

Smith, George

From: Pelley, Cindy <PelleyCA@HillsboroughCounty.ORG>
Sent: Friday, January 12, 2018 3:46 PM
To: SWD_Waste
Cc: Morgan, Steve; Ruiz, Larry; Cope, Ronald; Byer, Kimberly; 'Melissa.Madden@dep.state.fl.us'; 'Curtis, Bob'; 'Clark, Bruce'; O'Neill, Joseph
Subject: WACS ID 41193 - Qtr 4 2017 Water Balance & Waste Tire Report for Southeast County
Attachments: 4Q2017 Water Balance Report.pdf; 4Q2017 Waste Tire rpt.pdf; 2017 Annual Waste Tire Report.pdf

Mr. Morgan:

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

Also attached is the Annual Waste Tire Report, and the Annual Fire Inspection is scheduled for January 16, 2018. I'll forward the report once it's received.

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

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January 12, 2018

Mr. Tony Partin

Florida Department of Environmental Protection
Bureau of Waste Planning and Regulation
Solid Waste Section
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Waste Tire Facility Annual Report- Permit No. 126787-005-WT/02

Dear Mr. Partin:

This correspondence provides the annual report submitted for Hillsborough County's Waste Tire Processing Facility for 2017, Permit No. 126787-005-WT/02. Provided is the amount of tire tonnage received at the County's Waste Tire Processing Facility (WTPF) and the amount of tires shredded.

The 2017 year at the County's WTPF began with an existing stored balance of 818.34 tons of whole tires. A total of 1,320.72 tons of tires were received in 2017, bringing the total tonnage to 2,139.06. Of the 2,139.06 tons of tires; 444.77 tons of tires were removed from the site by contractor; 944.28 tons of tires were transferred to the South County Transfer Station, mixed with MSW and transferred to the County's Resource Recovery Facility to be utilized as a fuel source; 50.68 tons of tire scraps and debris were disposed of at the landfill; and 699.33 tons of whole tires remain onsite waiting to be processed.

The 2017 year also began with an existing balance of 931.37 tons of stored shredded tires. No shredded tires were removed from the site this year leaving a year-end balance of 931.37 tons of stored shredded tires.

Should you have any questions concerning this annual report or need additional information, please contact me at (813) 671-7707.

Sincerely,

Larry E. Ruiz
Manager Landfill Operations
Solid Waste Management Division
Public Works Department

LER/cp

Attachments

xc: Ron Cope, EPC
Kimberly Byer, SWMD

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Lucia E. Garsys

**HILLSBOROUGH COUNTY
SOLID WASTE MANAGEMENT DIVISION
WASTE TIRE PROCESSING FACILITY**

		YEARLY TONNAGE REPORT 2017			Beginning Tonnage Jan. 1, 2017 Whole 818.34		Beginning Tonnage Jan. 1, 2017 Shredded 931.37
Month	Tires Received	Tires Removed by Contractor	Whole Tires to SCTS	Tons Adjusted	Shredded Removed		Remarks
January	149.30	68.39	52.36	0.00			
February	101.58	46.58	0.00	10.39			
March	87.72	0.00	0.00	0.00			
April	217.16	61.91	17.42	0.00			
May	90.21	89.17	264.26	2.78			
June	100.70	29.39	150.52	0.00			
July	85.98	0.00	216.99	0.00			
August	101.64	61.05	95.27	0.00			
September	87.82	0.00	22.83	14.02			
October	118.85	0.00	76.08	15.42			
November	74.33	56.40	29.75	0.00			
December	105.43	31.88	18.80	8.07			
Sub-Total	1,320.72	444.77	944.28	50.68	0.00		
Beginning Tonnage	818.34				931.37		
TOTAL	2,139.06	-444.77	-944.28	-50.68		0.00	
		Shredded Ending Tonnage				931.37	
		Whole Ending Tonnage				699.33	



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January 12, 2018

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

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SERVICES ADMINISTRATOR**

Lucia E. Garsys

RE: Waste Tire Facility Quarterly Report - Permit No. 126787-005-WT/02

Dear Mr. Morgan:

In accordance with Rule 62-711, F.A.C. and Permit No 126787-005-WT/02, the Solid Waste Management Division (SWMD) is submitting the Quarterly Report for the Waste Tire Facility for the period October 1, 2017 through December 31, 2017.

The SWMD staff compiled the information from the site's daily reports for this Quarterly Report.

Should you have any questions or require additional information concerning this submittal, please contact me at (813) 671-7707.

Sincerely,

Larry E. Ruiz
Manager Landfill Operations
Solid Waste Management Division
Public Works Department

LER/cp

Attachments

xc: Ron Cope, EPC
Kimberly Byer, SWMD



Department of Environmental Protection

DEP Form # 62-701.900(21)
Waste Tire Processing Facility
Form Title <u>Quarterly Report</u>
Effective Date <u>3/22/00</u>
DEP Application No. _____ (Filled in by DEP)

Waste Tire Processing Facility Quarterly Report

Pursuant to Rule 62-711.530, Florida Administrative Code, the owner or operator of a waste tire processing facility shall submit the following information to the Department quarterly.

Quarter covered by this report 10/01/17 thru 12/31/17 (First quarter begins on January 1 of any given year)

1. Facility name: Hillsborough County Southeast Landfill Waste Tire Facility
2. Facility mailing address: 332 N. Falkenburg Road
City: Tampa County: Hillsborough Zip: 33619
3. Facility permit number: 126787-005-WT/02
4. Facility telephone number (813) 671-7707
5. Authorized person preparing report: Larry E. Ruiz
6. Affiliation with facility: Owner Representative - Manager Landfill Operations
7. Telephone number (if different from above): ()
8. Activity: Report in tons

	Beginning Inventory	Received	Processed	Consumed	Removed	Adjustments	Ending Inventory
Used Tires	637.12	298.61			-236.40		
Other whole Tires							
Processed tires							
Processing Waste						-23.49	
Other							
Total	637.12	298.61			-236.40	-23.49	699.33

- a. Explain all inventory adjustments. -23.49 tons of unprocessed truck tires
- b. List any period in which one or more category of inventory exceeded the permitted maximum for that category. How was that condition relieved?

For any excess inventory at the end of the quarter, state how and when this condition will be relieved. Attach Additional sheets, if necessary.

9. Certification:

To the best of my knowledge and belief, I certify the information provided in this report is true, accurate, and complete.

Larry E. Ruiz

Print Name of Authorized Agent

Larry E. Ruiz

Signature of Authorized Agent

1/12/18

Date

Mail complete form to
the appropriate district office

Northwest District
160 Governmental Center
Pensacola, FL 32501-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. 200 B
Jacksonville, FL 32256-7590
904-448-4300

Central District
3319 Maguire Blvd., Ste. 232
Orlando, FL 32803-3767
407-894-7555

Southwest District
3804 Coconut Palm Dr.
Tampa, FL 33619
813-744-6100

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33902-2549
941-332-6975

Southeast District
400 North Congress Ave.
West Palm Beach, FL 33401
561-681-6600

**WASTE TIRE FACILITY
QUARTERLY TONNAGE REPORT
FOURTH QUARTER 2017**

		FOURTH QUARTER	Beginning Tonnage (Oct. 1, 2017)	
Month	Tires Received	Tires Removed by Contractor	Tires to SCTS & RR	Tons Adjusted
Oct. 2017	118.85	0.00	76.08	15.42
Beginning Tons	637.12			
	755.97	0.00	-76.08	-15.42
			Ending Tonnage	664.47
Month	Tires Received	Tires Removed by Contractor	Tires to SCTS & RR	Tons Adjusted
Nov. 2017	74.33	56.40	29.75	0.00
Beginning Tons	664.47			
	738.80	-56.40	-29.75	0.00
			Ending Tonnage	652.65
Month	Tires Received	Tires Removed by Contractor	Tires to SCTS & RR	Tons Adjusted
Dec. 2017	105.43	31.88	18.80	8.07
Beginning Tons	652.65			
	758.08	-31.88	-18.80	-8.07
			Ending Tonnage	699.33
Month	Tires Received	Tires Removed by Contractor	Tires to SCTS & RR	Tons Adjusted
Oct. 2017	118.85	0.00	76.08	15.42
Nov. 2017	74.33	56.40	29.75	0.00
Dec. 2017	105.43	31.88	18.80	8.07
Sub-Total	298.61	88.28	124.63	23.49
Beginning Tons	637.12			
TOTAL	935.73	-88.28	-124.63	-23.5
			Ending Tonnage	699.33



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January 11, 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 December 31, 2018.

The data is being submitted as separate monthly reports for October, November, and December 2017. 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
Manager Landfill Operations
Solid Waste Management Division

LER/cp

Attachment

xc: Bruce Clark, SCS
Ron Cope, EPC

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MEMORANDUM

DATE: November 14, 2017

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 October 2017
Southeast County Landfill, Hillsborough County, Florida

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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 2017 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 2.03 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 1.4 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 above the normal operation level in the beginning of the month due to a high level in the leachate storage tank following hurricane IRMA and several significant power failures. The average recorded depth of leachate in the PS-B sump was 25.0 inches.

Leachate Pumped to Pump Station A Sump from Phases I-VI Condensate Line (Column VI)

Column VI presents the daily amount of leachate, in gallons, collected from the Phases I-VI condensate line and pumped to Pump Station A (PS-A). The average daily amount of leachate pumped from the Phases I-VI condensate line was 1,333 gallons. A total of 41,337 gallons of leachate was pumped this month.

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

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 temporary pump stations TPS-2B and PS-2. The average daily amount of leachate pumped from PS-A was 188,565 gallons. A total of 5,845,504 gallons of leachate was pumped this month.

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

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 a total of 11,036 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 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 372,335 gallons was removed.

Leachate Pumped to LTRF from the MLPS (Column X)

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 6,217,839 gallons of leachate was pumped to the LTRF.

Leachate Pumped to LTRF from Section 9 (Column XI)

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 175,026 gallons of leachate was pumped this month.

Leachate Pumped from Section 9 LDS (Column XII)

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 2,651 gallons per day. This month a total 85 gallons of leachate was removed from the leak detection system.

Leachate Pumped from Compost Area Sump (Column XIII)

Column XIV presents the total quantity of leachate pumped to the LTRF and Pond B from the Compost Project Area Sump. This month a total of 9,200 gallons of leachate from the compost area was pumped to the LTRF.

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

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 394,400 gallons of leachate was stored in the tank.

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

Column XVI typically presents the daily amount of effluent, in gallons, stored in the 575,000-gallon effluent holding tank T6 at the LTRF. On September 14th, SWMD staff began diverting *leachate* to the T6 storage tank to contain excess leachate volumes caused by Hurricane IRMA. The amount of leachate stored in T6 is calculated based on the circumference of the tank and the daily level reading. This month an average of 385,800 gallons of *leachate* was stored in the tank.

Leachate Treated at LTRF (Column XVI)

Column XVII presents the daily amount of leachate, in gallons, treated at the LTRF. This month a total of 770,600 gallons of leachate was treated at the plant.

Total Leachate Hauled (Column XVII)

Column XVIII presents the daily amount of leachate, in gallons, hauled off site. This month a total of 6,014,669 gallons of leachate was hauled off site.

Leachate Dust Control Sprayed (Column XVIII)

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 1,622 gallons of leachate was used for dust control.

Pond A Storage (Column XIX)

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 42,600 gallons of effluent was stored in Pond A.

Pond B Storage (Column XX)

Column XXI presents the daily amount of *leachate* from the Compost Area, in gallons, stored in Pond B. The daily amount stored in the pond is calculated by using the daily depth of *leachate* 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; however during the first half of October, the empty storage pond was used to contain *leachate* from the Compost Area following Hurricane IRMA. This month a daily average of 85,400 gallons of *leachate* was stored in Pond B.

Effluent Sprayed at Pond B (Column XXI)

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 XXII)

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 IV-VI is measured from the flow meter at the irrigation pump station. This month a total of 411,033 gallons of effluent was used for spray irrigation.

Effluent Dust Control Sprayed (Column XXIII)

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 XXIV)

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 XXV)

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 330,100 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 6,402,858 gallons. Total outflow quantity from the LTRF was 6,786,891 gallons. The change in storage for the month decreased by 384,033 gallons.

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

TABLE 1. LEACHATE WATER BALANCE REPORT FORM
OCTOBER 2017
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	XXV
Day	Rainfall (in.)	Depth in Pond A (ft.)	Depth in Pond B (ft.)	Estimated Depth at PS-B (in.)	Phases I - VI Condensate Meter (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.)	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	0.82	1.5	3.2	48.4	1,446	191,637	917	23,648	215,285	6,247	0	0	431,000	385,000	0	37,306	0	40,000	192,000	0	0	0	0	0
2	0.00	0.8	3.2	47.6	1,446	245,958	917	23,648	269,606	6,247	0	0	502,000	415,000	0	234,544	0	17,000	192,000	0	0	0	0	0
3	0.00	0.8	3.2	41.0	930	225,350	1,073	10,328	235,678	5,179	0	0	453,000	497,000	0	218,208	0	17,000	192,000	0	0	0	0	0
4	0.00	0.8	3.2	47.6	820	179,997	1,744	28,283	206,280	17,242	0	0	499,000	466,000	0	256,280	0	17,000	192,000	0	0	0	0	0
5	0.00	0.8	3.2	41.8	3,372	262,120	1,598	16,568	278,688	8,344	0	0	497,000	434,000	0	248,041	0	17,000	192,000	0	0	0	0	0
6	0.00	0.0	3.2	42.6	2,958	236,000	1,061	17,190	253,190	6,173	68	0	504,000	432,000	0	239,976	0	0	192,000	0	0	0	0	0
7	0.00	0.0	3.2	20.6	2,394	218,394	440	13,397	231,791	5,860	0	0	477,000	475,000	29,600	190,955	0	0	192,000	0	0	0	0	0
8	0.02	0.0	3.2	34.0	1,442	127,937	287	12,878	140,815	6,327	0	0	491,000	486,000	29,600	43,592	0	0	192,000	0	0	0	0	0
9	0.00	0.0	3.2	47.3	1,442	119,321	287	12,878	132,199	6,327	0	0	504,000	497,000	29,600	278,617	0	0	192,000	0	0	0	0	0
10	0.00	1.2	3.2	46.4	1,282	171,128	150	7,950	179,078	4,795	0	0	381,000	446,000	26,200	241,379	0	32,000	192,000	0	0	0	0	0
11	0.00	1.7	3.2	35.3	1,388	156,046	353	6,857	162,903	6,736	0	0	398,000	381,000	24,300	241,181	0	48,000	192,000	0	0	0	0	0
12	0.00	2.1	2.7	12.4	1,410	300,537	110	20,921	321,458	4,867	0	0	381,000	437,000	24,300	248,170	0	65,000	143,000	0	27,694	0	0	22,200
13	0.00	2.6	1.9	7.7	1,242	208,889	235	12,563	221,452	698	0	0	401,000	437,000	24,300	240,871	0	88,000	72,000	0	67,367	0	0	53,900
14	0.09	2.1	1.8	18.9	1,468	192,091	186	10,250	202,341	9,879	0	0	358,000	396,000	24,300	217,101	0	65,000	64,000	0	0	0	0	0
15	0.19	1.2	1.8	12.6	1,370	170,496	0	10,056	180,552	5,819	0	0	415,000	381,000	24,300	0	0	32,000	64,000	0	0	0	0	0
16	0.00	1.9	1.8	29.6	1,470	184,860	0	10,933	195,793	5,538	0	0	497,000	377,000	30,200	189,677	0	57,000	64,000	0	0	0	0	0
17	0.55	2.3	1.8	18.1	1,474	191,220	438	11,090	202,310	4,059	0	0	417,000	513,000	30,200	249,389	0	74,000	64,000	0	0	0	0	0
18	0.00	3.0	1.8	13.4	1,113	192,984	138	10,513	203,497	4,747	0	0	398,000	422,000	37,700	249,206	0	108,000	64,000	0	19,858	0	0	15,900
19	0.00	2.9	0.0	18.4	1,365	188,130	100	3,760	191,890	5,076	0	0	319,000	456,000	37,700	262,555	0	103,000	0	0	42,758	0	0	34,200
20	0.00	2.2	0.0	14.0	1,217	154,400	109	13,476	167,879	4,516	0	0	274,000	446,000	37,700	269,092	0	70,000	0	0	27,516	0	0	22,000
21	0.00	1.5	0.0	12.0	1,180	202,795	34	11,658	214,453	4,815	4	0	259,000	463,000	31,300	138,406	0	40,000	0	0	37,914	0	0	30,300
22	0.00	0.0	0.0	15.7	1,138	166,847	133	9,981	176,828	6,943	6	0	324,000	444,000	31,300	121,674	0	0	0	0	0	0	0	0
23	0.04	0.0	0.0	20.5	1,087	186,685	163	1,840	188,525	6,507	4	0	326,000	466,000	31,300	218,832	0	0	0	0	0	0	0	0
24	0.04	0.6	0.0	20.1	1,207	191,698	0	6,374	198,072	2,513	0	0	322,000	415,000	28,000	246,239	0	10,000	0	0	0	0	0	0
25	0.00	1.6	0.0	19.7	1,093	190,643	92	12,498	203,143	3,879	0	0	312,000	341,000	26,700	247,999	0	44,000	0	0	27,121	0	0	21,700
26	0.00	1.6	0.0	16.3	323	183,058	162	8,889	191,947	4,106	0	0	295,000	264,000	29,700	226,032	0	44,000	0	0	10,187	0	0	8,100
27	0.00	2.1	0.0	19.1	1,303	150,781	59	10,898	161,679	5,178	0	0	302,000	206,000	34,000	175,128	1,622	65,000	0	0	0	0	0	1,300
28	0.27	2.6	0.0	13.6	980	171,996	7	5,857	177,853	4,532	0	9,200	290,000	175,000	36,900	131,447	0	88,000	0	0	70,751	0	0	56,600
29	0.01	2.0	0.0	13.4	943	175,247	84	14,744	189,991	4,453	0	0	374,000	144,000	36,900	21,342	0	61,000	0	0	44,716	0	0	35,800
30	0.00	1.6	0.0	15.1	582	168,282	0	6,174	174,456	4,409	0	0	420,000	142,000	36,900	154,168	0	44,000	0	0	0	0	0	0
31	0.00	2.3	0.0	10.6	453	141,966	140	8,232	150,198	4,906	3	0	405,000	120,000	37,600	177,152	0	74,000	0	0	35,151	0	0	28,100
Total	2.03				41,337	5,845,504	11,036	372,335	6,217,839	175,026	85	9,200			770,600	6,014,669	1,622			0	411,033	0	0	330,100
Daily Average		1.4	1.6	25.0	1,333	188,565	356	12,011	200,575	5,646	3	297	394,400	385,800				42,600	85,400					
Mo. Average																		100			13,300	0	0	10,650

- 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. Columns XV and XVI, calculated from depth in 575,000 gal. tanks.
9. Columns VI-XIV, XVII-XXI, 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
OCTOBER 2017
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	X
Day	Rainfall (in.)	Phases I - VI Condensate Meter (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.)	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 Contractor (gal.)	Hauled County (gal.)	Leachate Dust Control (Sprayed) (gal.)	Effluent Hauled Contractor (gal.)	County (gal.)	Effluent Dust Control (Sprayed) (gal.)
1	0.82	376,728	1,535,469	48.35	4,822	18,923	5,846,217	681,000	4,751,353	39,469	3.20	0.00	1.50	0	14.96	13.38	0	37,306	70,996	0	0	0	0
2	0.00	372,173	1,710,000	47.60	4,828	25,163	5,846,217	681,000	4,775,001	40,385	3.20	0.0	0.80	0	17.42	14.42	0	163,548	70,996	0	0	0	0
3	0.00	373,103	1,903,000	41.00	4,828	30,342	5,846,217	681,000	4,785,329	41,458	3.20	0.0	0.80	0	15.75	17.25	0	160,673	57,535	0	0	0	0
4	0.00	373,923	2,057,000	47.60	19,102	33,310	5,846,217	681,000	4,811,612	43,202	3.20	0.0	0.80	0	17.33	16.17	0	176,717	79,563	0	0	0	0
5	0.00	377,295	2,255,020	41.80	27,445	33,311	5,846,217	681,000	4,828,180	44,800	3.20	0.0	0.80	0	17.25	15.08	0	175,352	72,689	0	0	0	0
6	0.00	380,253	2,437,930	42.60	33,617	33,312	5,846,285	681,000	4,845,370	45,861	3.20	0	0.00	0	17.50	15.00	0	160,478	79,498	0	0	0	0
7	0.00	382,647	2,643,647	20.60	39,476	33,313	5,846,285	681,000	4,858,767	46,301	3.20	0.0	0.00	0	16.58	16.50	29,622	88,795	102,160	0	0	0	0
8	0.02	384,089	2,759,839	33.95	45,802	33,314	5,846,285	681,000	4,871,645	46,588	3.20	0.0	0.00	0	17.04	16.88	29,623	45,592	0	0	0	0	0
9	0.00	385,531	2,876,070	47.30	52,128	33,314	5,846,285	681,000	4,884,523	46,875	3.20	0.0	0.00	0	17.50	17.25	29,623	206,182	72,435	0	0	0	0
10	0.00	386,813	3,005,500	46.40	56,923	33,314	5,846,285	681,000	4,892,473	47,025	3.20	0	1.20	0	13.25	15.50	26,234	162,046	79,333	0	0	0	0
11	0.00	388,201	3,105,500	35.30	63,658	33,315	5,846,286	681,000	4,899,330	47,378	3.20	0.0	1.70	0	13.83	13.25	24,280	168,900	72,281	0	0	0	0
12	0.00	389,611	3,383,512	12.40	68,525	33,315	5,846,286	681,000	4,920,251	47,488	2.70	0	2.10	27,694	13.25	15.17	24,280	168,633	79,537	0	0	0	0
13	0.00	390,853	3,568,962	7.70	69,222	33,316	5,846,283	681,000	4,932,814	47,723	1.90	0	2.60	67,367	13.92	15.17	24,280	197,937	42,934	0	0	0	0
14	0.09	392,321	3,737,931	18.90	69,234	43,183	5,846,283	681,000	4,943,064	47,909	1.80	0.0	2.10	0	12.42	13.75	24,280	137,591	79,510	0	0	0	0
15	0.19	393,691	3,903,691	12.60	69,234	48,213	5,846,283	681,000	4,953,120	47,909	1.80	0.0	1.20	0	14.42	13.25	24,279	0	0	0	0	0	0
16	0.00	395,161	4,057,200	29.60	69,234	53,551	5,846,283	681,000	4,964,053	47,909	1.80	0.0	1.90	0	17.25	13.08	30,231	124,284	65,393	0	0	0	0
17	0.55	396,635	4,226,165	18.10	69,234	57,610	5,846,283	681,000	4,975,143	48,347	1.80	0.0	2.30	0	14.50	17.83	30,231	177,725	71,664	0	0	0	0
18	0.00	397,748	4,380,000	13.40	69,234	62,357	5,846,283	681,000	4,985,656	48,485	1.80	0.0	3.00	19,858	13.83	14.67	37,702	184,367	64,839	0	0	0	0
19	0.00	399,113	4,531,100	18.40	69,234	67,433	5,846,283	681,000	4,989,416	48,585	0.00	0.0	2.90	42,758	11.08	15.83	37,702	176,479	86,076	0	0	0	0
20	0.00	400,330	4,678,777	14.00	69,234	71,949	5,846,276	681,000	5,002,895	48,694	0.00	0.0	2.20	27,516	9.50	15.50	37,702	182,536	86,556	0	0	0	0
21	0.00	401,510	4,820,467	12.00	69,234	76,764	5,846,280	681,000	5,014,553	48,728	0.00	0.0	1.50	37,914	9.00	16.08	31,341	87,352	51,144	0	0	0	0
22	0.00	402,648	4,953,300	15.70	70,254	81,787	5,846,286	681,000	5,024,534	48,881	0.00	0.0	0.00	0	11.25	15.42	31,341	79,325	42,349	0	0	0	0
23	0.04	403,735	5,085,115	20.50	76,350	82,198	5,846,290	681,000	5,026,374	49,044	0.00	0.0	0.00	0	11.33	16.17	31,340	176,054	42,798	0	0	0	0
24	0.04	404,942	5,223,123	20.10	77,783	83,278	5,846,290	681,000	5,032,748	49,044	0.00	0.0	0.60	0	11.17	14.42	28,001	174,853	71,386	0	0	0	0
25	0.00	406,035	5,354,917	19.70	77,783	87,157	5,846,290	681,000	5,045,246	49,136	0.00	0.0	1.60	27,121	10.83	11.83	26,658	175,951	72,048	0	0	0	0
26	0.00	406,358	5,477,793	16.30	77,783	91,263	5,846,290	681,000	5,054,135	49,298	0.00	0.0	1.60	10,187	10.25	9.17	29,656	168,328	57,704	0	0	0	0
27	0.00	407,661	5,596,334	19.10	77,783	96,441	5,846,287	681,000	5,065,033	49,357	0.00	0.0	2.10	0	10.50	7.17	34,014	88,745	86,383	1,622	0	0	0
28	0.27	408,641	5,718,426	13.60	77,783	100,973	5,846,287	690,200	5,070,890	49,364	0.0	0.0	2.60	70,751	10.08	6.08	36,854	88,829	42,618	0	0	0	0
29	0.01	409,584	5,852,250	13.40	77,783	105,426	5,846,288	690,200	5,085,634	49,448	0.0	0.0	2.00	44,716	13.00	5.00	36,854	0	21,342	0	0	0	0
30	0.00	410,166	5,963,300	15.1	77,783	109,835	5,846,288	690,200	5,091,808	49,448	0.0	0.0	1.60	0	14.58	4.92	36,854	103,505	50,663	0	0	0	0
31	0.00	410,619	6,069,300	10.6	77,783	114,741	5,846,291	690,200	5,100,040	49,588	0.0	0	2.30	35,151	14.08	4.17	37,598	133,395	43,757	0	0	0	0
Totals	2.03											0		411,033			770,580	4,169,478	1,845,191	1,622	0	0	0

Notes:

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

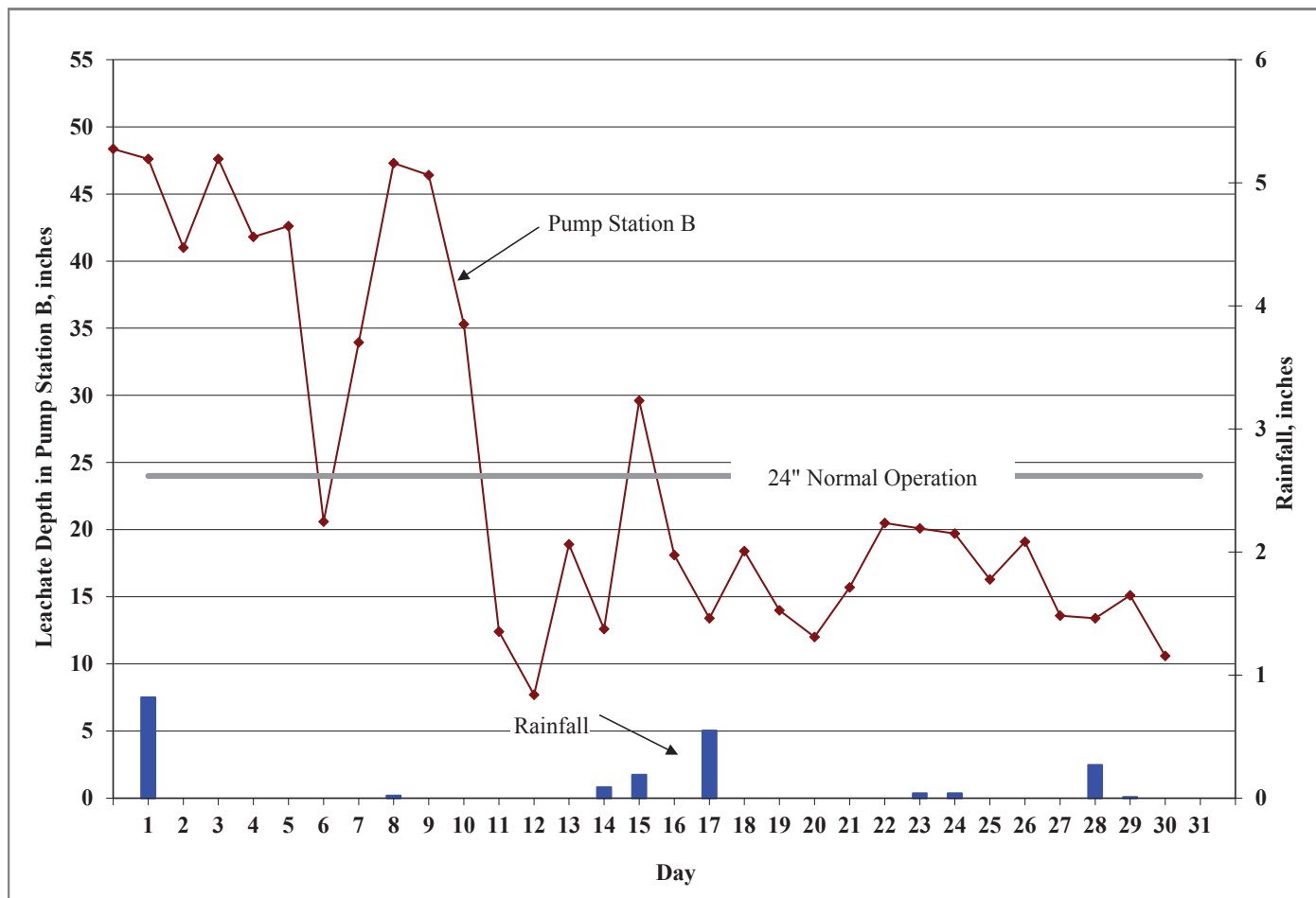


Figure 1. Leachate Levels in Pump Station B and Rainfall for October 2017.

**TABLE 3. LEACHATE BALANCE SUMMARY
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA
YEAR-2017**

Month	Rainfall (in.)	Leachate Arriving at LTRF					Leachate Leaving LTRF			Effluent Disposal			Inflow / Outflow For LTRF		
		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	1.26	15,559	63,901	107,208	2,220,588	0	1,465,900	0	928,400	7,108	0	612,840	2,407,256	2,394,300	12,956
February	1.96	12,809	56,814	96,390	1,796,165	0	1,253,632	0	700,600	78,895	0	526,386	1,962,178	1,954,232	7,946
March	0.67	11,418	49,816	83,733	2,101,893	0	1,473,627	0	907,200	168,009	0	707,976	2,479,359	2,380,827	98,532
April	2.58	21,470	49,032	81,696	1,849,005	0	1,165,386	0	951,500	7,425	0	829,485	2,176,868	2,116,886	59,982
May	1.97	5,365	46,880	84,635	1,672,229	0	1,158,105	1,618	841,400	135,383	0	819,657	1,951,373	2,001,123	-49,750
June	12.31	8,499	88,631	147,375	1,624,622	191,200	1,508,449	0	715,000	71,078	0	235,093	2,181,216	2,223,449	-42,233
July	12.59	3,899	219,288	374,905	2,371,971	203,100	2,430,780	1,555	1,230,100	1,083,579	0	180,558	3,401,701	3,662,435	-260,734
August	11.97	1,150	270,991	355,006	4,395,522	916,050	3,868,019	6,349	1,272,284	1,058,677	0	234,699	5,938,719	5,146,652	792,067
September	10.12	639	303,289	840,695	4,629,523	465,810	6,020,161	0	502,200	416,211	0	239,497	6,239,956	6,522,361	-282,405
October	2.03	708	175,111	372,335	5,845,504	9,200	6,014,669	1,622	770,600	0	0	411,033	6,402,858	6,786,891	-384,033
November															
December															
YTD Total	57.46	81,516	1,323,753	2,543,978	28,507,022	1,785,360	26,358,728	11,144	8,819,284	3,026,365	0	4,797,224	35,141,484	35,189,156	-47,673

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.



Hillsborough County Florida

PUBLIC WORKS

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MEMORANDUM

DATE: December 12, 2017

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 November 2017
Southeast County Landfill, Hillsborough County, Florida

BOARD OF COUNTY COMMISSIONERS
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Lucia E. Garsys

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 2017 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 0.14 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 0.7 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 effluent was not stored in Pond B.

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 November 6-8, and 11-14 due to a pump malfunction. The average recorded depth of leachate in the PS-B sump was 24.0 inches.

Leachate Pumped to Pump Station A Sump from Phases I-VI Condensate Line (Column VI)

Column VI presents the daily amount of leachate, in gallons, collected from the Phases I-VI condensate line and pumped to Pump Station A (PS-A). The average daily amount of leachate pumped from the Phases I-VI condensate line was 564 gallons. A total of 16,934 gallons of leachate was pumped this month.

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

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 temporary pump stations TPS-2B and PS-2. The average daily amount of leachate pumped from PS-A was 126,959 gallons. A total of 3,808,756 gallons of leachate was pumped this month.

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

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 a total of 1,451 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 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 201,599 gallons was removed.

Leachate Pumped to LTRF from the MLPS (Column X)

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 4,010,355 gallons of leachate was pumped to the LTRF.

Leachate Pumped to LTRF from Section 9 (Column XI)

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 97,151 gallons of leachate was pumped this month.

Leachate Pumped from Section 9 LDS (Column XII)

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 2,651 gallons per day. This month a total 11 gallons of leachate was removed from the leak detection system.

Leachate Pumped from Compost Area Sump (Column XIII)

Column XIV presents the total quantity of leachate pumped to the LTRF and Pond B from the Compost Project Area Sump. This month there was no leachate from the compost area pumped to the LTRF.

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

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 314,500 gallons of leachate was stored in the tank.

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

Column XVI typically presents the daily amount of effluent, in gallons, stored in the 575,000-gallon effluent holding tank T6 at the LTRF. On October 30, SWMD *leachate* diversions to the T6 storage tank ceased and the tank was rinsed with effluent and the effluent was treated as leachate. 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 258,100 gallons of effluent was stored in the tank.

Leachate Treated at LTRF (Column XVI)

Column XVII presents the daily amount of leachate, in gallons, treated at the LTRF. This month a total of 631,000 gallons of leachate was treated at the plant.

Total Leachate Hauled (Column XVII)

Column XVIII presents the daily amount of leachate, in gallons, hauled off site. This month a total of 3,567,298 gallons of leachate was hauled off site.

Leachate Dust Control Sprayed (Column XVIII)

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 XIX)

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 19,100 gallons of effluent was stored in Pond A.

Pond B Storage (Column XX)

Column XXI presents the daily amount of *leachate* from the Compost and Ash Storage Areas, in gallons, stored in Pond B. The daily amount stored in the pond is calculated by using the daily depth of *leachate* 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 November the storage pond was empty. This month leachate/effluent was not stored in Pond B.

Effluent Sprayed at Pond B (Column XXI)

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 XXII)

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 IV-VI is measured from the flow meter at the irrigation pump station. This month a total of 149,598 gallons of effluent was used for spray irrigation.

Effluent Dust Control Sprayed (Column XXIII)

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 XXIV)

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 37,158 gallons was hauled off site.

Total Evaporation (Column XXV)

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 4,107,893 gallons. Total outflow quantity from the LTRF was 4,198,298 gallons. The change in storage for the month decreased by 90,406 gallons.

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

TABLE 1. LEACHATE WATER BALANCE REPORT FORM
NOVEMBER 2017
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	XXV
Day	Rainfall (in.)	Depth in Pond A (ft.)	Depth in Pond B (ft.)	Estimated Depth at PS-B (in.)	Phases I - VI Condensate Meter (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 LDS (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	1.6	0.0	16.4	427	159,719	67	5,118	164,837	6,150	0	0	355,000	149,000	27,900	197,912	0	44,000	0	0	0	0	0	0
2	0.00	1.6	0.0	13.1	256	163,156	57	7,808	170,964	994	0	0	317,000	151,000	2,600	205,420	0	44,000	0	0	0	0	0	0
3	0.00	1.6	0.0	10.6	311	135,420	0	7,601	143,021	3,195	0	0	276,000	130,000	7,300	154,596	0	44,000	0	0	0	0	0	0
4	0.00	1.6	0.0	13.9	342	154,310	129	7,455	161,768	3,844	0	0	345,000	117,000	0	50,870	0	44,000	0	0	39,101	0	0	31,300
5	0.00	0.0	0.0	12.2	368	116,593	0	7,439	124,032	3,590	0	0	412,000	120,000	0	0	0	0	0	0	0	0	0	0
6	0.00	0.0	0.0	50.0	375	29,224	49	7,775	36,999	4,135	0	0	425,000	120,000	4,900	147,715	0	0	0	0	0	0	0	0
7	0.00	0.0	0.0	52.5	399	86,425	137	9,640	96,065	4,365	0	0	312,000	146,000	37,000	133,379	0	0	0	0	0	0	0	0
8	0.00	0.0	0.0	34.4	525	158,835	19	4,508	163,343	5,075	0	0	309,000	185,000	38,000	176,119	0	0	0	0	0	0	0	0
9	0.00	0.0	0.0	12.8	311	182,365	63	12,269	194,634	4,799	6	0	274,000	225,000	41,100	153,693	0	0	0	0	0	0	0	0
10	0.00	0.0	0.0	5.8	843	151,581	37	2,650	154,231	0	0	0	293,000	221,000	4,000	133,075	0	0	0	0	0	0	0	0
11	0.00	0.0	0.0	41.9	762	134,332	0	33	134,365	0	0	0	288,000	225,000	0	87,820	0	0	0	0	0	0	0	0
12	0.04	0.0	0.0	48.2	769	97,233	83	8,019	105,252	0	0	0	312,000	225,000	0	0	0	0	0	0	0	0	0	0
13	0.00	0.0	0.0	50.9	818	20,940	0	113	21,053	0	0	0	322,000	225,000	0	146,380	0	0	0	0	0	0	0	0
14	0.00	0.0	0.0	59.2	838	123,641	0	17,786	141,427	0	0	0	307,000	225,000	0	122,508	0	0	0	0	0	0	0	0
15	0.00	0.0	0.0	13.5	835	198,612	0	6,263	204,875	7,586	0	0	381,000	225,000	0	146,010	0	0	0	0	0	0	0	0
16	0.00	0.0	0.0	16.6	790	142,748	0	9,344	152,092	4,009	0	0	367,000	245,000	21,000	152,736	0	0	0	0	0	0	0	0
17	0.00	0.0	0.0	19.2	728	157,841	304	7,036	164,877	3,452	0	0	360,000	274,000	33,700	139,020	0	0	0	0	0	0	0	0
18	0.00	0.0	0.0	20.2	650	148,523	0	775	149,302	3,831	0	0	336,000	302,000	34,600	42,679	0	0	0	0	0	0	0	0
19	0.00	0.0	0.0	15.5	696	146,369	66	12,163	158,532	3,493	0	0	422,000	353,000	34,600	0	0	0	0	0	0	0	0	0
20	0.00	0.0	0.0	33.2	653	105,147	0	7,710	112,857	4,609	0	0	506,000	358,000	34,600	177,263	0	0	0	0	0	0	0	0
21	0.00	0.0	0.0	19.9	655	157,021	125	5,101	162,122	8,131	0	0	401,000	362,000	32,300	255,004	0	0	0	0	0	0	0	0
22	0.01	0.0	0.0	19.0	715	140,085	0	7,594	147,679	8,750	5	0	290,000	355,000	28,800	217,164	0	0	0	0	0	0	0	0
23	0.01	0.0	0.0	16.4	593	131,856	58	6,232	138,087	4,586	0	0	256,000	357,000	32,000	0	0	17,000	0	0	0	0	0	0
24	0.07	1.6	0.0	13.7	593	130,850	50	6,232	137,082	4,586	0	0	221,000	360,000	32,000	204,321	0	44,000	0	0	47,525	0	0	38,000
25	0.00	1.4	0.0	18.1	487	115,201	36	5,045	120,246	4,345	0	0	216,000	360,000	32,000	168,942	0	36,000	0	0	34,111	0	0	27,300
26	0.00	1.6	0.0	17.3	446	111,539	12	6,232	117,779	665	0	0	235,000	360,000	32,000	0	0	44,000	0	0	0	0	0	0
27	0.00	1.8	0.0	16.5	446	87,758	12	6,232	93,990	665	0	0	250,000	360,000	32,000	134,765	0	52,000	0	0	0	0	0	37,158
28	0.00	2.3	0.0	15.4	442	110,321	107	5,105	115,426	0	0	0	192,000	329,000	26,700	73,744	0	74,000	0	0	13,390	0	0	10,700
29	0.00	2.1	0.0	19.8	424	105,659	49	6,847	112,506	0	0	0	206,000	350,000	28,600	36,108	0	65,000	0	0	0	0	0	0
30	0.00	2.1	0.0	15.7	438	102,989	0	5,469	108,458	2,182	0	0	245,000	350,000	33,300	110,055	0	65,000	0	0	15,471	0	0	12,400
Total	0.14				16,934	3,808,292	1,451	201,599	4,009,891	97,151	11	0			631,000	3,567,298	0	19,100	0	0	149,598	0	37,158	119,700
Daily Average		0.7	0.0	24.0	564	126,943	48	6,720	133,663	3,238	0	0	314,500	258,100				19,100	0		5,000	0	1,200	3,990
Mo. Average																								

- Notes:
- NR = No Records, NA = Not Available.
 - Values in bold are estimated; values in italic are substitute for missing data and are based on averaged values.
 - Daily average is calculated by dividing the total by the actual days measured in the month.
 - Monthly average calculated by dividing the total by the number of days of the month.
 - Column II, Trace is less than 0.01 inches and is not included in total.
 - Columns III and IV, field measured at staff gauges.
 - Columns IX & X, Section 7-8 leak detection pumped into Section 7 leachate sump riser.
 - Columns XV and XVI, calculated from depth in 575,000 gal. tanks.
 - Columns VI-XIV, XVII-XIX, and XXII-XXV, quantities from flow meters.
 - 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
NOVEMBER 2017
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	X
Day	Rainfall (in.)	Phases I - VI Condensate Meter (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.)	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 Contractor (gal.)	County (gal.)	Leachate Dust Control (Sprayed) (gal.)	Effluent Hauled Contractor (gal.)	County (gal.)	Effluent Dust Control (Sprayed) (gal.)
1	0.00	411,046	6,177,800	16.4	77,783	120,891	5,846,292	690,200	5,105,158	49,655	0.0	0.0	1.6		12.33	5.17	27,857	125,765	72,147				
2	0.00	411,302	6,290,000	13.1	77,784	121,884	5,846,292	690,200	5,112,966	49,712	0.0	0.0	1.6		11.00	5.25	2,634	133,533	71,887				
3	0.00	411,613	6,395,211	10.6	77,784	125,079	5,846,292	690,200	5,120,567	49,712	0.0	0.0	1.6		9.58	4.50	7,290	111,383	43,213				
4	0.00	411,955	6,505,133	13.9	77,784	128,923	5,846,292	690,200	5,128,025	49,841	0.0	0.0	1.6	39,101	12.00	4.08	0	0	50,870				
5	0.00	412,323	6,617,681	17.1	77,784	132,519	5,846,293	690,200	5,135,464	49,841	0.0	0.0	0.0		14.50	4.17	0	0	0				
6	0.00	412,698	6,640,836	50	77,784	136,654	5,846,295	690,200	5,143,239	49,890	0	0	0		15	4	4,935	119,245	28,470				
7	0.00	413,097	6,683,382	52.5	77,784	141,019	5,846,296	690,200	5,152,879	50,027	0.0	0.0	0.0		10.83	5.08	37,003	133,379	0				
8	0.00	413,622	6,806,000	34.4	80,495	143,383	5,846,296	690,200	5,157,387	50,046	0.0	0.0	0.0		10.75	6.42	38,004	133,565	42,554				
9	0.00	413,933	6,954,554	12.8	85,284	143,383	5,846,297	690,200	5,169,656	50,109	0.0	0.0	0.0		9.50	7.83	41,114	118,218	35,475				
10	0.00	414,776	7,076,804	5.8	85,284	143,383	5,846,297	157	5,172,306	50,146	0.0	0	0.0		10.17	7.67	3,969	90,468	42,607				
11	0.00	415,538	7,179,502	41.9	85,284	143,383	5,846,297	157	5,172,339	50,146	0.0	0.0	0.0		10.00	7.83	0	45,224	42,596				
12	0.04	416,307	7,246,578	48.2	85,284	143,383	5,846,297	157	5,180,358	50,229	0.0	0.0	0.0		10.83	7.83	0	0	0				
13	0.00	417,125	7,247,250	51	85,284	143,383	5,846,297	157	5,180,471	50,229	0	0	0		11	8	0	117,988	28,392				
14	0.00	417,963	7,343,868	59.2	85,284	143,383	5,846,297	157	5,198,257	50,229	0.0	0.0	0.0		10.67	7.83	0	81,984	40,524				
15	0.00	418,798	7,509,900	15.5	87,968	148,285	5,846,297	157	5,204,520	50,229	0.0	0.0	0.0		13.25	7.83	0	82,014	63,996				
16	0.00	419,588	7,641,297	16.6	89,526	150,736	5,846,297	157	5,213,864	50,229	0.0	0.0	0.0		12.75	8.50	20,980	81,658	71,078				
17	0.00	420,316	7,754,785	19.2	91,371	152,343	5,846,297	157	5,220,900	50,533	0.0	0.0	0.0		12.50	9.50	33,695	96,348	42,672				
18	0.00	420,966	7,858,552	20.2	92,963	154,582	5,846,291	157	5,221,679	50,533	0.0	0.0	0.0		11.67	10.50	34,642	0	42,679				
19	0.00	421,662	7,960,368	15.5	94,836	156,320	5,846,292	157	5,233,842	50,599	0.0	0.0	0.0		14.67	11.58	34,642	0	0				
20	0.00	422,315	8,042,500	33.2	97,217	158,548	5,846,292	157	5,241,552	50,599	0.0	0.0	0.0		17.58	12.42	34,643	133,631	43,632				
21	0.00	422,970	8,150,406	19.9	101,558	162,338	5,846,294	157	5,246,653	50,724	0.0	0.0	0.0		13.92	12.58	32,722	211,302	43,702				
22	0.01	423,685	8,252,570	19.0	107,030	165,616	5,846,296	157	5,254,247	50,724	0.0	0.0	0.0		10.08	12.33	28,813	173,540	43,624				
23	0.01	424,278	8,346,627	16.4	109,373	167,860	5,846,296	157	5,260,479	50,774	0.0		0.8		8.88	12.42	31,958	0	0				
24	0.07	424,871	8,440,684	13.7	111,715	170,103	5,846,296	157	5,266,710	50,823	0.0	0.0	1.6	47,525	7.67	12.50	31,958	175,315	29,006				
25	0.00	425,358	8,529,650	18.1	116,060	170,103	5,846,296	157	5,271,755	50,859	0.0	0.0	1.4	34,111	7.50	12.50	31,958	127,069	41,873				
26	0.00	425,804	8,614,995	17.3	116,725	170,103	5,846,296	157	5,277,987	50,871	0.0		1.6		8.09	12.50	31,958	0	0				
27	0.00	426,249	8,700,340	16.5	117,390	170,103	5,846,296	157	5,284,218	50,883	0.0	0.0	1.8		8.67	12.50	31,958	127,478	7,287			37,158	
28	0.00	426,691	8,790,100	15.4	117,390	170,103	5,846,296	157	5,289,323	50,990	0.0	0.0	2.3	13,390	6.67	11.42	26,686	45,185	28,559				
29	0.00	427,115	8,881,842	19.8	117,390	170,103	5,846,296	157	5,296,170	51,039	0.0	0.0	2.1		7.17	12.17	28,552	0	36,108				
30	0.00	427,553	8,970,542	15.7	118,905	170,770	5,846,296	157	5,301,639	51,039	0.0	0.0	2.1	15,471	8.50	12.17	33,300	45,118	64,937				
Totals	0.14											0		149,598			630,821	2,509,410	1,057,888	0	0	37,158	0

- Notes:
- NR = No Records, NA = Not Available.
 - Values in bold are estimated; values in italic are substitute for missing data and are based on averaged values
 - Columns I and L include quantities from leak detection system.
 - Column B, trace is less than 0.01 inches.
 - Columns C, D, E, G, H, I, J, K, L, N, P, S-X and Y are quantities from flow meters.
 - 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

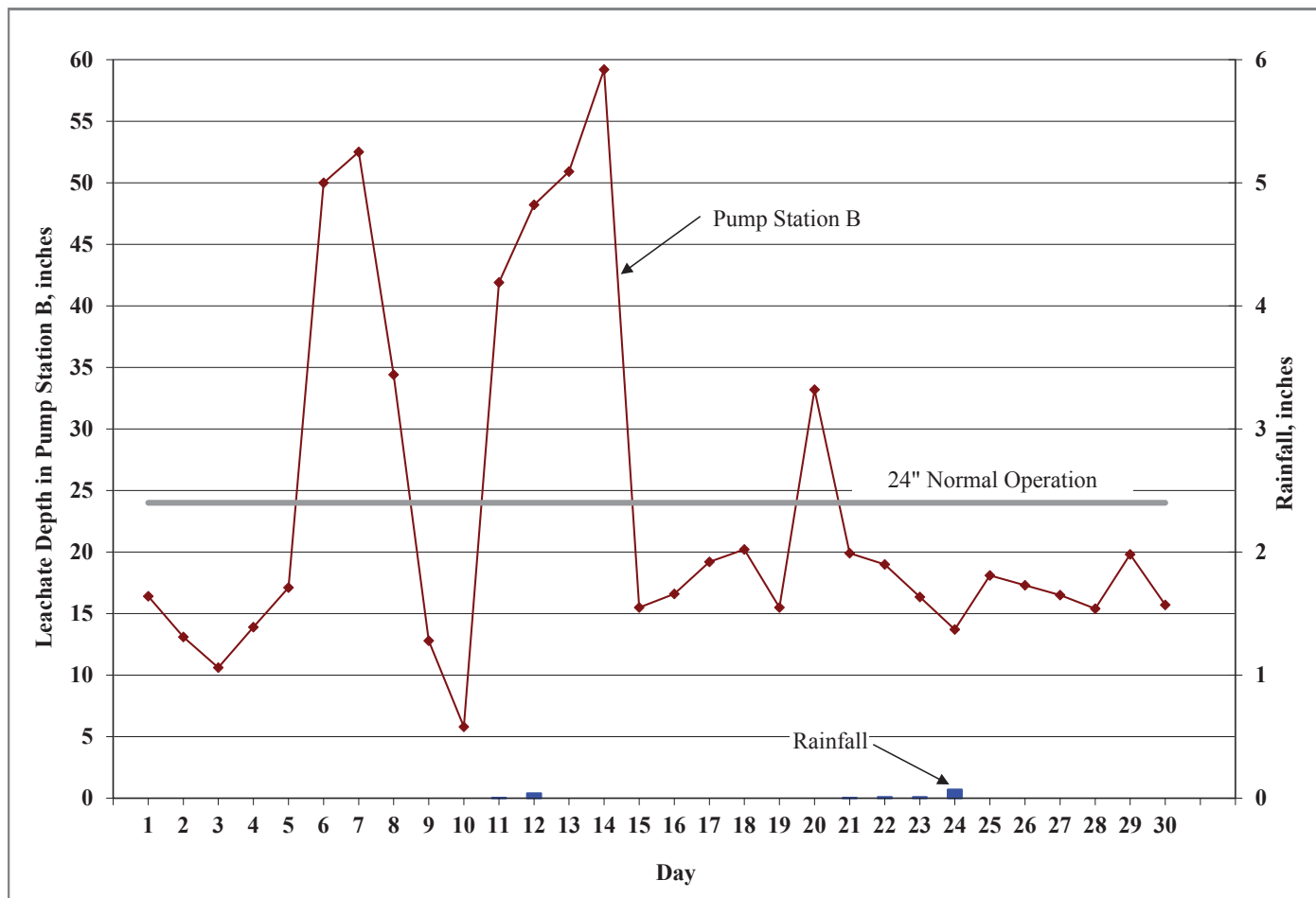


Figure 1. Leachate Levels in Pump Station B and Rainfall for November 2017.

**TABLE 3. LEACHATE BALANCE SUMMARY
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA
YEAR-2017**

Month	Rainfall (in.)	Leachate Arriving at LTRF					Leachate Leaving LTRF			Effluent Disposal			Inflow / Outflow For LTRF		
		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	1.26	15,559	63,901	107,208	2,220,588	0	1,465,900	0	928,400	7,108	0	612,840	2,407,256	2,394,300	12,956
February	1.96	12,809	56,814	96,390	1,796,165	0	1,253,632	0	700,600	78,895	0	526,386	1,962,178	1,954,232	7,946
March	0.67	11,418	49,816	83,733	2,101,893	0	1,473,627	0	907,200	168,009	0	707,976	2,479,359	2,380,827	98,532
April	2.58	21,470	49,032	81,696	1,849,005	0	1,165,386	0	951,500	7,425	0	829,485	2,176,868	2,116,886	59,982
May	1.97	5,365	46,880	84,635	1,672,229	0	1,158,105	1,618	841,400	135,383	0	819,657	1,951,373	2,001,123	-49,750
June	12.31	8,499	88,631	147,375	1,624,622	191,200	1,508,449	0	715,000	71,078	0	235,093	2,181,216	2,223,449	-42,233
July	12.59	3,899	219,288	374,905	2,371,971	203,100	2,430,780	1,555	1,230,100	1,083,579	0	180,558	3,401,701	3,662,435	-260,734
August	11.97	1,150	270,991	355,006	4,395,522	916,050	3,868,019	6,349	1,272,284	1,058,677	0	234,699	5,938,719	5,146,652	792,067
September	10.12	639	303,289	840,695	4,629,523	465,810	6,020,161	0	502,200	416,211	0	239,497	6,239,956	6,522,361	-282,405
October	2.03	708	175,111	372,335	5,845,504	9,200	6,014,669	1,622	770,600	0	0	411,033	6,402,858	6,786,891	-384,033
November	0.14	840	97,162	201,599	3,808,292	0	3,567,298	0	631,000	37,158	0	149,598	4,107,893	4,198,298	-90,406
December															
YTD Total	57.60	82,356	1,420,915	2,745,577	32,315,313	1,785,360	29,926,026	11,144	9,450,284	3,063,523	0	4,946,822	39,249,376	39,387,454	-138,078

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.



Hillsborough County Florida

PUBLIC WORKS

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MEMORANDUM

DATE: January 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 December 2017
Southeast County Landfill, Hillsborough County, Florida

BOARD OF COUNTY COMMISSIONERS
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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 2017 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 1.88 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 1.3.

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 16.0 inches.

Leachate Pumped to Pump Station A Sump from Phases I-VI Condensate Line (Column VI)

Column VI presents the daily amount of leachate, in gallons, collected from the Phases I-VI condensate line and pumped to Pump Station A (PS-A). The average daily amount of leachate pumped from the Phases I-VI condensate line was 166 gallons. A total of 5,144 gallons of leachate was pumped this month.

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

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 temporary pump stations TPS-2B and PS-2. The average daily amount of leachate pumped from PS-A was 96,185 gallons. A total of 2,981,735 gallons of leachate was pumped this month.

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

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 a total of 657 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 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 160,222 gallons was removed.

Leachate Pumped to LTRF from the MLPS (Column X)

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 3,141,958 gallons of leachate was pumped to the LTRF.

Leachate Pumped to LTRF from Section 9 (Column XI)

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 100,250 gallons of leachate was pumped this month.

Leachate Pumped from Section 9 LDS (Column XII)

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 2,651 gallons per day. This month a total 37 gallons of leachate was removed from the leak detection system.

Leachate Pumped from Compost Area Sump (Column XIII)

Column XIV presents the total quantity of leachate pumped to the LTRF and Pond B from the Compost Project Area Sump. This month there was no leachate from the compost area pumped to the LTRF.

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

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 261,800 gallons of leachate was stored in the tank.

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

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 351,800 gallons of effluent was stored in the tank.

Leachate Treated at LTRF (Column XVI)

Column XVII presents the daily amount of leachate, in gallons, treated at the LTRF. This month a total of 997,700 gallons of leachate was treated at the plant.

Total Leachate Hauled (Column XVII)

Column XVIII presents the daily amount of leachate, in gallons, hauled off site. This month a total of 2,012,352 gallons of leachate was hauled off site.

Leachate Dust Control Sprayed (Column XVIII)

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 3,225 gallons of leachate was used for dust control.

Pond A Storage (Column XIX)

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 103,900 gallons of effluent was stored in Pond A.

Pond B Storage (Column XX)

Column XXI presents the daily amount of *leachate* from the Compost and Ash Storage Areas, in gallons, stored in Pond B. The daily amount stored in the pond is calculated by using the daily depth of *leachate* 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 December the storage pond was empty and then filled with effluent. This month a daily average of 41,800 gallons of effluent was stored in Pond B.

Effluent Sprayed at Pond B (Column XXI)

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 a total of 514,458 gallons of effluent was sprayed in Pond B.

Effluent Irrigation (Column XXII)

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 676,902 gallons of effluent was used for spray irrigation.

Effluent Dust Control Sprayed (Column XXIII)

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 XXIV)

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 28,799 gallons was hauled off site.

Total Evaporation (Column XXV)

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 570,000 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 3,243,176 gallons. Total outflow quantity from the LTRF was 3,013,277 gallons. The change in storage for the month increased by 229,899 gallons.

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

TABLE 1. LEACHATE WATER BALANCE REPORT FORM
DECEMBER 2017
SOUTHEAST COUNTY LANDELL, 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	XXV
Day	Rainfall (in.)	Depth in Pond A (ft.)	Depth in Pond B (ft.)	Estimated Depth at PS-B (in.)	Phases I - VI Condensate Meter (gal.)	Leachate Pumped to MLPS from Phases I-VI (gal.)	Leachate Pumped from Section 7-8 LDS (gal.)	Leachate Pumped to MLPS from Section 7-8 (gal.)	Leachate Pumped to LTRF from MLPS (gal.)	Leachate Pumped to LTRF from Section 9 (gal.)	Leachate Pumped from Section 9 LDS (gal.)	Compost Leachate (gal.)	Leachate in 57SK Tank (gal.)	Effluent in 57SK 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	2.3	0.0	17.8	447	104,711	83	4,823	109,534	2,518	0	0	187,000	360,000	33,900	102,315	0	74,000	0	0	0	0	0	0
2	0.00	3.1	0.0	20.2	425	102,432	0	4,880	107,312	2,408	0	0	182,000	369,000	35,100	41,708	0	113,000	0	0	86,849	0	0	69,500
3	0.00	2.7	0.0	18.9	402	101,891	82	7,246	109,137	3,132	0	0	223,000	331,000	35,100	0	0	93,000	0	0	21,592	0	0	17,300
4	0.00	3.6	0.0	20.8	402	101,148	0	5,062	106,210	3,049	0	0	286,000	293,000	35,100	89,340	3,225	145,000	0	0	0	0	0	2,600
5	0.00	3.6	1.3	20.5	377	98,519	0	5,012	103,531	3,866	0	0	264,000	261,000	36,400	81,900	0	145,000	33,000	0	57,725	0	0	46,200
6	0.00	3.4	1.3	20.8	391	101,254	116	4,841	106,095	2,588	0	0	252,000	245,000	29,300	131,311	0	129,000	33,000	92,710	0	0	0	4,600
7	0.00	3.6	1.3	17.9	415	94,780	0	5,137	99,917	2,571	0	0	206,000	259,000	31,200	109,571	0	145,000	33,000	0	0	0	0	0
8	1.13	3.2	1.0	13.5	411	98,315	79	7,544	105,859	3,057	0	0	168,000	288,000	33,600	57,574	0	118,000	19,000	0	0	0	0	0
9	0.65	3.3	1.0	16.2	448	104,577	61	4,743	109,320	3,468	0	0	233,000	278,000	32,800	48,968	0	123,000	19,000	0	0	0	0	0
10	0.01	3.3	1.0	12.9	297	82,427	0	4,975	87,392	2,133	0	0	216,000	309,000	32,800	0	0	123,000	19,000	0	0	0	0	0
11	0.00	3.3	1.0	13.5	195	79,638	2	133	79,771	3,106	0	0	283,000	338,000	32,800	74,276	0	123,000	19,000	0	22,570	0	0	18,100
12	0.00	2.8	1.0	13.0	144	85,954	0	182	86,136	6,658	0	0	264,000	367,000	32,900	81,368	0	98,000	19,000	0	36,255	0	0	29,000
13	0.00	2.1	1.0	17.8	383	108,620	72	12,196	120,816	880	37	0	281,000	396,000	29,000	109,040	0	65,000	19,000	60,475	31,604	0	0	28,300
14	0.00	2.7	1.0	18.4	145	100,585	39	7,017	107,602	2,277	0	0	221,000	367,000	34,900	81,157	0	93,000	19,000	0	10,598	0	0	8,500
15	0.00	3.8	1.0	16.9	157	98,608	0	5,055	103,663	3,411	0	0	218,000	317,000	32,200	79,810	0	157,000	19,000	0	11,411	0	0	9,100
16	0.00	3.4	1.8	14.1	55	91,071	54	5,023	96,094	2,332	0	0	216,000	312,000	30,900	49,523	0	129,000	64,000	0	66,106	0	0	52,900
17	0.00	2.1	1.8	13.0	2	84,983	23	4,987	89,970	2,729	0	0	218,000	341,000	30,900	0	0	65,000	64,000	69,790	0	0	0	3,500
18	0.00	2.2	1.7	19.9	30	83,350	0	5,006	88,356	2,838	0	0	221,000	369,000	30,900	81,449	0	70,000	57,000	80,690	19,363	0	0	19,500
19	0.00	1.8	1.7	15.3	18	90,195	46	5,712	95,907	3,257	0	0	218,000	398,000	31,000	73,924	0	52,000	57,000	63,069	22,246	0	0	21,000
20	0.00	1.3	1.7	15.0	0	89,078	0	5,057	94,135	6,650	0	0	264,000	422,000	29,700	59,113	0	36,000	57,000	74,020	0	0	0	3,700
21	0.00	2.7	1.7	14.4	0	109,985	0	5,166	114,251	9,441	0	0	288,000	381,000	33,300	80,640	0	93,000	57,000	0	18,975	0	0	15,200
22	0.00	3.5	1.8	15.7	0	92,908	0	5,050	97,958	8,364	0	0	281,000	350,000	33,300	82,368	0	140,000	64,000	0	0	0	0	0
23	0.00	3.4	1.9	11.3	0	91,790	0	5,165	96,955	1,371	0	0	266,000	372,000	33,300	87,750	0	129,000	72,000	0	71,381	0	0	57,100
24	0.00	2.7	1.9	12.8	0	91,788	0	4,986	96,774	176	0	0	297,000	402,000	33,300	0	0	65,000	72,000	0	0	0	0	0
25	0.09	2.7	1.9	14.2	0	91,788	0	4,986	96,774	176	0	0	329,000	431,000	33,300	0	0	65,000	72,000	0	0	0	0	0
26	0.00	2.1	1.9	15.5	0	97,550	0	4,986	102,536	176	0	0	360,000	461,000	33,300	87,922	0	65,000	72,000	0	64,127	0	0	51,300
27	0.00	2.2	1.8	12.4	0	92,588	0	5,520	98,108	1,488	0	0	338,000	427,000	33,300	81,294	0	70,000	64,000	73,704	342	0	0	4,000
28	0.00	3.4	1.8	17.5	0	84,499	0	2,652	87,151	2,533	0	0	324,000	379,000	29,200	80,611	0	129,000	64,000	0	35,283	0	0	28,200
29	0.00	3.3	1.9	15.3	0	112,285	0	4,989	117,254	3,144	0	0	309,000	381,000	30,900	79,780	0	123,000	72,000	0	43,964	0	0	35,200
30	0.00	3.3	1.9	15.5	0	111,800	0	7,730	119,530	4,228	0	0	314,000	350,000	27,000	79,640	0	123,000	72,000	0	58,513	0	28,799	35,200
31	0.00	3.2	1.9	15.1	0	103,552	0	4,567	107,912	6,224	0	0	368,000	352,000	27,000	0	0	123,000	64,000	0	0	0	0	0
Total	1.88				5,144	2,981,735	657	160,222	3,141,958	100,250	37	0			997,700	2,012,352	3,225			514,458	676,902	0	28,799	570,000
Daily Average		2.9	1.3	16.0	166	96,185	21	5,168	101,353	3,234	1	0	261,800	351,800				103,900	41,800					
Mo. Average																	100				21,800	0	900	18,390

- 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 river.
 8. Column XV and XVI, calculated from depth in 575,000 gal. tanks.
 9. Columns VI-XIV, XVII-XXI, 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
DECEMBER 2017
SOUTHEAST COUNTY LANDFILL, HILLSBOROUGH COUNTY, FLORIDA**

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	
	Rainfall (in.)	Phases I - VI Condensate Meter (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.)	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 Contractor (gal.)	Hauled County (gal.)	Leachate Dust Control (Sprayed) (gal.)	Effluent Contractor (gal.)	Hauled County (gal.)	Effluent Dust Control (Sprayed) (gal.)	
Day																								
1	0.00	428,000	9,063,180	17.8	120,787	171,406	5,846,296	157	5,306,462	51,122	0.0	0.0	2.3	0	6.50	12.50	33,857	52,704	49,611	0	0	0	0	
2	0.00	428,425	9,153,956	20.2	122,464	172,137	5,846,296	157	5,311,342	51,122	0.0	0.0	3.1	86,849	6.33	12.83	35,141	0	41,708	0	0	0	0	
3	0.00	428,827	9,244,276	18.9	124,855	172,878	5,846,296	157	5,318,588	51,204	0.0	0.0	2.7	21,592	7.75	11.50	35,141	0	0	0	0	0	0	
4	0.00	429,229	9,334,490	20.8	126,907	173,875	5,846,296	157	5,323,650	51,204	0.0	0.0	3.6	0	9.92	10.17	35,142	45,333	44,007	3,225	0	0	0	
5	0.00	429,606	9,421,584	20.5	128,851	175,797	5,846,296	157	5,328,662	51,204	1.3	0.0	3.6	57,725	9.17	9.08	36,353	45,280	36,620	0	0	0	0	
6	0.00	429,997	9,511,708	21	130,241	176,995	5,846,296	157	5,333,503	51,320	1	92,710	3	0	8.75	8.50	29,328	52,785	78,526	0	0	0	0	
7	0.00	430,412	9,603,714	17.9	132,077	177,730	5,846,296	157	5,338,640	51,320	1.3	0.0	3.6	0	7.17	9.00	31,164	37,699	71,872	0	0	0	0	
8	1.13	430,823	9,699,426	13.5	134,014	178,850	5,846,296	157	5,346,184	51,399	1.0	0.0	3.2	0	5.83	10.00	33,629	15,107	42,467	0	0	0	0	
9	0.65	431,271	9,801,638	16.2	136,658	179,674	5,846,296	157	5,350,927	51,460	1.0	0.0	3.3	0	8.08	9.67	32,830	0	48,968	0	0	0	0	
10	0.01	431,568	9,881,800	12.9	138,216	180,249	5,846,296	157	5,355,902	51,460	1.0	0	3.3	0	8.25	10.75	32,830	0	0	0	0	0	0	
11	0.00	431,763	9,959,146	13.5	140,807	180,764	5,846,296	157	5,356,035	51,462	1.0	0.0	3.3	22,570	9.83	11.75	32,830	37,732	36,544	0	0	0	0	
12	0.00	431,907	45,100	13.0	145,861	182,368	5,846,296	157	5,356,217	51,462	1.0	0.0	2.8	36,255	9.17	12.75	32,888	37,681	43,687	0	0	0	0	
13	0.00	432,290	139,747	18	146,485	182,624	5,846,333	157	5,368,413	51,534	1	60,475	2	31,604	9.75	13.75	28,968	37,563	71,477	0	0	0	0	
14	0.00	432,435	227,853	18.4	147,553	183,833	5,846,333	157	5,375,430	51,573	1.0	0.0	2.7	10,598	7.67	12.75	34,880	37,622	43,535	0	0	0	0	
15	0.00	432,592	315,748	16.9	150,002	184,795	5,846,333	157	5,380,485	51,573	1.0	0.0	3.8	11,411	7.58	11.00	32,152	37,347	42,463	0	0	0	0	
16	0.00	432,647	398,739	14.1	151,411	185,718	5,846,333	157	5,385,508	51,627	1.8	0.0	3.4	66,106	7.50	10.83	30,920	0	49,523	0	0	0	0	
17	0.00	432,649	477,800	13.0	153,198	186,660	5,846,333	157	5,390,495	51,650	1.8	69,790	2.1	0	7.58	11.83	30,920	0	0	0	0	0	0	
18	0.00	432,679	559,033	19.9	154,988	187,708	5,846,333	157	5,395,501	51,650	1.7	80,690	0	2.2	19,363	7.67	12.83	30,920	37,718	43,761	0	0	0	
19	0.00	432,697	639,184	15.3	157,659	188,294	5,846,333	157	5,401,213	51,696	1.7	63,069	0	1.8	22,246	7.58	13.83	31,012	37,731	36,193	0	0	0	
20	0.00	432,697	725,400	15.0	162,529	190,074	5,846,333	157	5,406,270	51,696	1.7	74,020	0	1.3	0	9.17	14.67	29,658	22,446	36,667	0	0	0	
21	0.00	432,697	818,053	14.4	166,635	195,409	5,846,333	157	5,411,436	51,696	1.7	0.0	2.7	18,973	10.00	13.25	33,321	36,895	43,745	0	0	0	0	
22	0.00	432,695	905,795	15.7	166,746	203,662	5,846,333	157	5,416,486	51,696	1.8	0.0	3.5	0	9.75	12.17	33,321	82,368	0	0	0	0	0	
23	0.00	432,695	990,280	11.5	166,746	205,033	5,846,333	157	5,421,651	51,696	1.9	0.0	3.4	71,381	9.25	12.92	33,314	45,258	42,492	0	0	0	0	
24	0.00	432,695	1,074,763	12.8	166,908	205,047	5,846,333	157	5,426,637	51,696	1.9	0.0	2.1	0	10.33	13.95	33,314	0	0	0	0	0	0	
25	0.09	432,695	1,159,245	14.2	167,071	205,061	5,846,333	157	5,431,623	51,696	1.9	0.0	2.1	0	11.42	14.97	33,314	0	0	0	0	0	0	
26	0.00	432,695	1,243,728	15.5	167,233	205,075	5,846,333	157	5,436,609	51,696	1.9	0.0	2.1	64,127	12.50	16.00	33,314	45,328	42,594	0	0	0	0	
27	0.00	432,695	1,326,400	12.4	168,369	205,427	5,846,333	157	5,442,129	51,696	1.8	73,704	0	2.2	342	11.75	14.83	33,314	37,482	43,812	0	0	0	0
28	0.00	432,695	1,408,750	17.5	170,233	206,096	5,846,333	157	5,444,781	51,696	1.8	0.0	3.4	35,283	11.25	13.17	29,153	37,364	43,247	0	0	0	0	
29	0.00	432,695	1,497,863	15.3	172,754	206,719	5,846,333	157	5,449,770	51,696	1.9	0.0	3.3	43,964	10.75	13.25	30,945	37,151	42,629	0	0	0	0	
30	0.00	432,695	1,578,370	15.5	176,304	207,397	5,846,333	157	5,457,500	51,696	1.9	0.0	3.3	56,513	10.92	12.17	27,013	37,040	42,600	0	0	28,799	0	
31	0.00	432,695	1,650,629	15.1	179,450	210,476	5,846,333	157	5,461,861	51,696	1.9	0.0	3.2	0	12.78	12.22	27,013	0	0	0	0	0	0	
Totals	1.88											514,458		676,902			997,899	893,634	1,118,718	3,225	0	28,799	0	

Notes:

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

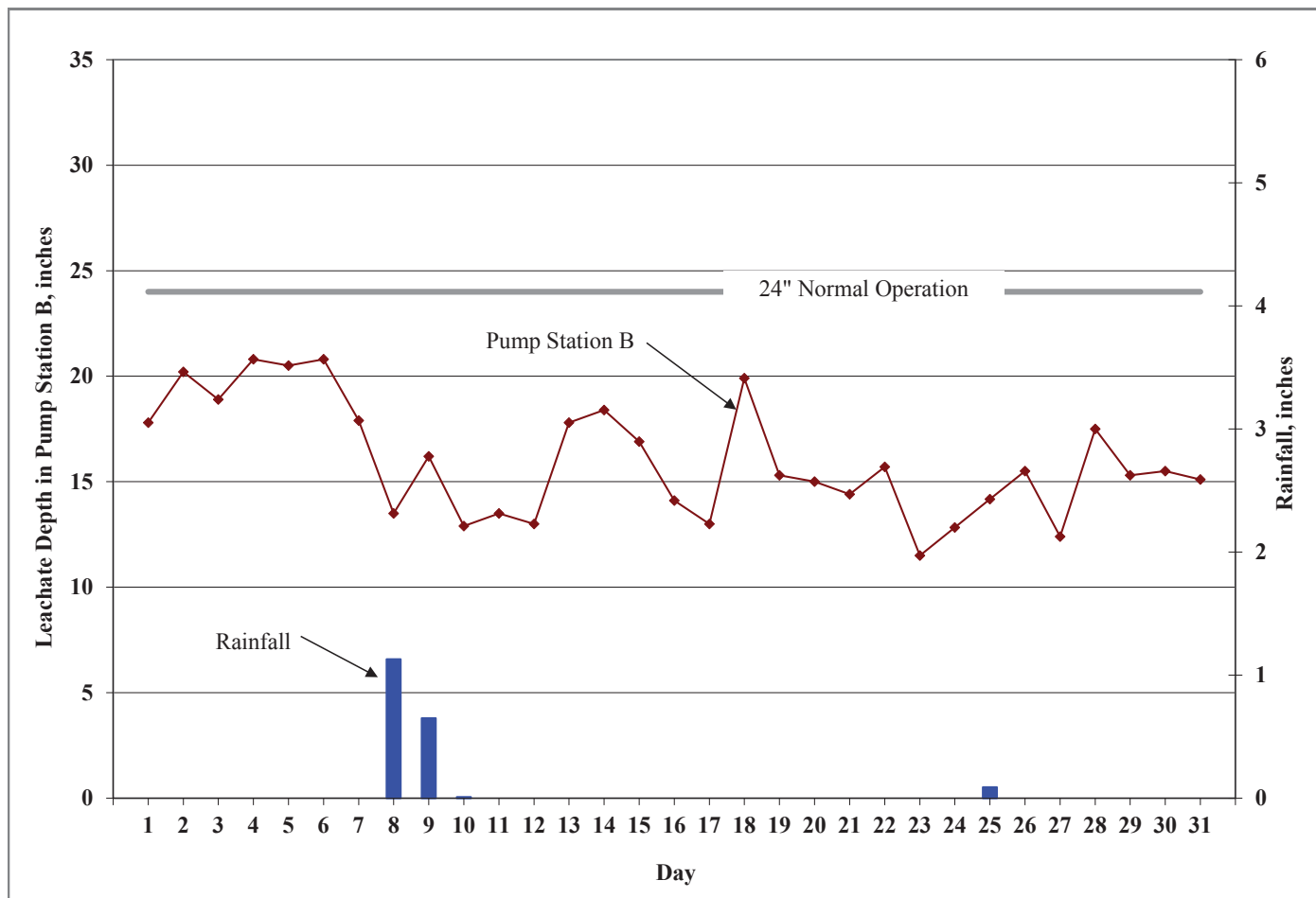


Figure 1. Leachate Levels in Pump Station B and Rainfall for December 2017.

**TABLE 3. LEACHATE BALANCE SUMMARY
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA
YEAR-2017**

Month	Rainfall (in.)	Leachate Arriving at LTRF					Leachate Leaving LTRF			Effluent Disposal			Inflow / Outflow For LTRF		
		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	1.26	15,559	63,901	107,208	2,220,588	0	1,465,900	0	928,400	7,108	0	612,840	2,407,256	2,394,300	12,956
February	1.96	12,809	56,814	96,390	1,796,165	0	1,253,632	0	700,600	78,895	0	526,386	1,962,178	1,954,232	7,946
March	0.67	11,418	49,816	83,733	2,101,893	0	1,473,627	0	907,200	168,009	0	707,976	2,479,359	2,380,827	98,532
April	2.58	21,470	49,032	81,696	1,849,005	0	1,165,386	0	951,500	7,425	0	829,485	2,176,868	2,116,886	59,982
May	1.97	5,365	46,880	84,635	1,672,229	0	1,158,105	1,618	841,400	135,383	0	819,657	1,951,373	2,001,123	-49,750
June	12.31	8,499	88,631	147,375	1,624,622	191,200	1,508,449	0	715,000	71,078	0	235,093	2,181,216	2,223,449	-42,233
July	12.59	3,899	219,288	374,905	2,371,971	203,100	2,430,780	1,555	1,230,100	1,083,579	0	180,558	3,401,701	3,662,435	-260,734
August	11.97	1,150	270,991	355,006	4,395,522	916,050	3,868,019	6,349	1,272,284	1,058,677	0	234,699	5,938,719	5,146,652	792,067
September	10.12	639	303,289	840,695	4,629,523	465,810	6,020,161	0	502,200	416,211	0	239,497	6,239,956	6,522,361	-282,405
October	2.03	708	175,111	372,335	5,845,504	9,200	6,014,669	1,622	770,600	0	0	411,033	6,402,858	6,786,891	-384,033
November	0.14	840	97,162	201,599	3,808,292	0	3,567,298	0	631,000	37,158	0	149,598	4,107,893	4,198,298	-90,406
December	1.88	931	100,287	160,222	2,981,735	0	2,012,352	3,225	997,700	28,799	0	676,902	3,243,176	3,013,277	229,899
YTD Total	59.48	83,287	1,521,202	2,905,799	35,297,048	1,785,360	31,938,378	14,369	10,447,984	3,092,322	0	5,623,724	42,492,552	42,400,731	91,821

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.