

July 9, 2026

Michael W. Smith, P.E.
Environmental Engineer Senior
Iowa Department of Natural Resources
6200 Park Avenue, Suite 200
Des Moines, Iowa 50321



**RE: CONSTRUCTION CERTIFICATION
PASSIVE GAS VENT INSTALLATION
MARSHALL COUNTY SLF – AREA A
IDNR PERMIT #64-SDP-06-92C
HLW PN 6003-23A.200**

Dear Mr. Smith:

This letter shall serve as notice to IDNR that installation of passive gas vents in closed Area A at the Marshall County Sanitary Landfill in Marshall County, Iowa has been completed. The following is intended to document the installation of the passive gas vents.

I. INTRODUCTION

As documented in the “2025 Water Quality Results – MW-213” report dated November 25, 2025 (Doc #114870), cyclic detections of VOC and trace metals concentrations have been recorded at MW-213 over time. The concentrations of VOC and metals in MW-213 are currently decreasing but are anticipated to fluctuate over time based on study of the available data since 2016. The fluctuation of metals concentrations over time has not been successfully tied to predictable variation in water elevation or turbidity of the formation water in MW-213.

The source of the water impacts is interpreted to be the result of landfill gas. The presence of both VOC and methane dissolved in water at MW-213 supports this interpretation. The source of the minor metals impacts at MW-213 is also interpreted to be tied to changes in subsurface conditions that result indirectly from the presence of landfill gas near MW-213. As a result, passive gas vents have been installed in Area A to limit gas migration toward MW-213.

Record Drawings are included as Attachment A of this report.

II. PASSIVE GAS VENT INSTALLATION

The passive gas vents were installed by Steger Construction, Dyersville, Iowa, on June 26, 2026 and June 29, 2026.

The vents were installed in Area A in areas that were closed with a 2 foot soil cap in accordance with rules in effect at the time of site closure. Each vent excavation has a minimum width of approximately 2 feet with the base of the excavation being a minimum of 6 feet in length. Vegetation and topsoil were initially removed and stockpiled

separately from the remainder of the soil removed. Following cap removal solid waste was removed to the full depth of the vent. Solid waste excavated was loaded directly into the landfill haul truck and disposed of in the working face.

4 inch diameter PVC Schedule 80 piping was installed in each excavation. The gas collection pipe was perforated with 8 rows of 5/8" diameter holes with a 4" distance between holes with the holes being staggered between rows. The gas conveyance pipe was non-perforated. The excavations, with the exception of the top 4 feet, were backfilled with washed river rock with a gradation of 3/4" to 2 1/2" to promote gas conveyance to the gas collection pipes. The soils removed from each vent were placed on top of the granular backfill and compacted with a plate compactor. Topsoil was then spread over the disturbed areas. The gas collection piping was installed in the granular backfill, the conveyance piping was installed through the soil cap at each vent location. Details of vent construction are shown on the figures in Attachment A.

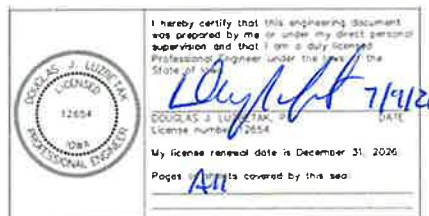
Areas disturbed during vent installation will be seeded in the near future.

Horizontal and vertical control staking for the gas vents was performed by HLW Engineering Group. Gas vent installation were observed by HLW personnel.

Representative photographs documenting the work are included in Attachment B.

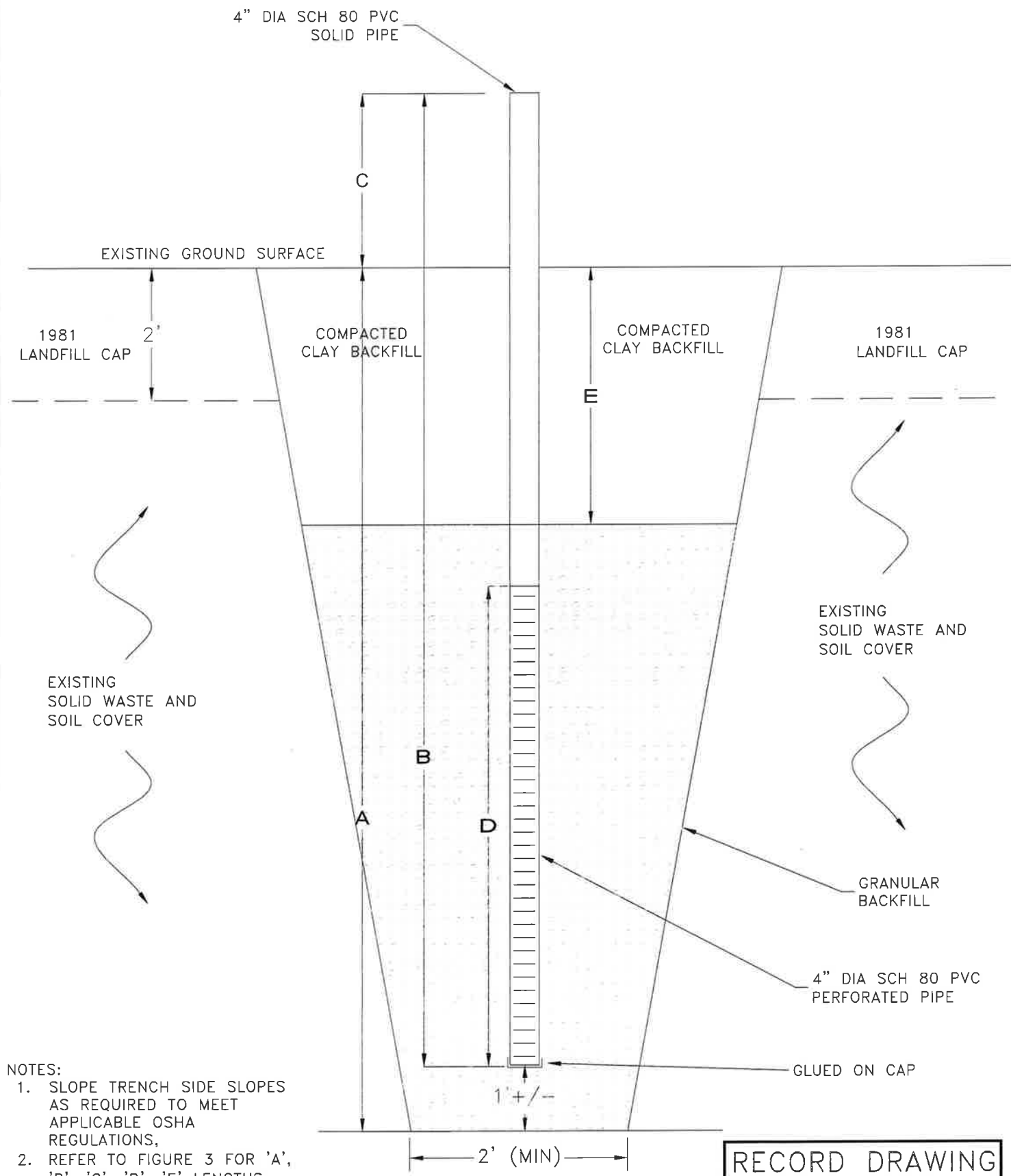
As a result of this project, Vents 28, 29, 30, 31, 32, 33, and 34 will be monitored for landfill gas during quarterly explosive gas monitoring at the Marshall County SLF.

If the IDNR has any questions or if additional information is needed, please contact me at HLW Engineering Group.



cc: Don Ballalatak, Manager, Marshall County SLF

ATTACHMENT A



NOT TO SCALE



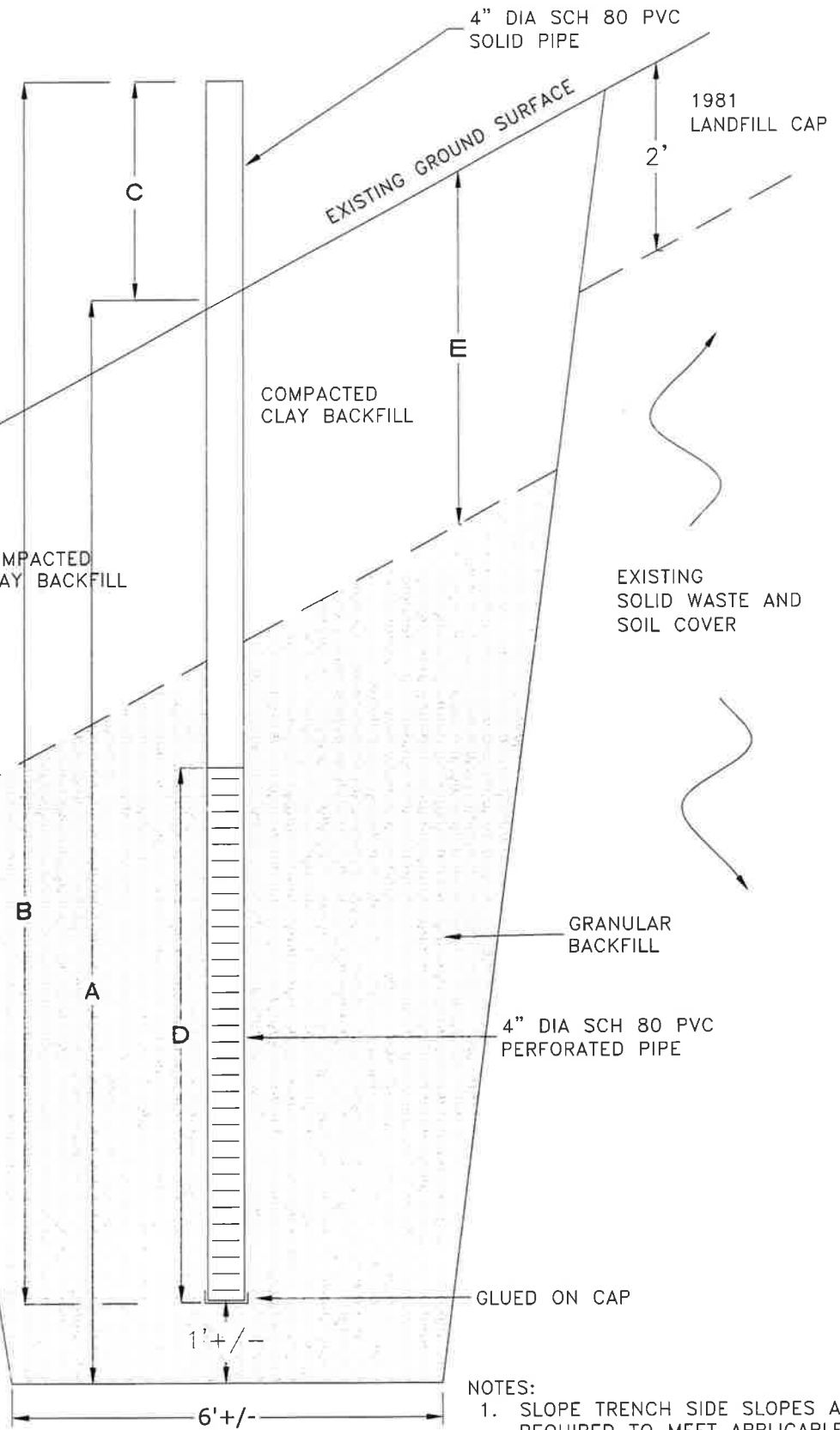
CROSS SECTION
PERPENDICULAR TO SLOPE
GAS VENT INSTALLATION
MARSHALL COUNTY SANITARY LANDFILL
MARSHALL COUNTY, COUNTY, IOWA

FIGURE: 2

REVISION	NO.	DATE
	1	6/30/26
DRAWN	PROJECT NO.	DATE
JGH	6003-23A	6/01/26

A = 15' +/-
 B = 20' +/-
 C = 6' +/-
 D = 10'

VENT	A, ft	B, ft	C, ft	D, ft	E, ft
28	16.0	20.45	5.4	10	4.0
29	16.0	20.35	4.6	10	3.0
30	16.0	20.45	5.2	10	5.0
31	15.5	20.40	5.6	10	5.5
32	15.5	20.40	5.9	10	5.0
33	16.0	20.45	5.4	10	5.5
34	15.5	20.40	5.7	10	5.0



RECORD DRAWING

NOT TO SCALE

NOTES:

1. SLOPE TRENCH SIDE SLOPES AS REQUIRED TO MEET APPLICABLE OSHA REGULATIONS,



CROSS SECTION
 PARALLEL TO SLOPE
 GAS VENT INSTALLATION
 MARSHALL COUNTY SANITARY LANDFILL
 MARSHALL COUNTY, COUNTY, IOWA

FIGURE: 3

REVISION	NO.	DATE
	1	6/30/26
DRAWN	PROJECT NO.	DATE
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ATTACHMENT B



Photo 1: Vent excavation.



Photo 2: Perforations on gas collection piping.



Photo 3: Gas collection pipe installation.



Photo 4: Gas collection pipe installation.



Photo 5: Installation of clean granular backfill around piping.



Photo 6: Compacting soil backfill.