Smith, George

From: Fischer, Shane <SFischer@SCSEngineers.com>
Sent: Friday, December 10, 2021 10:47 AM
To: SWD_Waste; Tafuni, Steven
Cc: Anthony Detweiler; Bryan White; Bob Bennett; Lebron, Carlo; Velosa, Andres; Al-Khalaf, Laila
Subject: Manatee County Lena Road Landfill Monthly Report November 2021
Attachments: November 2021 Report.pdf

EXTERNAL MESSAGE
This email originated outside of DEP. Please use caution when opening attachments, clicking links, or responding to this email.

Mr. Tafuni,

Attached is the Manatee County Lena Road Landfill Monthly Report (for November 2021) which includes the following:

- Monthly Water Balance Report (Exhibit A)
- Monthly Leachate Tracking Summary - 2021 (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) 503-1044.

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

Driven by Client Success
www.scsengineers.com

December 10, 2021
File No. 09217088.24

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 – November 2021

Dear Mr. Tafuni:

This letter includes the following monthly reports: Monthly Water Balance Report (Exhibit A), Monthly Leachate Tracking Summary - 2021 (Exhibit B), Monthly Leachate Meter Readings, Monthly Rainfall, and Monthly Groundwater Gradient Report.

Please note for this month's readings on November 29, 2021 the Leachate Flow Meter for Stage II counter reset back to 0 after hitting maximum display capability, readings for November 30, 2021 continued as normal.

Sincerely,

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

Andres Velosa
Staff Professional I
SCS Engineers

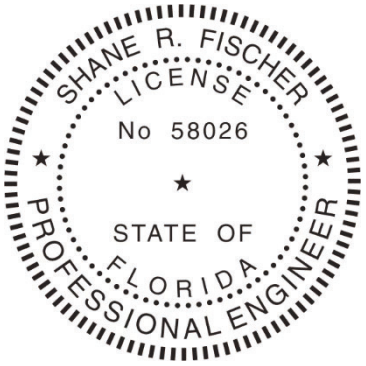
SRF/AFV

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: 2021.12.10 10:40:58 -05'00'

EXHIBIT A

MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY
LENA ROAD LANDFILL
MONTHLY WATER BALANCE REPORT
November 2021

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-Nov-21	199,164	28,399	227,563	285,554	165,952	679,069	0.00	0
2-Nov-21	51,432	8,496	59,928	109,468	74,568	243,964	0.00	0
3-Nov-21	49,396	9,166	58,562	88,353	77,832	224,747	0.00	0
4-Nov-21	46,888	9,044	55,932	111,099	71,016	238,047	0.04	310,665
5-Nov-21	44,916	9,467	54,383	88,796	75,240	218,419	2.16	16,775,891
6-Nov-21	0	0	0	0	0	0	0.05	388,331
7-Nov-21	0	0	0	0	0	0	0.00	0
8-Nov-21	28,472	26,761	55,233	308,068	142,816	506,117	0.00	0
9-Nov-21	138,816	7,932	146,748	88,347	79,560	314,655	0.00	0
10-Nov-21	44,476	9,525	54,001	110,638	70,496	235,135	0.00	0
11-Nov-21	44,380	9,447	53,827	93,751	73,848	221,426	0.08	621,329
12-Nov-21	41,828	9,339	51,167	108,211	69,752	229,130	0.01	77,666
13-Nov-21	0	0	0	0	0	0	0.04	310,665
14-Nov-21	0	0	0	0	0	0	0.00	0
15-Nov-21	110,368	25,662	136,030	290,864	142,024	568,918	0.00	0
16-Nov-21	38,200	8,107	46,307	87,087	65,024	198,418	0.00	0
17-Nov-21	39,140	8,661	47,801	92,156	68,328	208,285	0.00	0
18-Nov-21	40,232	8,968	49,200	106,159	66,752	222,111	0.07	543,663
19-Nov-21	39,208	9,537	48,745	89,496	73,312	211,553	0.00	0
20-Nov-21	0	0	0	0	0	0	0.00	0
21-Nov-21	0	0	0	0	0	0	0.00	0
22-Nov-21	109,412	26,586	135,998	284,079	186,944	607,021	0.01	77,666
23-Nov-21	38,824	9,870	48,694	88,120	69,536	206,350	0.00	0
24-Nov-21	28,264	7,896	36,160	87,177	57,592	180,929	0.00	0
25-Nov-21	0	0	0	0	0	0	0.00	0
26-Nov-21	57,324	16,347	73,671	186,493	97,232	357,396	0.00	0
27-Nov-21	0	0	0	0	0	0	0.00	0
28-Nov-21	0	0	0	0	0	0	0.00	0
29-Nov-21	89,300	24,199	113,499	268,557	90,048	472,104	0.00	0
30-Nov-21	26,272	8,372	34,644	78,251	0	112,895	0.00	0
	0	0	0	0	0	0	0.00	0
TOTAL	**1,306,312**	**281,781**	**1,588,093**	**3,050,724**	**1,817,872**	**6,456,689**	**2.46**	**19,105,875**
Leachate Pumped as Percentage of Rainfall				23.3%	38.7%	41.2%		

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 (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**

Comments

"0" = no data recorded

EXHIBIT B

MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY
LENA ROAD LANDFILL
MONTHLY LEACHATE TRACKING SUMMARY -- 2021

	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	955,764	2,232,576	857,936	4,046,276	0.79	6,135,627	43.7%	88.2%	60.6%
FEBRUARY	1,014,970	0	721,028	1,735,998	3.39	26,328,828	10.8%	0.0%	11.9%
MARCH	990,938	2,060,431	774,580	3,746,493	3.72	28,891,812	9.6%	17.3%	11.6%
APRIL	1,011,823	1,599,386	806,524	3,417,733	5.13	39,842,740	7.1%	9.7%	8.8%
MAY	807,932	0	1,102,972	1,910,904	0.43	3,339,645	67.8%	0.0%	143.1%
JUNE	556,999	7,205,246	1,322,088	9,084,333	8.26	64,152,248	2.4%	27.2%	8.9%
JULY	1,082,483	4,844,443	2,165,856	8,092,782	11.52	89,471,416	3.4%	13.1%	10.5%
AUGUST	1,204,387	6,357,344	2,115,112	9,412,320	12.75	99,024,354	3.4%	15.6%	9.3%
SEPTEMBER	1,331,727	4,206,133	2,962,768	8,500,628	6.26	48,619,016	7.7%	21.0%	26.4%
OCTOBER	1,198,835	3,434,914	2,011,864	6,645,613	1.54	11,960,589	28.1%	69.6%	72.9%
NOVEMBER	1,588,093	3,050,724	1,817,872	6,456,689	2.46	19,105,875	23.3%	38.7%	41.2%
DECEMBER									
TOTAL	**11,743,951**	**34,991,197**	**16,658,600**	**63,049,769**	**56.25**	**436,872,150**	**7.5%**	**22.5%**	**10.7%**

No Display

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		
11/1/21	46454756	14066442	76948008	7306683	33.98	DRY	OK	DEK
11/2/21	46506188	14074938	77022576	7416151	33.97	DRY	OK	DEK
11/3/21	46555584	14084104	77100408	7504504	33.95	DRY	OK	DEK
11/4/21	46602472	14093148	77171424	7615303	33.89	DRY	OK	DEK
11/5/21	46647388	14102615	77246664	7704399	33.90	DRY	OK	DEK
11/6/21								
11/7/21								
11/8/21	46775860	14129376	77389480	8012467	34.11	31.20	OK	DEK
11/9/21	46814676	14137308	7746904	8100814	34.09	31.07	OK	DEK
11/10/21	46859152	14146833	77539536	8211452	34.09	30.90	OK	SP
11/11/21	46903532	14156280	77613384	8305203	34.09	30.80	OK	SP
11/12/21	46945360	14165619	77683136	8413414	34.08	30.73	OK	SP
11/13/21								
11/14/21								
11/15/21	47055728	14191281	77825160	8704278	34.03	30.47	OK	DEK
11/16/21	47093228	14199388	77890184	8791365	34.00	30.38	OK	DEK
11/17/21	47133068	14208049	77958512	8883521	33.99	30.30	OK	DEK
11/18/21	47173300	14217017	78025264	8989680	33.99	30.00	OK	DEK
11/19/21	47212508	14226554	78098576	9079176	33.99	30.01	OK	DEK
11/20/21								
11/21/21								
11/22/21	47321920	14253140	78285520	9363255	33.97	29.84	OK	DEK
11/23/21	47360744	14263010	78355056	9451375	33.95	29.82	OK	DEK
11/24/21	47389008	14270906	78412648	9538552	33.95	29.78	OK	DEK
11/25/21								
11/26/21	47446332	14287253	78509880	9725045	33.88	DRY	OK	DEK
11/27/21								
11/28/21								
11/29/21	47535632	14311452	78599928	9993602	33.82	DRY	OK	DEK
11/30/21	47561904	14319824	78561378	71853	33.79	DRY	OK	DEK

The numbers were reversed on this form during input. The reading for 11/29/2021 is 78561378 and the reading for 11/30/2021 is 78561378.

LANDFILL SHEET			LAKE LEVEL DATA IN FEET NGVD	
2021 Nov	RAIN FALL	LEACHATE MGD	SOUTH (86 ACRE)	EAST (63 ACRE)
1	0.00	0.225	18.80	40.80
2	0.00	0.241	18.80	40.80
3	0.00	0.221	18.80	40.80
4	0.04	0.217	18.80	40.80
5	2.16	0.241	38.80	40.80
6	0.05	0.212	38.80	40.80
7	0.00	0.177	38.80	40.80
8	0.00	0.192	38.80	40.80
9	0.00	0.234	38.80	40.80
10	0.00	0.214	38.80	40.80
11	0.08	0.235	38.80	40.80
12	0.01	0.213	38.80	40.80
13	0.04	0.210	38.80	40.80
14	0.00	0.172	38.80	40.80
15	0.00	0.184	38.80	40.80
16	0.00	0.222	38.80	40.80
17	0.00	0.205	38.80	40.80
18	0.07	0.210	38.80	40.80
19	0.00	0.215	38.80	40.80
20	0.00	0.214	38.80	40.80
21	0.00	0.190	38.80	40.80
22	0.01	0.197	38.80	40.80
23	0.00	0.192	38.80	40.80
24	0.00	0.198	38.80	40.80
25	0.00	0.168	38.80	40.80
26	0.00	0.166	38.80	40.80
27	0.00	0.146	38.80	40.80
28	0.00	0.186	38.80	40.80
29	0.00	0.173	38.80	40.80
30	0.00	0.173	38.80	40.80
31				
TOTAL	2.46	6.043		
AVG		0.201		
MIN				
MAX	2.16	0.241		

Fax # 9-708-5668

FIGURE L-7

Manatee County Lena Road Landfill

Monthly Groundwater Gradient Report

Month and Year: November 2021

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	24.87	*inward*	GW-3	39.40	32.52
P-4	40.78	22.19	*inward*	GW-4	40.53	31.94
P-5	40.73	20.85	*inward*	GW-5	39.90	31.45
P-6	40.74	19.92	*inward*	GW-6	38.95	30.63
P-7	40.60	23.78	*inward*	GW-7	39.49	28.67
P-8	40.21	19.13	*inward*	GW-8	39.75	27.35
P-9	NA	NA	*NA*	*NA*	*NA*	*NA*
P-9A	39.83	22.77	*inward*	GW-9	39.65	30.55
P-10	39.86	26.01	*inward*	GW-10	38.34	27.61
P-11	40.52	22.24	*inward*	GW-11	38.26	29.45
P-12	43.28	29.50	*inward*	GW-12	42.09	32.02
P-13	44.78	30.76	*inward*	GW-13	44.79	33.86
P-14	45.09	29.84	*inward*	GW-14	39.63	34.58
P-15	45.57	30.97	*inward*	GW-15	42.33	32.23
P-16	44.67	31.20	*inward*	GW-16	44.41	33.00
P-17	44.28	31.58	*inward*	GW-17	42.19	33.98
P-18	43.16	24.26	*inward*	GW-18	41.76	32.13
P-19	42.91	23.13	*inward*	GW-19	41.20	31.34
P-20	42.54	25.78	*inward*	GW-20	41.00	30.18
P-21	42.23	25.14	*inward*	GW-21	40.94	27.44
P-22	42.06	23.90	*inward*	GW-22	41.53	27.18
P-23	42.08	22.43	*inward*	GW-23	40.91	29.41
P-24	42.03	19.99	*inward*	GW-24	41.37	29.58
P-25	42.16	19.20	*inward*	GW-25	41.11	30.96
P-26	42.50	19.12	*inward*	GW-26	41.44	32.40
P-27R	42.73	20.15	*inward*	GW-27R	40.90	32.49

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
Piezometer P-9 abandoned and P-9A installed August 25, 2020
Date Data Collected: 11/24/2021