Tables

Tables (Continued)

Table 1-1. Water Supply Well Summary
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

Water supply wells within 1,200 ft. of Proposed Landfill fill area	WI Unique Well Number (WUWN)	Well Log	Well Owner	Well Address	Exemption Requested	Comment
Yahara Well PW-B (aka PW-5) WGNHS Geologic Log DN987	EZ086	Yes	Dane County	6701 US-12 Madison, WI 53718	Yes	Exemption requested for Dane County Landfill Site No. 3
Rathert Private Well	8AP872	Yes	Dane County	3124 Hope Hollow Trail McFarland, WI 53558	No	To be abandoned
Fluke Private Well	--	No	Amy Marlene Fluke	3098 Hope Hollow Trail McFarland, WI 53558	No	Propose abandonment and relocation outside setback
Rogers Private Well	--	No	Brian Rogers	3108 Hope Hollow Trail McFarland, WI 53558	No	Propose abandonment and relocation outside setback
Yahara Well PW-D (aka PW-3) WGNHS Geologic Log DN985	8AP358	Yes	Dane County	6701 US-12 Madison, WI 53718	No	To be abandoned
Yahara Well PW-E (aka PW-4) WGNHS Geologic Log DN986	FF204	Yes	Dane County	6701 US-12 Madison, WI 53718	No	To be abandoned
Yahara Well PW-C (aka PW-6) WGNHS Geologic Log DN988	8AP357	Yes	Dane County	6701 US-12 Madison, WI 53718	No	To be abandoned

Notes:
1. See Appendix C for well logs and Plan Sheet 2 for well locations.
2. See Appendix C for summary table for abandoned wells and for abandonment forms.

-- No WUWN assigned.

Created by:	REO	Date:	5/12/2023
Last revision by:	BJS	Date:	1/30/2024
Checked by:	JR	Date:	1/31/2024
Proj Mgr QA/QC:	BLP	Date:	2/9/2024

Table 1-2. NR 140 Exemption Requests
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

Parameter	PAL	ES	Well ID	PAL Exceedances in First 5 Sampling Events	ES Exceedances in First 5 Sampling Events	Exemption Requested?	Comments
Public Health Parameters (except Nitrite +Nitrite)							
Arsenic, dissolved (µg/L as As)	1	10	MW-105A	5	0	**Y - PAL**	
			MW-113A	4	0	**Y - PAL**	
			MW-119	1	0	N	Exceedance not confirmed
			MW-121	1	0	N	Exceedance not confirmed
			MW-122	1	1	**Y - ES**	
			MW-123A	4	0	**Y - PAL**	
			MW-123B	1	0	N	Exceedance not confirmed
			MW-125A	1	0	N	Exceedance not confirmed
Barium, dissolved (µg/L as Ba)	400	2,000	MW-122	2	0	**Y - PAL**	
Chromium, dissolved (µg/L as Cr)	10	100	MW-122	2	0	**Y - PAL**	
Fluoride, dissolved (mg/L as F)	0.8	4	MW-3	1	0	N	Exceedance not confirmed
Lead, dissolved (µg/L as Pb)	1.5	15	MW-105A	1	0	N	Exceedance not confirmed
			MW-122	0	2	**Y - ES**	
Manganese, dissolved (µg/L as Mn)	60	300	MW-105A	1	0	N	Exceedance not confirmed
			MW-108	1	0	N	Exceedance not confirmed
			MW-113	0	1	**Y - ES**	
			MW-113A	5	0	**Y - PAL**	
			MW-116	2	0	**Y - PAL**	
			MW-116A	2	0	**Y - PAL**	
			MW-120	1	0	N	Exceedance not confirmed
			MW-120A	3	0	**Y - PAL**	
			MW-121	1	0	N	Exceedance not confirmed
			MW-122	0	2	**Y - ES**	
			MW-123	2	1	**Y - ES**	
			MW-123A	1	3	**Y - ES**	
			MW-124	2	0	**Y - PAL**	
			MW-124A	3	1	**Y - ES**	
			MW-125	1	0	N	Exceedance not confirmed
			MW-125A	0	1	N	Exceedance not confirmed
Tetrachloroethene (µg/L)	0.5	5	MW-113	1	0	N	Exceedance not confirmed
1,2-Dichloroethane (µg/L)	0.5	5	MW-3	1	0	N	Exceedance not confirmed
			MW-4	1	0	N	Exceedance not confirmed
			MW-105	1	0	N	Exceedance not confirmed
			MW-105A	1	0	N	Exceedance not confirmed
			MW-113	2	1	**Y - ES**	
			MW-120A	3	0	**Y - PAL**	
			MW-123A	1	0	N	Exceedance not confirmed
			MW-124	1	0	N	Exceedance not confirmed
			MW-124A	2	0	**Y - PAL**	

Table 1-2. NR 140 Exemption Requests
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

Parameter	PAL	ES	Well ID	PAL Exceedances in First 5 Sampling Events	ES Exceedances in First 5 Sampling Events	Exemption Requested?	Comments
Public Welfare Parameters and Nitrite +Nitrite							
Manganese, dissolved (µg/L as Mn)	25	50	MW-105	0	1	**Y - ES**	
			MW-105A	4	1	**Y - ES**	
			MW-106	3	1	**Y - ES**	
			MW-108	1	2	**Y - ES**	
			MW-113	1	3	**Y - ES**	
			MW-113A	0	5	**Y - ES**	
			MW-116	1	2	**Y - ES**	
			MW-116A	1	3	**Y - ES**	
			MW-120	1	1	**Y - ES**	
			MW-120A	0	3	**Y - ES**	
			MW-121	1	1	**Y - ES**	
			MW-122	1	2	**Y - ES**	
			MW-123	0	3	**Y - ES**	
			MW-123A	0	4	**Y - ES**	
			MW-123B	1	0	N	Exceedance not confirmed
			MW-124	2	2	**Y - ES**	
			MW-124A	0	4	**Y - ES**	
			MW-125	0	1	**Y - ES**	Exceedance not confirmed
			MW-125A	3	1	**Y - ES**	
Nitrite + Nitrate, dissolved (mg/L as N)	2	10	MW-3	5	0	**Y - PAL**	
			MW-4	5	0	**Y - PAL**	
			MW-113	5	0	**Y - PAL**	
			MW-116A	5	0	**Y - PAL**	
			MW-120A	4	0	**Y - PAL**	
			MW-121	5	0	**Y - PAL**	
			MW-123	1	0	N	Exceedance not confirmed
			MW-123A	5	0	**Y - PAL**	
			MW-123B	2	0	**Y - PAL**	
			MW-124	5	0	**Y - PAL**	
			MW-124A	5	0	**Y - PAL**	
			MW-125	3	0	**Y - PAL**	
			MW-125A	5	0	**Y - PAL**	
Sulfate, dissolved (mg/L)	125	250	MW-105A	2	0	**Y - PAL**	
			MW-122	1	0	N	Exceedance not confirmed

Abbreviations:
mg/L = milligrams per liter of parts per million (ppm)
µg/L = micrograms per liter or parts per billion (ppb)

Created by: SCC Date: 11/16/2023
Last revision by: JR Date: 2/9/2024
Checked by: BLP Date: 2/9/2024

Table 4-1. Property Ownership Within 1,200 Feet of Proposed Landfill Limits of Waste
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

MAP ID	OWNER	MAILING ADDRESS
1	DANE COUNTY WASTE & RENEWABLES	1919 ALLIANT ENERGY CENTER WAY, MADISON, WI 53713-1400
2	DANE COUNTY BLVD RM 114	210 MARTIN LUTHER KING JR BLVD., MADISON, WI 53703
3	DANE COUNTY BLVD RM 114	210 MARTIN LUTHER KING JR BLVD., MADISON, WI 53703
4	CITY OF MADISON PARKS YAHARA HILLS GOLF COURSE	330 E LAKESIDE ST., MADISON, WI 53715
5	CITY OF MADISON STREETS YAHARA WOOD PROCESS SITE	4502 SYCAMORE AVE., MADISON, WI 53704-6461
6	LARRY G SKAAR	4374 SECRETARIAT CT., COTTAGE GROVE, WI 53527
7	COUNTY OF DANE	5201 FEN OAK DR. #208, MADISON, WI 53718
8	COUNTY OF DANE	1919 ALLIANT ENERGY CENTER WAY, MADISON, WI 53713
9	COUNTY OF DANE	5201 FEN OAK DR. #208, MADISON, WI 53718
10	AMY M FLUKE	3104 HOPE HOLLOW TRL., MCFARLAND, WI 53558
11	C&L INVESTMENTS LLP	W1085 COUNTY HIGHWAY K, COLUMBUS, WI 53925
12	BRIAN D ROGERS	3108 HOPE HOLLOW TRL., MCFARLAND, WI 53558
13	AMY MARLENE FLUKE	3098 HOPE HOLLOW TRL., MCFARLAND, WI 53558
14	ARLEN M and CAROL ALGREM	5304 HOUGH ST., MCFARLAND, WI 53558
15	C&L INVESTMENTS LLP	W1085 COUNTY HIGHWAY K, COLUMBUS, WI 53925
16	CITY OF MADISON PARKS YAHARA HILLS GOLF COURSE	330 E LAKESIDE ST., MADISON, WI 53715
17	LARRY G SKAAR	4374 SECRETARIAT CT., COTTAGE GROVE, WI 53527
18	CITY OF MADISON PARKS YAHARA HILLS GOLF COURSE	330 E LAKESIDE ST., MADISON, WI 53715
19	C&L INVESTMENTS LLP	W1085 COUNTY HIGHWAY K, COLUMBUS, WI 53925
20	LARRY G SKAAR	4374 SECRETARIAT CT., COTTAGE GROVE, WI 53527
21	CITY OF MADISON PARKS YAHARA HILLS PARK SOUTH	330 E LAKESIDE ST., MADISON, WI 53715
22	C&L INVESTMENTS LLP	W1085 COUNTY HIGHWAY K, COLUMBUS, WI 53925

Note:
1. Parcel data from https://gis-countyofdane.opendata.arcgis.com/, accessed on November 20, 2023.

BY: AA, 11/20/23
CHECKED: BLP, 11/21/23

Table 5-1. NR 512.09 Minimum Required Borings, Water Table Wells and Piezometers

Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00

Feasibility Report

	NR 512.09 Requirements for a 79.0-Acre Site
Borings	40
Water table wells	20
Piezometers	10

Created by: BJS 10/04/2023

Updated by: JR, 1/24/2024

Checked by: BLP, 1/30/24

Notes:

1. The minimum number of borings, wells and piezometers is based on 5 and 10-acre or less increments. Coarse-grained environment assumed. See Table 1 of NR 512.09.

2. Four well nests (water table well and a piezometer) are required inside the proposed footprint per NR 512.09(2)(b).

3. Boring information was collected from water table well and/or well nest locations, thereby reducing the number of boring locations. The number of boring only locations is the total number of borings minus the number of water table well locations (40 borings - 20 water table well locations = 20 boring only locations).

Table 5-2. Borings and Monitoring Wells
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

Drilling Location ID	Specific Boring or Well ID	Location		Boring	Well	Piezo.	In Fill Area	<150 ft. from Fill Area	150 - 300 ft. from Fill Area	Ground El. (ft. amsl)	Deepest Boring (ft. bgs)	Deepest Boring Bottom El. (ft. amsl)	Subbase El.[1] (ft. amsl)	Boring Depth Below Subbase El. (ft.)
		Northing	Easting											
Feasibility Investigation Borings Within 300 Feet of Proposed Fill Area														
1	B-1	379,853.7	2,168,431.9	X					X	875.0	60.0	815.0	872.1	57.1
	MW-1	379,849.0	2,168,438.0		X									
2	B-2	378,835.5	2,169,372.4				X							
	B-2A	378,835.5	2,169,372.4	X						892.3	36.0	856.3	882.6	26.3
	MW-2	378,836.0	2,169,374.0		X									
5	B-5	379,624.2	2,169,376.1					X						
	B-5A	379,624.2	2,169,376.1	X						883.1	36.0	847.1	874.3	27.2
6	B-6	379,082.1	2,167,735.0						X					
	B-6A	379,080.0	2,167,735.0	X						882.3	35.5	846.8	876.5	29.7
7	B-7	378,831.0	2,168,301.0	**E**			X			901.3	43.5	857.8	877.7	19.9
8	B-8	377,946.0	2,168,041.0	**E**			X			901.7	30.0	871.7	891.8	20.1
10	B-10	377,666.7	2,169,421.4	X			X			916.9	53.6	863.3	919.2	55.9
11	B-11	378,106.5	2,169,439.0	X			X			904.6	41.0	863.6	905.4	
107	B-107	379,946.4	2,169,170.1	X					X	878.0	50.0	828.0	873.8	45.8
	MW-107	379,947.1	2,169,171.0		X									
108	B-108	379,492.0	2,167,830.9	X				X		875.4	40.0	835.4	872.4	37.0
	MW-108	379,492.0	2,167,830.9		X									
109	MW-109	379,244.1	2,168,351.8		X		X							
	MW-109A	379,247.1	2,168,349.9	X		X				895.8	71.5	824.3	874.6	50.3
110	MW-110	379,206.0	2,169,102.0		X									
	MW-110A	379,205.6	2,169,107.9	X		X	X			895.5	56.0	839.5	878.1	38.6
	ST-110	379,206.0	2,169,102.0											
111	B-111C	379,277.3	2,169,693.5	X						883.9	41.4	842.5	879.2	36.7
	MW-111	379,277.3	2,169,693.5		X			X						
	ST-111	379,277.3	2,169,693.5											
112	B-112	378,723.7	2,168,712.5											
	B-112B	378,723.7	2,168,712.5				X							
	B-112C	378,723.7	2,168,712.5	X						899.0	43.0	856.0	889.5	33.5
	MW-112	378,723.7	2,168,712.5		X									
113	MW-113	378,409.9	2,167,782.4		X				X					
	MW-113A	378,412.1	2,167,779.2	X		X				916.6	68.0	848.6	887.1	38.5

Table 5-2. Borings and Monitoring Wells
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

Drilling Location ID	Specific Boring or Well ID	Location		Boring	Well	Piezo.	In Fill Area	<150 ft. from Fill Area	150 - 300 ft. from Fill Area	Ground El. (ft. amsl)	Deepest Boring (ft. bgs)	Deepest Boring Bottom El. (ft. amsl)	Subbase El.[1] (ft. amsl)	Boring Depth Below Subbase El. (ft.)
		Northing	Easting											
114	MW-114	378,420.5	2,168,480.2		X		X							
	MW-114A	378,415.0	2,168,485.0	X		X				897.1	50.0	847.1	886.9	39.8
115	B-115C	378,503.9	2,169,031.4	X			X			896.3	40.0	856.3	894.4	38.1
	MW-115	378,503.9	2,169,031.4		X									
116	MW-116	378,468.4	2,169,727.7		X			X						
	MW-116A	378,476.8	2,169,728.0	X		X				900.8	60.4	840.4	896.4	56.0
	ST-116	378,468.4	2,164,727.7											
117	MW-117	377,912.9	2,168,366.8		X		X							
	MW-117A	377,911.0	2,168,363.2	X		X				899.7	51.0	848.7	892.7	44.0
118	MW-118	377,988.6	2,169,160.6		X		X							
	MW-118A	377,985.4	2,169,163.6	X		X				901.8	52.8	849.0	898.6	49.6
119	MW-119	378,019.0	2,169,755.6	X	X			X		919.3	49.0	870.3	909.5	39.2
	ST-119	378,019.0	2,169,755.6											
120	MW-120	377,642.1	2,167,842.4		X			X						
	MW-120A	377,643.4	2,167,837.9	X		X				907.3	50.5	856.8	894.6	37.8
121	B-121C	377,615.3	2,168,255.7	X			X			903.6	41.0	862.6	894.4	31.8
	MW-121	377,615.3	2,168,255.7		X									
122	B-122	377,547.7	2,169,046.5	X				X		910.0	43.0	867.0	902.2	35.2
	MW-122	377,547.7	2,169,046.5		X									
123	MW-123	377,597.9	2,169,698.2					X						
	MW-123A	377,590.6	2,169,697.1	X		X				930.5	93.0	837.5	921.7	84.2
	MW-123B	381,798.0	2,197,338.5		X									
125	MW-125	377,275.2	2,169,006.3		X				X					
	MW-125A	377,276.3	2,169,010.0	X		X				915.6	58.7	856.9	903.5	46.6
212	B-212	379,823.3	2,168,049.2	X					X	870.9	40.0	830.9	870.7	39.8
213	B-213	379,579.3	2,168,300.2	X			X			884.2	40.0	844.2	870.3	26.1
214	B-214	379,569.5	2,168,653.1	**E**			X			888.8	40.0	848.8	872.3	23.5
215	B-215	379,646.4	2,168,962.6	**E**			X			885.3	34.0	851.3	873.3	22.0
216	B-216	379,277.4	2,168,017.2	X			X			883.0	37.0	846.0	874.2	28.2
217	B-217	379,187.2	2,168,816.5				X							
	B-217C	379,187.2	2,168,816.5	X						902.3	51.5	850.8	882.7	31.9

Table 5-2. Borings and Monitoring Wells
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

Drilling Location ID	Specific Boring or Well ID	Location		Boring	Well	Piezo.	In Fill Area	<150 ft. from Fill Area	150 - 300 ft. from Fill Area	Ground El. (ft. amsl)	Deepest Boring (ft. bgs)	Deepest Boring Bottom El. (ft. amsl)	Subbase El.[1] (ft. amsl)	Boring Depth Below Subbase El. (ft.)
		Northing	Easting											
218	B-218	379,292.1	2,169,463.7											
	B-218C	379,292.1	2,169,463.7	X			X			889.0	40.6	848.4	877.6	29.2
	ST-218	379,292.1	2,169,463.7											
219	B-219	378,846.4	2,168,087.0				X							
	B-219C	378,846.4	2,168,087.0	X						901.8	50.0	851.8	877.1	25.3
220	B-220	378,850.2	2,169,022.5											
	B-220A	378,850.2	2,169,022.5				X							
	B-220C	378,850.2	2,169,022.5	X						899.0	44.0	855.0	891.2	36.2
	ST-220	378,850.2	2,169,022.5											
221	B-221	378,832.2	2,169,690.1					X						
	B-221C	378,832.2	2,169,690.1	X						892.8	40.0	852.8	885.3	32.5
222	B-222	378,424.8	2,168,164.3				X							
	B-222C	378,424.8	2,168,164.3	X						900.2	43.0	857.2	887.2	30.0
223	B-223	378,445.6	2,169,403.2											
	B-223C	378,445.6	2,169,403.2	X			X			900.3	40.8	859.5	896.5	37.0
	ST-223	378,445.6	2,169,403.2											
224	B-224	378,047.5	2,167,866.2					X						
	B-224C	378,047.5	2,167,866.2	X						906.9	46.0	860.9	890.8	29.9
225	B-225	377,948.3	2,168,814.1				X							
	B-225C	377,948.3	2,168,814.1	X						904.2	40.6	863.6	900.6	37.0
226	B-226	377,533.4	2,168,775.5					X						
	B-226C	377,533.4	2,168,775.5	X						906.7	40.7	866.0	902.8	36.8
	Total Within 300 Feet of Fill Area			**41**	**20**	**10**								
Supplemental Borings More than 300 Feet from Proposed Fill Area														
3	B-3	378,224.9	2,166,911.2	**O**						895.9	37.0	858.9	889.0	30.1
	MW-3	378,218.0	2,166,911.0		**O**									
4	MW-4	377,202.0	2,168,283.0	**O**	**O**					911.7	31.0	880.7	893.8	13.1
9	B-9	377,612.7	2,166,186.5	**O**						901.7	22.9	878.8	894.6	
105	MW-105	380,064.0	2,167,905.9		**O**									
	MW-105A	380,068.7	2,167,909.4	**O**		**O**				869.7	50.0	819.7	871.5	51.8

Table 5-2. Borings and Monitoring Wells
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

Drilling Location ID	Specific Boring or Well ID	Location		Boring	Well	Piezo.	In Fill Area	<150 ft. from Fill Area	150 - 300 ft. from Fill Area	Ground El. (ft. amsl)	Deepest Boring (ft. bgs)	Deepest Boring Bottom El. (ft. amsl)	Subbase El.[(1)] (ft. amsl)	Boring Depth Below Subbase El. (ft.)
		Northing	Easting											
106	B-106	380,184.8	2,168,531.1	O						874.9	40.0	834.9	871.7	36.8
	MW-106	380,184.8	2,168,531.1		O									
124	B-124C	377,199.8	2,167,822.8											
	MW-124	377,199.8	2,167,822.8		O									
	MW-124A	377,202.1	2,167,830.2	O		O				917.0	56.5	860.5	894.6	34.1
126	B-126	378,795.4	2,167,301.3	O						880.3	5.0	875.3	878.8	3.5
227	B-227	377,192.1	2,168,624.0											
	B-227C	377,192.1	2,168,624.0	O						911.1	45.6	865.5	901.2	35.7
228	B-228	377,263.3	2,169,326.5											
	B-228C	377,263.3	2,169,326.5	O						932.2	64.1	868.1	910.0	41.9
229	B-229	377,272.3	2,169,720.2	O						924.2	6.0	918.2	921.7	3.5
	B-229C	377,272.3	2,169,720.2											
230	B-230	378,701.0	2,166,492.8	O						868.9	25.5	843.4	881.4	38.0
231	B-231	376,568.7	2,166,730.0	O						911.4	21.0	890.4	894.6	4.2
232	B-232	377,857.0	2,167,319.9	O						913.2	31.5	881.7	892.7	11.0
233	B-233	376,885.6	2,167,404.5	O						929.0	8.5	920.5	894.6	-25.9
	Total for Supplemental Locations			14	5	2								
	Total for All Investigation Locations			55	25	12								

Notes:

O	Located greater than 300 ft from fill area; not included in count toward required minimum number under NR 512.09
E	Located within 300 ft from fill area and included in count; exemption requested for boring less than 25 feet below subbase
(1)	Subbase elevations are the elevations of the bottom of the clay layer as shown on Plan Sheet 23 - Proposed Subbase Grades and Underdrain. The closest floor subbase elevation was chosen for borings beyond the proposed fill area or on the proposed liner sideslope.

33 borings, located within 300 ft from the fill area, meet the NR 512.09 (1) (c) requirement for extending more than 5 feet into bedrock.

Prepared by: BR Date: 7/5/2023
Revised by: SCC Date: 2/13/2024
Checked by: BLP Date: 2/13/2024

Table 5-3. Results of Drilling Water Analysis
Dane County Landfill Site No. 3 / SCS Engineers Project # 25222268.00
Feasibility Report
(Measured in mg/l unless otherwise noted)

Sample	Date	Total Chloride	Total Alkalinity as CaCO3	Total Hardness as CaCO3	Detected Volatile Organic Compounds* (µg/l)
Maintenance BLD Water	2/24/2023	4.4	406	415	ND
Rodefeld Landfill Water Tank	2/24/2023	1.6 J	373	379	Bromodichloromethane 0.84 J Chloroform 1.3 J
Trip Blank	2/24/2023	NA	NA	NA	ND

ABBREVIATIONS:
mg/l = milligrams per liter
µg/l = micrograms per liter
NA = Not Analyzed
ND = Not Detected

NOTES:
*Analyzed using EPA Method 8260.

LABORATORY NOTES/QUALIFIERS:
J = Estimated concentration below laboratory quantitation level.

Created by:	LMH	Date: 9/13/2010
Last revision by:	JR	Date: 1/15/2024
Checked by:	BJS	Date: 1/25/2024

Table 5-4. Total Suspended Solids
Dane County Landfill Site No. 3 / SCS Engineers Project # 25222268.00
Feasibility Report

Well ID No.	Date Developed & Sampled	TSS Result (mg/L)
MW-1	2/24/2022	3.6
MW-2	2/24/2022	304
MW-3	2/23/2022	76.2
MW-4	2/23/2022	620
MW-105	2/2/2023	937
MW-105A	1/26/2023	9,190
MW-106	2/2/2023	1,560
MW-107	2/2/2023	13,200
MW-108	1/27/2023	8,260
MW-109	2/21/2023	332
MW-109A	3/15/2023	205
MW-110	1/26/2023	20,300
MW-110A	3/15/2023	130
MW-111	2/21/2023	724
MW-112	1/26/2023	8,520
MW-113	3/16/2023	5,510
MW-113A	3/16/2023	255
MW-114	1/27/2023	59.6
MW-114A	3/15/2023	924
MW-115	2/1/2023	24,300
MW-116	1/26/2023	2,550
MW-116A	3/17/2023	983
MW-117	1/27/2023	63,900
MW-117A	3/16/2023	1,060
MW-118	2/2/2023	4,400
MW-118A	3/17/2023	355
MW-119	2/2/2023	4,500
MW-120	2/1/2023	241
MW-120A	3/15/2023	2,160
MW-121	1/27/2023	1,100
MW-122	2/2/2023	3,960

Table 5-4. Total Suspended Solids
Dane County Landfill Site No. 3 / SCS Engineers Project # 25222268.00
Feasibility Report

Well ID No.	Date Developed & Sampled	TSS Result (mg/L)
MW-123	5/30/2023	205
MW-123A	3/16/2023	15,400
MW-123B	5/30/2023	815
MW-124	2/22/2023	4,000
MW-124**	3/15/2023	1,190
MW-124A	3/15/2023	556
MW-125	2/22/2023	9,990
MW-125A	2/22/2023	14,900

Abbreviations:
TSS = Total suspended solids
mg/L = milligrams per liter
** MW124 was developed twice by mistake

Created by: REO Date: 9/25/2023
Last revision by: JR Date: 1/15/2024
Checked by: SCC Date: 2/8/2024

Table 5-5. Groundwater and Surface Water Elevations
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

	Depth to Water in feet below top of well casing														
Raw Data	**MW-1**	**MW-2**	**MW-3**	**MW-4**	**MW-105**	**MW-105A**	**MW-106**	**MW-107**	**MW-108**	**MW-109**	**MW-109A**	**MW-110**	**MW-110A**	**MW-111**	**MW-112**
Measurement Date															
February 23, 2022 **	14.60	8.63	14.41	18.63	--	--	--	--	--	--	--	--	--	--	--
April 29, 2022	11.90	5.02	11.50	12.85	--	--	--	--	--	--	--	--	--	--	--
September 15, 2022	10.06	3.72	9.12	9.89	--	--	--	--	--	--	--	--	--	--	--
December 6, 2022	12.03	5.59	NM	13.09	--	--	--	--	--	--	--	--	--	--	--
January 18, 2023	11.30	3.76	9.59	11.50	--	--	--	--	--	--	--	--	--	--	--
February 14, 2023	11.83	3.55	NM	11.74	6.47	7.21	10.78	14.71	11.76	30.98**	--	13.08	--	9.02**	7.76
February 28, 2023	11.75	2.97	8.57	8.45	3.46	5.35	9.59	12.03	9.45	30.57	--	11.51	--	7.35	4.76
March 29, 2023	NM	3.08	NM	9.64	5.31	6.08	9.31	13.19	9.86	29.04	27.87	10.63	12.97	7.01	6.85
May 1, 2023	10.51	4.11	6.57	10.41	6.76	7.00	9.81	13.60	10.50	28.95	28.01	10.50	13.04	8.46	7.89
June 7, 2023	11.62	5.73	8.40	11.96	7.80	8.00	10.64	13.87	11.94	30.43	29.62	12.52	14.89	10.90	8.77
July 10, 2023	12.47	6.47	9.82	13.50	8.66	8.74	11.30	14.36	13.04	31.58	30.64	14.06	16.20	11.56	9.17
August 15, 2023	12.70	5.40	10.90	14.35	8.55	8.70	10.90	13.80	13.30	32.20	31.10	15.90	17.00	10.60	8.80
September 21, 2023	13.25	6.16	11.85	15.85	9.24	9.40	11.80	14.53	13.97	32.75	31.80	15.50	17.62	11.40	9.65
November 3, 2023	12.89	5.82	12.57	16.20	8.69	8.92	11.01	13.88	13.64	32.63	31.46	15.30	17.36	11.09	9.88
December 4, 2023	13.35	6.91	13.05	17.00	9.02	9.15	11.75	14.60	14.00	33.02	31.73	15.75	17.91	11.79	10.70
	Ground Water Elevation in feet above mean sea level (amsl)														
Well Number	**MW-1**	**MW-2**	**MW-3**	**MW-4**	**MW-105**	**MW-105A**	**MW-106**	**MW-107**	**MW-108**	**MW-109**	**MW-109A**	**MW-110**	**MW-110A**	**MW-111**	**MW-112**
Top of Casing Elevation (feet amsl)	878.17	895.14	898.64	914.34	872.23	872.25	876.40	880.79	878.04	898.62	898.36	897.88	897.87	886.59	901.49
Ground Surface Elevation (feet amsl)	875.5	892.3	896.0	911.7	869.8	869.7	873.8	878.3	875.4	896.0	895.8	895.5	895.5	883.9	899.0
Screen Length (ft)	15.00	10.00	10.00	10.00	10.00	5.00	10.00	10.00	10.00	10.00	5.00	10.00	5.00	10.00	10.00
Lithology of Screen Interval	Loess & Outwash	Till	Till	Dolomite (Prairie du Chien Gr.)	Loess, Outwash, & Till	Weathered Dolomite	Loess & Till	Till	Till	Till, Weathered Dolomite & Dolomite (Galena Fm.)	Dolomite (Galena Fm.)	Till	Sandstone (Glenwood Fm.)	Till & Outwash	Till & Weathered Dolomite (Galena Fm.)
Total Depth (ft from top of casing)	25.26	16.17	31.13	30.85	18.05	52.09	20.13	20.19	20.20	38.40	73.25	22.98	57.00	20.49	17.65
Top of Well Screen Elevation (ft)	867.91	888.97	877.51	893.49	864.18	825.16	866.27	870.60	867.84	870.22	830.11	884.90	845.87	876.10	893.84
Measurement Date															
February 23, 2022 **	863.57	886.51	884.23	895.71	--	--	--	--	--	--	--	--	--	--	--
April 29, 2022	866.27	890.12	887.14	901.49	--	--	--	--	--	--	--	--	--	--	--
September 15, 2022	868.11	891.42	889.52	904.45	--	--	--	--	--	--	--	--	--	--	--
December 6, 2022	866.14	889.55	NM	901.25	--	--	--	--	--	--	--	--	--	--	--
January 18, 2023	866.87	891.38	889.05	902.84	--	--	--	--	--	--	--	--	--	--	--
February 14, 2023	866.34	891.59	NM	902.60	865.76	865.04	865.62	866.08	866.28	876.64	--	884.80	--	877.57	893.73
February 28, 2023	866.42	892.17	890.07	905.89	868.77	866.90	866.81	868.76	868.59	868.05	--	886.37	--	879.24	896.73
March 29, 2023	NM	892.06	NM	904.70	866.92	866.17	867.09	867.60	868.18	869.58	870.49	887.25	884.90	879.58	894.64
May 1, 2023	867.66	891.03	892.07	903.93	865.47	865.25	866.59	867.19	867.54	869.67	870.35	887.38	884.83	878.13	893.60
June 7, 2023	866.55	889.41	890.24	902.38	864.43	864.25	865.76	866.92	866.10	868.19	868.74	885.36	882.98	875.69	892.72
July 10, 2023	865.70	888.67	888.82	900.84	863.57	863.51	865.10	866.43	865.00	867.04	867.72	883.82	881.67	875.03	892.32
August 15, 2023	865.47	889.74	887.74	899.99	863.68	863.55	865.50	866.99	864.74	866.42	867.26	881.98	880.87	875.99	892.69
September 21, 2023	864.92	888.98	886.79	898.49	862.99	862.85	864.60	866.26	864.07	865.87	866.56	882.38	880.25	875.19	891.84
November 3, 2023	865.28	889.32	886.07	898.14	863.54	863.33	865.39	866.91	864.40	865.99	866.90	882.58	880.51	875.50	891.61
December 4, 2023	864.82	888.23	885.59	897.34	863.21	863.10	864.65	866.19	864.04	865.60	866.63	882.13	879.96	874.80	890.79
Bottom of Well Elevation (ft)	852.91	878.97	867.51	883.49	854.18	820.16	856.27	860.60	857.84	860.22	825.11	874.90	840.87	866.10	883.84

Notes:
NM = not measured
-- = not installed
** = groundwater elevation measurement prior to monitoring well development

1. Total depth, bottom of well elevation, and top of screen elevation are based on the surveyed top of casing elevations and field measurement of well total depths on May 1, 2023. Depth and elevations may differ from those shown on well construction forms which record field measurements of well construction depth from ground surface and nominal well casing and screen lengths.
2. Monitoring wells MW-1, MW-2, MW-3, and MW-4 were installed and developed by TetraTech in 2022.
3. Groundwater levels at MW-1, MW-2, MW-3, and MW-4 in 2022 were measured by TetraTech.

Table 5-5. Groundwater and Surface Water Elevations
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

Raw Data	Depth to Water in feet below top of well casing												
	MW-113	MW-113A	MW-114	MW-114A	MW-115	MW-116	MW-116A	MW-117	MW-117A	MW-118	MW-118A	MW-119	MW-120
Measurement Date													
February 23, 2022 **	--	--	--	--	--	--	--	--	--	--	--	--	--
April 29, 2022	--	--	--	--	--	--	--	--	--	--	--	--	--
September 15, 2022	--	--	--	--	--	--	--	--	--	--	--	--	--
December 6, 2022	--	--	--	--	--	--	--	--	--	--	--	--	--
January 18, 2023	--	--	--	--	4.80 **	--	--	--	--	--	--	--	--
February 14, 2023	--	--	4.55	--	4.59	20.42	--	3.15	--	5.93	--	37.65	7.19
February 28, 2023	--	--	3.38	--	3.32	19.98	--	2.74	--	4.20	6.41	37.53	3.33
March 29, 2023	23.01	23.69	3.89	5.17	4.20	18.30	17.91	2.84	1.73	3.96	6.23	36.17	4.71
May 1, 2023	23.55	24.17	4.92	5.95	4.94	17.83	17.46	2.90	2.78	5.91	7.56	33.71	6.02
June 7, 2023	24.76	25.54	6.17	7.22	5.89	19.04	18.65	5.16	4.46	7.55	9.59	33.02	7.71
July 10, 2023	25.54	26.62	6.39	7.71	6.21	20.31	19.90	6.08	5.67	8.49	10.74	33.62	9.36
August 15, 2023	25.80	27.00	5.40	7.50	5.80	21.30	21.00	5.50	5.80	8.50	11.30	34.40	10.00
September 21, 2023	26.80	27.96	6.62	8.42	6.62	22.28	22.03	7.19	7.35	9.70	12.51	35.13	11.38
November 3, 2023	29.62	27.97	6.79	8.51	7.00	22.50	22.04	6.21	7.14	9.52	12.36	35.98	11.62
December 4, 2023	27.05	28.37	6.63	8.90	7.60	23.09	22.65	6.71	7.60	10.28	12.92	36.62	12.20
	Ground Water Elevation in feet above mean sea level (amsl)												
Well Number	**MW-113**	**MW-113A**	**MW-114**	**MW-114A**	**MW-115**	**MW-116**	**MW-116A**	**MW-117**	**MW-117A**	**MW-118**	**MW-118A**	**MW-119**	**MW-120**
Top of Casing Elevation (feet amsl)	919.37	919.31	899.89	899.66	899.25	903.85	903.35	902.35	902.36	904.27	904.26	921.70	909.91
Ground Surface Elevation (feet amsl)	916.4	916.6	897.3	897.1	896.6	901.4	900.8	899.8	899.7	901.9	901.8	919.3	907.2
Screen Length (ft)	10.00	5.00	10.00	5.00	10.00	10.00	5.00	10.00	5.00	10.00	5.00	10.00	10.00
Lithology of Screen Interval	Dolomite (Galena Fm.)	Dolomite (Platteville Fm.) & Sandstone (Glenwood Fm.)	Loess, Till & Sandstone (Tonti Member)	Dolomite (Shakopee Fm.)	Till, Weathered Dolomite & Dolomite (Oneota Fm.)	Sandstone (Tonti Member)	Sandstone (Tonti Member)	Loess and Till	Dolomite (Oneota Fm.)	Till & Sandstone (Tonti Member)	Variable Lithology (Readstown Member) & minor Dolomite (Prairie du Chien Gr.)	Sandstone (Tonti Member)	Till
Total Depth (ft from top of casing)	39.42	69.34	18.02	52.15	16.83	28.35	62.21	17.92	52.95	17.52	49.20	49.09	18.02
Top of Well Screen Elevation (ft)	889.95	854.97	891.87	852.51	892.42	885.50	846.14	894.43	854.41	896.75	860.06	882.61	901.89
Measurement Date													
February 23, 2022 **	--	--	--	--	--	--	--	--	--	--	--	--	--
April 29, 2022	--	--	--	--	--	--	--	--	--	--	--	--	--
September 15, 2022	--	--	--	--	--	--	--	--	--	--	--	--	--
December 6, 2022	--	--	--	--	--	--	--	--	--	--	--	--	--
January 18, 2023	--	--	--	--	894.45	--	--	--	--	--	--	--	--
February 14, 2023	--	--	895.34	--	894.66	883.43	--	899.20	--	898.34	--	884.05	902.72
February 28, 2023	--	--	896.51	--	895.93	883.87		899.61	--	900.07	897.85	884.17	906.58
March 29, 2023	896.36	895.62	896.00	894.49	895.05	885.55	885.44	899.51	900.63	900.31	898.03	885.53	905.20
May 1, 2023	895.82	895.14	894.97	893.71	894.31	886.02	885.89	899.45	899.58	898.36	896.70	887.99	903.89
June 7, 2023	894.61	893.77	893.72	892.44	893.36	884.81	884.70	897.19	897.90	896.72	894.67	888.68	902.20
July 10, 2023	893.83	892.69	893.50	891.95	893.04	883.54	883.45	896.27	896.69	895.78	893.52	888.08	900.55
August 15, 2023	893.57	892.31	894.49	892.16	893.45	882.55	882.35	896.85	896.56	895.77	892.96	887.30	899.91
September 21, 2023	892.57	891.35	893.27	891.24	892.63	881.57	881.32	895.16	895.01	894.57	891.75	886.57	898.53
November 3, 2023	889.75	891.34	893.10	891.15	892.25	881.35	881.31	896.14	895.22	894.75	891.90	885.72	898.29
December 4, 2023	892.32	890.94	893.26	890.76	891.65	880.76	880.70	895.64	894.76	893.99	891.34	885.08	897.71
Bottom of Well Elevation (ft)	879.95	849.97	881.87	847.51	882.42	875.50	841.14	884.43	849.41	886.75	855.06	872.61	891.89

Notes:
NM = not measured
-- = not installed
** = groundwater elevation measurement prior to monitoring well development

1. Total depth, bottom of well elevation, and top of screen elevation are based on the surveyed top of casing elevations and field measurement of well total depths on May 1, 2023. Depth and elevations may differ from those shown on well construction forms which record field measurements of well construction depth from ground surface and nominal well casing and screen lengths.

Table 5-5. Groundwater and Surface Water Elevations
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

Raw Data	Depth to Water in feet below top of well casing									
	MW-120A	MW-121	MW-122	MW-123	MW-123A	MW-123B	MW-124	MW-124A	MW-125	MW-125A
Measurement Date										
February 23, 2022 **	--	--	--	--	--	--		--	--	--
April 29, 2022	--	--	--	--	--	--	--	--	--	--
September 15, 2022	--	--	--	--	--	--	--	--	--	--
December 6, 2022	--	--	--	--	--	--	--	--	--	--
January 18, 2023	--	--	--	--	--	--	--	--	--	--
February 14, 2023	--	3.56	11.25	--	--	--	16.66**	--	21.81**	21.49**
February 28, 2023	--	1.48	7.53	--	--	--	13.88	--	21.32	20.13
March 29, 2023	5.30	2.16	8.14	53.54**	60.25	--	15.06	15.81	18.58	18.78
May 1, 2023	6.00	2.60	9.35	52.49	58.69	--	15.79	15.77	17.77	18.76
June 7, 2023	7.67	4.15	11.65	48.82	57.80	49.27	17.00	23.36	21.13	20.36
July 10, 2023	9.34	5.59	13.32	48.55	58.00	49.14	18.29	20.62	22.60	22.78
August 15, 2023	10.20	6.30	14.20	49.90	58.80	50.60	19.05	22.10	24.10	24.00
September 21, 2023	12.55	8.70	15.38	51.30	59.94	52.00	20.30	23.75	25.15	25.12
November 3, 2023	11.76	7.83	15.86	52.68	60.31	53.30	20.65	25.50	25.55	25.45
December 4, 2023	12.25	8.43	16.45	DRY	60.85	54.13	21.50	25.64	26.15	26.10
Well Number	Ground Water Elevation in feet above mean sea level (amsl)									
	MW-120A	MW-121	MW-122	MW-123	MW-123A	MW-123B	MW-124	MW-124A	MW-125	MW-125A
Top of Casing Elevation (feet amsl)	909.81	905.97	912.42	933.02	933.15	932.86	919.77	919.52	918.10	918.36
Ground Surface Elevation (feet amsl)	907.3	903.6	910.0	930.4	930.5	930.03	917.2	917.0	914.7	915.6
Screen Length (ft)	5.00	10.00	10.00	10.00	5.00	10.00	10.00	5.00	10.00	5.00
Lithology of Screen Interval	Dolomite (Oneota Fm.)	Till & Sandstone (Tonti Member) & Dolomite (Oneota Fm.)	Till	Sandstone (Tonti Member)	Dolomite (Shakopee Fm.)	Variable Lithology (Readstown Member)	Dolomite (Oneota Fm.)	Dolomite (Oneota Fm.)	Till, Variable Lithology (Readstown Member), & Dolomite (Prairie du Chien Gr.)	Dolomite (Prairie du Chien Gr.)
Total Depth (ft from top of casing)	52.25	17.29	18.18	54.13	83.90	68.30	25.60	58.49	31.12	57.11
Top of Well Screen Elevation (ft)	862.56	898.68	904.24	888.89	854.25	874.56	904.17	866.03	896.98	866.25
Measurement Date										
February 23, 2022 **	--	--	--	--	--	--	--	--	--	--
April 29, 2022	--	--	--	--	--	--	--	--	--	--
September 15, 2022	--	--	--	--	--	--	--	--	--	--
December 6, 2022	--	--	--	--	--	--	--	--	--	--
January 18, 2023	--	--	--	--	--	--	--	--	--	--
February 14, 2023	--	902.41	901.17	--	--	--	903.11	--	896.29	896.87
February 28, 2023	--	904.49	904.89	--	--	--	905.89	--	896.78	898.23
March 29, 2023	904.51	903.81	904.28	879.48	872.90	--	904.71	903.71	899.52	899.58
May 1, 2023	903.81	903.37	903.07	880.53	874.46	--	903.98	903.75	900.33	899.60
June 7, 2023	902.14	901.82	900.77	884.20	875.35	883.59	902.77	896.16	896.97	898.00
July 10, 2023	900.47	900.38	899.10	884.47	875.15	883.72	901.48	898.90	895.50	895.58
August 15, 2023	899.61	899.67	898.22	883.12	874.35	882.26	900.72	897.42	894.00	894.36
September 21, 2023	897.26	897.27	897.04	881.72	873.21	880.86	899.47	895.77	892.95	893.24
November 3, 2023	898.05	898.14	896.56	880.34	872.84	879.56	899.12	894.02	892.55	892.91
December 4, 2023	897.56	897.54	895.97	DRY	872.30	878.73	898.27	893.88	891.95	892.26
Bottom of Well Elevation (ft)	857.56	888.68	894.24	878.89	849.25	864.56	894.17	861.03	886.98	861.25

Notes:
NM = not measured
-- = not installed
** = groundwater elevation measurement prior to monitoring well development

1. Total depth, bottom of well elevation, and top of screen elevation are based on the surveyed top of casing elevations and field measurement of well total depths on May 1, 2023. Depth and elevations may differ from those shown on well construction forms which record field measurements of well construction depth from ground surface and nominal well casing and screen lengths.

Table 5-5. Groundwater and Surface Water Elevations
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

Raw Data	Surface Water Measurement (feet above/below reference elevation)								
	SG-1 (Pond #3)	SG-2 (Pond #6)	SG-3 (Pond #1)	SG-4 (culvert, west of CTH AB)	SG-5 (SW Pond at Rodefeld LF)	SG-6 (culvert near Maintenance Bldg)	SG-7 (Rodefeld LF RNG Plant Basin)	SG-8 (WDOT Pond)	SG-9 (WDOT Pond)
Measurement Date									
February 23, 2022 **	--	--	--	--	--	--	--	--	
April 29, 2022	--	--	--	--	--	--	--	--	
September 15, 2022	--	--	--	--	--	--	--	--	
December 6, 2022	--	--	--	--	--	--	--	--	
January 18, 2023	--	--	--	--	--	--	--	--	
February 14, 2023	--	--	--	--	--	--	--	--	--
February 28, 2023	--	--	--	--	--	--	--	--	--
March 29, 2023	1.00	1.00	1.10	2.75	1.01	0.17	0.90	--	--
May 1, 2023	0.90	0.60	0.45	3.00	0.68	0.38	0.67	--	--
June 7, 2023	0.62	0.54	0.40	3.21	DRY	DRY	DRY	--	--
July 10, 2023	0.79	0.47	0.20	3.20	DRY	DRY	DRY	--	--
August 15, 2023	0.50	0.70	0.15	3.10	0.8	DRY	0.0	--	--
September 21, 2023	0.79	0.45	0.65	DRY	DRY	DRY	DRY	--	--
November 3, 2023	DRY	0.51	DRY	3.20	0.46	DRY	DRY	2.70	1.50
December 4, 2023	0.12	0.50	0.12	3.14	0.00	DRY	0.00	3.12	4.26
	Surface Water Elevation in feet above mean sea level (amsl)								
Well Number	SG-1 (Pond #3)	SG-2 (Pond #6)	SG-3 (Pond #1)	SG-4 (culvert, west of CTH AB)	SG-5 (SW Pond at Rodefeld LF)	SG-6 (culvert near Maintenance Bldg)	SG-7 (Rodefeld LF RNG Plant Basin)	SG-8 (WDOT Pond)	SG-9 (WDOT Pond)
Top of Casing Elevation (feet amsl)	893.85	859.30	857.19	856.39	876.66	890.16	866.71	873.84	872.27
Ground Surface Elevation (feet amsl)	elv. at 0' mark	elv. at 0' mark	elv. at 0' mark	elv. top of culvert	elv. at 0' mark	elv. top of culvert	elv. At 0' mark	elv. top of culvert	elv. top of culvert
Screen Length (ft)	Add to ref elev.	Add to ref elev.	Add to ref elev.	Subtract from ref	Add to ref elev.	Subtract from ref	Add to ref elev.	Subtract from ref	Subtract from ref
Lithology of Screen Interval	--	--	--	--	--	--	--	--	--
Total Depth (ft from top of casing)	--	--	--	--	--	--	--	--	--
Top of Well Screen Elevation (ft)	--	--	--	--	--	--	--	--	--
Measurement Date									
February 23, 2022 **	--	--	--	--	--	--	--	--	--
April 29, 2022	--	--	--	--	--	--	--	--	--
September 15, 2022	--	--	--	--	--	--	--	--	--
December 6, 2022	--	--	--	--	--	--	--	--	--
January 18, 2023	--	--	--	--	--	--	--	--	--
February 14, 2023	--	--	--	--	--	--	--	--	--
February 28, 2023	--	--	--	--	--	--	--	--	--
March 29, 2023	894.85	860.30	858.29	853.64	877.67	889.99	867.61	--	--
May 1, 2023	894.75	859.90	857.64	853.39	877.34	889.79	867.38	--	--
June 7, 2023	894.47	859.84	857.59	853.18	DRY	DRY	DRY	--	--
July 10, 2023	894.64	859.77	857.39	853.19	DRY	DRY	DRY	--	--
August 15, 2023	894.35	860.00	857.34	853.29	877.46	DRY	866.71	--	--
September 21, 2023	894.64	859.75	857.84	DRY	DRY	DRY	DRY	--	--
November 3, 2023	DRY	859.81	DRY	853.19	877.12	DRY	DRY	871.14	870.77
December 4, 2023	893.97	859.80	857.31	853.25	876.66	DRY	866.71	870.72	868.01
Bottom of Well Elevation (ft)	--	--	--	--	--	--	--	--	

Notes:
NM = not measured
-- = not installed
** = groundwater elevation measurement prior to monitoring well development

1. Total depth, bottom of well elevation, and top of screen elevation are based on the surveyed top of casing elevations and field measurement of well total depths on May 1, 2023. Depth and elevations may differ from those shown on well construction forms which record field measurements of well construction depth from ground surface and nominal well casing and screen lengths.

Created by:	ACW	Date:	12/7/2022
Last revision by:	SCC	Date:	2/8/2024
Checked by:	BLP	Date:	2/9/2024

Table 5-6. Single Well Hydraulic Conductivity Test Results - All Wells
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

Monitoring Well	Hydraulic Conductivity (K_h) (cm/s)	Lithology within Screen Interval	USCS Soil Type and/or Rock Unit
MW-1	4.5E-03	Loess and Outwash	ML, CL, and SP-SM
MW-2	1.7E-04	Till	SM
MW-3	1.6E-03	Till	SM
MW-4	4.4E-02	Dolomite (Prairie du Chien Group)	DOL
MW-105	5.2E-04	Loess, Outwash, and Till	CL, SP, SM
MW-105A	2.3E-04	Weathered Dolomite	GM
MW-106	5.3E-04	Loess and Till	CL and SM
MW-107	5.2E-04	Till	SM
MW-108	3.6E-04	Till	SM
MW-109	2.1E-03	Till, Weathered Dolomite, and Dolomite (Galena Fm.)	SM, SM, and DL1
MW-109A	1.4E-03	Dolomite (Galena Fm.)	DL1
MW-110	1.0E-03	Till	SM
MW-110A	1.8E-04	Sandstone (Glenwood Fm.)	SS1
MW-111	2.2E-03	Till & Outwash	SM, SP-SM
MW-112	7.5E-03	Till and Weathered Dolomite (Galena Fm.)	SM and SM
MW-113	4.5E-04	Dolomite (Galena Fm.)	DL1
MW-113A	3.9E-05	Dolomite (Platteville Fm.) & Sandstone (Glenwood Fm.)	DL2 and SS1
MW-114	2.3E-03	Loess, Till, and Sandstone (Tonti Member)	CL, SM, and SS2
MW-114A	9.6E-04	Dolomite (Prairie du Chien Gr., Shakopee Fm.)	DL3
MW-115	1.7E-02	Till, Weathered Dolomite, and Dolomite (Oneota Fm.)	SM, GM, and DL4
MW-116	4.5E-04	Sandstone (Tonti Member)	SS2
MW-116A	4.0E-03	Sandstone (Tonti Member)	SS2
MW-117	3.7E-04	Loess and Till	CH and SM
MW-117A	1.9E-04	Dolomite (Oneota Fm.)	DL4
MW-118	2.2E-03	Till and Sandstone (Tonti Member)	SM and SS2
MW-118A	8.0E-05	Variable Lithology (Readstown Member) & minor Dolomite (Prairie du Chien Gr.)	SS3 and DL5
MW-119	3.2E-03	Sandstone (Tonti Member)	SS2
MW-120	2.4E-04	Till	SM
MW-120A	1.8E-04	Dolomite (Oneota Fm.)	DL4
MW-121	4.5E-04	Till, Sandstone (Tonti Member), and Dolomite (Oneota Fm.)	SM, SS2, and DL4
MW-122	1.1E-04	Till	SM
MW-123	2.4E-04	Sandstone (Tonti Member)	SS2
MW-123A	8.0E-06	Dolomite (Shakopee Fm.)	DL3
MW-123B	5.4E-04	Variable Lithology (Readstown Member)	SS3
MW-124	1.1E-03	Dolomite (Oneota Fm.)	DL4
MW-124A	9.6E-05	Dolomite (Oneota Fm.)	DL4
MW-125	2.6E-04	Till, Variable Lithology (Readstown Member), and Dolomite (Prairie du Chien Gr.)	SM, SS3, and DL5
MW-125A	3.2E-04	Dolomite (Prairie du Chien Gr.)	DL5
Minimum	8.0E-06		
Maximum	4.4E-02		
Geometric Mean	6.0E-04		

Created by:	ACW	Date:	9/28/2023
Last revision by:	JR	Date:	1/15/2024
Checked by:	SCC	Date:	2/7/2024

Table 5-7. Vertical Hydraulic Gradients
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

Well Nest	Screened Geologic Unit	Measurement Date	Well	Groundwater Elevation (h) (ft amsl)	Reference Point (L) (ft amsl)	Dh (ft)	DL (ft)	Vertical Gradient (i) (Dh/DL)	Vertical Flow Direction
MW-105	Loess, Outwash, & Till	3/29/2023	water table	866.92	859.80	0.75	36.60	0.020	Down
MW-105A	Weathered Dolomite		piezometer	866.17	823.20				
		5/1/2023	water table	865.47	859.80	0.22	36.60	0.006	Down
			piezometer	865.25	823.20				
		6/7/2023	water table	864.43	859.62	0.18	36.42	0.005	Down
			piezometer	864.25	823.20				
		7/10/2023	water table	863.57	859.19	0.06	35.98	0.002	Down
			piezometer	863.51	823.20				
		8/15/2023	water table	863.68	859.24	0.13	36.04	0.004	Down
			piezometer	863.55	823.20				
		9/21/2023	water table	862.99	858.90	0.14	35.69	0.004	Down
			piezometer	862.85	823.20				
		11/3/2023	water table	863.54	859.17	0.21	35.97	0.006	Down
			piezometer	863.33	823.20				
		12/4/2023	water table	863.21	859.01	0.11	35.80	0.003	Down
			piezometer	863.10	823.20				
MW-109	Till, Weathered Dolomite & Dolomite (Galena Fm.)	3/29/2023	water table	869.58	864.79	-0.91	36.49	-0.025	Up
MW-109A	Dolomite (Galena Fm.)		piezometer	870.49	828.30				
		5/1/2023	water table	869.67	864.84	-0.68	36.54	-0.019	Up
			piezometer	870.35	828.30				
		6/7/2023	water table	868.19	864.10	-0.55	35.80	-0.015	Up
			piezometer	868.74	828.30				
		7/10/2023	water table	867.04	863.52	-0.68	35.22	-0.019	Up
			piezometer	867.72	828.30				
		8/15/2023	water table	866.42	863.21	-0.84	34.91	-0.024	Up
			piezometer	867.26	828.30				
		9/21/2023	water table	865.87	862.94	-0.69	34.64	-0.020	Up
			piezometer	866.56	828.30				
		11/3/2023	water table	865.99	863.00	-0.91	34.70	-0.026	Up
			piezometer	866.90	828.30				
		12/4/2023	water table	865.60	862.80	-1.03	34.50	-0.030	Up
			piezometer	866.63	828.30				
MW-110	Till	3/29/2023	water table	887.25	880.50	2.35	36.50	0.064	Down
MW-110A	Sandstone (Glenwood Fm.)		piezometer	884.90	844.00				
		5/1/2023	water table	887.38	880.50	2.55	36.50	0.070	Down
			piezometer	884.83	844.00				
		6/7/2023	water table	885.36	880.43	2.38	36.43	0.065	Down
			piezometer	882.98	844.00				
		7/10/2023	water table	883.82	879.66	2.15	35.66	0.060	Down
			piezometer	881.67	844.00				
		8/15/2023	water table	881.98	878.74	1.11	34.74	0.032	Down
			piezometer	880.87	844.00				

Table 5-7. Vertical Hydraulic Gradients
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

Well Nest	Screened Geologic Unit	Measurement Date	Well	Groundwater Elevation (h) (ft amsl)	Reference Point (L) (ft amsl)	Dh (ft)	DL (ft)	Vertical Gradient (i) (Dh/DL)	Vertical Flow Direction
MW-110	Till	9/21/2023	water table	882.38	878.94	2.13	34.94	0.061	Down
MW-110A	Sandstone (Glenwood Fm.)		piezometer	880.25	844.00				
		11/3/2023	water table	882.58	879.04	2.07	35.04	0.059	Down
			piezometer	880.51	844.00				
		12/4/2023	water table	882.13	878.82	2.17	34.82	0.062	Down
			piezometer	879.96	844.00				
MW-113	Dolomite (Galena Fm.)	3/29/2023	water table	896.36	885.40	0.74	32.80	0.023	Down
MW-113A	Dolomite (Platteville Fm. & Sandstone (Glenwood Fm.)		piezometer	895.62	852.60				
		5/1/2023	water table	895.82	885.40	0.68	32.80	0.021	Down
			piezometer	895.14	852.60				
		6/7/2023	water table	894.61	885.40	0.84	32.80	0.026	Down
			piezometer	893.77	852.60				
		7/10/2023	water table	893.83	885.40	1.14	32.80	0.035	Down
			piezometer	892.69	852.60				
		8/15/2023	water table	893.57	885.40	1.26	32.80	0.038	Down
			piezometer	892.31	852.60				
		9/21/2023	water table	892.57	885.40	1.22	32.80	0.037	Down
			piezometer	891.35	852.60				
		11/3/2023	water table	889.75	885.08	-1.59	32.48	-0.049	Up
			piezometer	891.34	852.60				
		12/4/2023	water table	892.32	885.40	1.38	32.80	0.042	Down
			piezometer	890.94	852.60				
MW-114	Loess, Till & Sandstone (Tonti Member)	3/29/2023	water table	896.00	887.30	1.51	36.70	0.041	Down
MW-114A	Dolomite (Shakopee Fm.)		piezometer	894.49	850.60				
		5/1/2023	water table	894.97	887.30	1.26	36.70	0.034	Down
			piezometer	893.71	850.60				
		6/7/2023	water table	893.72	887.30	1.28	36.70	0.035	Down
			piezometer	892.44	850.60				
		7/10/2023	well table	893.50	887.30	1.55	36.70	0.042	Down
			piezometer	891.95	850.60				
		8/15/2023	water table	894.49	887.30	2.33	36.70	0.063	Down
			piezometer	892.16	850.60				
		9/21/2023	water table	893.27	887.30	2.03	36.70	0.055	Down
			piezometer	891.24	850.60				
		11/3/2023	water table	893.10	887.30	1.95	36.70	0.053	Down
			piezometer	891.15	850.60				
		12/4/2023	water table	893.26	887.30	2.50	36.70	0.068	Down
			piezometer	890.76	850.60				
MW-116	Sandstone (Tonti Member)	3/29/2023	water table	885.55	880.98	0.11	36.68	0.0030	Down
MW-116A	Sandstone (Tonti Member)		piezometer	885.44	844.30				
		5/1/2023	water table	886.02	881.21	0.13	36.91	0.004	Down
			piezometer	885.89	844.30				

Table 5-7. Vertical Hydraulic Gradients
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

Well Nest	Screened Geologic Unit	Measurement Date	Well	Groundwater Elevation (h) (ft amsl)	Reference Point (L) (ft amsl)	Dh (ft)	DL (ft)	Vertical Gradient (i) (Dh/DL)	Vertical Flow Direction
MW-116	Sandstone (Tonti Member)	6/7/2023	water table	884.81	880.61	0.11	36.31	0.003	Down
MW-116A	Sandstone (Tonti Member)		piezometer	884.70	844.30				
		7/10/2023	water table	883.54	879.97	0.09	35.67	0.003	Down
			piezometer	883.45	844.30				
		8/15/2023	water table	882.55	879.48	0.20	35.18	0.006	Down
			piezometer	882.35	844.30				
		9/21/2023	water table	881.57	878.99	0.25	34.69	0.007	Down
			piezometer	881.32	844.30				
		11/3/2023	water table	881.35	878.88	0.04	34.58	0.001	Down
			piezometer	881.31	844.30				
		12/4/2023	water table	880.76	878.58	0.06	34.28	0.002	Down
			piezometer	880.70	844.30				
MW-117	Till	3/29/2023	water table	899.51	889.80	-1.12	37.60	-0.030	Up
MW-117A	Dolomite (Oneota Fm.)		piezometer	900.63	852.20				
		5/1/2023	water table	899.45	889.80	-0.13	37.60	-0.003	Up
			piezometer	899.58	852.20				
		6/7/2023	water table	897.19	889.80	-0.71	37.60	-0.019	Up
			piezometer	897.90	852.20				
		7/10/2023	water table	896.27	889.80	-0.42	37.60	-0.011	Up
			piezometer	896.69	852.20				
		8/15/2023	water table	896.85	889.80	0.29	37.60	0.008	Down
			piezometer	896.56	852.20				
		9/21/2023	water table	895.16	889.80	0.15	37.60	0.004	Down
			piezometer	895.01	852.20				
		11/3/2023	water table	896.14	889.80	0.92	37.60	0.024	Down
			piezometer	895.22	852.20				
		12/4/2023	water table	895.64	889.80	0.88	37.60	0.023	Down
			piezometer	894.76	852.20				
MW-118	Till & Sandstone (Tonti Member)	3/29/2023	water table	900.31	891.90	2.28	33.60	0.068	Down
MW-118A	Variable Lithology (Readstown Member) & minor Dolomite (Prairie du Chien Gr.)		piezometer	898.03	858.30				
		5/1/2023	water table	898.36	891.90	1.66	33.60	0.049	Down
			piezometer	896.70	858.30				
		6/7/2023	water table	896.72	891.81	2.05	33.51	0.061	Down
			piezometer	894.67	858.30				
		7/10/2023	water table	895.78	891.34	2.26	33.04	0.068	Down
			piezometer	893.52	858.30				
		8/15/2023	water table	895.77	891.34	2.81	33.04	0.085	Down
			piezometer	892.96	858.30				
		9/21/2023	water table	894.57	890.74	2.82	32.44	0.087	Down
			piezometer	891.75	858.30				
		11/3/2023	water table	894.75	890.83	2.85	32.53	0.088	Down
			piezometer	891.90	858.30				

Table 5-7. Vertical Hydraulic Gradients
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

Well Nest	Screened Geologic Unit	Measurement Date	Well	Groundwater Elevation (h) (ft amsl)	Reference Point (L) (ft amsl)	Dh (ft)	DL (ft)	Vertical Gradient (i) (Dh/DL)	Vertical Flow Direction
		12/4/2023	water table	893.99	890.45	2.65	32.15	0.082	Down
			piezometer	891.34	858.30				
MW-120	Till	3/29/2023	water table	905.20	897.20	0.69	36.40	0.019	Down
MW-120A	Dolomite (Oneota Fm.)		piezometer	904.51	860.80				
		5/1/2023	water table	903.89	897.20	0.08	36.40	0.002	Down
			piezometer	903.81	860.80				
		6/7/2023	water table	902.20	897.20	0.06	36.40	0.002	Down
			piezometer	902.14	860.80				
		7/10/2023	water table	900.55	896.38	0.08	35.58	0.002	Down
			piezometer	900.47	860.80				
		8/15/2023	water table	899.91	896.06	0.30	35.26	0.009	Down
			piezometer	899.61	860.80				
		9/21/2023	water table	898.53	895.37	1.27	34.57	0.037	Down
			piezometer	897.26	860.80				
		11/3/2023	water table	898.29	895.25	0.24	34.45	0.007	Down
			piezometer	898.05	860.80				
		12/4/2023	water table	897.71	894.96	0.15	34.16	0.004	Down
			piezometer	897.56	860.80				
MW-123	Sandstone (Tonti Member)	3/29/2023	water table	879.48	879.44	6.58	26.94	0.244	Down
MW-123A	Dolomite (Shakopee Fm.)		piezometer	872.90	852.50				
		5/1/2023	water table	880.53	879.97	6.07	27.46	0.221	Down
			piezometer	874.46	852.50				
		6/7/2023	water table	884.20	881.80	8.85	29.30	0.302	Down
			piezometer	875.35	852.50				
		7/10/2023	water table	884.47	881.94	9.32	29.43	0.317	Down
			piezometer	875.15	852.50				
		8/15/2023	water table	883.12	881.26	8.77	28.76	0.305	Down
			piezometer	874.35	852.50				
		9/21/2023	water table	881.72	880.56	8.51	28.06	0.303	Down
			piezometer	873.21	852.50				
		11/3/2023	water table	880.34	879.87	7.50	27.37	0.274	Down
			piezometer	872.84	852.50				
		12/4/2023	water table	879.44	879.42	7.14	26.92	0.265	Down
			piezometer	872.30	852.50				
MW-124	Dolomite (Oneota Fm.)	3/29/2023	water table	904.71	900.46	1.00	35.96	0.028	Down
MW-124A	Dolomite (Oneota Fm.)		piezometer	903.71	864.50				
		5/1/2023	water table	903.98	900.09	0.23	35.59	0.006	Down
			piezometer	903.75	864.50				
		6/7/2023	water table	902.77	899.49	6.61	34.99	0.189	Down
			piezometer	896.16	864.50				
		7/10/2023	water table	901.48	898.84	2.58	34.34	0.075	Down
			piezometer	898.90	864.50				

Table 5-7. Vertical Hydraulic Gradients
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

Well Nest	Screened Geologic Unit	Measurement Date	Well	Groundwater Elevation (h) (ft amsl)	Reference Point (L) (ft amsl)	Dh (ft)	DL (ft)	Vertical Gradient (i) (Dh/DL)	Vertical Flow Direction
MW-124	Dolomite (Oneota Fm.)	8/15/2023	water table	900.72	898.46	3.30	33.96	0.097	Down
MW-124A	Dolomite (Oneota Fm.)		piezometer	897.42	864.50				
		9/21/2023	water table	899.47	897.84	3.70	33.34	0.111	Down
			piezometer	895.77	864.50				
		11/3/2023	water table	899.12	897.66	5.10	33.16	0.154	Down
			piezometer	894.02	864.50				
		12/4/2023	water table	898.27	897.24	4.39	32.74	0.134	Down
			piezometer	893.88	864.50				
MW-125	Till, Variable Lithology (Readstown Member) & Dolomite (Prairie du Chien Gr.)	3/29/2023	water table	899.52	891.70	-0.06	28.10	-0.002	Up
MW-125A	Dolomite (Prairie du Chien Gr.)		piezometer	899.58	863.60				
		5/1/2023	water table	900.33	891.70	0.73	28.10	0.026	Down
			piezometer	899.60	863.60				
		6/7/2023	water table	896.97	891.70	-1.03	28.10	-0.037	Up
			piezometer	898.00	863.60				
		7/10/2023	water table	895.50	891.10	-0.08	27.50	-0.003	Up
			piezometer	895.58	863.60				
		8/15/2023	water table	894.00	890.35	-0.36	26.75	-0.013	Up
			piezometer	894.36	863.60				
		9/21/2023	water table	892.95	889.83	-0.29	26.23	-0.011	Up
			piezometer	893.24	863.60				
		11/3/2023	water table	892.55	889.63	-0.36	26.03	-0.014	Up
			piezometer	892.91	863.60				
		12/4/2023	water table	891.95	889.33	-0.31	25.73	-0.012	Up
			piezometer	892.26	863.60				

Abbreviations

ft = feet amsl = above mean sea level

Notes

1. Groundwater elevations (h) were recorded by SCS Engineers. Measurements were taken from the top of casing and are referenced to the mean sea level datum.
2. The reference point (L) is the elevation of the midpoint of the saturated zone of the well screen.
3. Screen interval and ground surface elevations taken from well construction forms.
4. Dh is the difference between the water table elevation and potentiometric surface elevation.
4. DL is the distance between the reference point (L) of the well screen and the reference point (L) of the piezometer screen.

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Table 5-8. Groundwater Results - Detection Monitoring Parameters
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
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Sample	Date	Lab Notes	Alkalinity (mg/L)	Chloride (mg/L)	Hardness (mg/L)	Field Conductivity (µmhos/cm)	Field pH (Std. Units)	Field Temperature (C°)	Groundwater Elevation (feet amsl)	Detected VOCs (µg/L)	
MW-3	5/3/2023	--	362	10.5	440	735	7.37	9.5	892.07	ND	
	6/9/2023	--	379	9.3	418	725	7.29	9.2	890.24	*1,2-Dichloroethane*	*1.8*
	7/11/2023	--	377	9.8	393	604	7.45	10.1	888.82	ND	
	8/17/2023	(1)	367	9.9	429	710	7.20	10.3	887.74	ND	
	12/6/2023	--	362	10.6	413	677	7.32	10.9	885.59	NA	
MW-4	5/3/2023	--	312	5.8	334	618	7.60	8.8	903.93	ND	
	6/9/2023	--	298	4.1	304	534	6.80	9.3	902.38	*1,2-Dichloroethane*	*1.4*
	7/11/2023	--	304	4.8	293	462	7.54	10.9	900.84	ND	
	8/16/2023	(1)	265	3.4	285	516	7.32	11.5	894.99	ND	
	12/5/2023	--	290	3.7	310	533	7.36	11.6	897.34	NA	
MW-105	5/3/2023	--	290	6.8	308	557	6.93	8.6	865.47	ND	
	6/8/2023	--	315	8.7	326	788	7.51	10.7	864.43	1,2-Dichloroethane	0.35 J
	7/10/2023	--	320	7.6	292	609	7.09	18.2	863.57	*1,2-Dichloroethane*	*1.7*
	8/17/2023	--	315	7.1	320	578	7.38	12.7	863.68	ND	
	12/5/2023	--	331	7.0	344	572	7.48	11.0	863.21	NA	
MW-105A	5/3/2023	--	378	15.1	432	1034	7.36	9.5	865.25	Benzene Toluene	0.36 J 0.43 J
	6/8/2023	--	382	12	400	866	7.68	10.6	864.25	1,2-Dichloroethane	0.39 J
	7/10/2023	--	372	8.8	386	760	7.73	14.3	863.51	*1,2-Dichloroethane*	*1.1*
	8/17/2023	(1)	360 M0	11	968	810	7.47	12.3	863.55	ND	
	12/5/2023	--	371	9.5	403	767	7.69	10.5	863.10	NA	
MW-106	5/2/2023	--	441	22.2	471	843	7.32	8.3	866.59	ND	
	6/8/2023	--	429	24	472	793	7.11	9.7	865.76	ND	
	7/10/2023	--	415	20.8	475	786	7.29	11.3	865.10	ND	
	8/15/2023	--	411	24.6	456	849	6.91	13.2	865.50	ND	
	12/5/2023	--	353	58.2	442	536	7.17	11.4	864.65	NA	
MW-106 DUP	5/2/2023	--	453	21.3	441	843	7.32	8.3	--	ND	
MW-107	5/2/2023	--	347	5.2 M0	353	608	7.39	8.6	867.19	ND	
	6/8/2023	--	363	4.5	367	595	7.50	10.9	866.92	ND	
	7/10/2023	--	363	4.3	353	600	7.44	11.7	866.43	1,2-Dichloroethane	0.39 J
	8/15/2023	--	349	2.8	350	622	7.36	12.8	866.99	ND	
	12/5/2023	--	348	2.4	361	593	7.59	11.7	866.19	NA	
MW-108	5/2/2023	--	280	8.1	288	527	7.44	8.6	867.54	ND	
	6/9/2023	--	357	9.8	360	566	7.36	9.5	866.10	1,2-Dichloroethane	0.48 J
	7/10/2023	--	392	9.3	387	649	7.42	10.5	865.00	ND	
	8/17/2023	--	374	10.6	374	641	7.24	11.9	864.74	ND	
	12/5/2023	--	370	12.2	378	630	7.40	11.1	864.04	NA	
MW-111	5/2/2023	--	264	4.5	269	474	7.39	8.4	878.13	ND	
	6/8/2023	--	345	6.1	347	590	7.45	9.2	875.69	ND	
	7/10/2023	--	351	6.5	334	611	7.35	9.0	895.03	ND	
	8/15/2023	--	330	7.1	358	681	7.22	10.9	875.99	ND	
	12/5/2023	--	327	5.8	328	539	7.37	10.3	874.80	NA	
MW-113	5/2/2023	--	360	7.7	399	761	7.22	10.4	895.82	*Tetrachloroethene*	*1.1*
	6/8/2023	--	373	6.9	411	771	7.23	10.0	894.61	Tetrachloroethene *1,2-Dichloroethane*	0.41 J *1.3*
	7/11/2023	--	370	7.3	408	644	7.26	11.4	893.83	Tetrachloroethene **1,2-Dichloroethane**	0.42 J **5.4**
	8/17/2023	--	365	8.0	384	750	7.22	11.0	893.57	*1,2-Dichloroethane*	*1.1*
	12/6/2023	--	365	8.1	406	726	6.57	10.0	892.32	ND	

Table 5-8. Groundwater Results - Detection Monitoring Parameters
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Feasibility Report

Sample	Date	Lab Notes	Alkalinity (mg/L)	Chloride (mg/L)	Hardness (mg/L)	Field Conductivity (µmhos/cm)	Field pH (Std. Units)	Field Temperature (C°)	Groundwater Elevation (feet amsl)	Detected VOCs (µg/L)	
MW-113 DUP	6/8/2023	--	373	6.8	396	771	7.23	10.0	894.61	*1,2-Dichloroethane*	*1.1*
	7/11/2023	--	376	6.5	396	644	7.26	11.4	893.83	*1,2-Dichloroethane*	*4.4*
	8/17/2023	--	364	8.0	408	750	7.22	11.0	893.57	*1,2-Dichloroethane* *Tetrachloroethene*	*1.2* *0.51 J*
	12/6/2023	--	365	8.1	420	726	6.57	10.0	892.32	ND	
MW-113A	5/2/2023	--	332	9.3	419	685	7.29	10.5	895.14	ND	
	6/9/2023	--	345	8.9 J	404	691	7.30	11.1	893.77	*1,2-Dichloroethane*	*0.90 J*
	7/11/2023	--	343	8.3	391	588	7.60	11.5	883.54	ND	
	8/17/2023	(1)	334	9.3 J, D3	377	631	7.27	11.6	892.31	ND	
	12/6/2023	--	338	9.0	391	648	6.83	10.0	890.94	NA	
MW-116	5/2/2023	--	404	5.6	410	708	7.05	9.0	886.02	ND	
	6/8/2023	--	404 M0	4.9	417	671	7.30	9.8	884.81	1,2-Dichloroethane	0.49 J
	7/11/2023	--	410	4.1	387	599	6.96	11.3	883.54	ND	
	8/16/2023	--	399	4.0	401	687	7.02	11.8	882.55	ND	
	12/5/2023	--	401	3.6	400	678	7.22	11.1	880.76	NA	
MW-116A	5/2/2023	--	338	4.9	361	649	7.07	9.4	885.89	ND	
	6/8/2023	--	351	4.2	361	613	7.21	11.4	884.70	1,2-Dichloroethane	0.40 J
	7/11/2023	--	354	3.9	347	530	7.04	11.0	883.45	ND	
	8/16/2023	--	332	4.4	343	364	6.95	10.9	882.35	ND	
	12/5/2023	--	340	4.0	359	549	7.04	10.5	880.70	NA	
MW-116A DUP	5/2/2023	--	362	4.9	317	649	7.07	9.4	--	ND	
MW-119	5/2/2023	--	356	2.2	355	619	6.97	11	887.99	ND	
	6/8/2023	--	386	2 J	378	597	7.30	9.9	888.68	ND	
	7/10/2023	--	376	2.5	347	624	7.19	10.6	888.08	*1,2-Dichloroethane*	*0.94 J*
	8/16/2023	(1)	362	2.5	365	630	7.04	11.3	887.30	1,2-Dichloroethane	0.47 J
	12/5/2023	--	357	3.1	371	605	7.28	10.7	885.08	NA	
MW-120	5/2/2023	--	334	5.1	394	585	7.38	8.8	903.89	ND	
	6/9/2023	--	346	5.2	329	585	7.29	10.7	902.20	ND	
	7/11/2023	--	340	5.3	309	468	7.49	13.1	900.55	*1,2-Dichloroethane*	*0.61 J*
	8/17/2023	--	329	5.2	333	567	7.26	14.7	899.91	ND	
	12/5/2023	--	323	5.9	321	551	7.47	11.6	897.71	NA	
MW-120 DUP	6/9/2023	--	345	5.2	330	585	7.29	10.7	902.20	ND	
MW-120A	5/2/2023	--	351	30.3	360	878	7.28	10.9	903.81	Tetrachloroethene	0.47 J
	6/9/2023	--	346	8.8 J, D3	352	727	7.37	14.2	902.14	*1,2-Dichloroethane*	*1.0*
	7/11/2023	--	354	8.3	358	591	7.30	13.8	900.47	*1,2-Dichloroethane*	*1.6*
	8/17/2023	--	341	9.5	338	588	7.24	12.1	899.61	*1,2-Dichloroethane*	*1.2*
	12/5/2023	--	354	9.5	362	714	7.36	10.6	897.56	ND	
MW-120A DUP	7/11/2023	--	356	8.6	363	591	7.30	13.8	900.47	ND	
	8/17/2023	(1)	341	8.6	371	588	7.24	12.1	899.61	*1,2-Dichloroethane*	*1.1*
MW-121	5/2/2023	--	316	6.1	349	598	7.47	9.6	903.37	ND	
	6/9/2023	--	345	5.8	351	607	7.36	10.6	901.82	ND	
	7/11/2023	--	338	5.5	488	530	7.31	12.4	900.38	1,2-Dichloroethane	0.49 J
	8/16/2023	(2)	336	6.5	352	631	7.22	14.6	899.67	ND	
	12/5/2023	--	341	6.1	351	590	7.31	11.5	897.54	NA	

Table 5-8. Groundwater Results - Detection Monitoring Parameters
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

Sample	Date	Lab Notes	Alkalinity (mg/L)	Chloride (mg/L)	Hardness (mg/L)	Field Conductivity (µmhos/cm)	Field pH (Std. Units)	Field Temperature (C°)	Groundwater Elevation (feet amsl)	Detected VOCs (µg/L)	
MW-122	5/2/2023	--	399	5.3 J, D3	468	1047	7.47	8.1	903.07	ND	
	6/8/2023	--	446	3.4 J, D3	360	797	7.46	9.7	900.77	ND	
	7/11/2023	--	458	3.1	359	683	7.43	11.7	899.10	ND	
	8/16/2023	(2)	277	1.9 J	212	628	7.51	12.3	898.22	ND	
	12/5/2023	--	425	3.1	330	814	7.21	10.4	895.97	NA	
MW-123	5/3/2023	--	329	2.5	352	631	7.37	12.3	880.53	ND	
	6/8/2023	--	357	1.8 J	375	625	7.43	11.8	884.20	1,2-Dichloroethane	0.33 J
	7/11/2023	--	361	1.8 J	359	545	7.27	11.1	884.47	ND	
	8/16/2023	--	352	1.5 J	363	620	7.32	12.7	883.12	ND	
	12/5/2023 **	--	--	--	--	--	--	--	879.44	--	
MW-123A	5/3/2023	--	318	6.9	359	653	7.11	11.6	874.46	ND	
	6/8/2023	--	342	6.1	397	628	7.58	13.3	875.35	*1,2-Dichloroethane*	*2.0*
	7/11/2023	--	348	6.0	369	569	7.63	11.5	875.15	ND	
	8/16/2023	--	341	6.5	367	680	7.42	12.1	874.35	ND	
	12/5/2023	--	335	6.1	375	652	7.36	10.1	872.30	NA	
MW-123B	6/8/2023	--	333	1.6 J	323	563	7.34	12.3	--	ND	
	7/11/2023	--	337	1.6 J	312	494	7.20	13.1	883.72	*1,2-Dichloroethane*	*0.77 J*
	8/16/2023	--	327	2.3	322	600	7.07	15.5	882.26	ND	
	9/21/2023	--	338	3.4	317	615	7.20	10.8	880.86	*1,2-Dichloroethane*	*0.61 J*
	12/5/2023	--	334	5.9	350	615	7.29	9.9	878.73	ND	
MW-123B DUP	9/21/2023	--	343	3.4	324	615	7.20	10.8	880.86	*1,2-Dichloroethane*	*0.53 J*
MW-124	5/3/2023	--	355	7.7	394	669	7.42	9.5	903.98	ND	
	6/9/2023	--	391	7.4	422	710	7.44	9.9	902.77	*1,2-Dichloroethane*	*1.1*
	7/11/2023	--	393	8.3	414	609	7.84	12.9	901.48	ND	
	8/17/2023	(1)	386	8.8	416	717	7.10	11.8	900.72	ND	
	12/5/2023	--	419	8.4	432	738	7.42	11.3	898.27	NA	
MW-124A	5/3/2023	--	345	9.9	342	701	7.49	11.1	903.75	ND	
	6/9/2023	--	376	21.2	357	762	7.42	11.6	896.16	*1,2-Dichloroethane*	*2.8*
	7/11/2023	--	357	10.3	362	633	7.48	13.4	898.90	*1,2-Dichloroethane*	*1.0*
	8/17/2023	--	342	10.2	368	717	7.13	13.5	897.42	*1,2-Dichloroethane*	*1.0 J*
	12/5/2023	--	334	7.7	344	630	7.37	10.7	893.88	1,2-Dichloroethane	0.47 J
MW-125	5/2/2023	--	378	3.7	382	684	7.22	9.7	900.33	ND	
	6/8/2023	--	400	4.7	424	665	7.43	10.2	896.97	ND	
	7/11/2023	--	392	4.5	412	592	7.68	11.4	895.50	ND	
	8/16/2023	--	388	5.5	420	707	7.30	11.0	894.00	*1,2-Dichloroethane*	*0.78 J*
	12/5/2023	--	391	6.3	393	739	6.57	10.5	891.95	NA	
MW-125A	5/2/2023	--	339	5	356	661	7.29	10.8	899.60	ND	
	6/8/2023	--	363	6.1	380	629	7.65	12.0	898.00	*1,2-Dichloroethane*	*0.83 J*
	7/11/2023	--	352	3.9	371	558	7.63	13.0	895.58	ND	
	8/16/2023	(1)	340	4.2	573	625	7.32	13.2	894.36	ND	
	12/5/2023	--	342	4.2	370	639	7.20	10.3	892.26	NA	
NR 140 Enforcement Standards (ESs)			--	250	--	--	--	--	--	Benzene Toluene Tetrachloroethylene 1,2-Dichloroethane	5 800 5 5

Table 5-8. Groundwater Results - Detection Monitoring Parameters
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Sample	Date	Lab Notes	Alkalinity (mg/L)	Chloride (mg/L)	Hardness (mg/L)	Field Conductivity (µmhos/cm)	Field pH (Std. Units)	Field Temperature (C°)	Groundwater Elevation (feet amsl)	Detected VOCs (µg/L)	
NR 140 Preventive Action Limits (PALs)			--	125	--	--	--	--	--	Benzene	0.5
										Toluene	160
										Tetrachloroethylene	0.5
										1,2-Dichloroethane	0.5

Abbreviations:
µg/L = micrograms per liter or parts per billion (ppb)
mg/L = milligrams per liter or parts per million (ppm)
NA = Not Applicable
amsl = above mean sea level
C° = degrees Celsius
µmhos/cm = micromhos per centimeter
ND = Not Detected

Notes:
NR 140 ESs - Wisconsin Administrative Code (WAC), Chapter NR 140.10 Table 1 - Public Health Groundwater Quality Standards from July 2023 and WAC, Chapter NR 140.12 Table 2 - Public Welfare Groundwater Quality Standards from July 2023.
NR 140 PALs - WAC, Chapter NR 140.10 Table 1 - Public Health Groundwater Quality Standards from July 2023 and WAC, Chapter NR 140.12 Table 2 - Public Welfare Groundwater Quality Standards from July 2023.

Bold+underlined values meet or exceed NR 140 enforcement standards.
Italic+underlined values meet or exceed NR 140 preventive action limits.

If both the result and the PAL or ES are above the limit of detection but below the limit of quantitation, the result is not considered a PAL or ES exceedance under NR 140.14(3)(c). If the PAL or ES is below the limit of detection and the result is below the limit of quantitation, the result is not considered a PAL or ES exceedance without additional confirmation as described in NR 140.14(3)(b).
** MW123 was dry during the December 2023 sampling event.

Laboratory Notes/Qualifiers:
(1) Surrogates: 4-Bromofluorobenzene - HS = Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
(2) Surrogates: 4-Bromofluorobenzene - HS = Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter); pH = Post-analysis pH measurement indicates insufficient VOA sample preservation.
D3 = Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
J = Estimated concentration at or above the Limit of Detection (LOD) and below the Limit of Quantitation (LOQ).
M0 = Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

Created by: JR Date: 5/24/2023
Last revision by: JR Date: 1/22/2024
Checked by: SCC Date: 2/8/2024

Table 5-9. Groundwater Results - Baseline Monitoring Parameters
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report
(Results are in µg/L unless otherwise noted)

			Public Health Parameters										Public Welfare Parameters				
Sample	**Date**	**Lab Notes**	**Arsenic**	**Barium**	**Cadmium**	**Chromium**	**Fluoride (mg/L)**	**Lead**	**Mercury**	**Nitrite + Nitrate (as N) (mg/L)**	**Selenium**	**Silver**	**Chloride (mg/L)**	**Copper**	**Manganese**	**Sulfate (mg/L)**	**Zinc (mg/L)**
MW-3	5/3/2023	--	0.32 J	36.4	<0.15	1.9 J	<0.095	<0.24	<0.066 M0	3.8	0.94 J	<0.13	10.5	2.0 J	2.3 J	29.0	<0.0103
	6/9/2023	--	0.32 J	38.4	<0.15	2.0 J	0.80 M0	<0.24	<0.066	3.8	0.89 J	<0.13	9.3	6.6	<1.2	28.8	0.0129 J
	7/11/2023	--	0.29 J	38.3	<0.15	1.9 J	0.38	<0.24	<0.066	3.6	0.79 J	<0.13	9.8	<1.9	1.6 J	27.6	<0.0103
	8/17/2023	(1)	0.38 J	39.7	<0.15	2.0 J	0.12 J	<0.24	<0.066	3.7	0.77 J	<0.13	9.9	5.5 J	1.7 J	29.4	<0.0103
	12/5/2023	--	--	--	--	--	--	--	--	3.9	--	--	10.6	--	--	--	--
MW-4	5/3/2023	--	0.67 J	39.1	<0.15	1.3 J	<0.095	<0.24	<0.066	5.4	0.41 J	<0.13	5.8	4.3 J	2.4 J	7.7	<0.0103
	6/9/2023	--	0.51 J	32.9	<0.15	<1.0	0.28 J	<0.24	<0.066	5.9	<0.32	<0.13	4.1	<1.9	<1.2	6.3	<0.0103
	7/11/2023	--	0.51 J	33.3	<0.15	<1.0	0.17 J	<0.24	<0.066	4.3	<0.32	<0.13	4.8	1.9 J	2.6 J	6.1	<0.0103
	8/16/2023	(1)	0.66 J	32.6	<0.15	<1.0	<0.095	<0.24	<0.066	4.4	<0.32	<0.13	3.4	3.3 J	<1.2	5.0	<0.0103
	12/5/2023	--	--	--	--	--	--	--	--	3.9	--	--	3.7	--	--	--	--
MW-105	5/3/2023	--	0.85 J	72.3	<0.15	2.8 J	<0.095	1.2	<0.066	0.36	1.7	<0.13	6.8	5.0 J	**50.8**	16.7	<0.0103
	6/8/2023	--	<0.28	62.9	<0.15	<1.0	0.21 J, D3	<0.24	<0.066	0.25 J, 1q	2.2	<0.13	8.7	2.3 J	4.6	15.3	<0.0103
	7/10/2023	--	0.30 J	67.8	<0.15	1.3 J	<0.095	<0.24	<0.066	0.52	2.3	<0.13	7.6	8.0	17.4	16.0	<0.0103
	8/17/2023	--	0.39 J	65.9	<0.15	2.4 J	<0.095	<0.24	<0.066	0.74	2.9	<0.13	7.1	6.3 J	15.5	17.6	<0.0103
	12/5/2023	--	--	--	--	--	--	--	--	--	--	--	7.0	--	<1.2	16.4	--
MW-105A	5/3/2023	--	1.5	31.4	<0.15	<1.0	<0.095	<0.24	<0.066	<0.059	<0.32	<0.13	15.1	<1.9	30.1	195	<0.0103
	6/8/2023	--	1.2	29.9	<0.15	<1.0	<0.48 D3	<0.24	<0.066	<0.059 1q	<0.32	<0.13	12	<1.9	29.2	146	<0.0103
	7/10/2023	--	1.1	29.9	<0.15	<1.0	0.29 J	<0.24	<0.066	<0.059	<0.32	<0.13	8.8	<1.9	31.9	89.4	<0.0103
	8/17/2023	(1)	3.4	45.3	<0.15	6.4	<0.48 D3	4.7	<0.066	<0.059	0.66 J	<0.13	11	9.5	**246**	89.6	0.0329 J
	12/5/2023	--	1.3	--	--	--	--	--	--	--	--	--	9.5	--	34.0	--	--
MW-106	5/2/2023	--	0.46 J	58.9	<0.15	1.6 J	<0.095	0.42 J	<0.066	0.91	2.5	<0.13	22.2	2.2 J	35.4	33.6	0.0107 J
	6/8/2023	--	<0.28	63.6	<0.15	<1.0	<0.19 D3	<0.24	<0.066	0.86	4.4	<0.13	24	4.4 J	30.1	31.7	<0.0103
	7/10/2023	--	0.56 J	66.4	<0.15	1.6 J	<0.095	0.48 J	<0.066	1.2	5.1	<0.13	20.8	4.1 J	**54.8**	30.7	<0.0103
	8/15/2023	--	0.35 J	62.8	<0.15	<1.0	0.24 J M0	<0.24	<0.066	1.3	4.6	<0.13	24.6	3.9 J	19.1	32.7	0.023 J
	12/5/2023	--	--	--	--	--	--	--	--	--	--	--	58.2	--	33.3	--	--
MW-106 DUP	5/2/2023	--	0.45 J	56.2	<0.15	1.2 J	<0.095	<0.24	<0.066	0.98	3.0	<0.13	21.3	4.0 J	36.7	35.7	<0.0103

Table 5-9. Groundwater Results - Baseline Monitoring Parameters
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report
(Results are in µg/L unless otherwise noted)

			Public Health Parameters										Public Welfare Parameters				
Sample	Date	Lab Notes	Arsenic	Barium	Cadmium	Chromium	Fluoride (mg/L)	Lead	Mercury	Nitrite + Nitrate (as N) (mg/L)	Selenium	Silver	Chloride (mg/L)	Copper	Manganese	Sulfate (mg/L)	Zinc (mg/L)
MW-107	5/2/2023	--	0.37 J	38.3	<0.15	1.6 J	<0.095 M0	<0.24	<0.066	0.57	1.2	<0.13	5.2 M0	2.4 J	14.9	6.0 M0	<0.0103
	6/8/2023	--	<0.28	41.0	<0.15	1.6 J	<0.095	<0.24	<0.066	0.39 1q	1.5	<0.13	4.5	3.9 J	4.8	5.5	<0.0103
	7/10/2023	--	<0.28	41.0	<0.15	1.7 J	0.19 J	<0.24	<0.066	0.38	1.3	<0.13	4.3	2.8 J	3.2 J	5.8	<0.0103
	8/15/2023	--	0.31 J	40.7	<0.15	1.8 J	<0.095 M0	<0.24	<0.066	0.86	1.2	<0.13	2.8	2.9 J	2.4 J	5.3 M0	<0.0103
	12/5/2023	--	--	--	--	--	--	--	--	--	--	--	2.4	--	--	--	--
MW-108	5/2/2023	--	<0.28	96.1	<0.15	1.1 J	<0.095	<0.24	<0.066	1.3	0.45 J	<0.13	8.1	2.3 J	**61.8**	7.0	<0.0103
	6/9/2023	--	<0.28	125	<0.15	<1.0	0.30 J	<0.24	<0.066	1.3	0.55 J	<0.13	9.8	3.4 J	**51**	8.1	<0.0103
	7/10/2023	--	0.29 J	140	<0.15	<1.0	0.30 J	<0.24	<0.066	1.5	0.39 J	<0.13	9.3	3.0 J	*40.1*	9.5	<0.0103
	8/17/2023	--	<0.28	142	<0.15	<1.0	<0.095	<0.24	<0.066	1.8	0.36 J	<0.13	10.6	3.4 J	22	12.8	<0.0103
	12/5/2023	--	--	--	--	--	--	--	--	--	--	--	12.2	--	7.4	--	--
MW-111	5/2/2023	--	<0.28	43.0	<0.15	<1.0	<0.095	<0.24	<0.066	0.23 J	<0.32	<0.13	4.5	<1.9	<1.2	8.7	<0.0103
	6/8/2023	--	<0.28	60.9	<0.15	<1.0	0.31 J	<0.24	<0.066	0.41 1q	<0.32	<0.13	6.1	<1.9	1.3 J	14.1	<0.0103
	7/10/2023	--	0.32 J	58.5	<0.15	<1.0	0.21 J	<0.24	<0.066	0.66	<0.32	<0.13	6.5	<1.9	2.0 J	14.7	<0.0103
	8/15/2023	--	0.30 J	59.1	<0.15	<1.0	<0.095	<0.24	<0.066	0.47	<0.32	<0.13	7.1	2.0 J	3.1 J	15.7	<0.0103
	12/5/2023	--	--	--	--	--	--	--	--	--	--	--	5.8	--	--	--	--
MW-113	5/2/2023	--	0.56 J	109	<0.15	<1.0	<0.095	<0.24	<0.066	3.2	2.1	<0.13	7.7	7.9	**412**	58.5	<0.0103
	6/8/2023	--	0.46 J	115	<0.15	<1.0	<0.095	<0.24	<0.066	3.6	2.1	<0.13	6.9	3.5 J	**53.8**	45.8	<0.0103
	7/11/2023	--	0.44 J	113	<0.15	<1.0	0.42	<0.24	<0.066	3.0	2.0	<0.13	7.3	7.4	*47.1*	49.0	<0.0103
	8/17/2023	--	0.34 J	109	<0.15	<1.0	<0.095	<0.24	<0.066	3.0	2.2	<0.13	8.0	3.8 J	9.7	52.7	<0.0103
	12/6/2023	--	--	--	--	--	--	--	--	2.6	--	--	8.1	--	*44.0*	--	--
MW-113 DUP	6/8/2023	--	0.43 J	111	<0.15	<1.0	0.73	<0.24	<0.066	3.5	1.8	<0.13	6.8	3.7 J	*48.4*	40.9	<0.0103
	7/11/2023	--	0.46 J	111	<0.15	<1.0	0.17 J	<0.24	<0.066	2.9	2.0	<0.13	6.5	5.1 J	24.6	37.9	<0.0103
	8/17/2023	--	0.33 J	106	<0.15	<1.0	<0.095	<0.24	<0.066	2.9	2.4	<0.13	8.0	4.4 J	8.8	50.7	<0.0103
	12/6/2023	--	--	--	--	--	--	--	--	2.5	--	--	8.1	--	**57.1**	--	--

Table 5-9. Groundwater Results - Baseline Monitoring Parameters
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report
(Results are in µg/L unless otherwise noted)

			Public Health Parameters										Public Welfare Parameters				
Sample	Date	Lab Notes	Arsenic	Barium	Cadmium	Chromium	Fluoride (mg/L)	Lead	Mercury	Nitrite + Nitrate (as N) (mg/L)	Selenium	Silver	Chloride (mg/L)	Copper	Manganese	Sulfate (mg/L)	Zinc (mg/L)
MW-113A	5/2/2023	--	2.0	50.8	<0.15	<1.0	0.20 J	<0.24	<0.066	0.072 J	<0.32	<0.13	9.3	<1.9	**170**	68.4	<0.0103
	6/9/2023	--	1.6	49.8	<0.15	<1.0	<0.48 D3	<0.24	<0.066	<0.059 B	<0.32	<0.13	8.9 J, D3	2.4 J	**153**	64.7	0.0109 J
	7/11/2023	--	1.2	52.2	<0.15	<1.0	0.54	<0.24	<0.066	<0.059	<0.32	<0.13	8.3	<1.9	**118**	63.0	<0.0103
	8/17/2023	(1)	0.99 J	41.1	<0.15	<1.0	<0.48 D3	<0.24	<0.066	<0.059	<0.32	<0.13	9.3 J, D3	5.7 J	**116**	66.5	0.013 J
	12/6/2023	--	1.0	--	--	--	--	--	--	--	--	--	9.0	--	**167**	--	--
MW-116	5/2/2023	--	0.34 J	91.8	<0.15	1.5 J	0.14 J	<0.24	<0.066	0.35	0.77 J	<0.13	5.6	4.2 J	**96.5**	8.2	<0.0103
	6/8/2023	--	<0.28	78.0	<0.15	<1.0	<0.095	<0.24	<0.066	0.37 1q	0.41 J	<0.13	4.9	5.6 J	**63.1**	3.5	<0.0103
	7/11/2023	--	<0.28	66.1	<0.15	<1.0	0.40	0.24 J	<0.066	0.86	<0.32	<0.13	4.1	7.2	28.6	3.9	<0.0103
	8/16/2023	--	0.28 J	64.1	<0.15	<1.0	<0.095	<0.24	<0.066	0.43	<0.32	<0.13	4.0	4.5 J	9.6	4.7	<0.0103
	12/5/2023	--	--	--	--	--	--	--	--	--	--	--	3.6	--	5.2	--	--
MW-116A	5/2/2023	--	0.33 J	57.4	<0.15	<1.0	0.11 J	<0.24	<0.066	2.6	0.53 J	<0.13	4.9	4.7 J	**138**	20.3	0.0117 J
	6/8/2023	--	<0.28	57.2	<0.15	<1.0	0.53	<0.24	<0.066	2.8	0.68 J	<0.13	4.2	5.2 J	**85.6**	18.8	<0.0103
	7/11/2023	--	<0.28	55.3	<0.15	<1.0	0.20 J	<0.24	<0.066	2.8	0.42 J	<0.13	3.9	3.8 J	40.5	16.9	<0.0103
	8/16/2023	--	0.29 J	52.0	<0.15	<1.0	<0.095	<0.24	<0.066	2.8	0.34 J	<0.13	4.4	5.5 J	**51.5**	18.1	<0.0103
	12/5/2023	--	--	--	--	--	--	--	--	3.3	--	--	4.0	--	20.6	--	--
MW-116A DUP	5/2/2023	--	<0.28	53.4	<0.15	<1.0	0.10 J	<0.24	<0.066	2.6 M0	0.52 J	<0.13	4.9	3.6 J	**129**	21	0.0108 J
MW-119	5/2/2023	--	0.84 J	24.3	<0.15	1.3 J	<0.095	<0.24	<0.066	0.84	<0.32	<0.13	2.2	4.7 J	8.9	7.2	<0.0103
	6/8/2023	--	0.95 J	29.7	<0.15	<1.0	<0.095	<0.24	<0.066	0.74	<0.32	<0.13	2.0 J	7.5	5.6	6.9	<0.0103
	7/10/2023	--	0.97 J	30.1	<0.15	<1.0	0.24 J	<0.24	<0.066	0.83	<0.32	<0.13	2.5	7.6	4.3	7.0	<0.0103
	8/16/2023	(1)	1.2	23.0	<0.15	<1.0	<0.095	<0.24	<0.066	0.97	<0.32	<0.13	2.5	4.9 J	11.5	6.6	<0.0103
	12/5/2023	--	--	--	--	--	--	--	--	--	--	--	3.1	--	--	--	--
MW-120	5/2/2023	--	0.64 J	88.7	<0.15	2.6	<0.095	0.53 J	<0.066	0.77	0.34 J	<0.13	5.1	5.0 J	**83.1**	3.6	<0.0103
	6/9/2023	--	<0.28	81.9	<0.15	1.3 J	0.31 J	<0.24	<0.066	0.51	<0.32	<0.13	5.2	3.4 J	29.3	3.3	<0.0103
	7/11/2023	--	0.28 J	78.5	<0.15	1.2 J	0.19 J	<0.24	<0.066	0.44	<0.32	<0.13	5.3	2.0 J	17.1	3.4	<0.0103
	8/17/2023	--	0.29 J	84.4	<0.15	1.3 J	<0.095	<0.24	<0.066	0.50	0.40 J	<0.13	5.2	3.8 J	11.4	3.5	<0.0103
	12/5/2023	--	--	--	--	--	--	--	--	--	--	--	5.9	--	1.5 J	--	--
MW-120 DUP	6/9/2023	--	<0.28	82.6	<0.15	1.2 J	0.31 J	<0.24	<0.066	0.53	0.35 J	<0.13	5.2	2.3 J	28.8	3.2	<0.0103

Table 5-9. Groundwater Results - Baseline Monitoring Parameters
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report
(Results are in µg/L unless otherwise noted)

			Public Health Parameters										Public Welfare Parameters				
Sample	**Date**	**Lab Notes**	**Arsenic**	**Barium**	**Cadmium**	**Chromium**	**Fluoride (mg/L)**	**Lead**	**Mercury**	**Nitrite + Nitrate (as N) (mg/L)**	**Selenium**	**Silver**	**Chloride (mg/L)**	**Copper**	**Manganese**	**Sulfate (mg/L)**	**Zinc (mg/L)**
MW-120A	5/2/2023	--	0.37 J	76.5	<0.15	<1.0	<0.095	<0.24	<0.066	1.4	0.72 J	<0.13	30.3	3.6 J	**251**	113	<0.0103
	6/9/2023	--	<0.28	58.3	<0.15	<1.0	<0.48 D3	<0.24	<0.066	2.0	0.66 J	<0.13	8.8 J, D3	2.3 J	**144**	37.7	<0.0103
	7/11/2023	--	<0.28	60.3	<0.15	<1.0	0.34	<0.24	<0.066	2.2	0.66 J	<0.13	8.3	4.4 J	**106**	41.0	<0.0103
	8/17/2023	--	<0.28	57.7	<0.15	<1.0	<0.095	<0.24	<0.066	2.3 M0	0.58 J	<0.13	9.5	8.1	16.8	47.3	<0.0103
	12/5/2023	--	--	--	--	--	--	--	--	2.0	--	--	9.5	--	3.5 J	--	--
MW-120A DUP	7/11/2023	--	<0.28	61.1	<0.15	<1.0	0.23 J	<0.24	<0.066	2.1	0.60 J	<0.13	8.6	5.8 J	**113**	40.4	<0.0103
	8/17/2023	(1)	0.29 J	56.3	<0.15	<1.0	<0.095	<0.24	<0.066	2.1	0.77 J	<0.13	8.6	7.9	12.4	42.6	<0.0103
MW-121	5/2/2023	--	0.36 J	36.4	<0.15	<1.0	<0.095	<0.24	<0.066	2.7	0.8 J	<0.13	6.1	<1.9	3.9 J	9.9	<0.0103
	6/9/2023	--	<0.28	39.8	<0.15	1.1 J	<0.095	<0.24	<0.066	2.4	0.75 J	<0.13	5.8	<1.9	<1.2	9.0	<0.0103
	7/11/2023	--	1.4	53.3	<0.15	5.3	0.15 J	1.0	<0.066	2.6	1.0 J	<0.13	5.5	10.0	**237**	9.7	<0.0103
	8/16/2023	(2)	0.43 J	44.7	<0.15	1.5 J	<0.095	<0.24	<0.066	2.9	0.92 J	<0.13	6.5	2.7 J	25.8	11.0	<0.0103
	12/5/2023	--	--	--	--	--	--	--	--	3.0	--	--	6.1	--	3.6 J	--	--
MW-122	5/2/2023	--	6.5	561	<0.30 D3	16.8	<0.48 D3	**15.6**	<0.066	0.81	4.8	<0.25 D3	5.3 J, D3	18.4	**310**	191	0.0454 J
	6/8/2023	--	0.38 J	169	<0.15	2.0 J	<0.48 D3	<0.24	<0.066	0.45	1.1	<0.13	3.4 J, D3	<1.9	36.2	65.5	<0.0103
	7/11/2023	--	0.68 J	177	<0.15	3.2 J	0.14 J	0.71 J	<0.066	0.39	0.73 J	<0.13	3.1	2.3 J	20.7	32.5	<0.0103
	8/16/2023	(2)	**14.2**	542	<0.30 D3	36	0.19 J	**23.3**	<0.066	0.44	5.2	<0.25 D3	1.9 J	35.7	**586**	97.2	0.0904
	12/5/2023	--	0.5 J	135	--	2.2 J	--	<0.24	--	--	--	--	3.1	--	16.5	--	--
MW-122 DUP	12/5/2023	--	0.49 J	136	--	2.1 J	--	<0.24	--	--	--	--	3.2	--	6.9	--	--
MW-123	5/3/2023	--	0.49 J	76.0	<0.15	<1.0	0.16 J	<0.24	<0.066	1.6	0.5 J	<0.13	2.5	7.8	**418**	14.0	<0.0103
	6/8/2023	--	0.45 J	61.6	<0.15	<1.0	<0.095	<0.24	<0.066 2q	2.0	<0.32	<0.13	1.8 J	13.8	**281**	29.4	0.0128 J
	7/11/2023	--	0.42 J	52.2	<0.15	<1.0	0.21 J	<0.24	<0.066	1.6	<0.32	<0.13	1.8 J	3.2 J	**84.3**	27.9	<0.0103
	8/16/2023	--	0.29 J	49.3	<0.15	<1.0	0.13 J	<0.24	<0.066	1.5	<0.32	<0.13	1.5 J	3.1 J	3.7 J	19.4	<0.0103
	12/5/2023 **	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 5-9. Groundwater Results - Baseline Monitoring Parameters
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report
(Results are in µg/L unless otherwise noted)

			Public Health Parameters										Public Welfare Parameters				
Sample	Date	Lab Notes	Arsenic	Barium	Cadmium	Chromium	Fluoride (mg/L)	Lead	Mercury	Nitrite + Nitrate (as N) (mg/L)	Selenium	Silver	Chloride (mg/L)	Copper	Manganese	Sulfate (mg/L)	Zinc (mg/L)
MW-123A	5/2/2023	--	2.0	67.6	<0.15	<1.0	0.21 J	<0.24	<0.066	3.1	0.68 J	<0.13	6.9	3.3 J	**415**	32.7	<0.0103
	6/8/2023	--	4.7	65.5	<0.15	<1.0	0.58	<0.24	<0.066 2q	4.0	0.81 J	<0.13	6.1	<1.9	**472**	32.1	<0.0103
	7/11/2023	--	1.0	59.4	<0.15	<1.0	0.28 J	<0.24	<0.066	4.2	0.7 J	<0.13	6.0	7.4	**321**	32.0	<0.0103
	8/16/2023	--	0.92 J	60.1	<0.15	<1.0	0.16 J	<0.24	<0.066	4.1	0.58 J	<0.13	6.5	11.1	**261**	36.1	<0.0103
	12/5/2023	--	1.1	--	--	--	--	--	--	4.6	--	--	6.1	--	12.9	--	--
MW-123B	6/8/2023	--	0.35 J	46.9	<0.15	<1.0	<0.095	<0.24	<0.066 2q	2.1	<0.32	<0.13	1.6 J	4.3 J	23.2	13.7	<0.0103
	7/11/2023	--	0.45 J	45.1	<0.15	<1.0	0.14 J	<0.24	<0.066	1.8	<0.32	<0.13	1.6 J	5.0 J	13.7	10.6	<0.0103
	8/16/2023	--	0.54 J	49.6	<0.15	<1.0	<0.095	<0.24	<0.066	1.9	<0.32	<0.13	2.3	5.1 J	13.2	21.1	<0.0103
	9/21/2023	--	1.0	53.9	<0.15	5.1	<0.095	0.59 J	<0.066	1.9	0.58 J	<0.13	3.4	27.7	27.4	20.9	0.0296 J
	12/5/2023	--	0.57 J	54.6	<0.15	<1.0	<0.095	<0.24	<0.066	2.1	0.33 J	<0.13	5.9	4.5 J	6.2	20.4	<0.0103
MW-123B DUP	9/21/2023	--	0.52 J	53.0	<0.15	<1.0	0.27 J	<0.24	<0.066	1.8	0.42 J	<0.13	3.4	10.5	14.7	22.0	<0.0103
MW-124	5/3/2023	--	<0.28	48.7	<0.15	<1.0	0.14 J	<0.24	<0.066	2.7	<0.32	<0.13	7.7	12.8	36	8.3	<0.0103
	6/9/2023	--	0.35 J	56.1	<0.15	<1.0	<0.095	<0.24	<0.066 2q	2.8	0.5 J	<0.13	7.4	2.4 J	**165**	8.0	<0.0103
	7/11/2023	--	0.37 J	54.5	<0.15	1.1 J	0.18 J	<0.24	<0.066	3.2	0.46 J	<0.13	8.3	3.2 J	**66.6**	10.5	<0.0103
	8/17/2023	(1)	0.47 J	58.1	<0.15	1.6 J	0.21 J	<0.24	<0.066	3.4	0.65 J	<0.13	8.8	5.0 J	48.6	11.8	<0.0103
	12/5/2023	--	--	--	--	--	--	--	--	3.8	--	--	8.4	--	3.6 J	--	--
MW-124A	5/3/2023	--	0.29 J	63.0	<0.15	<1.0	0.17 J	<0.24	<0.066	3.8	1.1	<0.13	9.9	2.6 J	**283**	24.2	<0.0103
	6/9/2023	--	0.42 J	83.3	<0.15	<1.0	0.34	<0.24	<0.066 2q	3.7	1.1	<0.13	21.2	4.2 J	**390**	73.6	<0.0103
	7/11/2023	--	0.44 J	69.6	<0.15	<1.0	0.23 J	<0.24	<0.066	4.0	1.4	<0.13	10.3	5.8 J	**277**	36.0	0.0134 J
	8/17/2023	--	0.54 J	63.9	<0.15	<1.0	0.16 J	<0.24	<0.066	4.2	1.7	<0.13	10.2	4.7 J	**88.9**	35.6	<0.0103
	12/5/2023	--	--	--	--	--	--	--	--	4.5	--	--	7.7	--	5.1	--	--
MW-125	5/2/2023	--	0.48 J	52.7	0.18 J	3.3 J	0.12 J	0.27 J	<0.066	2.0	0.7 J	<0.13	3.7	8.2	**81.8**	13.1	<0.0103
	6/8/2023	--	0.28 J	47.1	<0.15	1.8 J	<0.095	<0.24	<0.066 2q	2.2	0.5 J	<0.13	4.7	3.8 J	19.5	16.1	<0.0103
	7/11/2023	--	0.30 J	59.4	<0.15	1.5 J	0.19 J	<0.24	<0.066	2.4	0.66 J	<0.13	4.5	4.0 J	20.1	17.8	<0.0103
	8/16/2023	--	0.29 J	60.3	<0.15	1.1 J	<0.095	<0.24	<0.066	1.9	1.0 J	<0.13	5.5	3.8 J	7.8	24.0	<0.0103
	12/5/2023	--	--	--	--	--	--	--	--	1.8	--	--	6.3	--	2.6 J	--	--

Table 5-9. Groundwater Results - Baseline Monitoring Parameters
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(Results are in µg/L unless otherwise noted)

Sample	Date	Lab Notes	Public Health Parameters										Public Welfare Parameters				
			Arsenic	Barium	Cadmium	Chromium	Fluoride (mg/L)	Lead	Mercury	Nitrite + Nitrate (as N) (mg/L)	Selenium	Silver	Chloride (mg/L)	Copper	Manganese	Sulfate (mg/L)	Zinc (mg/L)
MW-125A	5/2/2023	--	<0.28	18.1	<0.15	<1.0	<0.095	<0.24	<0.066	2.9	0.59 J	<0.13	5.0	<1.9	34.4	23.5	<0.0103
	6/8/2023	--	<0.28	19.2	<0.15	<1.0	<0.095	<0.24	<0.066 2q	3.0	0.63 J	<0.13	6.1	<1.9	29.7	25.0	<0.0103
	7/11/2023	--	<0.28	16.7	<0.15	<1.0	0.26 J	<0.24	<0.066	3.0	0.43 J	<0.13	3.9	<1.9	32.8	21.0	<0.0103
	8/16/2023	(1)	1.5	22.9	<0.15	4.3	<0.095	1.0	<0.066	3.1	0.85 J	<0.13	4.2	20.9	**309**	22.7	0.0172 J
	12/5/2023	--	--	--	--	--	--	--	--	3.2	--	--	4.2	--	2.5 J	--	--
NR 140 Enforcement Standards (ESs)			10	2,000	5	100	4	15	2	10	50	50	250	1,300	50 / 300	250	5
NR 140 Preventive Action Limits (PALs)			1	400	0.5	10	0.8	1.5	0.2	2	10	10	125	130	25 / 60	125	2.5

Abbreviations:
µg/L = micrograms per liter or parts per billion (ppb) mg/L = milligrams per liter or parts per million (ppm) Dup = Duplicate Sample

Notes:
NR 140 ESs - Wisconsin Administrative Code (WAC), Chapter NR 140.10 Table 1 - Public Health Groundwater Quality Standards from July 2023 and WAC, Chapter NR 140.12 Table 2 - Public Welfare Groundwater Quality Standards from July 2023.
NR 140 PALs - WAC, Chapter NR 140.10 Table 1 - Public Health Groundwater Quality Standards from July 2023 and WAC, Chapter NR 140.12 Table 2 - Public Welfare Groundwater Quality Standards from July 2023.

Bold+underlined values meet or exceed NR 140 enforcement standards.
Italic+underlined values meet or exceed NR 140 preventive action limits.
Manganese is regulated as both a public welfare parameter and a public health parameter under NR 140. Lower PAL/ES is welfare; higher is health.
**MW-123 was dry during the December 2023 sampling event.

If both the result and the PAL or ES are above the limit of detection but below the limit of quantitation, the result is not considered a PAL or ES exceedance under NR 140.14(3)(c). If the PAL or ES is below the limit of detection and the result is below the limit of quantitation, the result is not considered a PAL or ES exceedance without additional confirmation as described in NR 140.14(3)(b).

Laboratory Notes/Qualifiers:
(1) Surrogates: 4-Bromofluorobenzene - HS = Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
(2) Surrogates: 4-Bromofluorobenzene - HS = Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter); pH = Post-analysis pH measurement indicates insufficient VOA sample preservation.
1q = Analyte was measured in the associated method blank at -0.061 mg/L.
2q = Analyte was measured in the associated method blank at a concentration of -0.077 µg/L.
B = Analyte was detected in the associated method blank.
D3 = Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
J = Estimated concentration at or above the Limit of Detection (LOD) and below the Limit of Quantitation (LOQ).
M0 = Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

Created by: JR Date: 5/24/2023
Last revision by: JR Date: 1/22/2024
Checked by: SCC Date: 2/8/2024

Table 5-10. Groundwater Results - Subtitle D Well Parameters
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(Results are in µg/L unless otherwise noted)

Sample	Date	Lab Notes	Antimony	Beryllium	Cobalt	Nickel	Thallium	Vanadium
MW-105	5/3/2023	--	0.17 J	<0.25	0.86 J	1.9	<0.14	3.1
	6/8/2023	--	0.16 J	<0.25	<0.12	0.6 J	<0.14	0.34 J
	7/10/2023	--	0.30 J	<0.25	<0.12	0.95 J	<0.14	0.60 J
	8/17/2023	--	0.28 J	<0.25	0.22 J	0.81 J	0.33 J	0.48 J
MW-107	5/2/2023	--	<0.15	<0.25	0.21 J	0.53 J	<0.14	1.4
	7/10/2023	--	<0.15	<0.25	<0.12	0.66 J	<0.14	0.83 J
	8/15/2023	--	<0.15	<0.25	<0.12	<0.28	<0.14	0.82 J
	12/5/2023	--	<0.15	<0.25	<0.12	0.47 J	0.39 J	0.75 J
MW-108	6/9/2023	--	<0.15	<0.25	<0.12	0.61 J	<0.14	2.2
	7/10/2023	--	0.17 J	<0.25	<0.12	0.68 J	<0.14	2.4
MW-111	5/2/2023	--	<0.15	<0.25	<0.12	0.31 J	<0.14	0.47 J
	6/8/2023	--	<0.15	<0.25	<0.12	0.63 J	<0.14	0.51 J
	8/15/2023	--	<0.15	<0.25	<0.12	0.57 J	<0.14	0.69 J
	12/5/2023	--	<0.15	<0.25	<0.12	0.82 J	<0.14	0.74 J
MW-119	5/2/2023	--	<0.15	<0.25	2.1	2.9	<0.14	1.1
	6/8/2023	--	<0.15	<0.25	1.9	2.9	<0.14	0.79 J
	7/10/2023	--	<0.15	<0.25	1.7	3.1	<0.14	0.88 J
	8/16/2023	(1)	<0.15	<0.25	4.9	4.1	<0.14	0.63 J
MW-120	5/2/2023	--	<0.15	<0.25	0.69 J	1.5	<0.14	3.5
	6/9/2023	--	<0.15	<0.25	<0.12	0.4 J	<0.14	2.6
	7/11/2023	--	<0.15	<0.25	<0.12	0.35 J	<0.14	2.7
	8/17/2023	--	<0.15	<0.25	<0.12	0.32 J	<0.14	3.5
NR 140 Enforcement Standards (ESs)			6	4	40	100	2	30
NR 140 Preventive Action Limits (PALs)			1.2	0.4	8	20	0.4	6

Abbreviations:
µg/L = micrograms per liter or parts per billion (ppb)

Notes:
NR 140 ESs - Wisconsin Administrative Code (WAC), Chapter NR 140.10 Table 1 - Public Health Groundwater Quality Standards from July 2023.
NR 140 PALs - WAC, Chapter NR 140.10 Table 1 - Public Health Groundwater Quality Standards from July 2023.

Bold+underlined values meet or exceed NR 140 enforcement standards.
Italic+underlined values meet or exceed NR 140 preventive action limits.

1. Subtitle D parameters are required per NR 507, Appendix I, Table 3 for background groundwater quality monitoring for wells that are planned to be used as Subtitle D wells (minimum 4) in accordance with NR 507.15(2)(a).
2. MW-108 was inadvertently sampled for Subtitle D parameters in June and July 2023, but is not proposed as a Subtitle D well.

Laboratory Notes/Qualifiers:
(1) Surrogates: 4-Bromofluorobenzene - HS = Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
J = Estimated concentration at or above the Limit of Detection (LOD) and below the Limit of Quantitation (LOQ).

Created by:	LMH	Date:	11/15/2023
Last revision by:	JR	Date:	1/23/2024
Checked by:	SCC	Date:	2/8/2024

Table 5-11. Parameters Detected at Concentrations Greater Than NR 140 Standards
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
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Parameter	PAL	ES	Well ID	Sample Date	Result	Public Health Exceedance	Public Welfare Exceedance
Inorganics							
Arsenic, dissolved (µg/L as As)	1	10	MW-105A	5/3/2023	1.5	PAL	
				6/8/2023	1.2	PAL	
				7/10/2023	1.1	PAL	
				8/17/2023	3.4	PAL	
				12/5/2023	1.3	PAL	
			MW-113A	5/2/2023	2.0	PAL	
				6/9/2023	1.6	PAL	
				7/11/2023	1.2	PAL	
				12/6/2023	1.0	PAL	
			MW-119	8/16/2023	1.2	PAL	
			MW-121	7/11/2023	1.4	PAL	
			MW-122	5/2/2023	6.5	PAL	
				8/16/2023	14.2	ES	
			MW-123A	5/3/2023	2.0	PAL	
				6/8/2023	4.7	PAL	
				7/11/2023	1.0	PAL	
				12/5/2023	1.1	PAL	
			MW-123B	9/21/2023	1.0	PAL	
			MW-125A	8/16/2023	1.5	PAL	
Barium, dissolved (µg/L as Ba)	400	2,000	MW-122	5/2/2023	561.0	PAL	
				8/16/2023	542.0	PAL	
Chromium, dissolved (µg/L as Cr)	10	100	MW-122	5/2/2023	16.8	PAL	
				8/16/2023	36.0	PAL	
Fluoride, dissolved (mg/L as F)	0.8	4	MW-3	6/9/2023	0.8 M0	PAL	
Lead, dissolved (µg/L as Pb)	1.5	15	MW-105A	8/17/2023	4.7	PAL	
			MW-122	5/2/2023	15.6	ES	
				8/16/2023	23.3	ES	
Manganese, dissolved ^ (µg/L as Mn)			MW-105	5/3/2023	50.8	--	ES
			MW-105A	5/3/2023	30.1	--	PAL
				6/8/2023	29.2	--	PAL
Public Welfare	25	50		7/10/2023	31.9	--	PAL
Public Health	60	300		8/17/2023	246.0	PAL	ES
				12/5/2023	34.0	--	PAL
			MW-106	5/2/2023	35.4 / 36.7 *	--	PAL
				6/8/2023	30.1	--	PAL
				7/10/2023	54.8	--	ES
				12/5/2023	33.3	--	PAL
			MW-108	5/2/2023	61.8	PAL	ES
				6/9/2023	51	--	ES
				7/10/2023	40.1	--	PAL
			MW-113	5/2/2023	412	ES	ES
				6/8/2023	53.8 / 48.4 *	--	ES
				7/11/2023	47.1 / 24.6 *	--	PAL
				12/6/2023	44.0 / 57.1*	--	ES
			MW-113A	5/2/2023	170	PAL	ES
				6/9/2023	153	PAL	ES
				7/11/2023	118	PAL	ES
				8/17/2023	116	PAL	ES
				12/6/2023	167	PAL	ES
			MW-116	5/2/2023	96.5	PAL	ES
				6/8/2023	63.1	PAL	ES
				7/11/2023	28.6	--	PAL
			MW-116A	5/2/2023	138 / 129 *	PAL	ES
				6/8/2023	85.6	PAL	ES
				7/11/2023	40.5	--	PAL
				8/16/2023	51.5	--	ES

Table 5-11. Parameters Detected at Concentrations Greater Than NR 140 Standards
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
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Parameter	PAL	ES	Well ID	Sample Date	Result	Public Health Exceedance	Public Welfare Exceedance
Manganese, dissolved ^ (µg/L as Mn) (Continued)			MW-120	5/2/2023	83.1	PAL	ES
				6/9/2023	29.3 / 28.8	--	PAL
			MW-120A	5/2/2023	251	PAL	ES
Public Welfare	25	50		6/9/2023	144	PAL	ES
Public Health	60	300		7/11/2023	106 / 113*	PAL	ES
			MW-121	7/11/2023	237	PAL	ES
				8/16/2023	25.8	--	PAL
			MW-122	5/2/2023	310	ES	ES
				6/8/2023	36.2	--	PAL
				8/16/2023	586	ES	ES
			MW-123	5/3/2023	418	ES	ES
				6/8/2023	281	PAL	ES
				7/11/2023	84.3	PAL	ES
			MW-123A	5/2/2023	415	ES	ES
				6/8/2023	472	ES	ES
				7/11/2023	321	ES	ES
				8/16/2023	261	PAL	ES
			MW-123B	9/21/2023	27.4	--	PAL
			MW-124	5/3/2023	36	--	PAL
				6/9/2023	165	PAL	ES
				7/11/2023	66.6	PAL	ES
				8/17/2023	48.6	--	PAL
			MW-124A	5/3/2023	283	PAL	ES
				6/9/2023	390	ES	ES
				7/11/2023	277	PAL	ES
				8/17/2023	88.9	PAL	ES
			MW-125	5/2/2023	81.8	PAL	ES
			MW-125A	5/2/2023	34.4	--	PAL
				6/8/2023	29.7	--	PAL
				7/11/2023	32.8	--	PAL
				8/16/2023	309	ES	ES
Nitrite + Nitrate (as N) dissolved (mg/L as N)	2	10	MW-3	5/3/2023	3.8	PAL	
				6/9/2023	3.8	PAL	
				7/11/2023	3.6	PAL	
				8/17/2023	3.7	PAL	
				12/5/2023	3.9	PAL	
			MW-4	5/3/2023	5.4	PAL	
				6/9/2023	5.9	PAL	
				7/11/2023	4.3	PAL	
				8/16/2023	4.4	PAL	
				12/5/2023	3.9	PAL	
			MW-113	5/2/2023	3.2	PAL	
				6/8/2023	3.6 / 3.5 *	PAL	
				7/11/2023	3.0 / 2.9 *	PAL	
				8/17/2023	3.0 / 2.9 *	PAL	
				12/6/2023	2.6 / 2.5 *	PAL	
			MW-116A	5/2/2023	2.6 / 2.6 M0 *	PAL	
				6/8/2023	2.8	PAL	
				7/11/2023	2.8	PAL	
				8/16/2023	2.8	PAL	
				12/5/2023	3.3	PAL	

Table 5-11. Parameters Detected at Concentrations Greater Than NR 140 Standards
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
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Parameter	PAL	ES	Well ID	Sample Date	Result	Public Health Exceedance	Public Welfare Exceedance
Nitrite + Nitrate (as N) dissolved (mg/L as N) (Continued)	2	10	MW-120A	6/9/2023	2.0	PAL	
				7/11/2023	2.2 / 2.1 *	PAL	
				8/17/2023	2.3 M0 / 2.1 *	PAL	
				12/5/2023	2.0	PAL	
			MW-121	5/2/2023	2.7	PAL	
				6/9/2023	2.4	PAL	
				7/11/2023	2.6	PAL	
				8/16/2023	2.9	PAL	
				12/5/2023	3.0	PAL	
			MW-123	6/8/2023	2.0	PAL	
			MW-123A	5/3/2023	3.1	PAL	
				6/8/2023	4.0	PAL	
				7/11/2023	4.2	PAL	
				8/16/2023	4.1	PAL	
				12/5/2023	4.6	PAL	
			MW-123B	6/8/2023	2.1	PAL	
				12/5/2023	2.1	PAL	
			MW-124	5/3/2023	2.7	PAL	
				6/9/2023	2.8	PAL	
				7/11/2023	3.2	PAL	
				8/17/2023	3.4	PAL	
				12/5/2023	3.8	PAL	
			MW-124A	5/3/2023	3.8	PAL	
				6/9/2023	3.7	PAL	
				7/11/2023	4.0	PAL	
				8/17/2023	4.2	PAL	
				12/5/2023	4.5	PAL	
			MW-125	5/2/2023	2.0	PAL	
				6/8/2023	2.2	PAL	
				7/11/2023	2.4	PAL	
			MW-125A	5/2/2023	2.9	PAL	
				6/8/2023	3.0	PAL	
				7/11/2023	3.0	PAL	
				8/16/2023	3.1	PAL	
				12/5/2023	3.2	PAL	
Sulfate, dissolved (mg/L)	125	250	MW-105A	5/3/2023	195		PAL
				6/8/2023	146		PAL
			MW-122	5/2/2023	191		PAL
Volatile Organic Compounds							
Tetrachloroethene (µg/L)	0.5	5	MW-113	5/2/2023	1.1	PAL	
				8/17/2023	0.51 J *	--^^	
1,2-Dichloroethane (µg/L)	0.5	5	MW-3	6/9/2023	1.8	PAL	
			MW-4	6/9/2023	1.4	PAL	
			MW-105	7/10/2023	1.7	PAL	
			MW-105A	7/10/2023	1.1	PAL	
			MW-113	6/8/2023	1.3 / 1.1 *	PAL	
				7/11/2023	5.4 / 4.4 *	ES	
				8/17/2023	1.1 / 1.2 *	PAL	
			MW-113A	6/9/2023	0.90 J	--^^	
			MW-119	7/10/2023	0.94 J	--^^	
			MW-120	7/11/2023	0.61 J	--^^	
			MW-120A	6/9/2023	1.0	PAL	
				7/11/2023	1.6	PAL	
				8/17/2023	1.2 / 1.1 *	PAL	
			MW-123A	6/8/2023	2.0	PAL	
			MW-123B	7/11/2023	0.77 J	--^^	
				9/21/2023	0.61 J / 0.53 J *	--^^	

Table 5-11. Parameters Detected at Concentrations Greater Than NR 140 Standards
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

Parameter	PAL	ES	Well ID	Sample Date	Result	Public Health Exceedance	Public Welfare Exceedance
1,2-Dichloroethane (µg/L) (Continued)	0.5	5	MW-124	6/9/2023	1.1	PAL	
			MW-124A	6/9/2023	2.8	PAL	
				7/11/2023	1.0	PAL	
				8/17/2023	1.0 J	--^^	
			MW-125	8/16/2023	0.78 J	--^^	
			MW-125A	6/8/2023	0.83 J	--^^	

mg/L = milligrams per liter
µg/L = micrograms per liter
ES = Enforcement Standard
PAL = Preventive Action Limit
DUP = Duplicate Sample

J = Estimated concentration below the laboratory's Limit of Quantitation
M0 = Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

-- = No standard exceedance; gray shading indicates the type of standard (Health or Welfare) does not apply.

* Indicates a duplicate sample. If only one of the two samples exceeded the PAL, only the exceedance result is shown.

^ Manganese is regulated as both a public welfare parameter and a public health parameter under NR 140. Lower PAL/ES is welfare; higher is health.

^^ If both the result and the PAL or ES are above the limit of detection but below the limit of quantitation, the result is not considered a PAL or ES exceedance under NR 140.14(3)(c). If the PAL or ES is below the limit of detection and the result is below the limit of quantitation, the result is not considered a PAL or ES exceedance without additional confirmation as described in NR 140.14(3)(b).

Created by: REO Date: 5/12/2023
Last revision by: JR Date: 1/23/2024
Checked by: SCC Date: 2/8/2024

Table 5-12. Summary of Physical Properties - Loess
Dane County Landfill Site No. 3 / SCS Engineers Project # 25222268.00
Feasibility Report

Boring or Well Number	Sample Depth (ft. bgs)	Grain-Size ASTM D6913/D7928					Atterberg Limits ASTM D4318		USCS Classification ASTM D2487	Laboratory Permeability ASTM D5084 (cm/s)	Dry Density ASTM D7263 (pcf)	Moisture Content ASTM D2216 (%)
		% Gravel (>4.75 mm)	% Sand (4.75 mm-0.75 mm)	% Silt (0.75 mm-0.005 mm)	% Clay (<0.005 mm)	% Silt and Clay (P-200) (<0.75 mm)	Liquid Limit (%)	Plasticity Index (%)				
B11	3.5-5	0.0	40.6	26.7	32.7	59.4	NT	NT	CL/CL-ML	NT	NT	12.6
MW108	1-2	1.0	25.6	42.9	30.5	73.4	36	18	CL	NT	NT	NT
MW114	3.5-5	0.0	20.7	48.6	30.7	79.3	42	23	CL	NT	NT	NT
MW117	1-2	0.0	4.5	55.6	39.9	95.5	51	29	CH	NT	NT	NT
B212	1-5	0.0	4.6	55.1	40.3	95.4	47	25	CL	NT	NT	NT
B217	0.5-4	3.9	31.1	35.0	30.0	65.0	44	24	CL	NT	NT	NT
B219	0.8-5	3.7	59.1	17.8	19.4	37.2	42	23	SC	NT	NT	NT
B220	0.8-5	2.1	27.9	42.6	27.4	70.0	33	17	CL	NT	NT	NT
B223	0.5-5	0.0	36.3	34.8	28.9	63.7	31	14	CL	NT	NT	NT
B225	5-9	0.2	11.5	49.7	38.6	88.3	47	25	CL	NT	NT	NT
B226	1-5	0.1	25.8	45.7	28.4	74.1	30	14	CL	NT	NT	NT
ST111	3-5	0.0	3.7	56.1	40.2	96.3	44	21	CL	5.8E-07	99.3	24.7
ST119	0.5-2.5	0.0	6.4	48.8	44.8	93.6	48	24	CL	2.0E-08	99.5	24.6
N=		13	13	13	13	13	12	12	13	2	2	3
Min.		0.0	3.7	17.8	19.4	37.2	30	14	SC	2.0E-08	99.3	12.6
Max.		3.9	59.1	56.1	44.8	96.3	51	29	CH	5.8E-07	99.5	24.7
Mean		0.8	22.9	43.0	33.2	76.2	41.3	21.4	CL	3.0E-07	99.4	20.6
Median		0.0	25.6	45.7	30.7	74.1	43	23	CL	--	--	--
Std. Dev.		1.4	16.1	11.2	6.8	17.0	6.8	4.5	--	--	--	--

Abbreviations:
ASTM = American Society for Testing and Materials
USCS = Unified Soil Classification System
mm = millimeter
bgs = below ground surface
pcf = pounds per cubic foot
cm/s = centimeters per second
NT: Not tested

Created by: BJS Date: 9/21/2023
Last revision by: DLN Date: 1/22/2024
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Table 5-13. Summary of Physical Properties - Till
Dane County Landfill Site No. 3 / SCS Engineers Project # 25222268.00
Feasibility Report

Boring or Well Number	Sample Depth (ft. bgs)	Grain-Size ASTM D6913/D7928					Atterberg Limits ASTM D4318		USCS Classification ASTM D2487	Laboratory Permeability ASTM D5084 (cm/s)	Dry Density ASTM D7263 (pcf)	Moisture Content ASTM D2216 (%)
		% Gravel (>4.75 mm)	% Sand (4.75 mm-0.75 mm)	% Silt (0.75 mm-0.005 mm)	% Clay (<0.005 mm)	% Silt and Clay (P-200) (<0.75 mm)	Liquid Limit (%)	Plasticity Index (%)				
MW2	5.6-6.8	27.9	52.4	11.9	7.8	19.7	11	NP	SM	NT	NT	15.4
B3	18-20	1.1	72.5	12.0	14.4	26.4	NV	NP	SM	NT	NT	10.4
B5	5.5-7	15.8	53.2	20.5	10.5	31.0	NV	NP	SM	1.2E-06	132.7	9.7
B6	8.5-10.5	11.4	39.3	38.6	10.7	49.3	14	2	SM	NT	NT	8.6
B7	28.5-29.5	6.7	55.6	31.3	6.4	37.7	NV	NP	SM	NT	NT	10.6
B8	15.1-15.7	6.0	60.9	20.4	12.7	33.1	NV	NP	SM	6.5E-06	127.3	12.8
B9	8-10	0.9	69.1	17.0	13.0	30.0	NT	NT	SM	NT	NT	15.2
MW105A	11-12.5	15.8	66.7	7.4	10.1	17.5	NP	NP	SM	NT	NT	NT
MW106	11-12.5	16.3	66.9	8.4	8.4	16.8	NP	NP	SM	NT	NT	NT
MW107A	11-12.5	8.6	67.0	6.6	17.8	24.4	NP	NP	SM	NT	NT	NT
MW108	8-10.5	18.5	59.9	11.8	9.8	21.6	NP	NP	SM	NT	NT	NT
MW110	11-12	15.3	56.3	16.3	12.1	28.4	NP	NP	SM	NT	NT	NT
MW117	11-12.5	13.8	59.3	14.1	12.8	26.9	NP	NP	SM	NT	NT	NT
MW120	11-12.5	14.9	58.5	14.9	11.7	26.6	NP	NP	SM	NT	NT	NT
MW122	6-7.5	4.2	64.7	16.8	14.3	31.1	NP	NP	SM	NT	NT	NT
N=		15	15	15	15	15	2	1	15	2	2	7
Min.		0.9	39.3	6.6	6.4	16.8	11.0	--	SM	1.2E-06	127.3	8.6
Max.		27.9	72.5	38.6	17.8	49.3	14.0	--	SM	6.5E-06	132.7	15.4
Mean		11.8	60.2	16.5	11.5	28.0	12.5	--	SM	3.9E-06	130.0	11.8
Median		13.8	59.9	14.9	11.7	26.9	--	--	SM	--	--	10.6
Std. Dev.		7.0	8.0	8.4	2.8	8.0	--	--	--	--	--	2.5

Abbreviations:
ASTM = American Society for Testing and Materials
USCS = Unified Soil Classification System
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bgs = below ground surface
pcf = pounds per cubic foot
cm/s = centimeters per second
NT: Not tested
NV: No value
NP: Non-plastic

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Table 5-14. Summary of Physical Properties - Outwash
Dane County Landfill Site No. 3 / SCS Engineers Project # 25222268.00
Feasibility Report

Boring or Well Number	Sample Depth (ft. bgs)	Grain-Size ASTM D6913/D7928					Atterberg Limits ASTM D4318		USCS Classification ASTM D2487	Laboratory Permeability ASTM D5084 (cm/s)	Dry Density ASTM D7263 (pcf)	Moisture Content ASTM D2216 (%)
		% Gravel (>4.75 mm)	% Sand (4.75 mm-0.75 mm)	% Silt (0.75 mm-0.005 mm)	% Clay (<0.005 mm)	% Silt and Clay (P-200) (<0.75 mm)	Liquid Limit (%)	Plasticity Index (%)				
MW1	14-16	15.3	76.8	4.6	3.3	7.9	NP	NP	SP-SM	NT	NT	14.3
MW111	16-17.5	23.1	71.2	3.2	2.5	5.7	NP	NP	SP-SM	NT	NT	NT
B106	33.5-35	0.0	65.8	13.8	20.4	34.2	NP	NP	SM	NT	NT	NT
B107	28.5-30	0.0	64.0	17.4	18.6	36.0	NP	NP	SM	NT	NT	NT
B107	43.5-45	12.5	69.9	2.2	15.1	17.3	NP	NP	SM	NT	NT	NT
N=		5	5	5	5	5	5	5	5	0	0	1
Min.		0.0	64.0	2.2	2.5	5.7	--	--	SP-SM	--	--	--
Max.		23.1	76.8	17.4	20.4	36.0	--	--	SM	--	--	--
Mean		17.0	69.5	8.2	12.0	20.2	--	--	SM	--	--	--
Median		15.3	69.9	4.6	15.1	17.3	--	--	SM	--	--	--
Std. Dev.		4.5	4.5	6.2	7.6	12.8	--	--	--	--	--	--

Abbreviations:
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USCS = Unified Soil Classification System
mm = millimeter
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pcf = pounds per cubic foot
cm/s = centimeters per second
NT: Not tested
NP: Non-plastic

Created by:	DLN	Date:	2/13/2023
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Checked by:	BJS	Date:	1/24/2024

Table 5-15. Summary of Physical Properties - Lake Sediment
Dane County Landfill Site No. 3 / SCS Engineers Project # 25222268.00
Feasibility Report

Boring or Well Number	Sample Depth (ft. bgs)	Grain-Size ASTM D6913/D7928					Atterberg Limits ASTM D4318		USCS Classification ASTM D2487	Laboratory Permeability ASTM D5084 (cm/s)	Dry Density ASTM D7263 (pcf)	Moisture Content ASTM D2216 (%)
		% Gravel (>4.75 mm)	% Sand (4.75 mm-0.75 mm)	% Silt (0.75 mm-0.005 mm)	% Clay (<0.005 mm)	% Silt and Clay (P-200) (<0.75 mm)	Liquid Limit (%)	Plasticity Index (%)				
B106	28.5-30	0.0	17.3	49.2	33.5	82.7	19	5	CL-ML	NT	NT	NT
N=		1	1	1	1	1	1	1	3	0	0	0
Min.		0.0	17.3	49.2	33.5	82.7	19.0	5.0	ML	--	--	--
Max.		0.0	17.3	49.2	33.5	82.7	19.0	5.0	CL	--	--	--
Mean		0.0	17.3	49.2	33.5	82.7	19.0	5.0	--	--	--	--
Median		0.0	17.3	49.2	33.5	82.7	19.0	5.0	--	--	--	--
Std. Dev.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	--	--	--

Abbreviations:
ASTM = American Society for Testing and Materials
USCS = Unified Soil Classification System
mm = millimeter
bgs = below ground surface
pcf = pounds per cubic foot
cm/s = centimeters per second
NT: Not tested

Created by:	DLN	Date:	2/13/2023
Last revision by:	DLN	Date:	1/22/2024
Checked by:	BJS	Date:	1/24/2024

Table 5-16. Summary of Physical Properties - Dolomite
Dane County Landfill Site No. 3 / SCS Engineers Project # 25222268.00
Feasibility Report

Boring or Well Number	Sample Depth (ft. bgs)	Grain-Size ASTM D6913/D7928					Atterberg Limits ASTM D4318		USCS Classification ASTM D2487	Laboratory Permeability ASTM D5084 (cm/s)	Dry Density ASTM D7263 (pcf)	Moisture Content D2216 (%)
		% Gravel (>4.75 mm)	% Sand (4.75 mm-0.75 mm)	% Silt (0.75 mm-0.005 mm)	% Clay (<0.005 mm)	% Silt and Clay (P-200) (<0.75 mm)	Liquid Limit (%)	Plasticity Index (%)				
MW4	21-23	42.5	41.1	8.8	7.6	16.4	NV	NP	GM	NT	NT	8.6
MW4	29-31	24.2	51.8	15.4	8.6	24.0	NV	NP	SM	NT	NT	9.5
MW105A	43.5-45	11.2	62.8	15.1	10.9	26.0	NP	NP	SM	NT	NT	NT
MW109	28.5-30	24.7	61.8	6.1	7.4	13.5	NP	NP	SM	NT	NT	NT
MW112	13.5-15	14.1	48.7	NT	NT	37.2	NP	NP	SM	NT	NT	NT
MW115	9-10	29.2	43.7	19.6	7.5	27.1	NP	NP	SM	NT	NT	NT
MW124	11-12.5	11.9	62.5	NT	NT	25.6	NP	NP	SM	NT	NT	NT
MW125A	48.5-50	2.4	59.0	NT	NT	38.6	NP	NP	SM	NT	NT	NT
N=		8	8	5	5	8	0	0	8	0	0	2
Min.		2.4	41.1	6.1	7.4	13.5	--	--	GM	--	--	8.6
Max.		42.5	62.8	19.6	10.9	38.6	--	--	SM	--	--	9.5
Mean		20.0	53.9	13.0	8.4	26.1	--	--	SM	--	--	9.1
Median		19.2	55.4	15.1	7.6	25.8	--	--	--	--	--	--
Std. Dev.		11.8	8.2	4.9	1.3	8.2	--	--	--	--	--	--

Abbreviations:
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USCS = Unified Soil Classification System
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pcf = pounds per cubic foot
cm/s = centimeters per second
NT: Not tested
NV: No value
NP: Non-plastic

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Table 5-17. Summary of Physical Properties - Sandstone - St. Peter Formation, Tonti Member
Dane County Landfill Site No. 3 / SCS Engineers Project # 25222268.00
Feasibility Report

Boring or Well Number	Sample Depth (ft. bgs)	Grain-Size ASTM D6913/D7928					Atterberg Limits ASTM D4318		USCS Classification ASTM D2487	Laboratory Permeability ASTM D5084 (cm/s)	Dry Density ASTM D7263 (pcf)	Moisture Content ASTM D2216 (%)
		% Gravel (>4.75 mm)	% Sand (4.75 mm-0.75 mm)	% Silt (0.75 mm-0.005 mm)	% Clay (<0.005 mm)	% Silt and Clay (P-200) (<0.75 mm)	Liquid Limit (%)	Plasticity Index (%)				
MW3	28-30	15.2	53.4	20.9	10.5	31.4	NV	NP	SM	NT	NT	8.6
B10	41-43	30.9	46.4	13.9	8.8	22.7	23	8	SC	NT	NT	12.9
MW114	13.5-15	8.3	78.5	5.5	7.7	13.2	NT	NT	SM	NT	NT	NT
MW116	18.5-20	3.5	82.6	NT	NT	13.9	NT	NT	SM	NT	NT	NT
MW118	11-12.5	1.6	92.8	NT	NT	5.6	NT	NT	SP-SM	NT	NT	NT
MW119	38.5-40	0.5	84.5	NT	NT	15.0	NT	NT	SM	NT	NT	NT
MW121	11-12.5	2.6	69.4	NT	NT	28.0	NT	NT	SM	NT	NT	NT
N=		7	7	3	3	7	1	1	7	0	0	2
Min.		0.5	46.4	5.5	7.7	5.6	23.0	8.0	SP-SM	--	--	8.6
Max.		30.9	92.8	20.9	10.5	31.4	23.0	8.0	SC	--	--	12.9
Mean		8.9	72.5	13.4	9.0	18.5	23.0	8.0	SM	--	--	10.8
Median		3.5	78.5	13.9	8.8	15.0	23.0	8.0	--	--	--	--
Std. Dev.		10.1	15.8	6.3	1.2	8.5	0.0	0.0	--	--	--	--

Abbreviations:
ASTM = American Society for Testing and Materials
USCS = Unified Soil Classification System
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bgs = below ground surface
pcf = pounds per cubic foot
cm/s = centimeters per second
NT: Not tested
NV: No value
NP: Non-plastic

Created by:	DLN	Date:	2/13/2023
Last revision by:	DLN	Date:	1/22/2024
Checked by:	BJS	Date:	1/24/2024

Table 5-18. Summary of Physical Properties - Sandstone - St. Peter Formation, Readstown Member
Dane County Landfill Site No. 3 / SCS Engineers Project # 25222268.00
Feasibility Report

Boring or Well Number	Sample Depth (ft. bgs)	Grain-Size ASTM D6913/D7928					Atterberg Limits ASTM D4318		USCS Classification D2487	Laboratory Permeability ASTM D5084 (cm/s)	Dry Density D7263 (pcf)	Moisture Content D2216 (%)
		% Gravel (>4.75 mm)	% Sand (4.75 mm-0.75 mm)	% Silt (0.75 mm-0.005 mm)	% Clay (<0.005 mm)	% Silt and Clay (P-200) (<0.75 mm)	Liquid Limit (%)	Plasticity Index (%)				
B7	33.5-35	4.6	31.4	44.2	19.8	64.0	18	1	ML	NT	NT	NT
B8	23.5-25	2.6	90.6	2.7	4.1	6.8	NT	NT	SP-SM	NT	NT	NT
MW118A	18.5-20	0.8	53.9	22.6	22.7	45.3	39	22	SC	NT	NT	NT
MW118A	38.8-40	4.2	15.6	23.1	57.1	80.2	58	36	CH	NT	NT	NT
MW118A	43-44	6.6	40.4	NT	NT	53.0	NT	NT	ML/CL	NT	NT	NT
MW125A	23-24.5	16.1	56.7	NT	NT	27.2	NT	NT	SM	NT	NT	NT
N=		6	6	4	4	6	3	3	6	0	0	0
Min.		0.8	15.6	2.7	4.1	6.8	18	1	SP-SM	--	--	--
Max.		16.1	90.6	44.2	57.1	80.2	58	36	CH	--	--	--
Mean		5.8	48.1	23.2	25.9	46.1	38	20	--	--	--	--
Median		4.4	47.2	22.9	21.3	49.2	39	22	--	--	--	--
Std. Dev.		4.9	23.5	14.7	19.3	23.9	16	14	--	--	--	--

Abbreviations:
ASTM = American Society for Testing and Materials
USCS = Unified Soil Classification System
mm = millimeter
bgs = below ground surface
pcf = pounds per cubic foot
cm/s = centimeters per second
NT: Not tested

Created by:	DLN	Date:	2/13/2023
Last revision by:	DLN	Date:	1/22/2024
Checked by:	BJS	Date:	1/24/2024

Table 5-19 Stratigraphic Units at the Proposed Landfill Site
Dane County Landfill Site No. 3 / SCS Engineers Project # 25222268.00
Feasibility Report

Age (Yrs)	Geologic Time		Major Rock Units		
			Group	Formation	Member
20,000	Pleistocene	Late Wisconsinan		Holy Hill	Horicon
461 Million	Ordovician	Middle	Sinnipee	Galena	
				Decorah	
				Platteville	
			Ancell	Glenwood	
				St. Peter	Tonti
					Readstown
		Early	Prairie du Chien	Shakopee	Willow River
					New Richmond
488 Million				Oneota	

Modified from: Bedrock Stratigraphic Units in Wisconsin, 2011, Wisconsin Geological & Natural History Survey, Educational Series 51.

Created by: BJS, 11/21/2021
Checked by: JR, 11/22/2023

Table 6-1. Waste Tonnages and Composition
Dane County Landfill Site No. 3 (see Note 1) / SCS Engineers Project #25222268.00
Feasibility Report

			Industrial and Special Wastes														Alternate Daily Cover (ADC)				
	Category 1 Municipal Solid Waste		Category 5 POTW Sludge		Category 6 All Other Solid Waste (Non-hazardous)		Category 25 Construction and Demolition Waste		Category 27 Waste from a Non-Profit		Category 28 Waste Generated by Natural Disaster		Category 30 MRF Residuals[2] (10% cap)		Category 31 MRF Residuals[3] (30% cap)		Category 19 Fee Exempt Waste Used for ADC		Category 23 Treated Contaminated Soil for ADC		Total
Year	(tons)	(%)	(tons)	(%)	(tons)	(%)	(tons)	(%)	(tons)	(%)	(tons)	(%)	(tons)	(%)	(tons)	(%)	(tons)	(%)	(tons)	(%)	(tons)
2018	177,816	73.9%	0	0.0%	906	0.4%	11,065	4.6%	0	0.0%	2,129	0.9%	5,904	2.5%	17,787	7.4%	25,155	10.4%	0	0.0%	240,762
2019	179,688	75.1%	0	0.0%	770	0.3%	10,143	4.2%	0	0.0%	0	0.0%	6,086	2.5%	15,242	6.4%	27,034	11.3%	348	0.1%	239,311
2020	182,532	76.5%	2,595	1.1%	1,206	0.5%	8,922	3.7%	0	0.0%	0	0.0%	5,897	2.5%	13,997	5.9%	23,507	9.8%	0	0.0%	238,656
2021	189,067	69.9%	0	0.0%	1,674	0.6%	15,352	5.7%	3,759	1.4%	0	0.0%	5,786	2.1%	24,737	9.1%	30,098	11.1%	0	0.0%	270,473
2022	217,536	74.2%	0	0.0%	1,740	0.6%	15,096	5.1%	4,421	1.5%	0	0.0%	6,841	2.3%	21,584	7.4%	26,015	8.9%	0	0.0%	293,233
2023	260,531	79.7%	0	0.0%	561	0.2%	12,025	3.7%	4,200	1.3%	0	0.0%	8,226	2.5%	16,602	5.1%	24,925	7.6%	0	0.0%	327,070
Average	201,195	74.9%	865	0.2%	1,143	0.4%	12,101	4.5%	2,476	0.7%	355	0.1%	6,457	2.4%	18,325	6.9%	26,122	9.9%	58	0.0%	268,251

Notes:
1. The waste tonnages and composition are associated with the existing Dane County Landfill Site No. 2. The waste tonnages and composition at the proposed Dane County Landfill Site No. 3 are expected to be similar, as the service area is expected to be the same.
2. This includes qualifying residues from qualified self-certified Material Recovery Facilities (MRFs).
3. This includes qualifying residues from qualified licensed construction & demolition processing Material Recovery Facilities (MRFs).

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Table 11-1. Service Area Overlap Determination
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

County	2022 Population Estimate	Facility					
		Dane County Landfill Site No. 3	Dane County Landfill Site No. 2	Waste Management (WMWI) Deer Track Park Landfill	GFL Glacier Ridge Landfill	GFL Mallard Ridge Landfill	Janesville City Landfill
Adams	20,836			X			
Columbia	58,627			X	X		
Crawford	16,129			X			
Dane	582,165	X	X	X	X	X	X
Dodge	88,822			X	X		
Fond du Lac	104,162			X	X		
Grant	51,171			X		X	
Green	37,445			X		X	X
Green Lake	19,091				X		
Iowa	23,936			X			
Jefferson	86,576			X	X	X	X
Juneau	26,848			X			
Kenosha	170,272					X	
Lafayette	16,650			X			
Manitowoc	81,442						
Milwaukee	939,487				X	X	
Outagamie	192,938						
Ozaukee	92,623				X		
Racine	198,138					X	
Richland	17,282			X			
Rock	164,959			X		X	X
Sauk	66,497			X			
Sheboygan	118,776						
Vernon	30,965			X			
Walworth	106,129			X		X	X
Washington	138,229				X		
Waukesha	410,769			X	X	X	
Waupaca	52,309						
Winnebago	172,542				X		
Population of Counties Shared in Dane County Landfill Site No. 3 Service Area		582,165	582,165	582,165	582,165	582,165	582,165
Total Population of All Counties Served by Landfill		582,165	582,165	1,909,968	2,693,093	2,747,111	977,274
Population Weighted Overlap (%)		100%	100%	30.5%	21.6%	21.2%	59.6%

Notes:
1. Wisconsin county populations based on January 1, 2022 Official Final Estimates of Wisconsin Counties, by the Wisconsin Demographic Services Center, Wisconsin Department of Administration website (https://doa.wi.gov/Pages/LocalGovtsGrants/Population_Estimates.aspx).
2. Service areas based on information from site personnel and Feasibility Reports.
3. Consistent with the needs analysis performed for the GFL Mallard Ridge Landfill Western Expansion Feasibility Report, waste from Illinois counties is conservatively not included in the service area for Mallard Ridge Landfill.

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Table 11-2. Solid Waste Data for Service Area
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

SITE NAME	TOTAL WASTE RECEIVED 2022 (ton/yr) [1]	ESTIMATED AIRSPACE CONSUMED 2022 (in-place cy/yr) [2]	JANUARY 2023 SITE CAPACITY (in-place cy) [1]	JANUARY 2024 ESTIMATED SITE CAPACITY (in-place cy) [3][7]	PERCENT WASTE FROM SERVICE AREA [4]	2022 ESTIMATED WASTE FROM SERVICE AREA (ton/yr) [5]	2024 AVAILABLE CAPACITY FOR SERVICE AREA (cy) [6]
Dane County Landfill Site No. 2	293,233	390,977	1,476,190	2,075,513	100.0%	293,233	2,075,513
WMWI Deer Track Park Landfill	317,000	422,667	2,696,517	2,273,850	30.5%	96,623	693,078
GFL Glacier Ridge Landfill	582,037	776,049	4,501,268	3,725,218	21.6%	125,819	805,279
GFL Mallard Ridge Landfill	223,924	298,565	1,649,995	6,643,430	21.2%	47,454	1,407,869
Janesville City Landfill	218,774	291,699	4,261,335	3,969,636	59.6%	130,324	2,364,724
Total	1,634,968	2,179,957	14,585,305	18,687,648		693,453	7,346,463

Notes:
1) Waste data obtained from the "Wisconsin Solid Waste Tonnage/Capacity Report," WDNR, dated May 30, 2023, and includes out of state waste accepted.
2) Total Waste Received 2022 (in-place cy/yr) estimated based on a waste density of 1,500 lbs/cy.
3) January 2024 Site Capacity was estimated from 2023 remaining site capacity minus 2022 volume waste received.
4) Percent waste from service area estimate is based on county population data for each landfill's estimated service area per method obtained from WDNR "Landfill Needs and Site Life: A Guide for Applicants, DNR Staff and the Public," dated October 2004, as calculated on Table 11-1.
5) 2022 Estimated Waste From Service Area disposed at each landfill is based on (Total Waste Received 2022, ton/yr) x (% Waste from Service Area).
6) 2024 Available Capacity for Service Area is based on (January 2024 Estimated Site Capacity, in-place cy) x (% Waste from Service Area).
7) Estimated capacity includes the following expansion volumes:
Dane County Landfill Site No. 2: 990,300 cubic yards for the Eastern Vertical Expansion approved in 2023.
GFL Mallard Ridge Landfill: 5,292,000 cubic yards for the Western Expansion (Feasibility Determination received on March 8, 2023).

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Table 11-3. Solid Waste Disposal Rates for Service Area
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

COUNTY	DANE COUNTY PROJECTED 2024 POPULATION [1]	SOLID WASTE DISPOSAL RATE [2] (lbs/capita/day)	PROJECTED 2024 WASTE DISPOSED [3] (ton/yr)	PROJECTED 2024 WASTE VOLUME [4] (In-place cy/yr)	PROJECTED 2024 VOLUME INCLUDING WASTE/DAILY COVER [5] (In-place cy/yr)
Dane	602,932	6.79	747,138	996,184	1,138,496

Notes:
1) Projected 2024 population data were based on 2023 Time Series Population Estimates (1970 - 2023), County Totals, prepared by the Demographic Services Center, Wisconsin Department of Administration, (https://doa.wi.gov/Pages/LocalGovtsGrants/Population_Estimates.aspx). Data was used to calculate annual increases from 2018 - 2023. The average annual increase from 2018 - 2023 was 2.18%. This average increase was used to estimate the 2024 population.
2) MSW and industrial waste disposal rate per capita at MSW Landfills, refer to Table 11-4 for data in Wisconsin.
3) Projected 2024 Waste Disposed (ton/yr) = Solid Waste Disposal Rate x Projected 2024 Population.
4) Projected 2024 Waste Volume (in-place cy/yr) is estimated utilizing an average waste density of 1,500 lb/cy for the landfills in the service area.
5) Landfill capacity consumed accounting for intermediate and daily cover (ratio of 1 part daily cover to 7 parts waste).

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Table 11-4. Solid Waste Disposal Rates at Wisconsin MSW Landfills
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

YEAR	MUNICIPAL SOLID WASTE[1][3] (ton)	INDUSTRIAL/ COMMERCIAL/ INSTITUTIONAL WASTE[1][4][5] (ton)	WISCONSIN POPULATION [2]	DISPOSAL RATE MSW[3] (lb/cap/day)	DISPOSAL RATE INDUSTRIAL/ COMMERCIAL/ INSTITUTIONAL[4] (lb/cap/day)	TOTAL DISPOSAL RATE[5] (lb/cap/day)	% MSW	% INDUSTRIAL/ COMMERCIAL/ INSTITUTIONAL
2020	4,394,352	2,907,666	5,893,718	4.09	2.70	6.79	60.2	39.8
2021	4,478,130	2,834,132	5,901,473	4.16	2.63	6.79	61.2	38.8
2022	4,398,873	2,961,885	5,949,155	4.05	2.73	6.78	59.8	40.2
			AVERAGE	4.10	2.69	6.79	60.4	39.6

Notes:
1) Waste tonnages obtained from the Wisconsin Tonnage/Capacity Reports for 2020, 2021, and 2022.
2) Population data are based on 2020 census findings and final annual estimates from the January 1, 2022 County Final Population Estimates of the Wisconsin Department of Administration, Demographic Services Center (https://doa.wi.gov/Pages/LocalGovtsGrants/Population_Estimates.aspx).
3) Includes Category 1 wastes from the WDNR Tonnage/Capacity Reports.
4) Includes wastes from Categories 2-6 and 19-33 for the MSW landfills in the WDNR Tonnage/Capacity Reports.
5) Total Disposal Rate (lb/cap/day) is for municipal solid waste landfills only and does not include industrial waste landfills or recyclables.

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Table 11-5. Estimated Service Area Disposal Rate and Remaining Capacity
WITHOUT the Proposed Landfill
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

YEAR	AVAILABLE WASTE DISPOSAL CAPACITY AT BEGINNING OF YEAR (cy)[1]	ESTIMATED WASTE DISPOSAL RATE FROM SERVICE AREA (cy/yr)[2]	REMAINING YEARS OF DISPOSAL CAPACITY	REMAINING YEARS OF DISPOSAL CAPACITY FROM START OF WASTE ACCEPTANCE[3]
2024	7,346,463	1,138,496	6	
2025	6,207,967	1,163,339	5	
2026	5,044,628	1,188,724	4	
2027	3,855,904	1,214,663	3	
2028	2,641,241	1,241,168	2	2
2029	1,400,073	1,268,251	1	1
2030	131,821	1,295,926	0	0
2031	--	1,324,204	--	--
2032	--	1,353,099	--	--
2033	--	1,382,625	--	--
2034	--	1,412,795	--	--
2035	--	1,443,624	--	--
2036	--	1,475,125	--	--
2037	--	1,507,313	--	--
2038	--	1,540,204	--	--
2039	--	1,573,813	--	--
2040	--	1,608,155	--	--
2041	--	1,643,246	--	--
2042	--	1,679,103	--	--
2043	--	1,715,743	--	--
2044	--	1,753,182	--	--

Notes:
1) Based on projected available capacity in the year 2024 from Table 11-2, without the proposed Dane County Landfill Site No. 3 volume.
2) Waste disposal volume of the service area (the waste disposed of at the landfill facilities within the service area, see Table 11-2) annually increased by population projections (2.18%, see Table 11-3).
3) Remaining years of disposal capacity from the start of waste acceptance at Dane County Landfill Site No. 3 assumes the proposed landfill starts accepting waste in 2028.

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Table 11-6. Estimated Service Area Disposal Rate and Remaining Capacity
WITH the Proposed Landfill
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

YEAR	AVAILABLE WASTE DISPOSAL CAPACITY (cy)[1]	ESTIMATED WASTE DISPOSAL RATE FROM SERVICE AREA (cy/yr)[2]	REMAINING YEARS OF DISPOSAL CAPACITY
2024	7,346,463	1,138,496	6
2025	6,207,967	1,163,339	5
2026	5,044,628	1,188,724	4
2027	3,855,904	1,214,663	3
2028	15,027,541	1,241,168	12
2029	13,786,373	1,268,251	11
2030	12,518,121	1,295,926	10
2031	11,222,195	1,324,204	8
2032	9,897,991	1,353,099	7
2033	8,544,892	1,382,625	6
2034	7,162,267	1,412,795	5
2035	5,749,472	1,443,624	4
2036	4,305,848	1,475,125	3
2037	2,830,723	1,507,313	2
2038	1,323,410	1,540,204	1
2039	--	1,573,813	--
2040	--	1,608,155	--
2041	--	1,643,246	--
2042	--	1,679,103	--
2043	--	1,715,743	--
2044	--	1,753,182	--

Notes:
1) Based on the projected available capacity in the year 2024 from Table 11-2, including 12,386,300 cubic yards for the proposed Dane County Landfill Site No. 3 volume starting in in 2028.
2) Waste disposal volume of the service area (the waste disposed of at the landfill facilities within the service area, see Table 11-2) increased annually based on population projections (2.18%, see Table 11-3).

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Table 11-7. Waste Characterization for Dane County Landfill Site No. 2 by WDNR Waste Category
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

YEAR	CATEGORY 1	CATEGORY 5	CATEGORY 6	CATEGORY 19	CATEGORY 23	CATEGORY 25	CATEGORY 27	CATEGORY 28	Category 30	Category 31	Total, Categories 1-31 (ton)	Annual Percent Increase, Categories 1-31
	MUNICIPAL WASTE (tons) [1]	POTW SLUDGE (tons)	ALL OTHER SW (non hazardous) (tons) [1]	FEE EXEMPT WASTE USED FOR DIKES, BERMS. ETC. (tons) [1]	TREATED CONTAMINATED SOIL ADC (tons)[1]	CONSTRUCTION & DEMOLITION WASTE (C&D) WASTE (tons)[1]	WASTE FROM A NON-PROFIT (tons)	WASTE GENERATED BY NATURAL DISASTER (tons)[1]	MRF RESIDUALS – 10% cap (tons)[1]	MRF RESIDUALS – 30% cap (tons)[1]		
2018	177,816	0	906	25,155	0	11,065	0	2,129	5,904	17,787	240,762	--
2019	179,688	0	770	27,034	348	10,143	0	0	6,086	15,242	239,311	-0.60%
2020	182,532	2,595	1,206	23,507	0	8,922	0	0	5,897	13,997	238,656	-0.27%
2021	189,067	0	1,674	30,098	0	15,352	3,759	0	5,786	24,737	270,473	13.33%
2022	217,536	0	1,740	26,015	0	15,096	4,421	0	6,841	21,584	293,233	8.41%
2023	260,531	0	561	24,925	0	12,025	4,200	0	8,226	16,602	327,070	11.54%
											AVERAGE:	6.48%

Notes:
-- = information not available or not applicable
1) Waste tonnages obtained from the Wisconsin Tonnage/Capacity Reports for 2018, 2019, 2020, 2021, and 2022. Preliminary data used for 2023
2) Categories 2-4, 20-22, 24, 26 and 29 not shown since there was no waste reported for those categories at the facility
3) The service area/customers for waste disposed at the proposed Dane County Landfill Site No. 3 is expected to be the same/similar to the currently active Dane County Landfill Site No. 2, therefore waste characterization is expected to be similar.

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Table 11-8. Site Life Analysis
Dane County Landfill Site No. 3 / SCS Engineers Project #25222268.00
Feasibility Report

YEAR	ANNUAL ESTIMATED WASTE INTAKE (tons) [1][3]	ANNUAL ESTIMATED WASTE INTAKE (cy)[2]	ANNUAL ESTIMATED DAILY COVER USE (cy) [3]	ESTIMATED CAPACITY AT BEGINNING OF YEAR (cy) [4]
2023	327,070	436,093	---	---
2024	348,270	464,361	---	---
2025	370,845	494,460	---	---
2026	394,883	526,510	---	---
2027	420,479	560,638	---	---
2028	447,734	596,978	85,283	12,386,300
2029	476,755	635,674	90,811	11,704,039
2030	507,658	676,878	96,697	10,977,554
2031	540,564	720,752	102,965	10,203,980
2032	575,603	767,471	109,639	9,380,263
2033	612,913	817,218	116,745	8,503,153
2034	652,642	870,189	124,313	7,569,190
2035	694,945	926,594	132,371	6,574,689
2036	739,991	986,655	140,951	5,515,724
2037	787,957	1,050,609	150,087	4,388,119
2038	839,031	1,118,708	159,815	3,187,423
2039	893,416	1,191,222	170,175	1,908,899
2040	951,327	1,268,436	181,205	547,503
2041	1,012,991	1,350,655	192,951	CLOSED
2042	1,078,652	1,438,203	205,458	
2043	1,148,569	1,531,426	218,775	
2044	1,223,019	1,630,692	232,956	

Notes:
1) Predicted annual waste intake was calculated starting with the 2023 intake rate and applying an annual increase of 6.48% which was the annual increase in waste intake observed at the currently active Dane County Landfill Site No. 2 between 2018 and 2023 (refer to Table 11-7).
2) Volume of waste intake estimated utilizing an average waste density of 1,500 lb/cy.
3) Ratio of 1 part daily cover to 7 parts waste used to determine the amount of airspace consumed by daily cover soils.
4) Assumes new landfill opens in 2028. Prior years shown to document annual increase in waste intake based on Note 1.

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