Hillsborough County
Florida

January 8, 2013

Ms. Yanisa Angulo, P.E.
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 Ms. Angulo:

In accordance with Specific Condition No. 8 of Permit No. 35435-014-SO, the Solid Waste Management Group (SWMG) is submitting the Quarterly Leachate Water Balance summary for the Southeast County Landfill for the quarter ending January 15, 2013.

The data is being submitted as separate monthly reports for October, November, and December 2012. The information includes the leachate level in Pump Station B (PS-B). This quarter PS-B was above the normal operation level of 24-inches from October 2 through October 19 due to a blockage in the suction line that has been repaired.

Also attached is the top of the phosphatic clay liner elevation at the Pump Station B Sump.

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

Sincerely,

Larry E. Ruiz
General Manager III
Solid Waste Management Group
Public Utilities Department

xc: Rich Siemering, HDR
Ron Cope, EPC
Terry Payton, EPC
Steve Morgan, FDEP

Hillsborough County
Florida

Office of the County Administrator
Michael S. Merrill

MEMORANDUM

DATE: January 8, 2013

TO: Larry Ruiz, General Manager III, Solid Waste Management Group

FROM: Cindy Pelley, Environmental Specialist II, Environmental Services Group
Raymond Graves, Sr. Eng. Tech., Solid Waste Management Group

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

The Solid Waste Management Group (SWMG) 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 2012 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 3.12 inches of rainfall 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 3.1 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 1.5 feet.

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 of 24-inches. The average recorded depth of leachate in the PS-B sump was 22.0 inches.

Leachate Pumped to PS-B from TPS-6 (Column VI)

Column VI presents the quantity of leachate from Phase IV pumped to PS-B by Temporary Pump Station-6 (TPS-6). The quantity of leachate removed by TPS-6 is measured in gallons by an in-line flow meter and is included in the quantity of leachate pumped to the Main Leachate Pump Station (MLPS) from Phases I-VI (Column VII).
The average daily amount of leachate pumped from TPS-6 was 13,067 gallons. A total of 405,080 gallons of leachate was pumped this month.

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

Column VII 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. The quantity in column VII also includes the daily amount of leachate, in gallons, pumped from TPS-6. The average daily amount of leachate pumped from PS-A was 45,881 gallons. A total of 1,422,326 gallons of leachate was pumped this month.

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

Column VIII 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 a total of 1,647 gallons of leachate was removed from the leak detection system of Sections 7-8.

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

Column IX 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 VIII). This month a total of 74,254 gallons of leachate was pumped from Sections 7-8.

Leachate Pumped to LTRF from the MLPS (Column X)

Column X presents the total quantity of leachate pumped to the LTRF from Phases I-VI and Sections 7-8. This month a total of 1,496,580 gallons of leachate were pumped to the LTRF.

Leachate Pumped to LTRF from Section 9 (Column XI)

Column XI 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 17,161 gallons of leachate was pumped this month.

Leachate Pumped from Section 9 LDS (Column XII)

Column XII 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 a total of 31 gallons of leachate were removed from the leak detection system.

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

Column XIII presents the daily amount of leachate, in gallons, stored in the 575,000-gallon leachate holding tank at the LTRF. The amount of leachate stored in the tank is calculated based on the circumference of the tank and the daily level reading. This month an average of 385,700 gallons of leachate was stored in the tank.

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

Column XIV presents the daily amount of effluent, in gallons, stored in the 575,000-gallon effluent holding tank at the LTRF. The amount of effluent stored in the tank is calculated based on the circumference of the tank and the daily level reading. This month an average of 356,800 gallons of effluent was stored in the tank.

Leachate Treated at LTRF (Column XV)

Column XV presents the daily amount of leachate, in gallons, treated at the LTRF. This month a total of 1,005,100 gallons of leachate was treated at the plant.

Total Leachate Hauled (Column XVI)

Column XVI presents the daily amount of leachate, in gallons, hauled off site. This month a total of 444,131 gallons of leachate was hauled off site.

Leachate Dust Control Sprayed (Column XVII)

Column XVII 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 63,802 gallons of leachate was used for dust control.

Pond A Storage (Column XVIII)

Column XVIII 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 IV). 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 115,200 gallons of effluent was stored in Pond A.

Pond B Storage (Column XIX)

Column XIX 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 effluent in Pond B (Column IV).

Under normal operating conditions, the amount stored in the pond will vary depending upon the daily amount of effluent removed from the pond by the evaporation system, hauled from the pond, used for dust control or evaporated. This month a daily average of 47,300 gallons of effluent was stored in Pond B.

Effluent Sprayed at Pond B (Column XX)

Column XX 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 XXIV. This month effluent was not sprayed in Pond B.

Effluent Irrigation (Column XXI)

Column XXI presents the daily amount of effluent, in gallons, used for spray irrigation on top of Phases I-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 817,659 gallons of effluent was used for spray irrigation.

Effluent Dust Control Sprayed (Column XXII)

Column XXII 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 a total of 54,044 gallons of effluent was sprayed as dust control.

Total Effluent Hauled (Column XXIII)

Column XXIII 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 XXIV 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. The total evaporation estimated for this month was 748,500 gallons.

TABLE 2

Table 2 presents data assembled from daily logs compiled by the SWMG 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 1,513,772 gallons. Total outflow quantity from the LTRF was 1,513,033 gallons. The change in storage for the month increased by 739 gallons.

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

TABLE 3. LEACHATE BALANCE SUMMARY
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA
YEAR-2012

		Leachate Arriving at LTRF				Leachate Leaving LTRF			Effluent Disposal			Inflow / Outflow For LTRF		
Month	Rainfall (in.)	Leachate Hauled to LTRF from HHLF/TRLF (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.)	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	1.07	0	23,500	70,007	813,178	699,589	106,160	0	0	0	0	906,685	805,749	100,936
February	0.73	0	355,409	44,187	711,900	729,481	3,015	0	0	0	0	1,111,496	732,496	379,000
March	1.34	0	14,454	40,857	755,703	731,676	0	249,900	0	0	0	811,014	981,576	-170,562
April	1.73	0	20,024	48,716	692,903	24,075	0	725,800	6,009	0	599,900	761,643	749,875	11,768
May	2.52	0	12,434	38,828	667,077	0	0	737,200	0	0	678,600	718,339	737,200	-18,861
June	19.69	0	19,532	216,419	939,380	379,754	14,787	683,800	24,400	0	495,700	1,175,331	1,078,341	96,990
July	4.98	0	20,538	216,186	1,558,367	800,555	171,493	832,000	60,184	0	796,826	1,795,091	1,804,048	-8,957
August	14.20	0	19,702	228,852	1,436,462	746,218	116,021	812,800	170,725	0	705,818	1,685,016	1,675,039	9,977
September	3.70	0	20,484	209,099	1,920,704	1,300,030	45,061	815,200	144,519	0	782,345	2,150,287	2,160,291	-10,004
October	3.68	0	25,121	142,561	1,898,163	1,114,609	5,038	836,400	87,193	0	883,075	2,065,845	1,956,047	109,798
November	0.24	0	87,850	91,175	1,530,813	726,117	2,999	815,400	0	0	726,882	1,709,838	1,544,516	165,322
December	3.12	0	17,192	74,254	1,422,326	444,131	63,802	1,005,100	0	54,044	817,659	1,513,772	1,513,033	739
YTD Total	57.00	0	636,240	1,421,141	14,346,976	7,696,235	528,376	7,513,600	493,030	54,044	6,486,805	16,404,357	15,738,211	666,146

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. Leachate from the Hillsborough Heights and Taylor Road landfills is being hauled to the Faulkenburg Road Wastewater Treatment Facility.
3. Change in storage represents total inflow to LTRF minus total outflow from LTRF.

TABLE 1. LEACHATE WATER BALANCE REPORT FORM
DECEMBER 2012
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 PS-B from TPS-6 (gal.)	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.)	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	3.3	1.4	21.3	19,330	47,801	84	3,238	51,039	498	0	389,000	305,000	21,700	0	0	123,000	38,000	0	0	0	0	0
2	0.00	*3.3*	*1.4*	*21.0*	*9,255*	*45,842*	*70*	*1,630*	*47,472*	*553*	*1*	*404,000*	*333,000*	*20,600*	0	0	*123,000*	*38,000*	0	0	0	0	0
3	0.00	3.3	1.4	20.7	9,255	45,842	70	1,630	47,472	553	1	420,000	362,000	25,700	12,181	6,084	123,000	38,000	0	34,401	0	0	32,400
4	0.00	3.4	1.4	20.9	20,070	47,472	57	3,199	50,671	422	1	422,000	353,000	29,200	18,114	3,000	129,000	38,000	0	43,728	0	0	37,400
5	0.00	3.1	1.4	23.4	21,710	48,549	54	3,211	51,760	688	1	422,000	345,000	29,700	18,145	9,605	113,000	38,000	0	53,733	0	0	50,700
6	0.00	3.0	1.4	22.5	19,920	52,146	79	3,194	55,340	447	0	420,000	336,000	33,900	12,139	9,008	108,000	38,000	0	48,472	0	0	46,000
7	0.00	3.0	1.4	23.2	20,590	54,656	53	*0*	54,656	519	0	415,000	322,000	30,000	18,173	6,040	108,000	38,000	0	50,262	0	0	45,000
8	0.22	3.0	1.4	21.9	12,950	50,206	53	3,229	53,435	440	1	408,000	302,000	34,900	0	3,005	108,000	38,000	0	0	0	0	2,400
9	0.00	*3.0*	*1.4*	*21.9*	*9,960*	*47,676*	*61*	*3,214*	*50,889*	*570*	*1*	*420,000*	*338,000*	*34,200*	0	0	*108,000*	*38,000*	0	0	0	0	0
10	0.75	3.0	1.4	21.9	9,960	47,676	61	3,214	50,889	570	1	432,000	374,000	34,200	18,170	6,007	108,000	38,000	0	49,236	0	0	44,200
11	0.42	3.1	1.5	22.6	37,560	53,822	56	3,194	57,016	655	1	432,000	343,000	34,400	18,163	0	113,000	44,000	0	34,390	0	0	27,500
12	0.22	3.0	1.5	23.2	13,020	46,413	50	*0*	46,413	518	2	430,000	355,000	34,300	12,077	0	108,000	44,000	0	15,473	0	0	12,400
13	0.01	3.4	1.5	21.4	13,980	43,513	50	3,241	46,754	523	2	434,000	353,000	33,400	18,206	0	129,000	44,000	0	46,445	0	0	37,200
14	0.00	3.2	1.5	22.2	14,340	41,881	48	3,184	45,065	546	1	432,000	336,000	33,400	18,200	6,032	118,000	44,000	0	48,877	0	0	43,900
15	0.00	3.0	1.5	21.0	13,800	43,328	52	3,169	46,497	757	1	422,000	331,000	30,600	0	3,019	108,000	44,000	0	0	0	0	2,400
16	0.00	*3.0*	*1.5*	*21.9*	*6,040*	*47,152*	*58*	*1,607*	*48,759*	*609*	*1*	*434,000*	*360,000*	*30,500*	0	0	*108,000*	*44,000*	0	0	0	0	0
17	0.00	3.0	1.5	22.7	6,040	47,152	58	1,607	48,759	609	1	446,000	389,000	30,300	45,325	0	108,000	44,000	0	45,438	0	0	36,400
18	0.00	3.0	1.5	21.7	14,910	50,436	48	3,197	53,633	930	2	417,000	374,000	32,200	45,330	0	108,000	44,000	0	48,599	0	0	38,900
19	0.00	2.9	1.5	21.1	12,210	45,269	49	3,194	48,463	536	1	391,000	365,000	30,900	38,704	9,004	103,000	44,000	0	47,943	0	0	45,600
20	0.72	2.9	1.5	23.0	12,730	43,305	50	*0*	43,305	2,160	1	367,000	345,000	36,300	45,447	0	103,000	44,000	0	42,901	0	0	34,300
21	0.00	3.1	1.6	21.7	13,760	46,515	48	3,282	49,797	0	0	324,000	326,000	34,600	45,518	0	113,000	51,000	0	40,683	0	0	32,500
22	0.00	3.3	1.6	22.8	12,750	38,997	48	3,219	42,216	0	0	300,000	307,000	34,600	0	0	123,000	51,000	0	0	0	0	0
23	0.00	*3.3*	*1.6*	*22.2*	*5,570*	*40,064*	*48*	*1,610*	*41,674*	*143*	*0*	*307,000*	*341,000*	*34,800*	0	0	*123,000*	*51,000*	0	0	0	0	0
24	0.00	3.3	1.6	21.5	5,570	40,064	48	1,610	41,674	143	0	314,000	374,000	34,800	0	0	123,000	51,000	0	0	0	0	0
25	0.00	3.3	1.6	21.1	6,135	49,289	41	3,281	52,570	454	3	326,000	389,000	34,600	0	0	123,000	51,000	0	0	0	0	0
26	0.20	3.3	1.6	20.6	6,135	49,289	41	3,281	52,570	454	3	338,000	403,000	34,700	18,058	0	123,000	51,000	0	33,944	0	0	27,200
27	0.01	3.2	1.6	22.6	15,570	47,019	39	*0*	47,019	796	2	338,000	413,000	34,300	18,070	2,998	118,000	51,000	0	55,583	0	0	46,900
28	0.32	3.1	1.9	23.3	13,130	41,476	42	3,285	44,761	541	1	322,000	394,000	35,700	6,026	0	113,000	72,000	0	27,378	23,916	0	41,000
29	0.25	3.0	1.9	23.0	14,720	46,840	48	3,280	50,120	320	1	338,000	381,000	35,400	0	0	108,000	72,000	0	0	0	0	0
30	0.00	*3.2*	*1.9*	*22.1*	*7,055*	*36,319*	*43*	*1,629*	*37,948*	*605*	*2*	*344,000*	*398,000*	*35,600*	0	0	*118,000*	*72,000*	0	0	0	0	0
31	0.00	3.4	1.9	21.1	7,055	36,319	43	1,629	37,948	605	2	350,000	415,000	35,600	18,085	0	129,000	72,000	0	50,173	30,128	0	64,200
Total	3.12				405,080	1,422,326	1,647	74,254	1,496,580	17,161	31			1,005,100	444,131	63,802			0	817,659	54,044	0	748,500
Daily Average		3.1	1.5	22.0	13,067	45,881	53	2,395	48,277	554	1	385,700	356,800				115,200	47,300					
Mo. Average																2,100				26,400	2,000	0	24,150

projects\balance\2012\12-12bal.xls (dad 1/5/13)

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. Column V, PPS-B sensor reading plus 9 inches.
8. Columns VIII & IX, Section 7-8 leak detection pumped into Section 7 leachate sump riser.
9. Column XIII and XIV, calculated from depth in 575,000 gal. tanks.
10. Columns VI-XII, XV-XVII, and XX-XXIII, quantities from flow meters.
11. Column XXIV includes 80% of the daily values from Columns XVII, XXI, and XXII plus 5% of the daily values from column XX.

TABLE 2. FIELD DATA ENTRY FORM
DECEMBER 2012
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 TPS-6 (gal.)	Flow Meter Pump Sta. A (gal.)	Reading PS-B (in.)	Section 9 Pump 1 (gal.)	Section 9 Pump 2 (gal.)	Section 9 LDS (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	32,855,560	957,218	12.3	2,010,924	2,093,770	10,047	4,944,214	43,882	1.4	0.0	3.3	0	13.50	10.58	21,657	0	0	0	0	0	0
2	0.00	*32,864,815*	*1,003,060*	*12.0*	*2,011,477*	*2,093,770*	*10,048*	*4,945,844*	*43,952*	*1.4*	0.0	*3.3*	0	*14.04*	*11.58*	*20,611*	0	0	0	0	0	0
3	0.00	32,874,070	1,048,902	11.7	2,012,029	2,093,770	10,048	4,947,474	44,021	1.4	0.0	3.3	34,401	14.58	12.58	25,665	0	12,181	6,084	0	0	0
4	0.00	32,894,140	1,096,374	11.9	2,012,451	2,093,770	10,049	4,950,673	44,078	1.4	0.0	3.4	43,728	14.67	12.25	29,222	0	18,114	3,000	0	0	0
5	0.00	32,915,850	1,144,923	14.4	2,013,139	2,093,770	10,050	4,953,884	44,132	1.4	0.0	3.1	53,733	14.67	12.00	29,662	0	18,145	9,605	0	0	0
6	0.00	32,935,770	1,197,069	13.5	2,013,586	2,093,770	10,050	4,957,078	44,211	1.4	0.0	3.0	48,472	14.58	11.67	33,878	0	12,139	9,008	0	0	0
7	0.00	32,956,360	1,251,725	14.2	2,014,105	2,093,770	10,050	4,957,074	44,264	1.4	0.0	3.0	50,262	14.42	11.17	30,048	0	18,173	6,040	0	0	0
8	0.22	32,969,310	1,301,931	12.9	2,014,545	2,093,770	10,051	4,960,303	44,317	1.4	0.0	3.0	0	14.17	10.50	34,882	0	0	3,005	0	0	0
9	0.00	*32,979,270*	*1,349,607*	*12.9*	*2,015,115*	*2,093,770*	*10,052*	*4,963,517*	*44,378*	*1.4*	0.0	*3.0*	0	*14.59*	*11.75*	*34,208*	0	0	0	0	0	0
10	0.75	32,989,230	1,397,282	12.9	2,015,685	2,093,770	10,052	4,966,730	44,439	1.4	0.0	3.0	49,236	15.00	13.00	34,226	0	18,170	6,007	0	0	0
11	0.42	33,026,790	1,451,104	13.6	2,016,340	2,093,770	10,053	4,969,924	44,495	1.5	0.0	3.1	34,390	15.00	11.92	34,388	0	18,163	0	0	0	0
12	0.22	33,039,810	1,497,517	14.2	2,016,858	2,093,770	10,055	4,969,923	44,545	1.5	0.0	3.0	15,473	14.92	12.33	34,287	0	12,077	0	0	0	0
13	0.01	33,053,790	1,541,030	12.4	2,017,381	2,093,770	10,057	4,973,164	44,595	1.5	0.0	3.4	46,445	15.08	12.25	33,432	0	18,206	0	0	0	0
14	0.00	33,068,130	1,582,911	13.2	2,017,927	2,093,770	10,058	4,976,348	44,643	1.5	0.0	3.2	48,877	15.00	11.67	33,388	0	18,200	6,032	0	0	0
15	0.00	33,081,930	1,626,239	12.0	2,018,684	2,093,770	10,059	4,979,517	44,695	1.5	0.0	3.0	0	14.67	11.50	30,642	0	0	3,019	0	0	0
16	0.00	*33,087,970*	*1,673,391*	*12.9*	*2,019,293*	*2,093,770*	*10,060*	*4,981,124*	*44,753*	*1.5*	0.0	*3.0*	0	*15.09*	*12.50*	*30,488*	0	0	0	0	0	0
17	0.00	33,094,010	1,720,542	13.7	2,019,902	2,093,770	10,061	4,982,731	44,810	1.5	0.0	3.0	45,438	15.50	13.50	30,276	27,331	17,994	0	0	0	0
18	0.00	33,108,920	1,770,978	12.7	2,020,832	2,093,770	10,063	4,985,928	44,858	1.5	0.0	3.0	48,599	14.50	13.00	32,153	27,224	18,106	0	0	0	0
19	0.00	33,121,130	1,816,247	12.1	2,021,368	2,093,770	10,064	4,989,122	44,907	1.5	0.0	2.9	47,943	13.58	12.67	30,852	20,506	18,198	9,004	0	0	0
20	0.72	33,133,860	1,859,552	14.0	2,023,528	2,093,770	10,065	4,989,121	44,957	1.5	0.0	2.9	42,901	12.75	12.00	36,325	27,355	18,092	0	0	0	0
21	0.00	33,147,620	1,906,067	12.7	2,023,528	2,093,770	10,065	4,992,403	45,005	1.6	0.0	3.1	40,683	11.25	11.33	34,588	27,433	18,085	0	0	0	0
22	0.00	33,160,370	1,945,064	13.8	2,023,528	2,093,770	10,065	4,995,622	45,053	1.6	0.0	3.3	0	10.42	10.67	34,612	0	0	0	0	0	0
23	0.00	*33,165,940*	*1,985,128*	*13.2*	*2,023,671*	*2,093,770*	*10,065*	*4,997,232*	*45,101*	*1.6*	0.0	*3.3*	0	*10.67*	*11.84*	*34,829*	0	0	0	0	0	0
24	0.00	33,171,510	2,025,192	12.5	2,023,813	2,093,770	10,065	4,998,841	45,148	1.6	0.0	3.3	0	10.92	13.00	34,826	0	0	0	0	0	0
25	*0.00*	*33,177,645*	*2,074,481*	*12.1*	*2,024,267*	*2,093,770*	*10,068*	*5,002,122*	*45,189*	*1.6*	*0.0*	*3.3*	*0*	*11.34*	*13.50*	34,601	*0*	*0*	*0*	*0*	*0*	*0*
26	0.20	33,183,780	2,123,770	11.6	2,024,720	2,093,770	10,071	5,005,402	45,230	1.6	0.0	3.3	33,944	11.75	14.00	34,745	0	18,058	0	0	0	0
27	0.01	33,199,350	2,170,789	13.6	2,025,516	2,093,770	10,073	5,005,401	45,269	1.6	0.0	3.2	55,583	11.75	14.33	34,256	0	18,070	2,998	0	0	0
28	0.32	33,212,480	2,212,265	14.3	2,026,057	2,093,770	10,074	5,008,686	45,311	1.9	0.0	3.1	27,378	11.17	13.67	35,664	0	6,026	0	0	0	23,916
29	0.25	33,227,200	2,259,105	14.0	2,026,377	2,093,770	10,075	5,011,966	45,359	1.9	0.0	3.0	0	11.75	13.25	35,381	0	0	0	0	0	0
30	0.00	*33,234,255*	*2,295,424*	*13.1*	*2,026,982*	*2,093,770*	*10,077*	*5,013,595*	*45,402*	*1.9*	0.0	*3.2*	0	*11.96*	*13.84*	*35,627*	0	0	0	0	0	0
31	0.00	33,241,310	2,331,743	12.1	2,027,587	2,093,770	10,078	5,015,223	45,445	1.9	0.0	3.4	50,173	12.17	14.42	35,578	0	18,085	0	0	0	30,128
Totals	3.12										0		817,659			1,004,997	129,849	314,282	63,802	0	0	54,044

projects\balance\2012\12-12bal.xls (dad 1/5/13)

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. Column IV includes quantities from leak detection system.
4. Column B, trace is less than 0.01 inches.
5. Columns C, D, F, G, H, I, J, L, N, Q, R-V and W are quantities from flow meters.
6. Columns K and M measured from staff gages in each pond.

Type of Cover	Phases I-VI acres	Sections 7-8 acres	Section 9 acres
Open	0	0	5
Intermediate	139.4	19.3	10
Final	23	0	0
Not Opened	0	0	0

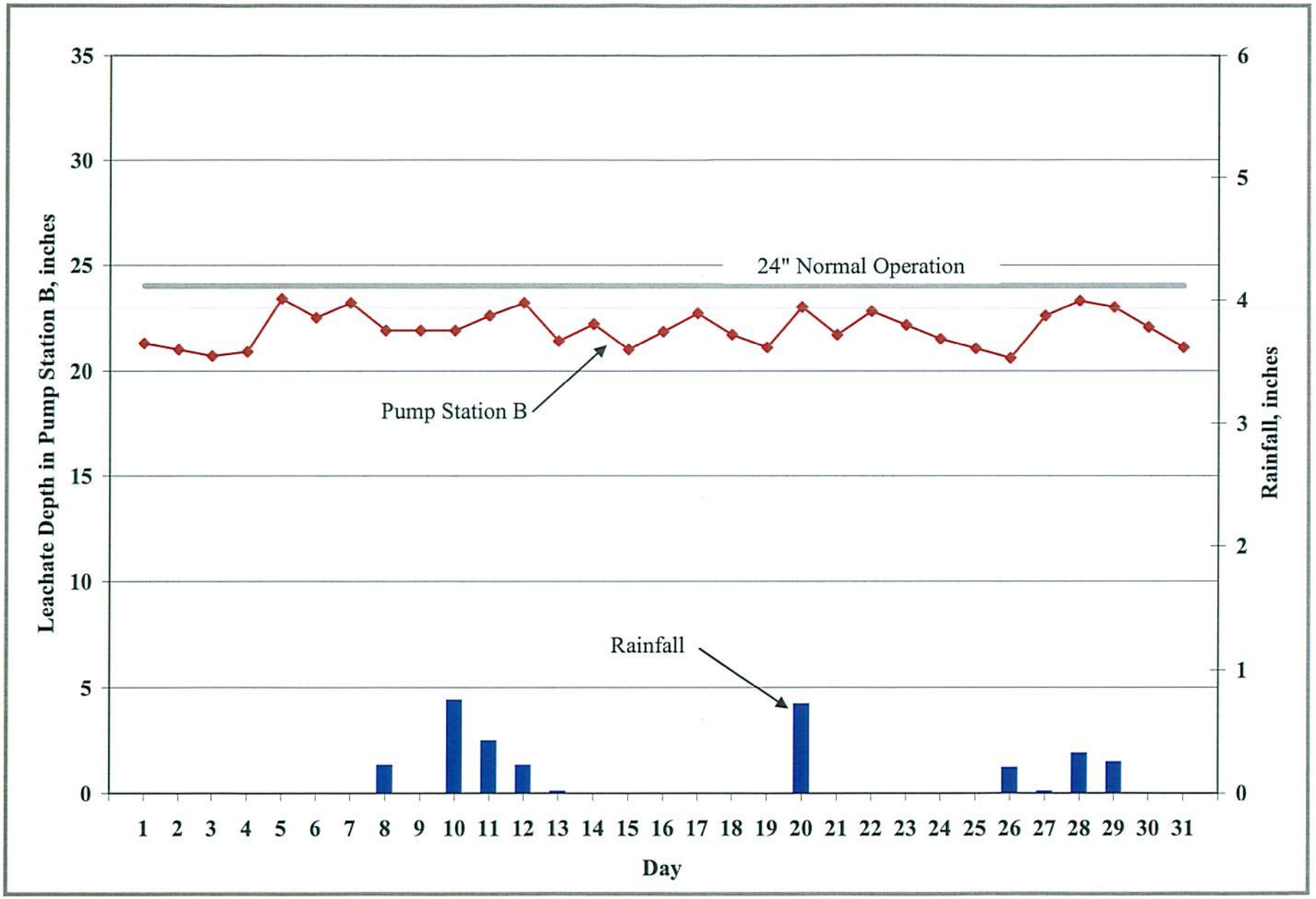

Figure 1. Leachate Levels in Pump Station B and Rainfall for December 2012.

Hillsborough County
Florida

Office of the County Administrator
Michael S. Merrill

MEMORANDUM

DATE: December 17, 2012

TO: Larry Ruiz, General Manager III, Solid Waste Management Group

FROM: Cindy Pelley, Environmental Specialist II, Environmental Services Group
Raymond Graves, Sr. Eng. Tech., Solid Waste Management Group

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

The Solid Waste Management Group (SWMG) 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 2012 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 0.24 inches of rainfall 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 3.0 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 1.6 feet.

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 of 24-inches. The average recorded depth of leachate in the PS-B sump was 22.0 inches.

Leachate Pumped to PS-B from TPS-6 (Column VI)

Column VI presents the quantity of leachate from Phase IV pumped to PS-B by Temporary Pump Station-6 (TPS-6). The quantity of leachate removed by TPS-6 is measured in gallons by an in-line flow meter and is included in the quantity of leachate pumped to the Main Leachate Pump Station (MLPS) from Phases I-VI (Column VII).
The average daily amount of leachate pumped from TPS-6 was 16,114 gallons. A total of 483,430 gallons of leachate was pumped this month.

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

Column VII 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. The quantity in column VII also includes the daily amount of leachate, in gallons, pumped from TPS-6. The average daily amount of leachate pumped from PS-A was 51,027 gallons. A total of 1,530,813 gallons of leachate was pumped this month.

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

Column VIII 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 a total of 2,531 gallons of leachate was removed from the leak detection system of Sections 7-8.

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

Column IX 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 VIII). This month a total of 91,175 gallons of leachate was pumped from Sections 7-8.

Leachate Pumped to LTRF from the MLPS (Column X)

Column X presents the total quantity of leachate pumped to the LTRF from Phases I-VI and Sections 7-8. This month a total of 1,621,988 gallons of leachate were pumped to the LTRF.

Leachate Pumped to LTRF from Section 9 (Column XI)

Column XI 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 87,776 gallons of leachate was pumped this month.

Leachate Pumped from Section 9 LDS (Column XII)

Column XII 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 a total of 74 gallons of leachate were removed from the leak detection system.

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

Column XIII presents the daily amount of leachate, in gallons, stored in the 575,000-gallon leachate holding tank at the LTRF. The amount of leachate stored in the tank is calculated based on the circumference of the tank and the daily level reading. This month an average of 359,400 gallons of leachate was stored in the tank.

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

Column XIV presents the daily amount of effluent, in gallons, stored in the 575,000-gallon effluent holding tank at the LTRF. The amount of effluent stored in the tank is calculated based on the circumference of the tank and the daily level reading. This month an average of 337,300 gallons of effluent was stored in the tank.

Leachate Treated at LTRF (Column XV)

Column XV presents the daily amount of leachate, in gallons, treated at the LTRF. This month a total of 815,400 gallons of leachate was treated at the plant.

Total Leachate Hauled (Column XVI)

Column XVI presents the daily amount of leachate, in gallons, hauled off site. This month a total of 726,117 gallons of leachate was hauled off site.

Leachate Dust Control Sprayed (Column XVII)

Column XVII 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 2,999 gallons of leachate was used for dust control.

Pond A Storage (Column XVIII)

Column XVIII 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 IV). 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 107,600 gallons of effluent was stored in Pond A.

Pond B Storage (Column XIX)

Column XIX 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 effluent in Pond B (Column IV).

Under normal operating conditions, the amount stored in the pond will vary depending upon the daily amount of effluent removed from the pond by the evaporation system, hauled from the pond, used for dust control or evaporated. This month a daily average of 47,800 gallons of effluent was stored in Pond B.

Effluent Sprayed at Pond B (Column XX)

Column XX 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 XXIV. This month effluent was not sprayed in Pond B.

Effluent Irrigation (Column XXI)

Column XXI presents the daily amount of effluent, in gallons, used for spray irrigation on top of Phases I-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 726,882 gallons of effluent was used for spray irrigation.

Effluent Dust Control Sprayed (Column XXII)

Column XXII 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 XXIII 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 XXIV 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. The total evaporation estimated for this month was 584,100 gallons.

TABLE 2

Table 2 presents data assembled from daily logs compiled by the SWMG 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 1,709,838 gallons. Total outflow quantity from the LTRF was 1,544,516 gallons. The change in storage for the month increased by 165,322 gallons.

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

TABLE 1. LEACHATE WATER BALANCE REPORT FORM
NOVEMBER 2012
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 PS-B from TPS-6 (gal.)	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.)	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	3.0	1.5	21.4	20,110	53,176	110	3,333	56,509	742	3	331,000	278,000	29,600	32,014	0	108,000	44,000	0	31,720	0	0	25,400
2	0.00	3.0	1.5	23.4	19,840	57,330	116	3,325	60,655	983	7	329,000	288,000	29,000	45,523	0	108,000	44,000	0	32,356	0	0	25,900
3	0.00	2.0	1.5	22.4	18,890	50,816	110	3,353	54,169	778	7	322,000	295,000	29,900	0	0	61,000	44,000	0	0	0	0	0
4	0.00	*2.3*	*1.6*	*22.1*	*8,810*	*54,556*	*109*	*3,333*	*57,889*	*856*	*8*	*345,000*	*323,000*	*29,800*	0	0	*74,000*	*44,000*	0	0	0	0	0
5	0.00	2.5	1.6	21.8	8,810	54,556	109	3,333	57,889	856	8	369,000	350,000	29,700	38,691	0	83,000	51,000	0	32,933	0	0	26,300
6	0.20	2.7	1.6	22.2	20,300	57,998	100	3,371	61,369	754	5	360,000	336,000	27,900	45,543	0	93,000	51,000	0	0	0	0	0
7	0.04	3.2	1.6	22.6	20,550	59,778	50	3,386	63,164	908	7	348,000	329,000	26,900	45,651	0	118,000	51,000	0	46,567	0	0	37,300
8	0.00	2.9	1.6	21.7	19,860	54,068	83	3,311	57,379	12	1	333,000	322,000	26,700	27,389	0	103,000	51,000	0	32,513	0	0	26,000
9	0.00	2.9	1.6	21.4	21,630	49,644	84	3,332	52,976	27,420	6	333,000	317,000	27,200	45,523	0	103,000	51,000	0	45,700	0	0	36,600
10	0.00	2.9	1.6	21.9	20,750	47,928	87	3,383	51,311	25,006	4	322,000	307,000	27,600	0	0	103,000	51,000	0	0	0	0	0
11	0.00	*2.9*	*1.6*	*22.4*	*9,470*	*46,836*	*88*	*3,231*	*50,067*	*9,632*	*1*	*344,000*	*341,000*	*28,100*	0	0	*103,000*	*51,000*	0	0	0	0	0
12	0.00	2.9	1.6	22.9	9,470	*46,836*	88	3,231	50,067	9,632	1	367,000	374,000	25,600	20,537	0	103,000	51,000	0	0	0	0	0
13	0.00	3.2	1.6	21.3	16,780	52,446	88	2,979	55,425	0	0	389,000	374,000	26,100	18,027	0	118,000	51,000	0	44,736	0	0	35,800
14	0.00	3.1	1.6	21.3	18,780	54,071	88	3,205	57,276	2,827	3	377,000	367,000	26,800	51,576	0	113,000	51,000	0	33,233	0	0	26,600
15	0.00	3.3	1.6	20.7	17,660	52,151	88	3,211	55,362	0	0	353,000	345,000	26,800	51,501	0	123,000	51,000	0	31,566	0	0	25,300
16	0.00	2.9	1.6	21.9	21,920	52,002	85	3,226	55,228	0	0	329,000	353,000	25,900	51,319	0	103,000	51,000	0	49,974	0	0	40,000
17	0.00	2.8	1.6	23.0	20,060	49,794	77	3,204	52,998	196	2	309,000	331,000	28,700	0	0	98,000	51,000	0	18,007	0	0	14,400
18	0.00	*3.0*	*1.6*	*23.2*	*7,950*	*49,318*	*77*	*1,605*	*50,922*	*501*	*1*	*334,000*	*339,000*	*25,200*	0	0	*108,000*	*51,000*	0	0	0	0	0
19	0.00	3.2	1.6	23.4	7,950	49,318	77	1,605	50,922	501	1	358,000	348,000	26,900	24,044	0	118,000	51,000	0	29,445	0	0	23,600
20	0.00	2.9	1.6	21.5	21,880	52,301	86	3,189	55,490	526	3	360,000	358,000	26,000	18,043	0	103,000	51,000	0	42,479	0	0	34,000
21	0.00	3.3	1.6	22.4	21,700	53,809	59	3,241	57,050	712	1	372,000	319,000	27,900	24,032	0	123,000	51,000	0	46,316	0	0	37,100
22	0.00	3.3	1.6	21.6	10,185	48,207	89	3,243	51,450	476	1	380,000	318,000	26,900	0	0	123,000	44,000	0	0	0	0	0
23	0.00	3.3	1.5	20.7	10,185	48,207	89	3,243	51,450	476	1	389,000	317,000	26,900	27,523	0	123,000	44,000	0	0	0	0	0
24	0.00	3.3	1.5	22.0	18,900	49,956	59	3,219	53,175	603	0	386,000	343,000	25,400	13,816	0	123,000	44,000	0	0	0	0	0
25	0.00	*3.3*	*1.5*	*21.5*	*8,840*	*48,377*	*74*	*3,184*	*51,561*	*580*	*1*	*404,000*	*367,000*	*26,900*	0	0	*123,000*	*44,000*	0	0	0	0	0
26	0.00	3.3	1.5	20.9	8,840	48,377	74	3,184	51,561	580	1	422,000	391,000	25,100	51,106	0	123,000	44,000	0	44,935	0	0	35,900
27	0.00	3.3	1.5	20.8	22,070	48,551	87	0	48,551	700	1	394,000	367,000	26,200	51,432	0	123,000	44,000	0	44,810	0	0	35,800
28	0.00	3.2	1.5	23.5	19,990	49,536	60	3,260	52,796	436	1	369,000	353,000	26,800	12,284	0	118,000	44,000	0	53,851	0	0	43,100
29	0.00	2.9	1.5	20.6	10,610	44,195	85	3,220	47,415	609	0	377,000	345,000	26,900	18,198	2,999	103,000	44,000	0	47,677	0	0	40,500
30	0.00	2.9	1.4	22.2	20,640	46,676	58	3,239	49,915	476	1	377,000	324,000	26,000	12,345	0	103,000	38,000	0	18,064	0	0	14,500
Total	0.24				483,430	1,530,813	2,531	91,175	1,621,988	87,776	74			815,400	726,117	2,999			0	726,882	0	0	584,100
Daily Average		3.0	1.6	22.0	16,114	51,027	84	3,039	54,066	2,926	2	359,400	337,300				107,600	47,800					
Mo. Average																100				24,200	0	0	19,470

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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. Column V, PPS-B sensor reading plus 9 inches.
8. Columns VIII & IX, Section 7-8 leak detection pumped into Section 7 leachate sump riser.
9. Column XIII and XIV, calculated from depth in 575,000 gal. tanks.
10. Columns VI-XII, XV-XVII, and XX-XXIII, quantities from flow meters.
11. Column XXIV includes 80% of the daily values from Columns XVII, XXI, and XXII plus 5% of the daily values from column XX.

TABLE 2. FIELD DATA ENTRY FORM
NOVEMBER 2012
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
																	Leachate Hauled			Effluent Hauled		
Day	Rainfall (in.)	Flow Meter TPS-6 (gal.)	Flow Meter Pump Sta. A (gal.)	Reading PS-B (in.)	Section 9 Pump 1 (gal.)	Section 9 Pump 2 (gal.)	Section 9 LDS (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.)	Contractor (gal.)	County (gal.)	Leachate Dust Control (Sprayed) (gal.)	Contractor (gal.)	County (gal.)	Effluent Dust Control (Sprayed) (gal)
1	0.00	32,372,910	9,431,780	12.4	1,997,647	2,019,515	9,976	4,853,134	41,377	1.5	0.0	3.0	31,720	11.50	9.67	29,608	13,768	18,246	0	0	0	0
2	0.00	32,392,750	9,489,110	14.4	1,998,630	2,019,515	9,983	4,856,459	41,493	1.5	0.0	3.0	32,356	11.42	10.00	28,976	27,394	18,129	0	0	0	0
3	0.00	32,411,640	9,539,926	13.4	1,999,408	2,019,515	9,990	4,859,812	41,603	1.5	0.0	2.0	0	11.17	10.25	29,885	0	0	0	0	0	0
4	0.00	***32,420,450***	***9,594,482***	***13.1***	***2,000,264***	***2,019,515***	***9,998***	***4,863,145***	***41,712***	***1.6***	0.0	***2.3***	0	***12.00***	***11.21***	***29,783***	0	0	0	0	0	0
5	0.00	32,429,260	9,649,038	12.8	2,001,120	2,019,515	10,005	4,866,477	41,820	1.6	0.0	2.5	32,933	12.83	12.17	29,686	20,548	18,143	0	0	0	0
6	0.20	32,449,560	9,707,036	13.2	2,001,874	2,019,515	10,010	4,869,848	41,920	1.6	0.0	2.7	0	12.50	11.67	27,888	27,444	18,099	0	0	0	0
7	0.04	32,470,110	9,766,814	13.6	2,002,782	2,019,515	10,017	4,873,234	41,970	1.6	0.0	3.2	46,567	12.08	11.42	26,884	27,388	18,263	0	0	0	0
8	0.00	32,489,970	9,820,882	12.7	2,002,794	2,019,515	10,018	4,876,545	42,053	1.6	0.0	2.9	32,513	11.58	11.17	26,700	27,389	0	0	0	0	0
9	0.00	32,511,600	9,870,526	12.4	2,003,055	2,046,674	10,024	4,879,877	42,137	1.6	0.0	2.9	45,700	11.58	11.00	27,203	27,412	18,111	0	0	0	0
10	0.00	32,532,350	9,918,454	12.9	2,003,055	2,071,680	10,028	4,883,260	42,224	1.6	0.0	2.9	0	11.17	10.67	27,556	0	0	0	0	0	0
11	0.00	***32,541,820***	***9,965,290***	***13.4***	***2,003,055***	***2,081,312***	***10,029***	***4,886,491***	***42,312***	***1.6***	0.0	***2.9***	0	***11.96***	***11.84***	***28,054***	0	0	0	0	0	0
12	0.00	32,551,290	12,126	13.9	2,003,055	2,090,943	10,030	4,889,721	42,399	1.6	0.0	2.9	0	12.75	13.00	25,640	20,537	0	0	0	0	0
13	0.00	32,568,070	64,572	12.3	2,003,055	2,090,943	10,030	4,892,700	42,487	1.6	0.0	3.2	44,736	13.50	13.00	26,072	0	18,027	0	0	0	0
14	0.00	32,586,850	118,643	12.3	2,003,055	2,093,770	10,033	4,895,905	42,575	1.6	0.0	3.1	33,233	13.08	12.75	26,843	27,532	24,044	0	0	0	0
15	0.00	32,604,510	170,794	11.7	2,003,055	2,093,770	10,033	4,899,116	42,663	1.6	0.0	3.3	31,566	12.25	12.00	26,828	27,450	24,051	0	0	0	0
16	0.00	32,626,430	222,796	12.9	2,003,055	2,093,770	10,033	4,902,342	42,748	1.6	0.0	2.9	49,974	11.42	12.25	25,889	27,284	24,035	0	0	0	0
17	0.00	32,646,490	272,590	14.0	2,003,251	2,093,770	10,035	4,905,546	42,825	1.6	0.0	2.8	18,007	10.75	11.50	28,673	0	0	0	0	0	0
18	0.00	***32,654,440***	***321,908***	***14.2***	***2,003,752***	***2,093,770***	***10,036***	***4,907,151***	***42,902***	***1.6***	0.0	***3.0***	0	***11.59***	***11.79***	***25,231***	0	0	0	0	0	0
19	0.00	32,662,390	371,225	14.4	2,004,253	2,093,770	10,037	4,908,755	42,979	1.6	0.0	3.2	29,445	12.42	12.08	26,897	0	24,044	0	0	0	0
20	0.00	32,684,270	423,526	12.5	2,004,779	2,093,770	10,040	4,911,944	43,065	1.6	0.0	2.9	42,479	12.50	12.42	26,010	0	18,043	0	0	0	0
21	0.00	32,705,970	477,335	13.4	2,005,491	2,093,770	10,041	4,915,185	43,124	1.6	0.0	3.3	46,316	12.92	11.08	27,903	0	24,032	0	0	0	0
22	*0.00*	*32,716,155*	*525,542*	*12.6*	*2,005,967*	*2,093,770*	*10,042*	*4,918,428*	*43,213*	*1.6*	*0.0*	*3.3*	*0*	*13.21*	*11.04*	26,908	*0*	*0*	*0*	*0*	*0*	*0*
23	0.00	32,726,340	573,749	11.7	2,006,442	2,093,770	10,043	4,921,670	43,302	1.5	0.0	3.3	0	13.50	11.00	26,876	27,523	0	0	0	0	0
24	0.00	32,745,240	623,705	13.0	2,007,045	2,093,770	10,043	4,924,889	43,361	1.5	0.0	3.3	0	13.42	11.92	25,446	13,816	0	0	0	0	0
25	0.00	***32,754,080***	***672,082***	***12.5***	***2,007,625***	2,093,770	***10,044***	***4,928,073***	***43,435***	***1.5***	0.0	***3.3***	0	***14.05***	12.75	***26,935***	0	0	0	0	0	0
26	0.00	32,762,920	720,459	11.9	2,008,205	*2,093,770*	10,044	4,931,257	43,508	1.5	*0.0*	3.3	44,935	14.67	*13.58*	25,098	27,057	24,049	0	0	0	0
27	0.00	32,784,990	769,010	11.8	2,008,905	2,093,770	10,045	4,931,257	43,595	1.5	0.0	3.3	44,810	13.67	12.75	26,168	27,284	24,148	0	0	0	0
28	0.00	32,804,980	818,546	14.5	2,009,341	2,093,770	10,046	4,934,517	43,655	1.5	0.0	3.2	53,851	12.83	12.25	26,785	0	12,284	0	0	0	0
29	0.00	32,815,590	862,741	11.6	2,009,950	2,093,770	10,046	4,937,737	43,740	1.5	0.0	2.9	47,677	13.08	12.00	26,889	0	18,198	2,999	0	0	0
30	0.00	32,836,230	909,417	13.2	2,010,426	2,093,770	10,047	4,940,976	43,798	1.4	0.0	2.9	18,064	13.08	11.25	25,996	0	12,345	0	0	0	0
																25,630						
Totals	0.24										0		726,882			840,940	369,826	356,291	2,999	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. Column IV includes quantities from leak detection system.
4. Column B, trace is less than 0.01 inches.
5. Columns C, D, F, G, H, I, J, L, N, Q, R-V and W are quantities from flow meters.
6. Columns K and M measured from staff gages in each pond.

Type of Cover	Phases I-VI acres	Sections 7-8 acres	Section 9 acres
Open	0	0	5
Intermediate	139.4	19.3	10
Final	23	0	0
Not Opened	0	0	0

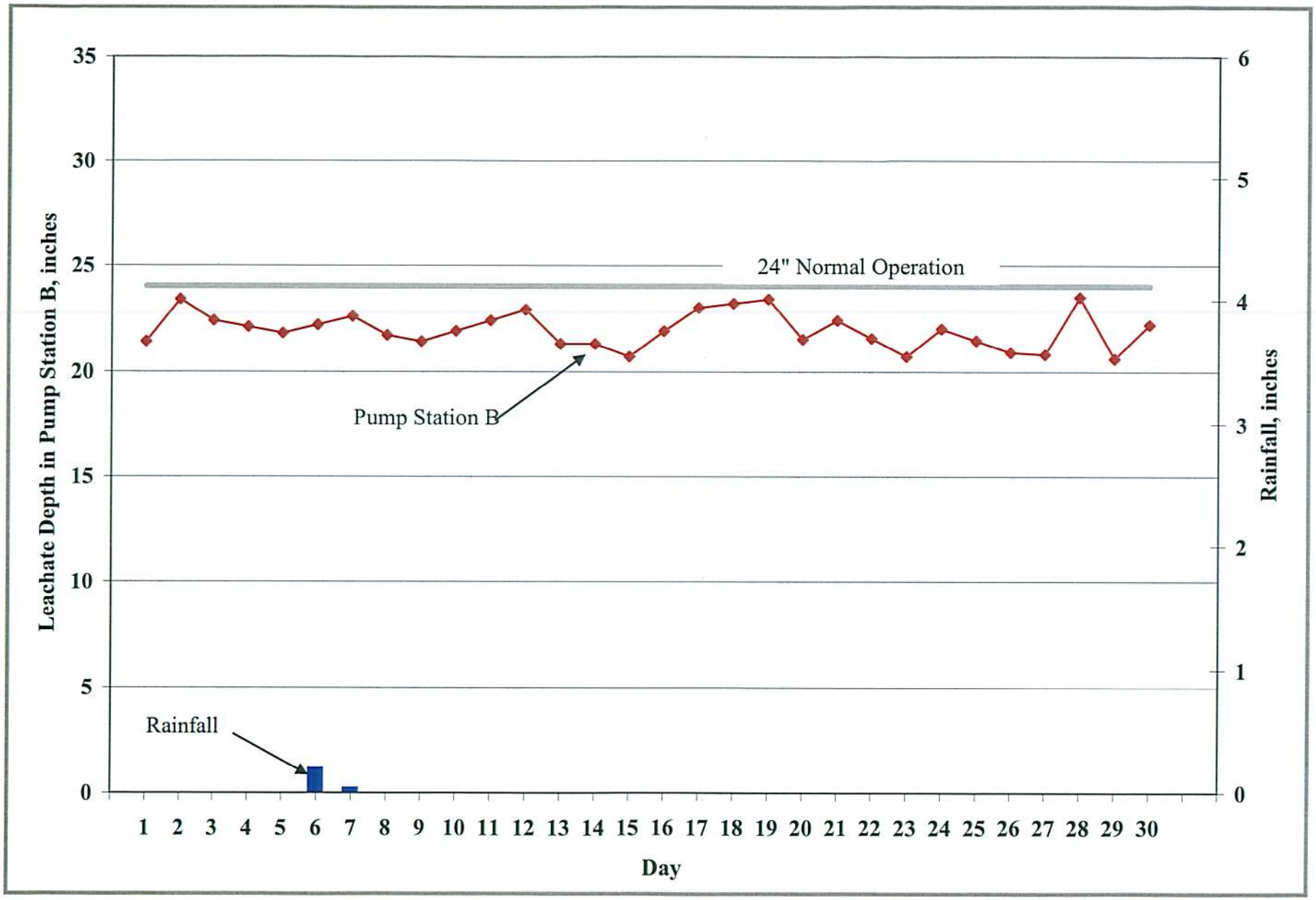

Figure 1. Leachate Levels in Pump Station B and Rainfall for November 2012.

Hillsborough County
Florida

Office of the County Administrator
Michael S. Merrill

MEMORANDUM

DATE: November 16, 2012

TO: Larry Ruiz, General Manager III, Solid Waste Management Group

FROM: Cindy Pelley, Environmental Specialist II, Environmental Services Group
Raymond Graves, Sr. Eng. Tech., Solid Waste Management Group

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

The Solid Waste Management Group (SWMG) 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 2012 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 3.68 inches of rainfall 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 effluent stored in Pond B was 1.7 feet.

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 above the normal operation level of 24-inches from October 2 through October 19 due to a blockage in the suction line that has been repaired. The average recorded depth of leachate in the PS-B sump was 27.8 inches.

Leachate Pumped to PS-B from TPS-6 (Column VI)

Column VI presents the quantity of leachate from Phase IV pumped to PS-B by Temporary Pump Station-6 (TPS-6). The quantity of leachate removed by TPS-6 is measured in gallons by an in-line flow meter and is included in the quantity of leachate pumped to the Main Leachate Pump Station (MLPS) from Phases I-VI (Column VII).
The average daily amount of leachate pumped from TPS-6 was 14,503 gallons. A total of 449,600 gallons of leachate was pumped this month.

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

Column VII 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. The quantity in column VII also includes the daily amount of leachate, in gallons, pumped from TPS-6. The average daily amount of leachate pumped from PS-A was 61,231 gallons. A total of 1,898,163 gallons of leachate was pumped this month.

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

Column VIII 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 a total of 3,538 gallons of leachate was removed from the leak detection system of Sections 7-8.

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

Column IX 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 VIII). This month a total of 142,561 gallons of leachate was pumped from Sections 7-8.

Leachate Pumped to LTRF from the MLPS (Column X)

Column X presents the total quantity of leachate pumped to the LTRF from Phases I-VI and Sections 7-8. This month a total of 2,040,724 gallons of leachate were pumped to the LTRF.

Leachate Pumped to LTRF from Section 9 (Column XI)

Column XI 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 25,034 gallons of leachate was pumped this month.

Leachate Pumped from Section 9 LDS (Column XII)

Column XII 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 a total of 87 gallons of leachate were removed from the leak detection system.

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

Column XIII presents the daily amount of leachate, in gallons, stored in the 575,000-gallon leachate holding tank at the LTRF. The amount of leachate stored in the tank is calculated based on the circumference of the tank and the daily level reading. This month an average of 356,400 gallons of leachate was stored in the tank.

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

Column XIV presents the daily amount of effluent, in gallons, stored in the 575,000-gallon effluent holding tank at the LTRF. The amount of effluent stored in the tank is calculated based on the circumference of the tank and the daily level reading. This month an average of 388,100 gallons of effluent was stored in the tank.

Leachate Treated at LTRF (Column XV)

Column XV presents the daily amount of leachate, in gallons, treated at the LTRF. This month a total of 836,400 gallons of leachate was treated at the plant.

Total Leachate Hauled (Column XVI)

Column XVI presents the daily amount of leachate, in gallons, hauled off site. This month a total of 1,114,609 gallons of leachate was hauled off site.

Leachate Dust Control Sprayed (Column XVII)

Column XVII 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 5,038 gallons of leachate was used for dust control.

Pond A Storage (Column XVIII)

Column XVIII 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 IV). 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 97,100 gallons of effluent was stored in Pond A.

Pond B Storage (Column XIX)

Column XIX 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 effluent in Pond B (Column IV).

Under normal operating conditions, the amount stored in the pond will vary depending upon the daily amount of effluent removed from the pond by the evaporation system, hauled from the pond, used for dust control or evaporated. This month a daily average of 57,600 gallons of effluent was stored in Pond B.

Effluent Sprayed at Pond B (Column XX)

Column XX 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 XXIV. This month effluent was not sprayed in Pond B.

Effluent Irrigation (Column XXI)

Column XXI presents the daily amount of effluent, in gallons, used for spray irrigation on top of Phases I-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 883,075 gallons of effluent was used for spray irrigation.

Effluent Dust Control Sprayed (Column XXII)

Column XXII 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 XXIII 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 87,193 gallons of effluent was hauled off site.

Total Evaporation (Column XXIV)

Column XXIV 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. The total evaporation estimated for this month was 710,600 gallons.

TABLE 2

Table 2 presents data assembled from daily logs compiled by the SWMG 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 2,064,845 gallons. Total outflow quantity from the LTRF was 1,956,047 gallons. The change in storage for the month increased by 109,798 gallons.

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

TABLE 1. LEACHATE WATER BALANCE REPORT FORM
OCTOBER 2012
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 PS-B from TPS-6 (gal.)	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.)	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	1.6	10.5	17,680	26,352	219	9,888	36,240	0	0	281,000	441,000	19,900	43,252	0	98,000	51,000	0	30,597	0	18,026	24,500
2	0.60	3.1	1.3	33.4	17,110	61,067	102	3,188	64,255	0	0	278,000	444,000	28,800	44,484	0	113,000	33,000	0	0	0	12,839	0
3	0.19	3.0	1.2	32.3	21,150	68,458	101	6,439	74,897	0	0	276,000	451,000	29,300	13,494	0	108,000	28,000	0	21,119	0	31,553	16,900
4	0.68	2.7	1.4	31.3	18,440	53,545	108	3,828	57,373	1,555	0	293,000	439,000	24,100	20,209	0	93,000	38,000	0	41,874	0	24,775	33,500
5	1.92	2.9	0.8	30.2	18,630	71,463	104	3,280	74,743	1,530	4	326,000	422,000	26,100	33,330	0	103,000	12,000	0	0	0	0	0
6	0.00	3.1	1.9	33.4	18,570	65,941	131	3,174	69,115	818	1	338,000	401,000	29,100	0	0	113,000	72,000	0	0	0	0	0
7	0.00	*3.0*	*2.0*	*33.4*	*8,565*	*61,302*	*119*	*0*	*61,302*	*649*	*1*	*371,000*	*437,000*	*29,000*	0	0	*108,000*	*72,000*	0	0	0	0	0
8	0.22	2.9	2.0	33.4	8,565	61,302	119	0	61,302	649	1	403,000	473,000	28,900	38,739	0	103,000	80,000	0	62,987	0	0	50,400
9	0.00	2.8	2.0	33.7	20,220	62,335	108	13,236	75,571	651	2	401,000	463,000	28,900	18,111	0	98,000	80,000	0	0	0	0	0
10	0.07	3.4	2.0	33.5	19,280	60,425	111	6,679	67,104	920	0	405,000	441,000	25,700	67,517	0	129,000	80,000	0	48,093	0	0	38,500
11	0.00	2.8	2.0	33.3	7,500	58,262	107	6,626	64,888	1,114	0	432,000	420,000	6,100	59,105	0	98,000	80,000	0	53,833	0	0	43,100
12	0.00	2.8	2.0	33.3	20,030	58,705	96	6,518	65,223	623	0	413,000	365,000	0	74,663	0	98,000	80,000	0	31,318	0	0	25,100
13	0.00	2.7	2.0	33.1	19,290	58,179	103	3,431	61,610	645	0	367,000	365,000	28,200	20,771	0	93,000	80,000	0	0	0	0	0
14	0.00	*2.7*	*2.0*	*33.2*	*9,785*	*57,215*	*103*	*4,993*	*62,207*	*640*	0	*383,000*	*391,000*	*28,100*	0	0	*93,000*	*80,000*	0	0	0	0	0
15	0.00	2.7	2.0	33.3	9,785	57,215	103	4,993	62,207	640	0	398,000	417,000	28,100	31,769	0	93,000	80,000	0	53,603	0	0	42,900
16	0.00	3.0	1.8	33.2	19,960	56,785	104	3,646	60,431	1,223	0	398,000	396,000	29,200	70,308	0	108,000	64,000	0	30,911	0	0	24,700
17	0.00	3.1	1.7	33.2	0	56,904	106	6,319	63,223	445	3	381,000	379,000	29,200	45,902	3,007	113,000	57,000	0	47,591	0	0	40,500
18	0.00	2.7	1.7	32.8	20	59,184	98	3,277	62,461	430	3	350,000	381,000	30,700	45,409	0	93,000	57,000	0	49,327	0	0	39,500
19	0.00	2.5	1.7	32.8	19,060	60,410	99	6,752	67,162	1,141	4	350,000	365,000	29,800	38,675	0	83,000	57,000	0	52,927	0	0	42,300
20	0.00	2.5	1.6	20.6	6,180	87,052	107	3,274	90,326	701	4	353,000	360,000	29,600	48,731	0	83,000	51,000	0	0	0	0	0
21	0.00	*2.5*	*1.6*	*21.9*	*9,650*	*66,089*	*115*	*3,296*	*69,385*	*503*	*2*	*375,000*	*386,000*	*29,700*	0	0	*83,000*	*51,000*	0	0	0	0	0
22	0.00	2.5	1.6	23.2	9,650	66,089	115	3,296	69,385	503	2	398,000	413,000	29,500	59,848	0	83,000	51,000	0	48,985	0	0	39,200
23	0.00	2.5	1.6	20.7	15,580	61,278	122	6,572	67,850	647	3	360,000	386,000	29,400	67,360	0	83,000	51,000	0	38,013	0	0	30,400
24	0.00	2.8	1.6	21.3	14,980	61,700	120	3,328	65,028	604	2	336,000	358,000	29,700	52,321	0	98,000	51,000	0	51,056	0	0	40,800
25	0.00	2.7	1.6	22.5	19,570	63,896	123	3,299	67,195	1,582	12	326,000	338,000	29,500	52,312	0	93,000	51,000	0	49,720	0	0	39,800
26	0.00	2.7	1.6	22.0	20,080	66,572	130	3,324	69,896	1,496	12	302,000	312,000	29,800	52,194	0	93,000	51,000	0	46,195	0	0	37,000
27	0.00	2.6	1.6	20.5	19,580	70,284	121	6,646	76,930	1,164	7	307,000	295,000	30,000	0	0	88,000	51,000	0	0	0	0	0
28	*0.00*	*2.6*	*1.6*	*21.2*	*9,205*	*62,354*	*110*	*3,314*	*65,668*	*988*	*6*	*342,000*	*321,000*	*30,000*	0	0	*88,000*	*51,000*	0	0	0	0	0
29	0.00	2.6	1.6	21.8	9,205	62,354	110	3,314	65,668	988	6	377,000	348,000	30,000	31,967	0	88,000	51,000	0	41,549	0	0	33,200
30	0.00	2.7	1.6	20.6	21,080	59,302	111	3,305	62,607	1,166	8	369,000	322,000	29,700	38,870	0	93,000	51,000	0	42,523	0	0	34,000
31	0.00	2.8	1.5	23.0	21,200	56,146	115	3,327	59,473	1,020	5	360,000	302,000	30,300	45,268	2,031	98,000	44,000	0	40,854	0	0	34,300
Total	3.68				449,600	1,898,163	3,538	142,561	2,040,724	25,034	87			836,400	1,114,609	5,038			0	883,075	0	87,193	710,600
Daily Average		2.8	1.7	27.8	14,503	61,231	114	4,599	65,830	808	3	356,400	388,100				97,100	57,600					
Mo. Average																200				28,500	0	2,800	22,920

projects balance\2012\10-12bal.xls (dad 11/05/12)

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. Column V, PPS-B sensor reading plus 9 inches.
8. Columns VIII & IX, Section 7-8 leak detection pumped into Section 7 leachate sump riser.
9. Column XIII and XIV, calculated from depth in 575,000 gal. tanks.
10. Columns VI-XII, XV-XVII, and XX-XXIII, quantities from flow meters.
11. Column XXIV includes 80% of the daily values from Columns XVII, XXI, and XXII plus 5% of the daily values from column XX.

TABLE 2. FIELD DATA ENTRY FORM
OCTOBER 2012
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 TPS-6 (gal.)	Flow Meter Pump Sta. A (gal.)	Reading PS-B (in.)	Section 9 Pump 1 (gal.)	Section 9 Pump 2 (gal.)	Section 9 LDS (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	31,920,880	7,506,793	1.5	1,971,871	2,019,515	9,886	4,717,128	37,948	1.6	0.0	2.8	30,597	9.75	15.33	19,883	43,252	0	0	0	18,026	0
2	0.60	31,937,990	7,567,860	24.4	1,971,871	2,019,515	9,886	4,720,316	38,050	1.3	0.0	3.1	0	9.67	15.42	28,799	38,487	5,997	0	6,718	6,121	0
3	0.19	31,959,140	7,636,318	***23.3***	1,971,871	2,019,515	9,886	4,726,755	38,151	1.2	0.0	3.0	21,119	9.58	15.67	29,312	13,494	0	0	13,525	18,028	0
4	0.68	31,977,580	7,689,863	***22.3***	1,973,426	2,019,515	9,886	4,730,583	38,259	1.4	0.0	2.7	41,874	10.17	15.25	24,081	20,209	0	0	6,765	18,010	0
5	1.92	31,996,210	7,761,326	21.2	1,974,956	2,019,515	9,890	4,733,863	38,363	0.8	0.0	2.9	0	11.33	14.67	26,051	27,324	6,006	0	0	0	0
6	0.00	32,014,780	7,827,267	24.4	1,975,774	2,019,515	9,891	4,737,037	38,494	1.9	0.0	3.1	0	11.75	13.92	29,110	0	0	0	0	0	0
7	0.00	*32,023,345*	*7,888,569*	*24.4*	*1,976,423*	*2,019,515*	*9,892*	*4,737,037*	*38,613*	*2.0*	0.0	*3.0*	0	*12.88*	*15.17*	28,964	0	0	*0*	*0*	*0*	*0*
8	0.22	32,031,910	7,949,870	24.4	1,977,072	2,019,515	9,893	4,737,037	38,731	2.0	0.0	2.9	62,987	14.00	16.42	28,920	20,576	18,163	0	0	0	0
9	0.00	32,052,130	8,012,205	24.7	1,977,723	2,019,515	9,895	4,750,273	38,839	2.0	0.0	2.8	0	13.92	16.08	28,864	0	18,111	0	0	0	0
10	0.07	32,071,410	8,072,630	24.5	1,978,643	2,019,515	9,895	4,756,952	38,950	2.0	0.0	3.4	48,093	14.08	15.33	25,722	55,457	12,060	0	0	0	0
11	0.00	32,078,910	8,130,892	24.3	1,979,757	2,019,515	9,895	4,763,578	39,057	2.0	0.0	2.8	53,833	15.00	14.58	6,058	40,921	18,184	0	0	0	0
12	0.00	32,098,940	8,189,597	24.3	1,980,380	2,019,515	9,895	4,770,096	39,153	2.0	0.0	2.8	31,318	14.33	12.67	0	56,537	18,126	0	0	0	0
13	0.00	32,118,230	8,247,776	24.1	1,981,025	2,019,515	9,895	4,773,527	39,256	2.0	0.0	2.7	0	12.75	12.67	28,166	20,771	0	0	0	0	0
14	0.00	*32,128,015*	*8,304,991*	*24.2*	*1,981,665*	*2,019,515*	*9,895*	*4,778,520*	*39,359*	*2.0*	0.0	*2.7*	0	*13.29*	*13.59*	28,100	0	0	*0*	*0*	*0*	*0*
15	0.00	32,137,800	8,362,205	24.3	1,982,304	2,019,515	9,895	4,783,512	39,461	2.0	0.0	2.7	53,603	13.83	14.50	28,065	13,572	18,197	0	0	0	0
16	0.00	32,157,760	8,418,990	24.2	1,983,527	2,019,515	9,895	4,787,158	39,565	1.8	0.0	3.0	30,911	13.83	13.75	29,163	52,214	18,094	0	0	0	0
17	0.00	32,157,760	8,475,894	24.2	1,983,972	2,019,515	9,898	4,793,477	39,671	1.7	0.0	3.1	47,591	13.25	13.17	29,197	33,755	12,147	3,007	0	0	0
18	0.00	32,157,780	8,535,078	23.8	1,984,402	2,019,515	9,901	4,796,754	39,769	1.7	0.0	2.7	49,327	12.17	13.25	30,680	27,375	18,034	0	0	0	0
19	0.00	32,176,840	8,595,488	23.8	1,985,543	2,019,515	9,905	4,803,506	39,868	1.7	0.0	2.5	52,927	12.17	12.67	29,830	20,609	18,066	0	0	0	0
20	0.00	32,183,020	8,682,540	11.6	1,986,244	2,019,515	9,909	4,806,780	39,975	1.6	0.0	2.5	0	12.25	12.50	29,608	48,731	0	0	0	0	0
21	0.00	*32,192,670*	*8,748,629*	*12.9*	*1,986,747*	*2,019,515*	*9,911*	*4,810,076*	*40,090*	*1.6*	0.0	*2.5*	0	*13.04*	*13.42*	29,688	0	0	*0*	*0*	*0*	*0*
22	0.00	32,202,320	8,814,718	14.2	1,987,250	2,019,515	9,913	4,813,372	40,205	1.6	0.0	2.5	48,985	13.83	14.33	29,549	41,710	18,138	0	0	0	0
23	0.00	32,217,900	8,875,996	11.7	1,987,897	2,019,515	9,916	4,819,944	40,327	1.6	0.0	2.5	38,013	12.50	13.42	29,405	55,310	12,050	0	0	0	0
24	0.00	32,232,880	8,937,696	12.3	1,988,501	2,019,515	9,918	4,823,272	40,447	1.6	0.0	2.8	51,056	11.67	12.42	29,743	34,227	18,094	0	0	0	0
25	0.00	32,252,450	9,001,592	13.5	1,990,083	2,019,515	9,930	4,826,571	40,570	1.6	0.0	2.7	49,720	11.33	11.75	29,488	34,201	18,111	0	0	0	0
26	0.00	32,272,530	9,068,164	13.0	1,991,579	2,019,515	9,942	4,829,895	40,700	1.6	0.0	2.7	46,195	10.50	10.83	29,773	34,160	18,034	0	0	0	0
27	0.00	32,292,110	9,138,448	11.5	1,992,743	2,019,515	9,949	4,836,541	40,821	1.6	0.0	2.6	0	10.67	10.25	29,989	0	0	0	0	0	0
28	0.00	*32,301,315*	*9,200,802*	*12.2*	*1,993,731*	*2,019,515*	*9,955*	*4,839,855*	*40,931*	*1.6*	0.0	*2.6*	0	*11.88*	*11.17*	29,990	0	0	*0*	*0*	*0*	*0*
29	0.00	32,310,520	9,263,156	12.8	1,994,719	2,019,515	9,960	4,843,169	41,041	1.6	0.0	2.6	41,549	13.08	12.08	29,989	13,746	18,221	0	0	0	0
30	0.00	32,331,600	9,322,458	11.6	1,995,885	2,019,515	9,968	4,846,474	41,152	1.6	0.0	2.7	42,523	12.83	11.17	29,698	20,779	18,091	0	0	0	0
31	0.00	32,352,800	9,378,604	14.0	1,996,905	2,019,515	9,973	4,849,801	41,267	1.5	0.0	2.8	40,854	12.50	10.50	30,251	27,176	18,092	2,031	0	0	0
Totals	3.68										0		883,075			836,136	794,593	320,016	5,038	27,008	60,185	0

projects\balance\2012\10-12bal.xls (dad 11/05/12)

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. Column IV includes quantities from leak detection system.
4. Column B, trace is less than 0.01 inches.
5. Columns C, D, F, G, H, I, J, L, N, Q, R-V and W are quantities from flow meters.
6. Columns K and M measured from staff gages in each pond.

Type of Cover	Phases I-VI acres	Sections 7-8 acres	Section 9 acres
Open	0	0	5
Intermediate	139.4	19.3	10
Final	23	0	0
Not Opened	0	0	0

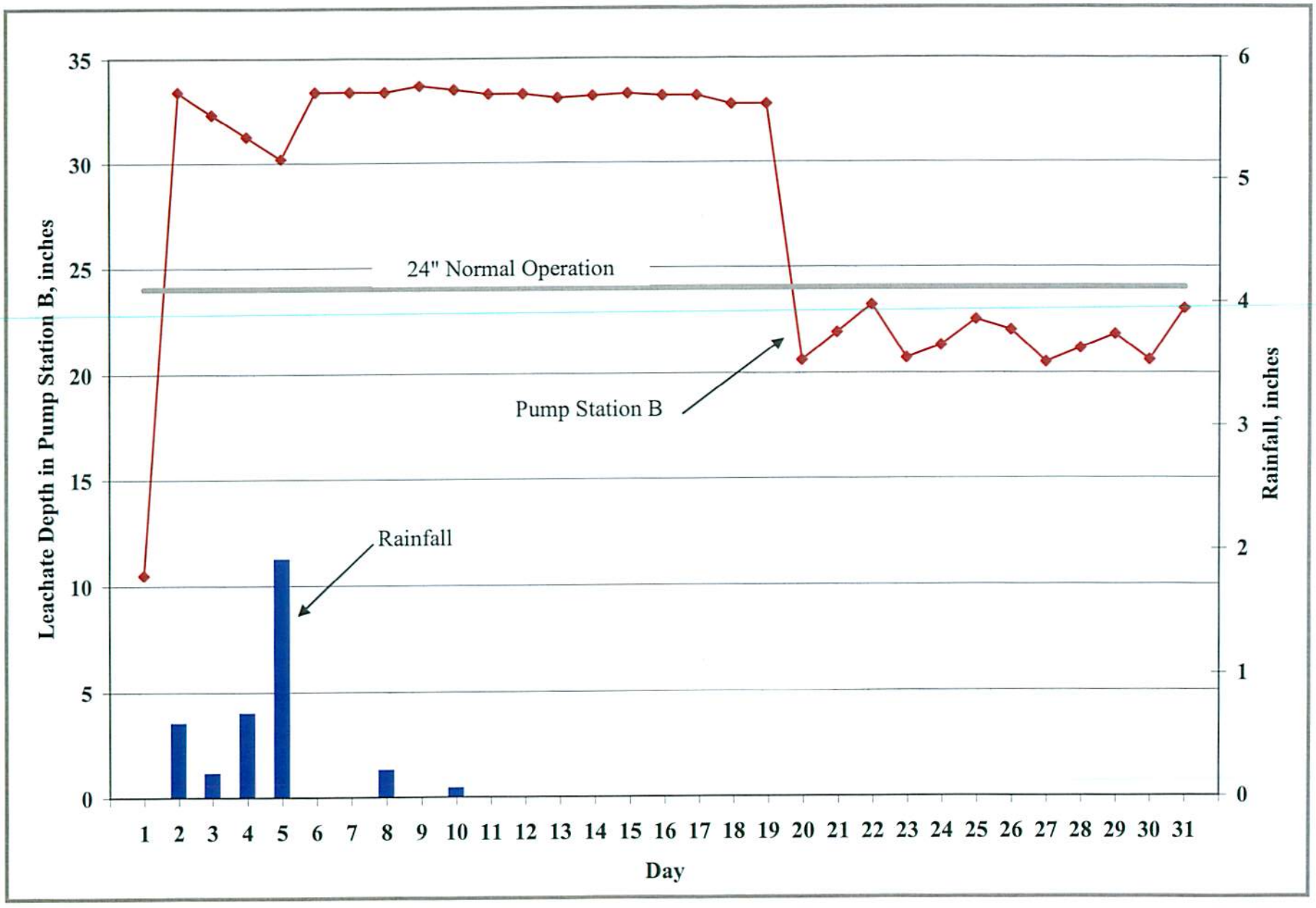

Figure 1. Leachate Levels in Pump Station B and Rainfall for October 2012.

TABLE 3. LEACHATE BALANCE SUMMARY
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA
YEAR-2012

		Leachate Arriving at LTRF				Leachate Leaving LTRF			Effluent Disposal			Inflow / Outflow For LTRF		
Month	Rainfall (in.)	Leachate Hauled to LTRF from HHLF/TRLF (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.)	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[1] (gal.)
January	1.07	0	23,500	70,007	813,178	699,589	106,160	0	0	0	0	906,685	805,749	100,936
February	0.73	0	355,409	44,187	711,900	729,481	3,015	0	0	0	0	1,111,496	732,496	379,000
March	1.34	0	14,454	40,857	755,703	731,676	0	249,900	0	0	0	811,014	981,576	-170,562
April	1.73	0	20,024	48,716	692,903	24,075	0	725,800	6,009	0	599,900	761,643	749,875	11,768
May	2.52	0	12,434	38,828	667,077	0	0	737,200	0	0	678,600	718,339	737,200	-18,861
June	19.69	0	19,532	216,419	939,380	379,754	14,787	683,800	24,400	0	495,700	1,175,331	1,078,341	96,990
July	4.98	0	20,538	216,186	1,558,367	800,555	171,493	832,000	60,184	0	796,826	1,795,091	1,804,048	-8,957
August	14.20	0	19,702	228,852	1,436,462	746,218	116,021	812,800	170,725	0	705,818	1,685,016	1,675,039	9,977
September	3.70	0	20,484	209,099	1,920,704	1,300,030	45,061	815,200	144,519	0	782,345	2,150,287	2,160,291	-10,004
October	3.68	0	25,121	142,561	1,898,163	1,114,609	5,038	836,400	87,193	0	883,075	2,065,845	1,956,047	109,798
November	0.24	0	87,850	91,175	1,530,813	726,117	2,999	815,400	0	0	726,882	1,709,838	1,544,516	165,322
December	3.12	0	17,192	74,254	1,422,326	444,131	63,802	1,005,100	0	54,044	817,659	1,513,772	1,513,033	739
YTD Total	57.00	0	636,240	1,421,141	14,346,976	7,696,235	528,376	7,513,600	493,030	54,044	6,486,805	16,404,357	15,738,211	666,146

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. Leachate from the Hillsborough Heights and Taylor Road landfills is being hauled to the Faulkenburg Road Wastewater Treatment Facility.
3. Change in storage represents total inflow to LTRF minus total outflow from LTRF.