cover Page of the Permit:** The duration of a RCRA post-closure permit can be a maximum of ten years pursuant to 35 Ill. Adm. Code (IAC) 702.161. Accordingly, Weaver Boos requests that the expiration date of the permit be ten years from the effective date.

**Illinois EPA Response:** The final renewed RCRA permit issued for this facility will be effective for ten years and this information will be contained on the signature page of the permit.

2. **Comment Regarding Section I – General Facility Description (Page I-2 of I-2):** The "74.38 acre solid waste disposal site" referenced in the first paragraph on this page is believed to be east of Phase I, rather than west.

Response to Public Comments  
Draft RCRA Permit B-23R  
Page 2

**Illinois EPA Response:** The comment is correct and the identified text will be revised to indicate the 74.38 acre landfill permitted by BFI in 1981 is located east of the Phase A landfill.

3. **Comment Regarding Section III-Post Closure, Item E.2:** Gas monitoring within the waste boundary will be accomplished by surface scanning along a predetermined grid, as described in the Gas Monitoring Plan Zion Landfill is permitted under Title V of the Clean Air Act, and currently operates an active gas extraction system under the NSPS. Each of the gas extraction wells are monitored on a monthly basis for gas content and pressure, and surface emissions are monitored quarterly, as described in the Gas Monitoring Plan included within the permit application. Build up of gases within the landfill is not allowed under NSPS, as all wells are required to maintain a negative pressure. Surface emissions monitoring is used to verify the proper operation of the extraction system and that the density of extraction wells is sufficient. Since the gas is being actively managed, and the system is monitored as required under the NSPS, no additional gas probes within the waste are believed to be necessary. Accordingly, permit condition III.E.2 is requested to be deleted. The reference to these three interior gas monitoring probes should also be removed from permit condition III.E.3.

**Illinois EPA Response:** Further communication with BFI also indicates that the methane levels above the landfill cap are checked quarterly as required by the facility's Title V Clean Air Act Permit. Based on this information, along with that provided in the comment, it does not appear as though the three additional gas probes within the landfill are needed and the permit will be modified accordingly. Thus, Condition III.E.2 will be removed from the permit – and the reference to interior gas probes will be removed from Condition III.E.3 of the draft permit. In addition, changes will be made to the remainder of subsection E to reflect the fact that Condition IV.E.2 in the draft permit had been removed and the remaining conditions need to be re-numbered.

4. **Comment Regarding Section III – Post-Page Closure, Item G.1 on Page III-11:** ~~There is no regulatory basis for the requirement to maintain one foot of leachate in each extraction well. While 35 IAC 724.401(a) and 35 IAC 724.401(c)(2) reference a one foot leachate requirement, this specific facility is not subject to either 35 IAC 724.401(a) or (c)(2). Section 724.401(a) covers landfills not covered under subsection (c) (which covers Post-1992 landfill developments), except this regulation does not include "existing portions of such landfills".~~

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35 IAC 720.110 defines "existing portion" as that land surface area of an existing waste management unit, included in the original Part A permit application, on which wastes have been placed prior to the issuance of a permit. According to 35 IAC 720.110, "Existing hazardous waste management (HWM) facility" or "existing facility" means a facility that was in operation or for which construction commenced on or before November 19, 1980...

Based on 35 IAC 720.110, "In operation" refers to a facility that is treating, storing, or disposing of hazardous waste. Zion 1A began construction in 1976, and waste disposal operations commenced shortly thereafter. Based on this timing, Zion 1A therefore meets the above definition of "existing hazardous waste management facility" and therefore is not subject to the requirement to maintain one foot of leachate head above the liner.

Additionally, Zion 1A was originally designed with two trenches at the bottom of the landfill that captured leachate and gravity drained it to the manhole near the southwest corner of the facility. Leachate was then extracted from the manhole and hauled away to a permitted treatment, storage and disposal facility. Measures were taken to further enhance the leachate extraction system following closure of Zion 1A; however, the installation of a containment loadout area and above ground storage tank for collection of the hazardous waste leachate did not result in an expansion or change to the regulatory status of the landfill unit.

Moreover, the pumps installed in the leachate extraction wells and approved by the Illinois EPA are Hammerhead H Series pneumatic pumps. Pneumatic pumps are typically installed at least 1 foot above the bottom of each well in order to keep them above any mud and/or debris that collect in the well throughout the operating life. The actuation point on a pneumatic pump is typically 2 feet above the bottom of the pump, and is the minimum level that leachate must reach to activate the pump. The pneumatic pumps automatically turn on and pump once leachate reaches the actuation point within the well, and continues to pump as long as leachate is detected by the actuator. In addition, the gas extraction system creates a vacuum in each well which acts to increase the actuation level by a length equal to the vacuum in inches of water column. The use of pneumatic pumps effectively allows the continued removal of leachate and requires less maintenance and downtime than electric pumps.

Based on the above regulations, we suggest that this condition be replaced with the following language:

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“The Permittee shall continue to operate the leachate collection and removal system throughout the post closure care period until pumpable quantities of leachate are not present.”

Similar language has been included in the RCRA post-closure permit for another closed hazardous waste landfill in Illinois with the same regulatory status. We believe similar language should be included in the Zion 1A Permit.

Illinois EPA Response: The information in the comment is well-founded. In addition, subsequent communications with the Permittee pointed out that the existing leachate management program must be functioning effectively, as the facility is implementing a detection monitoring program for groundwater. Such a program is associated with land disposal facilities where no release has been observed from the unit.

Given this information, as well as additional information which have been obtained regarding a manhole/sump located just outside the southwest corner of the landfill which receives leachate from the original leachate trenches originally constructed around the landfill’s perimeter, the draft permit will be modified as follows:

- a. A new Condition III.G.2 will be added which states:

A manhole/sump is present just outside the southwest corner of the landfill which receives leachate from the original leachate trenches installed around the perimeter of the landfill’s base. The bottom of this manhole/sump is at an elevation of approximately 726 MSL. A pump similar to that described above is present in the sump and its intake is located approximately one foot above the bottom of the manhole/sump.

- b. Conditions III.G.2 thru III.G.6 of the draft permit have been renumbered III.G.3 thru III.G.7 in the final permit.
- c. A new Condition III.G.8 is being added to the permit which states:

The Permittee shall continue to operate the leachate collection and removal system throughout the post-closure care period until pump able quantities of leachate are no longer present.

- d. It is important for the permit to indicate where the leachate extraction pumps are located in each well, when they begin to operate and when they stop operating. As such, the following text will replace the text in Condition III.G.1 of the draft permit:

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The leachate pumps in the extraction wells identified in Condition III.D.5 above are located approximately one foot above the bottom of the screen of each well. These pumps automatically turn on when the leachate level is approximately 3.5 feet above the bottom of the pump.

5. **Comment Regarding Section III – Post-Closure, Item III.G.3 (Page III-11)** As described in the comment below regarding Condition III.G.7, the existing leachate extraction system was designed and installed to efficiently remove as much leachate as possible. Additionally, as detailed in Appendix B2 of Appendix D1 (Construction Completion Report) to the February 2011 supplement to the permit application, the Hammerhead pumps installed in the wells are each equipped with a QED Solo counter. As is done at many landfill sites, the existing counter devices are used to track individual pump operation and can also be used to calculate the amount of leachate removed from each well. These calculations are performed using the counter measurements at each well, together with the cumulative total of leachate removal over a specified time period, which is tracked by the total amount of leachate transported offsite during specified time periods.

To require the installation of flow meters on each well is unnecessary and costly. Landmarc Environmental has estimated a cost of approximately \$5,000 to install a flow meter on each well, which would total approximately \$120,000 (23 wells and the manhole). Weaver Boos believes tracking the pump counter and leachate collected within the AST and transported offsite provides the information necessary to determine whether increased leachate withdrawal is necessary from certain well(s). Information detailing the type of pumps installed on the wells and the counters was included in Appendix B2 of Appendix D1 of the February 2011 submittal.

Moreover, permittee is not aware of a specific regulatory requirement for the installation of flow meters, nor is it aware of another similar landfill facility where flow meters have been installed. Therefore, it is requested that this permit condition be deleted and/or modified to specify that the existing counter devices installed at each leachate extraction well will be sufficient to track the quantity of leachate removed.

**Illinois EPA Response:** The existing counter devices are sufficient to monitor the quality of leachate removed from each extraction well. Thus, Condition III.G.3 of the draft permit (which is Condition III.G.4 in the final permit) will be revised to state:

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Draft RCRA Permit B-23R  
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The amount of leachate removed from each extraction well and the manhole/sump must be determined on a quarterly basis. This determination may be made using the counter devices associated with each extraction pump in conjunction with knowledge of the total amount of leachate removed during the quarter.

6. Comment Regarding Section III – Post-Closure, Item G.6 (Page III-12): Quarterly groundwater sampling has been conducted at Site 1A for many years. Based on the historic groundwater data, Site 1A has not exhibited any evidence of a groundwater impact from the landfill. Based on Weaver Boos' experience with Illinois EPA approved RCRA post-closure permits for other closed RCRA landfills in Illinois, an annual leachate sampling frequency is sufficient, rather than every six months. In the event future compliance groundwater monitoring is required, increasing the frequency of leachate sampling to semi-annually would be considered.

Illinois EPA Response: Given that this facility has been closed for thirteen years, the request to modify the detailed leachate sampling frequency in Condition III.G.6 of the draft permit (which is Condition III.G.7 in the final permit) to annually be acceptable and that condition will be modified accordingly.

7. Comment Regarding Section III – Post-Closure, Item G.7 (Page III-13): It is agreed that leachate removal is a critical component of post-closure care activities. The existing leachate removal system was designed and installed with the objective of achieving maximum leachate removal. It must be noted that due to the timeframe that this landfill was constructed, the specific elevations of the landfill bottom were not documented in as much detail as is required by current regulations. The bottom elevation of the landfill included in the permit application is a general range based on limited available documents that in many cases are over 30 years old.

Based on our review of the historical landfill construction information and information from BFI/Veolia personnel with knowledge of this facility, the landfill liner contains leachate collection trenches trending north-south that were designed to drain leachate generally to the south, where it accumulates in a sump and is ultimately pumped to the leachate storage tank via a forcemain. This design, along with the leachate extraction wells, is expected to effectively reduce leachate heads within the landfill. The extension of the existing wells is not

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technically feasible, so new wells would have to be installed. Given the lack of information related to the specific elevation of the landfill bottom, permittee would be concerned that extension of the leachate extraction wells has the potential to penetrate the bottom of the landfill, which we believe would create a greater threat to human health and the environment, compared to the potential benefit of allowing for the extraction of additional leachate. Given the age of Site 1A, the installation of new wells to meet the one foot benchmark is not required.

Moreover, we believe the primary objective of the post-closure period to allow a landfill to stabilize to a point where it no longer presents a significant threat to human health or the environment and not necessarily to remove "all leachate" within the unit. Once the post-closure period ends, we expect that the permittee will petition to terminate the post-closure period, and at that time, we anticipate the Illinois EPA will conduct a review to determine if the permittee has satisfactorily demonstrated that the site has stabilized. The critical performance criteria used to evaluate the termination of post-closure is whether there are any increasing trends in the concentrations of constituents or exceedances of the groundwater standards, increasing trends or exceedances of methane concentrations, as well as increasing trends of leachate generation requiring removal from the system.

Based on the above, it is requested that this permit condition be deleted.

Illinois EPA Response: Further communication with BFI also indicates there have been no observed groundwater impacts since the leachate collection system has been in operation. This would indicate that the existing leachate collection system is operating effectively and that the requirements of Condition III.G.7 of the draft permit are not necessary and thus it was removed from the final permit.

8. Comment Regarding Section III – Post-Closure, Item H.8.b (Page III-14): The estimated quantity of leachate removed from each extraction well will be based on the counter readings and this data will be provided in the Annual Report.

Illinois EPA Response: As indicated above, Condition III.G.3 of the draft permit has been revised to indicate counters are acceptable equipment for determining the amount of leachate removed from each extraction well.

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Page 8

9. **Comment Regarding Section IV-A –Shallow Zone Observation Monitoring, Item J (Page IV-A-12):** The two items are numbered “4” and “2”, but should be changed to “1” and “2”.

**Illinois EPA Response:** This change was made.

10. **Comment Regarding Section VIII – Reporting (Page VIII-1)** As discussed above, the requirement to install flow rate recorders for the leachate extraction wells is proposed to be Notification removed and therefore this condition should also be removed.

**Illinois EPA Response:** This item has been deleted from Section VIII for as discussed in Item 5 above, this flow rate recorder is not necessary.

11. **Comment Regarding Section VIII –Reporting and Notification Requirements, Condition G.7 (Page VIII-1)** As discussed above, the requirement to update the leachate removal plan is requested to be deleted and therefore this condition should also be deleted.

**Illinois EPA Response:** This item has been deleted from Section VII as discussed in Item 7 above, such an updated plan is not necessary.

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7. Condensate from the landfill gas extraction system must be managed as a listed hazardous waste (F039). Currently, this condensate is collected and discharged into the on-site leachate collection tank.

**G. LEACHATE MANAGEMENT**

1. The leachate pumps in the extraction wells identified in Condition III.D.5 are located approximately one foot above the bottom of the well. These pumps automatically turn on when the leachate level is approximately 3.5' above the bottom of the pump.
2. A manhole/sump is present just outside the southwest corner of the landfill which receives leachate from the original leachate collection trenches installed along the perimeter of the landfills base. The bottom of this sump is at an elevation of approximately 726 MSL. A pump similar to that described above is present in the sump and its intake is located approximately one foot above the bottom of the sump/manhole.
3. The level of leachate in each extraction well and the manhole/sump (relative to mean sea level) must be monitored on a quarterly basis.
4. The amount of leachate removed from each extraction well and the manhole/sump must be determined on a quarterly basis. This determination may be made using the counter devices associated with each extraction pump in conjunction with knowledge of the total amount of leachate removed during the quarter.
5. A record of the date each load of leachate is sent off-site for treatment must be maintained, as well as the volume shipped. In maintaining this record, adjustments must be made for the amount of gas condensate generated and transferred to the leachate accumulation tank.
6. Prior to shipping a load of leachate off-site for treatment, a sample must be collected and analyzed for:
  - a. Five day biological oxygen demand (BOD<sub>5</sub>);
  - b. Chemical Oxygen demand;
  - c. Total solids;

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- d. Total suspended solids;
- e. Dissolved solids;
- f. Total iron;
- g. pH;
- h. The groundwater monitoring constituents set forth in Lists G1 and G2 of Condition IV.E.1 of this permit;
- i. Any other parameters deemed necessary by the facility receiving the leachate for treatment.

**The results of this sampling/analysis effort must be documented in the facility's operating record.**

- 7. A sample of leachate must be collected from an extraction well within the landfill annually and analyzed for the constituents set forth in 35 Ill. Admin. Code 811, Appendix C.
  - a. The following four extraction wells shall constitute the locations where these samples are to be collected: EW-2; EW-6; EW-20; EW-24
  - b. A sample must be collected from EW-2 within one year of the effective date of this permit;
  - c. A sample must be collected from EW-20 within two years of the effective date of this permit;
  - d. A sample must be collected from EW-6 within three years of the effective date of this permit;
  - e. A sample must be collected from EW-24 within four years of the effective date of this permit;
  - f. The order in which a leachate sample is collected/analyzed after the permit has been in effect for four years shall follow that set forth in Conditions III.G.7.b through e above.

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The results of this sampling/analysis effort must be document in the facility's operating record.

8. The Permittee shall continue to operate the leachate collection and removal system throughout the post-closure care period until pumpable quantities of leachate are no longer present.

#### H. RECORDKEEPING AND REPORTING

1. A detailed record of all activities, observations, and corrective action associated with providing post-closure of the closed Phase A landfill must be created and maintained at this facility.
2. By March 1 of each year, the Permittee shall submit a report to Illinois EPA which summarizes the post-closure care activities completed during the previous calendar year. This report should contain:
  1. Background information about the facility and a general discussion of the post-closure care activities carried out during the year;
  2. Dates quarterly inspections were conducted and copies of completed inspection checklists (these inspection include those required by Conditions III.C.6 above);
  3. A general discussion of the observations from the quarterly inspections mentioned above. Problems observed during the quarterly inspections must also be discussed and documentation must be provided regarding actions taken to correct the problem;
  4. A discussion of all maintenance activities carried out during the year, including mowing the vegetative cover over the landfill.
  5. The results of the landfill gas monitoring required by Condition III.E.2 above and the action taken if any exceedences identified in Condition III.E.5 occur;
  6. Information regarding the landfill gas being sent to the gas-to-energy plant or flare as required by Condition III.F.3 above;

**Review Note Attachment**

**April 24, 2025 Email - Zion Renewal - Part 620 - March 28, 2025  
Update and Groundwater and Leachate Monitoring Programs**

**0978020001 -- Lake County  
Zion Site 1 Landfill  
Log No. B-23R2**

**Lesko, Kevin**

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**From:** Halteman, Takako  
**Sent:** Thursday, April 24, 2025 2:06 PM  
**To:** Lesko, Kevin  
**Subject:** RE: Zion Renewal - Part 620 - March 28, 2025 Update and Groundwater and Leachate Monitoring Programs

This is good. Thank you for documenting and capturing our discussion.

**From:** Lesko, Kevin <Kevin.Lesko@Illinois.gov>  
**Sent:** Thursday, April 24, 2025 1:50 PM  
**To:** Halteman, Takako <Takako.Halteman@Illinois.gov>; Huser, Kelly <Kelly.Huser@Illinois.gov>; Dial, Shawntay D. <Shawntay.Dial@Illinois.gov>; Butler, Amy <Amy.Butler@Illinois.Gov>  
**Subject:** Zion Renewal - Part 620 - March 28, 2025 Update and Groundwater and Leachate Monitoring Programs

FYI . . .

Discussion between Kevin Lesko, Amy Butler, Takako Halteman, and Shawntay Dial.

A NOD comment was going to be developed for the Groundwater Monitoring Program (GMP) to add constituents (new constituents) for which new groundwater standards were identified in the March 25, 2025 Part 620 update. These new constituents were to be added to the GMP and background values would be developed for the constituents detected in groundwater.

During this discussion, the need to add these new constituents to the Leachate Monitoring Program (LMP) came up. It was decided that the new constituents should be added to the LMP and that any constituents detected in the leachate should then be added the GMP.

Additional language was added to the NOD comment for Section E.3.1. Quality of Leachate in the Leachate Collection System to add the new 620 constituents to the LMP.

Further discussion is needed to determine if these issues should be included in the Zion NOD or if the issues can be added as part of a permit compliance schedule. If the GMP is to be addressed in the NOD the language and its location needs to be determined. NOD Comment 6. Section C.6.1. Indicator Parameters, Waste Constituents, Reaction Products to be Monitored, may be an appropriate location.

Kevin

**BP Riverfront Renewal Permit Language**

I reviewed the final BP Riverfront renewal permit (Log B-145R2) language related to this issue. Condition IV.D.4. (Page IV-7 of the permit) addresses the removal of constituents from the groundwater monitoring program through a demonstration that a constituent is not present in the waste based on leachate analytical data, rather than addition of a constituent to the GMP based on detection in the leachate. See language from issuance of the final BP rene

The IEPA's response to BP Comment 27, notes, "the only mechanism for detecting any hazardous constituent released from the landfill waste is to sample its leachate." The proposed use of leachate analytical data to determine if a consistent should be added to the facility's GMP is consistent with ideal.

## BP-Riverfront - 1191155009-RCRA-B145R2-approval

### BP Comment 27: (page 14 of 34)

#### *Page III-7 (Section III.E.): Condition 10, a and b:*

*As this is a new requirement, and the Permittee has conducted previous rounds of leachate characterization sampling to support a delisting petition, please clarify or revise based on the following:*

*In lieu of analyzing annual samples for the 35 IAC 724 Appendix I parameters for the first four years, bp proposes to analyze the first annual sample for the Appendix I parameters and submit these results to Illinois EPA along with results from previous samples collected by bp and/or the Publicly Owned Treatment Works (POTW) that collectively comprise the 35 IAC 724 Appendix I parameters, and use these results to propose a Reduced List for Illinois EPA approval, then subsequent implementation during the second annual sampling event.*

*The permittee shall collect a representative sample of leachate from the landfill and analyze it for all the constituents listed in 35 IAC 724 Appendix I. These samples shall be collected and analyzed annually in accordance with the sampling and test methods specified in the approved permit application. The results of the leachate quality testing data shall be submitted and maintained in the facility's operating record and submitted to the Illinois EPA by July 15 each year.*

- a. *The Reduced List will be based on the four most recent complete 35 IAC 724 Appendix I analyses and include all parameters detected in any of the four Appendix I analyses. Starting the next sampling event after Illinois EPA approval, this Reduced List will be used in lieu of the Appendix I analysis for three out of four years, with the fourth-year reverting to a full Appendix I analysis. Any parameters not included on the existing Reduced List that are detected in the fourth-year Appendix I analysis shall be added to all future Reduced List analyses by means of a permit modification request. This cycle of three years of Reduced List, followed by one year of Appendix I analysis, will repeat for the remainder of the post-closure period.*
- i. *For the first cycle, the Permittee may utilize results from the first annual sample analyzed for all Appendix I parameters in conjunction with previous results from samples collected by the Permittee and/or the Publicly Owned Treatment Works (POTW) that collectively comprise the Appendix I parameters, if available, to propose the first Reduced List for Illinois EPA approval.*

### Illinois EPA Response:

The requested changes to Condition III.E.10 (a) by BP were not made as the Long Term Stewardship (LTS) consideration for the Pond 1 Landfill was made to include the subject condition. As the Pond 1 Landfill remains under post-closure care as long as the hazardous waste and associated risks remain in place, the only mechanism for detecting any hazardous constituent released from the landfill waste is to sample its leachate. The Illinois EPA currently has no information to ensure that the proposed four (4) years of sampling of leachate would demonstrate that the same condition of the containment system and the absence of risks would continue in perpetuity. Until such time that an appropriate demonstration can be made to the Illinois EPA that reduction of the parameters in sampling leachate represents the actual conditions of the waste materials managed in the landfill and future risks associated with the Pond 1

Landfill, this condition must be met. It should be noted that the Permittee is allowed to make such demonstration through a permit modification request to the Illinois EPA for its review and approval.

**BP Comment 35:** (page 22 of 34 of cover letter attachment)

***Page IV-7 (Section IV.D.): Condition 1:***

*Please revise the Depth to Water units to Ft below ground surface (bgs) and Ft below top of casing (bTOC).*

*Please revise hazardous constituents list and footnotes to align with the approved optimized Groundwater Corrective Action Monitoring Program.*

\* \* \* \*

- b. Due to the Groundwater Corrective Action Program being tied to a landfill, Condition IV.D.4 applies, and the constituents will remain on the hazardous constituents list in IV.D.1 at this time. Condition IV.D.4 states:
  - 4. Prior to removal of any constituents identified in Condition IV.D.1, the facility must present leachate analytical results from the Pond 1 landfill to demonstrate these constituents are not present in leachate. Therefore, to request removal of barium, cadmium, sulfate, benzo(b)fluoranthene, carbon disulfide, total xylenes, and phenols, present a demonstration these constituents are not present in leachate. A leachate demonstration is also necessary to reduce the sampling frequency for chloride.

**IV - D. GROUNDWATER PROTECTION STANDARD** (Page IV-6 of Permit)

- 1. The following hazardous constituents and their concentration limits (35 IAC 620, Class I, Groundwater Quality Standards) comprise the Groundwater Protection Standard for the groundwater monitoring wells found in Conditions IV.C.1. (Total (unfiltered) values will be used for the comparison with the 35 IAC 620, Class I, Groundwater Quality Standards. Dissolved values shall be used for statistical evaluations required in Condition IV.H unless otherwise noted.)
- 4. Prior to removal of any constituents identified in Condition IV.D.1, the facility must present leachate analytical results from the Pond 1 landfill to demonstrate these constituents are not present in leachate. Therefore, to request removal of barium, cadmium, sulfate, benzo(b)fluoranthene, carbon disulfide, total xylenes, and phenols, present a demonstration these constituents are not present in leachate. A leachate demonstration is also necessary to reduce the sampling frequency for chloride.

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# Completeness

# Review

## UIC ADMINISTRATIVE RECORD

**Review Notes for Completeness****RCRA Post-Closure Permit Renewal**

0978020001 -- Lake County

Zion Site 1 Landfill

ILD980700728

Log No. B-23R2

RCRA Permit Administrative Record -24D

June 2021

Kevin Leskot

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BFI Waste Systems of North America, LLC submitted a RCRA Post-Closure Permit Renewal application for a former RCRA Hazardous waste landfill located at 701 Green Bay Road, Zion, Illinois. The application, dated May 6, 2021, was received by the Agency on May 7, 2021.

The former landfill, currently known as Site 1, Phase A, covered approximately 40-acres and disposed of mainly non-hazardous waste. Some RCRA hazardous waste was also disposed in the landfill into 1990 with disposal of non-hazardous solid waste continuing until 1993. Closure activities of this landfill were completed in 1997 and on February 10, 1998 certification of completion of closure was completed.

**COMPLETENESS REVIEW**

The purpose of this review is to determine if the application is complete as required by 35 Ill. Adm. Code 702.122. The review was primarily based on the Illinois EPA's guidance document entitled, Information Which Must be Provided in an Application for a RCRA Post-Closure Permit - November 2019. I conducted a completeness review of the following sections of the permit application:

- A. Forms, Certifications, Confidentiality, and Public Involvement
- B. Facility Description
- C. Procedures to Prevent Hazards
- D. Post-Closure Requirements

The above sections of the permit application are complete. My completeness review of these sections is documented in the attached RCRA Post-Closure Permit Application Completeness and Technical Review Checklist - November 2019.

### **Section C. Groundwater Monitoring**

Section C. of the application was reviewed by Shawntay Dial, Groundwater Unit reviewer. Documentation of her review is contained in her June 29, 2021 Memorandum which is attached to these review notes. She determined that the sections which she reviewed were complete.

### **Section F. Corrective Action**

Section F of the application was reviewed by Curtis Samson, Corrective Action Unit reviewer. Documentation of his review is contained in his June 28, 2021 Memorandum which is attached to these review notes. He determined that Section F. of the application was complete. He noted that permit Log No. B-23R (issued Sept. 30, 2011) stated Illinois EPA and USEPA had concluded the Permittee adequately addressed corrective action at the (2) SWMUs existing at the site at that time and that no new SWMUs had been identified.

### **CONCLUSION**

The application has been determined to be complete. A letter should be prepared to inform the facility that the application is complete, a technical review will be conducted, and comments on any technical deficiencies identified during the technical review will be provided at a later date.

Since no SWMUs exist at the facility contact information for the corrective action reviewer will be provided in the letter to the facility.

*KL*  
KL:kl/0978020001-B23R2\_Completeness Review Notes.docx

Attachments: [RCRA Post-Closure Permit Application Completeness and Technical Review Checklist - November 2019](#).

June 28, 2021 Memorandum by Curtis Samson, Corrective Action Unit Reviewer

June 29, 2021 Memorandum by Shawntay Dial, Groundwater Unit Reviewer

**RCRA POST-CLOSURE PERMIT APPLICATION  
COMPLETENESS AND TECHNICAL REVIEW CHECKLIST**  
November 2019

|                 |                           |                             |                      |
|-----------------|---------------------------|-----------------------------|----------------------|
| Facility Name : | Zion Site 1 Landfill      | Date Application Received : | May 7, 2021          |
| Log No. :       | B-23R2                    | Revision No. :              | 0                    |
| State ID No. :  | 0978020001 -- Lake County | Reviewer :                  | KL <i>(initials)</i> |
| USEPA No. :     | ILD980700728              | Review Dates :              | June 24, 2021        |

|            | <b>Section</b>  | <b>Complete<br/>(Y/N)</b> | <b>Technical<br/>Adequacy<br/>(Y/N)</b> | <b>Location</b> | <b>Comments</b>                                      |
|------------|---|---------------------------|---|-----------------|--|
| <b>A</b>   | <b>Forms, Certifications, Confidentiality, and Public Involvement</b>             |                           |   |                 |  |
| <b>A.1</b> | <b>RCRA Part A Application Form</b>   | Y                         |   | App. A-1        |  |
| <b>A.2</b> | <b>Certification Using the LPC-PA23 Form</b>                                      | Y                         |   | App. A-1        |  |
| A.2.1      | Facility Certification  | Y                         |   | App. A-1        |  |
| A.2.2      | Technical Information Certification   | Y                         |   | App. A-1        |  |
| A.2.3      | 39i Certification   | Y                         |   | App. A-2        |  |
| <b>A.3</b> | <b>Public Disclosure Exemption Claims and Trade Secret Claims</b>                 |                           |   |                 |  |
| A.3.1      | No information Claimed Exempt from Public Disclosure                              | Y                         |   |                 | No information Claimed Exempt from Public Disclosure |
| A.3.2      | Trade Secrets Claims  | Y                         |   |                 | No Trade Secret claims are made for the application. |
| A.3.3      | Exempt or Exempt In-Part Data Claims  | Y                         |   |                 |  |
| A.3.4      | Privileged Information  | Y                         |   |                 |  |
| <b>A.4</b> | <b>Public Participation: Facility Mailing List &amp; Information Repositories</b> |                           |   |                 |  |
| A.4.1      | Facility Mailing  | Y                         |   | App. A-3        |  |
| A.4.2      | Identification of Repositories  | Y                         |   | Pg. A-2         |  |

|            | <b>Section</b>   | <b>Complete<br/>(Y/N)</b> | <b>Technical<br/>Adequacy<br/>(Y/N)</b> | <b>Location</b>      | <b>Comments</b>                     |
|------------|--|---------------------------|---|----------------------|-------------------------------------|
| A.4.3      | Contents of Repository   | Y                         |   | Pg. A-2              |                                     |
| A.4.4      | Public Notice of Repository Availability                                 | Y                         |   | Pg. A-2,<br>App A-3  |                                     |
|            |  |                           |   |                      |                                     |
| <b>B</b>   | <b>Facility Description</b>  |                           |   |                      |                                     |
| <b>B.1</b> | <b>General Facility Description</b>                                      |                           |   | Pg. B-1              |                                     |
| B.1.1      | Operation of Facility  | Y                         |   | Pg. B-2              |                                     |
| B.1.2      | Hazardous Waste Management Units at the Facility                         | Y                         |   | Pg. B-3              |                                     |
| B.1.3      | Solid Waste Management Units at the Facility                             | Y                         |   | Pg. B-3              |                                     |
| <b>B.2</b> | <b>Topographic Map</b>   |                           |   | Pg. B-3              |                                     |
| B.2.1      | Facility + 1 mile  | Y                         |   | Fig. B-2             |                                     |
| B.2.2      | Facility + 1000 feet   | Y                         |   | Fig. B-3             | Wind rose Appendix B-3              |
| <b>B.3</b> | <b>Location Standards</b>  |                           |   |                      |                                     |
| B.3.1      | Seismic Standard   | Y                         |   | Pg. B-4              |                                     |
| B.3.2      | Floodplain Standard  | Y                         |   | Pg. B-5,<br>App. B-4 |                                     |
| B.3.3      | Facilities in the 100-year Floodplain                                    | Y                         |   | Pg. B-5              |                                     |
| B.3.3.1    | Engineering Analysis and Structural/Engineering Study                    | N/A                       |   | Pg. B-5              | Facility not in 100-year Floodplain |
| B.3.3.2    | Procedures to Remove Waste   | N/A                       |   | Pg. B-5              | Facility not in 100-year Floodplain |
| B.3.4      | Existing Facilities not in Compliance with 35 Ill. Admin Code 724.118(b) | N/A                       |   | Pg. B-5              | Facility not in 100-year Floodplain |
| <b>B.4</b> | <b>Operating Record</b>  | Y                         |   | Pg. B-5              |                                     |
|            |  |                           |   |                      |                                     |

|            | <b>Section</b>  | <b>Complete<br/>(Y/N)</b> | <b>Technical<br/>Adequacy<br/>(Y/N)</b> | <b>Location</b> | <b>Comments</b>         |
|------------|---|---------------------------|---|-----------------|-------------------------|
| <b>C</b>   | <b>Groundwater Monitoring</b> This section is being reviewed by Shawntay Dial, Groundwater Unit reviewer. |                           |   |                 |                         |
| <b>D</b>   | <b>Procedures to Prevent Hazards</b>  |                           |   |                 |                         |
| <b>D.1</b> | <b>Security</b>   |                           |   |                 |                         |
| D.1.1      | Waiver from the Security Requirements   | N/A                       |   | Pg. D-1         | Waiver not being sought |
| D.1.2      | Restricting Entry to the Facility   | Y                         |   | Pg. D-1         |                         |
| D.1.3      | Warning Signs   | Y                         |   | Pg. D-2         |                         |
| <b>D.2</b> | <b>Equipment Requirements</b>   |                           |   |                 |                         |
| D.2.1      | Waiver  | N/A                       |   | Pg. D-2         | Waiver not being sought |
| D.2.2      | Internal Communications   | Y                         |   | Pg. D-2         |                         |
| D.2.3      | External Communications   | Y                         |   | Pg. D-2         |                         |
| D.2.4      | Emergency Response Equipment  | Y                         |   | Pg. D-2         |                         |
| D.2.5      | Water for Fire Control  | Y                         |   | Pg. D-3         |                         |
| D.2.6      | Personnel Protection Equipment  | Y                         |   | Pg. D-3         |                         |
| D.2.7      | Testing & Maintenance of Emergency Equipment  | Y                         |   | Pg. D-3         |                         |
| D.2.7.1    | Equipment Testing   | Y                         |   | Pg. D-3         |                         |
| D.2.7.2    | Schedule  | Y                         |   | Pg. D-3         |                         |
| D.2.8      | Equipment and Power Failure   | Y                         |   | Pg. D-4         |                         |
| <b>D.3</b> | <b>Inspection Requirements</b>  |                           |   |                 |                         |
| D.3.1      | Inspection Log  | Y                         |   | Pg. D-4         |                         |
| D.3.1.1    | Items Inspected   | Y                         |   | Pg. D-4         |                         |
| D.3.1.2    | Types of Problems   | Y                         |   | Pg. D-6         |                         |
| D.3.1.3    | Inspection Frequency  | Y                         |   | Pg. D-9         |                         |

|                                    | <b>Section</b>  | <b>Complete<br/>(Y/N)</b> | <b>Technical<br/>Adequacy<br/>(Y/N)</b> | <b>Location</b> | <b>Comments</b>  |
|------------------------------------|---|---------------------------|---|-----------------|--|
| D.3.2                              | Repair Log  | Y                         |   | Pg. D-9         |  |
| D.3.3                              | 24 Hour Reporting   | Y                         |   | Pg. D-10        |  |
| <b>E Post-Closure Requirements</b> |   |                           |   |                 |  |
| <b>E.1</b>                         | <b>Information Regarding the Unit(s)<br/>Closed as a Landfill</b>         |                           |   | Pg. E-1         |  |
| E.1.1                              | General Information Regarding the Unit to Receive Post-Closure Care       | Y                         |   | Pg. E-1         |  |
| E.1.2                              | Geology and Hydrogeology Around/Beneath the Unit                          | Y                         |   | Pg. E-1         |  |
| E.1.3                              | Characterization of Waste/ Contaminated Soil Present in the Landfill Unit | Y                         |   | Pg. E-1         |  |
| E.1.4                              | Initial Closure Activities  | Y                         |   | Pg. E-2         |  |
| E.1.5                              | Details Associated with the Closed Unit                                   | Y                         |   | Pg. E-2,        | App. E-2; App. E-3A to App. E-3G; App. E-4 and Pg. E-5 |
| <b>E.2</b>                         | <b>Contact Person</b>   | Y                         |   | Pg. E-6         |  |
| <b>E.3</b>                         | <b>Operation of the Leachate Collection System</b>                        |                           |   | Pg. E-6         |  |
| E.3.1                              | Quality of Leachate in the Leachate Collection System                     | Y                         |   | Pg. E-6         | App. E-6   |
| E.3.2                              | Leachate Collection System Within the Landfill                            | Y                         |   | Pg. E-7         | App. E-7 to E-13                                       |
| E.3.3                              | Leachate Collection System Outside the Landfill                           | Y                         |   | Pg. E-10        |  |
| E.3.4                              | Management of Leachate Collection System                                  | Y                         |   | Pg. E-21        | App. E-7; App. E-13; App. E-17                         |
| E.3.5                              | Summary of Leachate Management Program Conducted to Date                  | Y                         |   |                 |  |

|            | <b>Section</b>   | <b>Complete<br/>(Y/N)</b> | <b>Technical<br/>Adequacy<br/>(Y/N)</b> | <b>Location</b> | <b>Comments</b>                                      |
|------------|--|---------------------------|---|-----------------|--|
| <b>E.4</b> | <b>Operation of the Leak Detection System</b>                          |                           |   | Pg. E-24        | Due to the age of the facility a LDS is not present. |
| E.4.1      | Description of the Leak Detection System Within the Landfill           | N/A                       |   |                 |  |
| E.4.2      | Description of the Leak Detection System Outside the Landfill          | N/A                       |   |                 |  |
| E.4.3      | Management of Leachate Accumulating in the Leak Detection System       | N/A                       |   |                 |  |
| E.4.4      | Recent Operation of the Leak Detection System                          | N/A                       |   |                 |  |
| <b>E.5</b> | <b>Operation of the Gas Monitoring/ Collection System</b>              |                           |   |                 |  |
| E.5.1      | Detailed Description of the Landfill Gas Collection System             | Y                         |   | Pg. E-25        |  |
| E.5.2      | Landfill Gas Monitoring Plan   | Y                         |   | Pg. E-26        |  |
| E.5.3      | Landfill Gas Disposal/ Processing System                               | Y                         |   | Pg. E-27        |  |
| E.5.4      | Summary of the Landfill Gas Collection/ Monitoring/ Processing Systems | Y                         |   | Pg. E-27        |  |
| <b>E.6</b> | <b>Post-Closure Inspection Plan</b>                                    |                           |   |                 |  |
| E.6.1      | Inspection Log   | Y                         |   | Pg. E-28        |  |
| E.6.1.1    | Items Inspected  | Y                         |   | Pg. E-29        |  |
| E.6.1.2    | Types of Problems  | Y                         |   | Pg. E-29        |  |
| E.6.1.3    | Inspection Frequency   | Y                         |   | Pg. E-29        |  |
| E.6.2      | Repair Log   | Y                         |   | Pg. E-29        |  |
| E.6.3      | 24-Hour Reporting  | Y                         |   | Pg. E-29        |  |
| <b>E.7</b> | <b>Post-Closure Monitoring Plan</b>                                    |                           |   |                 |  |
| E.7.1      | Facility Controls  | Y                         |   | Pg. E-29        |  |

|         | <b>Section</b>  | <b>Complete<br/>(Y/N)</b> | <b>Technical<br/>Adequacy<br/>(Y/N)</b> | <b>Location</b> | <b>Comments</b>                                      |
|---------|---|---------------------------|---|-----------------|--|
| E.7.2   | Surveys and Corrective Action                                 | Y                         |   | Pg. E-29        |  |
| E.7.2.1 | Provide the Following   | Y                         |   | Pg. E-29        |  |
| E.7.3   | Leachate Collection System (LCS)                              | Y                         |   | Pg. E-30        |  |
| E.7.3.1 | Leachate Quality  | Y                         |   | Pg. E-30        |  |
| E.7.3.2 | Leachate Quantity   | Y                         |   | Pg. E-30        |  |
| E.7.3.3 | Leachate Reporting  | Y                         |   | Pg. E-30        |  |
| E.7.4   | Leak Detection System (LDS)                                   | N/A                       |   | Pg. E-30        | Due to the age of the facility a LDS is not present. |
| E.7.4.1 | LDS Leachate Quantity   | N/A                       |   |                 |  |
| E.7.4.2 | Action Leakage Rate (ALR)                                     | N/A                       |   |                 |  |
| E.7.5   | Groundwater Monitoring System                                 | Y                         |   | Pg. E-30        |  |
| E.7.6   | Gas Collection System   | Y                         |   | Pg. E-31        |  |
| E.7.6.1 | Gas Quality   | Y                         |   | Pg. E-31        | App. E-20  |
| E.7.6.2 | Gas Quantity  | Y                         |   | Pg. E-31        |  |
| E.7.6.3 | Summary of Results from the Gas Collection/ Monitoring System | Y                         |   | Pg. E-31        |  |
| E.8     | <b>Post-Closure Maintenance Plan</b>                          |                           |   | Pg. E-31        |  |
| E.8.1   | Procedures, Equipment & Materials                             | Y                         |   | Pg. E-31        |  |
| E.8.2   | Rationale   | Y                         |   | Pg. E-32        |  |
| E.8.3   | Frequency   | Y                         |   | Pg. E-32        |  |
| E.9     | <b>Survey Plat</b>  | Y                         |   | Pg. E-32        | App. E-1   |
| E.10    | <b>Notice in Deed and Certification</b>                       | Y                         |   | Pg. E-32        | App. E-1   |
| E.11    | <b>Post Closure Cost Estimate</b>                             | Y                         |   | Pg. E-33        |  |
| E.12    | <b>Financial Assurance Mechanism for Post-Closure Care</b>    | Y                         |   | Pg. E-33        | App. E-23  |

|             | <b>Section</b>   | <b>Complete<br/>(Y/N)</b> | <b>Technical<br/>Adequacy<br/>(Y/N)</b> | <b>Location</b> | <b>Comments</b> |
|-------------|--|---------------------------|---|-----------------|-----------------|
| <b>E.13</b> | <b>State Mechanisms</b>  | N/A                       |   | Pg. E-33        |                 |
| <b>F</b>    | <b>Corrective Action (CA)</b> This section is being reviewed by Curtis Samson, CAU reviewer. |                           |   |                 |                 |

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