



August 21, 2020

DAN BARRY
HARRISON COUNTY SANITARY LANDFILL
2812 E HWY 30
PO BOX 121
LOGAN IA 51546

**RE: Harrison County Sanitary Landfill
43-SDP-05-94P
Permit Revision**

Dear Mr. Barry:

Enclosed is the revised permit for the Harrison County Sanitary Landfill. The permit and the approved plans must be kept at the sanitary disposal project in accordance with solid waste rule 567 IAC 113.11(1). Please review the permit with your operators, as they must become familiar with it.

The revision contains the approval of well abandonment forms for MW-6A, MW-6B, and MW-6C.

Note that the permit contains special provisions that may require a response or action by you which, if not properly complied with, may prompt enforcement action by this department.

For any questions, please contact me at (515) 281-8394 or geoffrey.spain@dnr.iowa.gov.

Sincerely,

A handwritten signature in black ink that reads "Geoffrey Spain". The signature is written in a cursive, flowing style.

Geoffrey Spain
Environmental Engineer
Land Quality Bureau

cc: Lauren P. Norland, P.E.
EVORA Consulting
1801 Industrial Circle
West Des Moines, IA 50265

DNR Field Office #4, Atlantic

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

- I. Permit Number:** 43-SDP-05-94P
- II. Permitted Agency:** Harrison County Landfill Commission
- III. Project Location:** Tract I. The W ½ of the SE ¼ of the NW ¼;
Tract II. The SW ¼ of the NW ¼;
Tract III. That part of the W ½ of the NE ¼ of the NW ¼ lying south of the south right-of-way line of U.S. Highway 30;
Tract IV. That part of the NW ¼ of the NW ¼ lying south of the south right-of-way line of U.S. Highway 30;
All located in Section 20, T79N, R42W, Harrison County, Iowa
- IV. Responsible Official**
Name: Daniel G. Barry, Solid Waste Manager
Address: Harrison County Sanitary Landfill
2812 East Highway 30
Logan, Iowa 51546
Phone: 712-644-3093
FAX: 712-644-2348
- V. Licensed Design Engineer**
Name: David G. Phillips, P.E.
Address: Barker Lemar Engineering Consultants
1801 Industrial Circle
West Des Moines, IA 50265
Phone: 515-256-8814
FAX: 515-256-0152
Iowa License Number: 15541
- VI. Date Permit Issued:** **4/12/2019**
- VII. Permit Expiration Date:** **4/12/2024**
- VIII. Issued by:**



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 comply with the gas control provisions of IAC 567 Chapters 20 through 31, including paragraph 23.1(2)“rrr” for the New Source Performance Standards and paragraph 23.1(5)“a” for the Emission Guidelines.

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 1st, annually, pursuant to rule 113.14(455B). Use of this form provides permit holders a uniform means of submitting all required documentation to 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 Harrison County Landfill Comprehensive Plan. The Comprehensive Plan as approved by the DNR on August 26, 2015; any approved amendments to the plan; and the latest plan update, are hereby incorporated as permit plan documents.

The permitted service area includes: The unincorporated area and the cities of Kimballton, Gray and Audubon in Audubon County and; all cities and the unincorporated area in Harrison County; and the City of Neola in Pottawattamie 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 included in the 2018 Permit Renewal Application, dated December 17, 2018, as submitted by Barker Lemar Engineering Consultants, and the following:
 - a. Waste disposal is limited to Phase 1 and Phase 2. The site vertical height shall not exceed a maximum waste elevation of 1164 feet in the vicinity of N8000 and E10225. Any further expansion beyond Phase 1 and Phase 2 shall require prior DNR approval.
 - b. The first lift of municipal solid waste placed in a newly constructed unit or portion of a unit must be placed in accordance with paragraph 113.8(2)"b" in such a manner to minimize damage to the leachate collection system and liner.
 - c. The permit holder is not authorized to construct Phase 3B until such time that the waste boundary has been revised and an additional groundwater monitoring point location (proposed MW-19) between the closed unit and the lined unit to determine groundwater flow in the area has been approved by the Department and the groundwater monitoring point installed. The location of MW-19 as shown on Figure 1

attached to the December 22, 2009, HMSP submittal is not approved. The plan revisions of the Phase 3B waste boundary shall be submitted to the Department prior to construction.

- d. Development and Operations Plan, dated February 27, 2008, the changes included in Appendix 5 of the 2012 Permit Renewal, dated June 11, 2012, and supplemental information in the 2012 Permit Renewal Application, dated October 28, 2013, all as submitted by Barker Lemar Engineering Consultants and approved on January 6, 2014.
- e. 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 Logan 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).

- f. 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.
- g. 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 use the liner and leachate collection system in the Phase 1 and Phase 2 and the following:
 - a. The permit holder shall submit prior to next construction, updated plans and specifications prepared in accordance with rule 113.7.
 - b. The Construction Certification Report for the construction of the Phase II Expansion, dated September 2000, as submitted by Olsson Associates and approved on April 17, 2001, is incorporated into the permit documents.
 - c. The plans for construction of the Leachate Conveyance System, dated July 28, 2015, submitted by Barker Lemar Engineering Consultants, is hereby approved and incorporated into the permit documents.
 - d. The Leachate Conveyance System Construction Observation Report, dated August 8, 2016, as submitted by Barker Lemar Engineering Consultants, is hereby approved and incorporated into the permit documents.
 - e. The Iowa Professional Engineer Certification of Alternative Landfill Liner System dated December 19, 2007, and contained in the Alternative Liner Evaluation Report, Harrison County Landfill dated December 19, 2007, as submitted by Barker Lemar Engineering Consultants and approved, satisfies with either the requirements of subparagraph 113.7(5)"a"(2), or the requirements for a composite liner of subparagraph 113.7(5)"a"(1). The approved alternative liner system for this facility is applicable to Phase 1, Phase 2, Phase 3A, Phase 3B, Phase 3C, Phase 4A, and Phase 4B. This liner for Phase 1 consists of a 60 mil HDPE flexible membrane liner underlain by 2 feet of soil compacted with a coefficient of permeability of 5×10^{-7} cm/sec. This liner for Phases 2, 3A, 3B, 3C, 4A, and 4B consists of a 60 mil HDPE flexible membrane liner underlain by a 0.24 inch thick geosynthetic clay liner with a permeability of 5×10^{-9} cm/sec.
 - f. The Plans and Specifications contained in the Request For Approval To Construct The Phase 3A Cell, dated January 15, 2019, as submitted by Barker Lemar Engineering Consultants, is approved and included in the permit documents.
4. Hydrologic monitoring at the site shall be conducted in accordance with the hereby approved Hydrologic Monitoring System Plan (HMSP) updated May 2010 (Appendix 9 of 2012 Permit Renewal), both as submitted by Barker Lemar Engineering Consultants; and the following:
 - a. The HMSP shall include groundwater monitoring points MW-3A, MW-8A, MW-10, MW-11A, and MW-13.
 - b. The boring logs and well construction information for monitoring wells MW-13R, MW-14, and MW-15, dated April 18, 2018, as submitted by Barker Lemar Engineering Consultants, are hereby approved and included in the permit documents.

- c. The request to replace background wells MW-3A and MW-3B with MW-14 in the HMSP is approved.
- d. Department construction documentation form 542-1277 and boring logs for all monitoring wells and piezometers shall be submitted within 30 days of installation. Department construction documentation form 542-1323 shall be submitted within 30 days of establishing surface water monitoring points.
- e. 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 and total suspended solids (TSS) 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 ≤ 2 mg/l). Turbidity measurement may be approved by the DNR in lieu of TSS, provided a correlation between the two is established.
- f. 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.
- g. 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.
- h. Groundwater elevations must be measured semiannually within 1/100 of a foot in each well and each time groundwater is sampled.
- i. An Annual Water Quality Report (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 AWQR Format.
- j. The Abandoned Water Well Plugging Records for monitoring wells MWC-8a and MWC-8b, dated February 14, 1996, are incorporated as part of the permit documents. These wells were abandoned due to siltation problems. These wells were replaced with new wells in the same location and given the same well name designations.

- k. The Abandoned Water Well Plugging Records for monitoring wells MWC-9a and MWC-9b, dated April 6, 2000, are incorporated as part of the permit documents.
 - l. The well log and construction documentation forms, attached to the July 24, 2001 correspondence from Olsson Associates, for the construction of monitoring points MW-10, MW-11a, and MW-11b and approved on October 5, 2001 are incorporated as part of the permit documents.
 - m. The construction documentation for gas monitoring wells LFGW-1, LFGW-2, LFGW-3 and groundwater monitoring wells MW-12A and MW-13, dated July 13, 2010 as submitted by Barker Lemar Engineering Consultants is hereby incorporated into the permit documents.
 - n. As described in the letter dated April 14, 2015, submitted by Barker Lemar Engineering Consultants, the alternate source demonstration related to the groundwater impact measured in monitoring well MW-12A is hereby approved and incorporated into the permit documents.
 - o. As described in the 2015 AWQR dated December 18, 2015, submitted by Barker Lemar Engineering Consultants, the replacement of monitoring well MW-3A with monitoring well MW-3B is hereby approved and incorporated into the permit documents. Historical data from monitoring well MW-3A shall still be utilized in statistical analyses along with new data from MW-3B.
 - p. The ACM Extension Request, dated August 16, 2016, as submitted by Barker Lemar Engineering Consultants (doc #86950), is hereby approved and incorporated into the permit documents. The ACM preparation and submittal which was to occur by September 30, 2016 will now occur by December 31, 2019.
 - q. The Monitoring Well Installation and Abandonment documentation, dealing with the installation of wells MW-10R, MW-16, MW-17, LFGW-4R, and LFGW-6, and the abandonment of wells MW-10, MW-3C, MW-3B, MW-3A, and LFGW-4, dated September 27, 2019, as submitted by Barker Lemar Engineering Consultants, is hereby included in the permit documents.
 - r. The monitoring well abandonment forms for MW-6A, MW-6B, and MW-6C, dated August 12, 2020, as submitted by EVORA Consulting, are hereby included in the permit document.
5. The permit holder shall conduct gas monitoring in accordance with the approved Landfill Gas Monitoring Plan, dated February 24, 2009, and Figure 2-1 in supplemental information provided in the 2012 Permit Renewal Application, dated October 28, 2013, and the LFG Monitoring Well Installations, Methane Measurement, and Follow-up on the 60-Day Notification, dated December 31, 2013, all as submitted by Barker Lemar Engineering Consultants, 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 specified limits during the previous 12 months as a supplement to the facility Annual Water Quality Report, as defined in subrule 113.10(10).
6. The permit holder is authorized to compost yard waste in an area designated for composting activities. All composting activities shall be in accordance with IAC 567 Chapter 105.
 7. The permit holder is authorized to use composted yard waste for daily cover. Only finished compost meeting the provisions of IAC 567 Chapter 105 may be used for daily cover.
 8. The Harrison County transfer station that was previously permitted under permit #43-SDP-4-94P is incorporated as part of the landfill permit. The permit holder is authorized to conduct solid waste pre-disposal processing activities at the approved transfer station.
 9. The permit holder is authorized to use alternative intermediate covers, by the trade names *ConCover SW* or *Posi-Shell*, as a substitute for the one-foot intermediate soil cover requirement. Use of this material is subject to the following:
 - a. Use of *ConCover SW* or *Posi-Shell* as a substitute for one-foot of intermediate cover is authorized for a trial period of six months, to commence upon initiation of use of *ConCover SW* or *Posi-Shell*. During the six month trial period the permit holder shall inspect the material weekly and evaluate its effectiveness at controlling vectors, fires, odors, blowing litter and scavenging without presenting a threat to human health and the environment. Photographs of the material shall be taken during each weekly inspection and the results of the inspection recorded on the Log of Alternative Intermediate Cover Performance. At the conclusion of the trial period, the results of the weekly inspections shall be submitted to the DNR for review along with a summary of *ConCover SW* or *Posi-Shell's* performance and recommendations regarding its suitability for continued use as a substitute for one-foot of intermediate soil cover.
 - b. All landfill operations personnel shall be trained by the cover material manufacturer, or by an operator that has been trained by the manufacturer. The operator shall ensure that the product slurry is prepared according to the manufacturer's nominal slurry mix specifications, or demonstrated component blends that provide superior performance.
 - c. The waste shall be compacted, before this product is applied, to provide an even surface to minimize ponding, prevent pockets, and to maximize uniform surface drainage.

- d. This product shall be applied and cross applied in a manner to control fire or fire hazards, blowing litter, odors, insects, rodents, birds and other vectors. Additional product shall be applied whenever necessary to provide effective cover.
 - e. If this product does not set within **90 minutes** of application, it shall be covered with one foot of compacted soil or a fresh application of this product. The term set means form a cohesive barrier layer that adheres to the waste and resists washing off by precipitation. This product shall not be exposed for more than **60 days**. After 60 days, any area with this product exposed shall be either covered with a new lift of waste, a fresh application of this product, or one foot of compacted soil.
 - f. 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 the material must be suspended until proper corrections are made by the operator, with one foot of compacted intermediate cover being utilized during this interim period.
 - g. If, at any time, the DNR or permit holder deems this product to be ineffective or otherwise unsatisfactory, the permit holder shall immediately revert to the requirements of 567 IAC 113.8(2)“f”(2). The permit holder shall immediately notify the DNR’s Main and local Field offices 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.
 - h. Nothing in this provision shall be construed to authorize any waiver from the requirements of any other applicable state solid waste laws or regulations, or any deviations from permit provisions.
 - i. This provision shall not be interpreted to release the permit holder from responsibility under the Groundwater Protection Act for remedying conditions resulting from any release of contaminants to the environment.
10. 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.
11. The permit holder is authorized to collect and temporarily store used oil for recycling purposes. The storage tank(s) shall be designed and maintained to prevent the spillage or discharge of used oil. Absorbent material shall be available at the tank site for use by the operator to control used oil spillage or discharge. The used oil shall be processed in accordance with IAC 567 Chapter 119. The maximum length of time for storage is twelve (12) months.

12. 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.

13. 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 which 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.

14. The permit holder shall close the landfill site in accordance with the hereby approved Closure Postclosure Plan dated September 2007, and supplemental information in the 2012 Permit Renewal Application, dated October 28, 2013, all as submitted by Barker Lemar Engineering Consultants.

The Iowa Professional Engineer Certification of Alternative Landfill Cap System dated December 19, 2007 and contained in the Alternative Liner Evaluation Report, Harrison County Landfill dated December 19, 2007, as submitted by Barker Lemar Engineering Consultants and approved, satisfies the requirements of subparagraph 113.12(2). The approved alternative liner system for this facility is applicable to Phase 1, Phase 2, Phase 3a, Phase 3b, Phase 3c, Phase 4a, and Phase 4b. This cap consists of 24 inches of soil compacted with a coefficient of permeability of 4.2×10^{-5} cm/sec, underlain by a 200 mil geocomposite drainage layer, underlain by a 40 mil LLDPE FML, underlain by 18 inches of soil compacted with a coefficient of permeability 1×10^{-5} cm/sec.

Date	Comment
10/10/19	Approval of Monitoring Well Installation and Abandonment
12/02/19	Approval of Phase 3A Cell Plans and Specifications
8/21/2020	Approval of monitoring well abandonments of MW-6A, MW-6B, MW-6C