November 6, 2026

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

HLW Engineering Group
Engineering Management

RE: Request to Plug and Abandon MW-35
AMES-STORY ENVIRONMENTAL LANDFILL
IDNR PERMIT NO. 85-SDP-13-91P

Dear Mr. Davison:

During the Fall monitoring well sampling event at the Ames-Story Environmental Landfill (ASEL) on August 21, 2026, observation of the creek bank adjacent to MW-35 indicated significant erosion of the creek bank in a southerly direction. The bank erosion moved the creek bank to within 3 feet of MW-35. The photograph in Attachment A illustrates the conditions on August 21, 2026.

We are requesting permission to properly abandon MW-35 to avoid the uncontrolled loss of MW-35 in the future. We request permission to abandon MW-35 by placing a tremie tube to the bottom of the monitoring well and placing high-solids bentonite slurry in the well by pumping the bentonite slurry from the well bottom until the screen and casing are completely filled. At that point the well protector and well casing will be removed to a depth of 3 feet below the ground surface. Note that the tremie tube can be routed several hundred feet from a drill rig or grout plant located on the site access road (west of MW-35) to the bottom of the monitoring well MW-35 located in the topographic depression. Rig access to the well will not be required in this scenario.

It is also requested that *no replacement* well be installed. The basis for not replacing the monitoring well is presented below.

Ground Stabilization Costs

As illustrated on Figure 1, the well is in a man-made depression in the northeast corner of the site that remains following extensive development in the area. MW-35 was constructed on February 28, 1996 (see well construction information in Attachment A). At the time, the site was active and the well location was accessible with a drill rig mounted on a 4-wheel drive pickup truck.

Since installation of MW-35 the landfill has been fully filled and capped to the west of MW-35. A large concrete and asphalt batch plant has been developed on adjoining property to the south and east of MW-35. As a result, the ground surface adjacent to MW-35 is significantly raised to the east, west and south. The creek is located immediately to the north. The landfill boundary is protected by rip-rap placed along the bank of the creek where the creek flowline is nearest the landfill boundary.

Upon discovery of the bank erosion, the Landfill Owner was contacted. The owner has operated a local excavating business for numerous years. His review of the area concluded that both access to the well, and creek bank restoration and protection work would come at significant costs to the owner (maybe 100 times the value of the well).

Well Relocation Considerations

Upon review of the site layout, a suitable location for a replacement monitoring well has not been identified. The replacement well would need to be moved to a location outside the depressed area. Moving the well location to the north is not recommended, as a replacement well to the north would also be in peril related to erosion and flooding along the creek. Moving the well to the west above the depressed area would put the well in or very near to the waste mass of the landfill. Moving the well to the east above the depression would put the well on land not owned by ASEL and in peril from heavy truck traffic. Moving the well to the south above the depressed area would yield a location near to the upgradient background wells MW-36 and MW-37.

Value of On-Going Monitoring at MW-35

As discussed in the 2025 Annual Water Quality Report dated November 24, 2025 (Doc #114871), MW-35 demonstrates a predictable cyclic pattern of elevated arsenic that has been tied to a condition within the well itself or within the formation at MW-35, rather than from the landfill. Of the eight (8) recorded instances of elevated arsenic above the GWPS in MW-35, six (6) occur in March of each year.

In addition, arsenic has been documented to be present at elevated concentrations across the site for many years. The Arsenic Source and Speciation study dated September 18, 2017 (Doc #90322) concluded that the elevated arsenic is related to subsurface conditions endemic to the site, rather than to the landfill directly. The referenced study was approved by the IDNR on November 9, 2017 (Doc #90750).

Ultimately, review of the Groundwater Contour Map (Figure 2) illustrates that groundwater near MW-35 has a prevalent northwest component of flow. It follows that water quality at MW-35 represents water that is moving onto the landfill property from the batch plant, rather than from the landfill waste mass.

Continuation of the sampling at MW-35 is not anticipated to provide additional significant water quality information beyond what has already been quantified and qualified by sample collection since 1996.

Value of Groundwater Underdrain Water Quality

Trench 4 at the ASEL is located immediately west of MW-35. The groundwater underdrain line that exists along the toe of the east edge of Trench 4 discharges at the location designated SW-3. SW-3 is included in the semi-annual water sample collection points that comprise the Hydrologic Monitoring System Plan (HMSP). The pipe discharge that is sampled at SW-3 is considered to

be a more representative water quality sample than is MW-35. It is recommended that SW-3 remain in the HMSP, while MW-35 is removed from the HMSP moving forward.

Please review this information at your earliest convenience. If abandonment of MW-35 without replacement is acceptable, please let me know. Further, if the proposed method of abandonment is acceptable, please let me know that too.

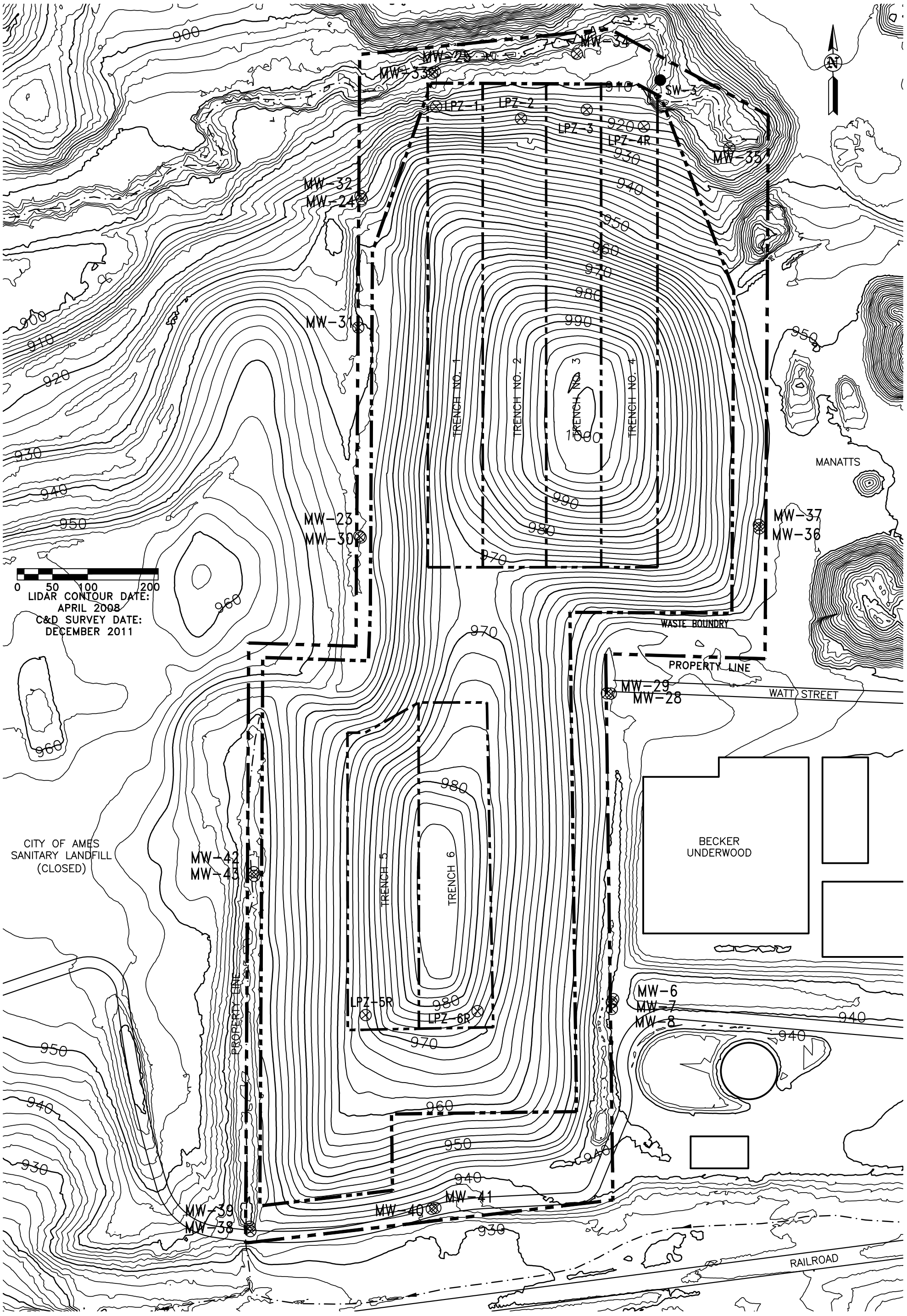
I look forward to your response.

Respectfully submitted,
HLW ENGINEERING GROUP



Todd Whipple, CPG.
Project Manager

cc: Bill Fedeler, ASEL



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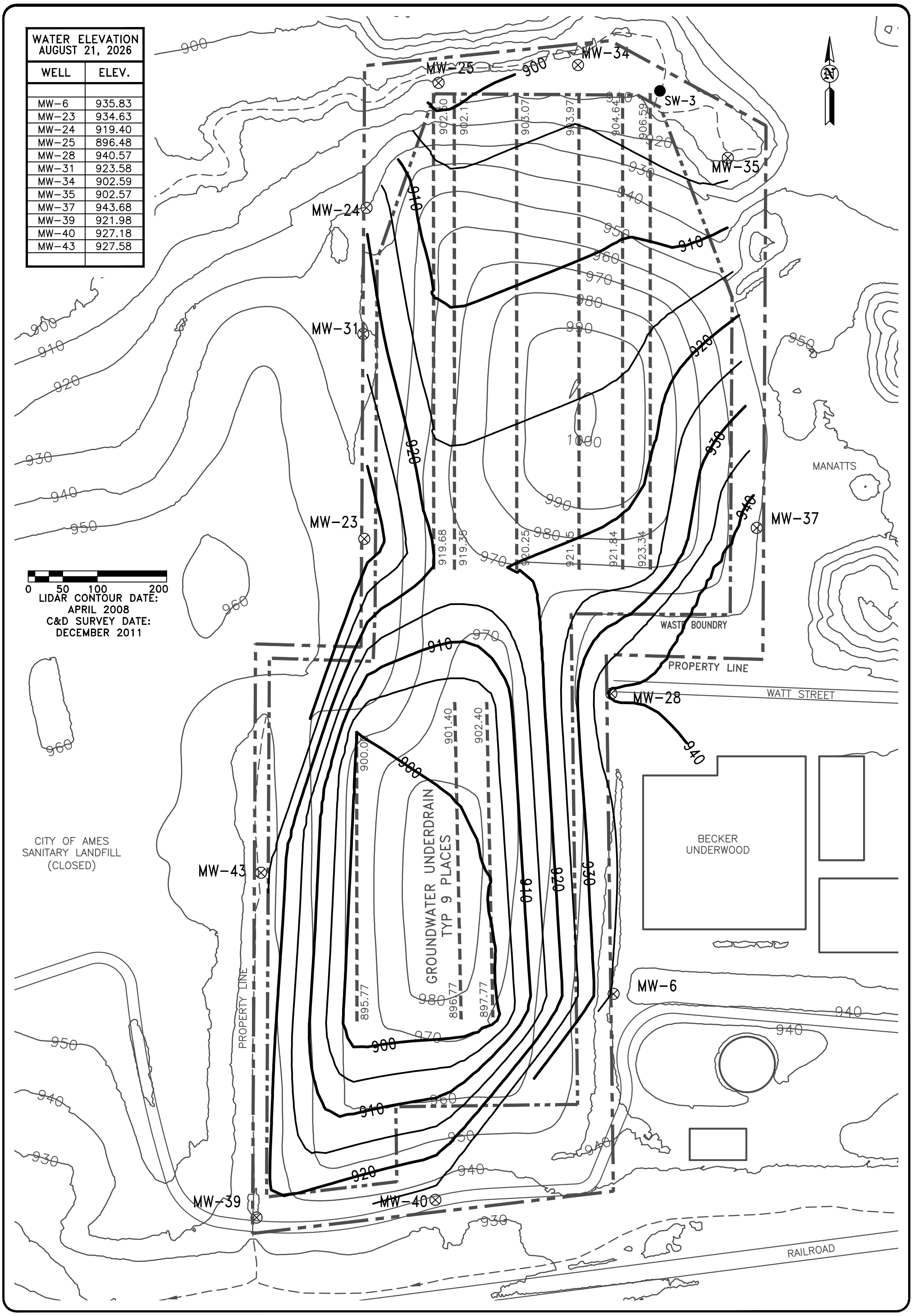
SITE PLAN

AMES–STORY ENVIRONMENTAL LANDFILL
AMES, IOWA

FIGURE: 1

REVISION	NO.	DATE
DRAWN DRA	PROJECT NO. 6004	DATE 9–15–26

WATER ELEVATION AUGUST 21, 2026	
WELL	ELEV.
MW-6	935.83
MW-23	934.63
MW-24	919.40
MW-25	896.48
MW-28	940.57
MW-31	923.58
MW-34	902.59
MW-35	902.57
MW-37	943.68
MW-39	921.98
MW-40	927.18
MW-43	927.58



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WATER TABLE CONTOUR MAP

AMES-STORY ENVIRONMENTAL LANDFILL
AMES, IOWA

FIGURE: 2

REVISION	NO.	DATE
DRAWN DRA	PROJECT NO. 6004	DATE 9-15-26

WATER ELEVATION AUGUST 21 2026	
WELL	ELEV.
MW-7	924.12
MW-8	910.54
MW-29	935.59
MW-30	910.44
MW-32	907.52
MW-33	895.61
MW-36	934.56
MW-38	915.65
MW-41	918.52
MW-42	925.34

0 50 100 200

LIDAR CONTOUR DATE:
APRIL 2008
C&D SURVEY DATE:
DECEMBER 2011

MW-33
MW-32
SW-3
MW-30
MW-36
MW-29
MW-42
MW-7
MW-8
MW-41
MW-38

WASTE BOUNDRY
PROPERTY LINE
WATT STREET
GROUNDWATER UNDERDRAIN TYP 9 PLACES
PROPERTY LINE
RAILROAD
MANATTS
BECKER UNDERWOOD
CITY OF AMES SANITARY LANDFILL (CLOSED)

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POTENTIOMETRIC SURFACE OF DEEP AQUIFER

AMES-STORY ENVIRONMENTAL LANDFILL
AMES, IOWA

FIGURE: 3

REVISION	NO.	DATE
DRAWN DRA	PROJECT NO. 6004	DATE 9-15-26

ATTACHMENT A

Photograph



ATTACHMENT B

MW-35 Construction Information

FOX ENGINEERING
AMES, IOWA

FOX Engineering Associates, Inc.
Iowa State University Research Park
2501 North Loop Drive, Suite 200
Ames, Iowa 50010

Telephone: (515) 296-7750
Fax: (515) 296-7740

LOG OF TEST BORING

Drillers Rewerts Boring No. MW 35 FOX Inspector RMF
FOX Project No. 2562-95A.310

Date Drilled 2/28/96 Project Ames C & D Expansion
Surface Elevation
Depth Drilled 19'
Drilling Method 8.25" Dia. Hollow Stem Auger
Depth to Water _____ ft @ completion (▽), _____ ft @ _____ hrs.(▼), _____ ft @ _____ hrs.

Depth ft	Sample No.	Sample Type	COLOR	MC %	D pcf	CONSISTENCY	WL	ELEV	USC	Soil Description
			Black	Moist		Soft				Sandy Silty Clay with Roots Fill
			Light Brown	Moist		Medium				Sandy Silty Clay with Trace Gravel (Fill)
5			Black	Moist		Medium				Very Sandy Silty Clay with Trace Roots (Possible Fill)
10			Brown	Wet		Loose				Note: Very Sandy Silty Clay with Some Gravel at 19'
15										
20										
25										
30										

MONITORING WELL / PIEZOMETER CONSTRUCTION
DOCUMENTATION FORM

Disposal site name Ames-Story Environmental Landfill Permit # 85 -SDP- 13 - 91 P
Well or Piezometer # MW35 Date started 2/28/96 Date completed 2/28/96

A. Surveyed Locations and Elevations

Locations (+/- 0.5 ft.):
Specify corner of site NEC
Distance and direction along boundary N10761.41 E9995.51
Distance and direction from boundary to well N/A

Elevations (+/- 0.01 ft. MSL):
Ground surface 914.04
Top of protective casing 916.38
Top of well casing 916.19
Benchmark elevation 955.92
Benchmark description Fire hydrant on Watt Street near Dayton Road

B. Soil Boring Information

Name and address of construction company
Rewerts Well Company
Airport Road
Nevada, IA 50201
Name of driller Rewerts
Drilling method HSA
Drilling fluid N/A
Bore hole diameter 7"
Soil sampling method Continuous
Depth of boring 19'

C. Monitoring Well Installation

Casing material PVC
Length of casing 10.6
Outside casing diameter 2.375
Inside casing diameter 1.939
Casing joint type Flush Threaded
Casing/screen joint type Flush Threaded
Screen material PVC
Screen opening size .010
Screen length 10
Depth of well 20.6 (from Top PVC)

Well Installation, continued:

Filter pack:
Material Silica Sand
Grain size #2
Volume 250 lbs

Seal (minimum 3 ft. length above filter pack):
Material Bentonite Chips
Placement method Through HSA
Volume 75 lbs

Backfill (if different from seal):
Material Bentonite Chips
Placement method Through HSA
Volume N/A

Surface seal design:
Material of protective casing:
Steel 5' x 4" x 4"
Material of grout between protective casing and well casing:
Concrete
Protective cap:
Material Steel
Vented? [X] Yes [ ] No Locking? [X] Yes [ ] No
Well cap:
Material Locking
Vented? [X] Yes [ ] No

D. Groundwater Measurement

Water level (+/- 0.01 ft. below top of inner well casing) 12.9
Stabilization time 24 Hrs
Well development method Bailing

[ ] Upgradient well [X] Downgradient well
(see piezometric map from Hydrogeologic study)
Average depth of frostline 48"

Attachments: Driller's log. Pipe schedules and grouting schedules. 8 1/2 inch X 11 inch map showing location of all monitoring wells and piezometers.

WELL OR PIEZOMETER # MW35

ELEVATIONS: +/- 0.01 FT. MSL
DEPTHS: +/- 0.1 FT. FROM GROUND SURFACE

SPACE TO ATTACH ENTIRE SOIL BORING LOG
(SHOW SCREENED INTERVAL AND FILTER PACK INTERVAL)

