Johnson, Sabrina O

From: Fischer, Shane <SFischer@SCSEngineers.com>
Sent: Monday, August 13, 2018 9:04 AM
To: SWD_Waste; Tafuni, Steven
Cc: Anthony Detweiler; Bryan White; Cooper, Dan; Lebron, Carlo
Subject: Manatee County Lena Road Landfill Monthly Report July 2018
Attachments: Monthly Gradient Report July 2018.pdf

Mr. Tafuni,

Attached is the Manatee County Lena Road Landfill Monthly Report (for July 2018) which includes the following:

- Monthly Water Balance Report (Exhibit A)
- Monthly Leachate Tracking Summary - 2018 (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

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August 13, 2018
File No. 09217088.05

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 - July 2018

Dear Mr. Tafuni:

This letter includes the following monthly reports: Monthly Water Balance Report (Exhibit A), Monthly Leachate Tracking Summary - 2018 (Exhibit B), Monthly Leachate Meter Readings, Monthly Rainfall, and Monthly Groundwater Gradient Report.

Sincerely,

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

Donovan Dickey
Assoicate Professional
SCS Engineers

SRF/DHD

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

Enclosures

58026
8/13/18

EXHIBIT A

MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY
LENA ROAD LANDFILL
MONTHLY WATER BALANCE REPORT
July-18

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-Jul-18	0	0	0	0	0	0	0.00	0
2-Jul-18	133,071	6,814	139,885	192	109,732	249,809	0.00	0
3-Jul-18	28,398	6,781	35,179	1,380	31,876	68,435	0.83	6,446,291
4-Jul-18	0	0	0	0	0	0	0.12	931,994
5-Jul-18	12,603	6,797	19,400	60	70,282	89,742	0.11	854,328
6-Jul-18	903	15	918	16	31,408	32,342	0.02	155,332
7-Jul-18	0	0	0	0	0	0	0.00	0
8-Jul-18	0	0	0	0	0	0	0.00	0
9-Jul-18	2,831	13,617	16,448	864,816	98,386	979,650	0.00	0
10-Jul-18	922	34	956	166,896	33,550	201,402	0.00	0
11-Jul-18	907	6,679	7,586	169,872	32,674	210,132	1.85	14,368,240
12-Jul-18	901	6,163	7,064	154,864	31,560	193,488	0.88	6,834,622
13-Jul-18	847	37	884	146,224	38,632	185,740	1.08	8,387,945
14-Jul-18	0	0	0	0	0	0	0.00	0
15-Jul-18	0	0	0	0	0	0	0.07	543,663
16-Jul-18	2,830	38,974	41,804	522,096	159,206	723,106	0.00	0
17-Jul-18	811	20,382	21,193	181,360	43,414	245,967	0.03	232,998
18-Jul-18	704	26	730	166,848	14,342	181,920	0.50	3,883,308
19-Jul-18	854	33,795	34,649	182,832	60,156	277,637	0.84	6,523,957
20-Jul-18	893	19,091	19,984	169,760	58,126	247,870	0.78	6,057,960
21-Jul-18	0	0	0	0	0	0	0.39	3,028,980
22-Jul-18	0	0	0	0	0	0	0.09	698,995
23-Jul-18	2,652	69,344	71,996	518,549	156,386	746,931	1.36	10,562,598
24-Jul-18	917	19,887	20,804	179,397	61,708	261,909	0.05	388,331
25-Jul-18	952	28,381	29,333	190,694	55,798	275,825	0.13	1,009,660
26-Jul-18	913	21,713	22,626	196,992	54,968	274,586	0.03	232,998
27-Jul-18	844	22,892	23,736	177,344	49,244	250,324	0.00	0
28-Jul-18	0	0	0	0	0	0	0.00	0
29-Jul-18	0	0	0	0	0	0	0.32	2,485,317
30-Jul-18	240,364	14,123	254,487	47,856	133,704	436,047	2.64	0
31-Jul-18			45,793	32	45,954	91,779	0.43	3,339,645
TOTAL	**434,117**	**335,545**	**815,455**	**4,038,080**	**1,371,106**	**6,224,641**	**12.55**	**76,967,165**
Leachate Pumped as Percentage of Rainfall				2.3%	10.0%	6.1%		

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	**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**

Comments

"0" = no data recorded

EXHIBIT B

MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY
LENA ROAD LANDFILL
MONTHLY LEACHATE TRACKING SUMMARY -- 2018

	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	637,352	2,649,648	521,360	3,808,360	2.32	18,018,549	9.9%	35.6%	12.5%
FEBRUARY	883,518	2,222,160	516,750	3,622,428	0.96	7,455,951	33.2%	72.2%	30.0%
MARCH	667,517	1,952,576	430,794	3,050,887	1.46	11,339,259	16.5%	41.7%	16.5%
APRIL	631,184	1,964,448	477,524	3,073,156	2.51	19,494,206	9.1%	24.4%	10.6%
MAY	692,586	2,377,648	974,292	4,044,526	11.80	83,918,286	2.1%	6.3%	4.6%
JUNE	717,412	3,610,928	1,165,894	5,494,234	10.20	75,646,840	2.5%	11.0%	6.4%
JULY	815,455	4,038,080	1,371,106	6,224,641	12.55	76,967,165	2.3%	10.0%	6.1%
AUGUST									
SEPTEMBER									
OCTOBER									
NOVEMBER									
DECEMBER									
TOTAL	**5,045,024**	**18,815,488**	**5,457,720**	**29,318,232**	**41.80**	**292,840,256**	**4.4%**	**16.3%**	**4.7%**

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		
7/1/18								
7/2/18	16560868	3044207	23389258	16705312	34.09	32.30	OK	R.B.
7/3/18	16689266	30209650	22421134	16570660	34.07	32.30	OK	R.B.
7/4/18								
7/5/18	16601869	30277855	22491416	16570675?	34.10	32.35	OK	R.B.
7/6/18	16602772	30278000	22522624	16570676?	34.09	32.32	OK	R.B
7/7/18								
7/8/18								
7/9/18	16605603	3041417	22621210	16657158?	34.01	32.31	OK	R.B.
7/10/18	16606225	3041451	22654760	16673848?	33.99	32.26	OK	R.B.
7/11/18	16607432	3046130	22667434	16680852	33.96	32.24	OK	R.B
7/12/18	16608333	3054293	22718994	16706326	34.44	32.42	OK	R.B
7/13/18	16609180	3054330	22757626	16720944?	34.49	32.43	OK	R.B
7/14/18								
7/15/18								
7/16/18	16612010	3093304	22916032	16773153	34.26	32.35	OK	R.B.
7/17/18	16612621	3113686	22960246	16791289	34.19	32.35	OK	R.B.
7/18/18	16613525	3113712	22974568	16807974	34.17	32.34	OK	R.B
7/19/18	16614379	3147507	23034744	16826252	34.27	32.38	OK	R.B.
7/20/18	16615272	31666?8	2309 2870	1688 432336	34.36	32.42	OK	M.G
7/21/18								
7/22/18								
7/23/18	16617924	3235942	23249256	16895084	34.73	32.74	OK	M.G
7/24/18	16618841	3255829	23310964	16913027?	34.75	32.40	OK	M.G.
7/25/18	16619793	3284210	23366762	16932097	34.40	32.37	OK	M.G.
7/26/18	16620706	3305923	23421730	16951798	34.30	32.35	OK	M.G.
7/27/18	16621505	3328815	23470974	16969532	34.25	32.35	OK	M.G.
7/28/18								
7/29/18								
7/30/18	16861914	3342938	23? 46?	16974316	34.20	32.32	OK	M.G
7/31/18	16907086	3342959	23630632	16974320	34.95	32.47	OK	M.G.

LANDFILL SHEET			LAKE LEVEL DATA IN FEET NGVD	
2018 Jul	RAIN FALL	LEACHATE MGD	SOUTH (86 ACRE)	EAST (63 ACRE)
1	0.00	0.043	42.30	39.10
2	0.00	0.043	42.30	40.80
3	0.83	0.043	42.40	40.80
4	0.12	0.045	42.40	40.80
5	0.11	0.045	42.30	40.90
6	0.02	0.097	42.30	41.10
7	0.00	0.068	42.30	41.20
8	0.00	0.056	42.30	38.20
9	0.00	0.052	42.30	41.10
10	0.00	0.050	42.30	41.40
11	1.85	0.045	42.30	41.40
12	0.88	0.050	42.30	41.00
13	1.08	0.050	42.30	41.70
14	0.00	0.059	42.30	40.80
15	0.07	0.061	42.30	41.80
16	0.00	0.059	42.30	41.80
17	0.03	0.025	42.30	41.80
18	0.50	0.001	42.30	41.80
19	0.84	0.032	42.40	38.20
20	0.78	0.064	42.40	38.40
21	0.39	0.080	42.30	38.50
22	0.09	0.075	42.30	38.60
23	1.36	0.073	42.30	38.50
24	0.05	0.076	42.40	38.80
25	0.13	0.069	42.30	38.80
26	0.03	0.054	42.30	38.80
27	0.00	0.052	42.30	38.70
28	0.00	0.045	42.30	38.70
29	0.32	0.053	42.30	38.80
30	2.64	0.028	42.30	39.00
31	0.43	0.018	42.30	39.20
TOTAL	12.55	1.611		
AVG		0.052		
MIN				
MAX	2.64	0.097		

Fax # 9-708-5668

FIGURE L-7

Manatee County Lena Road Landfill

Monthly Groundwater Gradient Report

Month and Year: July 2018

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	26.40	*inward*	GW-3	39.40	35.00
P-4	40.78	23.85	*inward*	GW-4	40.53	33.90
P-5	40.73	23.91	*inward*	GW-5	39.90	33.32
P-6	40.74	23.79	*inward*	GW-6	38.95	32.74
P-7	40.60	23.76	*inward*	GW-7	39.49	31.60
P-8	40.21	23.73	*inward*	GW-8	39.75	30.34
P-9	39.97	23.86	*inward*	GW-9	39.65	29.87
P-10	39.86	22.84	*inward*	GW-10	38.34	30.57
P-11	40.52	24.05	*inward*	GW-11	38.26	31.90
P-12	43.28	29.61	*inward*	GW-12	42.09	33.04
P-13	44.78	30.79	*inward*	GW-13	44.79	34.39
P-14	45.09	30.18	*inward*	GW-14	39.63	34.88
P-15	45.57	31.02	*inward*	GW-15	42.33	35.05
P-16	44.67	31.11	*inward*	GW-16	44.41	35.95
P-17	44.28	30.45	*inward*	GW-17	42.19	35.03
P-18	43.16	24.54	*inward*	GW-18	41.76	34.53
P-19	42.91	23.31	*inward*	GW-19	41.20	34.57
P-20	42.54	26.37	*inward*	GW-20	41.00	33.48
P-21	42.23	25.33	*inward*	GW-21	40.94	31.24
P-22	42.06	24.20	*inward*	GW-22	41.53	30.27
P-23	42.08	22.70	*inward*	GW-23	40.91	34.00
P-24	42.03	20.37	*inward*	GW-24	41.37	33.58
P-25	42.16	19.33	*inward*	GW-25	41.11	34.50
P-26	42.50	19.27	*inward*	GW-26	41.44	34.84
P-27R	42.73	19.64	*inward*	GW-27R	40.90	35.13

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: 07/27/2018