Hsu, Benjamin

From: Pelley, Cindy <PelleyCA@HillsboroughCounty.ORG>
Sent: Thursday, July 12, 2018 2:18 PM
To: SWD_Waste
Cc: Morgan, Steve; Ruiz, Larry; Cope, Ronald; Byer, Kimberly; Madden, Melissa; 'Curtis, Bob'; O'Neill, Joseph; KGuilbeault@scsengineers.com; O'Neill, Joseph
Subject: WACS ID 41193 - Qtr 2 2018 Water Balance & Waste Tire Report for Southeast County
Attachments: 2Q2018 Water Balance Report.pdf; 2Q2018 Waste Tire rpt.pdf

Mr. Morgan:

The Quarterly Water Balance and Waste Tire Reports for the Southeast County Landfill are attached (WACS ID 41193).

Please advise should you have any questions concerning the information provided.

Thank you,
Cindy A. Pelley
General Manager II
Solid Waste Management Division
Public Works Department

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Hillsborough County Florida

PUBLIC WORKS
PO Box 1110 Tampa, FL 33601-1110
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July 12, 2018

Mr. Steve Morgan
Solid Waste Section
Florida Department of Environmental Protection, Southwest District
13051 N. Telecom Pkwy
Temple Terrace, Florida 33637

RE: Southeast County Landfill – Leachate Data Quarterly Report

Dear Mr. Morgan:

In accordance with Specific Condition No. C.12.d of Permit No. 35435-023-SO/01, the Solid Waste Management Division (SWMD) is submitting the Quarterly Leachate Water Balance summary for the Southeast County Landfill for the quarter ending June 30, 2018.

The data is being submitted as separate monthly reports for April, May, and June 2018. The attached reports include the leachate level in Pump Station B (PS-B).

Please advise should you have any questions concerning the attached submittal.

Sincerely,

Larry E. Ruiz, SC for
Manager Landfill Operations
Solid Waste Management Division

LER/cp
Attachment
xc: Ken Guilbeault, SCS
Ron Cope, EPC

Hillsborough County Florida

PUBLIC WORKS
PO Box 1110 Tampa, FL 33601-1110
(813) 272-5912 | Fax: (813) 272-5811

MEMORANDUM

DATE: May 14, 2018

TO: Larry E. Ruiz, Manager Landfill Operations, Solid Waste Management Division

FROM: Cindy A. Pelley, Landfill Supervisor, Solid Waste Management Division

SUBJECT: Leachate Water Balance Report Forms for April 2018
Southeast County Landfill, Hillsborough County, Florida

The Solid Waste Management Division (SWMD) staff has compiled and reviewed the leachate management operational data from the Southeast County Landfill Phases I-VI, Sections 7-8, and Section 9. Attached are the Leachate Water Balance Report Form (Table 1), the Leachate Field Data Entry Form (Table 2), and the 2018 Summary (Table 3). Also, attached find Figure 1 showing leachate levels in Pump Station B sump of Phases I-VI and rainfall for the month.

TABLE 1

Day (Column I)

Column I presents the calendar days for the month.

Rainfall (Column II)

Column II presents the average rainfall, in inches, as measured in the field from rainfall stations at the site. This month there was 2.70 inches of rainfall recorded at the Southeast County Landfill (SCLF).

Depth in Pond A (Column III)

Column III presents the daily depth, in feet, of effluent stored in effluent pond (Pond A). The daily depth in Pond A varies as a function of the spray irrigation frequency/duration and effluent hauled from the pond. This month the daily average depth of effluent stored in Pond A was 2.9 feet.

Depth in Pond B (Column IV)

Column IV presents the daily depth, in feet, of effluent or leachate that is stored in the effluent/leachate storage pond (Pond B). The depth in Pond B varies as a function of the evaporation frequency/duration and effluent or leachate hauled from the pond. This month the daily average depth of effluent stored in Pond B was 0.5.

Estimated Depth at Pump Station B Sump (PS-B) (Column V)

Column V presents the depth of leachate, in inches, in the PS-B sump. Leachate from Phases I-VI flows to the PS-B sump for removal from the landfill. PS-B then pumps the leachate to Pump Station A (PS-A). Daily depth readings from the PS-B sump are included in this column. This month PS-B was below the normal operation level. The average recorded depth of leachate in the PS-B sump was 16.4 inches.

Leachate Pumped to MLPS from Phases I-VI (Column VI)

Column VIII presents the daily amount of leachate, in gallons, collected from PS-A and pumped through the MLPS to the 575,000-gallon storage tank at the Leachate Treatment and Reclamation Facility (LTRF) for treatment or disposal. This column also includes the Phase II data from the dewatering wells and PS-2. The average daily amount of leachate pumped from PS-A was 68,814 gallons. A total of 2,064,425 gallons of leachate was pumped this month.

Leachate Pumped from Sections 7-8 LDS (Column VII)

Column IX presents the quantity of leachate removed from the leak detection system (LDS) of Sections 7-8. The quantity is measured by a flow meter before being pumped for removal with Sections 7-8 leachate. The removal rate did not exceed 1,930 gallons per day. This month 6,500 gallons of leachate was removed from the leak detection system of Sections 7-8.

Leachate Pumped to MLPS from Sections 7-8 (Column VIII)

Column X presents the quantity of leachate collected at Sections 7-8 and pumped to the MLPS. The quantity is measured by a flow meter and includes any leachate removed from the leak detection system of Sections 7-8 (Column IX). This month a total of 237,863 gallons was removed.

Leachate Pumped to LTRF from the MLPS (Column IX)

Column XI presents the total quantity of leachate pumped to the LTRF from Phases I-VI (including condensate removed from LFG Wells and Condensate Traps), and Sections 7-8. This month a total of 2,302,288 gallons of leachate was pumped to the LTRF.

Leachate Pumped to LTRF from Section 9 (Column X)

Column XII presents the daily amount of leachate, in gallons, collected from Section 9 and pumped to the 575,000-gallon storage tank at the Leachate Treatment and Reclamation Facility (LTRF) for treatment or disposal. A total of 75,396 gallons of leachate was pumped this month.

Leachate Pumped from Section 9 LDS (Column XI)

Column XIII presents the daily amount of leachate, in gallons, collected from the LDS of Section 9 and pumped to the 575,000-gallon storage tank at the LTRF for treatment or disposal. The removal rate did not exceed 4,651 gallons per day. This month 40 gallons of leachate was removed from the leak detection system.

Leachate Pumped from Compost Area Sump (Column XII)

Column XIV presents the total quantity of leachate pumped to the LTRF and Pond B from the Compost Project Area Sump. This month 3,295 gallons of leachate was removed from the compost area and pumped to the LTRF.

Leachate in 575,000-Gallon Tank (Column XIII)

Column XV presents the daily amount of leachate, in gallons, stored in the 575,000-gallon leachate holding tank T1 at the LTRF. The amount of leachate stored in T1 is calculated based on the circumference of the tank and the daily level reading. This month an average of 328,500 gallons of leachate was stored in the tank.

Effluent in 575,000-Gallon Tank (Column XIV)

Column XVI typically presents the daily amount of effluent, in gallons, stored in the 575,000-gallon effluent holding tank T6 at the LTRF. The amount of effluent stored in T6 is calculated based on the circumference of the tank and the daily level reading. This month an average of 394,000 gallons of effluent was stored in the tank.

Leachate Treated at LTRF (Column XV)

Column XIIV presents the daily amount of leachate, in gallons, treated at the LTRF. This month a total of 567,800 gallons of leachate was treated at the plant.

Total Leachate Hauled (Column XVI)

Column XVIII presents the daily amount of leachate, in gallons, hauled off site. This month a total of 1,683,678 gallons of leachate was hauled off site.

Leachate Dust Control Sprayed (Column XVII)

Column XIX presents the daily amount of leachate, in gallons, measured from the flow meter at the bypass-loading arm at the leachate storage tank. The leachate is used for dust control in the active area of the landfill. This month a total of 3,216 gallons of leachate was used for dust control.

Pond A Storage (Column XVIII)

Column XX presents the daily amount of effluent, in gallons, stored in Pond A. The daily amount stored in the pond is calculated by using the daily depth of effluent in the Pond A (Column III). Under normal operating conditions, the daily amount of effluent stored in the pond varies depending upon the daily amount of leachate treated at the LTRF, the daily rainfall, daily effluent hauling operations, daily spray irrigation operations, and the daily amount of effluent used for dust control/evaporation. This month a daily average of 36,800 gallons of effluent was stored in Pond A.

Pond B Storage (Column XIX)

Column XXI presents the daily amount of effluent, in gallons, stored in Pond B. The daily amount stored in the pond is calculated by using the daily depth of liquid in Pond B (Column IV). Under normal operating conditions, the amount stored in the pond will vary depending upon the daily amount of leachate/effluent removed from the pond by the evaporation system, hauled from the pond, used for dust control or evaporated; however during April leachate from the compost pad was stored in Pond B. This month a daily average of 10,100 gallons of leachate was stored in Pond B.

Effluent Sprayed at Pond B (Column XX)

Column XXII presents the daily amount of effluent, in gallons, sprayed for evaporation at Pond B. The amount evaporated is calculated by using 5 percent of the daily flow meter quantity sprayed at Pond B and it is included in Column XXVI. This month effluent was not sprayed in Pond B.

Effluent Irrigation (Column XXI)

Column XXIII presents the daily amount of effluent, in gallons, used for spray irrigation on top of Phases IV-VI. The daily amount of effluent irrigation on Phases I-VI is measured from the flow meter at the irrigation pump station. This month a total of 340,297 gallons of effluent was used for spray irrigation.

Effluent Dust Control Sprayed (Column XXII)

Column XXIV presents the daily amount of effluent, in gallons, sprayed for dust control in the active areas of the SCLF. The daily amount of effluent used for dust control, is measured from the flow meter at the bypass-loading arm. This month effluent was not sprayed as dust control.

Total Effluent Hauled (Column XXIII)

Column XXV presents the daily amount of effluent, in gallons, hauled off site, as measured from the flow meter at the bypass-loading arm. This month a total of 155,769 gallons of effluent was hauled off site.

Total Evaporation (Column XXIV)

Column XXVI presents the daily amount of leachate and effluent, in gallons, that evaporates and therefore will not be returned to the SCLF and/or requires treatment. Evaporation rates of 80 percent and 5 percent evaporation rate for spray in Pond B are assumed. Total evaporation estimated for this month was 274,900 gallons.

TABLE 2

Table 2 presents data assembled from daily logs compiled by the SWMD staff.

TABLE 3

Leachate Balance Summary

The Leachate Balance Summary (see Table 3) presents a review of inflow and outflow quantities for the LTRF, as well as rainfall and effluent disposal quantities at the landfill. Total inflow quantity to the LTRF was 2,385,166 gallons. Total outflow quantity from the LTRF was 2,254,694 gallons. The change in storage for the month increased by 130,472 gallons.

Please advise should you have any questions concerning the information provided.

TABLE 1. LEACHATE WATER BALANCE REPORT FORM
APRIL 2018
SOUTHEAST COUNTY LANDFILL, HILLSBOROUGH COUNTY, FLORIDA

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	XXII	XXIII	XXIV
Day	Rainfall (in.)	Depth in Pond A (ft.)	Depth in Pond B (ft.)	Estimated Depth at PS-B (in.)	Leachate Pumped to MLPS from Phases I-VI (gal.)	Leachate Pumped from Sections 7-8 LDS (gal.)	Leachate Pumped to MLPS from Sections 7-8 (gal.)	Leachate Pumped to LTRF from MPLS (gal.)	Leachate Pumped to LTRF from Section 9 (gal.)	Leachate Pumped from Section 9 LDS (gal.)	Compost Leachate (gal.)	Leachate in 575K Tank (gal.)	Effluent in 575K Tank (gal.)	Leachate Treated at LTRF (gal.)	Total Leachate Hauled (gal.)	Leachate Dust Control (Sprayed) (gal.)	Pond A Storage (gal.)	Pond B Storage (gal)	Effluent Sprayed Pond B (gal)	Effluent Irrigation (gal.)	Effluent Dust Control (Sprayed) (gal.)	Total Effluent Hauled (gal.)	Total Evaporation (gal.)
1	*0.01*	*2.7*	*1.0*	*16.0*	*64,984*	*0*	*36,939*	*101,923*	*2,550*	*0*	*0*	*359,000*	*347,000*	*23,500*	0	0	*93,000*	*19,000*	0	0	0	0	0
2	0.00	2.9	1.0	16.0	65,132	0	36,939	102,071	2,550	*0*	0	437,000	358,000	23,500	79,865	0	103,000	19,000	0	13,558	0	0	10,800
3	0.00	2.6	1.0	14.6	68,638	0	15,790	84,428	1,671	0	*0*	408,000	374,000	22,800	86,548	0	88,000	19,000	0	14,616	0	0	11,700
4	0.00	2.5	1.0	14.6	67,159	0	11,763	78,922	2,659	*0*	*0*	379,000	386,000	21,300	86,507	0	83,000	19,000	0	0	0	0	0
5	0.00	2.5	1.0	17.8	72,143	0	12,529	84,672	3,252	0	0	355,000	403,000	22,200	86,393	0	0	19,000	0	32,914	0	0	26,300
6	0.00	2.9	1.0	11.9	74,334	0	265	74,599	8,389	0	0	314,000	389,000	17,900	79,120	0	0	19,000	0	12,699	0	0	10,200
7	0.03	3.2	1.0	13.3	76,089	0	240	76,329	5,727	0	0	286,000	369,000	20,900	49,935	3,216	0	19,000	0	0	0	0	2,600
8	*0.01*	*3.2*	*0.0*	*16.2*	*73,120*	*0*	*11,076*	*84,196*	*3,455*	*0*	*0*	*342,000*	*390,000*	*20,900*	0	0	*0*	*0*	0	0	0	0	0
9	0.00	3.2	0.0	19.1	70,078	0	11,076	81,153	3,455	*0*	0	398,000	410,000	20,900	36,666	0	0	0	0	0	0	0	0
10	1.10	3.2	0.0	15.1	69,179	0	9,421	78,600	0	0	0	408,000	425,000	22,800	43,592	0	0	0	0	0	0	0	0
11	0.00	3.4	1.0	18.2	66,342	0	4,512	70,854	0	0	1,739	420,000	425,000	22,300	50,018	0	0	19,000	0	0	0	37,483	0
12	0.00	3.3	1.0	18.0	61,246	4,019	11,518	72,764	0	0	1,556	422,000	403,000	22,200	79,683	0	0	19,000	0	17,281	0	45,220	13,800
13	0.00	3.2	1.0	20.5	66,334	48	6,669	73,003	2,000	31	0	381,000	379,000	21,300	65,022	0	0	19,000	0	35,613	0	7,536	28,500
14	0.00	2.4	1.0	17.9	69,634	0	9,254	78,888	0	0	0	372,000	389,000	21,500	79,954	0	0	19,000	0	0	0	0	0
15	*0.65*	*2.5*	*1.0*	*18.1*	*73,816*	*0*	*2,001*	*75,817*	*1,329*	*0*	*0*	*380,000*	*408,000*	*21,500*	0	0	*0*	*19,000*	0	0	0	0	0
16	0.00	2.5	1.0	18.2	73,373	0	2,001	75,374	1,329	0	0	389,000	427,000	21,500	81,322	0	0	19,000	0	0	0	0	0
17	0.00	3.3	1.0	20.7	68,270	0	7,756	76,026	1,748	0	0	348,000	398,000	19,600	88,744	0	0	19,000	0	35,086	0	0	28,100
18	0.00	3.0	1.0	12.1	66,938	1,083	7,080	74,018	2,735	*0*	0	309,000	396,000	18,700	122,996	0	0	19,000	0	45,088	0	0	36,100
19	0.00	2.4	1.0	18.3	68,677	465	141	68,818	1,593	0	0	230,000	413,000	17,200	86,586	0	0	19,000	0	0	0	36,287	0
20	0.00	2.5	0.0	19.3	69,160	148	2,220	71,380	2,076	0	0	233,000	377,000	15,400	72,270	0	0	0	0	0	0	0	0
21	0.01	2.9	0.0	19.3	66,540	155	6,639	73,179	1,361	0	0	216,000	374,000	16,400	49,358	0	0	0	0	0	0	0	0
22	*0.47*	*2.9*	*0.0*	*16.0*	*67,136*	*92*	*2,845*	*69,981*	*2,004*	*0*	*0*	*242,000*	*389,000*	*16,400*	0	0	*0*	*0*	0	0	0	0	0
23	0.25	2.9	0.0	12.7	67,480	92	2,845	70,325	2,004	9	0	269,000	403,000	16,400	43,710	0	103,000	0	0	0	0	0	0
24	0.17	3.0	0.0	13.0	73,377	83	4,970	78,347	2,352	0	0	283,000	417,000	16,400	43,448	0	108,000	0	0	16,056	0	0	12,800
25	0.00	2.7	0.0	13.9	73,500	67	3,291	76,791	6,224	0	0	297,000	432,000	22,900	86,232	0	93,000	0	0	9,198	0	0	7,400
26	0.00	3.4	0.0	17.0	63,718	76	2,653	66,371	7,467	0	0	261,000	396,000	8,500	57,162	0	129,000	0	0	11,139	0	29,243	8,900
27	0.00	3.2	0.0	16.0	60,585	40	5,070	65,655	4,248	0	0	261,000	377,000	15,700	49,662	0	118,000	0	0	44,669	0	0	35,700
28	0.00	3.0	0.0	18.1	75,262	71	2,740	78,002	3,220	0	0	259,000	389,000	12,400	42,493	0	108,000	0	0	28,566	0	0	22,900
29	*0.00*	*2.7*	*0.0*	*15.7*	*66,917*	*31*	*3,811*	*70,727*	*0*	*0*	*0*	*285,000*	*389,000*	*12,400*	0	0	*0*	*0*	0	0	0	0	0
30	0.00	2.4	0.0	13.3	65,269	31	3,811	69,080	0	0	0	312,000	389,000	12,400	36,392	0	79,000	0	0	23,814	0	0	19,100
Total	2.70				2,064,425	6,500	237,863	2,302,288	75,396	40	3,295			567,800	1,683,678	3,216			0	340,297	0	155,769	274,900
Daily Average		2.9	0.5	16.4	68,814	217	7,929	76,743	2,513	1	110	328,500	394,000				36,800	10,100					
Mo. Average																100				11,300	0	5,200	9,160

balance\2018\04-18bal.xls

Notes:
1. NR = No Records, NA = Not Available.
2. Values in bold are estimated; values in italic are substitute for missing data and are based on averaged values.
3. Daily average is calculated by dividing the total by the actual days measured in the month.
4. Monthly average calculated by dividing the total by the number of days of the month.
5. Column II, Trace is less than 0.01 inches and is not included in total.
6. Columns III and IV, field measured at staff gauges.
7. Columns IX & X, Section 7-8 leak detection pumped into Section 7 leachate sump riser.
8. Column XV and XVI, calculated from depth in 575,000 gal. tanks.
9. Columns VI-XIV, XVII-XIX, and XXII-XXV, quantities from flow meters.
10. Column XXVI includes 80% of the daily values from Columns XIX, XXIII, and XXIV plus 5% of the daily values from column XXII.

TABLE 2. FIELD DATA ENTRY FORM
APRIL 2018
SOUTHEAST COUNTY LANDFILL, HILLSBOROUGH COUNTY, FLORIDA

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
Day	Rainfall (in.)	Flow Meter Pump Sta. A (gal.)	Reading PS-B (in.)	Section 9 Pump 1 (gal.)	Section 9 Pump 2 (gal.)	Section 9 LDS (gal.)	Compost Leachate (gal.)	Sections 7-8 Pump (gal.)	Sections 7-8 LDS (gal.)	Pond B Depth (ft.)	Pond B Effluent Sprayed (gal)	Pond A Depth (ft.)	Effluent Spray Irrigation (gal.)	Depth in 575K Tank Leachate (ft.)	Depth in 575K Tank Effluent (ft.)	Leachate Treated at LTRF (gal.)	Leachate Hauled		Leachate Dust Control (Sprayed) (gal.)	Effluent Hauled		Effluent Dust Control (Sprayed) (gal)
																	Contractor (gal.)	County (gal.)		Contractor (gal.)	County (gal.)	
1	0.01	*7,040,669*	*16.0*	*366,143*	*338,903*	*5,846,302*	*86,862*	*5,725,761*	*53,382*	*1.0*	*0.0*	*2.7*		*12.46*	*12.05*	23,460						
2	0.00	7,088,452	16.0	368,681	338,914	5,846,301	86,862	5,762,700	53,382	1.0	0.0	2.9	13,558	15.17	12.42	23,460		79,865				
3	0.00	7,140,300	14.6	370,350	338,916	5,846,301	86,842	5,778,490	53,382	1.0	0.0	2.6	14,616	14.17	13.00	22,807		86,548				
4	0.00	7,189,712	14.6	373,007	338,918	5,846,300	86,862	5,790,253	53,382	1.0	0.0	2.5	0	13.17	13.42	21,330		86,507				
5	0.00	7,238,883	17.8	376,256	338,921	5,846,300	86,862	5,802,782	53,382	1.0	0.0	2.5	32,914	12.33	14.00	22,217		86,393				
6	0.00	7,290,354	11.9	384,638	338,928	5,846,299	86,862	5,803,047	53,382	1.0	0	2.9	12,699	10.92	14	17,918		79,120				
7	0.03	7,345,430	13.3	390,361	338,932	5,846,299	86,862	5,803,287	53,382	1.0	0.0	3.2	0	9.92	12.83	20,905		49,935				
8	0.01	*7,397,538*	*16.2*	*393,810*	*338,938*	*5,846,299*	*86,862*	*5,814,363*	*53,382*	*0.0*	*0.0*	*3.2*		*11.88*	*13.54*	20,905						
9	0.00	7,449,645	19.1	397,259	338,944	5,846,298	86,862	5,825,438	53,382	0.0	0.0	3.2	0	13.83	14.25	20,906		36,666				
10	1.10	7,497,543	15.1	397,259	338,944	5,846,298	86,862	5,834,859	53,382	0.0	0	3.2	0	14.17	14.75	22,842		43,592				
11	0.00	7,544,522	18.2	397,259	338,944	5,846,298	88,601	5,839,371	53,382	1.0	0.0	3.4	0	14.58	14.75	22,327		50,018		37,483		
12	0.00	7,588,332	18.0	397,259	338,944	5,846,298	90,157	5,850,889	57,401	1.0	0.0	3.3	17,281	14.67	14.00	22,166		79,683		45,220		
13	0.00	7,632,647	20.5	399,255	338,948	5,846,329	90,157	5,857,558	57,449	1.0	0	3.2	35,613	13.25	13	21,307	14,986	50,036		7,536		
14	0.00	7,677,807	17.9	399,255	338,948	5,846,329	90,157	5,866,812	57,449	1.0	0.0	2.4	0	12.92	13.50	21,488	37,294	42,660				
15	0.65	*7,727,149*	*18.1*	*400,583*	*338,950*	*5,846,329*	*90,157*	*5,868,813*	*57,449*	*1.0*	*0.0*	*2.5*		*13.21*	*14.17*	21,488						
16	0.00	7,776,490	18.2	401,910	338,951	5,846,329	90,157	5,870,814	57,449	1.0	0.0	2.5	0	13.50	14.83	21,487	37,404	43,918				
17	0.00	7,819,778	20.7	403,657	338,952	5,846,329	90,157	5,878,570	57,449	1.0	0.0	3.3	35,086	12.08	13.83	19,599	44,816	43,928				
18	0.00	7,863,947	12.1	406,390	338,954	5,846,328	90,157	5,885,650	58,532	1.0	0.0	3.0	45,088	10.75	13.75	18,747	37,052	85,944				
19	0.00	7,907,893	18.3	407,982	338,955	5,846,328	90,157	5,885,791	58,997	1.0	0.0	2.4	0	8.00	14.33	17,231	36,688	49,898			36,287	
20	0.00	7,954,201	19.3	410,055	338,958	5,846,328	90,157	5,888,011	59,145	0.0	0.0	2.5	0	8.08	13.08	15,448	36,814	35,456				
21	0.01	7,998,597	19.3	411,412	338,962	5,846,328	90,157	5,894,650	59,300	0.0	0.0	2.9	0	7.50	13.00	16,356		49,358				
22	0.47	*8,043,589*	*16.0*	*413,414*	*338,964*	*5,846,337*	*90,157*	*5,897,495*	*59,392*	*0.0*	*0.0*	*2.9*		*8.42*	*13.50*	16,356						
23	0.25	8,088,580	12.7	415,415	338,966	5,846,345	90,157	5,900,340	59,484	0.0	0.0	2.9	0	9.33	14.00	16,358		43,710				
24	0.17	8,138,424	13.0	417,766	338,967	5,846,345	90,157	5,905,310	59,567	0.0	0.0	3.0	16,056	9.83	14.50	16,359		43,448				
25	0.00	8,187,483	13.9	423,989	338,968	5,846,345	90,157	5,908,601	59,634	0.0	0.0	2.7	9,198	10.33	15.00	22,859		86,232				
26	0.00	8,235,923	17.0	431,455	338,969	5,846,345	90,157	5,911,254	59,710	0.0	0.0	3.4	11,139	9.08	13.75	8,508		57,162			29,243	
27	0.00	8,287,093	16.0	435,701	338,971	5,846,345	90,157	5,916,324	59,750	0.0	0.0	3.2	44,669	9.08	13.08	15,683		49,662				
28	0.00	8,339,122	18.1	438,920	338,972	5,846,345	90,157	5,919,064	59,821	0.0	0.0	3.0	28,566	9.00	13.50	12,395		42,493				
29	0.00	*8,382,806*	*15.7*	*438,920*	*338,972*	*5,846,345*	*90,157*	*5,922,875*	*59,852*	*0.0*	*0.0*	*2.7*		*9.92*	*13.50*	12,395						
30	0.00	8,426,490	13.3	438,920	338,972	5,846,345	90,157	5,926,685	59,882	0.0	0.0	2.4	23,814	10.83	13.50	12,395		36,392				
Totals	2.70										0		340,297			567,702	245,054	1,438,624	0	90,239	65,530	0

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Notes:

1. NR = No Records, NA = Not Available.
2. Values in bold are estimated; values in italic are substitute for missing data and are based on averaged values
3. Columns I and L include quantities from leak detection system.
4. Column B, trace is less than 0.01 inches.
5. Columns C, D, E, G, H, I, J, K, L, N, P, S-X and Y are quantities from flow meters.
6. Columns M and O measured from staff gages in each pond.

Type of Cover	Phases I-VI acres	Section 9 acres
Open	5	0
Intermediate	134.4	15
Final	23	0
Not Opened	0	0

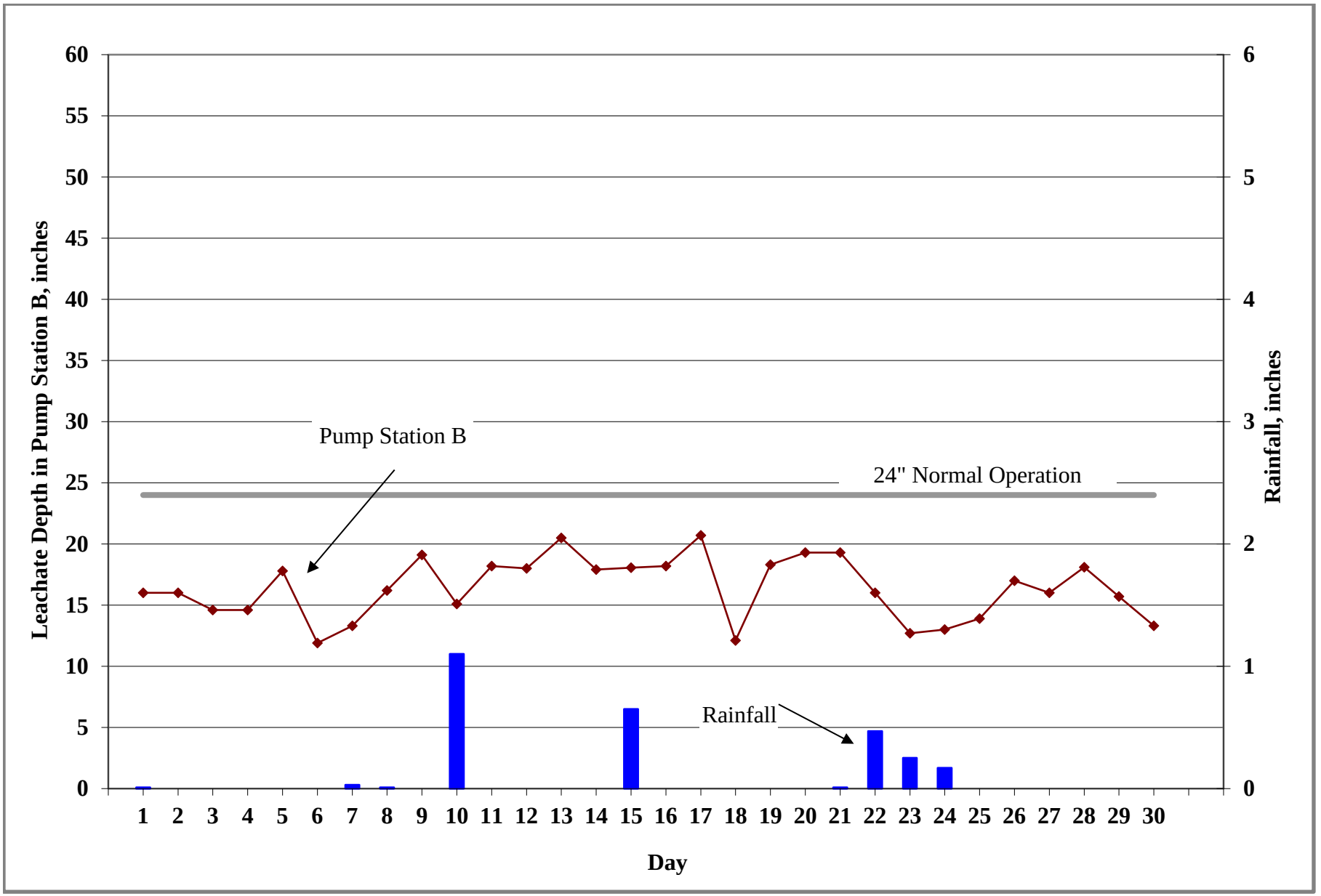

Figure 1. Leachate Levels in Pump Station B and Rainfall for April 2018.

Hillsborough County Florida

PUBLIC WORKS
PO Box 1110 Tampa, FL 33601-1110
(813) 272-5912 | Fax: (813) 272-5811

MEMORANDUM

DATE: June 12, 2018

TO: Larry E. Ruiz, Manager Landfill Operations, Solid Waste Management Division

FROM: Cindy A. Pelley, Landfill Supervisor, Solid Waste Management Division

SUBJECT: Leachate Water Balance Report Forms for May 2018
Southeast County Landfill, Hillsborough County, Florida

The Solid Waste Management Division (SWMD) staff has compiled and reviewed the leachate management operational data from the Southeast County Landfill Phases I-VI, Sections 7-8, and Section 9. Attached are the Leachate Water Balance Report Form (Table 1), the Leachate Field Data Entry Form (Table 2), and the 2018 Summary (Table 3). Also, attached find Figure 1 showing leachate levels in Pump Station B sump of Phases I-VI and rainfall for the month.

TABLE 1

Day (Column I)

Column I presents the calendar days for the month.

Rainfall (Column II)

Column II presents the average rainfall, in inches, as measured in the field from rainfall stations at the site. This month there was 13.66 inches of rainfall recorded at the Southeast County Landfill (SCLF).

Depth in Pond A (Column III)

Column III presents the daily depth, in feet, of effluent stored in effluent pond (Pond A). The daily depth in Pond A varies as a function of the spray irrigation frequency/duration and effluent hauled from the pond. This month the daily average depth of effluent stored in Pond A was 2.8 feet.

Depth in Pond B (Column IV)

Column IV presents the daily depth, in feet, of effluent or leachate that is stored in the effluent/leachate storage pond (Pond B). The depth in Pond B varies as a function of the evaporation frequency/duration and effluent or leachate hauled from the pond. This month the daily average depth of leachate stored in Pond B was 1.1.

Estimated Depth at Pump Station B Sump (PS-B) (Column V)

Column V presents the depth of leachate, in inches, in the PS-B sump. Leachate from Phases I-VI flows to the PS-B sump for removal from the landfill. PS-B then pumps the leachate to Pump Station A (PS-A). Daily depth readings from the PS-B sump are included in this column. This month PS-B was below the normal operation level. The average recorded depth of leachate in the PS-B sump was 15.7 inches.

Leachate Pumped to MLPS from Phases I-VI (Column VI)

Column VIII presents the daily amount of leachate, in gallons, collected from PS-A and pumped through the MLPS to the 575,000-gallon storage tank at the Leachate Treatment and Reclamation Facility (LTRF) for treatment or disposal. This column also includes the Phase II data from the dewatering wells and PS-2. The average daily amount of leachate pumped from PS-A was 71,396 gallons. A total of 2,213,290 gallons of leachate was pumped this month.

Leachate Pumped from Sections 7-8 LDS (Column VII)

Column IX presents the quantity of leachate removed from the leak detection system (LDS) of Sections 7-8. The quantity is measured by a flow meter before being pumped for removal with Sections 7-8 leachate. The removal rate did not exceed 1,930 gallons per day. This month 1,087 gallons of leachate was removed from the leak detection system of Sections 7-8.

Leachate Pumped to MLPS from Sections 7-8 (Column VIII)

Column X presents the quantity of leachate collected at Sections 7-8 and pumped to the MLPS. The quantity is measured by a flow meter and includes any leachate removed from the leak detection system of Sections 7-8 (Column IX). This month a total of 242,640 gallons was removed.

Leachate Pumped to LTRF from the MLPS (Column IX)

Column XI presents the total quantity of leachate pumped to the LTRF from Phases I-VI (including condensate removed from LFG Wells and Condensate Traps), and Sections 7-8. This month a total of 2,455,930 gallons of leachate was pumped to the LTRF.

Leachate Pumped to LTRF from Section 9 (Column X)

Column XII presents the daily amount of leachate, in gallons, collected from Section 9 and pumped to the 575,000-gallon storage tank at the Leachate Treatment and Reclamation Facility (LTRF) for treatment or disposal. A total of 154,132 gallons of leachate was pumped this month.

Leachate Pumped from Section 9 LDS (Column XI)

Column XIII presents the daily amount of leachate, in gallons, collected from the LDS of Section 9 and pumped to the 575,000-gallon storage tank at the LTRF for treatment or disposal. The removal rate did not exceed 4,651 gallons per day. This month 14 gallons of leachate was removed from the leak detection system.

Leachate Pumped from Compost Area Sump (Column XII)

Column XIV presents the total quantity of leachate pumped to the LTRF and Pond B from the Compost Project Area Sump. This month 398,577 gallons of leachate was removed from the compost area and pumped to the LTRF.

Leachate in 575,000-Gallon Tank (Column XIII)

Column XV presents the daily amount of leachate, in gallons, stored in the 575,000-gallon leachate holding tank T1 at the LTRF. The amount of leachate stored in T1 is calculated based on the circumference of the tank and the daily level reading. This month an average of 322,300 gallons of leachate was stored in the tank.

Effluent in 575,000-Gallon Tank (Column XIV)

Column XVI typically presents the daily amount of effluent, in gallons, stored in the 575,000-gallon effluent holding tank T6 at the LTRF. The amount of effluent stored in T6 is calculated based on the circumference of the tank and the daily level reading. This month an average of 376,200 gallons of effluent was stored in the tank.

Leachate Treated at LTRF (Column XV)

Column XIIV presents the daily amount of leachate, in gallons, treated at the LTRF. This month a total of 316,811 gallons of leachate was treated at the plant.

Total Leachate Hauled (Column XVI)

Column XVIII presents the daily amount of leachate, in gallons, hauled off site. This month a total of 3,496,465 gallons of leachate was hauled off site.

Leachate Dust Control Sprayed (Column XVII)

Column XIX presents the daily amount of leachate, in gallons, measured from the flow meter at the bypass-loading arm at the leachate storage tank. The leachate is used for dust control in the active area of the landfill. This month leachate was not used for dust control.

Pond A Storage (Column XVIII)

Column XX presents the daily amount of effluent, in gallons, stored in Pond A. The daily amount stored in the pond is calculated by using the daily depth of effluent in the Pond A (Column III). Under normal operating conditions, the daily amount of effluent stored in the pond varies depending upon the daily amount of leachate treated at the LTRF, the daily rainfall, daily effluent hauling operations, daily spray irrigation operations, and the daily amount of effluent used for dust control/evaporation. This month a daily average of 100,300 gallons of effluent was stored in Pond A.

Pond B Storage (Column XIX)

Column XXI presents the daily amount of effluent, in gallons, stored in Pond B. The daily amount stored in the pond is calculated by using the daily depth of liquid in Pond B (Column IV). Under normal operating conditions, the amount stored in the pond will vary depending upon the daily amount of leachate/effluent removed from the pond by the evaporation system, hauled from the pond, used for dust control or evaporated; however during May leachate from the compost pad and ash storage area was stored in Pond B. This month a daily average of 58,800 gallons of leachate was stored in Pond B.

Effluent Sprayed at Pond B (Column XX)

Column XXII presents the daily amount of effluent, in gallons, sprayed for evaporation at Pond B. The amount evaporated is calculated by using 5 percent of the daily flow meter quantity sprayed at Pond B and it is included in Column XXVI. This month effluent was not sprayed in Pond B.

Effluent Irrigation (Column XXI)

Column XXIII presents the daily amount of effluent, in gallons, used for spray irrigation on top of Phases IV-VI. The daily amount of effluent irrigation on Phases I-VI is measured from the flow meter at the irrigation pump station. This month a total of 149,558 gallons of effluent was used for spray irrigation.

Effluent Dust Control Sprayed (Column XXII)

Column XXIV presents the daily amount of effluent, in gallons, sprayed for dust control in the active areas of the SCLF. The daily amount of effluent used for dust control, is measured from the flow meter at the bypass-loading arm. This month effluent was not sprayed as dust control.

Total Effluent Hauled (Column XXIII)

Column XXV presents the daily amount of effluent, in gallons, hauled off site, as measured from the flow meter at the bypass-loading arm. This month a total of 165,637 gallons of effluent was hauled off site.

Total Evaporation (Column XXIV)

Column XXVI presents the daily amount of leachate and effluent, in gallons, that evaporates and therefore will not be returned to the SCLF and/or requires treatment. Evaporation rates of 80 percent and 5 percent evaporation rate for spray in Pond B are assumed. Total evaporation estimated for this month was 119,700 gallons.

TABLE 2

Table 2 presents data assembled from daily logs compiled by the SWMD staff.

TABLE 3

Leachate Balance Summary

The Leachate Balance Summary (see Table 3) presents a review of inflow and outflow quantities for the LTRF, as well as rainfall and effluent disposal quantities at the landfill. Total inflow quantity to the LTRF was 3,016,040 gallons. Total outflow quantity from the LTRF was 3,813,276 gallons. The change in storage for the month decreased by 797,236 gallons.

Please advise should you have any questions concerning the information provided.

TABLE 1. LEACHATE WATER BALANCE REPORT FORM
MAY 2018
SOUTHEAST COUNTY LANDFILL, HILLSBOROUGH COUNTY, FLORIDA

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	XXII	XXIII	XXIV
Day	Rainfall (in.)	Depth in Pond A (ft.)	Depth in Pond B (ft.)	Estimated Depth at PS-B (in.)	Leachate Pumped to MLPS from Phases I-VI (gal.)	Leachate Pumped from Sections 7-8 LDS (gal.)	Leachate Pumped to MLPS from Sections 7-8 (gal.)	Leachate Pumped to LTRF from MPLS (gal.)	Leachate Pumped to LTRF from Section 9 (gal.)	Leachate Pumped from Section 9 LDS (gal.)	Compost Leachate (gal.)	Leachate in 575K Tank (gal.)	Effluent in 575K Tank (gal.)	Leachate Treated at LTRF (gal.)	Total Leachate Hauled (gal.)	Leachate Dust Control (Sprayed) (gal.)	Pond A Storage (gal.)	Pond B Storage (gal)	Effluent Sprayed Pond B (gal)	Effluent Irrigation (gal.)	Effluent Dust Control (Sprayed) (gal.)	Total Effluent Hauled (gal.)	Total Evaporation (gal.)
1	0.00	2.8	0.0	14.5	20,880	0	0	20,880	0	0	0	317,000	360,000	13,102	43,920	0	98,000	0	0	0	0	0	0
2	0.00	2.8	0.0	18.0	65,791	49	5,073	70,864	0	0	0	319,000	369,000	13,102	86,542	0	98,000	0	0	22,635	0	0	18,100
3	0.00	2.4	0.0	16.1	65,139	29	2,622	67,761	392	0	0	274,000	374,000	14,433	78,865	0	79,000	0	0	0	0	0	0
4	0.00	2.8	0.0	15.7	66,255	42	2,787	69,042	1,023	0	0	245,000	365,000	14,198	49,578	0	98,000	0	0	3,484	0	0	2,800
5	0.10	2.8	0.0	16.0	71,640	26	2,677	74,317	2,242	0	0	250,000	374,000	15,150	42,363	0	98,000	0	0	38,232	0	0	30,600
6	0.85	2.8	0.0	17.3	69,665	25	3,894	73,558	5,436	0	0	287,000	374,000	15,150	0	0	98,000	0	0	0	0	0	0
7	0.00	2.7	0.0	18.5	69,064	25	3,894	72,958	5,436	0	0	324,000	374,000	15,150	80,319	0	93,000	0	0	0	0	0	0
8	0.00	2.7	0.0	19.3	65,896	41	2,728	68,624	5,052	0	0	300,000	381,000	15,150	73,580	0	93,000	0	0	14,787	0	0	11,800
9	0.00	2.5	0.0	19.7	63,566	47	5,190	68,756	404	0	0	283,000	391,000	11,294	81,558	0	83,000	0	0	0	0	0	0
10	0.00	3.2	0.0	14.2	62,800	16	2,846	65,646	1,494	0	0	245,000	362,000	12,863	88,505	0	118,000	0	0	0	0	0	0
11	0.00	3.2	0.0	19.9	42,696	24	2,913	45,609	2,451	0	0	216,000	374,000	12,089	44,958	0	118,000	0	0	0	0	29,347	0
12	0.00	3.2	0.0	14.0	73,647	18	3,162	76,809	2,278	0	0	204,000	353,000	13,766	42,979	0	118,000	0	0	0	0	0	0
13	0.78	3.3	0.0	16.3	74,361	46	4,722	79,083	2,306	0	0	235,000	367,000	13,766	0	0	123,000	0	0	0	0	0	0
14	3.63	3.3	0.0	18.5	59,690	46	4,722	64,412	2,306	0	0	266,000	381,000	13,766	59,508	0	123,000	0	0	0	0	30,219	0
15	1.28	3.1	3.6	14.9	59,078	26	6,495	65,573	2,504	0	79,028	336,000	369,000	11,038	89,265	0	113,000	234,000	0	0	0	0	0
16	0.22	3.4	3.6	13.9	76,810	36	7,722	84,532	3,573	0	90,613	386,000	386,000	11,646	96,940	0	129,000	234,000	0	0	0	0	0
17	0.28	3.4	3.5	16.1	84,321	54	10,920	95,241	4,968	0	46,177	468,000	398,000	12,654	96,584	0	129,000	223,000	0	0	0	0	0
18	0.48	3.4	3.2	14.1	78,963	16	3,097	82,060	4,005	0	9,008	453,000	410,000	3,308	148,020	0	129,000	192,000	0	0	0	0	0
19	0.60	3.4	2.5	13.6	72,185	22	3,745	75,930	4,486	0	26,174	456,000	422,000	9,484	168,377	0	129,000	124,000	0	32,190	0	0	25,800
20	1.27	3.2	2.5	15.9	74,968	23	14,405	89,373	8,747	4	1,287	456,000	435,000	9,485	87,285	0	118,000	115,000	0	0	0	0	0
21	0.38	3.0	2.4	18.2	70,117	23	14,405	84,522	8,747	4	1,287	456,000	449,000	9,485	133,607	0	108,000	115,000	0	0	0	29,327	0
22	0.42	3.0	3.3	19.7	87,075	17	4,513	91,588	13,139	6	78,640	475,000	410,000	9,485	128,933	0	108,000	202,000	0	0	0	76,744	0
23	0.00	3.2	3.0	12.7	81,987	51	1,840	83,827	11,765	0	15,263	475,000	353,000	13,977	234,132	0	118,000	172,000	0	0	0	0	0
24	0.00	3.1	2.3	11.8	77,763	44	6,483	84,246	9,630	0	557	362,000	394,000	3,063	240,419	0	113,000	106,000	0	0	0	0	0
25	0.23	3.1	1.6	13.0	79,734	24	39,910	119,644	6,293	1	20,750	389,000	345,000	6,438	205,965	0	113,000	51,000	0	16,401	0	0	13,100
26	0.72	2.8	0.9	10.6	80,179	64	17,664	97,843	6,304	0	0	319,000	322,000	5,069	253,557	0	98,000	15,000	0	21,829	0	0	17,500
27	0.42	2.6	0.9	13.2	86,688	56	13,577	100,264	8,020	0	0	284,000	326,000	5,069	163,617	0	88,000	12,000	0	0	0	0	0
28	0.00	2.3	0.8	15.8	86,454	56	13,577	100,031	8,020	0	0	250,000	331,000	5,069	0	0	74,000	12,000	0	0	0	0	0
29	0.62	1.6	0.7	14.5	81,317	52	13,043	94,360	7,170	0	5	300,000	341,000	5,072	189,121	0	44,000	9,000	0	0	0	0	0
30	1.08	1.7	0.2	15.2	79,056	30	13,322	92,378	7,695	0	162	151,000	427,000	1,745	240,155	0	48,000	800	0	0	0	0	0
31	0.30	0.7	0.6	15.7	85,507	62	10,695	96,202	8,248	0	29,627	211,000	345,000	1,745	247,813	0	13,000	7,000	0	0	0	0	0
Total	13.66				2,213,290	1,087	242,640	2,455,930	154,132	14	398,577			316,811	3,496,465	0			0	149,558	0	165,637	119,700
Daily Average		2.8	1.1	15.7	71,396	35	7,827	79,224	4,972	0	12,857	322,300	376,200				100,300	58,800					
Mo. Average																0				4,800	0	5,300	3,860

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Notes:
1. NR = No Records, NA = Not Available.
2. Values in bold are estimated; values in italic are substitute for missing data and are based on averaged values.
3. Daily average is calculated by dividing the total by the actual days measured in the month.
4. Monthly average calculated by dividing the total by the number of days of the month.
5. Column II, Trace is less than 0.01 inches and is not included in total.
6. Columns III and IV, field measured at staff gauges.
7. Columns IX & X, Section 7-8 leak detection pumped into Section 7 leachate sump riser.
8. Column XV and XVI, calculated from depth in 575,000 gal. tanks.
9. Columns VI-XIV, XVII-XIX, and XXII-XXV, quantities from flow meters.
10. Column XXVI includes 80% of the daily values from Columns XIX, XXIII, and XXIV plus 5% of the daily values from column XXII.

TABLE 2. FIELD DATA ENTRY FORM
MAY 2018
SOUTHEAST COUNTY LANDFILL, HILLSBOROUGH COUNTY, FLORIDA

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
Day	Rainfall (in.)	Flow Meter Pump Sta. A (gal.)	Reading PS-B (in.)	Section 9 Pump 1 (gal.)	Section 9 Pump 2 (gal.)	Section 9 LDS (gal.)	Compost Leachate (gal.)	Sections 7-8 Pump (gal.)	Sections 7-8 LDS (gal.)	Pond B Depth (ft.)	Pond B Effluent Sprayed (gal)	Pond A Depth (ft.)	Effluent Spray Irrigation (gal.)	Depth in 575K Tank Leachate (ft.)	Depth in 575K Tank Effluent (ft.)	Leachate Treated at LTRF (gal.)	Leachate Hauled		Leachate Dust Control (Sprayed) (gal.)	Effluent Hauled		Effluent Dust Control (Sprayed) (gal)
																	Contractor (gal.)	County (gal.)		Contractor (gal.)	County (gal.)	
1	0.00	8,465,408	14.5	438,920	338,972	5,846,345	90,157	5,929,360	59,933	0.0	0.0	2.8	0	11.00	12.50	13,102		43,920				
2	0.00	8,510,244	18.0	438,920	338,972	5,846,345	90,157	5,934,433	59,982	0.0	0.0	2.8	22,635	11.08	12.83	13,102		86,542				
3	0.00	8,555,110	16.1	439,312	338,972	5,846,345	90,157	5,937,055	60,011	0.0	0.0	2.4	0	9.50	13.00	14,433		78,865				
4	0.00	8,600,368	15.7	440,334	338,973	5,846,345	90,157	5,939,842	60,053	0.0	0.0	2.8	3,484	8.50	12.67	14,198		49,578				
5	0.10	8,651,294	16.0	442,574	338,975	5,846,345	90,157	5,942,519	60,079	0.0	0.0	2.8	38,232	8.67	13.00	15,150		42,363				
6	0.85	*8,700,245*	*17.3*	*448,008*	*338,977*	*5,846,345*	*90,157*	*5,946,413*	*60,104*	*0.0*	*0.0*	*2.8*	0	*9.96*	*13.00*	15,150						
7	0.00	8,749,196	18.5	453,442	338,979	5,846,345	90,157	5,950,306	60,128	0.0	0.0	2.7	0	11.25	13.00	15,150	37,703	42,616				
8	0.00	8,794,902	19.3	458,492	338,981	5,846,345	90,157	5,953,034	60,169	0.0	0.0	2.7	14,787	10.42	13.25	15,150	30,169	43,411				
9	0.00	8,839,008	19.7	458,805	339,072	5,846,345	90,157	5,958,224	60,216	0.0	0.0	2.5	0	9.83	13.58	11,294	37,675	43,883				
10	0.00	8,882,018	14.2	459,249	340,122	5,846,344	90,157	5,961,070	60,232	0.0	0	3.2	0	8.50	12.58	12,863	37,646	50,859				
11	0.00	8,924,714	19.9	459,706	342,116	5,846,344	90,157	5,963,983	60,256	0.0	0.0	3.2	0	7.50	13.00	12,089	37,646	7,312			29,347	
12	0.00	8,969,156	14.0	460,054	344,046	5,846,344	90,157	5,967,145	60,274	0.0	0.0	3.2	0	7.08	12.25	13,766		42,979				
13	0.78	*9,014,312*	*16.3*	*460,481*	*345,925*	*5,846,344*	*90,157*	*5,971,867*	*60,320*	*0.0*	*0.0*	*3.3*	0	*8.17*	*12.75*	13,766						
14	3.63	9,059,468	18.5	460,907	347,804	5,846,343	90,157	5,976,588	60,365	0.0	0.0	3.3	0	9.25	13.25	13,766	45,174	14,334			30,219	
15	1.28	9,116,720	14.9	461,315	349,900	5,846,342	169,185	5,983,083	60,391	3.6	0.0	3.1	0	11.67	12.83	11,038	45,265	44,000				
16	0.22	9,177,750	13.9	461,656	353,132	5,846,341	259,798	5,990,805	60,427	3.6	0.0	3.4	0	13.42	13.42	11,646	45,316	51,624				
17	0.28	9,238,604	16.1	462,258	357,498	5,846,337	305,975	6,001,725	60,481	3.5	0.0	3.4	0	16.25	13.83	12,654	59,716	36,868				
18	0.48	9,293,894	14.1	462,615	361,146	5,846,334	314,983	6,004,822	60,497	3.2	0.0	3.4	0	15.75	14.25	3,308	82,793	65,227				
19	0.60	9,343,088	13.6	463,074	365,173	5,846,334	341,157	6,008,567	60,519	2.5	0.0	3.4	32,190	15.83	14.67	9,484	82,990	85,387				
20	1.27	*9,395,065*	*15.9*	*463,462*	*373,532*	*5,846,338*	*342,444*	*6,022,972*	*60,542*	*2.5*	*0.0*	*3.2*	0	*15.83*	*15.13*	9,485	44,064	43,221				
21	0.38	9,447,042	18.2	463,850	381,891	5,846,341	343,730	6,037,377	60,564	2.4	0.0	3.0	0	15.83	15.58	9,485	133,607	0			29,327	
22	0.42	9,508,570	19.7	464,093	394,787	5,846,347	422,370	6,041,890	60,581	3.3	0.0	3.0	0	16.50	14.25	9,485	121,575	7,358		40,235	36,509	
23	0.00	9,567,586	12.7	464,532	406,113	5,846,327	437,633	6,043,730	60,632	3.0	0.0	3.2	0	16.50	12.25	13,977	162,160	71,972				
24	0.00	9,622,800	11.8	465,431	414,844	5,846,305	438,190	6,050,213	60,676	2.3	0.0	3.1	0	12.58	13.67	3,063	161,048	79,371				
25	0.23	9,679,668	13.0	465,541	421,027	5,846,306	458,940	6,090,123	60,700	1.6	0.0	3.1	16,401	13.50	12.00	6,438	170,416	35,549				
26	0.72	9,736,452	10.6	465,686	427,186	5,846,306	458,940	6,107,787	60,764	0.9	0.0	2.8	21,829	11.08	11.17	5,069	210,899	42,658				
27	0.42	*9,799,745*	*13.2*	*466,350*	*434,542*	*5,846,306*	*458,940*	*6,121,364*	*60,820*	*0.9*	*0.0*	*2.6*	0	*9.88*	*11.34*	5,069	121,123	42,494				
28	0.00	9,863,038	15.8	467,014	441,897	5,846,306	458,940	6,134,940	60,876	0.8	0.0	2.3	0	8.67	11.50	5,069						
29	0.62	9,922,600	14.5	467,084	448,997	5,846,306	458,945	6,147,983	60,928	0.7	0.0	1.6	0	10.42	11.83	5,072	116,670	72,451				
30	1.08	9,979,914	15.2	468,115	455,661	5,846,306	459,107	6,161,305	60,958	0.2	0.0	1.7	0	5.25	14.83	1,745	167,786	72,369				
31	0.30	10,043,665	15.7	471,099	460,925	5,846,305	488,734	6,172,000	61,020	0.6	0.0	0.7	0	7.33	12.00	1,745	168,700	79,113				
Totals	13.66										0		149,558			316,811	2,120,141	1,376,324	0	40,235	125,402	0

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Notes:

1. NR = No Records, NA = Not Available.
2. Values in bold are estimated; values in italic are substitute for missing data and are based on averaged values
3. Columns I and L include quantities from leak detection system.
4. Column B, trace is less than 0.01 inches.
5. Columns C, D, E, G, H, I, J, K, L, N, P, S-X and Y are quantities from flow meters.
6. Columns M and O measured from staff gages in each pond.

Type of Cover	Phases I-VI acres	Section 9 acres
Open	5	0
Intermediate	134.4	15
Final	23	0
Not Opened	0	0

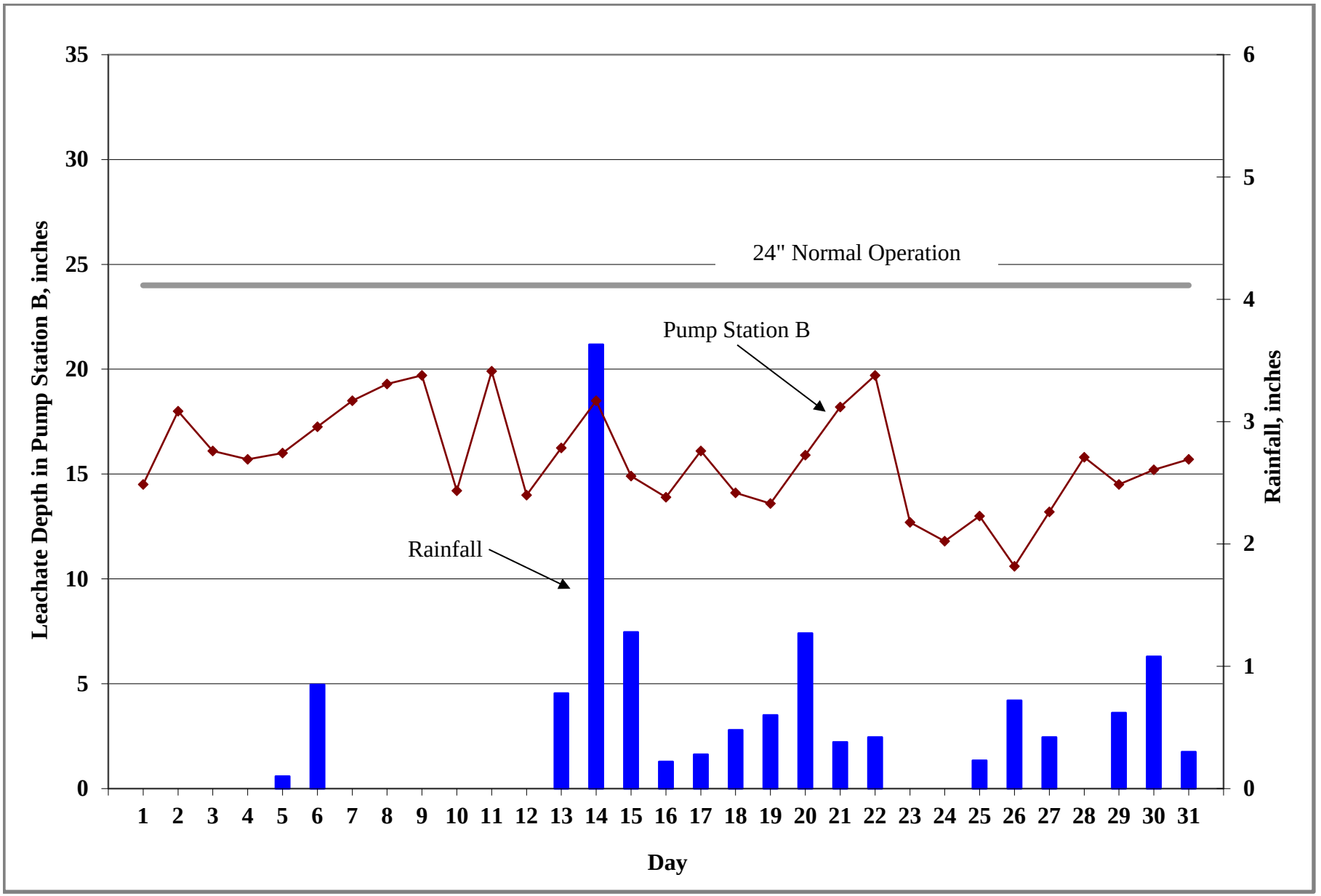

Figure 1. Leachate Levels in Pump Station B and Rainfall for May 2018.

Hillsborough County Florida

PUBLIC WORKS
PO Box 1110 Tampa, FL 33601-1110
(813) 272-5912 | Fax: (813) 272-5811

MEMORANDUM

DATE: July 10, 2018

TO: Larry E. Ruiz, Manager Landfill Operations, Solid Waste Management Division

FROM: Cindy A. Pelley, Landfill Supervisor, Solid Waste Management Division

SUBJECT: Leachate Water Balance Report Forms for June 2018
Southeast County Landfill, Hillsborough County, Florida

The Solid Waste Management Division (SWMD) staff has compiled and reviewed the leachate management operational data from the Southeast County Landfill Phases I-VI, Sections 7-8, and Section 9. Attached are the Leachate Water Balance Report Form (Table 1), the Leachate Field Data Entry Form (Table 2), and the 2018 Summary (Table 3). Also, attached find Figure 1 showing leachate levels in Pump Station B sump of Phases I-VI and rainfall for the month.

TABLE 1

Day (Column I)

Column I presents the calendar days for the month.

Rainfall (Column II)

Column II presents the average rainfall, in inches, as measured in the field from rainfall stations at the site. This month there was 9.85 inches of rainfall recorded at the Southeast County Landfill (SCLF).

Depth in Pond A (Column III)

Column III presents the daily depth, in feet, of effluent stored in effluent pond (Pond A). The daily depth in Pond A varies as a function of the spray irrigation frequency/duration and effluent hauled from the pond. This month the daily average depth of effluent stored in Pond A was 1.9 feet.

Depth in Pond B (Column IV)

Column IV presents the daily depth, in feet, of effluent or leachate that is stored in the effluent/leachate storage pond (Pond B). The depth in Pond B varies as a function of the evaporation frequency/duration and effluent or leachate hauled from the pond. This month the daily average depth of leachate stored in Pond B was 0.9.

Estimated Depth at Pump Station B Sump (PS-B) (Column V)

Column V presents the depth of leachate, in inches, in the PS-B sump. Leachate from Phases I-VI flows to the PS-B sump for removal from the landfill. PS-B then pumps the leachate to Pump Station A (PS-A). Daily depth readings from the PS-B sump are included in this column. This month PS-B was below the normal operation level. The average recorded depth of leachate in the PS-B sump was 15.3 inches.

Leachate Pumped to MLPS from Phases I-VI (Column VI)

Column VIII presents the daily amount of leachate, in gallons, collected from PS-A and pumped through the MLPS to the 575,000-gallon storage tank at the Leachate Treatment and Reclamation Facility (LTRF) for treatment or disposal. This column also includes the Phase II data from the dewatering wells and PS-2. The average daily amount of leachate pumped from PS-A was 87,280 gallons. A total of 2,618,410 gallons of leachate was pumped this month.

Leachate Pumped from Sections 7-8 LDS (Column VII)

Column IX presents the quantity of leachate removed from the leak detection system (LDS) of Sections 7-8. The quantity is measured by a flow meter before being pumped for removal with Sections 7-8 leachate. The removal rate did not exceed 1,930 gallons per day. This month 1,942 gallons of leachate was removed from the leak detection system of Sections 7-8.

Leachate Pumped to MLPS from Sections 7-8 (Column VIII)

Column X presents the quantity of leachate collected at Sections 7-8 and pumped to the MLPS. The quantity is measured by a flow meter and includes any leachate removed from the leak detection system of Sections 7-8 (Column IX). This month a total of 344,735 gallons was removed.

Leachate Pumped to LTRF from the MLPS (Column IX)

Column XI presents the total quantity of leachate pumped to the LTRF from Phases I-VI (including condensate removed from LFG Wells and Condensate Traps), and Sections 7-8. This month a total of 2,963,145 gallons of leachate was pumped to the LTRF.

Leachate Pumped to LTRF from Section 9 (Column X)

Column XII presents the daily amount of leachate, in gallons, collected from Section 9 and pumped to the 575,000-gallon storage tank at the Leachate Treatment and Reclamation Facility (LTRF) for treatment or disposal. A total of 245,151 gallons of leachate was pumped this month.

Leachate Pumped from Section 9 LDS (Column XI)

Column XIII presents the daily amount of leachate, in gallons, collected from the LDS of Section 9 and pumped to the 575,000-gallon storage tank at the LTRF for treatment or disposal. The removal rate did not exceed 4,651 gallons per day. This month 2,086 gallons of leachate was removed from the leak detection system.

Leachate Pumped from Compost Area Sump (Column XII)

Column XIV presents the total quantity of leachate pumped to the LTRF and Pond B from the Compost Project Area Sump. This month 235,469 gallons of leachate was removed from the compost area and pumped to the LTRF.

Leachate in 575,000-Gallon Tank (Column XIII)

Column XV presents the daily amount of leachate, in gallons, stored in the 575,000-gallon leachate holding tank T1 at the LTRF. The amount of leachate stored in T1 is calculated based on the circumference of the tank and the daily level reading. This month an average of 322,800 gallons of leachate was stored in the tank.

Effluent in 575,000-Gallon Tank (Column XIV)

Column XVI typically presents the daily amount of effluent, in gallons, stored in the 575,000-gallon effluent holding tank T6 at the LTRF. The amount of effluent stored in T6 is calculated based on the circumference of the tank and the daily level reading. This month an average of 266,500 gallons of effluent was stored in the tank.

Leachate Treated at LTRF (Column XV)

Column XIIV presents the daily amount of leachate, in gallons, treated at the LTRF. This month a total of 589,200 gallons of leachate was treated at the plant.

Total Leachate Hauled (Column XVI)

Column XVIII presents the daily amount of leachate, in gallons, hauled off site. This month a total of 3,133,577 gallons of leachate was hauled off site.

Leachate Dust Control Sprayed (Column XVII)

Column XIX presents the daily amount of leachate, in gallons, measured from the flow meter at the bypass-loading arm at the leachate storage tank. The leachate is used for dust control in the active area of the landfill. This month leachate was not used for dust control.

Pond A Storage (Column XVIII)

Column XX presents the daily amount of effluent, in gallons, stored in Pond A. The daily amount stored in the pond is calculated by using the daily depth of effluent in the Pond A (Column III). Under normal operating conditions, the daily amount of effluent stored in the pond varies depending upon the daily amount of leachate treated at the LTRF, the daily rainfall, daily effluent hauling operations, daily spray irrigation operations, and the daily amount of effluent used for dust control/evaporation. This month a daily average of 26,700 gallons of effluent was stored in Pond A.

Pond B Storage (Column XIX)

Column XXI presents the daily amount of effluent, in gallons, stored in Pond B. The daily amount stored in the pond is calculated by using the daily depth of liquid in Pond B (Column IV). Under normal operating conditions, the amount stored in the pond will vary depending upon the daily amount of leachate/effluent removed from the pond by the evaporation system, hauled from the pond, used for dust control or evaporated; however during June leachate from the compost pad and ash storage area (279,672 gallons) was stored in Pond B. This month a daily average of 31,200 gallons of leachate was stored in Pond B.

Effluent Sprayed at Pond B (Column XX)

Column XXII presents the daily amount of effluent, in gallons, sprayed for evaporation at Pond B. The amount evaporated is calculated by using 5 percent of the daily flow meter quantity sprayed at Pond B and it is included in Column XXVI. This month effluent was not sprayed in Pond B.

Effluent Irrigation (Column XXI)

Column XXIII presents the daily amount of effluent, in gallons, used for spray irrigation on top of Phases IV-VI. The daily amount of effluent irrigation on Phases I-VI is measured from the flow meter at the irrigation pump station. This month a total of 10,310 gallons of effluent was used for spray irrigation.

Effluent Dust Control Sprayed (Column XXII)

Column XXIV presents the daily amount of effluent, in gallons, sprayed for dust control in the active areas of the SCLF. The daily amount of effluent used for dust control, is measured from the flow meter at the bypass-loading arm. This month effluent was not sprayed as dust control.

Total Effluent Hauled (Column XXIII)

Column XXV presents the daily amount of effluent, in gallons, hauled off site, as measured from the flow meter at the bypass-loading arm. This month effluent was not hauled off site.

Total Evaporation (Column XXIV)

Column XXVI presents the daily amount of leachate and effluent, in gallons, that evaporates and therefore will not be returned to the SCLF and/or requires treatment. Evaporation rates of 80 percent and 5 percent evaporation rate for spray in Pond B are assumed. Total evaporation estimated for this month was 8,200 gallons.

TABLE 2

Table 2 presents data assembled from daily logs compiled by the SWMD staff.

TABLE 3

Leachate Balance Summary

The Leachate Balance Summary (see Table 3) presents a review of inflow and outflow quantities for the LTRF, as well as rainfall and effluent disposal quantities at the landfill. Total inflow quantity to the LTRF was 3,453,119 gallons. Total outflow quantity from the LTRF was 3,722,777 gallons. The change in storage for the month decreased by 269,659 gallons.

Please advise should you have any questions concerning the information provided.

TABLE 1. LEACHATE WATER BALANCE REPORT FORM
JUNE 2018
SOUTHEAST COUNTY LANDFILL, HILLSBOROUGH COUNTY, FLORIDA

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	XXII	XXIII	XXIV
Day	Rainfall (in.)	Depth in Pond A (ft.)	Depth in Pond B (ft.)	Estimated Depth at PS-B (in.)	Leachate Pumped to MLPS from Phases I-VI (gal.)	Leachate Pumped from Sections 7-8 LDS (gal.)	Leachate Pumped to MLPS from Sections 7-8 (gal.)	Leachate Pumped to LTRF from MPLS (gal.)	Leachate Pumped to LTRF from Section 9 (gal.)	Leachate Pumped from Section 9 LDS (gal.)	Compost Leachate (gal.)	Leachate in 575K Tank (gal.)	Effluent in 575K Tank (gal.)	Leachate Treated at LTRF (gal.)	Total Leachate Hauled (gal.)	Leachate Dust Control (Sprayed) (gal.)	Pond A Storage (gal.)	Pond B Storage (gal)	Effluent Sprayed Pond B (gal)	Effluent Irrigation (gal.)	Effluent Dust Control (Sprayed) (gal.)	Total Effluent Hauled (gal.)	Total Evaporation (gal.)
1	0.00	0.9	0.8	14.3	91,756	32	15,433	107,189	1,763	0	1,429	189,000	252,000	4,900	211,137	0	21,000	12,000	0	0	0	0	0
2	0.00	1.1	0.0	12.9	93,230	40	12,930	106,160	1,676	0	2,756	233,000	115,000	4,600	130,139	0	28,000	0	0	0	0	0	0
3	0.04	1.0	0.0	16.5	91,607	55	13,857	105,464	565	0	0	253,000	122,000	4,600	0	0	21,000	0	0	0	0	0	0
4	0.00	0.8	0.0	20.0	91,081	55	13,857	104,938	565	0	0	274,000	130,000	4,600	213,673	0	17,000	0	0	0	0	0	0
5	0.00	0.6	0.0	12.1	90,039	30	12,464	102,503	47	0	0	192,000	168,000	2,000	109,849	0	0	0	0	0	0	0	0
6	0.43	0.6	0.0	19.4	90,975	10	12,337	103,312	0	0	0	199,000	144,000	6,800	95,335	0	0	0	0	0	0	0	0
7	0.43	0.6	0.0	16.2	75,563	68	12,119	87,682	38,205	0	68	216,000	144,000	10,100	74,251	0	0	0	0	0	0	0	0
8	0.69	1.4	0.0	18.4	64,577	59	9,617	74,194	13,868	1,998	0	192,000	144,000	10,100	79,278	0	0	0	0	0	0	0	0
9	0.00	1.9	1.2	18.8	82,433	88	11,947	94,380	0	0	42,826	202,000	144,000	20,100	42,340	0	0	28,000	0	0	0	0	0
10	0.00	1.6	1.1	15.4	83,442	76	10,986	94,428	1	1	6,042	290,000	144,000	20,100	0	0	0	23,000	0	0	0	0	0
11	0.00	1.3	1.0	12.0	85,827	76	10,986	96,813	1	1	6,042	379,000	144,000	20,100	87,902	0	0	19,000	0	0	0	0	0
12	0.14	1.7	0.0	11.8	87,339	100	10,155	97,494	3,524	*0*	9	405,000	144,000	20,100	87,849	0	0	0	0	0	0	0	0
13	0.10	1.3	0.0	17.2	81,586	77	10,832	92,418	2,110	1	1	374,000	199,000	20,000	87,836	0	0	0	0	0	0	0	0
14	0.95	1.3	0.0	11.8	97,786	60	11,421	109,207	9,245	83	6	338,000	238,000	1,800	87,674	0	0	0	0	0	0	0	0
15	0.42	2.0	0.0	12.4	60,434	64	10,901	71,335	24,545	1	1	329,000	238,000	25,100	131,773	0	0	0	0	0	0	0	0
16	0.27	2.4	1.1	20.2	78,697	102	8,935	87,632	9,715	2	10,507	278,000	238,000	23,700	49,590	0	0	23,000	0	10,310	0	0	8,200
17	0.07	2.7	0.6	18.7	79,525	44	9,712	89,237	9,927	*0*	4	343,000	238,000	23,700	0	0	0	4,000	0	0	0	0	0
18	0.00	3.0	0.0	17.2	80,569	44	9,712	90,281	9,927	*0*	4	408,000	238,000	23,700	87,821	0	0	0	0	0	0	0	0
19	0.00	2.0	0.0	12.0	82,046	117	11,033	93,079	6,834	0	6	425,000	276,000	30,500	73,641	0	0	0	0	0	0	0	0
20	2.05	2.1	0.0	15.7	86,044	57	9,280	95,324	6,814	0	0	422,000	288,000	30,500	81,483	0	0	0	0	0	0	0	0
21	0.00	2.3	1.0	16.0	85,800	65	9,609	95,409	8,706	0	2	374,000	360,000	30,500	176,148	0	0	19,000	0	0	0	0	0
22	0.00	2.6	1.7	13.3	77,258	76	10,211	87,469	9,168	0	68,137	324,000	403,000	22,700	125,062	0	0	57,000	0	0	0	0	0
23	0.00	2.4	1.7	11.8	95,751	63	12,310	108,061	8,775	*0*	274	302,000	403,000	29,400	0	0	79,000	57,000	0	0	0	0	0
24	1.65	2.5	1.8	12.3	91,904	67	12,526	104,430	8,601	*0*	*0*	371,000	431,000	29,400	0	0	83,000	57,000	0	0	0	0	0
25	0.00	2.6	1.8	12.7	91,028	67	12,526	103,553	8,601	*0*	*0*	439,000	458,000	29,400	108,866	0	88,000	64,000	0	0	0	0	0
26	1.22	2.6	2.8	12.0	92,724	74	11,424	104,148	11,018	*0*	58,941	396,000	461,000	28,400	169,158	0	88,000	152,000	0	0	0	0	0
27	0.24	2.7	2.7	12.3	96,143	60	14,549	110,692	11,271	*0*	*0*	374,000	449,000	27,500	161,769	0	93,000	143,000	0	0	0	0	0
28	0.01	2.7	2.6	15.4	94,278	68	14,822	109,100	14,412	*0*	38,415	408,000	441,000	28,200	169,296	0	93,000	133,000	0	0	0	0	0
29	0.52	2.7	2.0	18.5	111,680	55	15,880	127,560	12,214	*0*	*0*	417,000	432,000	28,300	235,516	0	93,000	80,000	0	0	0	0	0
30	0.62	2.8	1.8	20.8	107,292	96	2,365	109,657	13,056	*0*	0	338,000	408,000	28,300	256,191	0	98,000	64,000	0	0	0	0	0
Total	9.85				2,618,410	1,942	344,735	2,963,145	245,151	2,086	235,469			589,200	3,133,577	0			0	10,310	0	0	8,200
Daily Average		1.9	0.9	15.3	87,280	65	11,491	98,771	8,172	70	7,849	322,800	266,500				26,700	31,200					
Mo. Average																0				300	0	0	270

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Notes:
1. NR = No Records, NA = Not Available.
2. Values in bold are estimated; values in italic are substitute for missing data and are based on averaged values.
3. Daily average is calculated by dividing the total by the actual days measured in the month.
4. Monthly average calculated by dividing the total by the number of days of the month.
5. Column II, Trace is less than 0.01 inches and is not included in total.
6. Columns III and IV, field measured at staff gauges.
7. Columns IX & X, Section 7-8 leak detection pumped into Section 7 leachate sump riser.
8. Column XV and XVI, calculated from depth in 575,000 gal. tanks.
9. Columns VI-XIV, XVII-XIX, and XXII-XXV, quantities from flow meters.
10. Column XXVI includes 80% of the daily values from Columns XIX, XXIII, and XXIV plus 5% of the daily values from column XXII.

TABLE 2. FIELD DATA ENTRY FORM
JUNE 2018
SOUTHEAST COUNTY LANDFILL, HILLSBOROUGH COUNTY, FLORIDA

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
Day	Rainfall (in.)	Flow Meter Pump Sta. A (gal.)	Reading PS-B (in.)	Section 9 Pump 1 (gal.)	Section 9 Pump 2 (gal.)	Section 9 LDS (gal.)	Compost Leachate (gal.)	Sections 7-8 Pump (gal.)	Sections 7-8 LDS (gal.)	Pond B Depth (ft.)	Pond B Effluent Sprayed (gal)	Pond A Depth (ft.)	Effluent Spray Irrigation (gal.)	Depth in 575K Tank Leachate (ft.)	Depth in 575K Tank Effluent (ft.)	Leachate Treated at LTRF (gal.)	Leachate Hauled		Leachate Dust Control (Sprayed) (gal.)	Effluent Hauled		Effluent Dust Control (Sprayed) (gal)
																	Contractor (gal.)	County (gal.)		Contractor (gal.)	County (gal.)	
1	0.00	112,280	14.3	472,650	461,137	5,848,361	490,163	6,187,433	61,052	0.8	0.0	0.9	0	6.58	8.75	4,931	168,848	42,289				
2	0.00	183,421	12.9	474,181	461,282	5,848,361	492,919	6,200,363	61,092	0.0	0.0	1.1	0	8.08	4.00	4,588	87,603	42,536				
3	0.04	252,939	16.5	474,745	461,283	5,848,361	492,919	6,214,220	61,147	0.0		1.0		8.79	4.25	4,588						
4	0.00	322,456	20.0	475,309	461,283	5,848,361	492,919	6,228,077	61,201	0.0	0.0	0.8	0	9.50	4.50	4,588	177,336	36,337				
5	0.00	390,800	12.1	475,355	461,284	5,846,360	492,919	6,240,541	61,231	0.0	0.0	0.6	0	6.67	5.83	2,005	67,491	42,358				
6	0.43	460,616	19.4	475,355	461,284	5,846,360	492,919	6,252,878	61,241	0.00	0.00	0.60	0	6.92	5.00	6,751	44,988	50,347				
7	0.43	524,985	16.2	513,299	461,545	5,846,359	492,987	6,264,997	61,309	0.0	0.0	0.6	0	7.50	5.00	10,133	45,050	29,201				
8	0.69	587,418	18.4	527,098	461,614	5,848,357	492,987	6,274,614	61,368	0.0	0.0	1.4	0	6.67	5.00	10,134	37,526	41,752				
9	0.00	652,306	18.8	527,098	461,614	5,848,357	535,813	6,286,561	61,456	1.2	0.0	1.9	0	7.00	5.00	20,107	0	42,340				
10	0.00	718,203	15.4	527,098	461,615	5,848,358	541,855	6,297,547	61,532	1.1		1.6		10.09	5.00	20,107						
11	0.00	784,100	12.0	527,098	461,616	5,848,358	547,897	6,308,533	61,607	1.0	0.0	1.3	0	13.17	5.00	20,107	45,156	42,746				
12	0.14	852,239	11.8	530,621	461,617	5,848,356	547,906	6,318,688	61,707	0.0	0.0	1.7	0	14.08	5.00	20,107	45,209	42,640				
13	0.10	913,270	17.2	532,730	461,618	5,848,357	547,907	6,329,520	61,784	0	0	1.3	0	13.00	6.92	20,043	45,199	42,637				
14	0.95	974,800	11.8	541,974	461,619	5,848,440	547,913	6,340,941	61,844	0.0	0.0	1.3	0	11.75	8.25	1,846	45,083	42,591				
15	0.42	1,035,234	12.4	566,516	461,622	5,848,441	547,914	6,351,842	61,908	0.0	0.0	2.0	0	11.42	8.25	25,078	89,203	42,570				
16	0.27	1,094,777	20.2	576,231	461,622	5,848,443	558,421	6,360,777	62,010	1.1	0.0	2.4	10,310	9.67	8.25	23,707	0	49,590				
17	0.07	1,155,149	18.7	576,410	471,370	5,848,443	558,425	6,370,489	62,054	0.6		2.7		11.92	8.25	23,707						
18	0.00	1,215,520	17.2	576,588	481,118	5,848,442	558,428	6,380,201	62,098	0.0	0.0	3.0	0	14.17	8.25	23,707	45,105	42,716				
19	0.00	1,275,907	12.0	576,589	487,951	5,848,441	558,434	6,391,234	62,215	0.0	0.0	2.0	0	14.75	9.58	30,467	45,168	28,473				
20	2.05	1,341,049	15.7	576,590	494,764	5,848,441	558,434	6,400,514	62,272	0.0	0.0	2.1	0	14.67	10.00	30,467	45,187	36,296				
21	0.00	1,405,532	16.0	576,590	503,470	5,848,441	558,436	6,410,123	62,337	1.0	0.0	2.3	0	13.00	12.50	30,469	90,233	85,915				
22	0.00	1,477,242	13.3	576,591	512,637	5,848,439	626,573	6,420,334	62,413	1.7	0.0	2.6	0	11.25	14.00	22,653	82,437	42,625				
23	0.00	1,551,059	11.8	576,591	521,412	5,848,437	626,847	6,432,644	62,476	1.7	0.0	2.4	0	10.50	14.00	29,436	0	0				
24	1.65	1,621,030	12.3	576,592	530,012	5,848,436	626,833	6,445,170	62,543	1.8		2.5		12.88	14.96	29,436						
25	0.00	1,691,000	12.7	576,592	538,612	5,848,434	626,818	6,457,695	62,609	1.8	0.0	2.6	0	15.25	15.92	29,436	108,866	0				
26	1.22	1,762,667	12.0	576,592	549,630	5,848,433	685,759	6,469,119	62,683	2.8	0.0	2.6	0	13.75	16.00	28,395	169,158	0				
27	0.24	1,837,451	12.3	576,593	560,900	5,848,432	685,758	6,483,668	62,743	2.7	0.0	2.7	0	13.00	15.58	27,536	161,769	0				
28	0.01	1,918,159	15.4	582,879	569,026	5,848,430	724,173	6,498,490	62,811	2.6	0.0	2.7	0	14.17	15.33	28,225	169,296	0				
29	0.52	2,005,644	18.5	588,978	575,141	5,848,427	724,166	6,514,370	62,866	2.0	0.0	2.7	0	14.50	15.00	28,341	149,429	86,087				
30	0.62	2,089,459	20.8	595,505	581,670	5,848,425	724,166	6,516,735	62,962	1.8	0.0	2.8	0	11.75	14.17	28,341	169,049	87,142				
Totals	9.85										0		10,310			589,436	2,134,389	999,188	0	0	0	0

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Notes:

1. NR = No Records, NA = Not Available.
2. Values in bold are estimated; values in italic are substitute for missing data and are based on averaged values
3. Columns I and L include quantities from leak detection system.
4. Column B, trace is less than 0.01 inches.
5. Columns C, D, E, G, H, I, J, K, L, N, P, S-X and Y are quantities from flow meters.
6. Columns M and O measured from staff gages in each pond.

Type of Cover	Phases I-VI acres	Section 9 acres
Open	5	0
Intermediate	134.4	15
Final	23	0
Not Opened	0	0

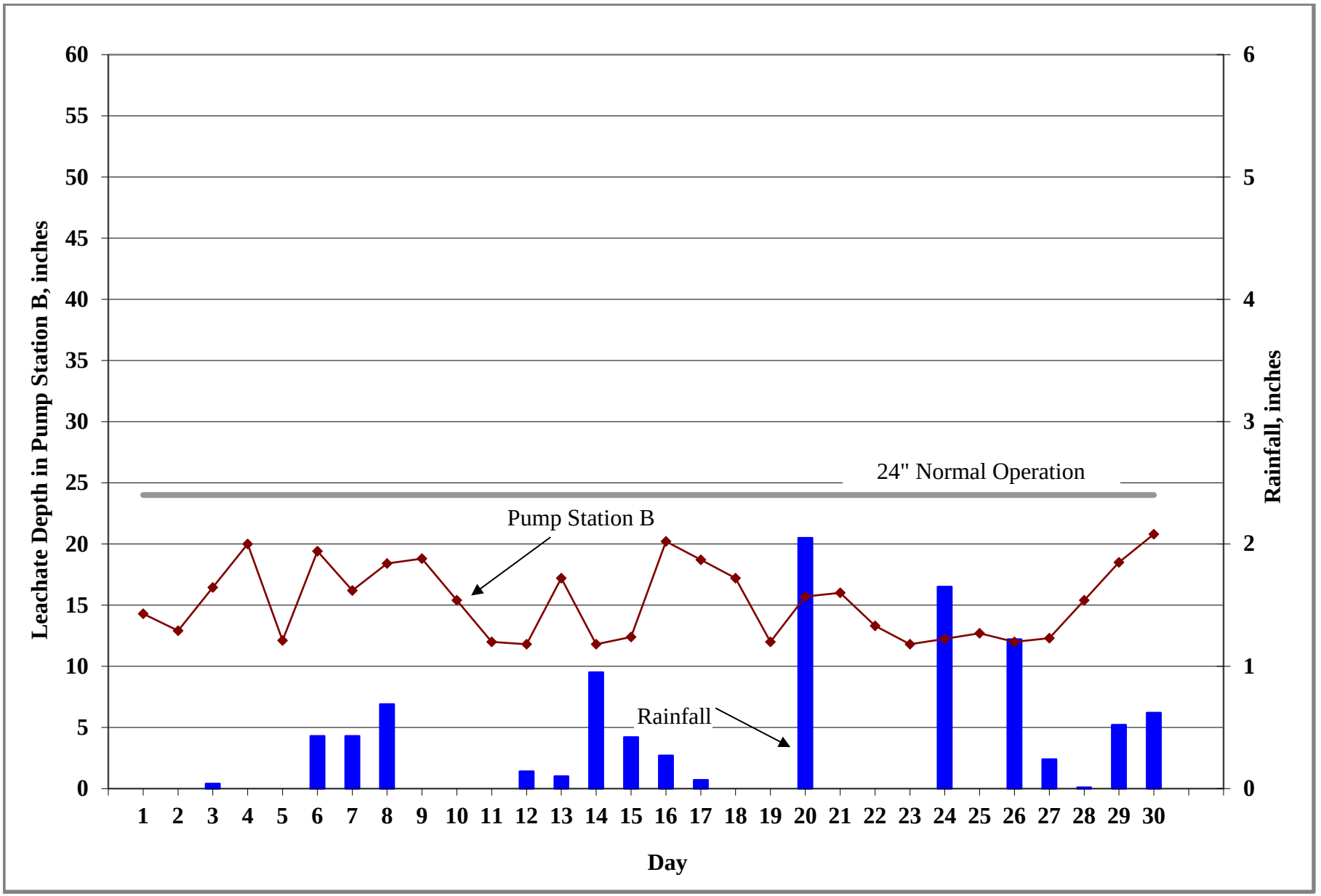

Figure 1. Leachate Levels in Pump Station B and Rainfall for June 2018.

TABLE 3. LEACHATE BALANCE SUMMARY
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA
YEAR-2018

		Leachate Arriving at LTRF					Leachate Leaving LTRF			Effluent Disposal			Inflow / Outflow For LTRF		
Month	Rainfall (in.)	Condensate from LFG CS-1 (gal.)	Leachate from Section 9 Pumped to LTRF (gal.)	Leachate from Section 7-8 Pumped to LTRF (gal.)	Leachate from Phases I-VI Pumped to LTRF (gal.)	Compost Leachate (gal.)	Total Leachate Hauled from LTRF (gal.)	Leachate Dust Control (Sprayed) (gal.)	Leachate Treated at LTRF (gal.)	Total Effluent Hauled (gal.)	Effluent Dust Control (Sprayed) (gal.)	Effluent Irrigation (gal.)	Total Inflow to LTRF (gal.)	Total Outflow from LTRF (gal.)	Change in Storage[3] (gal.)
January	3.63	986	136,192	132,787	2,699,895	0	2,278,282	9,334	728,100	249,302	0	410,330	2,969,860	3,015,716	-45,856
February	0.82	1,707	102,640	20,127	2,194,846	62,685	1,716,430	1,584	518,000	136,771	0	357,793	2,382,005	2,236,014	145,991
March	1.06	4,700	73,738	74,047	2,123,174	23,840	1,495,682	9,695	814,870	311,813	0	336,300	2,299,499	2,320,247	-20,748
April	2.70	4,147	75,436	237,863	2,064,425	3,295	1,683,678	3,216	567,800	155,769	0	340,297	2,385,166	2,254,694	130,472
May	13.66	7,387	154,146	242,640	2,213,290	398,577	3,496,465	0	316,811	165,637	0	149,558	3,016,040	3,813,276	-797,236
June	9.85	7,268	247,237	344,735	2,618,410	235,469	3,133,577	0	589,200	0	0	10,310	3,453,119	3,722,777	-269,659
July															
August															
September															
October															
November															
December															
YTD Total	31.72	26,195	789,389	1,052,199	13,914,039	723,866	13,804,114	23,829	3,534,781	1,019,292	0	1,604,588	16,505,688	17,362,724	-857,036

Note:

1. If the bypass at the effluent pond is ever used to pump effluent back to the LTRF, this table must be modified.
2. Change in storage represents total inflow to LTRF minus total outflow from LTRF.