

Smith, George

From: Fischer, Shane <SFischer@SCSEngineers.com>
Sent: Monday, May 15, 2017 8:34 AM
To: SWD_Waste
Cc: Morris, John R.; Anthony Detweiler; Bryan White; Lynette Falkowski; Cooper, Dan; Lebron, Carlo
Subject: Manatee County Lena Road Landfill Monthly Report April 2017
Attachments: Monthly Gradient Report April 2017.pdf

Mr. Morris,

Attached is the Manatee County Lena Road Landfill Monthly Report (for April 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.
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SCS ENGINEERS

May 15, 2017
File No. 09217088.01

Mr. John Morris, P.G.
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 - April 2017

Dear Mr. Morris:

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. During this monthly event an outward hydraulic gradient was identified at monitoring points P-21 and GW-21. Based on the liquid measurements collected the leachate was determined to be at elevation 24.62 and the groundwater at elevation 24.49 for a gradient differential of 0.13 feet. The County will continue normal pumping operations and will review the readings at these monitoring points during the next monthly event to determine if this was an isolated incident.

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

Sincerely,



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

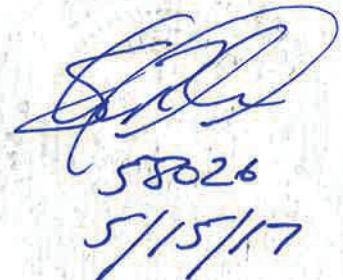


Daniel Cooper, P.E.
Project Director/Vice President
SCS ENGINEERS

SRF/DRC:srf

Attachments

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



58026
5/15/17

EXHIBIT A

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY
LENA ROAD LANDFILL
MONTHLY WATER BALANCE REPORT
April-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-Apr-17	0	0	0	0	0	0	0.00	0
2-Apr-17	0	0	0	0	0	0	0.00	0
3-Apr-17	44,165	7,641	51,806	241,520	33,292	326,618	0.00	0
4-Apr-17	16,843	31	16,874	80,008	8,285	105,167	0.00	0
5-Apr-17	12,443	29	12,472	78,808	8,198	99,478	0.00	0
6-Apr-17	14,698	7,658	22,356	78,456	12,359	113,171	0.00	0
7-Apr-17	10,179	30	10,209	77,208	8,139	95,556	0.00	0
8-Apr-17	0	0	0	0	0	0	0.00	0
9-Apr-17	0	0	0	0	0	0	0.00	0
10-Apr-17	34,459	7,825	42,284	235,504	24,634	302,422	0.00	0
11-Apr-17	11,846	32	11,878	73,488	7,877	93,243	0.00	0
12-Apr-17	11,612	36	11,648	81,104	8,277	101,029	0.00	0
13-Apr-17	11,474	7,447	18,921	73,936	8,378	101,235	0.00	0
14-Apr-17	11,519	37	11,556	73,296	12,248	97,100	0.00	0
15-Apr-17	0	0	0	0	0	0	0.00	0
16-Apr-17	0	0	0	0	0	0	0.00	0
17-Apr-17	34,045	7,557	41,602	233,504	28,382	303,488	0.00	0
18-Apr-17	13,352	36	13,388	72,816	12,199	98,403	0.00	0
19-Apr-17	11,082	7,623	18,705	72,488	8,105	99,298	0.00	0
20-Apr-17	11,066	67	11,133	79,406	8,138	98,677	0.00	0
21-Apr-17	15,455	37	15,492	72,210	12,086	99,788	0.00	0
22-Apr-17	0	0	0	0	0	0	0.02	155,332
23-Apr-17	0	0	0	0	0	0	0.00	0
24-Apr-17	49,131	7,419	56,550	224,064	36,520	317,134	0.00	0
25-Apr-17	11,238	7,473	18,711	71,600	12,121	102,432	0.00	0
26-Apr-17	13,659	34	13,693	71,800	8,098	93,591	0.00	0
27-Apr-17	11,712	32	11,744	64,648	8,260	84,652	0.00	0
28-Apr-17	9,477	7,393	16,870	79,016	8,200	104,086	0.00	0
29-Apr-17	0	0	0	0	0	0	0.00	0
30-Apr-17	0	0	0	0	0	0	0.40	3,106,646
	0	0	0	0	0	0	0.00	0
TOTAL	359,455	68,437	427,892	2,134,880	273,796	2,836,568	0.42	3,261,979
Leachate Pumped as Percentage of Rainfall				36.8%	158.6%	36.4%		

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 (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

EXHIBIT B

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

MONTH	B STAGE I LEACHATE (gallons)	C STAGE II LEACHATE (gallons)	D STAGE III LEACHATE (gallons)	E TOTAL LEACHATE (gallons)	F RAINFALL (inches)	G RAINFALL (gallons)	H STAGE I LEACHATE/ RAINFALL (%)	I STAGE II LEACHATE/ RAINFALL (%)	J 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									
JUNE									
JULY									
AUGUST									
SEPTEMBER									
OCTOBER									
NOVEMBER									
DECEMBER									
TOTAL	2,211,843	11,049,904	1,460,589	15,167,300	5.48	42,561,093	14.6%	72.8%	9.6%

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

DATE	LEACHATE METERS				STORMWATER S.G.		COMMENTS	NAME (Initials)
	#1	#2	#3	#4	#1	#2		
4/1/17								
4/2/17								
4/3/17	7744463	1167592	9598309	105447032	32.93	Dry	OK	R.B.
4/4/17	7761306	1167623	9606594	105527040	32.91	Dry	OK	R.B.
4/5/17	7773749	1167652	9614792	105605848	32.90	Dry	OK	R.B.
4/6/17	7786447	1175310	9627151	105684304	32.89	Dry	OK	R.B.
4/7/17	7796626	1175340	9635290	105764512	32.86	Dry	OK	R.B.
4/8/17								
4/9/17								
4/10/17	7833085	1183165	9652924	105997016	32.74	Dry	OK	R.B.
4/11/17	7844931	1183197	9667801	10607084	32.72	Dry	OK	R.B.
4/12/17	7856543	1183233	9676078	106151608	32.70	Dry	OK	R.B.
4/13/17	7868017	1190680	9684456	10623594	32.67	Dry	OK	R.B.
4/14/17	7879536	1190717	9696704	106295840	32.65	Dry	OK	R.B.
4/15/17								
4/16/17								
4/17/17	7913581	1198274	9725086	106532344	32.59	Dry	OK	R.B.
4/18/17	7926933	1198310	9737265	106605160	32.57	Dry	OK	R.B.
4/19/17	7938015	1205933	9745390	106677648	32.55	Dry	OK	R.B.
4/20/17	7949061	1206000	9753528	106757248	32.54	Dry	OK	R.B.
4/21/17	7964536	1206037	9765614	106838264	32.50	Dry	OK	R.B.
4/22/17								
4/23/17								
4/24/17	8013667	1213456	9862134	10705826	32.45	Dry	OK	R.B.
4/25/17	8024905	1220929	9814255	107124928	32.43	Dry	OK	R.B.
4/26/17	8036964	1220963	9822353	107196728	32.41	Dry	OK	R.B.
4/27/17	8050276	1220995	9830613	107261376	32.39	Dry	OK	R.B.
4/28/17	8059753	1228388	9838813	107340382	32.37	Dry	OK	R.B.
3/29/17								
3/30/17								
3/31/17								

Landfill

LANDFILL SHEET			LAKE LEVEL DATA IN FEET NGVD	
2017 Apr	RAIN FALL	LEACHATE MGD	SOUTH (86 ACRE)	EAST (63 ACRE)
1	0.00	0.024	40.70	30.90
2	0.00	0.027	40.30	30.40
3	0.00	0.024	40.40	30.00
4	0.00	0.025	40.30	29.90
5	0.00	0.025	40.20	29.90
6	0.00	0.023	40.20	29.80
7	0.00	0.022	40.20	29.70
8	0.00	0.024	40.10	29.60
9	0.00	0.024	39.90	29.50
10	0.00	0.023	39.90	29.50
11	0.00	0.022	39.90	29.30
12	0.00	0.023	39.80	29.30
13	0.00	0.025	39.70	29.20
14	0.00	0.023	39.60	29.20
15	0.00	0.024	39.70	29.20
16	0.00	0.024	39.60	29.20
17	0.00	0.024	39.60	29.10
18	0.00	0.023	39.50	29.10
19	0.00	0.023	39.50	28.90
20	0.00	0.023	39.40	29.00
21	0.00	0.025	39.40	29.00
22	0.02	0.025	39.50	28.90
23	0.00	0.024	39.40	28.90
24	0.00	0.026	39.20	28.20
25	0.00	0.022	39.20	28.40
26	0.00	0.022	39.10	28.20
27	0.00	0.023	39.10	28.20
28	0.00	0.021	39.00	28.10
29	0.00	0.021	38.80	28.00
30	0.40	0.022	38.70	27.80
31				
TOTAL	0.42	0.706		
AVG		0.024		
MIN				
MAX	0.40	0.027		

Fax # 9-708-5668

FIGURE L-7

Manatee County Lena Road Landfill

Monthly Groundwater Gradient Report

Month and Year: April 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	21.46	<i>inward</i>	GW-3	39.40	30.49
P-4	40.78	23.76	<i>inward</i>	GW-4	40.53	29.75
P-5	40.73	23.78	<i>inward</i>	GW-5	39.90	29.21
P-6	40.74	23.74	<i>inward</i>	GW-6	38.95	28.50
P-7	40.60	23.70	<i>inward</i>	GW-7	39.49	26.29
P-8	40.21	23.63	<i>inward</i>	GW-8	39.75	25.15
P-9	39.97	23.63	<i>inward</i>	GW-9	39.65	24.74
P-10	39.86	22.66	<i>inward</i>	GW-10	38.34	24.90
P-11	40.52	23.91	<i>inward</i>	GW-11	38.26	27.92
P-12	43.28	30.44	<i>inward</i>	GW-12	42.09	30.57
P-13	44.78	30.28	<i>inward</i>	GW-13	44.79	32.78
P-14	45.09	30.39	<i>inward</i>	GW-14	39.63	32.24
P-15	45.57	30.97	<i>inward</i>	GW-15	42.33	33.31
P-16	44.67	31.10	<i>inward</i>	GW-16	44.41	32.21
P-17	44.28	30.53	<i>inward</i>	GW-17	42.19	31.97
P-18	43.16	23.92	<i>inward</i>	GW-18	41.76	29.88
P-19	42.91	22.92	<i>inward</i>	GW-19	41.20	27.63
P-20	42.54	25.27	<i>inward</i>	GW-20	41.00	26.72
P-21	42.23	24.62	<i>outward</i>	GW-21	40.94	24.49
P-22	42.06	23.69	<i>inward</i>	GW-22	41.53	24.43
P-23	42.08	22.42	<i>inward</i>	GW-23	40.91	25.80
P-24	42.03	19.89	<i>inward</i>	GW-24	41.37	26.27
P-25	42.16	19.24	<i>inward</i>	GW-25	41.11	27.95
P-26	42.50	19.20	<i>inward</i>	GW-26	41.44	29.86
P-27R	42.73	19.63	<i>inward</i>	GW-27R	40.90	29.85

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

Date Data Collected: April 24, 2017