



May 14, 2021

KARMIN MCSHANE EXECUTIVE DIRECTOR  
CEDAR RAPIDS/LINN COUNTY SOLID WASTE AGENCY  
1954 COUNTY HOME ROAD  
MARION IOWA 52302

RE: Cedar Rapids/Linn County Solid Waste Agency Sanitary Landfill (Site #2 - Marion)  
Permit #57-SDP-01-72P

Dear Ms. McShane:

Enclosed is Amendment #7 to the permit issued December 16, 2016 for the Cedar Rapids/Linn County Solid Waste Agency Sanitary Landfill (Site #2 - Marion). The amendment must be kept with the permit and the approved plans at the sanitary disposal project in accordance with the recordkeeping and reporting requirements of subparagraph 113.11(1). Please review this amendment with your operators, as they must become familiar with it.


The enclosed amendment approves the *Request for Substitution of Geosynthetic Lined Material*, dated May 7, 2021, as submitted by HDR Engineering, Inc., and incorporates it as part of the permit documents.

Furthermore, the permit holder is authorized to construct an alternative final cover consisting of a 50-mil LLDPE Microdrain (top side), with a Microspike (textured bottom side), and a Geomembrane 8-oz Geotextile Overlay; in lieu of the previously approved 40-mil LLDPE Textured Geomembrane Geocomposite Drainage Overlay.

Note that the amendment may contain conditions that require a response or action by you, which if not properly complied with, may prompt enforcement action by the IDNR.

If you have any questions, you may contact me at (515) 537-4051.

Sincerely,

 Digitally signed by  
Nina M. Booker  
Date: 2021.05.14  
14:54:24 -05'00'

Nina M. Booker  
Environmental Engineer Senior  
Land Quality Bureau

Enclosure


cc: Field Office #1

HDR Inc.  
8404 Indian Hills Drive  
Omaha, NE 68114-4098

Garrett Prestegard, P.E.  
Cedar Rapids Linn County Solid Waste Agency  
1954 County Home Road  
Marion, IA 52302

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

- I. Permit Number: 57-SDP-01-72P  
Cedar Rapids/Linn County Solid Waste Agency  
Waste Management Site #2 (Marion)
- II. Permitted Agency: Cedar Rapids/Linn County Solid Waste Agency
- III. Project Location: Lot 1 of Landfill 3rd Addition to Linn County in the  
NW 1/4 of Section 16; and the SW 1/4 of Section  
16; all in Range 84 North, Township 6 West of the  
5th P.M.
- IV. Responsible Official  
Name: Karmin McShane, Executive Director  
Address: Cedar Rapids/Linn County Solid Waste Agency  
1954 County Home Road  
Marion, Iowa 52302  
Phone: 319-377-5290  
FAX: 319-398-1279
- V. Licensed Design Engineer  
Name: Morgan A. Mays  
Address: HDR Engineering, Inc.  
5815 Council St. NE, Suite B  
Cedar Rapids, IA 52402  
Phone: 319-373-2536  
FAX: 319-373-6106  
Iowa License Number: 22425
- VI. Date Permit Issued: December 16, 2016  
Date Permit Revised: May 14, 2021 **Amendment #7**
- VII. Permit Expiration Date: December 16, 2021

VIII. Issued by:  Digitally signed by Nina M.  
Booker  
Date: 2021.05.14 14:51:29  
-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 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 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 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 East Central Iowa Council of Governments (ECICOG) Comprehensive Plan, Part I. . The Comprehensive Plan as approved by the DNR on July 6, 2016; any approved amendments to the plan; and the latest plan update, are hereby incorporated as permit plan documents.

The permitted service area includes: All cities and the unincorporated area in Benton County; all cities, excluding Victor, and the unincorporated area in Iowa County; all cities and the unincorporated area in Johnson County; all cities and the unincorporated area in Jones County; all cities and the unincorporated area in Linn County; all cities and the unincorporated area in Tama County; and the Cities of Kalona and Riverside in Washington 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 approved Development and Operations Plan, as contained in Appendix B of the Municipal Solid Waste Landfill Permit Renewal Application-Cedar Rapids/Linn County Solid Waste Agency Site 2 (Permit Application), dated May 25, 2016, as submitted by HDR Engineering, Inc., and the following:
  - a. Waste disposal is limited to Phases 1, 2, 3, 4, and in the 13-acre Subtitle D cell. The site vertical height shall not exceed a maximum waste elevation of 914 ft. in Phase 4.

The *Phase 5A and Partial Closure Construction* request, dated December 18, 2020, as submitted by HDR, Inc., and approved on February 19, 2021, is incorporated as part of the permit documents. See DocDNA #99161 (Amendment #6)

The Construction Quality Assurance Plan, dated January 8, 2021, as submitted by HDR, Inc., and approved on February 19, 2021, is incorporated as part of the permit documents. See DocDNA #99272 (Amendment #6)

The permit holder is authorized to initiate construction of Phase 5A.

In accordance with 567 IAC Chapter 113.4(6), the IDNR shall be notified when the construction of Phase 5A or significant components thereof have been completed so that the Department may inspect the facility to determine if the project has been constructed in accordance with the design approved by the department.

Deviations from the approved plans and specifications shall be approved by the Department prior to their construction. Any further construction beyond Phase 5A shall require prior Department approval. No waste disposal shall commence in this expansion until the construction certification report has been submitted and the cell has been approved by the Department.

- b. 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 Marion 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).

- c. 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.
- d. 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.

- e. The review comments, dated September 8, 1998 from the Department's Conservation and Recreation Division relative to the comprehensive listing of plant and animal species, for all development and soil borrow areas, are incorporated as part of the permit documents.
  - f. The review comments dated January 17 and April 12, 2001 from the State Historical Society relative to the determination of the presence of and assessment of the impact on any archaeological, historical, or architecturally significant properties for all development and soil borrow areas on the proposed site, are incorporated as part of the permit documents.
3. The permit holder is authorized to operate the leachate collection system in accordance with the Development and Operations Plan, as contained in Appendix B of the Permit Application, dated May 25, 2016, as submitted by HDR Engineering, Inc., and the following:
- a. The permit holder shall notify the DNR and have the site inspected when the construction of a new Municipal Solid Waste Landfill Unit (MSWLF) unit or significant components thereof has been completed, in accordance with subrule 113.4(6). Prior to the inspection, the Quality Control & Assurance 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.
  - b. The Phase 1 Construction Quality Assurance Documentation, dated August 18, 2008; the additional tire chip information provided via email on August 26, 2008; and the Site #2 - Record Drawings, dated August 28, 2008; all as submitted by Howard R. Green Company; and approved on August 28, 2008, are incorporated as part of the permit documents.
  - c. The Landfill Construction Observation Report for the Phase 2 Cell Construction, dated July 8, 2010; the revised Section 10 of the QCA document received via email July 19, 2010; and the Tire Chips Testing Results, Phase 2, Site 2; dated September 9, 2010; all as submitted by Foth Infrastructure and Environment, LLC; and approved on September 10, 2010; are incorporated as part of the permit documents.
  - d. In accordance with the variance granted on March 30, 2012, the permit holder was authorized to construct the Phase 3 cell within 960 feet of the residential supply well located at 3099 Highway 13, Marion, Iowa 52302. 567 IAC 113.6(2)"j" would otherwise require that the Phase 3 cell be redesigned to keep the waste boundary at least 1000 feet from the residential supply well.
  - e. The Landfill Construction Observation Report, Phase 3 & 4 Cell Construction, dated June 14, 2013; and the supplemental construction documentation, provided during the cell

inspection on July 9, 2013; both as submitted by Foth Infrastructure and Environment, LLC, and approved on July 10, 2013, is incorporated as part of the permit documents.

- f. The Construction Quality Assurance Report – 30-Acre Closed Cell Leachate System Renovations; received via email July 28, 2016; as submitted by HDR, Inc. and approved on August 4, 2016; is incorporated as part of the permit documents.
  - g. The 2017 Leachate Lagoon Liner Repair and the included certification of the same, dated October 19, 2017, as submitted by the Cedar Rapids/Linn County Solid Waste Agency and approved on March 1, 2018, is approved and incorporated as part of the permit documents. (Amendment #2)
  - h. The *2018 Phase 1 Liner Repair* and the included certification of the same, dated November 12, 2018, as submitted by HDR Engineering, Inc. on behalf of the Cedar Rapids/Linn County Solid Waste Agency and approved on January 23, 2019, is approved and incorporated as part of the permit documents. See DocDNA#93838 (Amendment #3)
  - i. The *2020 Permit Amendment*, regarding design changes to the cap and cell liner systems, dated November 13, 2020, as submitted by HDR Engineering, Inc., and approved on February 19, 2021, is incorporated as part of the permit documents. See DocDNA#98937. (Amendment #6)
4. Hydrologic monitoring at the site shall be conducted in accordance with the Hydrologic Monitoring System Plan (HMSP) as contained in Appendix D of the Permit Application, dated May 25, 2016, as submitted by HDR Engineering, Inc.; and the following:
- a. The HMSP shall include upgradient groundwater monitoring points MW-201B, MW-211A, MW-214 and MW-215; downgradient groundwater monitoring points MW-9A, MW-15, MW-18, MW-19, MW-20, MW-22, MW-24, MW-26A, MW-300, MW-301, MW-302, MW-303, MW-304, and MW-305; and groundwater underdrain monitoring points GU-1, GU-2, GU-3, GU-4, GU-5 and GU-L.

The corrective action monitoring network shall include monitoring points MW-16, MW-28, MW-29, MW-30, MW-306, MW-307A, MW-307B and MW-308.

- b. Groundwater monitoring point MW-FM, installed as a countermeasure for a leachate force main, shall be monitored semiannually for the volatile organic compounds (VOCs) in Appendix I. If one or more VOCs are detected in two consecutive sampling events, the force main shall be inspected and repaired to correct any leaks. Additionally, the Department may require immediate inspection and repair of the force main if a single VOC detection occurs at a high concentration indicative of a release that requires repair prior to the next semiannual sampling event. Results from the semiannual sampling of MW-FM shall be submitted within 60 days of receiving the results from the laboratory, and an evaluation of the countermeasure's effectiveness shall be included in the annual LCSPE Report.



- c. Groundwater monitoring points not used for water quality analysis may be retained as water level measuring points.
- d. 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.

In accordance with the variance granted on August 26, 2011, the permit holder is authorized to construct shallow monitoring wells at the facility with a 6-inch concrete plug rather than a concrete plug extending 1 foot below the frostline. The variance was granted based on the request dated October 14, 2010 from Foth Infrastructure and Environment, LLC. which demonstrated that in shallow wells a 6-inch concrete plug was necessary to allow for an adequate bentonite seal between the filter pack and the ground surface.

The Well Installation Notification & HMSP Amendment containing documentation of the installation of monitoring points MW-305, MW-306, MW-307A, MW-307B, and MW-308; dated July 10, 2013; as submitted by Foth Infrastructure & Environment, LLC; and approved on January 16, 2014, is incorporated as part of the permit documents.

The well construction and abandonment forms for MW-9AR and MW-9A, respectively; both dated May 15, 2018, as attached to the June 4, 2018 electronic mail correspondence from HDR and approved on January 23, 2019, are incorporated as part of the permit documents. See DocDNA #92488. (Amendment #3)

The Well Abandonment Form 542-1226, dated August 31, 2020, as submitted by HDR Inc., for the abandonment of monitoring well MW-304, and approved on February 19, 2021, is incorporated as part of the permit documents. See DocDNA #98921 (Amendment #6)

The Monitoring Well Construction Documentation Form 542-1277, dated August 31, 2020, as submitted by HDR Inc., and approved on February 19, 2021, for the construction of replacement monitoring well MW-304R, is incorporated as part of the permit documents. See DocDNA #98921 (Amendment #6)

- 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  $\leq 2$  mg/l). Turbidity measurement may be approved by the DNR in lieu of TSS, provided a correlation between the two is established.
- f. As requested in the 2010 Annual Water Quality Report, dated January 25, 2011; as submitted by Foth Infrastructure and Environment, LLC; and approved on August 26,

2011; the department authorizes an alternative schedule for sampling of the full set of Appendix II constituents at all wells in assessment monitoring. In accordance with paragraph 113.10(6)"c", the annual resampling schedule for the full set of Appendix II constituents required by paragraph 113.10(6)"b" is altered to once every five years for all wells in assessment monitoring.

- g. 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.
  - h. 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.
  - i. The permit holder shall collect semiannual groundwater elevation measurements from the GU-1, PZ-P1 and PZ-P3 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". This data shall be included in the facilities' AWQR.
  - j. The permit holder shall submit the results of the routine semiannual sampling events within 60 days of receiving the results from the laboratory.
  - k. An AWQR summarizing the effects the facility is having on groundwater quality shall be submitted to the DNR's Solid Waste Section by January 31st 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.
  - l. The Assessment of Corrective Measures, received via email January 9, 2017, as submitted by HDR, Inc., and approved on January 12, 2017, is incorporated into the permit documents. The permit holder shall proceed with a public meeting, selection of a remedy and implementation of a corrective action plan in accordance with the requirements of 113.10.
5. The permit holder is authorized to recirculate leachate through buried recirculation pipes in the Phase 1 and Phase 2 cells in accordance with the Leachate Recirculation Operations Plan, as contained in Appendix B-Attachment B-6 of the Permit Application, dated May 25, 2016, as submitted by HDR Engineering, Inc.; and the following:
- a. Leachate application is restricted to only those MSWLF units with a composite liner constructed in accordance with paragraph 113.7(5)"a".

- b. The leachate recirculation system shall not contaminate waters of the state, contribute to erosion, damage cover material, harm vegetation, or spray persons at the MSWLF facility, pursuant to paragraph 113.8(2)“h”.
  - c. Leachate shall not be applied on user vehicle access areas.
  - d. Leachate shall not be applied to vegetated areas or frozen waste cover. A means of frost protection must be provided for all leachate control elements.
  - e. Leachate shall be applied evenly on the working area.
  - f. Leachate recirculation shall be conducted only during hours of operation and when an operator is on duty.
  - g. Leachate shall be applied in a manner such that ponding or runoff will not occur.
  - h. Leachate recirculation shall be controlled such that not more than one foot of leachate head will be allowed to accumulate above the MSWLF unit liner.
  - i. Records shall be maintained as to the time and quantities of leachate application and be submitted with the facility Annual Leachate Control System Performance Evaluation Report (LCSPER).
  - j. Leachate recirculation shall be immediately terminated if it causes ponding, runoff, excessive odor, vector control problems, vapor drift, ice formation, or operational problems. The DNR’s local Field office shall be immediately notified if any of the above events occur.
6. The permit holder shall conduct subsurface gas monitoring in accordance with the Methane Migration Monitoring Plan, as contained in Appendix E of the Permit Application, dated May 25, 2016, as submitted by HDR Engineering, Inc.; 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. Subsurface gas monitoring shall be conducted at monitoring points GP-1, GP-2, GP-3, MW-19, MW-22 and groundwater underdrains GU-1, and P1-P4 Sump.
  - c. The Well Abandonment Forms 542-1226, dated September 3, 2013, as submitted by Foth Infrastructure and Environment, LLC, and approved on February 17, 2015, are incorporated into the permit documents. The forms document the abandonment of monitoring wells MW-06, MW-07 and MW-08; and gas probes GP-02 and GP-03.

The Well Abandonment Form 542-1226, dated August 28, 2020, as submitted by HDR Inc., and approved on February 19, 2021, for the abandonment of gas probe GP-3, is incorporated as part of the permit documents. See DocDNA #98921 (Amendment #6)

The Monitoring Well Construction Documentation Form 542-1277, dated August 28, 2020, as submitted by HDR Inc., and approved on February 19, 2021, for the construction of replacement gas probe GP-3R, is incorporated as part of the permit documents. See DocDNA #98921 (Amendment #6)

- d. 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).
7. The permit holder shall operate the gas collection system in accordance with the Landfill Gas Collection and Control System, dated August 1, 2009; and the revised detail sheet #8 received via email on August 20, 2009; both as submitted by Foth Infrastructure & Environment, LLC, and approved on October 1, 2009, and the following.
  - a. The Landfill Gas Collection and Control System Construction Certification Documentation, contained in the permit amendment correspondence, dated December 18, 2011, as submitted by Foth Infrastructure and Environment, LLC., is approved and incorporated into the permit documents.
  - b. The expansion of the gas collection system through the installation of gas wells GW-22, GW-23, GW-24 and GW-25; in accordance with the Installation of Gas Wells, dated November 11, 2014; and the revised gas well detail, received via email November 18, 2014; both as submitted by Foth Infrastructure and Environment, LLC, and approved on November 18, 2014; are incorporated as part of the permit documents.
  - c. The 2019 Landfill Gas Collection and Control System Expansion, dated May 29, 2019, as submitted by HDR Engineering, Inc. and approved on June 10, 2019, is incorporated as part of the permit documents. (Amendment #4)
  - d. The *Construction Quality Assurance (CQA) Report for the 2019 Landfill Gas Collection and Control System (GCCS) Expansion*, dated June 25, 2020 (*Volumes 1, 2, and 3*), as submitted by HDR and approved on August 13, 2020; is approved and incorporated as part of the permit documents. (Amendment #5)
8. 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.
9. The permit holder is authorized to use a geosynthetic tarp by the trade name tarpARMOR, deployed by a tarping machine, as an alternative cover material for the active MSWLF unit, subject to the following:

- e. The use and installation of this product shall be in conformance with the manufacturer's recommendations.
  - f. 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.
  - g. 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.
  - h. This product shall be weighted at the close of each working day to prevent displacement by wind.
  - i. This product shall not be exposed for longer than **seven (7)** consecutive days. For any waste covered with this product beyond the stipulated time frame, the product shall be removed and the underlying waste shall be immediately covered with soil in accordance with the applicable IAC rules.
  - j. 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.
  - k. 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.
  - l. If, at any time, the Department or permit holder deems this product to be 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 Department'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
10. The permit holder is authorized to accept dewatered ash from the Cedar Rapids Water Pollution Control Facility, under Permit #57-SDP-07-85P. The permit holder is authorized to use an ash/soil combination as an alternative cover material, subject to the following:
- a. The ratio of ash to soil shall not exceed 50% ash by volume. Quantities exceeding 1-week usage shall be disposed in the workface area. Only ash placed at a ratio of 6:1 (6 tons of waste to 1 ton of approved ash) will be considered alternative daily cover. Any material used in excess of that ratio shall be reported as waste.
  - b. Ash shall be stockpiled on top of the existing fill areas and necessary measures shall be utilized to prevent wind and water erosion.

- c. The ash/soil may be used in lieu of the 6-inch daily cover requirement. Ash/soil shall not be used as a substitute for intermediate or final soil cover.
  - d. The waste must be compacted, before the ash/soil is applied, to provide an even surface to minimize ponding, prevent pockets, and to maximize uniform surface drainage.
  - e. Ash/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.
  - f. The soil ratio shall be increased, if necessary, to optimize cover performance relative to the criteria stated in items "d" and "e" above.
  - g. The permit holder shall scarify the ash/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.
  - h. The permit holder shall maintain in the landfill files appropriate annual laboratory analytical documentation that demonstrates that the ash is not hazardous by TCLP metals testing. Annual testing shall also be conducted to demonstrate that the ash passes a paint filter test. In addition to annual testing, TCLP and paint filter testing shall be conducted any time the waste characteristics change. Documentation reporting of such testing shall be submitted to both the Department's Main and local Field office.
  - i. The use of ash/soil for daily cover by any other generator than the one approved above shall be subject to specifications approval by the Department.
  - j. If the ash/soil is found by the Department not to be performing satisfactorily, its use shall be discontinued and the remaining materials shall be disposed in the working face.
11. The permit holder is authorized to accept dewatered lime sludge generated by the water treatment process at the Cedar Rapids Water Department. The permit holder is authorized to use a lime sludge/soil combination as an alternative cover material, subject to the following:
- a. The ratio of lime sludge to soil shall not exceed 50% lime sludge by volume. Only lime sludge placed at a ratio of 6:1 (6 tons of waste to 1 ton of approved lime sludge) will be considered alternative daily cover. Any material used in excess of that ratio shall be reported as waste.
  - b. Lime sludge received January 1 through June 30 shall be used by December 31, and that received July 1 through December 31 shall be used by July 1.
  - c. Lime sludge shall be stockpiled on top of the existing fill areas and necessary measures shall be utilized to prevent wind and water erosion.

- d. The lime sludge/soil may be used in lieu of the 6-inch daily cover requirement. Lime sludge/soil shall not be used as a substitute for intermediate or final soil cover.
  - e. The waste must be compacted, before the lime sludge/soil is applied, to provide an even surface to minimize ponding, prevent pockets, and to maximize uniform surface drainage.
  - f. Lime sludge/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.
  - g. The soil ratio shall be increased, if necessary, to optimize cover performance relative to the criteria stated in items "e" and "f" above.
  - h. The permit holder shall scarify the lime sludge/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.
  - i. The permit holder shall maintain in the landfill files appropriate quarterly laboratory analytical documentation that demonstrates that the lime sludge contains no free liquids by paint filter testing. Documentation reporting of such testing shall be submitted to both the Department's Main and local Field office.
  - j. The use of lime sludge/soil for daily cover usage by any other generator than the one approved above shall be subject to specifications approval by the Department.
  - k. If the lime sludge/soil is found by the Department not to be performing satisfactorily, its use shall be discontinued and the remaining materials shall be disposed in the working face.
12. The permit holder is authorized to accept paper sludge from the Cedar River Paper Company facility in Cedar Rapids, Iowa. The permit holder is authorized to use a paper sludge/soil combination as an alternative cover material, subject to the following:
- a. The ratio of paper sludge to soil shall not exceed 50% paper sludge by volume. Quantities exceeding 1-week usage shall be disposed in the workspace area. Only paper sludge placed at a ratio of 6:1 (6 tons of waste to 1 ton of approved paper sludge) will be considered alternative daily cover. Any material used in excess of that ratio shall be reported as waste.
  - b. The paper sludge/soil may be used in lieu of the 6-inch daily cover requirement. Paper sludge/soil shall not be used as a substitute for intermediate or final soil cover.
  - c. The waste must be compacted, before the paper sludge/soil is applied, to provide an even surface to minimize ponding, prevent pockets, and to maximize uniform surface drainage.

- d. Paper sludge/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 paper sludge/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 use of paper sludge/soil for daily cover usage by any other generator than the one approved above shall be subject to specifications approval by the Department.
  - h. If the paper sludge/soil is found by the Department not to be performing satisfactorily, its use shall be discontinued and the remaining materials shall be disposed in the working face.
13. The permit holder is authorized to use finished compost from the Cedar Rapids/Linn County Solid Waste Agency Co-Composting Facility under Permit #57-SDP-20-95P. The permit holder is authorized to use finished compost as an alternative cover material, subject to the following:
- a. The finished compost may be used as an alternative daily cover material without mixing with soil.
  - b. The finished compost may be used in lieu of the 6-inch daily cover requirement. Finished compost shall not be used as a substitute for intermediate or final soil cover.
  - c. The waste must be compacted, before the finished compost is applied, to provide an even surface to minimize ponding, prevent pockets, and to maximize uniform surface drainage.
  - d. Finished compost 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 finished compost 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 use of finished compost for daily cover usage by any other generator than the one approved above shall be subject to specifications approval by the Department.
14. The permit holder is authorized to use wood chips/recovered ground wood from C&D wastes/compost. The permit holder is authorized to use a wood wastes/compost/soil combination as an alternative cover material, subject to the following:



- a. The ratio of wood wastes/compost to soil shall not exceed 33% wood wastes/compost by volume. The mixture must be blended with natural soils; compost alone shall not be substituted for the soil. Only wood wastes/compost placed at a ratio of 9:1 (9 tons of waste to 1 ton of approved wood wastes/compost) will be considered alternative intermediate cover. Any material used in excess of that ratio shall be reported as waste.
  - b. The wood wastes/compost/soil may be used in lieu of the 1-foot or 2-foot intermediate cover requirements. Wood wastes/compost/soil shall not be used as a substitute for final soil cover.
  - c. Wood wastes/compost/soil shall be applied at least 1-foot thick in areas that have not or will not receive wastes for at least 30 days. Wood wastes/compost/soil shall be applied at least 2-foot thick in areas that have not or will not receive wastes for at least 180 days.
  - d. The waste must be compacted, before the wood wastes/compost/soil is applied, to provide an even surface to minimize ponding, prevent pockets, and to maximize uniform surface drainage.
  - e. Areas covered with wood wastes/compost/soil shall be seeded if they will not receive waste for a full growing season.
  - f. The soil ratio shall be increased, if necessary, to optimize cover performance relative to the criteria stated in items "d" and "e" above.
  - g. The permit holder shall scarify the wood wastes/compost/soil cover material over the working face area on which it is applied prior to resuming use of that area as a working face.
  - h. If, at any time, the Department or permit holder deems this alternative cover material to be ineffective or otherwise unsatisfactory, the permit holder shall immediately revert to soil or another previously approved alternative intermediate cover. The permit holder shall immediately notify the Department'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.
15. In accordance with the variance approval dated November 16, 2015, the permit holder is authorized to directly, and immediately upon receipt, dispose of untreated petroleum contaminated soils (PCS) at the working face in accordance with the following:
- a. The PCS must be determined to be non-hazardous (via federal exemption and/or analytical testing) and immediately buried at the working face.
  - b. The untreated PCS must not contain free liquids as determined by the paint filter liquids test (EPA Method 9095), nor exhibit one of the four characteristics of a hazardous waste

defined in 40 CFR Part 261 Subpart C for ignitability (D001), corrosivity (D002), reactivity (D003) and toxicity (D004-D0043).

- c. PCS resulting from the cleanup of petroleum underground storage tanks are exempt from RCRA hazardous waste management if the media and debris 1) exhibit 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 aboveground storage tanks, other surface spills, or if the PCS become 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 followed. 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).
16. The permit holder is authorized to solidify liquid wastes in accordance with the *Liquid Solidification Pilot Project Permit Amendment Request*, dated January 26, 2018, as submitted by the Cedar Rapids/Linn County Solid Waste Agency, and the following:
- a. The *Liquid Solidification Pilot Project Report*, dated May 20, 2019, as submitted by the Cedar Rapids/Linn County Solid Waste Agency was approved on June 10, 2019. (Amendment #4)
- The pilot project was approved on January 23, 2019. (Amendment #3)
- b. All liquid waste solidification process shall be conducted over the composite liner constructed in the adjacent Phase 2 and Phase 4 units.
  - c. Liquid wastes shall be unloaded in a trench/pit constructed with absorbent coal combustion residue (CCR) materials. The documentation and reporting requirements include remission of the appropriate tonnage fees for all solidified liquid wastes, including both the liquid wastes (which includes solidification of on-site generation of leachate) and absorbents used to treat the wastes, on the appropriate reporting forms.
  - d. Use of any other absorbents must be approved by the DNR prior to use. The liquids will be mixed with absorbent materials and mixed until the liquids have been solidified sufficiently to pass the paint filter test. No run-off of liquids shall occur during mixing.
- If fly ash is used as the absorbent material, paint filter tests shall not be required if the application rate is less than 200 gallons of liquid waste per cubic yard of fly ash and visual observation of the final mixture indicates no free liquids.
- e. The solidified liquids shall be disposed at the working face.

- f. Liquid waste solidification processes shall not be conducted during significant rain events, high wind conditions, or extremely cold temperatures.
  - g. Documentation of the following must be retained and made available for DNR review upon request:
    - 1) Liquids waste generator name,
    - 2) Waste description and quantities,
    - 3) Documentation that the accepted materials are nonhazardous, and
    - 4) EPA Method 9095B paint filter test results, if required.
  - h. Fly ash or CCR intended to be used as an absorbent shall only be stored onsite within the footprint of the composite liner system for a maximum period of 1 week unless covered to prevent blowing dust (i.e. tarp, wind screening and/or wetting).
  - i. The permit holder shall remit quarterly, the appropriate tonnage fees for all solidified liquid wastes, including both the liquid wastes and absorbents used to treat the wastes, on the appropriate reporting forms. The use of the absorbents in this manner constitutes treatment of waste for disposal and therefore is not a beneficial use.
  - j. If, at any time, the Department or permit holder deems the project to be ineffective or otherwise unsatisfactory, the permit holder shall immediately terminate the project until otherwise notified.
17. In accordance with the *Liquid Solidification Pilot Project Permit Amendment Request*, dated January 26, 2018, as submitted by the Cedar Rapids/Linn County Solid Waste Agency and approved on June 10, 2019, the permit holder is authorized to use liquids solidified with fly ash as an alternative cover material, subject to the following (Amendment #4):
- a. Liquids solidified with fly ash material may be used as an alternative daily cover with or without mixing with soil. Quantities exceeding 1-week usage shall be disposed in the workspace area. Only fly ash placed at a ratio of 6:1 (6 tons of waste to 1 ton of approved fly ash) will be considered alternative daily cover. Any material used in excess of that ratio shall be reported as waste.
  - b. The fly ash/soil may be used in lieu of the 6-inch daily cover requirement. Fly ash or fly ash/soil shall not be used as a substitute for intermediate or final soil cover.
  - c. The waste must be compacted, before the fly ash or fly ash/soil is applied, to provide an even surface to minimize ponding, prevent pockets, and to maximize uniform surface drainage.
  - d. Fly ash or fly ash/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. Soil shall be added or 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 fly ash or fly ash/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 hydrate the fly ash or fly ash/soil, as necessary, for controlling blowing dust and air emissions from the working face. On windy days, the unloading operations shall be halted until wind conditions allow resumption of controlled covering activities.
  - h. The permit holder shall maintain in the landfill files appropriate quarterly laboratory analytical documentation that demonstrates that the fly ash is not hazardous by TCLP testing. Documentation reporting of such testing shall be submitted to both the DNR’s Main and local Field office.
18. The permit holder is authorized to utilize CCR as a base or surfacing material in future access roads and wet weather pads, as approved on June 10, 2019. CCR that is utilized for these purposes will be applied to soil covered areas of the site using a dozer and the material will be blended with soil using a ripper attachment. CCR will only be used in this manner on areas that are within the limits of the landfill’s Subtitle D lined footprint.  
(Amendment #4)
19. The permit holder shall close the landfill site in accordance with the approved Closure Criteria and Closure/Post Closure Plans, as contained in Appendix 6 of the Site No. 2 Permit Renewal application, dated November 7, 2009; the approved revised plan sheet 31 with final cover details, contained in the permit amendment correspondence, dated December 18, 2011; and the approved soil inventory contained in the response to comments, dated May 24, 2012; all as submitted by Foth Infrastructure and Environment, LLC., and the following:
- a. The 30 Acre Cell is closed in accordance with the Construction Certification Report for the Vertical Expansion Final Cover, included as Attachment 2 in the supplemental permit renewal documentation, dated August 29, 2002, as submitted by Midwest Environmental Consulting and approved on March 4, 2003; the Quality Control and Assurance (QC&A) Documentation for Site No. 2 Phase 1 Cell Construction and 30 Acre Cell Closure, dated August 18, 2008, and the Record Drawings for Phase 1 Cell Construction and Closure of 30 Acre Cell, dated August 28, 2008; both as submitted by Howard R. Green Company; both approved on August 28, 2008; the Phase 1 Construction Quality Assurance Documentation, dated September 2, 2008, as submitted by Howard R. Green Company, and approved August 26, 2011; and the approved cover thickness verification contained in the permit amendment correspondence, dated December 18, 2011, as submitted by Foth Infrastructure and Environment, LLC. The final cover along the northwest, the north, and the northeast sides of the 30 Acre Cell, covering approximately 3 acres, consists of at least 2 feet of uncompacted soil, as specified in the Quality Assurance Testing for Leachate System Renovation Project,

received via email April 18, 2016; as submitted by HDR, Inc. and approved on May 3, 2016. Final cover over the remaining portions of the 30 acre cell consists of 2 feet of compacted soil with a coefficient of permeability of  $1 \times 10^{-7}$  cm/sec or less overlain by 2 feet of uncompacted soil.

- b. **The *Request for Substitution of Geosynthetic Lined Material*, dated May 7, 2021, as submitted by HDR Engineering, Inc., is hereby approved and incorporated as part of the permit documents. See DocDNA#100463. (Amendment #7)**

**The permit holder is authorized to construct the alternative final cover as shown in the associated figures attached to the request. The alternative cover consists of a 50-mil LLDPE Microdrain (top side), with a Microspike (textured bottom side), and a Geomembrane 8-oz Geotextile Overlay; in lieu of the previously approved 40-mil LLDPE Textured Geomembrane Geocomposite Drainage Overlay.**

- c. Effective control of leachate in unlined units shall be evaluated on a case-by-case basis to determine how to achieve the lowest possible leachate head; and by complying with the environmental monitoring and corrective action requirements for groundwater and surface water.
- d. The review comments, dated April 3, 2001, from the Linn County Soil & Water Conservation District relative to compliance with wind and soil loss limit regulations, for all development areas, are incorporated as part of the permit documents.