

Johnson, Sabrina O

From: Fischer, Shane <SFischer@SCSEngineers.com>
Sent: Thursday, January 6, 2022 12:51 PM
To: SWD_Waste; Tafuni, Steven
Cc: Anthony Detweiler; Bryan White; Bob Bennett; Lebron, Carlo; Velosa, Andres; Al-Khalaf, Laila
Subject: Manatee County Lena Road Landfill Monthly Report December 2021
Attachments: December 2021 Report.pdf

EXTERNAL MESSAGE

This email originated outside of DEP. Please use caution when opening attachments, clicking links, or responding to this email.

Mr. Tafuni,

Attached is the Manatee County Lena Road Landfill Monthly Report (for December 2021) which includes the following:

- Monthly Water Balance Report (Exhibit A)
- Monthly Leachate Tracking Summary - 2021 (Exhibit B)
- Monthly Leachate Meter Readings
- Monthly Rainfall
- Monthly Groundwater Gradient Report

If you should have any questions concerning this report, please contact me at (813) 503-1044.

Thanks

Shane R. Fischer, P.E.
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January 6, 2022
File No. 09217088.24

Mr. Steven Tafuni
Florida Department of Environmental Protection
Southwest District Office - Solid Waste Section
130501 N. Telecom Parkway
Temple Terrace, Florida 33637-0926

Subject: Manatee County Lena Road Landfill
Monthly Report – December 2021

Dear Mr. Tafuni:

This letter includes the following monthly reports: Monthly Water Balance Report (Exhibit A), Monthly Leachate Tracking Summary - 2021 (Exhibit B), Monthly Leachate Meter Readings, Monthly Rainfall, and Monthly Groundwater Gradient Report.

Please note for this month's readings from December 22 through December 31, 2021 the leachate flow meter for Stage II counter did not function properly due to a power outage. The County has since restored the power and the meter is functioning as required.

Sincerely,



Shane R. Fischer, P.E.
Vice President/Office Manager
SCS Engineers



Andres Velosa
Staff Professional I
SCS Engineers

SRF/AFV

cc: Bryan White, Manatee County Landfill Superintendent
Anthony Detweiler, Manatee County Landfill Operations Supervisor
Bob Bennett, Manatee County Landfill Operations Supervisor

Enclosures

This item has been digitally signed and sealed by
Shane R. Fischer, PE on the date adjacent to the seal.

Printed copies of this document are not considered
signed and sealed and the signature must be verified
on any electronic copies.

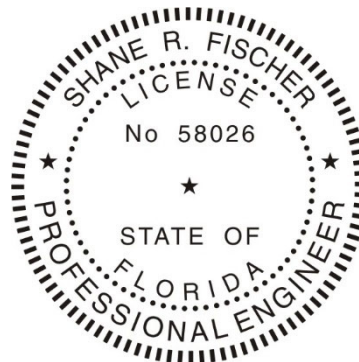


EXHIBIT A

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY
LENA ROAD LANDFILL
MONTHLY WATER BALANCE REPORT
December 2021**

A	B	C	D	E	F	G	H	I
DATE	LEACHATE STAGE I Lift Station 1 (gallons)	LEACHATE STAGE I Lift Station 2 (gallons)	LEACHATE STAGE I TOTAL (gallons)	LEACHATE STAGE II TOTAL (gallons)	LEACHATE STAGE III TOTAL (gallons)	TOTAL LEACHATE PUMPED (gallons)	RAINFALL (inches)	RAINFALL (gallons)
1-Dec-21	23,996	7,919	31,915	81,045	143,326	256,286	0.00	0
2-Dec-21	26,212	9,136	35,348	88,372	56,128	179,848	0.00	0
3-Dec-21	25,032	8,594	33,626	83,765	49,368	166,759	0.00	0
4-Dec-21	0	0	0	0	0	0	0.00	0
5-Dec-21	0	0	0	0	0	0	0.00	0
6-Dec-21	76,376	25,257	101,633	271,073	125,800	498,506	0.00	0
7-Dec-21	25,584	7,990	33,574	77,685	33,328	144,587	0.00	0
8-Dec-21	24,364	7,717	32,081	77,821	25,456	135,358	0.02	155,332
9-Dec-21	25,808	8,216	34,024	77,466	28,584	140,074	0.01	77,666
10-Dec-21	22,244	7,773	30,017	85,311	44,152	159,480	0.00	0
11-Dec-21	0	0	0	0	0	0	0.00	0
12-Dec-21	0	0	0	0	0	0	0.00	0
13-Dec-21	68,312	23,956	92,268	228,827	131,128	452,223	0.00	0
14-Dec-21	21,508	7,442	28,950	85,627	38,240	152,817	0.00	0
15-Dec-21	21,308	7,192	28,500	85,479	23,504	137,483	0.00	0
16-Dec-21	23,540	7,756	31,296	64,281	25,200	120,777	0.00	0
17-Dec-21	22,264	7,492	29,756	76,839	24,328	130,923	0.00	0
18-Dec-21	0	0	0	0	0	0	0.00	0
19-Dec-21	0	0	0	0	0	0	0.00	0
20-Dec-21	72,252	23,739	95,991	226,271	70,160	392,422	0.00	0
21-Dec-21	30,204	11,863	42,067	74,437	28,424	144,928	0.95	7,378,285
22-Dec-21	27,216	10,218	37,434	0	24,864	62,298	0.01	77,666
23-Dec-21	22,260	8,861	31,121	0	24,200	55,321	0.00	0
24-Dec-21	21,908	8,949	30,857	0	25,712	56,569	0.00	0
25-Dec-21	0	0	0	0	0	0	0.01	77,666
26-Dec-21	0	0	0	0	0	0	0.00	0
27-Dec-21	64,132	23,586	87,718	0	66,936	154,654	0.00	0
28-Dec-21	25,244	9,713	34,957	0	23,744	58,701	0.00	0
29-Dec-21	25,540	9,742	35,282	12,901	25,008	73,191	0.01	77,666
30-Dec-21	24,244	8,453	32,697	0	23,640	56,337	0.01	77,666
31-Dec-21	20,732	8,241	0	0	19,400	0	0.00	0
TOTAL	740,280	259,805	971,112	1,697,200	1,080,630	3,729,542	1.02	7,921,948
Leachate Pumped as Percentage of Rainfall				34.4%	51.9%	59.1%		

Column Notes:

A - Date of reading.

B - Leachate pumped (gallons) from Stage I by lift station 1.

C - Leachate pumped (gallons) from Stage I by lift station 2.

D - Total Stage I leachate pumpage (B+C).

E - Leachate pumped (gallons) from Stage II.

F - Leachate pumped (gallons) from Stage III.

G - Total leachate pumped to WWTP storage tank (D+E+F).

H - Rainfall (inches) recorded on this date.

I - Rainfall (gallons) calculated based on open area (H x Area x 27,156 gal/acre-in).

Comments

"0" = no data recorded

	Stage I	Stage II	Stage III	TOTAL
	(acres)	(acres)	(acres)	(acres)
Initial Cover	102.0	113.0	66.0	281.0
Interm. Cover	0.0	5.0	--	5.0
Closed	30.0	0.0	--	30.0
TOTAL	132.0	118.0	66.0	316.0
Open Area	102.0	118.0	66.0	286.0

EXHIBIT B

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY
LENA ROAD LANDFILL
MONTHLY LEACHATE TRACKING SUMMARY -- 2021**

	B	C	D	E	F	G	H	I	J
MONTH	STAGE I LEACHATE (gallons)	STAGE II LEACHATE (gallons)	STAGE III LEACHATE (gallons)	TOTAL LEACHATE (gallons)	RAINFALL (inches)	RAINFALL (gallons)	STAGE I LEACHATE/ RAINFALL (%)	STAGE II LEACHATE/ RAINFALL (%)	STAGE III LEACHATE/ RAINFALL (%)
JANUARY	955,764	2,232,576	857,936	4,046,276	0.79	6,135,627	43.7%	88.2%	60.6%
FEBRUARY	1,014,970	0	721,028	1,735,998	3.39	26,328,828	10.8%	0.0%	11.9%
MARCH	990,938	2,060,431	774,580	3,746,493	3.72	28,891,812	9.6%	17.3%	11.6%
APRIL	1,011,823	1,599,386	806,524	3,417,733	5.13	39,842,740	7.1%	9.7%	8.8%
MAY	807,932	0	1,102,972	1,910,904	0.43	3,339,645	67.8%	0.0%	143.1%
JUNE	556,999	7,205,246	1,322,088	9,084,333	8.26	64,152,248	2.4%	27.2%	8.9%
JULY	1,082,483	4,844,443	2,165,856	8,092,782	11.52	89,471,416	3.4%	13.1%	10.5%
AUGUST	1,204,387	6,357,344	2,115,112	9,412,320	12.75	99,024,354	3.4%	15.6%	9.3%
SEPTEMBER	1,331,727	4,206,133	2,962,768	8,500,628	6.26	48,619,016	7.7%	21.0%	26.4%
OCTOBER	1,198,835	3,434,914	2,011,864	6,645,613	1.54	11,960,589	28.1%	69.6%	72.9%
NOVEMBER	1,588,093	3,050,724	1,817,872	6,456,689	2.46	19,105,875	23.3%	38.7%	41.2%
DECEMBER	971,112	1,697,200	1,080,630	3,729,542	1.02	7,921,948	34.4%	51.9%	59.1%
TOTAL	12,715,063	36,688,397	17,739,230	66,779,311	57.27	444,794,098	8.0%	23.1%	11.2%

No Display

Notes:

1. (B) Total leachate pumped from Stage I.
2. (C) Total leachate pumped from Stage II
3. (D) Total leachate pumped from Stage III
4. (E) Total leachate (Column B+C+D) pumped to WWTP storage tank.
5. (F) Total rainfall in inches.
6. (G) Total rainfall in gallons (Stage I, II, and III Open Area of 286-acres x Rainfall)
7. (H) Stage I leachate as a percentage of rainfall.
8. (I) Stage II leachate pumped as a percentage of rainfall.
9. (J) Stage III leachate pumped as a percentage of rainfall.

Landfill Stage Land Area

	Stage I (acres)	Stage II (acres)	Stage III (acres)	TOTAL (acres)
Initial Cover	102.0	113.0	66.0	281.0
Intermed. Cover	0.0	5.0	--	5.0
Closed	30.0	0.0	--	30.0
TOTAL	132.0	118.0	66.0	316.0
Open Area	102.0	118.0	66.0	286.0

LEACHATE METER READINGS

DATE	LEACHATE METERS				STORMWATER S.G.		COMMENTS	NAME (Initials)
	#1	#2	#3	#4	#1	#2		
12/1/21	47585900	14327743	78704704	152898	33.89	DRY	OK	DEK
12/2/21	47612112	14336879	78760832	241270	33.87	DRY	OK	DEK
12/3/21	47637144	14345473	78810200	325035	33.86	DRY	OK	DEK
12/4/21								
12/5/21								
12/6/21	47713520	14370730	78936000	596108	33.70	DRY	OK	DEK
12/7/21	47739104	14378720	78969328	673793	33.70	DRY	OK	DEK
12/8/21	47763468	14386437	78994784	751614	33.69	DRY	OK	DEK
12/9/21	47789276	14394653	79023368	829080	33.69	DRY	OK	DEK
12/10/21	47811520	14402426	79067520	914391	33.68	DRY	OK	DEK
12/11/21								
12/12/21								
12/13/21	47879832	14426382	79198448	1143218	33.66	DRY	OK	AK
12/14/21	47901340	14433824	79236888	1228845	33.64	DRY	OK	DEK
12/15/21	47922648	14441016	79266032	1314324	33.63	DRY	OK	DEK
12/16/21	47946188	14448772	79285592	1378605	33.61	DRY	OK	DEK
12/17/21	47968452	14456264	79309920	1455444	33.61	DRY	OK	DEK
12/18/21								
12/19/21								
12/20/21	48040704	14480003	79380080	1681715	33.55	DRY	OK	DEK
12/21/21	48070908	14491866	79408504	1756152	33.60	DRY	OK	DEK
12/22/21	48098124	14502084	79433368	1756152	33.59	DRY	OK	DEK
12/23/21	48120384	14510945	79457568	1756152	33.58	DRY	OK	DEK
12/24/21	48142292	14519894	79483280	1756152	33.58	DRY	OK	DEK
12/25/21								
12/26/21								
12/27/21	48206424	14543480	79560216	1756152	33.51	DRY	OK	DEK
12/28/21	48231668	14553193	79573960	1756152	33.50	DRY	OK	DEK
12/29/21	48257208	14562935	79598968	1769053	33.49	DRY	OK	DEK
12/30/21	48281452	14571388	79622608	1769053	33.49	DRY	OK	DEK
12/31/21	48302184	14579629	79642008	1769053	33.49	DRY	OK	DEK

Landfill

LANDFILL SHEET			LAKE LEVEL DATA IN FEET NGVD	
2021 Dec	RAIN FALL	LEACHATE MGD	SOUTH (86 ACRE)	EAST (63 ACRE)
1	0.00	0.175	38.80	40.80
2	0.00	0.174	38.80	40.80
3	0.00	0.172	38.80	40.80
4	0.00	0.160	38.80	40.80
5	0.00	0.154	38.80	40.80
6	0.00	0.148	38.80	40.80
7	0.00	0.135	38.80	40.80
8	0.02	0.137	38.80	40.80
9	0.01	0.153	38.80	40.80
10	0.00	0.170	38.80	40.80
11	0.00	0.163	38.80	40.80
12	0.00	0.152	38.80	40.80
13	0.00	0.141	38.80	40.80
14	0.00	0.130	38.80	40.80
15	0.00	0.140	38.80	40.80
16	0.00	0.111	38.80	40.80
17	0.00	0.140	38.80	40.80
18	0.00	0.141	38.80	40.80
19	0.00	0.122	38.80	40.80
20	0.00	0.096	38.80	40.80
21	0.95	0.137	38.80	40.80
22	0.01	0.060	38.80	40.80
23	0.00	0.055	38.80	40.80
24	0.00	0.054	38.80	40.80
25	0.01	0.051	38.80	40.80
26	0.00	0.051	38.80	40.80
27	0.00	0.057	38.80	40.80
28	0.00	0.070	38.80	40.80
29	0.01	0.053	38.80	40.80
30	0.01	0.057	38.80	40.80
31	0.00	0.057	38.80	40.80
TOTAL	1.02	3.616		
AVG		0.117		
MIN				
MAX	0.95	0.175		

Fax # 9-708-5668

FIGURE L-7

Manatee County Lena Road Landfill

Monthly Groundwater Gradient Report

Month and Year: December 2021

Piezometers Inside Slurry Wall			Gradient Flow	Groundwater Monitoring Wells Outside Slurry Wall		
Piezometer	Riser Elevation	Leachate Elevation		Monitoring Well	Riser Elevation	Groundwater Elevation
P-1	42.68	NA	NA	GW-1	38.68	NA
P-2	42.32	NA	NA	GW-2	40.92	NA
P-3	40.36	24.61	<i>inward</i>	GW-3	39.40	31.72
P-4	40.78	22.16	<i>inward</i>	GW-4	40.53	31.27
P-5	40.73	20.84	<i>inward</i>	GW-5	39.90	30.84
P-6	40.74	19.97	<i>inward</i>	GW-6	38.95	30.11
P-7	40.60	23.65	<i>inward</i>	GW-7	39.49	28.08
P-8	40.21	19.15	<i>inward</i>	GW-8	39.75	26.51
P-9	NA	NA	NA	NA	NA	NA
P-9A	39.83	22.77	<i>inward</i>	GW-9	39.65	30.55
P-10	39.86	25.88	<i>inward</i>	GW-10	38.34	26.93
P-11	40.52	22.17	<i>inward</i>	GW-11	38.26	28.52
P-12	43.28	29.49	<i>inward</i>	GW-12	42.09	31.39
P-13	44.78	30.73	<i>inward</i>	GW-13	44.79	33.55
P-14	45.09	29.75	<i>inward</i>	GW-14	39.63	34.31
P-15	45.57	30.76	<i>inward</i>	GW-15	42.33	31.77
P-16	44.67	31.01	<i>inward</i>	GW-16	44.41	31.66
P-17	44.28	30.47	<i>inward</i>	GW-17	42.19	33.39
P-18	43.16	24.26	<i>inward</i>	GW-18	41.76	31.32
P-19	42.91	23.12	<i>inward</i>	GW-19	41.20	29.92
P-20	42.54	25.65	<i>inward</i>	GW-20	41.00	28.96
P-21	42.23	25.05	<i>inward</i>	GW-21	40.94	26.47
P-22	42.06	23.90	<i>inward</i>	GW-22	41.53	26.39
P-23	42.08	22.44	<i>inward</i>	GW-23	40.91	28.03
P-24	42.03	21.03	<i>inward</i>	GW-24	41.37	28.43
P-25	42.16	20.91	<i>inward</i>	GW-25	41.11	30.04
P-26	42.50	20.87	<i>inward</i>	GW-26	41.44	32.10
P-27R	42.73	21.02	<i>inward</i>	GW-27R	40.90	31.97

NA = Not Applicable - wells and piezometers abandoned in March 2016

Wells (GW-18 through GW-27R) and piezometers (P-18 through P-27R) installed in April 2016

Piezometer P-9 abandoned and P-9A installed August 25, 2020

Date Data Collected: 12/27/2021