

Johnson, Sabrina O

From: Fischer, Shane <SFischer@SCSEngineers.com>
Sent: Monday, January 13, 2020 11:58 AM
To: SWD_Waste; Tafuni, Steven
Cc: Anthony Detweiler; Bryan White; Bob Bennett; Cooper, Dan; Lebron, Carlo
Subject: Manatee County Lena Road Landfill Monthly Report December 2019
Attachments: December 2019 Report.pdf

Mr. Tafuni,

Attached is the Manatee County Lena Road Landfill Monthly Report (for December 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.
Vice President/Office Manager
SCS Engineers
3922 Coconut Palm Drive, Suite 102
Tampa, Florida 33619
(813) 804-6714 (W)
(813) 503-1044 (C)
sfischer@scsengineers.com

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January 13, 2020
File No. 09217088.15

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 – December 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.

During this monthly event an outward hydraulic gradient was identified at monitoring points P-21/GW-21 and P-22/GW-22. The following liquid measurements were identified at these locations.

Monitoring Points (12/26/19)	Leachate Elevation	Groundwater Elevation	Gradient Differential (Feet)
P-21/GW-21	26.83	26.09	0.74
P-22/GW-22	26.71	26.53	0.18

After SCS conducted the readings, County staff noticed that power at the lift station was not turned back on by Florida Power & Light (FPL) after they had conducted work at the station. The County turned the power back on and the system functioned normally. Readings were taken again at P-21/GW-21 and P-22/GW-22 on January 10, 2020 and are identified below. These locations now have the inward gradient as required.

Monitoring Points (1/10/20)	Leachate Elevation	Groundwater Elevation	Gradient Differential (Feet)
P-21/GW-21	25.29	26.14	0.85
P-22/GW-22	24.66	26.75	2.09

The County will continue normal pumping operations and will review the readings at these monitoring points during the next monthly event.

Mr. Steven Tafuni
January 13, 2020
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Sincerely,



Shane R. Fischer, P.E.
Vice President/Office Manager
SCS Engineers



Andres Velosa
Associate Professional
SCS Engineers

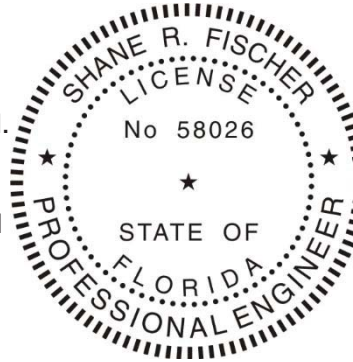
SRF/AFV

cc: Bryan White, Manatee County Landfill Superintendent
Anthony Detweiler, Manatee County Landfill Operations Supervisor
Bob Bennett, 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: 2020.01.13
11:52:23 -05'00'

EXHIBIT A

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY
LENA ROAD LANDFILL
MONTHLY WATER BALANCE REPORT
December 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-Dec-19	0	0	0	0	0	0	0.00	0
2-Dec-19	#REF!	233	96,663	720	93,232	190,615	0.03	232,998
3-Dec-19	96,430	71	47,153	224	28,448	75,825	0.00	0
4-Dec-19	47,082	74	9,562	240	29,384	39,186	0.00	0
5-Dec-19	9,488	70	27,958	272	29,752	57,982	0.00	0
6-Dec-19	27,888	58	23,840	192	28,500	52,532	0.00	0
7-Dec-19	23,782	0	0	0	0	0	0.00	0
8-Dec-19	0	0	0	0	0	0	0.00	0
9-Dec-19	77,762	191	77,953	672	85,652	164,277	0.00	0
10-Dec-19	25,982	64	26,046	240	27,044	53,330	0.00	0
11-Dec-19	29,314	71	29,385	224	29,308	58,917	0.00	0
12-Dec-19	25,688	64	25,752	240	29,392	55,384	0.00	0
13-Dec-19	29,098	66	29,164	224	29,220	58,608	0.01	77,666
14-Dec-19	0	0	0	0	0	0	0.52	4,038,640
15-Dec-19	0	0	0	0	0	0	0.00	0
16-Dec-19	84,820	213	85,033	512	83,410	168,955	0.00	0
17-Dec-19	25,196	61	25,257	224	27,602	53,083	0.73	5,669,630
18-Dec-19	1,270	41	1,311	48	29,092	30,451	0.04	310,665
19-Dec-19	82	38	120	23	30,484	30,627	0.00	0
20-Dec-19	76	37	113	25	29,064	29,202	0.00	0
21-Dec-19	0	0	0	0	0	0	0.19	1,475,657
22-Dec-19	0	0	0	0	0	0	0.50	3,883,308
23-Dec-19	212	113	325	96	88,788	89,209	0.51	3,960,974
24-Dec-19	56	34	90	32	27,896	28,018	0.00	0
25-Dec-19	0	0	0	0	0	0	0.00	0
26-Dec-19	120	77	197	64	61,476	61,737	0.00	0
27-Dec-19	56	38	94	32	31,252	31,378	0.00	0
28-Dec-19	0	0	0	0	0	0	1.00	7,766,616
29-Dec-19	0	0	0	0	0	0	0.00	0
30-Dec-19	182	116	298	96	94,640	95,034	0.00	0
31-Dec-19	74	44	118	32	37,444	37,594	0.02	155,332
TOTAL	#REF!	1,774	506,432	4,432	951,080	1,461,944	3.55	27,571,487
Leachate Pumped as Percentage of Rainfall				5.2%	0.0%	14.9%		

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	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

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	RAINFALL (inches)	RAINFALL (gallons)	STAGE I	STAGE II	STAGE III
	LEACHATE (gallons)	LEACHATE (gallons)	LEACHATE (gallons)	LEACHATE (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	1,346,398	6,624	1,750,856	3,103,878	2.44	18,950,543	19.9%	0.1%	40.0%
OCTOBER	1,060,131	9,232	1,235,620	2,266,199	3.92	30,445,135	9.8%	0.1%	17.6%
NOVEMBER	841,210	7,440	961,592	1,810,242	0.97	7,533,618	31.3%	0.2%	55.3%
DECEMBER	506,432	4,432	951,080	1,461,944	3.55	27,571,487	5.2%	0.0%	14.9%
TOTAL	10,961,736	31,644,496	20,084,552	62,377,180	64.93	504,286,377	6.1%	17.6%	11.2%

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
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		
	12/1/19							
12/2/19	30406866	6024307	4783672	220072624	33.79	31.08	OK	JFB
12/3/19	30433948	6024378	47865220	220072848	33.77	31.06	OK	JFB
12/4/19	30463436	6024452	47894604	220073088	33.77	31.06	OK	JFB
12/5/19	30491324	6024522	47924356	220073360	33.75	31.05	OK	JFB
12/6/19	30515106	6024580	47952856	220073552	33.70	31.02	OK	JFB
12/7/19								
12/8/19								
12/9/19	30592868	6024771	48038508	220074224	33.65	30.98	OK	AVK
12/10/19	30618856	6024835	48065552	220074464	33.63	30.97	OK	AVK
12/11/19	30648164	6024906	48094860	220074688	33.62	30.87	OK	JFB
12/12/19	30673852	6024970	48124252	220074928	33.65	30.83	OK	JFB
12/13/19	30702950	6025036	48153472	220075152	33.65	30.83	OK	JFB
12/14/19								
12/15/19								
12/16/19	30787710	6025249	48236882	220075664	33.79	31.00	OK	JFB
12/17/19	30812966	6025310	48244844	220075888	33.75	31.00	OK	JFB
12/18/19	30844236	6025351	48293576	220075926	33.82	31.23	OK	JFB
12/19/19	30814318	6025389	48324060	220075968	33.80	31.22	OK	JFB
12/20/19	30814394	6025426	48355324	220075984	33.80	31.20	OK	JFB
12/21/19								
12/22/19								
12/23/19	30814606	6025539	48444912	220076080	33.85	31.42	OK	JFB
12/24/19	30814662	6025573	48469808	220076112	33.88	31.45	OK	AVK
12/25/19								
12/26/19	30814782	6025650	48531284	220076176	33.82	31.55	OK	JFB
12/27/19	30814838	6025688	48562536	220076208	33.82	31.54	OK	JFB
12/28/19								
12/29/19								
12/30/19	30815020	6025804	48657176	220076304	33.92	31.92	OK	JFB
12/31/19	30815694	6025848	48694620	220076336	33.92	31.92	OK	JFB

Landfill

LANDFILL SHEET			LAKE LEVEL DATA IN FEET NGVD	
2019 Dec	RAIN FALL	LEACHATE MGD	SOUTH (86 ACRE)	EAST (63 ACRE)
1	0.00	0.013	42.80	40.80
2	0.03	0.013	42.80	40.80
3	0.00	0.012	42.80	40.80
4	0.00	0.012	42.80	40.80
5	0.00	0.011	42.80	40.80
6	0.00	0.011	42.80	40.80
7	0.00	0.011	42.80	40.80
8	0.00	0.012	42.80	40.80
9	0.00	0.012	42.80	40.80
10	0.00	0.012	42.80	40.80
11	0.00	0.011	42.80	40.80
12	0.00	0.011	42.80	40.80
13	0.01	0.013	42.80	40.80
14	0.52	0.012	42.80	40.80
15	0.00	0.011	42.80	40.80
16	0.00	0.011	42.80	40.80
17	0.73	0.008	42.80	40.80
18	0.04	0.006	42.80	40.80
19	0.00	0.006	42.80	40.80
20	0.00	0.006	42.80	40.80
21	0.19	0.006	42.80	40.80
22	0.50	0.006	42.80	40.80
23	0.51	0.006	42.80	40.80
24	0.00	0.007	42.80	40.80
25	0.00	0.007	42.80	40.80
26	0.00	0.006	42.80	40.80
27	0.00	0.006	42.80	40.80
28	1.00	0.007	42.80	40.80
29	0.00	0.007	42.80	40.80
30	0.00	0.007	42.80	40.80
31	0.02	0.007	42.80	40.80
TOTAL	3.55	0.286		
AVG		0.009		
MIN				
MAX	1.00	0.013		

Fax # 9-708-5668

FIGURE L-7

Manatee County Lena Road Landfill

Monthly Groundwater Gradient Report

Month and Year: December 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	24.73	<i>inward</i>	GW-3	39.40	33.00
P-4	40.78	22.07	<i>inward</i>	GW-4	40.53	32.73
P-5	40.73	20.83	<i>inward</i>	GW-5	39.90	32.20
P-6	40.74	19.74	<i>inward</i>	GW-6	38.95	31.45
P-7	40.60	19.20	<i>inward</i>	GW-7	39.49	28.69
P-8	40.21	19.11	<i>inward</i>	GW-8	39.75	27.95
P-9	39.97	19.27	<i>inward</i>	GW-9	39.65	28.75
P-10	39.86	25.41	<i>inward</i>	GW-10	38.34	29.84
P-11	40.52	22.22	<i>inward</i>	GW-11	38.26	31.41
P-12	43.28	30.58	<i>inward</i>	GW-12	42.09	32.69
P-13	44.78	30.98	<i>inward</i>	GW-13	44.79	33.89
P-14	45.09	30.89	<i>inward</i>	GW-14	39.63	34.43
P-15	45.57	31.17	<i>inward</i>	GW-15	42.33	34.58
P-16	44.67	31.37	<i>inward</i>	GW-16	44.41	34.51
P-17	44.28	30.78	<i>inward</i>	GW-17	42.19	33.94
P-18	43.16	26.76	<i>inward</i>	GW-18	41.76	31.86
P-19	42.91	26.86	<i>inward</i>	GW-19	41.20	29.85
P-20	42.54	26.84	<i>inward</i>	GW-20	41.00	28.45
P-21	42.23	26.83	<i>outward</i>	GW-21	40.94	26.09
P-22	42.06	26.71	<i>outward</i>	GW-22	41.53	26.53
P-23	42.08	26.73	<i>inward</i>	GW-23	40.91	28.41
P-24	42.03	26.78	<i>inward</i>	GW-24	41.37	28.67
P-25	42.16	26.86	<i>inward</i>	GW-25	41.11	31.41
P-26	42.50	26.90	<i>inward</i>	GW-26	41.44	32.84
P-27R	42.73	26.88	<i>inward</i>	GW-27R	40.90	32.75

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: 12/26/2019