



April 10, 2024

AUSTIN BANKS  
GREAT RIVER REGIONAL WASTE AUTHORITY  
2092 303RD AVENUE  
FORT MADISON IA 52627

RE: Great River Regional Waste Authority Sanitary Landfill  
Permit No. 56-SDP-07-80P  
Revised Permit #7

Dear Mr. Banks:

Enclosed is a revised permit for the Great River Regional Waste Authority Sanitary Landfill.

The permit was revised to incorporate DNR approval of revisions to the Cell R3-2 cell design (special provision #3a).

The permit and the approved plans must be kept at the sanitary disposal project in accordance with subparagraph 567 IAC 113.11(1)"a". Please review the permit with your operators, as they must become familiar with it.

If you have any questions, please contact me at [\(515\) 689-6548](tel:515-689-6548) or [mick.lead@dnr.iowa.gov](mailto:mick.lead@dnr.iowa.gov).

Sincerely,

Michael B.  
"Mick" Leat

Digitally signed by  
Michael B. "Mick" Leat  
Date: 2024.04.10  
13:01:21 -05'00'

Michael B "Mick" Leat  
Land Quality Bureau

copy: Morgan Sykes, P.E.  
SCS Engineers  
14755 Grover Street  
Omaha, NE 68144

DNR Field Office #6

**IOWA DEPARTMENT OF NATURAL RESOURCES  
SANITARY DISPOSAL PROJECT PERMIT**

- I. Permit Number:** 56-SDP-07-80P  
Great River Regional Waste Authority Sanitary Landfill
- II. Permitted Agency:** Great River Regional Waste Authority
- III. Project Location:** Approximately 221 acres in the NW ¼ and SW ¼ of Section 27 and NW ¼ of Section 34, in T68N, R4W, in Lee County, Iowa. (Street address: 2092 303<sup>rd</sup> Avenue, Fort Madison, IA 62627)
- IV. Responsible Official**  
Name: Austin Banks  
Address: Great River Regional Waste Authority  
2092 303<sup>rd</sup> Avenue  
Fort Madison, IA 52627  
Phone: (319) 372-6140  
email: abanks@grrwa.com
- V. Licensed Design Engineer**  
Name: Morgan B. Sykes, P.E.  
Address: SCS Engineers  
14755 Grover Street  
Omaha, INE 68144  
Phone: 402-938-0323  
email: msykes@scsengineers.com  
Iowa License Number: P17859
- VI. Date Permit Issued:** September 11, 2020  
**Date 7<sup>th</sup> Permit Revision:** April 10, 2024
- VII. Permit Expiration Date:** September 11, 2025
- VIII. Issued by:** Michael B. "Mick" Leat  
Digitally signed by Michael B. "Mick" Leat  
Date: 2024.04.10 13:00:42 -05'00'
- 
- Iowa Department of Natural Resources

**IX. General Provisions**

The above named permitted agency is hereby authorized to operate a sanitary disposal project at the described location in conformance with Iowa Code section 455B, the rules pursuant thereto existing at the time of issuance, and any subsequent new rules which may be duly adopted, and any provisions contained in Section X of this permit.

The issuance of this permit in no way relieves the applicant of the responsibility for complying with all other local, state, and federal statutes, ordinances, and rules or other requirements applicable to the establishment and operation of this sanitary disposal project.

No legal or financial responsibility arising from the construction or operation of the approved project shall attach to the State of Iowa or the Department of Natural Resources (DNR) due to the issuance of this permit.

If title to this project is transferred, the new owner must apply to the DNR for a transfer of this permit within thirty days of the date of title transfer pursuant to subrule 113.4(3). This permit is void sixty days after the date of title transfer unless the DNR has transferred the permit.

The permit holder shall file a Quarterly Solid Waste Fee Schedule and Retained Fee Report utilizing the DNR's Form 542-3276 and remit tonnage fee payment, as applicable, for all wastes disposed at the sanitary disposal project in accordance with Iowa Code section 455B.310. The Reports will be due January 1, April 1, July 1 and October 1 for the quarters ending September 30, December 31, March 31 and June 30, respectively. The permit holder shall mail the completed report to the Solid Waste Section, Wallace State Office Building, 502 East Ninth Street, Des Moines, Iowa 50319. This reporting procedure supersedes any previous conflicting permit provisions.

The permit holder shall weigh all solid waste collection vehicles and solid waste transport vehicles on a scale certified by the Iowa Department of Agriculture and Land Stewardship. If conditions are such that make it impractical to provide an on-site scale, then off-site scale facilities may be used if justified and approved by the DNR. The permit holder shall comply with the waste weighing, record keeping and tonnage fee reporting requirements defined in rule 101.14(455B,455D). The scale weighing facilities shall comply with the certification and licensing requirements of the Iowa Department of Agriculture and Land Stewardship at all times. The permit holder shall maintain a current copy of the weighing scale facility licensing certificate issued by the Iowa Department of Agriculture and Land Stewardship at all times.

The permit holder shall ensure that the sanitary disposal project does not (1) cause a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act, including, but not limited to, the National Pollutant Discharge Elimination System (NPDES) requirements, pursuant to Section 402 of the Clean Water Act, and (2) cause the discharge of a nonpoint source of pollution into waters of the United States, including wetlands, that violates any requirement of an areawide or statewide water quality management plan that has been approved under Section 208 or 319 of the Clean Water Act.

The permit holder shall submit an updated Municipal Solid Waste Sanitary Landfill Financial Assurance Report Form no later than April 1<sup>st</sup>, annually, pursuant to rule 113.14(455B). Use of this form provides permit holders a uniform means of submitting all required documentation to

<sup>2</sup> See rules published 12/11/02 and effective 1/15/03

ensure that closure and postclosure cost estimates and applicable financial assurance instruments are updated as required.

Failure to comply with Iowa Code section 455B, or any rule of order promulgated pursuant thereto, or any provisions of this permit may result in 1) a civil penalty of up to \$5000 for each day of violation, pursuant to Iowa Code section 455B.307, or 2) the suspension or revocation of this permit, pursuant to Iowa Code section 455B.305.

## **X. Special Provisions**

1. The permit holder is authorized to accept solid waste for disposal in accordance with the approved Great River Regional Waste Authority Comprehensive Plan. The Comprehensive Plan as approved by the DNR on February 23, 2016; any approved amendments to the plan; and the latest plan update, are hereby incorporated as permit plan documents.

The permitted service area includes: The City of Hillsboro and the unincorporated area in Henry County; all cities and the unincorporated area in Lee County; and all cities and the unincorporated area in Van Buren County.

In accordance with subrule 101.13(2), the permit holder shall submit an updated Comprehensive Solid Waste Management Plan compliant with the DNR's schedule.

2. The permit holder shall develop and operate the site in accordance with the hereby approved Development and Operations Plan contained in Appendix 11-5 of the Request for Permit Amendment and Approval to Construct the 2019 North Lateral Expansion, and Application for Permit Renewal (docs #96921-#96925); dated January 31, 2020; and the August 4, 2020 response letter (doc #98194); as submitted by Barker Lemar Engineering Consultants/Evora Consulting; and the following:
  - a. Waste disposal is limited to Phase 2, Region 1; Cells R2-1, R2-2 and R2-3 in Phase 2, Region 2; Cell R3-1 in Region 3, and the 1<sup>st</sup> and 2<sup>nd</sup> tiers of the R3-1 separatory liner as shown on Sheet 1 of document #105640 and Sheet 1 of document #107244. Any further expansion beyond these cells shall require prior DNR approval.
  - b. The permit holder is authorized to place wastes in the Phase 2 Municipal Solid Waste Landfill Management (MSWLF) unit to the top of waste elevations shown on Figure 2 in the Request to Modify Top of Waste Grades, dated July 5, 2018 (doc #92742), as amended by the August 24, 2018 submittal (doc#93049), both as submitted by Barker Lemar Engineering Consultants and approved on August 30, 2018.
  - c. Processing of waste in a shredder shall occur only within active MSWLF units and all liquids generated by waste shredding operations shall be managed as leachate. Materials reclaimed from waste shredding operations shall be containerized and covered as necessary to control odors, vectors and litter.

<sup>2</sup> See rules published 12/11/02 and effective 1/15/03

- d. The permit holder shall collect leachate from the leachate control system and properly dispose of the leachate either by treatment in an on-site facility, discharge with an NPDES permit; or by discharge to the City of Fort Madison publicly owned treatment works (POTW). If the discharge is to a POTW with a pretreatment program approved by the DNR, the discharge must comply with the terms and conditions of a local permit issued for the discharge by the POTW. If the discharge is to a POTW without an approved pretreatment program a completed treatment agreement form shall be submitted to the DNR's Wastewater Section. Copies of the local permit or treatment agreement shall be provided to the DNR's Solid Waste Section and the local Field office. The treatment agreement must be on DNR Form 31 (542-3221) and must comply with the requirements of subrule 64.3(5).

In addition, the permit holder shall monthly measure leachate head levels and elevations at all piezometers and record the volume of leachate collected and transported to the treatment works. Records of leachate contaminants testing required by the treatment works and any NPDES permit for on-site treated leachate discharges shall be maintained.

The permit holder shall annually submit a Leachate Control System Performance Evaluation (LCSPE) Report pursuant to subparagraph 113.7(5)"b"(14) as a supplement to the facility Annual Water Quality Report, as defined in subrule 113.10(10).

- e. The following shall be recorded by the permit holder and reported in the LCSPER for each leachate thickness measurement that equals or exceeds 12 inches:
    - 1) Date of original and any verification measurement.
    - 2) If 12 inch or greater leachate column is verified, specific actions taken by the certified operator to lower leachate thickness, or an explanation why specific actions were not necessary.
    - 3) Date and results of follow-up measurement.
    - 4) Repeat steps 2 and 3 as necessary until a compliant measurement is collected.
  - f. The permit holder shall follow the approved Emergency Response and Remedial Action Plan (ERRAP) procedures during all emergencies pursuant to subrule 113.8(5). An updated ERRAP shall be submitted at the time of each permit renewal application. An updated ERRAP shall be included with any request for permit modification to incorporate a facility expansion or significant changes in facility operation that require modification of the currently approved ERRAP.
3. The permit holder is authorized to construct the liner and leachate collection system in accordance with the plans and specifications and QC&A program contained in Appendices 2, 3, and 10 of the Request for Permit Amendment and Approval to Construct the 2019 North Lateral Expansion, and Application for Permit Renewal (docs #96921-#96925); dated January 31, 2020; and the August 4, 2020 response letter (doc #98194; includes design of an

<sup>2</sup> See rules published 12/11/02 and effective 1/15/03

infiltration barrier layer and leachate collection system retrofit over Phase 2, Region 1 area); as submitted by Barker Lemar Engineering Consultants/Evora Consulting; and the following:

- a. The permit holder is authorized to construct the R3-2 cell in the 2019 North Lateral Expansion, as depicted in documents #96921-#96925. Additionally, R3-2 cell design modifications dated April 9, 2024 which consist of (1) raising of the cell base grades and moving the western cell boundary (doc #109783), and (2) replacing a sand drainage layer groundwater underdrain blanket with a trench system (doc #109782), are approved.

The permit holder shall submit a Final QC&A Report regarding the construction of this cell prepared in accordance with paragraph 113.7(6)"d" documenting compliance with the approved plans. No waste disposal shall commence in this cell until the final construction certification has been submitted in accordance with paragraph 113.7(6)"d", and the cell has been inspected and approved by the DNR.

- b. The permit holder shall notify the DNR and have the site inspected when the construction of a new MSWLF unit or significant components thereof has been completed, in accordance with subrule 113.4(6). Prior to the inspection, the QC&A officer shall submit a final report to the DNR that verifies compliance with the requirements of rule 113.7 and the approved plans and specifications. No waste disposal shall commence in any newly constructed unit or portion thereof until it has been inspected and approved by the DNR.
- c. The Construction Certification Report for Phase 2, Region 1 dated January 1993, as submitted by James M. Montgomery and approved on April 20, 1993; is incorporated into the permit.
- d. The Leachate Lagoon Repair report (doc #64033) dated December 10, 1996, as submitted by Foth & Van Dyke; is incorporated into the permit.
- e. The Liner Repair Activities report (doc #51772) dated June 25, 2002, as submitted by Barker Lemar Engineering Consultants; is incorporated into the permit.
- f. The Leachate Extraction Well Installation As-Built construction certification report (doc #51737) dated January 5, 2004, as submitted by Barker Lemar Engineering Consultants related to the installation of a 36" diameter leachate extraction well in each of Phase 1 and Phase 2, Region 1 and approved on March 8, 2004, is incorporated into the permit.
- g. The Revised Phase 2 Region 1 Leachate Seep Tie-In Line Design (doc #51709) dated May 4, 2005, as submitted by Barker Lemar Engineering Consultants and approved on June 20, 2005 is incorporated into the permit.
- h. The Leachate Seep Tie-In Line of Segment A-1 Construction Certification Report (doc #51682) dated January 20, 2006, as submitted by Barker Lemar Engineering Consultants and approved on May 2, 2006; is incorporated into the permit.

<sup>2</sup> See rules published 12/11/02 and effective 1/15/03

- i. The Construction Certification Report (doc #51683) dated February 27, 2006, regarding the construction documentation of replacement leachate piezometer LPZ-1R, as submitted by Barker Lemar Engineering Consultants and approved on May 2, 2006, is incorporated into the permit.
- j. The Phase 1 and Phase 2, Region 1 Leachate Control System Repair Schedules letter (doc #6758), dated July 27, 2007 and submitted by Barker Lemar Engineering Consultants and approved on August 6, 2007 is incorporated into the permit.
- k. The Phase 1 and Phase 2, Region 1 Leachate Control System Repairs plans (doc #9729), dated September 28, 2007, submitted by Barker Lemar Engineering Consultants and approved on October 12, 2007, is incorporated into the permit.
- l. The Construction Certification Report for the Phase 0 Cell Construction and Closure Construction (doc #9124), dated September 20, 2007 and pertains to the disposal cell now referred to as Cell R2-1, submitted by Barker Lemar Engineering Consultants and approved on September 24, 2007, is incorporated into the permit.
- m. The Construction Certification Report, Leachate Control System Repairs (doc #46075), dated July 31, 2009, as submitted by Barker Lemar Engineering Consultants and approved on August 21, 2014, is incorporated into the permit.
- n. The Construction Observation Report, Cell R2-2 Construction (doc #60337), dated August 24, 2010 and submitted by Barker Lemar Engineering Consultants, and approved on August 27, 2010, is incorporated into the permit.
- o. The Construction Observation Report – Cell R2-3 Construction (doc #73291), dated July 9, 2012; the sand permeability test results (doc #73096), dated July 11, 2012; and the Attachment D field density test location maps (doc #73292), received via email July 16, 2012; all submitted by Barker Lemar Engineering Consultants and approved on July 17, 2012; are incorporated into the permit.
- p. The Construction Observation Report – Leachate Extraction System Improvements (doc #84562); dated October 29, 2015; as submitted by Barker Lemar Engineering Consultants and approved on November 9, 2015 is incorporated into the permit. The report documented the installation of leachate extraction wells LEW-7, LEW-8, LEW-9, LEW-10 and LEW-11; and leachate piezometers LPZ-6 and LPZ-7 in the Phase 2 Region 1 fill area.
- q. The Leachate Toe-Drain Notification report (doc #97832), dated May 29, 2020, as submitted by Barker Lemar Engineering Consultants, is incorporated into the permit. The report documented the construction of a toe drain to correct a persistent leachate seep along the south side of the Phase 2 MSWLF unit.

<sup>2</sup> See rules published 12/11/02 and effective 1/15/03



- r. The Construction Observation Report – Cell R3-1 (doc #101368), dated October 7, 2021 as submitted by Evora Consulting; was approved on October 8, 2021 and is incorporated into the permit.
  - s. The Construction Observation Report – Cell R3-1 Drainage Layer Sand Verification (doc #102135), dated January 24, 2022 as submitted by Evora Consulting, and documenting construction completion of the sand drainage layer; was approved on January 26, 2022 and is incorporated into the permit.
  - t. The 1<sup>st</sup> Tier of Separatory Liner Construction Observation Report (doc #105640), dated January 30, 2023 as submitted by Evora Consulting, and documenting construction completion of the 1.35-acre first tier of the Cell R3-1 separatory liner; was approved on January 31, 2023 and is incorporated into the permit.
  - u. The 2<sup>nd</sup> Tier of Separatory Liner Construction Observation Report (doc #107422), dated July 17, 2023 as submitted by SCS Engineers, and documenting construction completion of the 1.61-second tier of the Cell R3-1 separatory liner; was approved on July 19, 2023 and is incorporated into the permit.
4. Hydrologic monitoring at the site shall be conducted in accordance with the Hydrologic Monitoring System Plan (HMSP) contained in Appendix 9A of the Request for Permit Amendment and Approval to Construct the 2019 North Lateral Expansion, and Application for Permit Renewal (docs #96921-#96925); dated January 31, 2020; as submitted by Barker Lemar Engineering Consultants; and the following:
- a. The HMSP shall include:
    - Monitoring wells - MW-10R (background), MW-26, MW-28, and MW-29, and
    - Groundwater underdrains - Phase 2 Underdrain, GU-1, GU-2, and GU-3A. Proposed sampling point GU-4A, which is a component of future cell Region 3: R3-2, shall be sampled upon as soon as possible after construction of that cell to accurately measure background concentrations of monitored constituents.
  - b. DNR construction documentation form 542-1277 and boring logs for all monitoring wells and piezometers shall be submitted within 30 days of installation. DNR construction documentation form 542-1323 shall be submitted within 30 days of establishing surface water monitoring points.
  - c. The permit holder shall conduct background and routine semiannual groundwater sampling and analysis; as well as perform statistical tests for the approved monitoring points for Appendix I in accordance with rule 113.10(455B). Groundwater samples shall **not** be field-filtered prior to laboratory analysis and total suspended solids shall be analyzed using Method 1376585, with a reporting limit goal of  $\leq 2$  mg/l). Turbidity

<sup>2</sup> See rules published 12/11/02 and effective 1/15/03



measurement may be approved by the DNR in lieu of TSS, provided a correlation between the two is established.

Discharges from the R2-1 and R2-2 Cells' groundwater underdrains monitored at GU-1 and GU-2 were reported as being directed into the leachate collection system by the permit holder in the February 29, 2012 letter (doc #68997) from Barker Lemar Engineering Consultants. Consequently, the sampling frequency at groundwater underdrain monitoring points GU-1 and GU-2 shall be annually, provided discharge from these points continues to be managed as leachate.

- d. The permit holder shall include in each AWQR an evaluation of TSS/turbidity data and other pertinent sampling and analytical results, to determine if representative samples of groundwater have been collected. If samples are not representative, the permit holder may be required to utilize low flow or no-purge sampling methods, consider new well construction with an optimized filter pack design, and/or additional well development. If sample quality does not improve with improved well construction, well development, and/or sampling methods, the DNR will consider higher TSS/turbidity levels as representative of site groundwater conditions.
- e. The frequency for full Appendix II analysis at monitoring points that are in assessment monitoring and have had at least two (2) rounds of analysis using the entire Appendix II list may be decreased to once every (5) five years. If monitoring points exit assessment monitoring and later return to assessment monitoring an additional two (2) rounds of analysis using the entire Appendix II list is required.
- f. The permit holder shall semiannually measure groundwater elevations within 1/100 of a foot in each well and immediately prior to purging, each time groundwater is sampled.
- g. The permit holder shall collect semiannual groundwater elevation measurements from the groundwater piezometer installed in the R2-1 cell, as referenced in the construction certification report for that cell (doc #9124), dated September 20, 2007 in order to measure the separation of the base of the MSWLF unit from the groundwater table as required in paragraph 113.6(2)"i". These data shall be included in the facilities' Annual Water Quality Report (AWQR).
- h. An AWQR summarizing the effects the facility is having on groundwater quality shall be submitted to the DNR's Solid Waste Section by January 31 each year. This report shall be prepared in accordance with subrule 113.10(10) by a qualified groundwater scientist pursuant to paragraph 113.10(1)"d" and by using the DNR Annual Water Quality Report Format.
- i. Groundwater monitoring points MW-13 and MW-19 located in Phase 2 have been previously abandoned.

<sup>2</sup> See rules published 12/11/02 and effective 1/15/03

- j. The monitoring well construction documentation forms for MW-26, MW-27, and MW-28, as acknowledged on July 30, 1993 (doc #67287); are incorporated into the permit.
  - k. The well abandonment documentation form for monitoring well MW-12, as attached to the July 9, 2002 correspondence (doc #51770) from Barker Lemar Engineering Consultants; is incorporated into the permit.
  - l. The well abandonment documentation form for monitoring well MW-10 and the construction documentation and boring log for MW-10R (doc #51695), dated August 10, 2005 by Barker Lemar Engineering Consultants, is incorporated into the permit.
  - m. The well abandonment documentation forms for monitoring wells MW-8, MW-17, and MW-18 (doc #13865), dated November 21, 2007 by Barker Lemar Engineering Consultants, are incorporated into the permit.
  - n. The MW-30 well construction documentation (doc #44289), dated June 24, 2009, as submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.
  - o. The monitoring well documentation for MW-29 (doc #59411), dated July 21, 2010 and submitted by Barker Lemar Engineering Consultants, is incorporated into the permit.
  - p. The monitoring well installation documentation for monitoring wells MW-31, MW-32 and MW-33 (doc #76138); dated February 26, 2013; as submitted by Barker Lemar Engineering Consultants; and approved October 9, 2013; is incorporated into the permit.
  - q. The groundwater monitoring well construction documentation for MW-34A, MW-34B, MW-35A, MW-35B, MW-36, MW-37, MW-38A, and MW-38B, as contained in Appendix 4 (Hydrogeological Report) within the Request for Permit Amendment and Approval for Construct the 2019 North Lateral Expansion and Application for Permit Renewal (docs #96921-#96925), dated January 31, 2020; as submitted by Barker Lemar Engineering Consultants; is incorporated into the permit.
5. The permit holder shall conduct subsurface gas monitoring in accordance with the Methane Monitoring Plan contained in Appendix 9B of the Request for Permit Amendment and Approval to Construct the 2019 North Lateral Expansion, and Application for Permit Renewal (docs #96921-#96925); dated January 31, 2020, and the following:
- a. The permit holder shall quarterly monitor and annually report site methane concentrations in accordance with rule 113.9(455B). Specific actions, as defined in the rules, shall be taken in the event of methane gas level limit exceedances.
  - b. The permit holder shall annually submit a report by January 31 summarizing the methane gas monitoring results and any action taken resulting from gas levels exceeding the

<sup>2</sup> See rules published 12/11/02 and effective 1/15/03

specified limits during the previous 12 months as a supplement to the facility Annual Water Quality Report, as defined in subrule 113.10(10).

- c. The boring log/well construction information submitted in document entitled "Gas Monitoring Probe Installation" (doc #84299), dated September 24, 2015 and approved on December 1, 2015, is incorporated into the permit. Gas probes LFGW-1A, LFGW-1B, and LFGW-1C are added to the gas monitoring plan.
6. In accordance with the variance to allow disposal of untreated petroleum contaminated soils (doc #95968, PCS) approved on September 24, 2019, the permit holder is authorized to directly dispose of untreated PCS at the working face for a period to coincide with the solid waste permit expiration date; and the following:
- a. The PCS must be immediately buried at the working face pursuant to 567.113.8(1)"b"(3).
  - b. The untreated PCS must not contain free liquids pursuant to 567.113.8(1)"b"(1).
  - c. PCS resulting from the cleanup of petroleum underground storage tanks are exempt from RCRA hazardous waste management if the soil 1) exhibits the TC for D018-D043, and 2) are subject to the corrective action requirements in 40 CFR Part 280 of the UST regulations. This exemption does not apply to petroleum contaminated media resulting from spills or releases from above ground storage tanks, other surface spills, or if the PCS becomes contaminated with a listed hazardous waste.
  - d. PCS meeting the above-referenced criteria is deemed a "solid waste" and therefore applicable waste flow and tonnage fee requirements will need to be adhered. PCS may continue to be received for remediation pursuant to subrule 109.11(2), or accepted from outside the planning area for disposal as long as the provisions of IAC 567 Chapter 101.4 are followed (i.e. maintain written approvals).
7. The permit holder is authorized to collect, process, grind, or chip trees, limbs, brush, and clean wood wastes free of coatings and preservatives, for the purposes of reuse as bedding material, mulch, compost bulking material; or for other beneficial reuses, in accordance with the following:
- a. Trees, limbs, brush, and clean wood wastes shall not be stored for a period exceeding twelve (12) months before processing.
  - b. Ground or chipped materials shall not be allowed to accumulate such that the stockpiles are not completely reused within twelve (12) months of initial stockpiling.
  - c. The processed materials may be used as mulch or soil conditioner for off-site purposes and on landfill areas with intermediate and final cover and on soil borrow areas.

<sup>2</sup> See rules published 12/11/02 and effective 1/15/03

- d. Mulch or soil conditioner applied to existing vegetated landfill areas shall be applied at a rate such that established vegetation is not adversely impacted by its use.
8. The permit holder is authorized to use a geotextile by the trade name *Airspace Saver™*, manufactured by FABRENE®, as an alternative cover material for the active MSWLF unit, subject to the following:
- a. The use and installation of this product shall be in conformance with the manufacturer's recommendations.
  - b. This product shall only be used as a daily alternative cover material and shall not be utilized as a replacement for soil cover if application performance in terms of litter, vector, odor, and precipitation entry control is not provided.
  - c. This product shall be applied so as not to promote water ponding, or drainage run-on from adjacent upper and side MSWLF unit areas beneath the installed geotextile.
  - d. This product shall be weighted at the close of each working day to prevent displacement by wind using soil or tires.
  - e. This product shall not be exposed for longer than **seven (7)** consecutive days. For any waste covered with this product beyond the stipulated period, the product shall be removed and the underlying waste shall be immediately covered with soil in accordance with the applicable IAC rules.
  - f. This product shall not be used if it becomes damaged or worn, or if the intended performance is breached. In such instances, this product shall be disposed of as a part of the waste fill.
  - g. The operator shall inspect each application of this product for thorough coverage and cover integrity. If operational problems arise from the use of this product or its method of application, the use of this product shall be suspended until proper corrections are made by the operator, with six inches of compacted daily cover being utilized during this interim period.
  - h. If, at any time, the DNR or permit holder deems this product ineffective or otherwise unsatisfactory, the permit holder shall immediately revert to soil or another previously approved alternative daily cover. The permit holder shall immediately notify the DNR's Main and local Field office through both written and verbal notification of this action. This notification is not necessary if use of this product ceases only on a temporary basis, such as during adverse operational or weather conditions.

<sup>2</sup> See rules published 12/11/02 and effective 1/15/03

9. The permit holder is authorized to accept Foundry Sand from Griffin Wheel in Keokuk; Brass in Peoria, Illinois; and Tazwell in Pekin, Illinois. The permit holder is authorized to use a foundry sand/soil combination as an alternative cover material, subject to the following:
- a. The ratio of foundry sand to soil shall not exceed 50% foundry sand by volume. Quantities exceeding 1-week usage shall be disposed in the workface area. Only foundry sand placed at a ratio of 6:1 (6 tons of waste to 1 ton of approved foundry sand) will be considered alternative daily cover. Any material used in excess of that ratio shall be reported as waste. Pursuant to Iowa Code section 455B.310(9), foundry sand used by a sanitary landfill as daily cover is exempt from imposition of the tonnage fee if the foundry sand is generated by a foundry located within the state and if the foundry sand is provided to the permit holder at no cost to the permit holder.
  - b. The foundry sand/soil may be used in lieu of the 6-inch daily cover requirement. Foundry sand/soil shall not be used as a substitute for intermediate or final soil cover.
  - c. The waste must be compacted, before the foundry sand/soil is applied, to provide an even surface to minimize ponding, prevent pockets, and to maximize uniform surface drainage.
  - d. Foundry sand/soil shall be applied to the active waste face at the end of each day of operations and more frequently if necessary to control fire or fire hazards, blowing litter, scavenging, odors, insects, and rodents.
  - e. The soil ratio shall be increased, if necessary, to optimize cover performance relative to the criteria stated in items "c" and "d" above.
  - f. The permit holder shall scarify the foundry sand/soil cover material over the working face area on which it is applied prior to each day's use of that area as a working face.
  - g. The permit holder shall maintain in the landfill files appropriate laboratory analytical documentation that demonstrates that the foundry sand is not hazardous by TCLP metals test. Documentation reporting of such testing shall be submitted to both the DNR's Main and local Field office.
  - h. The use of foundry sand/soil for daily cover usage by any other generators than those approved above shall be subject to specifications approval by the DNR.
  - i. If the foundry sand/soil is found by the DNR not to be performing satisfactorily, its use shall be discontinued and the remaining materials shall be disposed in the working face.
10. The permit holder is authorized to accept CCR from American Ordinance in Middletown, Iowa. The permit holder is authorized to use a CCR/soil combination as an alternative cover material, subject to the following:

<sup>2</sup> See rules published 12/11/02 and effective 1/15/03

- a. The ratio of CCR to soil shall not exceed 50% CCR by volume. Quantities exceeding 1-week usage shall be disposed in the workface area. Only CCR placed at a ratio of 6:1 (6 tons of waste to 1 ton of approved CCR) will be considered alternative daily cover. Any material used in excess of that ratio shall be reported as waste.
  - b. The CCR/soil may be used in lieu of the 6-inch daily cover requirement. CCR/soil shall not be used as a substitute for intermediate or final soil cover.
  - c. The waste must be compacted, before the CCR/soil is applied, to provide an even surface to minimize ponding, prevent pockets, and to maximize uniform surface drainage.
  - d. CCR/soil shall be applied to the active waste face at the end of each day of operations and more frequently if necessary to control fire or fire hazards, blowing litter, scavenging, odors, insects, and rodents.
  - e. The soil ratio shall be increased, if necessary, to optimize cover performance relative to the criteria stated in items "c" and "d" above.
  - f. The permit holder shall scarify the CCR/soil cover material over the working face area on which it is applied prior to each day's use of that area as a working face.
  - g. The permit holder shall maintain in the landfill files current laboratory analytical documentation that demonstrates that the CCR is not hazardous by TCLP testing. Documentation reporting of such testing shall be submitted to both the DNR's Main and local Field office.
  - h. The use of CCR/soil for daily cover usage by any other generator than the one approved above shall be subject to specifications approval by the DNR.
11. In accordance with the request (doc #89157) received via email April 18, 2017, as submitted by Barker Lemar Engineering Consultants and approved on April 19, 2017, the permit holder is authorized to accept soil/gypsum waste from a Climax Molybdenum gypsum pond excavation. The permit holder is authorized to use the soil/gypsum waste as an alternative cover material, subject to the following:
- a. Quantities exceeding 1-week usage shall be disposed in the workface area. Only soil/gypsum placed at a ratio of 3:1 (3 tons of waste to 1 ton of approved soil/gypsum) will be considered alternative daily cover. Any material used in excess of that ratio shall be reported as waste.
  - b. The soil/gypsum may be used in lieu of the 6-inch daily cover requirement. Soil/gypsum shall not be used as a substitute for intermediate or final soil cover.

<sup>2</sup> See rules published 12/11/02 and effective 1/15/03

- c. The waste must be compacted, before the soil/gypsum is applied, to provide an even surface to minimize ponding, prevent pockets, and to maximize uniform surface drainage.
  - d. Soil/gypsum shall be applied to the active waste face at the end of each day of operations and more frequently if necessary to control fire or fire hazards, blowing litter, scavenging, odors, insects, and rodents.
  - e. The permit holder shall scarify the soil/gypsum cover material over the working face area on which it is applied prior to each day's use of that area as a working face.
  - f. The permit holder shall maintain in the landfill files appropriate quarterly laboratory analytical documentation that demonstrates that the soil/gypsum is not hazardous by TCLP testing. Documentation reporting of such testing shall be submitted to both the DNR's Main and local Field office.
  - g. The use of soil/gypsum for daily cover usage by any other generator than the one approved above shall be subject to specifications approval by the DNR.
12. The permit holder is authorized to accept, store, process, reuse or dispose of roofing shingles within the permitted facility boundaries in accordance with the following conditions:
- a. Shingle loads received at the facility which are determined to be asbestos containing material (ACM) shall be managed in accordance with Iowa Administrative Code (IAC) 567 Chapter 109.
  - b. Fugitive dust prevention methods must be available, operational and employed during stockpiling, processing and material handling operations to provide dust control and worker protection in compliance with IOSHA and NESHAP rules and regulations. Any asbestos sampling and analysis shall comply with IOSHA and NESHAP rules and regulations.
  - c. Reuse of compacted whole shingles at the facility is authorized on the condition that only shingles with an asbestos content of 1% or less shall be used as a roadway subbase. Such use is limited to the Storage Pad Construction Project, dated August 18, 2021 (doc#101071), as prepared by Evora Consulting, using shingles that meet the Quality Control Plan for Shingles Recycling as contained in Attachment A of this document. This project consists of the construction of a yard waste, wood waste, and scrap metal storage pad located north/northwest of the maintenance building on the west side of Phase 2, Region 1.
- Use of shingles in excess of the 8-12 inch thick, loose shingle layer described in the above document may constitute disposal and be subject to the statewide tonnage fee.

<sup>2</sup> See rules published 12/11/02 and effective 1/15/03



13. The permit holder is authorized to accept and temporarily store a maximum of 1500 waste tire equivalents for the purpose of reclamation processing or disposal. Tire storage and processing shall be conducted at approved plan locations. The tires shall be removed at least once every 120 days and transported to the appropriate reclaimer/processor, or disposed of at the site. All operations shall be in accordance with subrule 109.10(3), IAC 567 Chapter 117 and the current local fire code.
14. The permit holder is authorized to temporarily store white goods and scrap metal in an area designated by the operator. No discarded appliance may be stored for more than 270 days without being demanufactured. No scrap metal or discarded appliance may be stored for more than a total of twelve (12) months, including demanufacturing processing, prior to being recycled/salvaged. The operator and salvaging contractor shall comply with applicable provisions of IAC 567 Chapter 118 and the General Provisions of this permit. No scavenging shall be allowed.
15. The permit holder is authorized to accept and temporarily store lead acid batteries for recycling purposes. Lead acid batteries must be stored in a designated area that will curtail movement of acids and provide proper ventilation of gases from the batteries. The maximum length of time for storage is twelve (12) months.
16. The permit holder is authorized to collect and temporarily store plastic farm pesticide containers for recycling. The storage area shall be located at a readily accessible area to the facility. The following conditions and procedures shall apply:
  - a. Pesticide containers containing any product or free liquids shall not be accepted for recycling or disposal.
  - b. The storage area shall be used only for recyclable plastic farm pesticide containers that have been properly rinsed and drained. Contact the Iowa Department of Agriculture and Land Stewardship (IDALS) Pesticide Bureau at (515) 281-8506 for container rinsing and recycling information.
  - c. The storage area shall be either fenced or provided with a recycle bin to keep the containers segregated from other wastes and to prevent them from leaving the storage area during windy conditions.
  - d. The storage area base shall be graded to divert surface water run-on. An all weather access to the area shall be provided.
  - e. The base of the storage area that does not utilize a recycle bin should be provided with either an impervious surfacing, or rock or anchored plastic membrane surfacing over a compacted soil base to keep the containers free of dirt to maximize material recovery and minimize damage to recycle grinding equipment.

<sup>2</sup> See rules published 12/11/02 and effective 1/15/03

- f. All stored containers shall be removed from the temporary storage area and granulated on-site for recycling purposes by April 1<sup>st</sup> annually. Contact the Agribusiness Association of Iowa at (515) 262-8323 to schedule container recycle granulation and site removal.
  - g. The storage area shall be monitored frequently by the operator to confirm proper usage and to visually check for the presence of any product or rinsate releases to the environment or storage area.
  - h. Any containers found in the storage area with free product or product rinsate liquids shall be promptly removed from the storage area and either returned to the disposer or properly rinsed, drained and the liquids discharged to the on-site leachate storage system or land applied on the landfill site at the allowable labeled application rate for the product. Care should be taken to apply the product liquids to the appropriate area.
  - i. If any apparent releases to the storage area are observed by the operator or DNR personnel, the operator shall promptly report the event to the IDALS Pesticide Bureau by telephone at (515) 281-8506 with a follow-up written report of the event to IDALS. Report copies shall be provided to the DNR's Main and local Field office. IDALS representatives will conduct a site visit, sample the appropriate areas, complete the necessary contaminant(s) testing and notify the DNR of any recommended actions to be taken. The DNR will inform the permit holder of required actions to remedy the release.
17. The permit holder is authorized to collect and temporarily store rigid recyclable wastes (e.g., metal cans, glass bottles and plastic bottles) and fiber recyclable wastes (e.g., magazines, catalogs, books, envelopes and paper) in segregated recycling boxes located near the landfill entrance. The following conditions and procedures shall apply:
- a. The recyclables shall not be stored for a period exceeding six (6) months.
  - b. The recycle boxes shall be fitted with lids to prevent precipitation entry and to control litter.
  - c. Separate boxes should be provided to segregate metals and plastics to facilitate recycling recovery.
  - d. Recycling boxes shall be labeled to facilitate public use.
  - e. Records shall be maintained to document amounts of waste recycled for quarterly Solid Waste Fee reporting and the dates that each box content is removed from the site for recycling to confirm storage time limitations.
  - f. Recycling activities shall be monitored to ensure that no other disposable wastes are stored in recycle boxes.

<sup>2</sup> See rules published 12/11/02 and effective 1/15/03

- g. Farm chemical containers shall not be stored in recycling boxes. Separate authorization for this purpose shall be secured by permit amendment.
18. The permit holder shall close the Phase 2 MSWLF Unit in accordance with the Closure Plan contained in Appendix 7 of the Request for Permit Amendment and Approval to Construct the 2019 North Lateral Expansion, and Application for Permit Renewal (docs #96921-#96925); dated January 31, 2020; as submitted by Barker Lemar Engineering Consultants; and the following:
- a. The Construction Certification Report, Phase 0 Cell Construction and Closure Construction (doc #9124), dated September 20, 2007, submitted by Barker Lemar Engineering Consultants, and approved on September 24, 2007, is incorporated into the permit. The report documents the construction of final cover over 7.5 acres of Phase 2, Region 1.

#### **XI. Special Provisions- Closed Units**

- 1. The Phase I MSFL Unit stopped receiving waste prior to October 9, 1994. The thirty-year closure and post closure period for this unit began on May 2, 2006.
- 2. The units specified in item #1 shall be closed and maintained in accordance with the approved Closure and Post Closure Plan, dated April 15, 1993, as submitted by Montgomery Watson Consultants.
- 3. The permit holder is prohibited from any additional waste disposal, recycling, composting, and other related landfill activities in the units specified in item #1 unless they are specifically approved through an amendment to this permit.
- 4. The Final Closure Report (Phase 1), dated February 6, 2006, as submitted by Barker Lemar Engineering Consultants and approved on May 2, 2006, is incorporated into the permit.
- 5. Hydrologic monitoring for the Phase 1 MSWLF unit shall be conducted in accordance with the Revised HMSP – Phase 2 MSWLF Unit, dated June 25, 2008, as submitted by Barker Lemar Engineering Consultants, and approved November 5, 2010; and the following:
  - a. The Phase 1 MSWLF unit HMSP shall include groundwater monitoring points MW-4 (selenium), MW-21 (cobalt), and MW-25 (cobalt).

HMSP wells noted above shall be sampled biennially (begin 2021) unless an otherwise requested schedule is approved.

Groundwater monitoring points MW-2, MW-3, MW-5, and MW-6 located in Phase 1 have been previously abandoned.

<sup>2</sup> See rules published 12/11/02 and effective 1/15/03

Monitoring points Wet Well and SW-1 are not required to be sampled as part of the current HMSP.

The permit holder shall conduct routine annual groundwater sampling and analysis; as well as perform statistical tests for the approved monitoring points at the Phase I MSWLF Unit (Closed) for the Appendix I parameters and total suspended solids (TSS) in accordance with rule 113.10(455B). Parameters tested prior to April 1, 2017 are not required to be analyzed.

Groundwater samples shall **not** be field-filtered prior to laboratory analysis and total suspended solids shall be analyzed using Method 1376585, with a reporting limit goal of  $\leq 2$  mg/l). Turbidity measurement may be approved by the DNR in lieu of TSS, provided a correlation between the two is established.

Leachate levels shall be measured monthly and reported annually in the Leachate Performance and Evaluation Report, due by January 31 each year. The leachate collection system is currently shut down, but may be restarted at any time.

The presence of leachate seeps shall be checked monthly, and if present, the DNR shall be notified. Results of the inspections shall be reported annually in the Leachate Performance and Evaluation Report, due by January 31 each year.

The DNR may at any time require the permit holder to resume leachate collection in the Phase I MSWLF Unit (Closed).

An Annual Water Quality Report (AWQR) summarizing the effects the facility is having on groundwater quality shall be submitted to the DNR Solid Waste Section by January 31 following a sampling year. This report shall be prepared in accordance with subrule 113.10(10) by a qualified groundwater scientist pursuant to paragraph 113.10(1)“d”. The permit holder shall provide an evaluation of the efficacy of continuing the cessation of leachate collection in the AWQR for DNR review. The permit holder shall also present the results of the monthly leachate seep inspection in the AWQR.

The report shall include a summary of measured concentrations, field sampling forms, laboratory analytical data sheets, confidence interval summary tables and graphs, and the monitoring well maintenance and performance re-evaluation as specified in item #5d below.

- b. Samples shall be preserved and promptly transferred to a certified laboratory. Samples collected for total metals analysis shall **not** be field-filtered prior to laboratory analysis.
- c. If laboratory test results exceed the Maximum Contaminant Level (MCL) or an approved site-specific level based on background monitoring for any parameter, the DNR shall be notified within 30 days of receipt of the analytical results.

<sup>2</sup> See rules published 12/11/02 and effective 1/15/03

- d. In accordance with the variance granted on March 27, 2013, the permit holder is required to perform maintenance and performance reevaluation of the Phase 1 MSWLF Unit monitoring well network in accordance with paragraph 113.10(2)"f"<sup>1</sup>.
6. DNR has received and accepted the "Leachate Toe Drain Installation Notification" submitted by Barker Lemar Engineering on August 7, 2019. The passive leachate toe drain described shall be inspected on a regular basis and any issues shall be repaired and reported to DNR.
7. Reports shall be prepared for the annual engineering inspection describing the site's conformance and nonconformance with the permit and the approved plans and specifications during the inspections. These reports shall be submitted by October 31 each year for the preceding twelve-month period to both the Field and Main offices of the DNR. Information on monitoring for leachate seeps, as well as installed toe drains shall be included in this report. Both report and inspection are required on an annual basis.
8. All diversion and drainage systems must be maintained to the approved specifications to prevent run-on and runoff erosion, or other damage to the final cover. These diversion and drainage structures must be designed to meet a 25-year, 24-hour rainfall event.
9. The vegetative cover shall be reseeded as necessary to maintain good vegetative growth. Any invading vegetation whose root system could damage the compacted soil layer shall be removed or destroyed immediately.
10. The integrity and effectiveness of the final cover must be maintained by making repairs as necessary to correct the effects of settling, subsidence, erosion, or other events. If damage to the final cover compacted soil layer occurs, repairs shall be made to correct the damage and return it to original specifications.
11. The permit holder shall monitor landfill gas on the same schedule as the operating Phase 2 site and annually report concentrations pursuant to paragraph 113.26(15)b<sup>2</sup>. Specific actions, as defined in the rules, shall be taken in the event of methane gas level limit exceedances.

The annual report summarizing the methane gas monitoring results and any action taken resulting from gas levels exceeding the specified limits during the previous 12 months shall be submitted to the DNR as a stand-alone report for Phase 1.

12. The permit holder shall conduct all contingency and emergency operations in accordance with the approved Emergency Response and Remedial Action Plan (ERRAP). An updated ERRAP shall be submitted at the time of any significant changes in closure operations that require modification of the currently approved ERRAP.

<sup>2</sup> See rules published 12/11/02 and effective 1/15/03

**XII. Permit Renewal and Revision History**

Date	Comment
January 31, 2023	Permit Revision #5, approval of 1 <sup>st</sup> Tier Separatory Liner Construction Certification Report (special provisions #2a and 3t)
July 19, 2023	Permit Revision #6, approval of 2 <sup>nd</sup> Tier Separatory Liner Construction Certification Report (special provisions #2a and 3u) and modifications to leachate reporting for closed Phase 1 MSWLF unit (special provision XI.5.a)
April 10, 2024	Permit revision #7, approval of design modifications to Cell R3-2 (special provision #3a)

<sup>2</sup> See rules published 12/11/02 and effective 1/15/03