

January 18, 2023

Bill Blum  
Program Planner 3  
IDNR – Land Quality Bureau  
Wallace State Office Building  
502 East 9th Street  
Des Moines, Iowa 50319



**RE: 2023 FINANCIAL ASSURANCE  
MARSHALL COUNTY SANITARY LANDFILL  
IDNR PERMIT NO. 64-SDP-02-75P  
HLW PN 6003-22A.360**

Dear Mr. Blum:

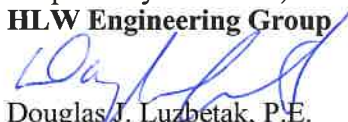
Included with this letter is financial assurance documentation for 2023 for the Marshall County Sanitary Landfill.

Documentation submitted with this letter includes the following:

1. Certified copy of the Closure/Postclosure Cost Estimate
2. Signed "Municipal Solid Waste Sanitary Landfill Financial Assurance Report Form" (IDNR Form 542-8090).

The audit for the Solid Waste Management Commission of Marshall County was previously submitted to IDNR. It was received December 9, 2022 and is listed as document #105297 on Document DNA.

Please contact me if you have any questions.

Respectfully submitted,  
**HLW Engineering Group**  
  
Douglas J. Luzbetak, P.E.  
Project Manager

cc: Don Ballalatak, Manager, Marshall Co SLF (electronic copy)





### **Authority**

The following calculations are based on rules published in 567 IAC Chapter 113.14, "Municipal solid waste landfill financial assurance". This analysis is based on assuming a worst case scenario regarding closure of the landfill and assuming all work associated with closure/postclosure is performed by a third party (i.e., not by landfill staff), as per Regulations.

### **Landfill Areas**

The active area at the Marshall County SLF is the Subtitle D compliant horizontal expansion area which consists of Subareas B-4-1, B-4-2, B-4-3, B-4-4, B-4-5/B-4-6, B-4-7, the Abutment Area, and the B4-3,4,5 expansion. The worst case scenario for closure is to immediately close the active portions of the landfill. The landfill is divided into the following areas:

Area A (closed)	12.9 acres
B-1 and B-2 (closed)	14.4 acres
B-3 (closed)	8.3 acres
C/D (closed)	3.3 acres
B-4-1 and B-4-2 (Horizontal Expansion)	12.2 acres
B-4-3 and B-4-4 (Horizontal Expansion)	8.7 acres
B-4-5/B-4-6 (Horizontal Expansion)	5.6 acres
Abutment Area	1.0 acres
B4-3,4,5	2.3 acres
B-4-7 (Horizontal Expansion)	10.2 acres

Area A, Area C/D, and Areas B-1, B-2, and B-3 are all closed and need not be considered in a closure cost estimate. Approximately 1.0 acre of Area B-3 was covered with a Subtitle D composite abutment liner during the Abutment Liner project in 2008, approximately 0.5 acres of Area B-3 was covered with a Subtitle D composite abutment liner during the B4-3,4,5 project in 2013, and approximately 0.9 acres of Area B-1 was covered with a Subtitle D composite abutment liner during the B4-3,4,5 project in 2013. The composite lined areas are required to be closed with a composite cap and will be added to the closure/postclosure areas for closure with a composite FML cap. The construction of abutment lined areas in the future will cause additional portions of areas that are closed to be shifted to active in future Financial Assurance Calculations.

Subareas B-4-1, B-4-2, B-4-5/B-4-6, B-4-7, the Abutment Area, and B4-3,4,5 have been constructed with composite liners meeting EPA Subtitle D requirements. These areas require closure with a composite cap meeting IDNR requirements. Subareas B-4-3 and B-4-4 have been constructed with alternative liners meeting EPA Subtitle D requirements. These areas require closure with a 4' soil cap with a geonet drainage layer as per the IDNR approved Closure/Postclosure Plan.

IDNR reduced monitoring requirements in Area A in the letter dated December 15, 2021. Explosive gas monitoring and Annual Water Quality reporting requirements for Area A have been eliminated. In addition, groundwater monitoring is limited to annual sampling at MW-213. The Closure Permit has also been extended by 2 years as per the referenced letter. Costs below have been adjusted accordingly.



***Closure Costs - Soil Cap***

Closure costs for the Subtitle D compliant Alternative Lined horizontal expansion Subareas B-4-3 and B-4-4 (8.7 total acres) include constructing the infiltration layer, geonet drainage layer, vegetative layer, erosion and surface water control structures, and seeding. Estimated construction costs are taken from bid prices on similar projects. Quantities and prices for areas to be closed with an alternative cap are estimated to be:

Mobilization	1 lump sum	\$20,000	\$20,000
Infiltration Layer	28,100 yd <sup>3</sup>	\$3.70 /yd <sup>3</sup>	\$104,000
Geonet Drainage Layer	42,100 yd <sup>2</sup>	\$6.00 /yd <sup>2</sup>	\$252,600
Erosion Layer	28,100 yd <sup>3</sup>	\$3.20 /yd <sup>3</sup>	\$89,900
Seeding and Mulching	8.7 acre	\$1,200 /acre	\$10,400
Erosion Control Structures	8.7 acre	\$1,000 /acre	\$8,700
		Construction Cost	<u>\$485,600</u>

***Closure Costs - Composite Cap***

Closure costs for the Subtitle D compliant Composite Lined Subareas B-4-1, B-4-2, B-4-5/B-4-6, B-4-7, the Abutment Area, and B4-3,4,5 (31.3 total acres) include cost of constructing the composite FML cap, erosion and surface water control structures, and seeding. Estimated construction costs are taken from bid prices on similar projects. Quantities and prices for areas to be closed with a composite cap are estimated to be:

Composite Cap	31.3 acres	\$138,840 /acre	\$4,345,700
(for derivation of cost, see Attachment A)			
Seeding and Mulching	31.3 acres	\$1,200 /acre	\$37,600
Erosion Control Structures	31.3 acres	\$1,000 /acre	\$31,300
		Construction Cost	<u>\$4,414,600</u>
Total Construction Cost - Alternative and Composite Cap			\$4,900,200
Add a 10% contingency based on construction cost			\$490,000
Engineering fees for design, bid process, and administration			\$147,000
Engineering fees for staking, inspection, and testing			<u>\$122,500</u>
	Total Closure Cost		<u>\$5,659,700</u>



### Postclosure Cost Estimate

Postclosure costs include any costs anticipated during the 30-year postclosure period, based upon current landfill operations and current IDNR regulations. The remaining postclosure period for Area A, based on the closure permit, is 1 years (closure permit expires September 30, 2023). At this time, the postclosure period for the remainder of the landfilling areas, referred to as Area B (which includes closed Area C/D), is 30 years. The Solid Waste Management Commission of Marshall County (SWMCMC) reserves the right to modify this 30 year postclosure period (on previously closed areas) in future years. Since different postclosure periods are being used, postclosure costs will be broken out into costs attributed to Area A and costs attributed to Area B as much as possible:

All of the areas mentioned on Page 1, totalling approximately 76.5 acres, will require postclosure care and are included in this analysis.

The soil cap, composite FML cap, erosion control structures, seeding, etc. must be maintained during the postclosure period. Costs associated with this maintenance are estimated to be:

Maintenance/Repair Soil Cap	45.2 acres	\$50 /acre	\$2,300
Maintenance/Repair FML Cap	31.3 acres	\$250 /acre	\$7,800
Reseeding (2% of area annually)	1.5 acres	\$1,200 /acre	\$1,800
Maintenance of Erosion Control	76.5 acres	\$50 /acre	\$3,800
Mowing	76.5 acres	\$20 /acre	\$1,500
			<u><u>\$17,200</u></u>

Based on the ratio of Area A to the remainder of the landfilling areas and the difference in cap repair costs for soil vs. FML caps, attribute these costs as follows:

Area A	<u><u>\$1,900</u></u>
Area B	<u><u>\$15,300</u></u>

Inspections, reporting, monitoring well sampling, and monitoring well testing will be continued throughout the postclosure period. Assume these will be of the type and method as at present time. Costs associated with inspections, reporting, monitoring well sampling, and monitoring well testing are:

Semi-annual reporting and an annual report are required for Area B

Semi-Annual Reporting and Annual Reports - Area B

	<u><u>\$4,900</u></u>
Area B	<u><u>\$4,900</u></u>

Explosive gas monitoring is required quarterly.

Gas monitoring \$450 each

4 per year	<u><u>\$1,800</u></u>
Area B	<u><u>\$1,800</u></u>



#### Monitoring Well Sampling and Testing

Assume monitoring well sampling and testing will be as per the approved HMSP and applicable permit amendments/revisions. The monitoring well system and sampling point locations are separated between the closed Area A and the active Area B. Estimated testing costs are as follows:

Area A <sup>1</sup>	1 test	\$300 /test	\$300
April (Area B) <sup>2</sup>	19 tests	\$300 /test	\$5,700
October (Area B) <sup>2</sup>	19 tests	\$300 /test	\$5,700

1 - Annual sampling required in Area A as per Permit Amendment 10

2 - 18 sampling points and 1 duplicate (includes LW-75)

Sampling costs are:

Area A	\$600
April (Area B)	\$2,400
October (Area B)	\$2,400
Total, Monitoring Well Sampling and Testing	\$17,100
Area A	\$900
Area B	\$16,200

As per INDR regulations, monitoring wells at the SLF are to be re-evaluated every 2 years. The cost of the re-evaluation is included in the monitoring well sampling and annual reporting costs for Area B.

The postclosure costs must be adjusted annually as a basis for Financial Assurance.

Financial Assurance postclosure cost estimate	\$1,500
Area B	\$1,500

Greenhouse gas models must be updated on an Annual Basis. Note that this applies to Area B only. Due to calculated emissions, additional reporting to EPA is now required. Based on current regulations, the reporting to EPA will not be required throughout the postclosure period as estimated emissions should quickly drop below the EPA threshold during postclosure. The cost below includes the greenhouse gas modeling and reporting to the SWMCMC only, additional reporting to EPA is not included in this cost.

Annual Greenhouse Gas Model Update	Area B	\$500
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Assume leachate will continue to be collected and treated in the same manner during the postclosure period as it is now. Leachate is currently stored in two HDPE lined leachate storage lagoons with a capacity of approximately 2.3 million gallons and then pumped to the Marshalltown POTW for treatment. Current leachate system data from Don Ballalatak, Landfill Manager, is as follows:



Approximately 2,385,024 gallons of leachate were pumped to the Marshalltown POTW for treatment in the last calendar year. Based upon future leachate generation calculations, it has been estimated that approximately 1,000,000 gallons of leachate per year will be produced after landfill closure. Calculate leachate system costs to handle 1,000,000 gallons based on historical costs. Note that due to the volume of leachate expected all the generated leachate may not be pumped annually so costs are conservative.

Leachate is pumped to the Marshalltown sanitary sewer system for conveyance to the POTW for treatment. Need to consider utility costs for pump station and testing/treatment costs at POTW.

Electricity cost to run pump station expected to be approximately \$500/year	
Pump station utilities	\$500

Assume leachate testing/treatment costs are \$0.0045/gallon	
1,000,000 gallons at \$0.0045/gallon	\$4,500

There needs to be a cost for maintaining the leachate system during the postclosure period. Costs are anticipated to be repairing lagoon liners, maintenance/repair of the pump, force main maintenance, etc.

Annual maintenance of leachate system	\$5,000
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Total yearly cost of leachate system:

Electricity	\$500
Testing/sampling	\$4,500
Maintenance	\$5,000
	\$10,000

Adjusted annual cost of leachate system:

Area B	\$10,000
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As per IDNR regulations, the leachate collection system is to be cleaned once every three years. Cost based upon the leachate collection system cleaning completed in 2021. Note that this does not include cleaning the leachate force main (which is included with maintenance of the leachate system).

\$12,000	Annual Equivalent Cost is	\$4,000
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Cleaning collection system costs need to be split between Area A and Area B. Based on current pipe lengths associated with each area, assume that approximately 10% of the annual equivalent cost for cleaning the collection system is attributed to Area A with the remaining 90% of the cost attributed to Area B.



Adjusted annual cost of cleaning leachate system:

Area A	\$400
Area B	\$3,600

### Financial Assurance Calculations

#### Closure

Active Landfilling Area	\$5,659,700
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#### Postclosure - Area A (annual)

Maintenance of cap, erosion control, etc.	\$1,900
Monitoring Well Sampling and Testing	\$900
Cleaning Leachate Collection System	\$400
	\$3,200

Estimated Postclosure Costs - Area A

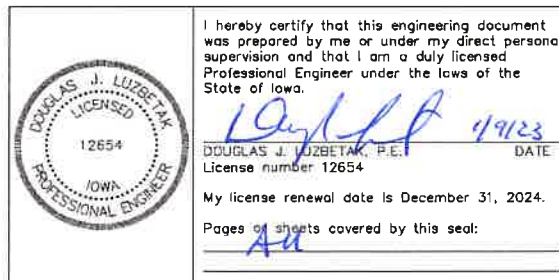
\$3,200 /year	1 years	\$ 3,200
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#### Postclosure - Horizontal Expansion Area (annual)

Maintenance of cap, erosion control, etc.	\$15,300
Inspections/Reports	\$4,900
Explosive Gas Monitoring	\$1,800
Monitoring Well Sampling and Testing	\$16,200
Financial Assurance	\$1,500
Annual Greenhouse Gas Update	\$500
Leachate Treatment, Testing, etc.	\$10,000
Cleaning Collection System (annual cost)	\$3,600
	\$53,800

Estimated Postclosure Costs - Area B

\$53,800 /year	30 years	\$ 1,614,000
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## ATTACHMENT A



OPINION OF PROBABLE COST  
MARSHALL COUNTY SLF  
FML COMPOSITE CAP, cost per acre  
HLW PN 6007-22A.360  
December 9, 2022

Item	Quantity	Unit	Unit Price	Amount
Mobilization	1	Lump Sum	\$3,000.00	\$3,000.00
Surface Preparation	4,840	Sq. Yd.	\$0.50	\$2,420.00
Gas Collection Layer	1,400	Tons	\$16.00	\$22,400.00
4" Perforated Gas Collection Piping	600	Lin. Ft.	\$15.00	\$9,000.00
Gas Vents	1	Each	\$3,500.00	\$3,500.00
Geotextile Separation Layer (3)	14,520	Sq. Yd.	\$1.50	\$21,780.00
Compacted Clay Cap (1.5' thick)	2,420	Cu. Yd.	\$3.70	\$8,954.00
Flexible Membrane Liner	4,840	Sq. Yd.	\$6.25	\$30,250.00
Drainage Layer/Biotic Barrier	1,700	Tons	\$16.00	\$27,200.00
Vegetative Layer (2' thick)	3,230	Cu. Yd.	\$3.20	\$10,336.00
Total Construction Cost				\$138,840.00





# Municipal Solid Waste Sanitary Landfill Financial Assurance Report Form

## SECTION 1: FACILITY INFORMATION

(please print or type)

### Information Requested

Facility Name: Marshall County Sanitary Landfill Permit Number: 64-SDP-02-75P/64-SDP-06-92C  
Permitted Agency/Entity: Solid Waste Management Commission of Marshall County

## SECTION 2: CLOSURE/POSTCLOSURE OR CORRECTIVE ACTION COST ESTIMATES

Information Requested	Cost Estimate	Date of Cost Estimate
Updated Closure Cost Estimate	\$5,659,700	January 9, 2023
Updated Postclosure Cost Estimate	\$3,200 (Area A) \$1,614,000 (Area B)	January 9, 2023
Initial or Updated Corrective Action Cost Estimate	Not Applicable	Not Applicable

\*Attach closure/postclosure cost estimate(s) signed and certified by an Iowa-licensed professional engineer. Cost estimates shall include, at a minimum, each of the cost line items defined in 113.14(3)"c" for closure and 113.14(4)"c" for postclosure. Please provide closure and/or postclosure site area acreage information with the estimates.

Provide a cost estimate for corrective action only if corrective action is required and a corrective action plan has been approved by the Department. Attach the corrective action cost estimate signed and certified by an Iowa-licensed professional engineer. The cost estimate shall account for total costs of the activities described in the approved corrective action plan for the corrective action period.

## SECTION 3: FACILITY WASTE TONNAGE INFORMATION

Information Requested	Tons
Remaining permitted capacity as of the beginning of permit holder's current fiscal year	2,127,577
Amount of waste disposed of at the facility during the prior year	46,948

## SECTION 4: PROOF OF COMPLIANCE

### Publicly Owned Municipal Solid Waste Landfills

(ATTACH AUDIT REPORT)

Owner's Most Recent Annual Audit Report

Prepared by: Bowman and Miller, PC

For fiscal year ending: June 30, 2022

### Privately Owned Municipal Solid Waste Landfills

(ATTACH AFFIDAVIT)

Attach owner/operator's affidavit indicating that an annual review has been performed by a certified public accountant to determine whether the privately owned landfill is in compliance with IAC 567 Chapter 113. The affidavit shall state the name of the certified public accountant, the dates and conclusions of the review, and the steps taken to rectify any deficiencies identified by the accountant.



**SECTION 5: FINANCIAL ASSURANCE INSTRUMENT****Type and Value of Financial Assurance Instrument(s)***(ATTACH INSTRUMENT(S))*

Assurance Instrument	Establishment Date	Mechanism Covers	Instrument Value*
Trust Fund 567 IAC 113.14(6)"a"	April 18, 1995	Closure <input checked="" type="checkbox"/> Postclosure <input checked="" type="checkbox"/> Corrective Action <input type="checkbox"/>	\$ 5,413,315
Surety Bond 567 IAC 113.14(6)"b"		Closure <input type="checkbox"/> Postclosure <input type="checkbox"/> Corrective Action <input type="checkbox"/>	\$
Letter of Credit 567 IAC 113.14(6)"c"		Closure <input type="checkbox"/> Postclosure <input type="checkbox"/> Corrective Action <input type="checkbox"/>	\$
Insurance 567 IAC 113.14(6)"d"		Closure <input type="checkbox"/> Postclosure <input type="checkbox"/> Corrective Action <input type="checkbox"/>	\$
Corporate Financial Test 567 IAC 113.14(6)"e"		Closure <input type="checkbox"/> Postclosure <input type="checkbox"/> Corrective Action <input type="checkbox"/>	\$
Local Gov't. Financial Test 567 IAC 113.14(6)"f"		Closure <input type="checkbox"/> Postclosure <input type="checkbox"/> Corrective Action <input type="checkbox"/>	\$
Corporate Guarantee 567 IAC 113.14(6)"g"		Closure <input type="checkbox"/> Postclosure <input type="checkbox"/> Corrective Action <input type="checkbox"/>	\$
Local Gov't Guarantee 567 IAC 113.14(6)"h"		Closure <input type="checkbox"/> Postclosure <input type="checkbox"/> Corrective Action <input type="checkbox"/>	\$
Local Gov't. Dedicated Fund 567 IAC 113.14(6)"i"	May 19, 2009	Closure <input checked="" type="checkbox"/> Postclosure <input checked="" type="checkbox"/> Corrective Action <input type="checkbox"/>	\$ 1,251,791

\*Pursuant to IAC 567 113.14(9), if account(s) are restricted/reserved to pay for closure, postclosure or corrective action costs, then the amount of the financial assurance instrument may be reduced by the sum of the cash balance of the account(s) established to comply with subrule 113.14(8).

**SECTION 6: INITIAL PROOF OF ESTABLISHMENT OF ACCOUNTS****Check Which Applies:**☐ New Mechanism☒ Previously Submitted

Pursuant to IAC 567 Chapter 113.14(8)"f", documentation of the establishment of accounts is to be submitted to the department by April 1, 2003 for currently permitted MSWLFs. Permit holders for MSWLFs permitted after April 1, 2003, shall submit documentation of the establishment of accounts prior to the MSWLF's initial receipt of waste.

Please attach documentation indicating accounts/fund have been established for closure and postclosure care and if the account(s) are restricted/reserved for closure or postclosure care. Examples of documentation include bank statements for closure/postclosure accounts, letter signed by the chief financial officer, letter from certified public accountant, etc.

Accounts established pursuant to paragraph 113.14(6)"a" for trust funds or paragraph 113.14(6)"i" for local government dedicated funds also satisfies the requirements of this subrule, and the permit holder shall not be required to establish additional closure and postclosure accounts.



## SECTION 7: CLOSURE AND POSTCLOSURE ACCOUNTS

Completion of the following closure and postclosure account information complies with the annual financial statement requirements of IAC 567 113.14(3)“a” and 113.14(4)“a” by indicating the current balance(s) of the closure/postclosure account(s) or dedicated/trust fund and the projected amount(s) to be deposited in the account(s).

Under “Beginning Balance”, please state the account/fund balance 30 days after the start of the previous fiscal year, for “Ending Balance”, indicate the account balance 30 days after the close of the previous fiscal year, and for “Projected Deposit”, indicate the amount to be deposited within 30 days of the close of the permit holder’s fiscal year.

Information Requested	Beginning Balance	Ending Balance	Projected Deposit
Closure Account Balance <i>(see formula below)</i>	\$	\$	\$
Postclosure Account Balance <i>(see formula below)</i>	\$	\$	\$
<b>Or</b>			
Dedicated Fund Balance <i>(see formula below)</i>	\$ 6,481,939	\$ 6,665,106	\$ 152,949
Trust Fund Balance <i>(see formula below)</i>	\$	\$	\$

### Formula for Projected Deposits

Closure or Postclosure Account

$$\frac{CE - CB}{RPC} \times TR$$

Where “CE” is the closure or postclosure cost estimate, “CB” is the balance 30 days after close of the previous fiscal year, “RPC” is the remaining permitted capacity in tons, of the landfill from the beginning of the current fiscal year, and “TR” is the total number of tons of solid waste disposed in the prior year.

Dedicated/Trust Fund

$$\frac{CE - CB}{Y}$$

Where “CE” is the closure or postclosure cost estimate, “CB” is the balance 30 days after close of the previous fiscal year, and “Y” is number of years remaining in the pay-in period.

If needed, the space below can be used to show calculations for projected deposits

*Combine balance of dedicated fund and trust fund for these calculations*

POSTCLOSURE OF AREA A IS FULLY FUNDED AT \$3,200

CE (Closure and Postclosure) = \$7,273,700 – Does not include Area A PC costs

CB (Closure and Postclosure) = \$6,661,906 – Reduced by \$3,200 (Area A PC costs)

Subarea B-4-7 began receiving waste in 2017 (after 2017 financial assurance calculations were completed). Since Subarea B-4-7 began receiving waste in 2017, use a dedicated fund pay in period of 4 years in the 2023 calculations.

Projected Deposit

=( \$7,273,700 - \$6,661,906 ) / 4 years

= \$152,949



## SECTION 8: PERMIT HOLDER ENDORSEMENT

Submittal of this completed and endorsed form along with all required documentation establishes Notification and Proof of Permit Holder Compliance with IAC 567 Chapter 113.

Name of Official: Don Ballalatak Title: Manager

Agency/Entity: Marshall County Sanitary Landfill

Address: PO Box 217

City: Marshalltown State: IA Zip: 50158

Telephone: 641-752-0646 Fax: 641-752-4562

Email Address: don@marshallcountylandfill.org

Signature of Official:  Date: 1-17-23

Questions? Contact Bill Blum at (515) 240-6048 or [Bill.Blum@dnr.iowa.gov](mailto:Bill.Blum@dnr.iowa.gov)