Mahoney, Tobey

From: Jason Gorrie <jason@jmg-eng.com>
Sent: Thursday, November 9, 2023 3:36 PM
To: SWD_Waste
Subject: Pasco County Class III Landfill
Attachments: WQMPER - Class III Landfill - November 2023.pdf

WATER QUALITY MONITORING PLAN EVALUATION REPORT
West Pasco Class III Landfill

Prepared for:

Pasco County Public Infrastructure
14230 Hays Road
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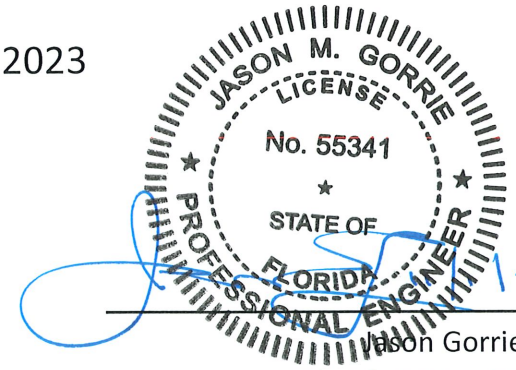
November 2023



Jason Gorrie, PE
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Section 1
Introduction

1.1 Purpose

This Technical Report evaluating the Water Quality Monitoring Plan (WQMP) for the West Pasco Class III Landfill has been prepared by JMG Engineering, Inc. on behalf of Pasco County Public Infrastructure, the owner and operator of the landfill. This report summarizes and interprets the water quality monitoring performed in accordance with the WQMP for the West Pasco Class III Landfill and in accordance with the requirements of Chapter 62-701.510(8)(b) of the Florida Administrative Code (FAC). The current permit that authorizes the activities at the landfill (26254-003-SO/T3) was issued on November 22, 2013. This Technical Report presents the results from the first half of 2021 through the first half of 2023 and incorporates five monitoring events, which are summarized in **Table 1.1**.

Table 1.1
Summary of Semi-Annual Sampling Events During Evaluation Period

Sampling Event	Sampling Dates
First Half 2021	April 8 – May 6
Second Half 2021	November 9 – December 16
First Half 2022	April 20 – May 17
Second Half 2022	October 25 – October 27
First Half 2021	April 24 – April 27

The WQMP for the landfill was submitted in October 2013 and has been incorporated by reference into the current Operating Permit. The Plan specifies semi-annual sampling of monitoring wells comprising the monitoring well network. The wells within the monitoring network are listed in Table 2-1 of this Report.

1.2 Project Background

The landfill is located approximately ten miles west of the Gulf of Mexico (**Figure 1-1**) and is an integral unit of the Pasco County Resource Recovery Facility. The West Pasco Class III Landfill is permitted under Chapters 62-4 and 62-701, Florida Administrative Code (F.A.C.). The site is equipped with a geosynthetic liner and leachate collection system. Collected leachate is directed to one of two underground storage tanks referred to as Tank #1 and Tank #2 and is piped directly to the Shady Hills Advanced Wastewater Treatment Facility. The Class III disposal unit is primarily a construction and demolition (C & D) disposal unit. C & D debris is described as materials generally considered to be not water soluble and non-hazardous in nature, including but not limited to steel, glass, brick, concrete, asphalt material, pipe, gypsum wallboard, and lumber, from construction, destruction, or renovation projects. Yard trash and/or lot clearing debris are not accepted for disposal in the Class III unit.

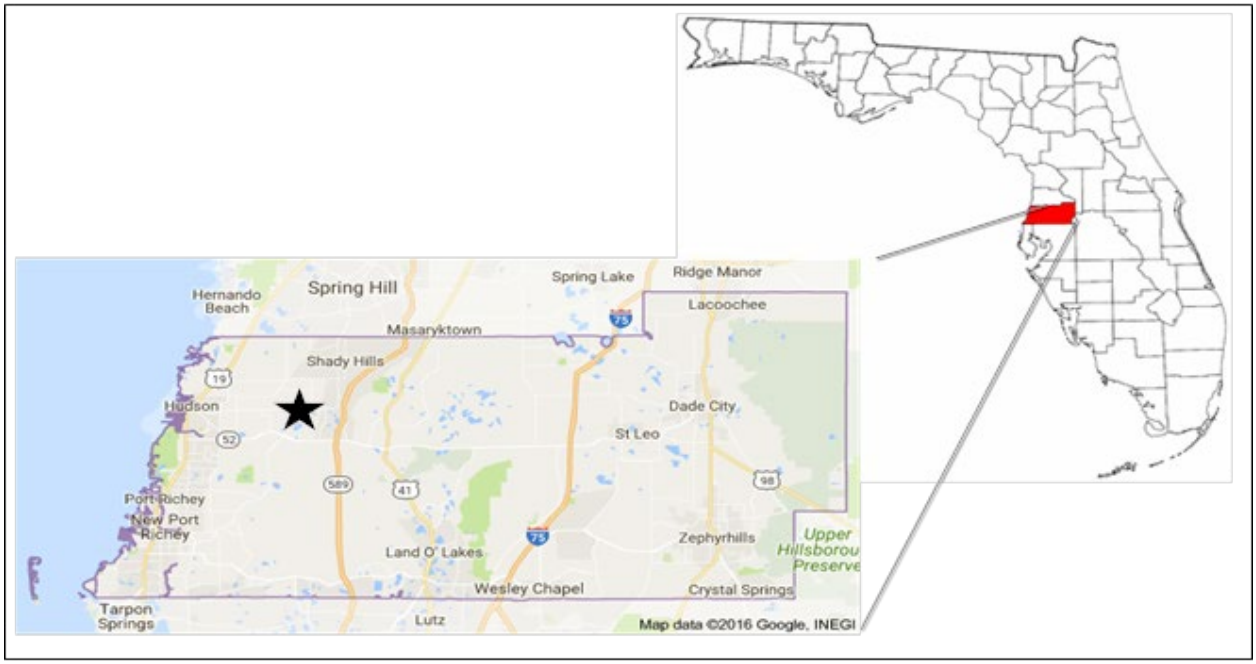


Figure 1-1
Vicinity Map of West Pasco Class III Landfill

1.3 Hydrogeologic Setting

According to the original geotechnical evaluation prepared in 1988[1], the hydrogeologic setting of the landfill site is defined by two primary water bearing units: 1) the Surficial Aquifer System, and 2) the Floridan Aquifer System. Boreholes collected as part of the 1988 study identify the following units beneath the landfill site:

- Surficial sands that comprise the surficial aquifer when saturated
- Limestone that comprises the Upper Floridan aquifer, and

1.4 Report Organization

The remainder of this Technical Report is organized in accordance with the requirements of Chapter 62-701.510(8)(b), FAC and Specific Conditions E.10 and E.11 of Permit No. 26254-003-SO/T3, as follows:

- Section 2 presents a summary of groundwater sampling and quality;
- Section 3 presents an interpretation of groundwater levels and measurement and an evaluation of groundwater flowrates, and;
- Section 4 provides Conclusions and Recommendations on the adequacy of the current GWMP

In addition to the embedded tables within the Report, **Appendix A** includes tabulated results from the groundwater and sampling field-measured parameters and laboratory analytical results. Figures depicting an interpretation of the groundwater potentiometric surface of the surficial aquifer and the

[1] See *Geotechnical/Hydrogeologic Investigation, Proposed Class III Sanitary Landfill, Hays Road Site, Pasco County, Florida*, Jammal & Associates, Inc., May 26, 1987

Floridan aquifer that were previously submitted during semi-annual reporting are included in **Appendix B**. Graphical trend plots of pollutant concentrations associated with each monitoring well are included in **Appendix C**. Hydrographs of each monitoring well are included in **Appendix D**.

Section 2
Evaluation of Groundwater Quality

2.1 Sampling Requirements

Routine groundwater samples were collected semi-annually from the following locations identified in the WQMP and Permit No. 26254-003-SO/T3.

Table 2-1
Groundwater Monitoring Network

Well ID	WACS ID #	Aquifer	Designation
2MW-3A	19671	Surficial	Piezometer
2MW-7	2343	Surficial	Background
2MW-8	2344	Surficial	Piezometer
2MW-9	2345	Surficial	Piezometer
2MW-10	2346	Surficial	Piezometer
4MW-3A	19670	Floridan	Piezometer
4MW-7	2340	Floridan	Background
4MW-8	2341	Floridan	Piezometer
4MW-9	2342	Floridan	Piezometer
4MW-21	23065	Floridan	Detection
4MW-22	23066	Floridan	Detection
4MW-23	23067	Floridan	Detection

2.2 Monitoring Data

The wells identified in Table 2-1 were sampled on a semi-annual basis by Pasco County Environmental Laboratory Services personnel and SCS Engineers on the dates identified in Table 1-1. All sampling was conducted in accordance with the Standard Operating Procedures (SOPs) described in DEP-SOP-001-01, effective July 30, 2014, and all analysis was conducted by laboratories that hold certificates from the Florida Department of Health Environmental Laboratory Certification Program described at 64E-1, F.A.C. Collected samples were analyzed for the following parameters:

Field Parameters	Laboratory Parameters
Static Water Level Before Purging	Total Ammonia – N
Specific Conductivity	Chlorides
pH	Nitrate
Dissolved Oxygen	Total Dissolved Solids (TDS)
Turbidity	Parameters listed in 40 CFR 258, Appendix I
Temperature	Iron
Colors and Sheens	Mercury
	Sodium

2.3 Monitoring Results

Complete results of the routine monitoring and analysis have been provided to FDEP in ADaPT format for each of the sampling events identified in Table 1-1. The remainder of this report will address only those parameters that exceeded the Maximum Contaminant Level (MCL) established by Rule 62-550, F.A.C. For a complete listing of the results of all parameters (inclusive of results below the MCL), please refer to the ADaPT database or to the semi-annual reports previously supplied to the FDEP.

2.3.1 Surficial Aquifer

Previous studies undertaken at the site indicate that the surficial aquifer is predominantly absent, but when present can be observed anywhere between 5 feet below ground surface (bgs) to approximately 15 feet bgs. The wells designated as 2MW-3A through 2MW-10 constitute the monitoring network for the surficial aquifer. **Figure 2-1** presents the approximate locations of the Surficial Aquifer Monitoring Network.

2.3.1.1 Background Well

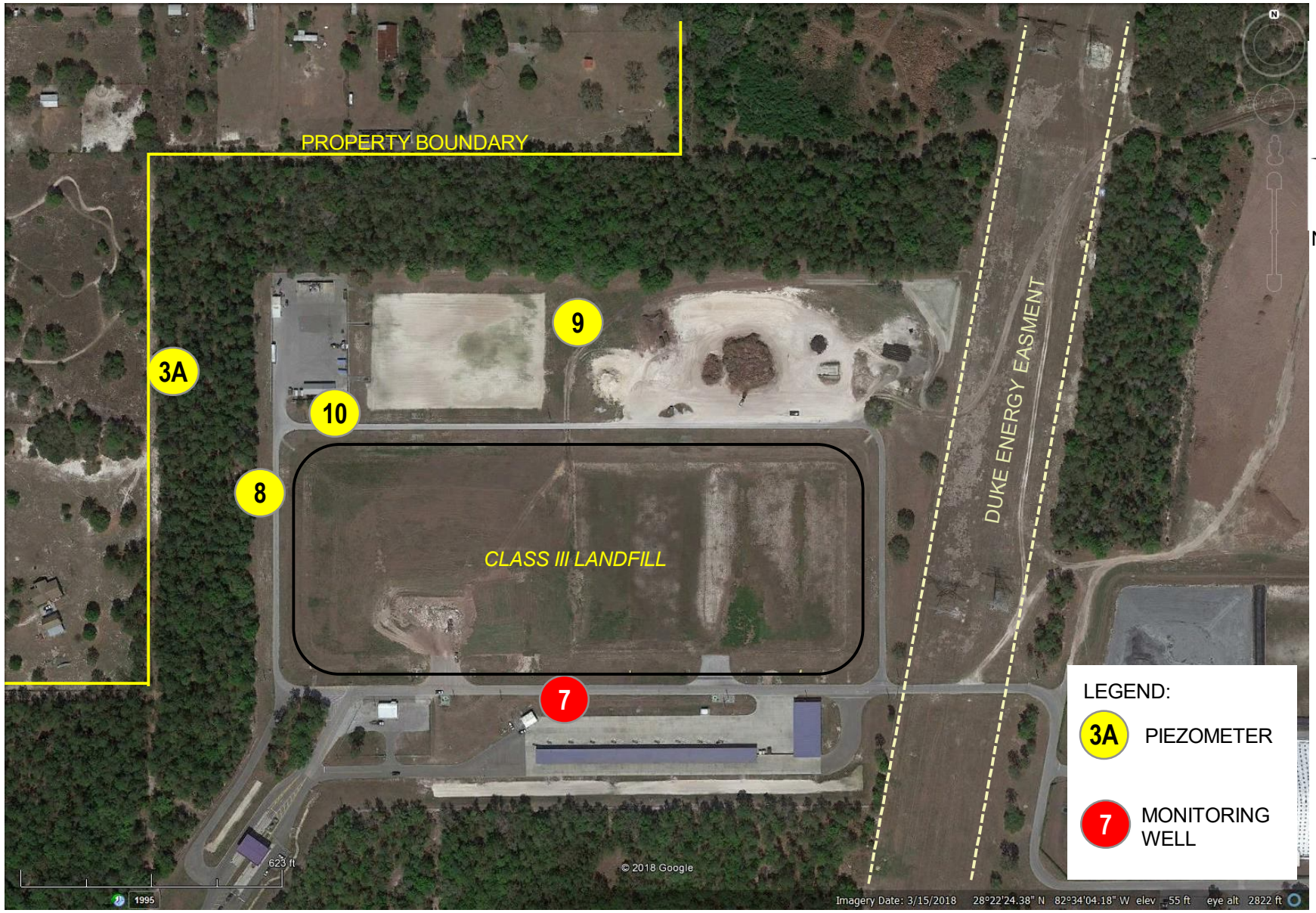
Monitoring Well 2MW-7 serves as the background well for the surficial aquifer. Throughout the evaluation period 2MW-7 was consistently dry. Accordingly, there were no observed exceedances of an MCL during the evaluation period.

2.3.1.2 Piezometers

As with the Background Well, each of the four piezometers were consistently dry throughout the monitoring period. No samples were obtained for any of the piezometers throughout the evaluation period.

2.3.1.3 Detection Wells

There are no surficial aquifer detection and/or compliance wells in the Water Quality Monitoring Plan.



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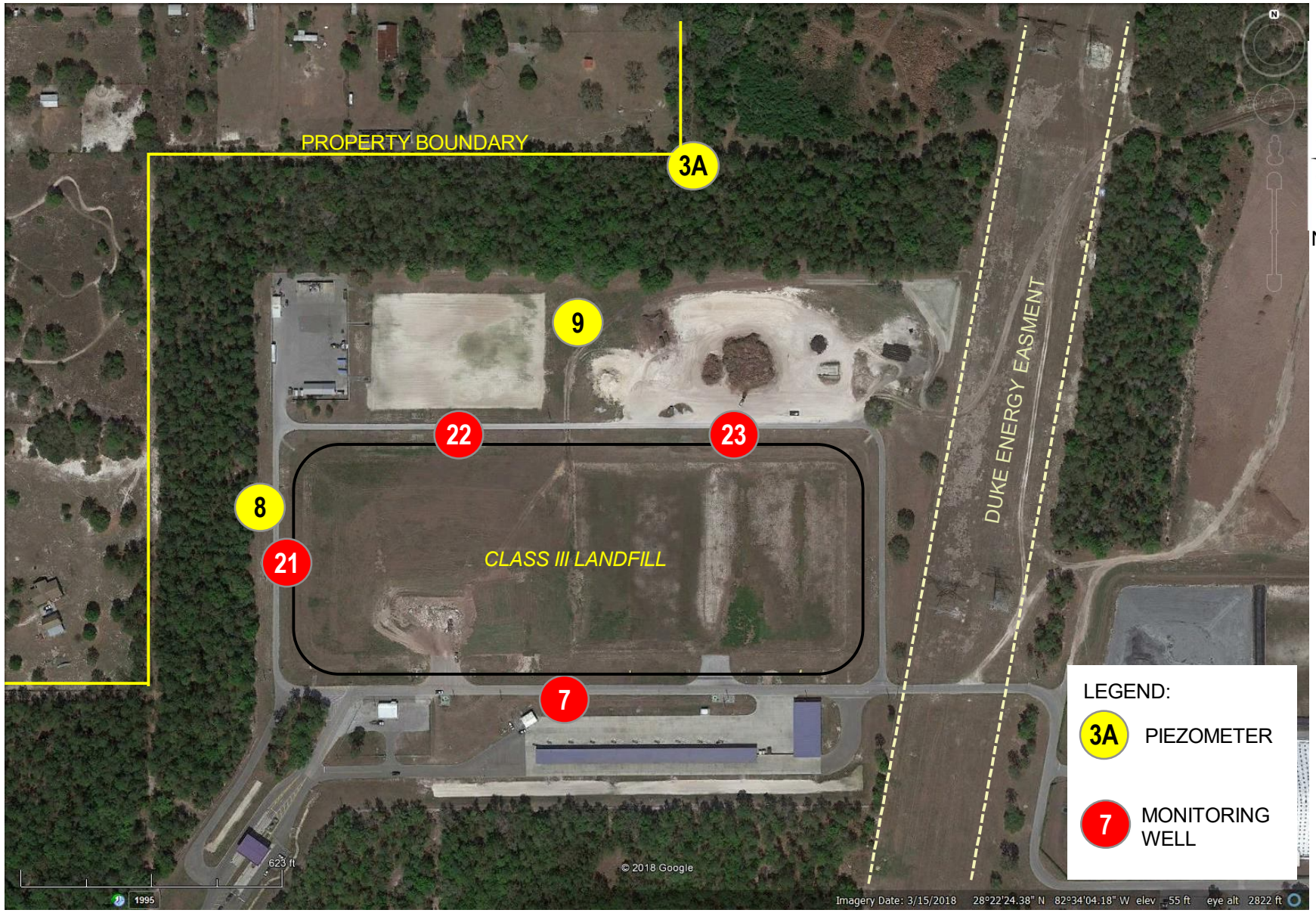
SURFICIAL AQUIFER GROUNDWATER MONITORING WELLS
AT THE WEST PASCO CLASS III LANDFILL

FIGURE 2-1



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FLORIDAN AQUIFER GROUNDWATER MONITORING WELLS
AT THE WEST PASCO CLASS III LANDFILL

FIGURE 2-2

2.3.2 Upper Floridan Aquifer

Previous studies undertaken at the site indicate that the piezometric surface of the Floridan aquifer begins at about 30 feet bgs (or approximately 33 ft NGVD). The wells designated as 4MW-3A through 4MW-23 constitute the monitoring network for the Floridan aquifer. **Figure 2-2** presents the approximate locations of the Floridan Aquifer Monitoring Network.

2.3.2.1 Background Well

Monitoring Well 4MW-7 serves as the background well for the Floridan aquifer. There were no observed exceedances of an MCL in the Background Well during the evaluation period.

2.3.2.2 Piezometers

Though not required by either the Water Quality Monitoring Plan or Permit No. 26254-003-SO/T3, several of the piezometers were sampled and analyzed during the evaluation period. There were no observed exceedances of an MCL in the Floridan piezometers during the evaluation period.

2.3.1.2 Detection Wells

The three detection wells (4MW-21, 4MW-22, and 4MW-23) were sampled semi-annually throughout the evaluation period. There were sporadic exceedances of an MCL for pH and iron throughout the evaluation period. This is consistent with historic data for the site and the larger region as a whole.

2.4 General Groundwater Quality and Correlations

The Figures in **Appendix C** present a temporal trend of contaminants that were detected during the evaluation period. Generally speaking, the surficial aquifer monitoring wells remained consistently dry throughout the evaluation period. Results from the Floridan aquifer monitoring wells (also presented in Appendices A and C) remain relatively clean and are discussed in further detail below.

2.4.1 Floridan Aquifer

The groundwater quality in the Floridan aquifer remained consistent with the quality observed in previous evaluations. Sporadic exceedances for pH and iron were observed but the exceedances are not considered to be an impact from the landfill. The groundwater quality of the Floridan aquifer in the vicinity of the landfill is considered good.

Section 3
Evaluation of Groundwater Flow Conditions

Groundwater levels are measured semi-annually as part of the routine groundwater monitoring activities at the site, as described in the approved Water Quality Monitoring Plan, dated October 2013. The range of measured water levels for the 2021 - 2023 period are presented in **Appendix D**. Review of the hydrographs for each well indicates that while the water level elevations fluctuate with season, the relationship between water levels in the monitoring well network is generally consistent and the potentiometric surface of the Floridan aquifer has remained relatively constant throughout the period.

3.1 Groundwater Levels

3.1.1 Surficial Aquifer

All monitoring wells and piezometers associated with the surficial aquifer were consistently dry throughout the entire evaluation period.

3.1.2 Floridan Aquifer

Horizontal groundwater flow rates were estimated using site-specific data gathered during the evaluation period and from site-specific constants derived during previous studies. To estimate the horizontal groundwater flow rate, the average linear velocity of each groundwater unit was calculated using the following equation:

$$v = \frac{Ki}{n}$$

where:

v = average linear groundwater velocity
K = hydraulic conductivity (CDM, 2010)
i = hydraulic gradient
n = effective porosity (assumed)

The hydraulic gradient (*i*) was calculated from well measurements obtained from an upgradient well and a downgradient well as shown in Tables 4-1 below.

Table 4-1
Calculated Range of Groundwater Velocities

Well Pair 4MW-7 (upgradient) and 4MW-22 (downgradient					
Water Level Collection Date	Horizontal Difference (ft)	Horizontal Hydraulic Gradient (ft/ft)	Hydraulic Conductivity (ft/day)	Effective Porosity (%)	Linear Velocity (ft/year)
1H 2021	750	0.00275	9.0	15	60.2
2H 2021		0.00217			47.6
1H 2022		0.00297			65.1
2H 2022		0.00170			27.4
1H 2023		0.001189			41.5
				Average Linear Velocity	50.3

As shown in Table 1, horizontal groundwater flow rates were estimated using site-specific constants derived during previous studies. To estimate the horizontal groundwater flow rate, the average linear velocity of each groundwater unit was calculated using the following equation:

$$v = \frac{Ki}{n}$$

where:

v = average linear groundwater velocity
K = hydraulic conductivity (CDM, 2010)
i = hydraulic gradient
n = effective porosity (assumed)

Using a Floridan aquifer hydraulic conductivity value of 9.0 feet/day and an effective porosity value of 15 percent resulted in an average groundwater flowrate in the Floridan aquifer of approximately 50 feet/year.

Section 4 – Conclusions and Recommendations

The data and findings presented in Sections 1 through 3 above, in combination with the data presented in Appendices A through D, have been prepared consistent with the requirements of Rule 62-701.510(8)(b), F.A.C. The following conclusions and recommendations are based upon an evaluation of the data collected during the first half of 2021 through the first half of 2023.

4.1 Groundwater Quality – Surficial Aquifer

- The surficial aquifer was insufficiently saturated during the evaluation period and no groundwater samples were able to be obtained.

4.2 Groundwater Quality – Floridan Aquifer

- The sporadic detections of iron and low pH conditions is considered to be naturally occurring and not associated with any leachate releases.
- No trends or correlations within the dataset were identified.

4.3 Groundwater Elevations

- The surficial aquifer at the site remains unsaturated.
- Floridan aquifer groundwater elevations were relatively consistent across the monitoring well network and exhibited a no long term trends (upward or downward) during the evaluation period.

4.4 Groundwater Movement

- Groundwater in the Floridan aquifer generally flows from southeast to northwest.
- The calculated average rate of groundwater movement within the Floridan aquifer is approximately 50 feet per year.

4.5 Recommendations

The existing monitoring network and sampling frequency is considered to be adequate for the West Pasco Class III Landfill.

APPENDIX A

Tabulated Results

Well No.	Parameter	Units	1H21	2H21	1H22	2H22	1H23
4MW-3A	conductivity	umhos/cm	422	445	429	394	422
	pH	Std Units	7.08	6.85	7.31	7.77	7.37
	DO	mg/L	1.71	2.51	2.39	4.62	2.16
	turbidity	NTU	2.1	0.94	0.28	0.02	1.86
	color	ObsColor	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
	ammonia	mg/L	0.18	0.12	0.16	0.1	0.16
	chloride	mg/L	22.44	22.1	20.3	22	19
	nitrate	mg/L		0.18		0.34	
	TDS	mg/L	190	226	222	240	110
	iron	ug/L	190	160	136	130	210
	sodium	ug/L	9600	10600	9100	10000	9100
	antimony	ug/L					
	arsenic	ug/L	3			0.92	
	barium	ug/L	10	11.6	9.9	9.9	9.5
	beryllium	ug/L					
	cadmium	ug/L					
	chromium	ug/L					
	cobalt	ug/L					
	copper	ug/L					
	lead	ug/L					
	nickel	ug/L					
	selenium	ug/L					
	silver	ug/L					
	vanadium	ug/L					
	zinc	ug/L					
	thallium	ug/L					
	mercury	ug/L					

Empty fields indicate that parameter was not detected

Well No.	Parameter	Units	1H21	2H21	1H22	2H22	1H23
4MW-7	conductivity	umhos/cm	366	370	329	340	358
	pH	Std Units	7.12	6.84	7.58	7.43	7.47
	DO	mg/L	2.63	3.61	2.48	2.86	1.68
	turbidity	NTU	2	0.46	0.2	2.81	1.68
	color	ObsColor	CLEAR	CLEAR	CLEAR		
	ammonia	mg/L					
	chloride	mg/L	14.1	12.6	12.7	13	13
	nitrate	mg/L	0.55	0.36	0.45	0.73	0.89
	TDS	mg/L	170	187	205	200	48
	iron	ug/L				170	250
	sodium	ug/L	4600	4700	4600	4600	4800
	antimony	ug/L					
	arsenic	ug/L					
	barium	ug/L	9.2	9	9.7	8.3	9.9
	beryllium	ug/L					
	cadmium	ug/L	0.61	0.53	0.44	0.1	
	chromium	ug/L					
	cobalt	ug/L					
	copper	ug/L	5				
	lead	ug/L					
	nickel	ug/L					
	selenium	ug/L					
	silver	ug/L					
	vanadium	ug/L		1.4			
	zinc	ug/L					
	thallium	ug/L					
	mercury	ug/L					

Empty fields indicate that parameter was not detected

Well No.	Parameter	Units	1H21	2H21	1H22	2H22	1H23
4MW-8	conductivity	umhos/cm	391		358	371	412
	pH	Std Units	7.06		7.31	7.21	7.28
	DO	mg/L	1.37		1.6	0.69	0.48
	turbidity	NTU	1.7		0.05	2.79	0.83
	color	ObsColor	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
	ammonia	mg/L					
	chloride	mg/L	12.5	10.4	10.7	11	12
	nitrate	mg/L	0.011		0.05	0.32	
	TDS	mg/L	160	228	212	170	120
	iron	ug/L					
	sodium	ug/L	4600	4300	4000	4400	4800
	antimony	ug/L					
	arsenic	ug/L	2.6		3.7		
	barium	ug/L	8.1	7.7	7.1	16	8.1
	beryllium	ug/L					
	cadmium	ug/L					
	chromium	ug/L					
	cobalt	ug/L					
	copper	ug/L					
	lead	ug/L					
	nickel	ug/L					
	selenium	ug/L					
	silver	ug/L					
	vanadium	ug/L					
	zinc	ug/L					
	thallium	ug/L					
	mercury	ug/L					

Empty fields indicate that parameter was not detected

Well No.	Parameter	Units	1H21	2H21	1H22	2H22	1H23
4MW-9	conductivity	umhos/cm	454	459	444	434	467
	pH	Std Units	7.04	6.69	7.38	7.27	7.2
	DO	mg/L	1.41	2.16	1.6	1.16	1.39
	turbidity	NTU	1.8	0.1	0.15	3.31	0.93
	color	ObsColor	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
	ammonia	mg/L					
	chloride	mg/L	33.5	24.6	25.2	27	32
	nitrate	mg/L	0.28	0.44	0.37	0.69	0.36
	TDS	mg/L	210	237	231	230	140
	iron	ug/L					
	sodium	ug/L	12000	10500	10000	11000	13000
	antimony	ug/L					
	arsenic	ug/L				0.95	
	barium	ug/L	9.5	9.7	8.9	9.2	9.7
	beryllium	ug/L					
	cadmium	ug/L		0.34			
	chromium	ug/L					
	cobalt	ug/L					
	copper	ug/L					
	lead	ug/L					
	nickel	ug/L					
	selenium	ug/L					
	silver	ug/L					
	vanadium	ug/L					
	zinc	ug/L					
	thallium	ug/L					
	mercury	ug/L					

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Well No.	Parameter	Units	1H21	2H21	1H22	2H22	1H23
4MW-21	conductivity	umhos/cm	145	133	133	151	152
	pH	Std Units	5.08	4.78	5.22	5.35	5.15
	DO	mg/L	5.87	6.65	6.52	5.01	0.56
	turbidity	NTU	5	0.42	0.28	1.92	0.02
	color	ObsColor	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
	ammonia	mg/L					
	chloride	mg/L		8.7	8.9	8.3	8
	nitrate	mg/L	7.0	6.01	6.23	7.5	7.3
	TDS	mg/L	56	105	103	70	42
	iron	ug/L	74				
	sodium	ug/L	5200		4700	5600	4900
	antimony	ug/L					
	arsenic	ug/L					
	barium	ug/L	10	9.2	9.6	10	8.9
	beryllium	ug/L		0.22		0.28	
	cadmium	ug/L	1.2	1.2	1.2	1.3	1.1
	chromium	ug/L					
	cobalt	ug/L		1.4	1.7	1.3	
	copper	ug/L					1.1
	lead	ug/L					
	nickel	ug/L	1.8	2.1			
	selenium	ug/L					
	silver	ug/L					
	vanadium	ug/L					
	zinc	ug/L					
	thallium	ug/L					
	mercury	ug/L					

Empty fields indicate that parameter was not detected

Well No.	Parameter	Units	1H21	2H21	1H22	2H22	1H23
4MW-22	conductivity	umhos/cm	442	501	423	468	455
	pH	Std Units	6.96	6.63	7.03	7.17	7.26
	DO	mg/L	2.5	2.79	2.16	0.81	0.04
	turbidity	NTU	2.8	0.29	0.61	6.81	0.33
	color	ObsColor	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
	ammonia	mg/L					
	chloride	mg/L	19.1	14.5	14.9	15	16
	nitrate	mg/L	0.023	0.12	0.24	0.65	0.54
	TDS	mg/L	52	275	256	260	210
	iron	ug/L	66	28.4	33.7		64
	sodium	ug/L	5400	6300	5900	6400	6300
	antimony	ug/L					
	arsenic	ug/L					
	barium	ug/L	11	11.4	10.2	11	11
	beryllium	ug/L					
	cadmium	ug/L	1.2		0.35		
	chromium	ug/L	1.3			0.1	
	cobalt	ug/L	1		0.97		
	copper	ug/L					
	lead	ug/L					
	nickel	ug/L	1.7				
	selenium	ug/L					
	silver	ug/L					
	vanadium	ug/L		1.1			
	zinc	ug/L					
	thallium	ug/L					
	mercury	ug/L					

Empty fields indicate that parameter was not detected

Well No.	Parameter	Units	1H21	2H21	1H22	2H22	1H23
4MW-23	conductivity	umhos/cm	583	568	508	513	555
	pH	Std Units	6.96	6.68	7.27	8.23	7.48
	DO	mg/L	2.06	2.91	1.97	0.75	0.27
	turbidity	NTU	2.7	3.22	0.12	8.52	1.01
	color	ObsColor	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
	ammonia	mg/L	0.13	0.1	0.095	0.11	0.12
	chloride	mg/L	72.5	61.4	63.6	61	54
	nitrate	mg/L	0.013	0.01		0.36	
	TDS	mg/L	310	354	324	280	270
	iron	ug/L	500	482	440	790	540
	sodium	ug/L	27000	26900	24500	29000	25000
	antimony	ug/L					
	arsenic	ug/L				2.61	2.8
	barium	ug/L	10	9.7	8.4	11	7.8
	beryllium	ug/L					
	cadmium	ug/L					
	chromium	ug/L					
	cobalt	ug/L					
	copper	ug/L					
	lead	ug/L	3				
	nickel	ug/L	0.97		2.2	1.9	
	selenium	ug/L					
	silver	ug/L					
	vanadium	ug/L					
	zinc	ug/L					
	thallium	ug/L					
	mercury	ug/L					

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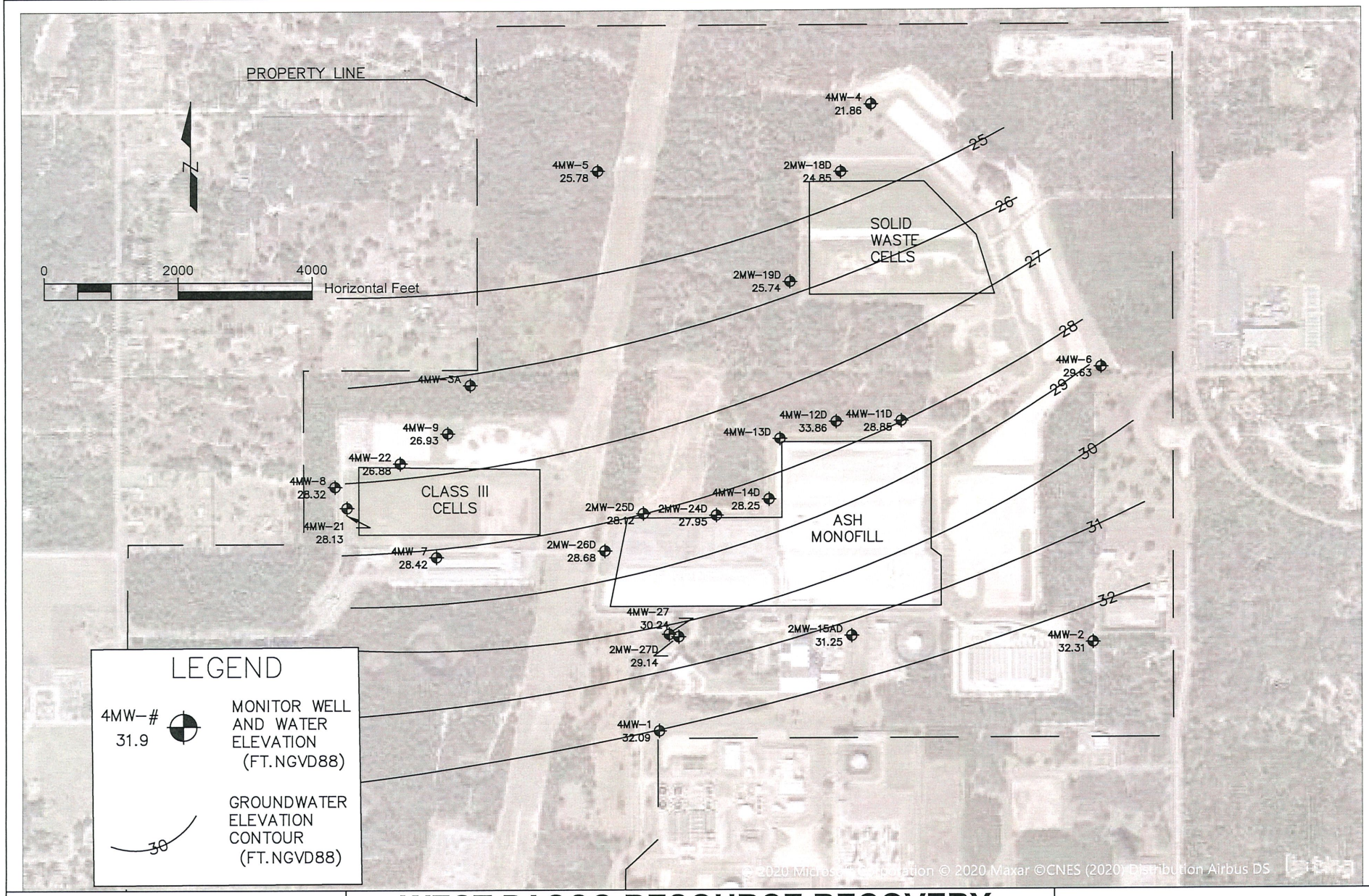
APPENDIX B

Contour Maps



PASCO COUNTY FLORIDA
OPEN SPACES. VIBRANT PLACES.

WEST PASCO RESOURCE RECOVERY FACILITY

Floridan Groundwater Map

1st Semi-Annual 2021

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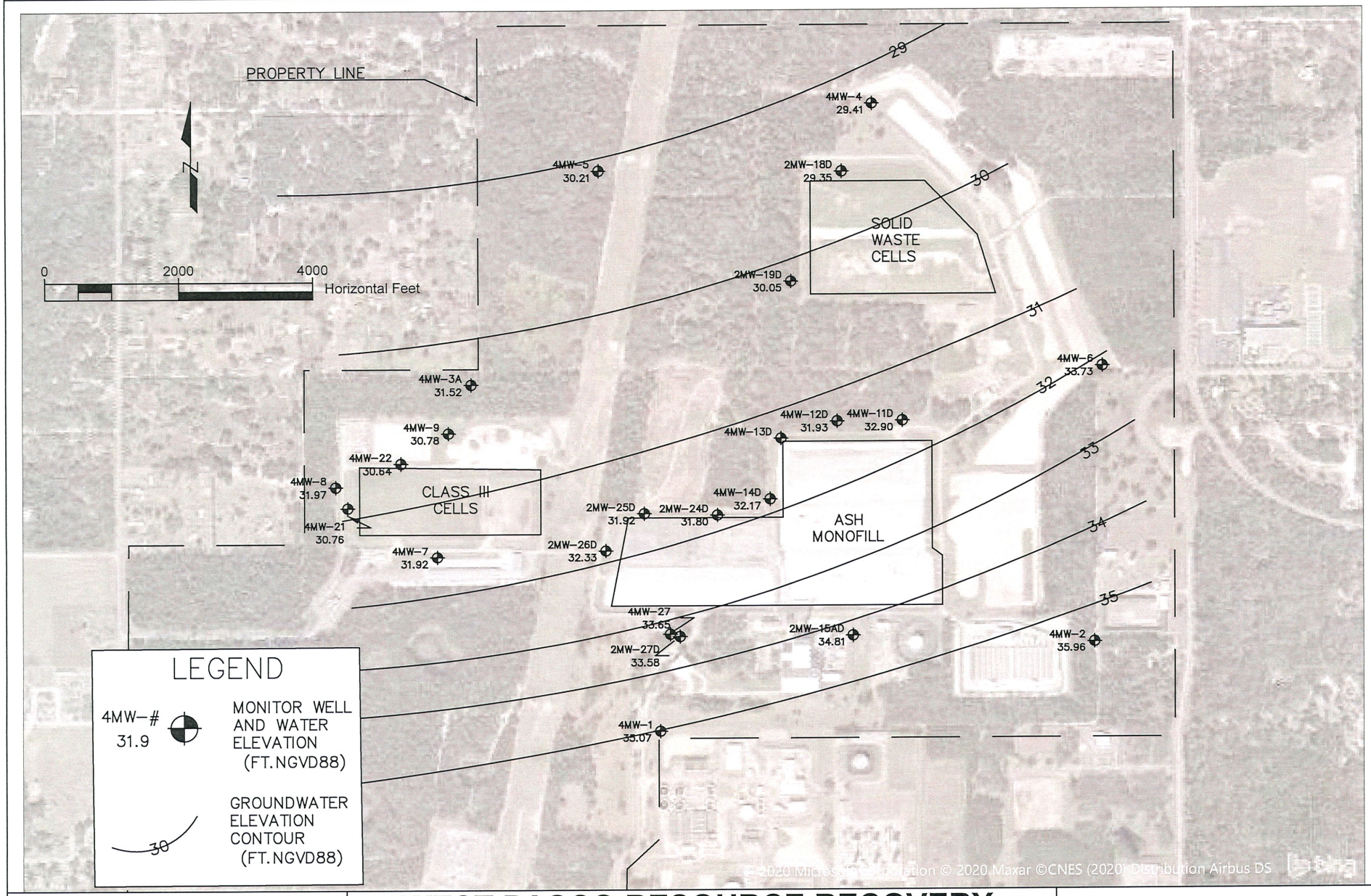
No. 55341
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

APPROVED
JASON GORRIE, PE



PASCO COUNTY FLORIDA
OPEN SPACES. VIBRANT PLACES.

WEST PASCO RESOURCE RECOVERY FACILITY

Floridan Groundwater Map

2nd Semi-Annual 2021

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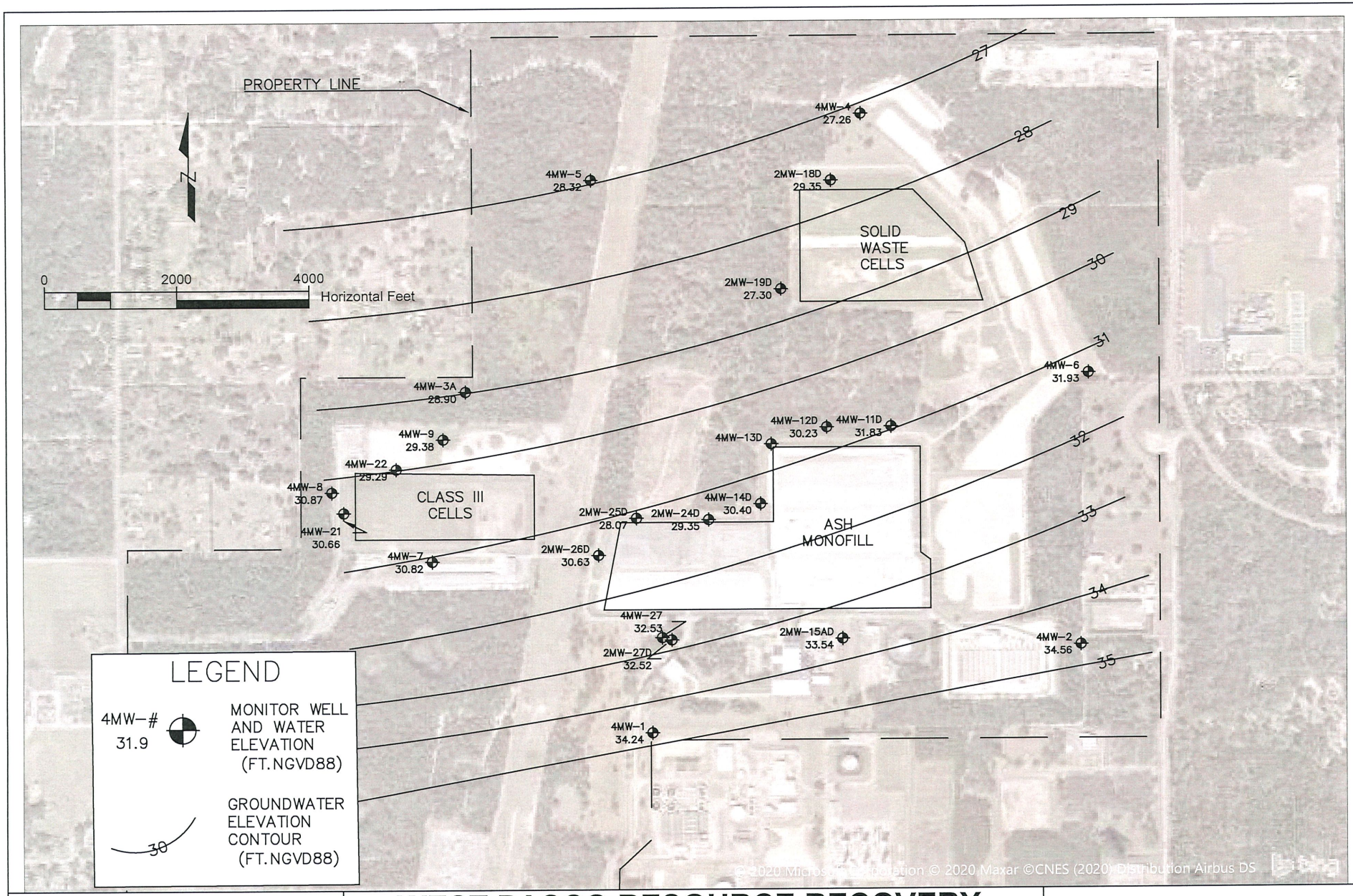


PASCO COUNTY FLORIDA
OPEN SPACES. VIBRANT PLACES.

WEST PASCO RESOURCE RECOVERY FACILITY

Floridan Groundwater Map

1st Semi-Annual 2022

APPROVED
JASON GORRIE, PE

JASON M. GORRIE
LICENSE
No. 55341
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

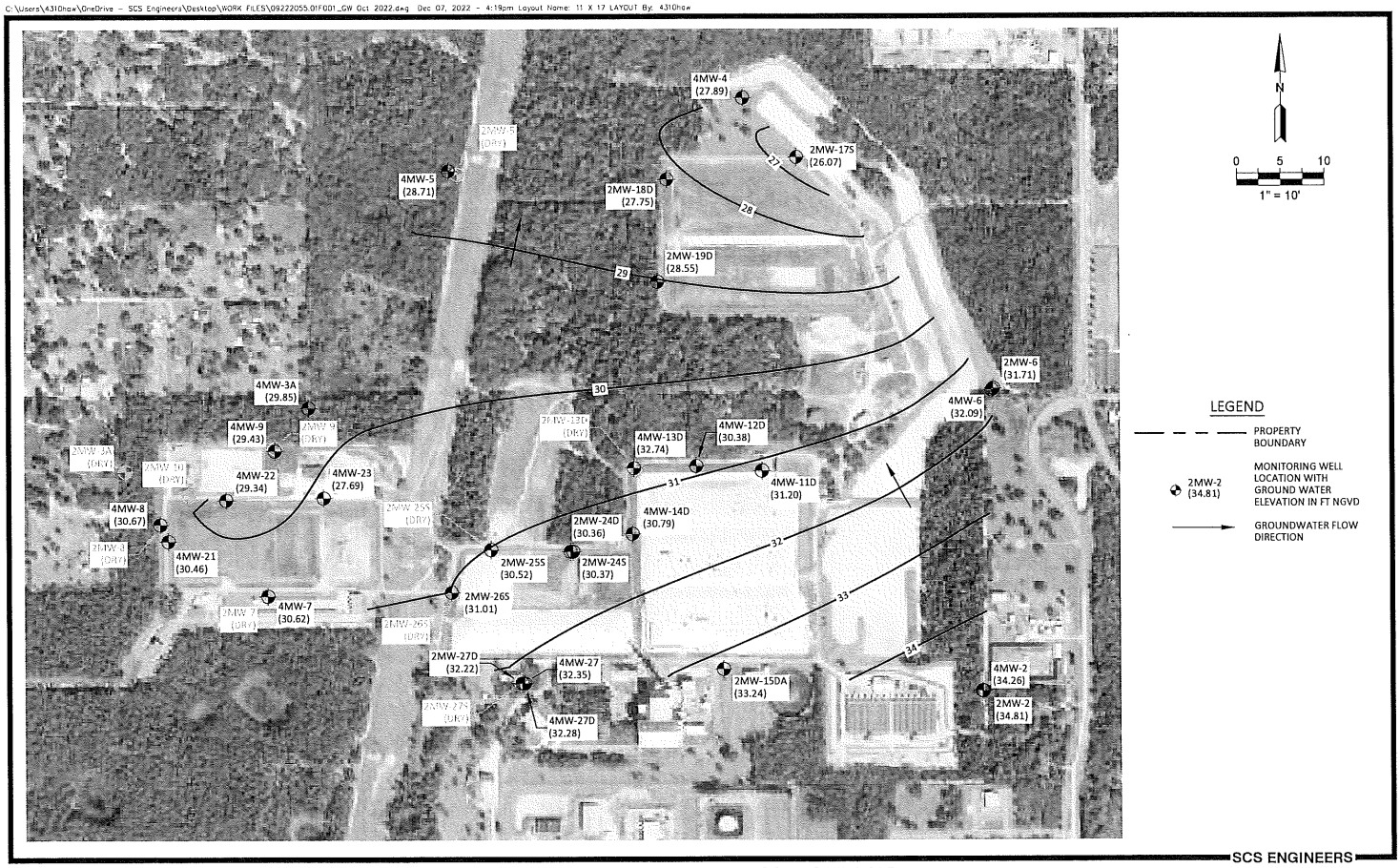


FIGURE 2: GROUNDWATER CONTOUR MAP
PASCO COUNTY RESOURCE RECOVERY FACILITY
09222055.01

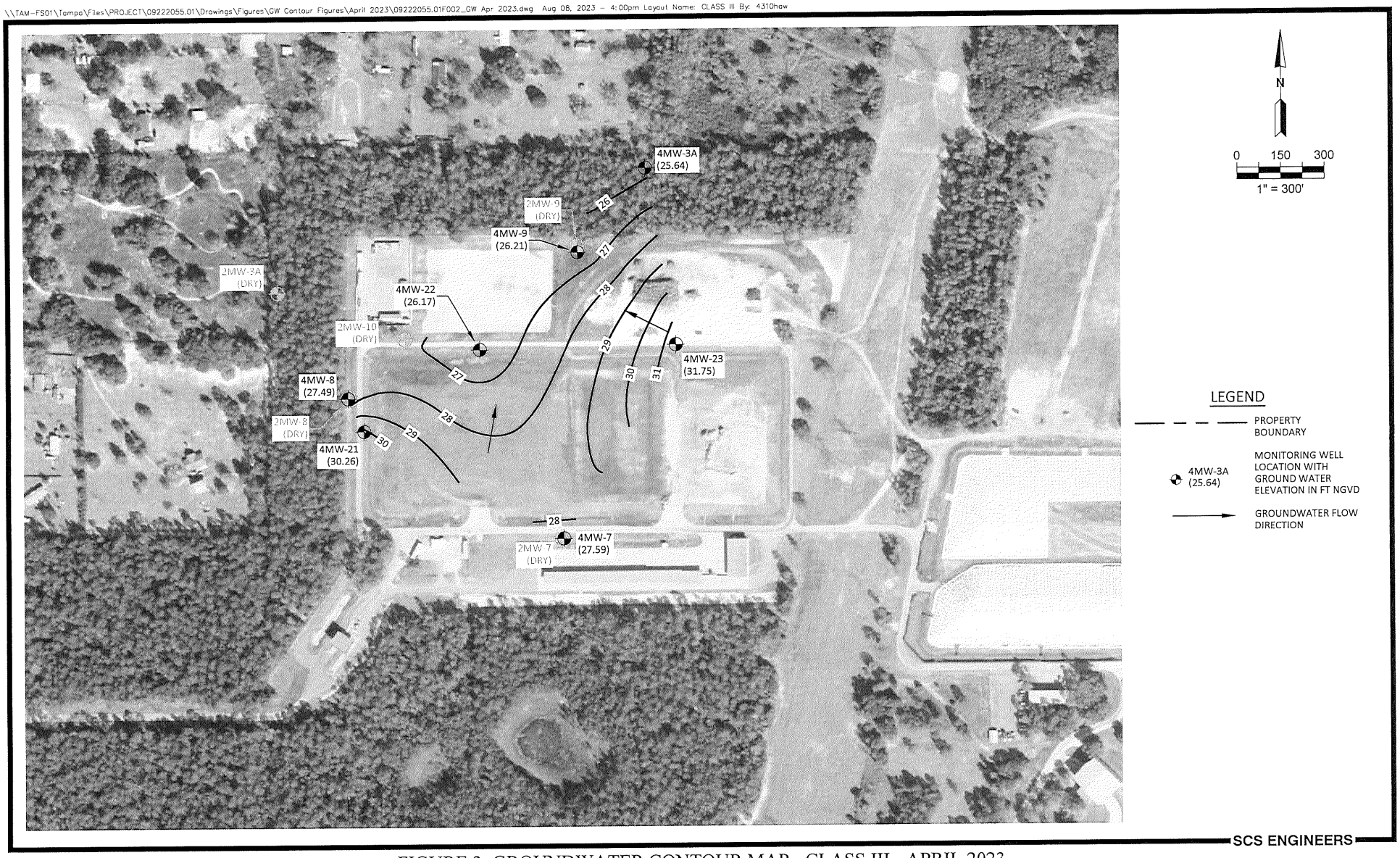
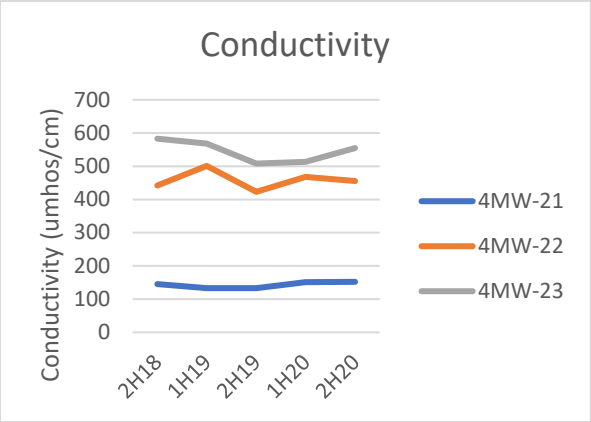


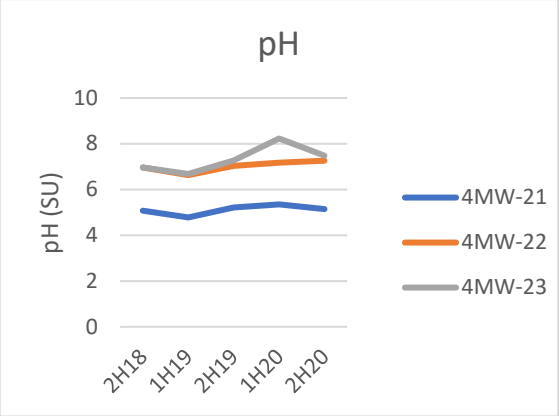
FIGURE 3: GROUNDWATER CONTOUR MAP - CLASS III - APRIL 2023
PASCO COUNTY RESOURCE RECOVERY FACILITY, 14230 HAYS ROAD, SPRING HILL, FL
09222055.01

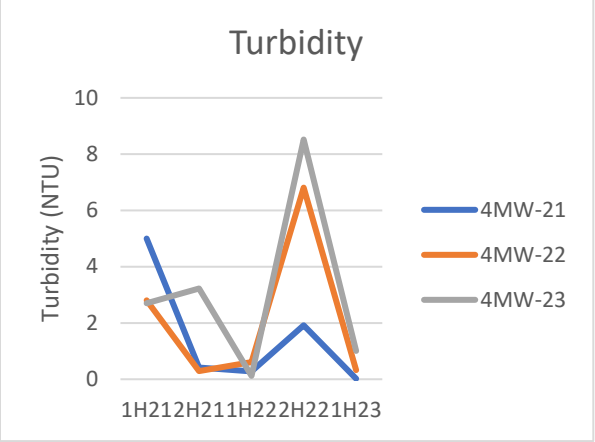
APPENDIX C

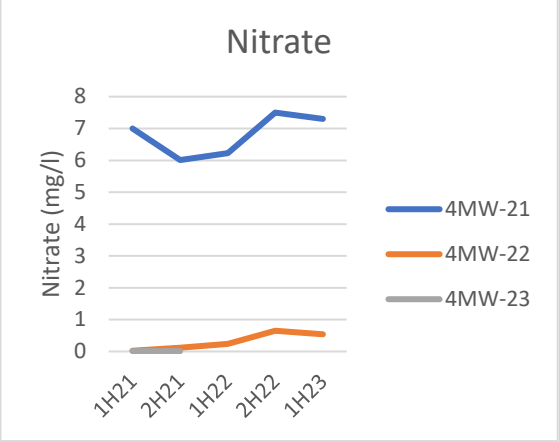
Contaminant Trends

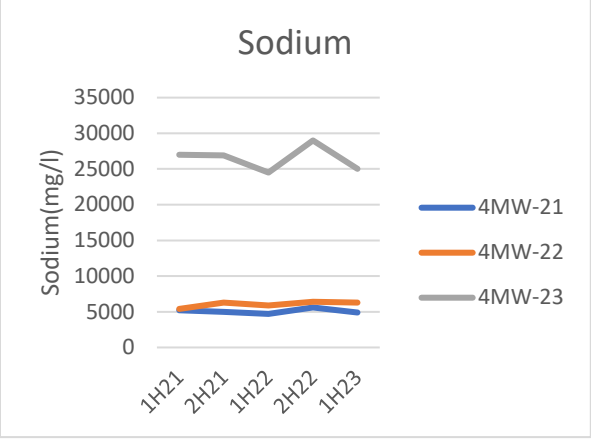
Appendix C
Select Laboratory Parameter Trends
Floridan Aquifer Monitoring Well – West Pasco Class III
1st Half 2021 through 1st Half 2023

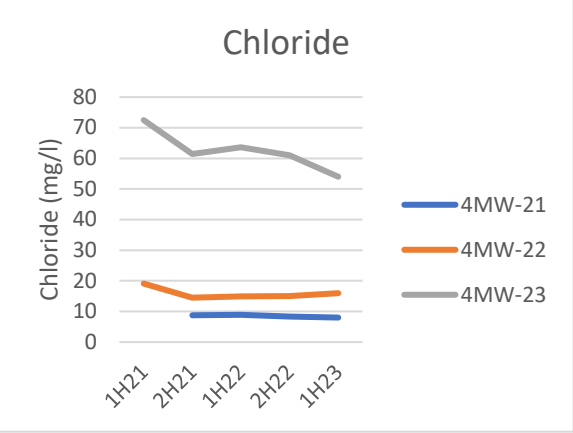




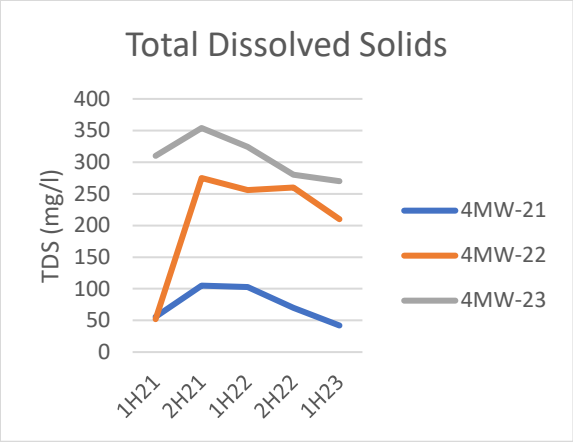


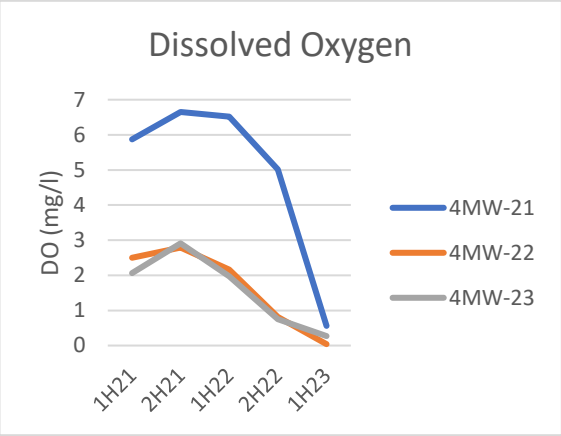


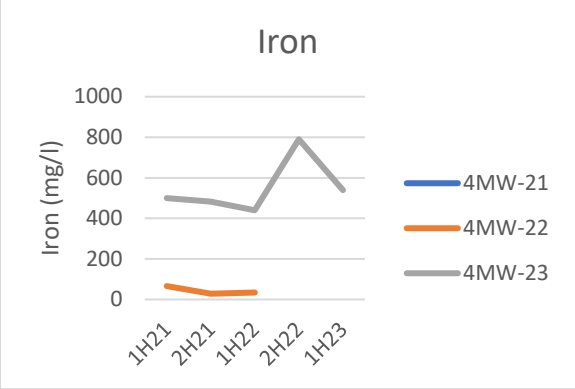


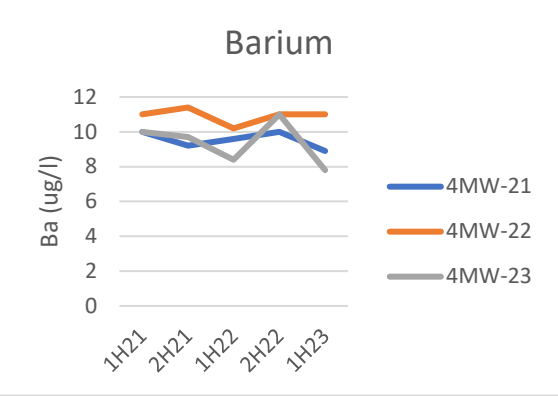


Appendix C
Select Laboratory Parameter Trends
Floridan Aquifer Monitoring Well – West Pasco Class III
1st Half 2021 through 1st Half 2023









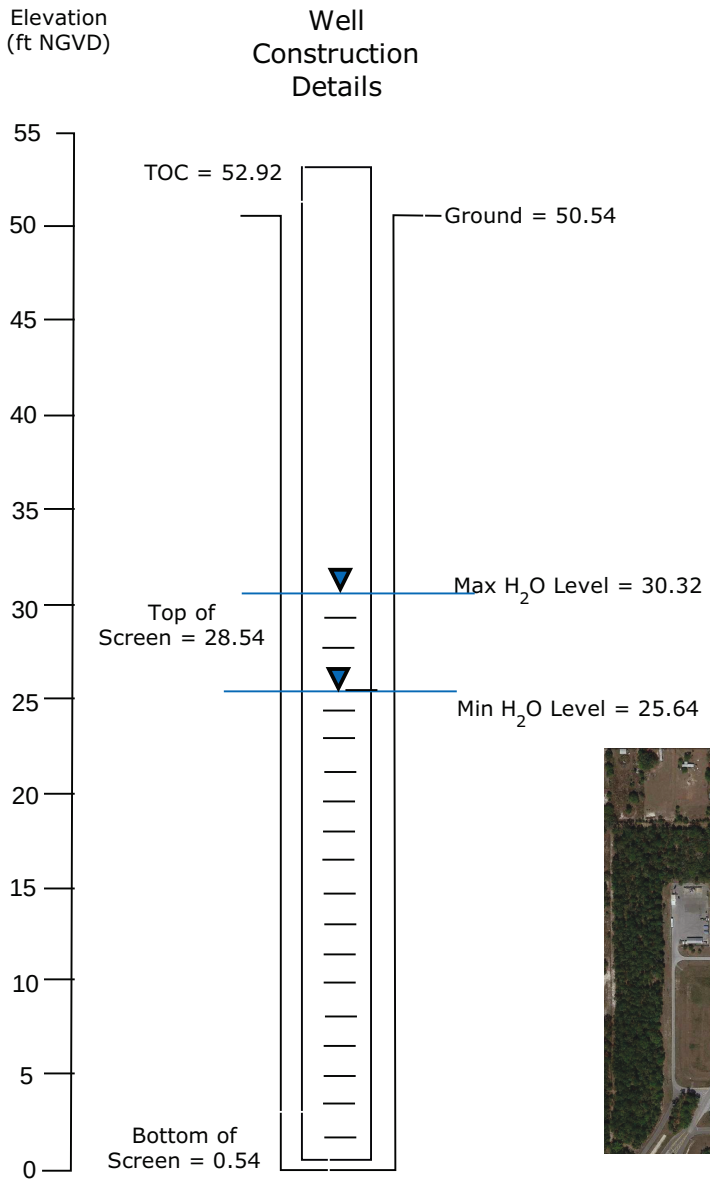
APPENDIX D

Well Hydrographs

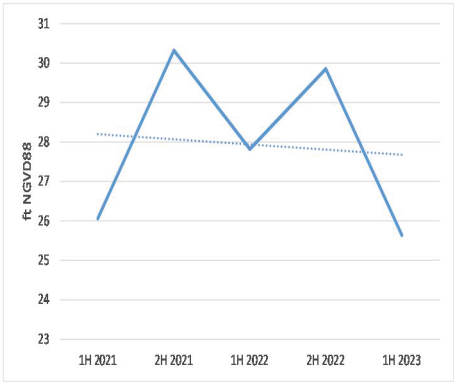
Monitoring Well 4MW-3A

West Pasco Class III Landfill

Well Type: piezometer	Aquifer Monitored: Floridan
WACS ID: 19670	1st Half 2021 - 1st Half 2023



Water Level Trend (2021 - 2023)



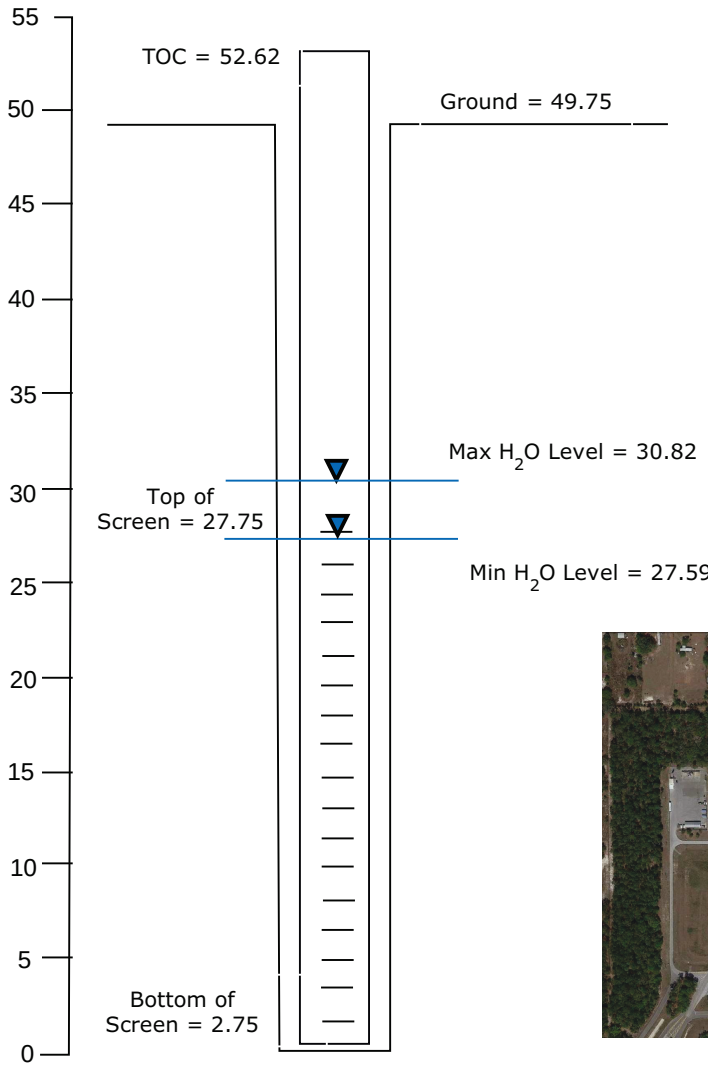
Monitoring Well 4MW-7

West Pasco Class III Landfill

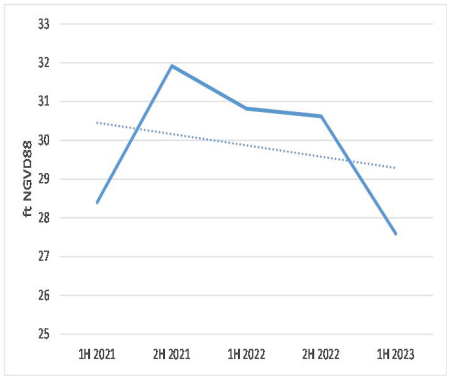
Well Type: background	Aquifer Monitored: Floridan
WACS ID: 2340	1st Half 2021 - 1st Half 2023

Elevation (ft NGVD)

Well Construction Details



Water Level Trend (2021 - 2023)



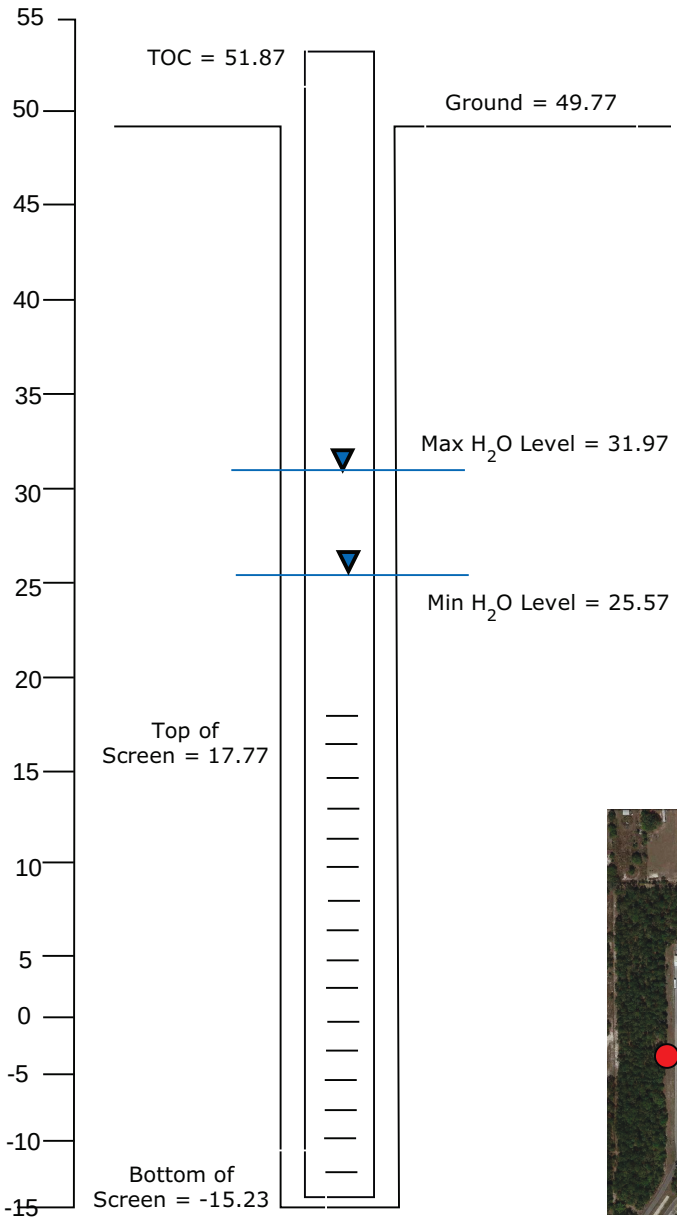
Monitoring Well 4MW-8

West Pasco Class III Landfill

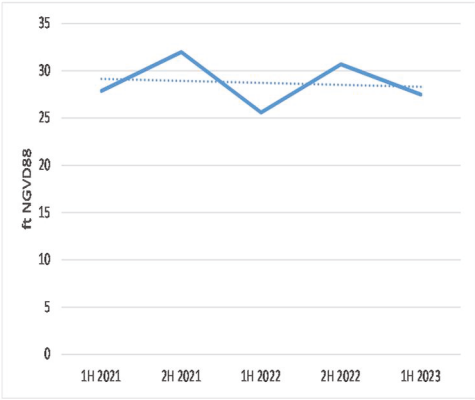
Well Type: piezometer	Aquifer Monitored: Floridan
WACS ID: 2341	1st Half 2021 - 1st Half 2023

Elevation (ft NGVD)

Well Construction Details



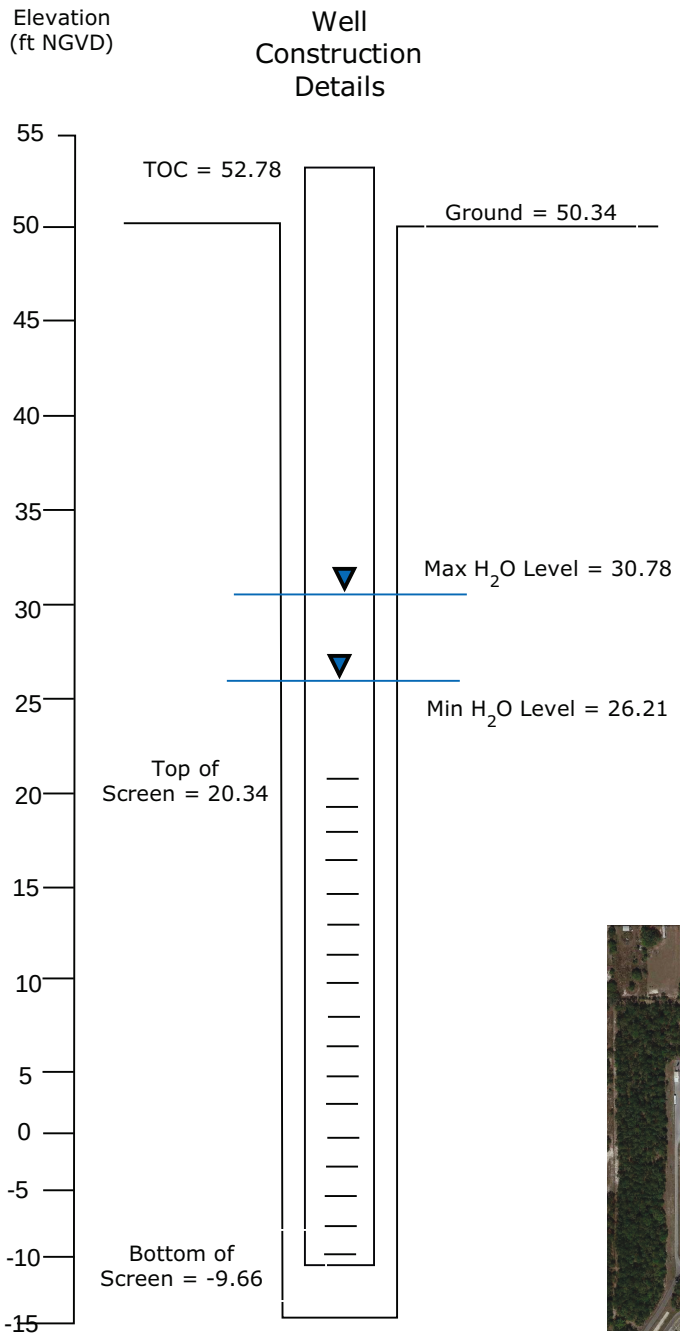
Water Level Trend (2021 - 2023)



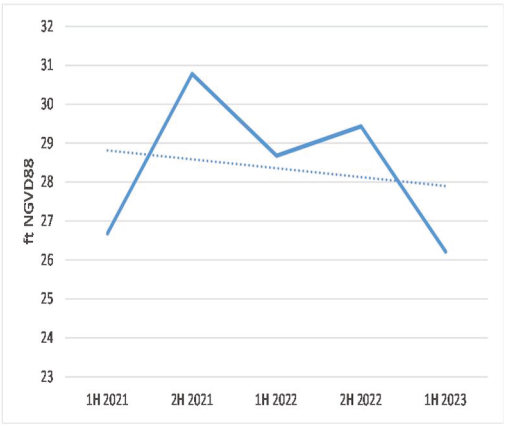
Monitoring Well 4MW-9

West Pasco Class III Landfill

Well Type: piezometer	Aquifer Monitored: Floridan
WACS ID: 2342	1st Half 2021 - 1st Half 2023



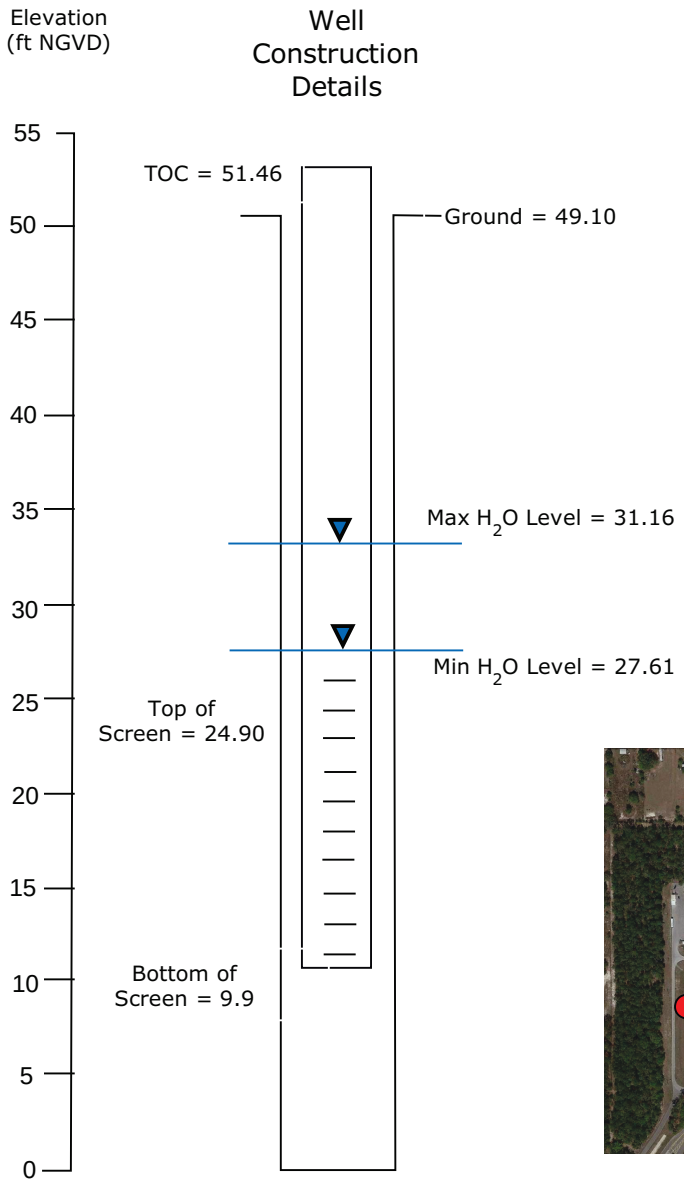
Water Level Trend (2018 - 2020)



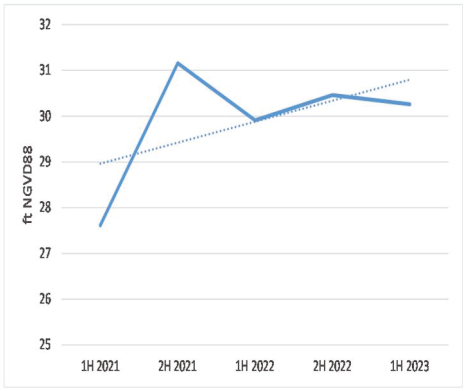
Monitoring Well 4MW-21

West Pasco Class III Landfill

Well Type: detection	Aquifer Monitored: Floridan
WACS ID: 23065	1st Half 2021 - 1st Half 2023



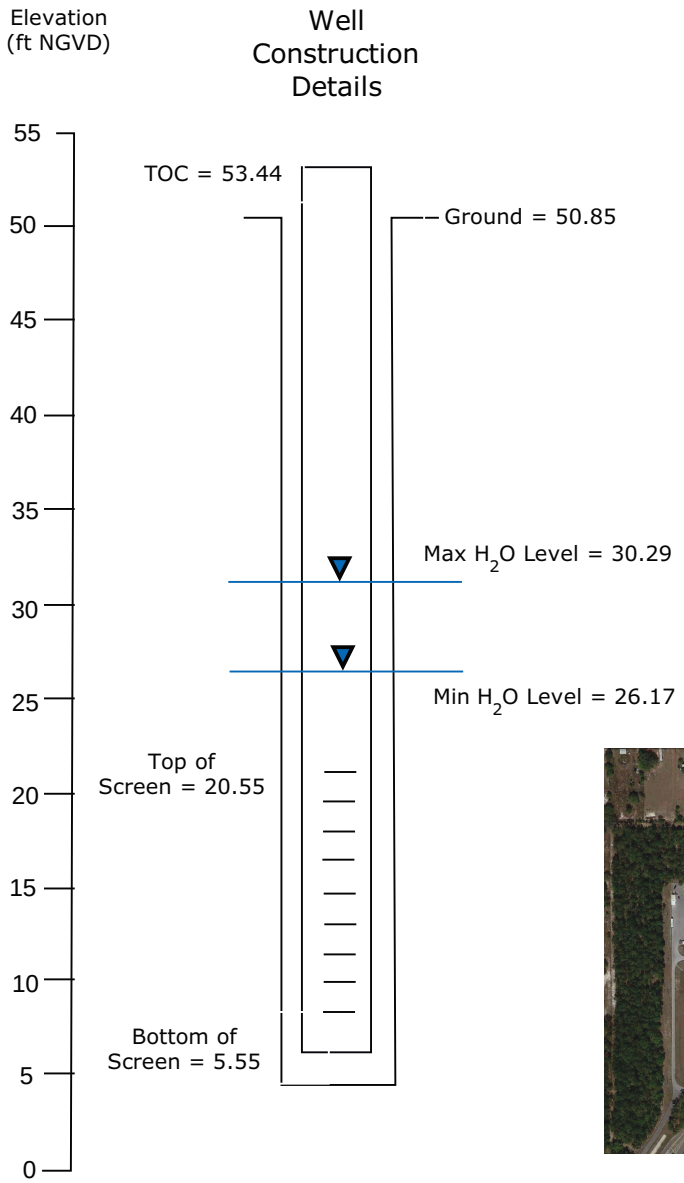
Water Level Trend (2018 - 2020)



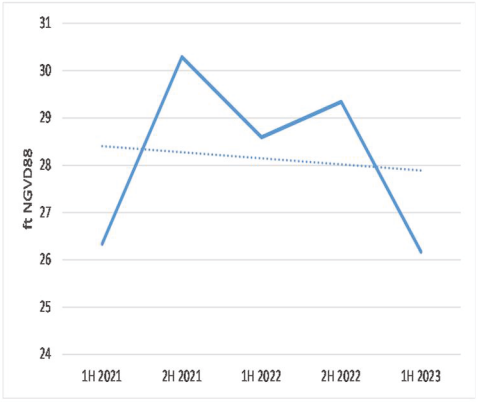
Monitoring Well 4MW-22

West Pasco Class III Landfill

Well Type: detection	Aquifer Monitored: Floridan
WACS ID: 23066	1st Half 2021 - 1st Half 2023



Water Level Trend (2021 - 2023)



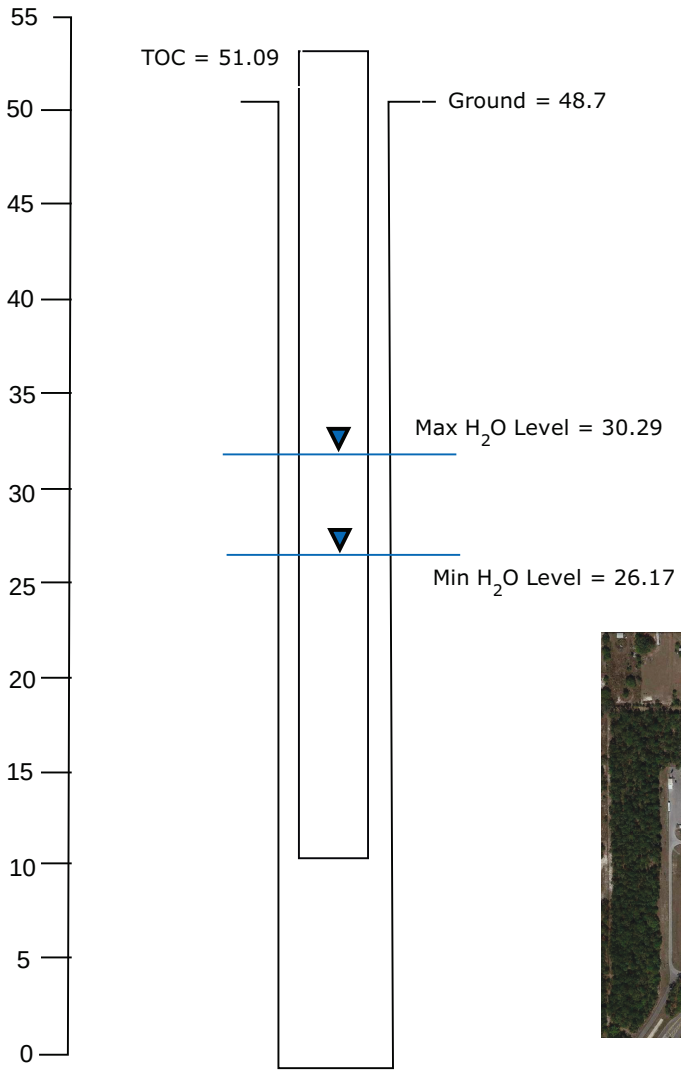
Monitoring Well 4MW-23

West Pasco Class III Landfill

Well Type: detection	Aquifer Monitored: Floridan
WACS ID: 23067	1st Half 2021 - 1st Half 2023

Elevation (ft NGVD)

Well Construction Details



Water Level Trend (2021 - 2023)