

## Johnson, Sabrina O

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**From:** Fischer, Shane <SFischer@SCSEngineers.com>  
**Sent:** Monday, September 9, 2019 9:21 AM  
**To:** SWD\_Waste; Tafuni, Steven  
**Cc:** Anthony Detweiler; Bryan White; Cooper, Dan; Lebron, Carlo  
**Subject:** Manatee County Lena Road Landfill Monthly Report August 2019  
**Attachments:** August 2019 Report.pdf

Mr. Tafuni,

Attached is the Manatee County Lena Road Landfill Monthly Report (for August 2019) which includes the following:

- Monthly Water Balance Report (Exhibit A)
- Monthly Leachate Tracking Summary - 2019 (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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September 9, 2019  
File No. 09217088.10

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 2019

Dear Mr. Tafuni:

This letter includes the following monthly reports: Monthly Water Balance Report (Exhibit A), Monthly Leachate Tracking Summary - 2019 (Exhibit B), Monthly Leachate Meter Readings, Monthly Rainfall, and Monthly Groundwater Gradient Report.

Sincerely,



Shane R. Fischer, P.E.  
Office Manager/Project Director  
SCS Engineers



Donovan Dickey  
Associate Professional  
SCS Engineers

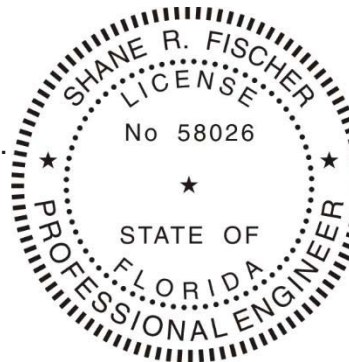
SRF/CED

cc: Bryan White, Manatee County Landfill Superintendent  
Anthony Detweiler, 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:  
2019.09.09  
09:16:58 -04'00'

EXHIBIT A

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY  
LENA ROAD LANDFILL  
MONTHLY WATER BALANCE REPORT  
August 2019**

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-19	396	26,236	26,632	209,248	78,544	314,424	3.07	23,843,511
2-Aug-19	346	27,473	27,819	69,520	76,852	174,191	0.33	2,562,983
3-Aug-19	0	0	0	0	0	0	0.15	1,164,992
4-Aug-19	0	0	0	0	0	0	0.00	0
5-Aug-19	1,130	85,919	87,049	86,360	291,988	465,397	0.31	2,407,651
6-Aug-19	468	35,638	36,106	506,920	85,768	628,794	1.28	9,941,268
7-Aug-19	462	31,379	31,841	316,624	88,060	436,525	0.29	2,252,319
8-Aug-19	518	37,062	37,580	225,120	111,320	374,020	0.21	1,630,989
9-Aug-19	408	32,899	33,307	480	96,824	130,611	0.53	4,116,306
10-Aug-19	0	0	0	0	0	0	1.43	11,106,261
11-Aug-19	0	0	0	0	0	0	0.00	0
12-Aug-19	1,326	110,050	111,376	1,552	312,248	425,176	0.77	5,980,294
13-Aug-19	408	35,178	35,586	550	95,628	131,764	0.24	1,863,988
14-Aug-19	906	37,231	38,137	586	100,964	139,687	2.90	22,523,186
15-Aug-19	137,662	6,406	144,068	752,288	116,204	1,012,560	0.79	6,135,627
16-Aug-19	0	0	0	0	0	0	3.14	24,387,174
17-Aug-19	0	0	0	0	0	0	0.31	2,407,651
18-Aug-19	0	0	0	0	0	0	0.00	0
19-Aug-19	278,906	30,487	309,393	1,536	581,132	892,061	0.31	2,407,651
20-Aug-19	50,806	6,075	56,881	288	102,000	159,169	0.20	1,553,323
21-Aug-19	54,846	6,561	61,407	304	108,368	170,079	0.08	621,329
22-Aug-19	54,306	6,687	60,993	288	103,332	164,613	0.01	77,666
23-Aug-19	52,116	6,633	58,749	272	97,316	156,337	0.01	77,666
24-Aug-19	0	0	0	0	0	0	0.00	0
25-Aug-19	0	0	0	0	0	0	0.00	0
26-Aug-19	152,582	19,085	171,667	720	265,912	438,299	0.45	3,494,977
27-Aug-19	42,722	5,527	48,249	208	74,108	122,565	0.50	3,883,308
28-Aug-19	47,268	6,339	53,607	208	80,940	134,755	0.41	3,184,313
29-Aug-19	43,370	5,800	49,170	176	73,224	122,570	0.03	232,998
30-Aug-19	44,667	5,852	50,519	208	75,472	126,199	0.13	1,009,660
31-Aug-19	0	0	0	0	0	0	0.07	543,663
<b>TOTAL</b>	<b>965,619</b>	<b>564,517</b>	<b>1,530,136</b>	<b>2,173,456</b>	<b>3,016,204</b>	<b>6,719,796</b>	<b>17.95</b>	<b>139,410,757</b>
Leachate Pumped as Percentage of Rainfall				3.1%	3.8%	9.4%		

**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	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
<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 -- 2019

	B	C	D	E	F	G	H	I	J
MONTH	STAGE I	STAGE II	STAGE III	TOTAL			STAGE I	STAGE II	STAGE III
	LEACHATE (gallons)	LEACHATE (gallons)	LEACHATE (gallons)	LEACHATE (gallons)	RAINFALL (inches)	RAINFALL (gallons)	LEACHATE/ RAINFALL (%)	LEACHATE/ RAINFALL (%)	LEACHATE/ RAINFALL (%)
JANUARY	985,946	3,653,440	924,189	5,563,575	3.48	27,027,824	10.2%	32.8%	14.8%
FEBRUARY	881,333	3,006,288	1,745,237	5,632,858	2.23	17,319,554	14.3%	42.1%	43.7%
MARCH	779,697	3,388,032	1,910,490	6,078,219	2.06	15,999,229	13.7%	51.3%	51.7%
APRIL	819,304	3,945,872	1,355,972	6,121,148	2.04	15,843,897	14.5%	60.4%	37.1%
MAY	699,681	7,390,560	2,560,600	10,650,841	2.41	18,717,545	10.5%	95.7%	59.3%
JUNE	745,979	2,745,936	1,169,260	4,661,175	7.83	60,812,603	3.4%	10.9%	8.3%
JULY	765,489	5,313,184	2,503,452	8,307,305	16.05	124,654,187	1.7%	10.3%	8.7%
AUGUST	1,530,136	2,173,456	3,016,204	6,719,796	17.95	139,410,757	3.1%	3.8%	9.4%
SEPTEMBER									
OCTOBER									
NOVEMBER									
DECEMBER									
<b>TOTAL</b>	<b>7,207,565</b>	<b>31,616,768</b>	<b>15,185,404</b>	<b>53,734,917</b>	<b>54.05</b>	<b>419,785,595</b>	<b>4.8%</b>	<b>21.1%</b>	<b>10.1%</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		
	8/11/17	26429652	5118666	40857812	218084400	34.31		
8/2/17	26429404	5146129	40934664	218153520	34.85	32.52	OK	A.H.
8/3/17								
8/4/17								
8/5/17	26530534	5232048	41226652	218240288	34.31	32.38	OK	A.H.
8/6/17	26431002	5267686	41312420	218247200	34.62	32.82	OK	A.H.
8/7/17	26431464	5299065	41400440	219063824	34.49	32.50	OK	ew
8/8/17	26431982	5336127	41511800	219288544	34.42	32.41	OK	WJ
8/9/17	26432350	5369026	41608624	219289424	34.34	32.38	OK	A.H.
8/10/17								
8/11/17								
8/12/17	26433716	5479076	41920872	219290976	34.44	32.46	OK	A.H.
8/13/17	2643424	5514264	42016500	219291536	34.57	32.43	OK	A.H.
8/14/17	26435030	5551485	42117464	219292112	34.62	32.44	OK	A.vk
8/15/17	26522692	5557891	42233668	220044400	34.75	32.53	OK	A.vk
8/16/17								
8/17/17								
8/18/17								
8/19/17	26851598	5688378	42814800	220045520	34.43	32.37	OK	A.H.
8/20/17	26902404	5694453	42916800	220046224	34.42	32.38	OK	A.H.
8/21/17	26952260	5601014	43025168	220046828	34.4	32.39	OK	A.H.
8/22/17	27011556	5607701	43128500	220047816	34.36	32.37	OK	A.H.
8/23/17	27063672	5614334	43225816	220047088	34.29	32.35	OK	A.H.
8/24/17								
8/25/17								
8/26/17	27216254	5633419	43491728	220047808	34.17	32.22	OK	A.H.
8/27/17	27258976	5638946	43568336	220048616	34.23	32.29	OK	A.H.
8/28/17	27306244	5645285	43646776	220048224	34.42	32.33	OK	A.H.
8/29/17	27349614	5661685	43720000	220048400	34.5	32.39	OK	A.H.
8/30/17	27394286	566937	43795472	220048608	34.44	32.33	OK	A.H.



FIGURE L-7

Manatee County Lena Road Landfill  
**Monthly Groundwater Gradient Report**  
 Month and Year: August 2019

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	26.86	<i>inward</i>	GW-3	39.40	35.17
P-4	40.78	22.27	<i>inward</i>	GW-4	40.53	33.99
P-5	40.73	20.15	<i>inward</i>	GW-5	39.90	33.26
P-6	40.74	19.90	<i>inward</i>	GW-6	38.95	32.61
P-7	40.60	19.49	<i>inward</i>	GW-7	39.49	31.73
P-8	40.21	19.49	<i>inward</i>	GW-8	39.75	30.50
P-9	39.97	19.96	<i>inward</i>	GW-9	39.65	29.83
P-10	39.86	19.70	<i>inward</i>	GW-10	38.34	31.14
P-11	40.52	22.77	<i>inward</i>	GW-11	38.26	32.08
P-12	43.28	29.88	<i>inward</i>	GW-12	42.09	33.04
P-13	44.78	30.94	<i>inward</i>	GW-13	44.79	34.43
P-14	45.09	19.87	<i>inward</i>	GW-14	39.63	35.00
P-15	45.57	31.03	<i>inward</i>	GW-15	42.33	35.38
P-16	44.67	31.07	<i>inward</i>	GW-16	44.41	36.34
P-17	44.28	30.30	<i>inward</i>	GW-17	42.19	34.96
P-18	43.16	24.94	<i>inward</i>	GW-18	41.76	34.98
P-19	42.91	24.99	<i>inward</i>	GW-19	41.20	34.76
P-20	42.54	26.41	<i>inward</i>	GW-20	41.00	33.60
P-21	42.23	25.37	<i>inward</i>	GW-21	40.94	30.92
P-22	42.06	25.12	<i>inward</i>	GW-22	41.53	29.94
P-23	42.08	25.04	<i>inward</i>	GW-23	40.91	33.31
P-24	42.03	25.13	<i>inward</i>	GW-24	41.37	33.05
P-25	42.16	25.18	<i>inward</i>	GW-25	41.11	34.08
P-26	42.50	24.89	<i>inward</i>	GW-26	41.44	34.60
P-27R	42.73	24.99	<i>inward</i>	GW-27R	40.90	34.69

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: 08/27/2019