Smith, George

From: Fischer, Shane <SFischer@SCSEngineers.com>
Sent: Thursday, September 14, 2017 10:43 AM
To: SWD_Waste
Cc: Steven Tafuni; Anthony Detweiler; Bryan White; Lynette Falkowski; Cooper, Dan; Lebron, Carlo
Subject: Manatee County Lena Road Landfill Monthly Report August 2017
Attachments: Monthly Gradient Report August 2017.pdf

Mr. Tafuni,

Attached is the Manatee County Lena Road Landfill Monthly Report (for August 2017) which includes the following:

- Monthly Water Balance Report (Exhibit A)
- Monthly Leachate Tracking Summary - 2017 (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) 804-6714.

Thanks

Shane R. Fischer, P.E.
Project Director
SCS Engineers

WE MOVED SEE NEW ADDRESS BELOW
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SCS ENGINEERS

September 14, 2017
File No. 09217088.01

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 2017

Dear Mr. Tafuni:

This letter includes the following monthly reports: Monthly Water Balance Report (Exhibit A), Monthly Leachate Tracking Summary - 2017 (Exhibit B), Monthly Leachate Meter Readings, Monthly Rainfall, and Monthly Groundwater Gradient Report.

If you should have any questions concerning this report ple ase contact us at (813) 804-6714.

Sincerely,

Shane R. Fischer, P.E.
Project Director
SCS ENGINEERS

Buckley Weglarz, E.I.
Associate Staff Professional
SCS ENGINEERS

SRF/BMW:srf

Attachments

cc: C. Mike Gore, Manatee County Utilities Department Director
Bryan White, Manatee County Landfill Superintendent
Anthony Detweiler, Manatee County Landfill Operations Supervisor

SHANE R. FISCHER
LICENSE
No 58026
9/14/17
STATE OF FLORIDA
PROFESSIONAL ENGINEER

EXHIBIT A

MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY
LENA ROAD LANDFILL
MONTHLY WATER BALANCE REPORT
August-17

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-17	27,713	7,127	34,840	289,132	71,045	395,017	0.02	155,332
2-Aug-17	22,161	89	22,250	310,744	61,805	394,799	0.38	2,951,314
3-Aug-17	25,997	100	26,097	337,728	64,459	428,284	0.00	0
4-Aug-17	25,782	7,556	33,338	332,184	63,842	429,364	0.00	0
5-Aug-17	0	0	0	0	0	0	1.80	13,979,909
6-Aug-17	0	0	0	0	0	0	1.57	12,193,587
7-Aug-17	94,117	14,890	109,007	404,712	194,711	708,430	0.06	465,997
8-Aug-17	31,051	51	31,102	5,932	78,933	115,967	0.00	0
9-Aug-17	29,684	7,852	37,536	719,668	69,637	826,841	0.09	698,995
10-Aug-17	31,463	131	31,594	475,672	68,269	575,535	0.16	1,242,659
11-Aug-17	27,444	7,483	34,927	358,976	54,645	448,548	0.06	465,997
12-Aug-17	0	0	0	0	0	0	0.08	621,329
13-Aug-17	0	0	0	0	0	0	0.00	0
14-Aug-17	87,621	8,105	95,726	958,992	156,298	1,211,016	0.07	543,663
15-Aug-17	29,046	7,887	36,933	286,892	47,795	371,620	0.08	621,329
16-Aug-17	23,197	83	23,280	249,300	38,057	310,637	0.02	155,332
17-Aug-17	23,085	7,807	30,892	251,952	42,521	325,365	0.06	465,997
18-Aug-17	27,097	7,975	35,072	242,976	42,049	320,097	0.00	0
19-Aug-17	0	0	0	0	0	0	0.00	0
20-Aug-17	0	0	0	0	0	0	0.00	0
21-Aug-17	71,153	15,421	86,574	679,708	121,771	888,053	0.00	0
22-Aug-17	21,059	68	21,127	210,956	34,211	266,294	0.00	0
23-Aug-17	26,546	7,569	34,115	203,976	38,243	276,334	0.60	4,659,970
24-Aug-17	26,502	71	26,573	195,528	37,285	259,386	0.08	621,329
25-Aug-17	24,682	7,636	32,318	204,864	37,529	274,711	1.55	12,038,255
26-Aug-17	0	0	0	0	0	0	11.15	86,597,768
27-Aug-17	0	0	0	0	0	0	0.73	5,669,630
28-Aug-17	114,150	7,208	121,358	793,368	201,359	1,116,085	1.20	9,319,939
29-Aug-17	31,212	7,513	38,725	375,416	98,657	512,798	0.02	155,332
30-Aug-17	28,794	109	28,903	402,128	92,727	523,758	0.00	0
31-Aug-17	31,390	7,606	38,996	398,248	79,959	517,203	0.00	0
TOTAL	**880,946**	**130,337**	**1,011,283**	**8,689,052**	**1,795,807**	**11,496,142**	**19.78**	**153,623,664**
Leachate Pumped as Percentage of Rainfall				1.8%	13.7%	5.1%		

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).

	Stage I (acres)	**Stage II** (acres)	**Stage III** (acres)	**TOTAL** (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**

Comments

"0" = no data recorded

EXHIBIT B

MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY
LENA ROAD LANDFILL
MONTHLY LEACHATE TRACKING SUMMARY -- 2017

	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	638,719	3,558,368	468,096	4,665,183	1.82	14,135,257	12.7%	61.0%	14.4%
FEBRUARY	700,268	2,701,624	373,077	3,774,969	2.49	19,338,895	10.2%	33.9%	8.4%
MARCH	444,964	2,655,032	345,620	3,890,580	0.75	5,824,962	21.4%	110.5%	25.7%
APRIL	427,892	2,134,880	273,796	2,836,568	0.42	3,261,979	36.8%	158.6%	36.4%
MAY	400,805	2,333,600	290,841	3,203,689	1.89	14,678,904	7.7%	38.5%	8.6%
JUNE	691,538	5,641,712	1,303,683	7,636,933	12.67	98,403,025	2.0%	13.9%	5.7%
JULY	881,994	7,666,088	1,356,678	9,052,189	11.57	89,859,747	2.8%	20.7%	6.5%
AUGUST	1,011,283	8,689,052	1,795,807	11,496,142	19.78	153,623,664	1.8%	13.7%	5.1%
SEPTEMBER									
OCTOBER									
NOVEMBER									
DECEMBER									
TOTAL	**5,197,463**	**35,380,356**	**6,207,598**	**46,556,253**	**51.39**	**399,126,433**	**3.7%**	**24.9%**	**4.4%**

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	**Stage II**	**Stage III**	**TOTAL**
	(acres)	(acres)	(acres)	*(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		
8/1/17	9609990	1687328	12686599	123355880	35.16	32.39	OK	J.B.
8/2/17	9632151	1687417	12748404	123698824	34.68	32.36	OK	R.B.
8/3/17	9658148	1687517	12812863	124033552	34.59	32.37	OK	R.B.
8/4/17	9683930	1695073	12876705	124365736	34.49	32.33	OK	R.B.
8/5/17								
8/6/17								
8/7/17	9778047	1709963	13071416	124770948	34.78	33.36	OK	DRJ
8/8/17	9809098	1710014	13150349	124776380	34.67	32.32	OK	R.B.
8/9/17	9838782	1717866	13219986	125496046	34.55	32.30	OK	R.B
8/10/17	9870245	1717997	13288255	125971720	34.50	32.27	OK	R.B.
8/11/17	9897689	1725480	13342900	126330696	34.46	32.26	OK	R.B.
8/12/17								
8/13/17								
8/14/17	9985310	1733565	13499198	127289688	34.09	32.35	OK	R.B.
8/15/17	10014356	1741472	13546993	127576580	34.04	32.31	OK	R.B.
8/16/17	10037553	1741555	13585080	127825680	34.01	32.31	OK	RB
8/17/17	10060638	1749362	13627571	128077632	33.96	32.31	OK	R.B
8/18/17	10087735	1749447	13669620	128320808	33.94	32.26	OK	DRS
8/19/17								
8/20/17								
8/21/17	10158688	1764860	13791391	129000576	33.88	32.02	OK	RB
8/22/17	10179947	1764936	13828602	129211472	33.82	32.02	OK	R.B.
8/23/17	10206493	1772505	13863845	129415446	33.80	31.86	OK	R.B.
8/24/17	10232995	1772576	13901130	129610926	33.87	31.80	OK	R.B.
8/25/17	10257677	1780212	13938659	129815840	33.90	31.70	OK	dm
8/26/17								
8/27/17								
8/28/17	10371827	1787420	14140018	130604208	36.90	32.69	OK	dm
8/29/17	10403039	1794933	14238675	130984624	35.10	32.59	OK	dm
8/30/17	10431833	1795042	14331402	131386752	34.50	32.49	OK	dm
8/31/17	10468222	1802648	14411361	131785000	34.35	32.30	O.K	MG

LANDFILL SHEET			LAKE LEVEL DATA IN FEET NGVD	
2017 Aug	RAIN FALL	LEACHATE MGD	SOUTH (86 ACRE)	EAST (63 ACRE)
1	0.02	0.091	37.10	28.10
2	0.38	0.094	37.20	28.80
3	0.00	0.095	37.20	28.80
4	0.00	0.092	37.20	28.90
5	1.80	0.065	37.20	29.00
6	1.57	0.065	37.30	29.20
7	0.06	0.026	37.30	29.20
8	0.00	0.141	37.30	29.20
9	0.09	0.134	37.30	29.20
10	0.16	0.108	35.80	29.30
11	0.06	0.098	35.30	29.30
12	0.08	0.092	35.30	29.20
13	0.00	0.085	35.40	29.10
14	0.07	0.080	35.30	29.10
15	0.08	0.074	35.40	29.10
16	0.02	0.073	35.30	29.10
17	0.06	0.070	35.30	29.20
18	0.00	0.068	35.30	29.20
19	0.00	0.065	35.30	29.10
20	0.00	0.061	35.30	29.10
21	0.00	0.062	35.30	30.00
22	0.00	0.060	35.30	30.00
23	0.60	0.061	35.30	29.10
24	0.08	0.057	35.30	29.00
25	1.55	0.057	35.30	29.10
26	11.15	0.071	36.30	30.20
27	0.73	0.101	36.30	30.50
28	1.20	0.111	36.30	31.00
29	0.02	0.116	36.30	31.00
30	0.00	0.115	36.30	29.90
31	0.00	0.110	36.30	31.20
TOTAL	19.78	2.598		
AVG		0.084		
MIN				
MAX	11.15	0.141		

Fax # 9-708-5668

FIGURE L-7

Manatee County Lena Road Landfill

Monthly Groundwater Gradient Report

Month and Year: August 2017

Piezometers Inside Slurry Wall				Groundwater Monitoring Wells Outside Slurry Wall		
Piezometer	Riser Elevation	Leachate Elevation	Gradient Flow	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	27.74	*inward*	GW-3	39.40	35.48
P-4	40.78	23.84	*inward*	GW-4	40.53	34.60
P-5	40.73	24.17	*inward*	GW-5	39.90	33.87
P-6	40.74	23.92	*inward*	GW-6	38.95	33.53
P-7	40.60	23.72	*inward*	GW-7	39.49	32.25
P-8	40.21	23.89	*inward*	GW-8	39.75	31.29
P-9	39.97	26.37	*inward*	GW-9	39.65	32.35
P-10	39.86	22.81	*inward*	GW-10	38.34	33.02
P-11	40.52	24.17	*inward*	GW-11	38.26	32.69
P-12	43.28	30.66	*inward*	GW-12	42.09	34.38
P-13	44.78	30.83	*inward*	GW-13	44.79	36.30
P-14	45.09	30.40	*inward*	GW-14	39.63	36.92
P-15	45.57	31.02	*inward*	GW-15	42.33	36.56
P-16	44.67	31.07	*inward*	GW-16	44.41	35.79
P-17	44.28	30.68	*inward*	GW-17	42.19	36.66
P-18	43.16	24.38	*inward*	GW-18	41.76	35.68
P-19	42.91	23.58	*inward*	GW-19	41.20	35.81
P-20	42.54	26.39	*inward*	GW-20	41.00	34.29
P-21	42.23	25.37	*inward*	GW-21	40.94	32.15
P-22	42.06	24.23	*inward*	GW-22	41.53	31.13
P-23	42.08	22.63	*inward*	GW-23	40.91	34.51
P-24	42.03	20.22	*inward*	GW-24	41.37	34.10
P-25	42.16	19.25	*inward*	GW-25	41.11	35.23
P-26	42.50	19.23	*inward*	GW-26	41.44	35.52
P-27R	42.73	19.62	*inward*	GW-27R	40.90	35.71

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

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

Date Data Collected: August 28, 2017