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August 8, 2016

Mr. John Morris, P.G.
Florida Department of Environmental Protection
Southwest District Office - Solid Waste Section
13051 N. Telecom Parkway
Temple Terrace, Florida 33637-0926

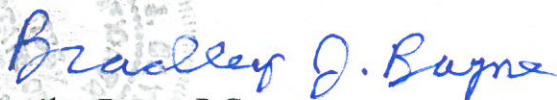
**Re: Manatee County Lena Road Landfill
Monthly Report –July 2016**

Dear Mr. Morris:

This letter includes the following monthly reports: Monthly Water Balance Report (Exhibit A), Monthly Leachate Tracking Summary - 2016 (Exhibit B), Monthly Leachate Meter Readings, Monthly Rainfall, Monthly Groundwater Gradient Report. Between March 16, 2016 and May 4, 2016, monitoring wells GW-18 through GW-27R and piezometers P-18 through P-27R were installed around the perimeter of Stage II.

If you should have any questions concerning this report, please call me at 813/281-8377.

Sincerely,



Bradley J. Bayne

Bradley Bayne, P.G.
Senior Geologist
Florida PG #1733

Attachments

cc: C. Mike Gore, Manatee County Utilities Department Director
Bryan White, Manatee County Landfill Superintendent
Anthony Detweiler, Manatee County Landfill Operations Supervisor
File – 100047674-01.01

EXHIBIT A

MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY LENA ROAD LANDFILL MONTHLY WATER BALANCE REPORT July-16

A	B	C	D	E	F	G	H
DATE	LEACHATE STAGE I Lift Station 1 (gallons)	LEACHATE STAGE I Lift Station 2 (gallons)	LEACHATE STAGE I TOTAL (gallons)	LEACHATE STAGE III TOTAL (gallons)	TOTAL LEACHATE PUMPED (gallons)	RAINFALL (inches)	RAINFALL (gallons)
01-Jul-16	21,126	6,898	28,024	30,462	58,486	0.00	0
02-Jul-16	0	0	0	0	0	0.02	91,244
03-Jul-16	0	0	0	0	0	0.00	0
04-Jul-16	0	0	0	0	0	0.00	0
05-Jul-16	79,254	7,273	86,527	104,762	191,289	0.00	0
06-Jul-16	20,123	7,076	27,199	24,911	52,110	0.00	0
07-Jul-16	20,776	68	20,844	24,966	45,810	0.09	410,599
08-Jul-16	20,277	66	20,343	24,992	45,335	0.66	3,011,061
09-Jul-16	0	0	0	0	0	0.00	0
10-Jul-16	0	0	0	0	0	0.00	0
11-Jul-16	62,085	14,328	76,413	76,860	153,273	0.12	547,466
12-Jul-16	19,839	61	19,900	22,097	41,997	0.06	273,733
13-Jul-16	17,461	57	17,518	22,145	39,663	0.02	91,244
14-Jul-16	18,700	7,122	25,822	24,478	50,300	2.69	12,272,353
15-Jul-16	21,929	77	22,006	26,129	48,135	0.00	0
16-Jul-16	0	0	0	0	0	0.00	0
17-Jul-16	0	0	0	0	0	0.02	91,244
18-Jul-16	57,932	6,799	64,731	86,182	150,913	0.00	0
19-Jul-16	18,129	7,246	25,375	24,304	49,679	0.11	501,843
20-Jul-16	19,626	79	19,705	25,975	45,680	0.00	0
21-Jul-16	20,132	6,872	27,004	26,760	53,764	0.00	0
22-Jul-16	20,462	75	20,537	24,878	45,415	0.70	3,193,549
23-Jul-16	0	0	0	0	0	0.30	1,368,664
24-Jul-16	0	0	0	0	0	0.00	0
25-Jul-16	61,943	13,416	75,359	82,132	157,491	0.45	2,052,996
26-Jul-16	19,488	66	19,554	23,794	43,348	0.69	3,147,927
27-Jul-16	21,185	780	21,965	26,033	47,998	0.46	2,098,618
28-Jul-16	21,622	6,722	28,344	33,703	62,047	0.00	0
29-Jul-16	21,974	84	22,058	34,178	56,236	0.50	2,281,107
30-Jul-16	0	0	0	0	0	0.00	0
31-Jul-16	0	0	0	0	0	1.77	8,075,117
TOTAL	584,063	85,165	669,228	769,741	1,438,969	8.66	39,508,765
Leachate Pumped as Percentage of Rainfall			2.8%	5.0%			

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 III.
- F - Total leachate pumped to WWTP storage tank (D+E).
- G - Rainfall (inches) recorded on this date.
- H - Rainfall (gallons) calculated based on open area (G x Area x 27,156 gal/acre-in).

	Stage I (acres)	Stage III (acres)	TOTAL (acres)
Initial Cover	--	66.0	66.0
Intermediate Cover	102.0	--	102.0
Closed	30.0	--	30.0
TOTAL	132.0	66.0	198.0
Open Area	102.0	66.0	168.0

Comments

"0" = no data recorded

EXHIBIT B

MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY LENA ROAD LANDFILL MONTHLY LEACHATE TRACKING SUMMARY -- 2016

	B	C	D	E	F	G	H
MONTH	STAGE I	STAGE III	TOTAL			STAGE I	STAGE III
	LEACHATE	LEACHATE	LEACHATE	RAINFALL	RAINFALL	LEACHATE/ RAINFALL	LEACHATE /RAINFALL
	(gallons)	(gallons)	(gallons)	(inches)	(gallons)	(%)	(%)
JANUARY	785,550	0	785,550	5.67	25,867,748	5.0%	0.0%
FEBRUARY	961,680	0	961,680	1.67	7,618,986	20.8%	0.0%
MARCH	581,148	168,250	749,398	1.58	7,208,297	13.3%	5.9%
APRIL	576,293	509,075	1,085,368	2.56	11,679,265	8.1%	11.1%
MAY	718,675	798,107	1,516,782	8.81	40,193,097	2.9%	5.1%
JUNE	747,181	1,003,510	1,750,691	12.15	55,430,888	2.2%	4.6%
JULY	669,228	769,741	1,438,969	8.66	39,508,765	2.8%	5.0%
AUGUST							
SEPTEMBER							
OCTOBER							
NOVEMBER							
DECEMBER							
TOTAL	5,039,755	3,248,683	8,288,438	41.10	187,507,046	4.4%	4.4%

Notes:

1. (B) Total leachate pumped from Stage I.
2. (C) Total leachate pumped from Stage III.
3. (D) Total leachate (Column B+C) pumped to the WWTP storage tank.
4. (E) Total rainfall in inches.
5. (F) Total rainfall in gallons (Stage I and III Open Area of 168-acres x Rainfall)
6. (G) Stage I leachate pumped as a percentage of rainfall.
7. (H) Stage III leachate pumped as a percentage of rainfall.

Landfill Stage Land Areas

	Stage I	Stage III	TOTAL
	(acres)	(acres)	(acres)
Initial Cover	--	66.0	66.0
Intermediate Cov.	102.0	--	102.0
Closed	30.0	--	30.0
TOTAL	132.0	66.0	198.0
Open Area	102.0	66.0	168.0

Landfill

LANDFILL SHEET			LAKE LEVEL DATA IN FEET NGVD	
2016 Jul	RAIN FALL	LEACHATE MGD	SOUTH (86 ACRE)	EAST (63 ACRE)
1	0.00	0.080	42.30	35.40
2	0.02	0.075	42.30	35.40
3	0.00	0.075	42.50	35.40
4	0.00	0.072	42.70	35.40
5	0.00	0.070	42.70	35.40
6	0.00	0.073	42.80	35.30
7	0.09	0.068	42.90	35.30
8	0.66	0.072	43.00	34.80
9	0.00	0.067	42.80	34.50
10	0.00	0.067	42.90	34.40
11	0.12	0.068	42.80	34.30
12	0.06	0.066	42.80	34.20
13	0.02	0.068	42.70	34.20
14	2.69	0.064	42.80	33.90
15	0.00	0.071	42.70	33.80
16	0.00	0.070	42.70	33.60
17	0.02	0.069	42.60	33.30
18	0.00	0.071	42.50	33.20
19	0.11	0.066	42.10	33.10
20	0.00	0.069	42.00	32.90
21	0.00	0.064	42.30	32.90
22	0.70	0.068	42.30	32.90
23	0.30	0.064	42.20	32.80
24	0.00	0.067	42.30	32.70
25	0.45	0.065	42.40	32.70
26	0.69	0.071	42.40	32.60
27	0.46	0.074	42.40	32.00
28	0.00	0.076	42.40	32.30
29	0.50	0.077	42.50	32.20
30	0.00	0.078	42.40	32.10
31	1.77	0.073	42.50	32.20
TOTAL	8.66	2.178		
AVG		0.070		
MIN				
MAX	2.69	0.080		

Fax # 9-708-5668

FIGURE L-7

Manatee County Lena Road Landfill

Monthly Groundwater Gradient Report

Month and Year: JULY 2016

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	27.02	<i>inward</i>	GW-3	39.40	34.92
P-4	40.78	23.81	<i>inward</i>	GW-4	40.53	34.34
P-5	40.73	24.08	<i>inward</i>	GW-5	39.90	33.38
P-6	40.74	23.76	<i>inward</i>	GW-6	38.95	32.54
P-7	40.60	23.48	<i>inward</i>	GW-7	39.49	31.63
P-8	40.21	23.41	<i>inward</i>	GW-8	39.75	30.64
P-9	39.97	23.60	<i>inward</i>	GW-9	39.65	31.17
P-10	39.86	22.65	<i>inward</i>	GW-10	38.34	31.14
P-11	40.52	23.92	<i>inward</i>	GW-11	38.26	31.87
P-12	43.28	29.95	<i>inward</i>	GW-12	42.09	32.80
P-13	44.78	30.65	<i>inward</i>	GW-13	44.79	33.98
P-14	45.09	30.32	<i>inward</i>	GW-14	39.63	34.92
P-15	45.57	31.10	<i>inward</i>	GW-15	42.33	35.25
P-16	44.67	31.07	<i>inward</i>	GW-16	44.41	34.41
P-17	44.28	30.16	<i>inward</i>	GW-17	42.19	34.89
P-18	43.16	24.35	<i>inward</i>	GW-18	41.76	34.43
P-19	42.91	23.23	<i>inward</i>	GW-19	41.20	33.66
P-20	42.54	26.20	<i>inward</i>	GW-20	41.00	33.06
P-21	42.23	25.26	<i>inward</i>	GW-21	40.94	28.09
P-22	42.06	24.06	<i>inward</i>	GW-22	41.53	29.13
P-23	42.08	22.51	<i>inward</i>	GW-23	40.91	34.16
P-24	42.03	20.24	<i>inward</i>	GW-24	41.37	33.34
P-25	42.16	18.81	<i>inward</i>	GW-25	41.11	34.30
P-26	42.50	19.11	<i>inward</i>	GW-26	41.44	34.67
P-27R	42.73	19.31	<i>inward</i>	GW-27R	40.90	35.09

Comments:

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: JULY 27, 2016

Form Revised December 6, 2004