

October 17, 2025

Brad Davison, Environmental Specialist  
IDNR – Land Quality Bureau  
6200 Park Avenue, Suite 200  
Des Moines, Iowa 50321



**RE: SEMI-ANNUAL INSPECTION – FALL 2025  
JACKSON COUNTY SANITARY LANDFILL  
IDNR PERMIT #49-SDP-01-74C - CLOSED  
HLW PN 6040**

Dear Mr. Davison:

In accordance with Special Provision X.6 of the SDP Closure Permit dated August 29, 1994, a semi-annual inspection of the Jackson County SLF was conducted during the morning of October 14, 2025. Frank Frieberg, Director of Operations, Waste Authority of Jackson County, was notified of the results of the inspection upon completion. Conditions at the time of the inspection were partly sunny and breezy with temperatures in the 40's.

**Status of the Permit**

The Closure Permit was issued on August 29, 1994. The facility has received the following amendments to the Permit to date:

- Permit Amendment #1, December 16, 1994, removed the methane gas ventilation system maintenance requirements from the closure permit since the permittee decided not to install the gas ventilation system detailed on Sheet 3 of the Closure/Postclosure Plan.
- Permit Amendment #2, January 28, 1997, approved the installation of the Methane Collection System detailed in the January 17, 1997 submittal from Midwest Environmental Consulting (Doc # 51082). Replaced Special Provision X.11.
- Permit Amendment #3, May 27, 1988, modified the sampling requirements by approving the variance to IAC 267-103.2(4)b to measure site monitoring wells on a quarterly versus monthly basis.
- Permit Amendment #4, September 4, 1998, approved the as built plans of the modification of the "let down structure in the southerly landfill sideslope" (Doc #51079) and continued the "supplemental semiannual sampling and testing of MW-15 and SW-3 for both arsenic and benzene".
- Permit Amendment #5, June 8, 2000, revised the permit to discontinue the supplemental monitoring for Benzene at MW-15.
- Unnumbered Permit Amendments, February 28, 2001 and March 30, 2001, required the submittal of an Emergency Response and Remedial Action Plan (ERRAP). Also revised Permit Provisions regarding yard waste and the Annual Water Quality Report.
- Permit Amendment #6, October 26, 2001, deleted Special Provision X.13 of the Closure Permit.

- Permit Amendment #7, January 30, 2002, approved the Emergency Response and Remedial Action Plan dated December 28, 2001 submitted by Midwest Environmental Consulting (Doc #51067).
- Permit Amendment #8, January 25, 2005, modified the sampling requirements by approving the installation of 05MW-21 and requiring that 90MW-15 and 05MW-21 be sampled for EPA Appendix I during the Fall 2005 sampling event.
- Permit Amendment #9, March 7, 2006, modified numerous sampling requirements – replaced Special Provision X.5.
- Permit Amendment #10, February 16, 2012, modified numerous sampling requirements – replaced Special Provision X.5.d.
- Unnumbered Permit Amendment, May 22, 2013, eliminated the requirement to submit a Semiannual Water Quality Report.
- Permit Amendment #11, March 17, 2015, authorized temporary changes to the HMSP during calendar year 2015.
- Permit Amendment #12, January 19, 2016, authorized temporary changes to the HMSP during calendar year 2016 and required a review of total suspended solids (TSS) and turbidity testing. Sampling procedures have been modified to address this amendment, and a letter discussing TSS and field turbidity measurements was submitted to IDNR on November 16, 2016 (Doc #87796). IDNR accepted the TSS/field turbidity correlation in the letter on January 24, 2017.
- Permit Amendment #13, August 8, 2016, authorized the semi-annual monitoring of Gas Probes GP-1, GP-2, GP-3, GP-4 and GP-5 as a substitute for the quarterly ambient air monitoring. Note quarterly monitoring of on-site structures was still required by this Amendment.
- Permit Amendment #14, January 24, 2017, authorized temporary changes to the HMSP during calendar year 2017.
- Permit Amendment #15, January 8, 2018, authorized temporary changes to the HMSP during calendar year 2018.
- Permit Amendment #16, July 16, 2018, changed the explosive gas monitoring frequency of the on-site structure from quarterly to semi-annually.
- Permit Amendment #17, May 14, 2024, extended the SDP Permit expiration date by 5 years (to August 29, 2028). Also changed the frequency of explosive gas monitoring at GP-3 from semi-annually to quarterly, required measurement of static water levels at subsurface gas probes, required installation of a new gas probe (GP-6) by September 30, 2024, and required installation of a passive gas vent trench near GP-3 by September 30, 2024.

### **Conformance with SDP Permit Special Provisions**

SP#1 - The thirty-year post closure period began on August 29, 1994.

SP#2 - The closed landfill is being maintained in general accordance with the approved Closure/Post-Closure Plan.

SP #3 - The facility is closed. There are no waste disposal or related activities taking place.

SP #4 - The closure compliance documentation required by this Special Provision was submitted to IDNR on December 21, 1994 (Doc #51083).

SP #5 - The Fall semi-annual water sampling was conducted October 14, 2025, in accordance with the applicable Permit Amendments.

All monitoring wells viewed during the inspection were locked.

SP #6 - The Fall Semi-Annual inspection was completed on October 14, 2025.

SP #7 - Diversion and drainage systems are being maintained. Additional discussion on the condition of the cap is included in the “Additional Comments” section below.

SP #8 - The vegetative cover is being maintained. Additional discussion on the condition of the cap is included in the “Additional Comments” section below.

SP #9 - The integrity and effectiveness of the final cover system is being maintained. Additional discussion on the condition of the cap is included in the “Additional Comments” section below.

SP #10 - Methane gas monitoring is conducted quarterly at GP-3 and GP-6, and semi-annually at all other points in accordance with the applicable Permit Amendments. Methane gas monitoring results will be included in the Annual Water Quality Report.

SP #11 - Approved the installation of the methane gas ventilation system shown on Sheet 3 of the approved Closure/Postclosure Plan. Note this Special Provision was replaced in Permit Amendment #2 dated January 28, 1997.

SP #12 - Based on a risk assessment, the closed landfill does not require a leachate control plan.

SP #13 - Required the submittal of a “financial assurance plan, emergency response/remedial action plan, and a financial assurance instrument”. The financial assurance requirements were deleted in Permit Amendment #6 dated October 26, 2001. An Emergency Response and Remedial Action Plan was submitted and approved in Permit Amendment #7 dated January 30, 2002.

### **Annual Water Quality Report**

The 2024 Annual Water Quality Report (AWQR) was received by IDNR on November 21, 2024 (Doc #111396). IDNR comments on the 2024 AWQR were received on January 21, 2025 (Doc #111914). No response to IDNR was required.

## **Monitoring Well Maintenance Performance Reevaluation Plan**

The most recent Monitoring Well Maintenance Performance Reevaluation Plan (MWMPRP) was submitted to IDNR for review on April 19, 2022 (Doc #102862). The report recommended no changes to the monitoring well system or the Hydrologic Monitoring System Plan. As per IDNR Regulations, the MWMPRP is required every 5 years.

## **Gas Monitoring System Plan**

The gas probe (GP-6) required by Permit Amendment #17 was installed on July 25, 2024 with construction documentation submitted to IDNR on August 16, 2024 (Doc #110712). The location of GP-6 is included on the attached figure.

The passive gas vent trench required by Permit Amendment #17 was installed during September, 2024. The area disturbed during the vent trench installation, which is outside of the waste boundary, is becoming vegetated and should be observed over time to document improvements to the vegetation. The location of the passive gas vent trench is included on the attached figure. Documentation on the installation of the passive gas vent trench was provided to IDNR on November 1, 2024 as required by the Permit Amendment. IDNR approved the passive gas vent trench on November 4, 2024 (Doc #111244). GP-6, Trench (E), and Trench (W) have been added to the Gas Monitoring System Plan.

## **Additional Comments**

The IDNR Document DNA website was reviewed and found no recent site visits by IDNR Field Office #1. The last record HLW Engineering has of an IDNR Field Office #1 visit was on September 16, 2015. The inspection report stated that the facility was well maintained. Other comments in the report are addressed in this inspection report.

The site was mowed in 2025 and is in overall excellent condition.

The gas extraction system along the east property boundary was not operating during the inspection. Mr. Frieberg indicated that the system operates intermittently controlled by a timer and that he will verify that the system is operational.

The bare areas previously noted east of GP-1 were reseeded in recent years. Shallow gas vents were also added in the areas east of GP-1, the locations of the vents are included on the attached figure. The seeding and the venting appear to have a positive impact in the vicinity of the vents, and the vegetation appears improved in 2025.

Other areas of sparse vegetation were also noted during the inspection – these areas are shown on the attached figure and will continue to be monitored during future inspections. The areas of sparse vegetation may also be caused by landfill gas venting through the cap.

Small areas of historically ponded water were not observed on the landfill cap during this inspection. The areas of the historic ponded water are illustrated on the attached figure.

The riprap area at the location of the former leachate seep east of the maintenance building was reviewed. Minor amounts of liquid were noted in the riprap during this inspection, with no apparent flow from the riprap. Riprap was added to the area in 2025, the riprap has appeared to work well to date in reducing wildlife damage to vegetation in this area. Note that deer previously damaged two portions of the slope north of the riprap adjacent to the riprap area at the approximate locations shown on the attached figure. Seepage has previously been noted from these areas, although no flow was noted in these areas during this inspection. The riprap area appears to contain any seepage that may occur from these areas. It is reported that the roadbed for the site road near to the riprap area was also raised in 2025.

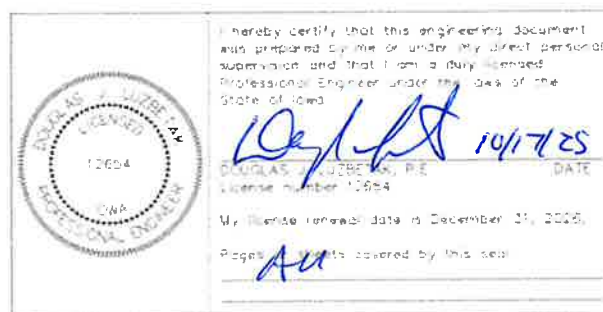
The small trees previously noted in the stabilized drainageway northeast of the maintenance building have been removed and the drainageway was again mowed in 2025.

Based on observations during this inspection, the facility appears to be in general conformance with the closure permit.

This report is based on observations made at the site at the time of the inspection and the information sources referenced in the report. This report does not reflect typical variations experienced at the site throughout the year or variations in conditions that may be observed at the site at other times.

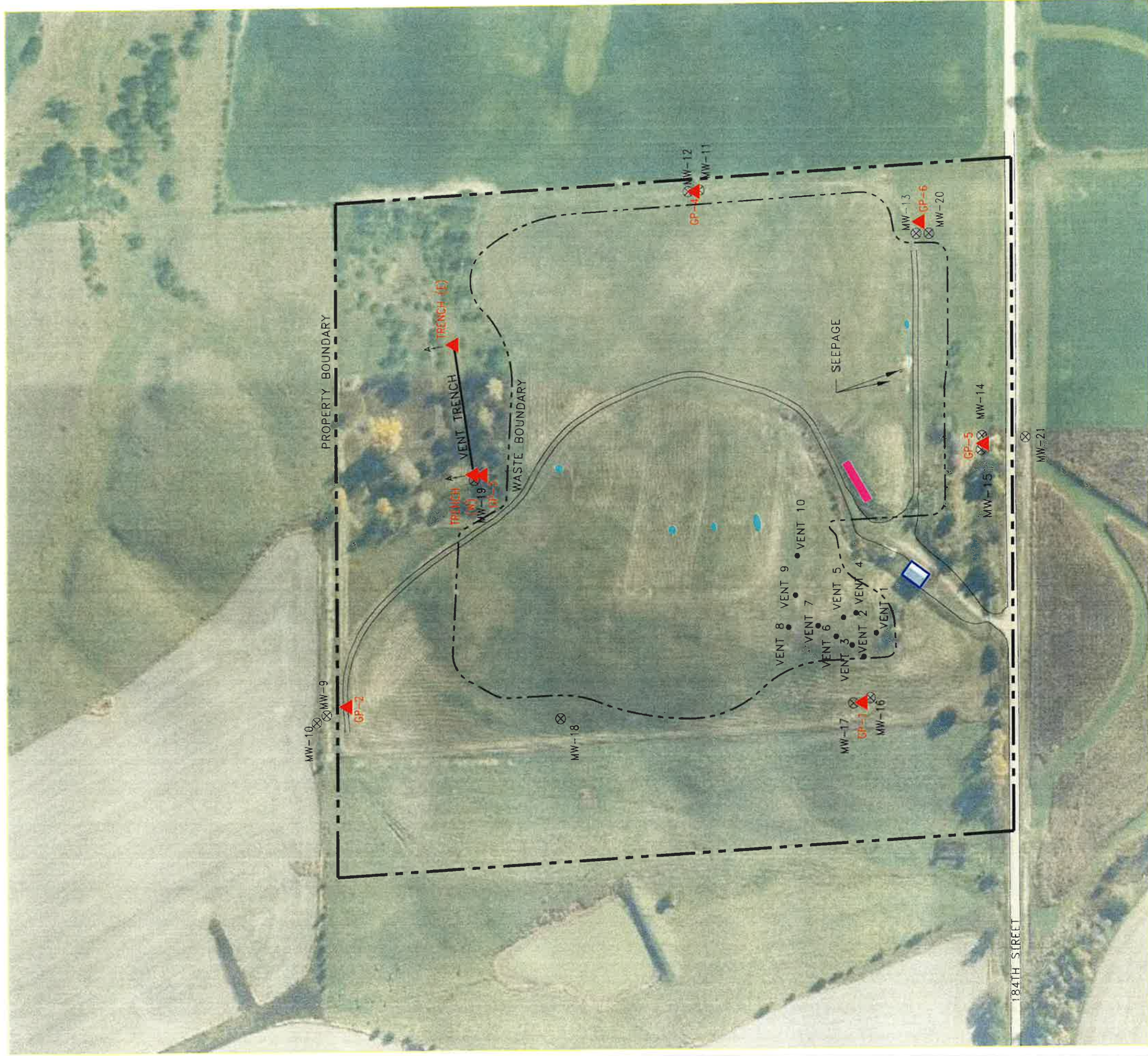
### **Recommendations**

1. Verify that the gas extraction system along east property boundary is operational.
2. Monitor the area disturbed during vent trench installation and reseed if needed.
3. Monitor sapling regrowth in stabilized drainageway and cut (or mow) saplings when required.
4. Continue to monitor the riprap area east of the building for signs of leachate seepage and/or flow.
5. Continue to monitor the vegetation east of GP-1 to determine if the shallow gas vents have led to permanent improvements.
6. Continue to monitor vegetation and erosion and repair as needed.



cc: Frank Frieberg, Director of Operations, Waste Authority of Jackson County (electronic copy)





- THIN VEGETATION
- RIPRAP
- SEEPAGE
- HISTORIC PONDED WATER (DRY OCTOBER 14, 2025)

AERIAL DATED AUGUST 24, 2023 (EAST 1/3)  
AERIAL DATED OCTOBER 21, 2023 (WEST 2/3)

AERIAL PROVIDED BY THE IOWA STATE UNIVERSITY GEOGRAPHIC INFORMATION SYSTEMS SUPPORT AND RESEARCH FACILITY IN COOPERATION WITH THE IOWA DEPARTMENT OF NATURAL RESOURCES, THE USDA NATURAL RESOURCES CONSERVATION SERVICES, AND THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY.

HLW Engineering Group  
204 West Broad Street, P.O. Box 314  
Story City, Iowa 50248  
Phone: (515) 733-4144  
FAX: (515) 733-4146



SITE PLAN  
INSPECTION - FALL 2025  
JACKSON COUNTY SANITARY LANDFILL  
MAQUOKETA, IOWA

FIGURE: 1		NO.	DATE
REVISION			
DRAWN JGH	PROJECT NO. 6040-25A	DATE 10/16/25	