

Smith, George

From: Fischer, Shane <SFischer@SCSEngineers.com>
Sent: Tuesday, September 07, 2021 10:12 AM
To: SWD_Waste; Tafuni, Steven
Cc: Anthony Detweiler; Bryan White; Bob Bennett; Lebron, Carlo; Velosa, Andres
Subject: Manatee County Lena Road Landfill Monthly Report August 2021
Attachments: August 2021 Report.pdf

Mr. Tafuni,

Attached is the Manatee County Lena Road Landfill Monthly Report (for August 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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September 7, 2021
File No. 09217088.21

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 – August 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.

Sincerely,



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



Andres Velosa
Staff Professional I
SCS Engineers

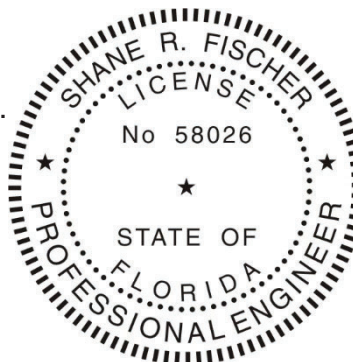
SRF/AFV

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.



Shane
Fischer

Digitally signed
by Shane
Fischer
Date:
2021.09.07
10:05:01 -04'00'

EXHIBIT A

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY
LENA ROAD LANDFILL
MONTHLY WATER BALANCE REPORT
August 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-Aug-21	0	0	0	0	0	0	0.00	0
2-Aug-21	159,378	26,576	185,954	421,374	110,936	718,264	0.10	776,662
3-Aug-21	48,596	10,050	58,646	151,902	92,360	302,908	0.52	4,038,640
4-Aug-21	51,376	10,027	61,403	126,367	44,992	232,762	2.83	21,979,523
5-Aug-21	5,176	8,448	13,624	188,156	72,920	274,700	0.24	1,863,988
6-Aug-21	1,412	8,060	9,472	195,590	78,496	283,558	0.00	0
7-Aug-21	0	0	0	0	0	0	0.03	232,998
8-Aug-21	0	0	0	0	0	0	0.00	0
9-Aug-21	11,932	48,391	60,323	558,731	159,656	778,710	1.67	12,970,249
10-Aug-21	5,092	24,985	30,077	188,404	40,672	259,153	1.68	13,047,915
11-Aug-21	5,396	27,883	33,279	195,408	40,328	269,015	0.20	1,553,323
12-Aug-21	4,760	30,378	35,138	228,844	78,672	342,654	0.22	1,708,656
13-Aug-21	4,324	32,645	36,969	235,924	59,000	331,893	0.05	388,331
14-Aug-21	0	0	0	0	0	0	0.11	854,328
15-Aug-21	0	0	0	0	0	0	0.75	5,824,962
16-Aug-21	16,248	101,503	117,751	653,571	182,752	954,074	0.25	1,941,654
17-Aug-21	4,408	36,374	40,782	223,413	61,784	325,979	0.00	0
18-Aug-21	5,608	31,113	36,721	209,536	74,496	320,753	0.36	2,795,982
19-Aug-21	5,244	34,706	39,950	203,095	73,720	316,765	0.02	155,332
20-Aug-21	7,020	36,241	43,261	229,973	85,232	358,466	2.08	16,154,561
21-Aug-21	0	0	0	0	0	0	0.12	931,994
22-Aug-21	0	0	0	0	0	0	0.00	0
23-Aug-21	14,244	113,339	127,583	668,235	246,256	1,042,074	0.01	77,666
24-Aug-21	5,172	37,714	42,886	247,215	100,448	390,549	0.00	0
25-Aug-21	4,040	32,990	37,030	217,963	80,848	335,841	0.00	0
26-Aug-21	3,728	33,804	37,532	215,823	92,656	346,011	0.00	0
27-Aug-21	7,156	33,908	41,064	209,702	77,344	328,110	0.22	1,708,656
28-Aug-21	0	0	0	0	0	0	0.02	155,332
29-Aug-21	0	0	0	0	0	0	1.27	9,863,602
30-Aug-21	12,132	102,810	114,942	600,539	184,600	900,081	0.00	0
31-Aug-21	8,196	38,019	0	187,579	76,944	0	0.00	0
TOTAL	390,638	859,964	1,204,387	6,357,344	2,115,112	9,412,320	12.75	99,024,354
Leachate Pumped as Percentage of Rainfall				3.4%	15.6%	9.3%		

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									
OCTOBER									
NOVEMBER									
DECEMBER									
TOTAL	7,625,296	24,299,426	9,866,096	41,446,839	45.99	357,186,670	6.0%	19.1%	7.7%

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		
8/1/21								
8/2/21	45525376	11173049	69803248	2720552	34.40	30.78	OK	DEK
8/3/21	45573772	11183099	69895608	2882454	34.40	30.69	OK	DEK
8/4/21	45625348	11193126	69940600	3008821	35.88	33.39	OK	DEK
8/5/21	45630524	11201574	70013520	3196977	35.20	32.37	OK	DEK
8/6/21	45631936	11209634	70092016	3392567	34.70	32.33	OK	DEK
8/7/21								
8/8/21								
8/9/21	45643868	11258025	70251672	3951298	34.50	32.05	OK	DEK
8/10/21	45648960	11283010	70292344	4139702	34.75	32.38	OK	DEK
8/11/21	45654556	11310893	70332672	4335110	34.69	32.39	OK	DEK
8/12/21	45659116	11341271	70411344	4563954	34.61	32.35	OK	DEK
8/13/21	45663440	11373916	70470344	4799878	34.56	32.32	OK	DEK
8/14/21								
8/15/21								
8/16/21	45679688	11475419	70653096	5453449	34.57	32.34	OK	DEK
8/17/21	45684096	11511793	70714880	5676862	34.54	32.34	OK	DEK
8/18/21	45689704	11542906	70789376	5886398	34.51	32.28	OK	DEK
8/19/21	45694948	11577612	70863096	6089493	34.50	32.31	OK	DEK
8/20/21	45701968	11613853	70948328	6319466	34.48	32.26	OK	DEK
8/21/21								
8/22/21								
8/23/21	45716212	11727192	71194584	6987701	34.54	32.35	OK	DEK
8/24/21	45721384	11764906	71295032	7234916	34.52	32.32	OK	DEK
8/25/21	45725424	11797896	71375880	7452879	34.49	32.27	OK	DEK
8/26/21	45729152	11831700	71468536	7668702	34.48	32.18	OK	DEK
8/27/21	45736308	11865608	71545880	7878404	34.47	32.05	OK	DEK
8/28/21								
8/29/21								
8/30/21	45748440	11968418	71730480	8478943	34.60	32.35	OK	DEK
8/31/21	45756636	12006437	71807424	8666522	34.55	32.29	OK	DEK

Landfill

LANDFILL SHEET			LAKE LEVEL DATA IN FEET NGVD	
2021 Aug	RAIN FALL	LEACHATE MGD	SOUTH (86 ACRE)	EAST (63 ACRE)
1	0.00	0.211	38.80	40.80
2	0.10	0.253	38.80	40.80
3	0.52	0.254	38.80	40.80
4	2.83	0.279	38.80	40.80
5	0.24	0.286	38.80	40.80
6	0.00	0.130	38.80	40.80
7	0.03	0.252	38.80	40.80
8	0.00	0.267	38.80	40.80
9	1.67	0.242	38.80	40.80
10	1.68	0.283	38.80	40.80
11	0.20	0.298	38.80	40.80
12	0.22	0.327	38.80	40.80
13	0.05	0.318	38.80	40.80
14	0.11	0.336	38.80	40.80
15	0.75	0.295	38.80	40.80
16	0.25	0.330	38.80	40.80
17	0.00	0.393	38.80	40.80
18	0.36	0.332	38.80	40.80
19	0.02	0.326	38.80	40.80
20	2.08	0.353	38.80	40.80
21	0.12	0.362	38.80	40.80
22	0.00	0.332	38.80	40.80
23	0.01	0.380	38.80	40.80
24	0.00	0.336	38.80	40.80
25	0.00	0.356	38.80	40.80
26	0.00	0.333	38.80	40.80
27	0.22	0.308	38.80	40.80
28	0.02	0.323	38.80	40.80
29	1.27	0.279	38.80	40.80
30	0.00	0.316	38.80	40.80
31	0.00	0.391	38.80	40.80
TOTAL	12.75	9.481		
AVG		0.306		
MIN				
MAX	2.83	0.393		

Fax # 9-708-5668

FIGURE L-7

Manatee County Lena Road Landfill

Monthly Groundwater Gradient Report

Month and Year: August 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	26.19	<i>inward</i>	GW-3	39.40	35.41
P-4	40.78	22.40	<i>inward</i>	GW-4	40.53	34.47
P-5	40.73	21.86	<i>inward</i>	GW-5	39.90	33.56
P-6	40.74	21.67	<i>inward</i>	GW-6	38.95	32.90
P-7	40.60	21.70	<i>inward</i>	GW-7	39.49	31.85
P-8	40.21	21.52	<i>inward</i>	GW-8	39.75	30.72
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	20.80	<i>inward</i>	GW-10	38.34	31.01
P-11	40.52	21.55	<i>inward</i>	GW-11	38.26	31.98
P-12	43.28	30.84	<i>inward</i>	GW-12	42.09	34.05
P-13	44.78	30.97	<i>inward</i>	GW-13	44.79	34.68
P-14	45.09	29.74	<i>inward</i>	GW-14	39.63	35.25
P-15	45.57	30.85	<i>inward</i>	GW-15	42.33	35.30
P-16	44.67	31.09	<i>inward</i>	GW-16	44.41	34.77
P-17	44.28	31.08	<i>inward</i>	GW-17	42.19	35.13
P-18	43.16	24.56	<i>inward</i>	GW-18	41.76	35.62
P-19	42.91	23.45	<i>inward</i>	GW-19	41.20	35.69
P-20	42.54	26.31	<i>inward</i>	GW-20	41.00	34.32
P-21	42.23	25.31	<i>inward</i>	GW-21	40.94	31.51
P-22	42.06	25.08	<i>inward</i>	GW-22	41.53	30.63
P-23	42.08	22.65	<i>inward</i>	GW-23	40.91	34.46
P-24	42.03	20.36	<i>inward</i>	GW-24	41.37	33.55
P-25	42.16	19.45	<i>inward</i>	GW-25	41.11	34.72
P-26	42.50	19.20	<i>inward</i>	GW-26	41.44	35.01
P-27R	42.73	20.24	<i>inward</i>	GW-27R	40.90	35.42

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: 8/30/2021