

## Smith, George

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**From:** Fischer, Shane <SFischer@SCSEngineers.com>  
**Sent:** Friday, October 13, 2017 2:31 PM  
**To:** SWD\_Waste  
**Cc:** Tafuni, Steven; Anthony Detweiler; Bryan White; Lynette Falkowski; Cooper, Dan; Lebron, Carlo  
**Subject:** Manatee County Lena Road Landfill Monthly Report September 2017  
**Attachments:** Monthly Gradient Report September 2017.pdf

Mr. Tafuni,

Attached is the Manatee County Lena Road Landfill Monthly Report (for September 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

3922 Coconut Palm Drive, Suite 102

Tampa, Florida 33619

(813) 804-6714 (Direct)

(813) 503-1044 (Cell)

(813) 621-0080 (Office)

(813) 623-6757 (Fax)

[sfischer@scsengineers.com](mailto:sfischer@scsengineers.com)

[www.scsengineers.com](http://www.scsengineers.com)

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## SCS ENGINEERS

October 13, 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 - September 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. Please note due to a malfunctioning meter on September 12<sup>th</sup> no reading was collected.

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**

SRF/BMW:srf



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

Attachments

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



EXHIBIT A

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY  
LENA ROAD LANDFILL  
MONTHLY WATER BALANCE REPORT  
September-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-Sep-17	28,951	6,958	35,909	374,900	67,373	478,182	0.90	6,989,954
2-Sep-17	0	0	0	0	0	0	0.08	621,329
3-Sep-17	0	0	0	0	0	0	0.08	621,329
4-Sep-17	0	0	0	0	0	0	0.00	0
5-Sep-17	118,700	13,670	132,370	1,311,372	267,052	1,710,794	0.00	0
6-Sep-17	31,578	7,235	38,813	283,528	58,946	381,287	0.29	2,252,319
7-Sep-17	31,738	92	31,830	-	58,566	-	0.08	621,329
8-Sep-17	0	0	0	0	0	0	0.02	155,332
9-Sep-17	0	0	0	0	0	0	0.00	0
10-Sep-17	0	0	0	0	0	0	6.20	48,153,019
11-Sep-17	0	0	0	0	0	0	0.50	3,883,308
12-Sep-17	165,330	53,457	218,787	-	294,360	-	0.05	388,331
13-Sep-17	81	22,782	22,863	48	70,828	93,739	0.02	155,332
14-Sep-17	79	22,789	22,868	48	66,220	89,136	0.46	3,572,643
15-Sep-17	81	29,770	29,851	48	61,626	91,525	0.00	0
16-Sep-17	0	0	0	0	0	0	0.13	1,009,660
17-Sep-17	0	0	0	0	0	0	0.00	0
18-Sep-17	258	91,140	91,398	144	177,274	268,816	0.00	0
19-Sep-17	93	30,393	30,486	48	53,877	84,411	0.00	0
20-Sep-17	7,210	23,035	30,245	52,960	49,548	132,753	0.00	0
21-Sep-17	39,960	61	40,021	927,962	14,698	982,681	0.00	0
22-Sep-17	82	6	88	31,110	3,067	34,265	0.00	0
23-Sep-17	0	0	0	0	0	0	0.09	698,995
24-Sep-17	0	0	0	0	0	0	0.09	698,995
25-Sep-17	100,757	35,224	135,981	1,534,000	178,151	1,848,132	0.00	0
26-Sep-17	29,956	104	30,060	364,108	47,651	441,819	0.00	0
27-Sep-17	27,479	7,577	35,056	316,084	43,765	394,905	0.00	0
28-Sep-17	23,026	82	23,108	274,032	35,192	332,332	0.00	0
29-Sep-17	27,041	7,604	34,645	279,280	43,150	357,075	0.00	0
30-Sep-17	0	0	0	0	0	0	0.00	0
<b>TOTAL</b>	<b>632,400</b>	<b>351,979</b>	<b>984,379</b>	<b>5,749,672</b>	<b>1,591,344</b>	<b>7,721,852</b>	<b>8.99</b>	<b>69,821,878</b>
Leachate Pumped as Percentage of Rainfall				4.0%	20.0%	9.9%		

**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
<b>TOTAL</b>	<b>132.0</b>	<b>118.0</b>	<b>66.0</b>	<b>316.0</b>
<b>Open Area</b>	<b>102.0</b>	<b>118.0</b>	<b>66.0</b>	<b>286.0</b>

EXHIBIT B

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

MONTH	B	C	D	E	F	G	H	I	J
	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	2,333,600	290,841	3,203,689	1.89	14,678,904	7.7%	38.5%	8.6%
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	984,379	5,749,672	1,591,344	7,721,852	8.99	69,821,878	4.0%	20.0%	9.9%
OCTOBER									
NOVEMBER									
DECEMBER									
<b>TOTAL</b>	<b>6,181,842</b>	<b>37,821,916</b>	<b>6,786,100</b>	<b>49,844,861</b>	<b>49.60</b>	<b>385,224,190</b>	<b>4.5%</b>	<b>27.5%</b>	<b>4.9%</b>

Notes:

- (B) Total leachate pumped from Stage I.
- (C) Total leachate pumped from Stage II
- (D) Total leachate pumped from Stage III
- (E) Total leachate (Column B+C+D) pumped to WWTP storage tank.
- (F) Total rainfall in inches.
- (G) Total rainfall in gallons (Stage I, II, and III Open Area of 286-acres x Rainfall)
- (H) Stage I leachate as a percentage of rainfall.
- (I) Stage II leachate pumped as a percentage of rainfall.
- (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
<b>TOTAL</b>	<b>132.0</b>	<b>118.0</b>	<b>66.0</b>	<b>316.0</b>
<b>Open Area</b>	<b>102.0</b>	<b>118.0</b>	<b>66.0</b>	<b>286.0</b>

## LEACHATE METER READINGS

DATE	LEACHATE METERS				STORMWATER S.G.		COMMENTS	NAME (Initials)
	#1	#2	#3	#4	#1	#2		
	9/1/17	10492174	1809606	14478734	132159900	34.19		
9/2/17								
9/3/17								
9/4/17								
9/5/17	10610874	1823276	14745784	133471277	33.95	32.35	O.K.	M.G.
9/6/17	10642452	1830511	14807732	133754800	33.85	32.31	O.K.	M.G.
9/7/17	10674100	18326032	148173292		33.88	32.33	Letter #4 broke everything else OK	M.G.
9/8/17								
9/9/17								
9/10/17								
9/11/17								
9/12/17	10839520	1864060	15157656	134907302	34.89	32.53	OK	R.B.
9/13/17	10839601	1866642	15228486	134907440	34.43	32.45	OK	R.B.
9/14/17	10839680	1929631	15294706	134907498	34.24	32.42	OK	M.B.
9/15/17	10839761	19594950	15356332	134907536	34.10	32.39	OK	C.M.
9/16/17								
9/17/17								
9/18/17	10840019	2050541	15533606	134907680	33.90	32.35	OK	C.M.
9/19/17	10840112	2080934	15587483	134907728	33.90	32.33	OK	R.B.
9/20/17	10840322	21039169	15637031	134907868	33.89	32.33	OK	R.B.
9/21/17	10867262	2104030	15651729	135688180	33.86	32.33	OK	R.B.
9/22/17	10867314	2104036	15654796	135919760	33.83	32.31	OK	R.B.
9/23/17								
9/24/17								
9/25/17	10868121	2139260	15832947	137437160	33.80	32.29	OK	R.B.
9/26/17	11018077	2139364	15880996	137617888	33.79	32.25	OK	R.B.
9/27/17	11045556	2146941	15924363	138133920	33.77	32.21	OK	R.B.
9/28/17	11068562	2147023	15999555	138407488	33.76	32.15	OK	R.B.
8/29/17	11095623	2154627	16002705	138665248	33.73	32.11	OK	R.B.
8/30/17								
8/31/17								

Landfill

LANDFILL SHEET		
2017 Sep	RAIN FALL	LEACHATE MGD
1	0.90	0.102
2	0.08	0.098
3	0.08	0.093
4	0.00	0.090
5	0.00	0.085
6	0.29	0.084
7	0.08	0.079
8	0.02	0.076
9	0.00	0.077
10	6.20	0.082
11	0.50	0.113
12	0.05	0.105
13	0.02	0.122
14	0.46	0.115
15	0.00	0.104
16	0.13	0.090
17	0.00	0.090
18	0.00	0.088
19	0.00	0.092
20	0.00	0.078
21	0.00	0.091
22	0.00	0.088
23	0.09	0.099
24	0.09	0.094
25	0.00	0.099
26	0.00	0.098
27	0.00	0.088
28	0.00	0.087
29	0.00	0.080
30	0.00	0.078
31		
TOTAL	8.99	2.765
AVG		0.092
MIN		
MAX	6.20	0.122

LAKE LEVEL DATA IN FEET NGVD	
SOUTH (86 ACRE)	EAST (63 ACRE)
36.30	31.50
36.70	31.80
36.80	32.10
36.80	32.40
36.90	32.50
36.90	32.50
36.90	32.60
37.10	32.70
37.20	32.80
37.20	33.40
37.20	33.50
37.20	33.50
37.40	33.60
37.40	33.60
37.40	33.60
37.60	34.00
37.60	34.60
37.60	34.70
37.60	34.70
37.60	34.70
37.80	34.60
37.80	34.80
37.80	35.10
38.00	35.10
38.00	35.20
38.00	35.20
38.00	35.20
38.10	35.70
38.10	35.70
38.10	35.70

Fax # 9-708-5668

FIGURE L-7

Manatee County Lena Road Landfill

## Monthly Groundwater Gradient Report

Month and Year: September 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	26.10	<i>inward</i>	GW-3	39.40	33.48
P-4	40.78	23.73	<i>inward</i>	GW-4	40.53	32.68
P-5	40.73	23.78	<i>inward</i>	GW-5	39.90	32.20
P-6	40.74	23.62	<i>inward</i>	GW-6	38.95	31.75
P-7	40.60	23.60	<i>inward</i>	GW-7	39.49	31.23
P-8	40.21	23.54	<i>inward</i>	GW-8	39.75	30.12
P-9	39.97	23.82	<i>inward</i>	GW-9	39.65	32.02
P-10	39.86	22.63	<i>inward</i>	GW-10	38.34	30.08
P-11	40.52	24.12	<i>inward</i>	GW-11	38.26	31.92
P-12	43.28	30.66	<i>inward</i>	GW-12	42.09	32.39
P-13	44.78	30.81	<i>inward</i>	GW-13	44.79	33.86
P-14	45.09	30.26	<i>inward</i>	GW-14	39.63	34.09
P-15	45.57	30.97	<i>inward</i>	GW-15	42.33	34.74
P-16	44.67	31.10	<i>inward</i>	GW-16	44.41	34.80
P-17	44.28	30.61	<i>inward</i>	GW-17	42.19	33.90
P-18	43.16	24.35	<i>inward</i>	GW-18	41.76	32.81
P-19	42.91	23.19	<i>inward</i>	GW-19	41.20	32.16
P-20	42.54	26.06	<i>inward</i>	GW-20	41.00	31.43
P-21	42.23	25.22	<i>inward</i>	GW-21	40.94	29.48
P-22	42.06	24.06	<i>inward</i>	GW-22	41.53	28.78
P-23	42.08	22.50	<i>inward</i>	GW-23	40.91	31.57
P-24	42.03	20.27	<i>inward</i>	GW-24	41.37	31.14
P-25	42.16	19.24	<i>inward</i>	GW-25	41.11	31.71
P-26	42.50	19.23	<i>inward</i>	GW-26	41.44	32.94
P-27R	42.73	19.63	<i>inward</i>	GW-27R	40.90	32.95

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: September 30, 2017