

Johnson, Sabrina O

From: Wiesman, Ronald <WiesmanR@hillsboroughcounty.org>
Sent: Wednesday, January 13, 2021 4:53 PM
To: Morgan, Steve; SWD_Waste
Cc: Madden, Melissa; Cope, Ronald; Byer, Kimberly; Ruiz, Larry; O'Neill, Joseph; Spradlin, Kollan; Curtis, Bob
Subject: WACS ID 41193 - Qtr. 4 2020 Water Balance & Waste Tire Report for Southeast County
Attachments: 4Q2020 Leachate Balance Report.pdf; 4Q2020 Waste Tire Report.pdf

Mr. Morgan,

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

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

Ron Wiesman II

Manager

Solid Waste Management Division
Public Utilities Department

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Hillsborough County Florida

SOLID WASTE MANAGEMENT
PO Box 1110 Tampa, FL 33601-1110
813-272-5680

January 13, 2021

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, 2020. The data is being submitted as separate monthly reports for October, November and December 2020.

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

Sincerely,

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

LER/rw
Attachment
xc: Kollan Spradlin, SCS
Ron Cope, EPC

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PO Box 1110, Tampa, FL 33601-1110

MEMORANDUM

DATE: November 6, 2020

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

FROM: Ron W. Wiesman, Manager, Solid Waste
Management Division

SUBJECT: Leachate Water Balance Report Forms for October 2020
Southeast County Landfill, Hillsborough County, Florida

The Solid Waste Management Division (SWMD) staff has compiled and reviewed the leachate management operational data from the Southeast County Landfill Phases I-VI, Sections 7-8, and Section 9. Attached are the Leachate Water Balance Report Form (Table 1), the Leachate Field Data Entry Form (Table 2), and the 2020 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 3.46 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 of effluent stored in Pond A was 3.0 feet.

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Lucia E. Garsys

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 in Pond B was 2.0 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. The average recorded depth of leachate in the PS-B sump was 17.4 inches.

Depth in Clean Out 2-1 (CO 2-1) (Column VI)

Column VI presents the depth of leachate, in inches, in the East side of the landfill. Daily depth readings from the CO 2-1 are included in this column. The average recorded depth of leachate in the CO 2-1 was 17.8 inches.

Depth in Monitoring Port 2-2 (MP 2-2) (Column VII)

Column VII presents the depth of leachate, in inches, in the South East side of the landfill. Daily depth readings from the MP 2-2 are included in this column. The average recorded depth of leachate in the MP 2-2 was 24.1 inches.

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

Column VI presents the daily amount of leachate, in gallons, collected from PS-A and pumped through the MLPS to the 575,000-gallon storage tank at the Leachate Treatment and Reclamation Facility (LTRF) for treatment or disposal. This column also includes the Phase II data from the dewatering wells and PS-2. The average daily amount of leachate pumped from PS-A was 74,060 gallons. A total of 2,295,864 gallons of leachate was pumped this month.

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

Column VII 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 169 gallons of leachate was removed from the leak detection system of Sections 7-8.

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

Column VIII 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 VII). This month a total of 274,666 gallons was removed.

Leachate Pumped to LTRF from the MLPS (Column XI)

Column IX presents the total quantity of leachate pumped to the LTRF from Phases I-VI (including condensate removed from LFG Wells and Condensate Traps), and Sections 7-8. This month a total of 2,570,530 gallons of leachate was pumped to the LTRF.

Leachate Pumped to LTRF from Section 9 (Column XII)

Column X 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 167,163 gallons of leachate was pumped this month.

Leachate Pumped from Section 9 LDS (Column XIII)

Column XI 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 220 gallons of leachate was removed from the leak detection system.

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

Column XII 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 296,700 gallons of leachate was stored in the tank.

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

Column XIII 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/leachate stored in T6 is calculated based on the circumference of the tank and the daily level reading. This month an average of 324,100 gallons of leachate was stored in the tank.

Leachate Treated at LTRF (Column XVI)

Column XIV presents the daily amount of leachate, in gallons, treated at the LTRF. On September 15, 2019, plant staff restarted treatment operations. This month a total of 1,250,810 gallons of leachate was treated at the plant.

Total Leachate Hauled (Column XVII)

Column XV presents the daily amount of leachate, in gallons, hauled off site. This month a total of 2,039,156 gallons of leachate was hauled off site.

Leachate Dust Control Sprayed (Column XVIII)

Column XVI 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 zero gallons of leachate was used for dust control.

Pond A Storage (Column XIX)

Column XVII 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 107,700 gallons of effluent was stored in Pond A.

Pond B Storage (Column XX)

Column XVIII presents the daily amount of effluent, in gallons, stored in Pond B. The daily amount stored in the pond is calculated by using the daily depth of liquid in Pond B (Column IV). Under normal operating conditions, the amount stored in the pond will vary depending upon the daily amount of leachate/effluent removed from the pond by the evaporation system, hauled from the pond, used for dust control or evaporated; was stored in Pond B. This month a daily average of 80,100 gallons of effluent was stored in Pond B.

Effluent Sprayed at Pond B (Column XXI)

Column XIX 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 XX. This month zero gallons of effluent was sprayed in Pond B.

Effluent Irrigation (Column XXII)

Column XX 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 636,903 gallons of effluent was sprayed.

Effluent Dust Control Sprayed (Column XXIII)

Column XXI 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 57,078 gallons of effluent was sprayed as dust control.

Total Effluent Hauled (Column XXIV)

Column XXII presents the daily amount of effluent, in gallons, hauled off site, as measured from the flow meter at the bypass-loading arm. This month no effluent was hauled off site.

Total Evaporation (Column XXV)

Column XXIII 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 555,000 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 2,738,115 gallons. Total outflow quantity from the LTRF was 3,289,966 gallons. The change in storage for the month decreased by 551,851 gallons. Please advise should you have any questions concerning the information provided.

**TABLE 1. LEACHATE WATER BALANCE REPORT FORM
OCTOBER 2020
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)	Depth in CO 2-1 (in)	Depth in MP 2-2 (in.)	Leachate Pumped to MLPS from Phases I-VI (gal.)	Leachate Pumped from Sections 7-8 LDS (gal.)	Leachate Pumped to MLPS from Sections 7-8 (gal.)	Leachate Pumped to LTRF from MPLS (gal.)	Leachate Pumped to LTRF from Section 9 (gal.)	Leachate Pumped from Section 9 LDS (gal.)	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	3.4	1.3	18.6	18.5	23.6	68,170	0	7,526	75,696	4,211	0	264,000	281,000	38,580	103,067	0	129,000	33,000	0	18,491	20,986	0	31,600
2	0.00	3.1	1.3	18.5	20.8	24.3	72,051	0	8,725	80,776	7,785	0	182,000	309,000	37,158	72,606	0	113,000	33,000	0	26,021	24,454	0	40,400
3	0.23	3.2	1.3	16.7	16.5	24.1	66,039	0	7,370	73,409	5,679	0	204,000	288,000	37,157	0	0	118,000	33,000	0	93,756	0	0	75,000
4	1.53	2.6	1.4	16.8	16.0	24.1	72,468	0	8,411	80,878	4,100	17	252,000	298,000	37,157	0	0	88,000	38,000	0	0	0	0	0
5	0.01	2.0	1.5	16.8	15.5	24.0	73,949	0	8,411	82,360	4,100	17	300,000	309,000	37,157	63,925	0	61,000	44,000	0	0	0	0	0
6	0.00	3.5	1.5	16.7	16.4	24.2	84,516	0	11,856	96,372	8,128	1	276,000	331,000	34,375	84,605	0	140,000	44,000	0	0	0	0	0
7	0.00	3.4	1.8	16.1	16.9	24.5	83,469	0	11,189	94,658	7,192	24	358,000	235,000	34,375	84,779	0	129,000	64,000	0	44,404	0	0	35,500
8	0.00	3.0	1.8	18.5	18.6	24.2	76,109	0	10,360	86,469	7,792	1	319,000	271,000	39,742	65,120	0	108,000	64,000	0	31,776	0	0	25,400
9	0.00	3.0	1.8	17.6	17.7	24.3	77,101	0	10,888	87,989	8,028	0	240,000	360,000	49,209	91,763	0	108,000	64,000	0	25,876	0	0	20,700
10	0.00	2.8	1.8	17.9	15.0	24.3	78,145	0	11,945	90,090	6,791	1	261,000	338,000	38,964	0	0	98,000	64,000	0	54,774	0	0	43,800
11	0.12	2.0	1.7	18.2	18.8	24.5	79,313	3	9,918	89,231	6,366	0	317,000	350,000	38,965	0	0	61,000	57,000	0	39,606	0	0	31,700
12	0.00	2.1	1.7	18.4	17.2	24.1	74,374	0	10,740	85,114	7,481	17	355,000	365,000	38,964	92,346	0	65,000	57,000	0	0	0	0	0
13	0.00	2.5	1.7	18.8	18.5	24.2	81,175	0	9,973	91,148	6,945	17	353,000	333,000	37,687	77,203	0	83,000	57,000	0	48,655	0	0	38,900
14	0.00	1.2	1.7	17.9	18.6	24.3	65,755	0	9,529	75,284	7,973	1	358,000	295,000	37,687	91,169	0	32,000	57,000	0	0	0	0	0
15	0.00	2.5	1.7	16.7	17.2	24.2	73,222	0	9,629	82,851	2,907	0	377,000	242,000	45,669	72,360	0	83,000	57,000	0	11,293	11,638	0	18,300
16	0.00	2.6	1.7	15.8	18.5	23.9	71,361	0	10,926	82,287	4,933	0	309,000	322,000	39,069	65,991	0	88,000	57,000	0	11,638	0	0	9,300
17	0.00	3.0	1.7	16.7	18.3	23.6	69,228	0	11,028	80,256	4,280	1	259,000	386,000	38,539	0	0	108,000	57,000	0	0	0	0	0
18	0.00	3.4	1.7	17.5	17.2	23.7	66,534	0	8,220	74,754	5,358	0	230,000	468,000	38,538	0	0	129,000	57,000	0	37,770	0	0	30,200
19	0.00	3.3	1.7	17.6	16.8	24.1	71,239	0	1,064	72,303	4,629	1	259,000	485,000	38,538	103,484	0	123,000	57,000	0	28,037	0	0	22,400
20	0.00	2.2	1.7	15.8	17.6	24.0	72,523	0	14,808	87,331	4,238	0	271,000	432,000	38,540	102,686	0	70,000	57,000	0	0	0	0	0
21	0.40	3.4	1.7	17.9	16.2	24.2	73,452	0	9,268	82,720	5,093	0	276,000	410,000	54,316	78,789	0	129,000	57,000	0	8,042	0	0	6,400
22	1.00	3.5	2.0	16.7	17.6	23.9	70,761	0	6,111	76,872	4,072	1	278,000	381,000	41,296	98,671	0	140,000	80,000	0	0	0	0	0
23	0.13	3.5	2.5	17.6	16.9	24.0	77,582	6	8,327	85,909	5,342	36	271,000	336,000	40,917	96,881	0	140,000	124,000	0	0	0	0	0
24	0.00	3.5	2.7	16.7	17.3	24.2	81,713	0	8,305	90,018	3,420	0	297,000	319,000	43,661	0	0	140,000	143,000	0	31,920	0	0	25,500
25	0.00	3.3	2.7	18.2	24.5	24.2	76,667	0	7,023	83,690	3,920	0	338,000	336,000	44,108	0	0	123,000	143,000	0	48,881	0	0	39,100
26	0.00	2.8	2.7	18.8	17.4	23.9	71,868	0	7,091	78,959	5,211	0	381,000	353,000	43,214	104,997	0	98,000	143,000	0	0	0	0	0
27	0.00	3.1	2.7	18.4	18.6	23.6	72,979	0	6,949	79,928	4,347	1	358,000	317,000	43,661	109,118	0	113,000	143,000	0	0	0	0	0
28	0.00	3.3	2.7	15.5	16.6	23.9	71,593	0	6,928	78,521	3,224	1	350,000	281,000	42,973	121,568	0	123,000	143,000	0	15,011	0	0	12,000
29	0.04	3.5	2.8	16.9	17.3	24.3	73,876	15	8,038	81,914	4,208	22	317,000	240,000	43,721	119,207	0	140,000	152,000	0	22,323	0	0	17,900
30	0.00	3.4	2.8	16.1	20.3	23.9	75,520	0	7,934	83,454	4,094	1	297,000	194,000	38,609	117,818	0	129,000	152,000	0	16,745	0	0	13,400
31	0.00	3.4	2.8	17.5	19.1	23.4	73,114	145	6,177	79,291	5,316	60	290,000	182,000	38,264	21,003	0	129,000	152,000	0	21,884	0	0	17,500
Total	3.46				552	746	2,295,864	169	274,666	2,570,530	167,163	220			1,250,810	2,039,156	0			0	636,903	57,078	0	555,000
Daily Average		3.0	2.0	17.4	17.8	24.1	74,060	5	8,860	82,920	5,392	7	296,700	324,100				107,700	80,100					
Mo. Average					20	20												0			20,500	2,000	0	17,900

balance202010-20ba.xls

Notes:

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

**TABLE 2. FIELD DATA ENTRY FORM
OCTOBER 2020
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
Day	Rainfall (in.)	Flow Meter Pump Sta. A (gal.)	Reading PS-B (in.)	Section 9 Pump 1 (gal.)	Section 9 Pump 2 (gal.)	Section 9 LDS (gal.)	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	4,178,550	18.6	3,033,570	2,756,790	5,890,414	1,249,607	1,388	1.3	0	3.4	18,491	9.17	9.75	38,580	103,067	0	0	0	0	20,986
2	0.00	4,237,085	18.5	3,034,792	2,763,353	5,890,412	1,258,332	1,388	1.3	0	3.1	26,021	6.33	10.75	37,158	72,606	0	0	0	0	24,454
3	0.23	4,289,080	16.7	3,035,208	2,768,616	5,890,412	1,265,702	1,388	1.3	0	3.2	93,756	7.08	10.00	37,157	0	0	0	0	0	0
4	1.53	4,347,504	16.8	3,035,219	2,772,706	5,890,429	1,274,113	1,388	1.4	0	2.6	0	8.75	10.36	37,157	0	0	0	0	0	0
5	0.01	4,405,928	16.8	3,035,229	2,776,795	5,890,446	1,282,523	1,388	1.5	0	2.0	0	10.42	10.72	37,157	63,925	0	0	0	0	0
6	0.00	4,474,328	16.7	3,035,229	2,784,923	5,890,447	1,294,379	1,388	1.5	0	3.5	0	9.58	11.50	34,375	84,605	0	0	0	0	0
7	0.00	4,542,024	16.1	3,042,421	2,784,923	5,890,471	1,305,568	1,388	1.8	0	3.4	44,404	12.42	8.17	34,375	84,779	0	0	0	0	0
8	0.00	4,603,437	18.5	3,050,213	2,784,923	5,890,472	1,315,928	1,388	1.8	0	3.0	31,776	11.08	9.42	39,742	65,120	0	0	0	0	0
9	0.00	4,663,788	17.6	3,058,241	2,784,923	5,890,472	1,326,816	1,388	1.8	0	3.0	25,876	8.33	12.50	49,209	91,763	0	0	0	0	0
10	0.00	4,725,910	17.9	3,065,032	2,784,923	5,890,473	1,338,761	1,388	1.8	0	2.8	54,774	9.08	11.75	38,964	0	0	0	0	0	0
11	0.12	4,788,455	18.2	3,071,398	2,784,923	5,890,473	1,348,679	1,391	1.7	0	2.0	39,606	11.00	12.17	38,965	0	0	0	0	0	0
12	0.00	4,847,192	18.4	3,072,381	2,791,421	5,890,490	1,359,419	1,391	1.7	0	2.1	0	12.33	12.67	38,964	92,346	0	0	0	0	0
13	0.00	4,913,067	18.8	3,072,381	2,798,366	5,890,507	1,369,392	1,391	1.7	0	2.5	48,655	12.25	11.58	37,687	77,203	0	0	0	0	0
14	0.00	4,962,426	17.9	3,072,410	2,806,310	5,890,508	1,378,921	1,391	1.7	0	1.2	0	12.42	10.25	37,687	91,169	0	0	0	0	0
15	0.00	5,020,413	16.7	3,072,410	2,809,217	5,890,508	1,388,550	1,391	1.7	0	2.5	11,293	13.08	8.42	45,669	72,360	0	0	0	0	11,638
16	0.00	5,077,262	15.8	3,072,410	2,814,150	5,890,508	1,399,476	1,391	1.7	0	2.6	11,638	10.75	11.17	39,069	65,991	0	0	0	0	0
17	0.00	5,134,200	16.7	3,072,410	2,818,430	5,890,509	1,410,504	1,391	1.7	0	3.0	0	9.00	13.42	38,539	0	0	0	0	0	0
18	0.00	5,186,794	17.5	3,072,410	2,823,788	5,890,509	1,418,724	1,391	1.7	0	3.4	37,770	8.00	16.25	38,538	0	0	0	0	0	0
19	0.00	5,242,921	17.6	3,072,410	2,828,417	5,890,510	1,419,788	1,391	1.7	0	3.3	28,037	9.00	16.83	38,538	103,484	0	0	0	0	0
20	0.00	5,300,262	15.8	3,072,410	2,832,655	5,890,510	1,434,596	1,391	1.7	0	2.2	0	9.42	15.00	38,540	102,686	0	0	0	0	0
21	0.40	5,357,922	17.9	3,072,410	2,837,748	5,890,510	1,443,864	1,391	1.7	0	3.4	8,042	9.58	14.25	54,316	78,789	0	0	0	0	0
22	1.00	5,412,604	16.7	3,072,410	2,841,820	5,890,511	1,449,975	1,391	2.0	0	3.5	0	9.67	13.25	41,296	98,671	0	0	0	0	0
23	0.13	5,474,040	17.6	3,076,736	2,842,836	5,890,547	1,458,302	1,397	2.5	0	3.5	0	9.42	11.67	40,917	96,881	0	0	0	0	0
24	0.00	5,537,877	16.7	3,080,156	2,842,836	5,890,547	1,466,607	1,397	2.7	0	3.5	31,920	10.33	11.08	43,661	0	0	0	0	0	0
25	0.00	5,598,638	18.2	3,084,076	2,842,836	5,890,547	1,473,630	1,397	2.7	0	3.3	48,881	11.75	11.67	44,108	0	0	0	0	0	0
26	0.00	5,655,431	18.8	3,089,287	2,842,836	5,890,547	1,480,721	1,397	2.7	0	2.8	0	13.25	12.25	43,214	104,997	0	0	0	0	0
27	0.00	5,712,955	18.4	3,093,634	2,842,836	5,890,548	1,487,670	1,397	2.7	0	3.1	0	12.42	11.00	43,661	109,118	0	0	0	0	0
28	0.00	5,767,581	15.5	3,096,858	2,842,836	5,890,549	1,494,598	1,397	2.7	0	3.3	15,011	12.17	9.75	42,973	121,568	0	0	0	0	0
29	0.04	5,823,906	16.9	3,101,066	2,842,836	5,890,571	1,502,636	1,412	2.8	0	3.5	22,323	11.00	8.33	43,721	119,207	0	0	0	0	0
30	0.00	5,884,390	16.1	3,101,066	2,846,930	5,890,572	1,510,570	1,412	2.8	0	3.4	16,745	10.33	6.75	38,609	117,818	0	0	0	0	0
31		5,943,315	17.5	3,101,066	2,852,246	5,890,632	1,516,747	1,557	2.8	0	3.4	21,884	10.08	6.33	38,264	21,003	0	0	0	0	0
Totals	3.46									0		636,903			1,250,810	2,039,156	0	0	0	0	57078

balance\2020\10-20bal.xls

Notes:

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

Type of Cover	Phases I-VI acres	Section 7-9 acres
Open	5	0
Intermediate	134.4	34.5
Final	23	0
Not Opened	0	0

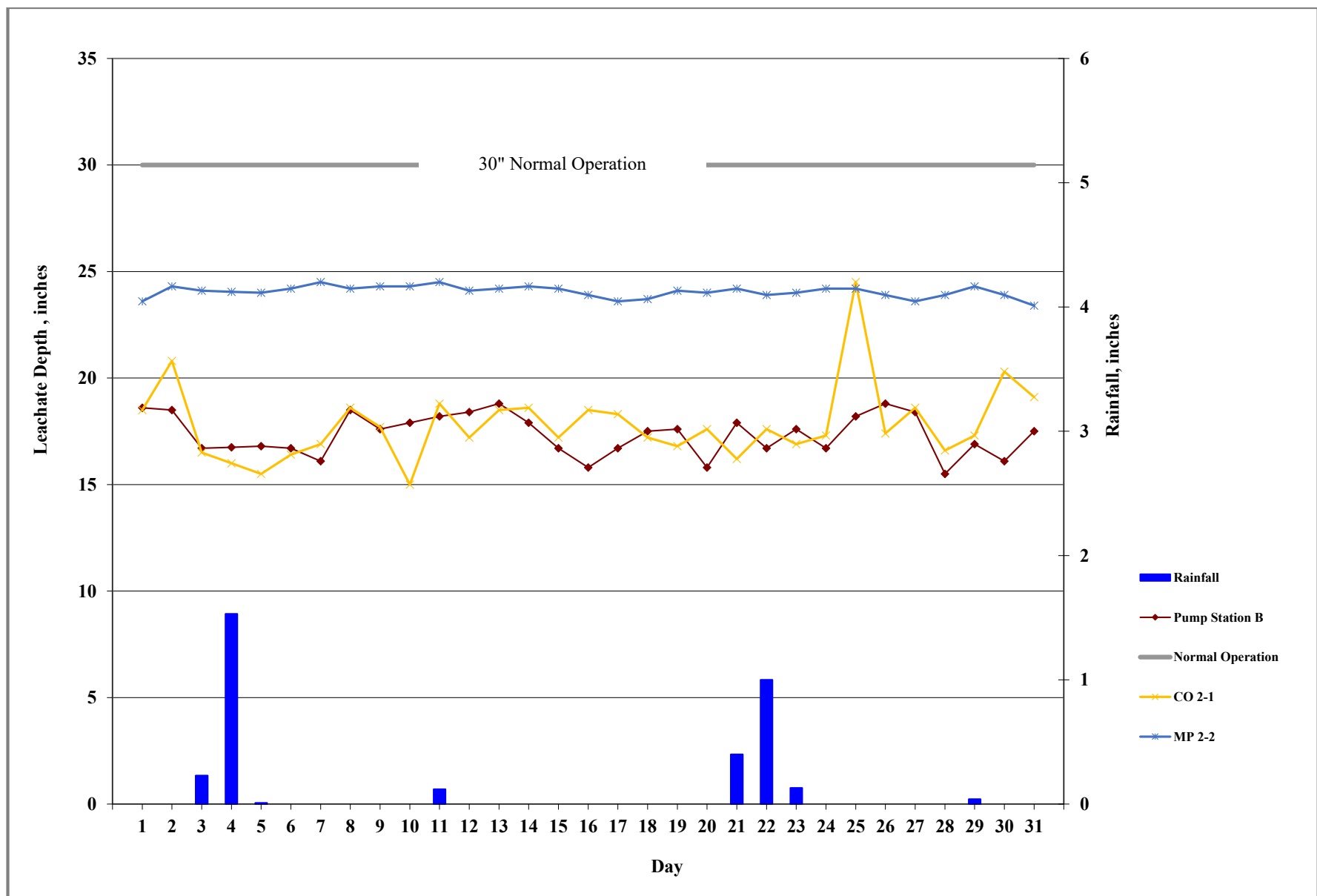


Figure 1. Leachate Levels and Rainfall for October 2020.

**TABLE 3. LEACHATE BALANCE SUMMARY
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA
YEAR-2020**

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.)	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	0.58	909	141,635	217,468	3,079,565	2,360,372	0	853,457	0	0	544,716	3,439,577	3,213,829	225,748
February	1.66	1,881	89,491	152,518	2,483,841	1,621,644	0	883,611	507,900	0	435,684	2,727,731	2,505,255	222,476
March	0.01	110	90,346	145,289	2,365,967	1,725,217	0	716,248	200,623	0	342,461	2,601,712	2,441,465	160,247
April	4.09	425	78,504	135,658	2,084,835	873,490	3,686	1,402,034	878,540	0	340,495	2,299,422	2,279,210	20,212
May	2.68	550	77,800	125,479	2,037,642	529,404	9,982	1,199,946	378,802	0	913,270	2,241,471	1,739,332	502,139
June	5.93	603	76,843	129,957	1,908,443	565,723	31,878	1,575,161	656,231	0	863,573	2,115,846	2,172,762	-56,916
July	4.29	445	71,374	116,733	1,756,704	917,944	1,532	946,614	317,789	0	601,561	1,945,256	1,866,090	79,166
August	10.70	1,249	74,187	151,985	1,752,794	1,192,207	14,102	698,576	6,516	0	538,771	1,980,215	1,904,885	75,330
September	5.89	627	124,846	249,855	2,112,257	1,686,575	50,311	829,823	0	14,828	860,723	2,487,585	2,566,709	-79,125
October	3.46	422	167,163	274,666	2,295,864	2,039,156	0	1,250,810	0	57,078	636,903	2,738,115	3,289,966	-551,851
November														
December														
YTD Total	39.29	7,221	992,189	1,699,608	21,877,911	13,511,732	111,491	10,356,280	2,946,401	71,906	6,078,157	24,576,929	23,979,503	597,426

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.



PUBLIC UTILITIES

PO Box 1110, Tampa, FL 33601-1110

MEMORANDUM

DATE: December 7, 2020

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

FROM: Ron W. Wiesman, Manager, Solid Waste
Management Division

SUBJECT: Leachate Water Balance Report Forms for November 2020
Southeast County Landfill, Hillsborough County, Florida

The Solid Waste Management Division (SWMD) staff has compiled and reviewed the leachate management operational data from the Southeast County Landfill Phases I-VI, Sections 7-8, and Section 9. Attached are the Leachate Water Balance Report Form (Table 1), the Leachate Field Data Entry Form (Table 2), and the 2020 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 7.80 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 of effluent stored in Pond A was 2.8 feet.

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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 in Pond B was 2.9 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). The number recorded on the thirteenth was caused by a pump malfunction. The contractor was notified and depth measurements returned to normal by the end of the day. The numbers recorded on the fifteenth through seventeenth was caused by a telemetry issue. The telemetry issue was fixed and the system returned to normal. Daily depth readings from the PS-B sump are included in this column. The average recorded depth of leachate in the PS-B sump was 23.2 inches.

Depth in Clean Out 2-1 (CO 2-1) (Column VI)

Column VI presents the depth of leachate, in inches, in the East side of the landfill. Daily depth readings from the CO 2-1 are included in this column. The average recorded depth of leachate in the CO 2-1 was 20.7 inches.

Depth in Monitoring Port 2-2 (MP 2-2) (Column VII)

Column VII presents the depth of leachate, in inches, in the South East side of the landfill. Daily depth readings from the MP 2-2 are included in this column. The average recorded depth of leachate in the MP 2-2 was 24.4 inches.

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

Column VI presents the daily amount of leachate, in gallons, collected from PS-A and pumped through the MLPS to the 575,000-gallon storage tank at the Leachate Treatment and Reclamation Facility (LTRF) for treatment or disposal. This column also includes the Phase II data from the dewatering wells and PS-2. The average daily amount of leachate pumped from PS-A was 101,043 gallons. A total of 3,031,294 gallons of leachate was pumped this month.

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

Column VII 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 327 gallons of leachate was removed from the leak detection system of Sections 7-8.

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

Column VIII 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 VII). This month a total of 507,041 gallons was removed.

Leachate Pumped to LTRF from the MLPS (Column XI)

Column IX 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 3,537,857 gallons of leachate was pumped to the LTRF.

Leachate Pumped to LTRF from Section 9 (Column XII)

Column X 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 278,849 gallons of leachate was pumped this month.

Leachate Pumped from Section 9 LDS (Column XIII)

Column XI 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 109 gallons of leachate was removed from the leak detection system.

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

Column XII 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 371,500 gallons of leachate was stored in the tank.

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

Column XIII 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/leachate stored in T6 is calculated based on the circumference of the tank and the daily level reading. This month an average of 349,500 gallons of leachate was stored in the tank.

Leachate Treated at LTRF (Column XVI)

Column XIV presents the daily amount of leachate, in gallons, treated at the LTRF. On September 15, 2019, plant staff restarted treatment operations. This month a total of 1,068,725 gallons of leachate was treated at the plant.

Total Leachate Hauled (Column XVII)

Column XV presents the daily amount of leachate, in gallons, hauled off site. This month a total of 2,674,559 gallons of leachate was hauled off site.

Leachate Dust Control Sprayed (Column XVIII)

Column XVI 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 zero gallons of leachate was used for dust control.

Pond A Storage (Column XIX)

Column XVII presents the daily amount of effluent, in gallons, stored in Pond A. The daily amount stored in the pond is calculated by using the daily depth of effluent in the Pond A (Column III). Under normal operating conditions, the daily amount of effluent stored in the pond varies depending upon the daily amount of leachate treated at the LTRF, the daily rainfall, daily effluent hauling operations, daily spray irrigation operations, and the daily amount of effluent used for dust control/evaporation. This month a daily average of 100,500 gallons of effluent was stored in Pond A.

Pond B Storage (Column XX)

Column XVIII presents the daily amount of effluent, in gallons, stored in Pond B. The daily amount stored in the pond is calculated by using the daily depth of liquid in Pond B (Column IV). Under normal operating conditions, the amount stored in the pond will vary depending upon the daily amount of leachate/effluent removed from the pond by the evaporation system, hauled from the pond, used for dust control or evaporated; was stored in Pond B. This month a daily average of 168,800 gallons of effluent was stored in Pond B.

Effluent Sprayed at Pond B (Column XXI)

Column XIX 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 XX. This month zero gallons of effluent was sprayed in Pond B.

Effluent Irrigation (Column XXII)

Column XX 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 835,278 gallons of effluent was sprayed.

Effluent Dust Control Sprayed (Column XXIII)

Column XXI 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 zero gallons of effluent was sprayed as dust control.

Total Effluent Hauled (Column XXIV)

Column XXII presents the daily amount of effluent, in gallons, hauled off site, as measured from the flow meter at the bypass-loading arm. This month 18,917 gallons of effluent was hauled off site.

Total Evaporation (Column XXV)

Column XXIII 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 668,300 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 3,818,494 gallons. Total outflow quantity from the LTRF was 3,743,284 gallons. The change in storage for the month increased by 75,210 gallons. Please advise should you have any questions concerning the information provided.

TABLE 1. LEACHATE WATER BALANCE REPORT FORM
NOVEMBER 2020
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)	Depth in CO 2-1 (in)	Depth in MP 2-2 (in.)	Leachate Pumped to MLPS from Phases I-VI (gal.)	Leachate Pumped from Sections 7-8 LDS (gal.)	Leachate Pumped to MLPS from Sections 7-8 (gal.)	Leachate Pumped to LTRF from MPLS (gal.)	Leachate Pumped to LTRF from Section 9 (gal.)	Leachate Pumped from Section 9 LDS (gal.)	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	0.04	3.3	2.9	16.8	18.6	23.8	68,734	0	7,836	76,570	3,987	0	250,000	266,000	40,128	0	0	123,000	162,000	0	77,255	0	0	61,800
2	0.00	2.4	2.8	17.9	18.1	23.4	69,258	7	6,291	75,549	4,022	0	192,000	353,000	40,128	155,568	0	79,000	152,000	0	0	0	0	0
3	0.00	2.3	2.8	17.2	18.0	23.2	66,055	0	6,894	72,949	3,024	1	156,000	300,000	34,716	91,444	0	74,000	152,000	0	0	0	18,917	0
4	0.00	2.6	2.8	18.2	18.2	23.3	66,684	0	6,612	73,296	3,762	1	209,000	230,000	5,832	85,451	0	88,000	152,000	0	33,068	0	0	26,500
5	0.00	2.4	2.8	17.9	17.0	23.5	70,839	0	7,141	77,980	3,935	2	216,000	185,000	22,219	86,758	0	79,000	152,000	0	0	0	0	0
6	0.00	2.5	2.8	16.6	18.3	24.1	75,648	26	6,178	81,826	4,146	2	175,000	233,000	23,710	52,630	0	83,000	152,000	0	0	0	0	0
7	0.10	2.7	2.8	17.6	17.1	24.1	72,887	10	6,831	79,718	4,303	4	233,000	209,000	24,568	0	0	93,000	152,000	0	16,212	0	0	13,000
8	0.09	2.7	2.8	17.4	18.0	24.4	78,951	0	7,878	86,829	2,859	1	297,000	216,000	24,568	0	0	93,000	152,000	0	63,570	0	0	50,900
9	0.52	2.2	2.8	17.2	18.3	24.2	79,684	0	9,111	88,795	3,958	1	362,000	223,000	24,568	105,398	0	70,000	152,000	0	0	0	0	0
10	0.52	1.3	1.3	18.4	17.1	24.3	79,407	0	13,098	92,505	2,974	1	379,000	240,000	25,443	53,031	0	36,000	33,000	0	0	0	0	0
11	4.80	2.2	2.9	17.8	16.2	24.3	81,462	16	15,823	97,285	4,011	3	329,000	317,000	30,115	91,605	0	70,000	162,000	0	0	0	0	0
12	0.67	2.8	3.3	29.5	24.6	24.5	141,535	0	33,779	175,313	17,759	5	353,000	371,000	32,873	84,803	0	98,000	192,000	0	0	0	0	0
13	0.01	3.4	3.6	41.1	20.0	24.7	141,039	0	33,779	174,817	17,759	5	377,000	425,000	32,873	85,033	0	129,000	234,000	0	0	0	0	0
14	0.01	3.4	3.7	22.1	20.1	24.7	165,347	16	36,892	202,239	26,947	22	417,000	504,000	29,861	38,665	0	129,000	245,000	0	0	0	0	0
15	0.00	3.4	3.8	53.2	28.9	24.8	121,554	0	30,562	152,116	17,719	3	504,000	528,000	29,861	0	0	129,000	256,000	0	31,190	0	0	25,000
16	0.00	3.3	3.7	54.5	18.4	24.7	28,625	0	12,265	40,890	4,172	1	499,000	525,000	29,861	173,661	0	123,000	245,000	0	19,956	0	0	16,000
17	0.00	3.6	3.7	41.3	27.1	24.4	114,310	0	7,378	121,688	11,785	1	480,000	494,000	37,214	188,439	0	145,000	245,000	0	27,467	0	0	22,000
18	0.00	3.0	3.8	19.4	18.1	24.4	167,245	14	14,079	181,324	29,525	0	441,000	480,000	40,612	158,197	0	108,000	256,000	0	0	0	0	0
19	0.00	2.5	3.7	22.0	25.4	24.3	126,765	14	13,287	140,052	4,807	26	434,000	439,000	39,649	162,285	0	83,000	245,000	0	66,952	0	0	53,600
20	0.00	1.9	3.6	19.9	18.4	24.5	125,160	15	61,035	186,195	22,652	1	499,000	398,000	40,563	164,309	0	57,000	234,000	0	41,118	0	0	32,900
21	0.10	3.0	3.1	26.1	25.9	24.8	125,642	0	20,737	146,379	10,885	1	463,000	341,000	43,679	201,436	0	108,000	182,000	0	38,029	0	0	30,400
22	0.00	3.4	2.9	15.7	27.6	25.0	109,214	0	20,252	129,466	10,378	0	475,000	295,000	43,679	0	0	129,000	162,000	0	76,228	0	0	61,000
23	0.00	2.6	2.9	25.4	15.7	24.9	114,897	86	19,421	134,318	9,052	3	463,000	403,000	43,679	153,949	0	88,000	162,000	0	0	0	0	0
24	0.00	3.2	2.9	18.7	26.1	24.7	109,180	0	16,694	125,874	802	0	432,000	350,000	42,749	142,736	0	118,000	162,000	0	63,394	0	0	50,700
25	0.00	3.2	2.6	18.5	25.0	24.7	106,481	0	15,201	121,682	114	23	405,000	314,000	42,572	146,451	0	118,000	133,000	0	48,028	0	0	38,400
26	0.00	3.5	2.2	24.5	18.0	24.8	103,465	0	17,108	120,573	22,137	2	422,000	274,000	48,601	0	0	140,000	97,000	0	17,413	0	0	13,900
27	0.01	3.5	2.4	19.9	20.7	25.0	109,872	0	14,874	124,746	9,692	0	394,000	374,000	48,601	83,323	0	140,000	115,000	0	62,793	0	0	50,200
28	0.00	3.0	2.4	15.6	18.4	25.0	99,203	12	15,279	114,482	7,779	0	420,000	355,000	48,601	39,888	0	108,000	115,000	0	50,803	0	0	40,600
29	0.00	2.2	2.2	19.0	26.3	24.9	105,876	0	15,118	120,994	6,332	0	425,000	394,000	48,601	0	0	70,000	97,000	0	74,636	0	0	59,700
30	0.93	3.0	2.4	15.7	21.9	25.0	106,276	111	15,609	121,885	7,573	0	444,000	449,000	48,601	129,499	0	108,000	115,000	0	27,166	0	0	21,700
Total	7.80				622	732	3,031,294	327	507,041	3,538,335	278,849	109			1,068,725	2,674,559	0			0	835,278	0	18,917	668,300
Daily Average		2.8	2.9	23.2	20.7	24.4	101,043	11	16,901	117,944	9,295	4	371,500	349,500				100,500	168,800					
Mo. Average					20	20												0			27,800	0	600	22,280

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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 VI is recorded from the pressure liquid level sensor in CO 2-1.
8. Column VII is recorded from the pressure liquid level sensor in MP 2-2.
9. Columns IX, Section 7-8 leak detection pumped into Section 7 leachate sump riser.
10. Column XIV and XV, calculated from depth in 575,000 gal. tanks.
11. Columns VIII-XI, XVI, XVII, XVIII and XXI-XXIV, quantities from flow meters.
12. Column XXV includes 80% of the daily values from Columns XVIII, XXII - XXIV; plus 5% of the daily values from column XXII.

**TABLE 2. FIELD DATA ENTRY FORM
NOVEMBER 2020
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
Day	Rainfall (in.)	Flow Meter Pump Sta. A (gal.)	Reading PS-B (in.)	Section 9 Pump 1 (gal.)	Section 9 Pump 2 (gal.)	Section 9 LDS (gal.)	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	0.04	5,996,141	16.8	3,101,066	2,856,233	5,890,634	1,524,583	1,557	2.9	0.0	3.3	77,255	8.67	9.25	40,128	0		0	0	0	0
2	0.00	6,051,895	17.9	3,101,066	2,860,255	5,890,639	1,530,874	1,564	2.8	0.0	2.4	0	6.67	12.25	40,128	155,568	0	0	0	0	0
3	0.00	6,104,018	17.2	3,101,066	2,863,279	5,890,640	1,537,768	1,564	2.8	0.0	2.3	0	5.42	10.42	34,716	91,444	0	0	18,917	0	0
4	0.00	6,155,840	18.2	3,101,066	2,867,041	5,890,641	1,544,380	1,564	2.8	0	2.6	33,068	7.25	8.00	5,832	85,451	0	0	0	0	0
5	0.00	6,209,236	17.9	3,101,066	2,870,976	5,890,643	1,551,521	1,564	2.8	0.0	2.4	0	7.50	6.42	22,219	86,758	0	0	0	0	0
6	0.00	6,269,500	16.6	3,101,066	2,875,122	5,890,645	1,557,699	1,590	2.8	0	2.5	0	6.08	8.08	23,710	52,630	0	0	0	0	0
7	0.10	6,323,996	17.6	3,101,066	2,879,425	5,890,649	1,564,530	1,600	2.8	0	2.7	16,212	8.08	7.25	24,568	0	0	0	0	0	0
8	0.09	6,385,899	17.4	3,101,066	2,882,284	5,890,650	1,572,408	1,600	2.8	0.0	2.7	63,570	10.33	7.50	24,568	0	0	0	0	0	0
9	0.52	6,447,671	17.2	3,101,066	2,886,242	5,890,651	1,581,519	1,600	2.8	0.0	2.2	0	12.58	7.75	24,568	105,398	0	0	0	0	0
10	0.52	6,509,977	18.4	3,101,066	2,889,216	5,890,652	1,594,617	1,600	1.3	0	1.3	0	13.17	8.33	25,443	53,031	0	0	0	0	0
11	4.80	6,569,736	17.8	3,101,066	2,893,227	5,890,655	1,610,440	1,616	2.9	0.0	2.2	0	11.42	11.00	30,115	91,605	0	0	0	0	0
12	0.67	6,689,568	29.5	3,110,762	2,901,290	5,890,660	1,644,219	1,616	3.3	0.0	2.8	0	12.25	12.88	32,873	84,803	0	0	0	0	0
13	0.01	6,809,399	41.1	3,120,457	2,909,353	5,890,665	1,677,997	1,616	3.6	0	3.4	0	13.08	14.75	32,873	85,033	0	0	0	0	0
14	0.01	6,954,811	22.1	3,120,536	2,936,221	5,890,687	1,714,889	1,632	3.7	0.0	3.4	0	14.50	17.50	29,861	38,665	0	0	0	0	0
15	0.00	7,055,272	53.2	3,120,536	2,953,940	5,890,690	1,745,451	1,632	3.8	0.0	3.4	31,190	17.50	18.33	29,861	0	0	0	0	0	0
16	0.00	7,064,905	54.5	3,120,536	2,958,112	5,890,691	1,757,716	1,632	3.7	0.0	3.3	19,956	17.33	18.25	29,861	145,039	28,622	0	0	0	0
17	0.00	7,166,079	41.3	3,120,536	2,969,897	5,890,692	1,765,094	1,632	3.7	0.0	3.6	27,467	16.67	17.17	37,214	164,578	23,861	0	0	0	0
18	0.00	7,324,054	19.4	3,120,536	2,999,422	5,890,692	1,779,173	1,646	3.8	0.0	3.0	0	15.33	16.67	40,612	134,030	24,167	0	0	0	0
19	0.00	7,423,754	22.0	3,122,920	3,001,845	5,890,718	1,792,460	1,660	3.7	0.0	2.5	66,952	15.08	15.25	39,649	138,155	24,130	0	0	0	0
20	0.00	7,524,299	19.9	3,122,927	3,024,490	5,890,719	1,853,495	1,675	3.6	0.0	1.9	41,118	17.33	13.83	40,563	140,058	24,251	0	0	0	0
21	0.10	7,629,863	26.1	3,122,927	3,035,375	5,890,720	1,874,232	1,675	3.1	0.0	3.0	38,029	16.08	11.83	43,679	176,766	24,670	0	0	0	0
22	0.00	7,715,740	15.7	3,122,927	3,045,753	5,890,720	1,894,484	1,675	2.9	0.0	3.4	76,228	16.50	10.25	43,679	0	0	0	0	0	0
23	0.00	7,808,903	25.4	3,122,927	3,054,805	5,890,723	1,913,905	1,761	2.9	0.0	2.6	0	16.08	14.00	43,679	129,797	24,152	0	0	0	0
24	0.00	7,897,690	18.7	3,123,729	3,054,805	5,890,723	1,930,599	1,761	2.9	0.0	3.2	63,394	15.00	12.17	42,749	118,547	24,189	0	0	0	0
25	0.00	7,984,493	18.5	3,123,843	3,054,805	5,890,746	1,945,800	1,761	2.6	0.0	3.2	48,028	14.08	10.92	42,572	122,385	24,066	0	0	0	0
26	0.00	8,064,608	24.5	3,123,953	3,076,832	5,890,748	1,962,908	1,761	2.2	0.0	3.5	17,413	14.67	9.50	48,601	0	0	0	0	0	0
27	0.01	8,153,287	19.9	3,123,953	3,086,524	5,890,748	1,977,782	1,761	2.4	0.0	3.5	62,793	13.67	13.00	48,601	59,235	24,088	0	0	0	0
28	0.00	8,231,396	15.6	3,123,953	3,094,303	5,890,748	1,993,061	1,773	2.4	0.0	3.0	50,803	14.58	12.33	48,601	14,415	25,473	0	0	0	0
29	0.00	8,314,260	19.0	3,123,953	3,100,635	5,890,748	2,008,179	1,773	2.2	0.0	2.2	74,636	14.75	13.67	48,601	0	0	0	0	0	0
30	0.93	8,400,392	15.7	3,123,953	3,108,208	5,890,748	2,023,788	1,884	2.4	0.0	3.0	27,166	15.42	15.58	48,601	129,499	0	0	0	0	0
Totals	7.80									0		835,278			1,068,725	2,402,890	271,669	0	18,917	0	0

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Notes:

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

Type of Cover	Phases I-VI acres	Section 7-9 acres
Open	5	0
Intermediate	134.4	34.5
Final	23	0
Not Opened	0	0

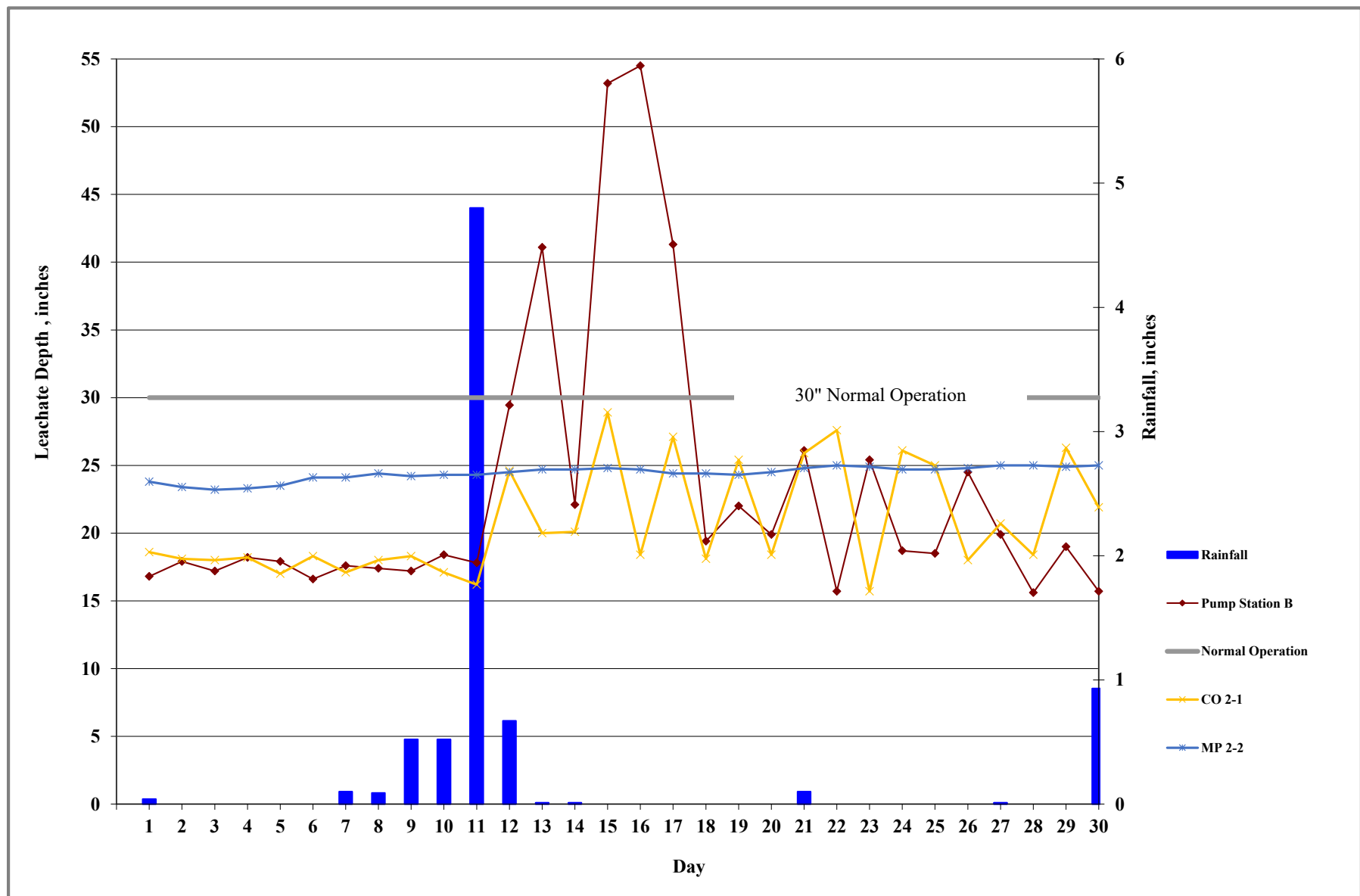


Figure 1. Leachate Levels and Rainfall for November 2020.

**TABLE 3. LEACHATE BALANCE SUMMARY
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA
YEAR-2020**

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.)	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	0.58	909	141,635	217,468	3,079,565	2,360,372	0	853,457	0	0	544,716	3,439,577	3,213,829	225,748
February	1.66	1,881	89,491	152,518	2,483,841	1,621,644	0	883,611	507,900	0	435,684	2,727,731	2,505,255	222,476
March	0.01	110	90,346	145,289	2,365,967	1,725,217	0	716,248	200,623	0	342,461	2,601,712	2,441,465	160,247
April	4.09	425	78,504	135,658	2,084,835	873,490	3,686	1,402,034	878,540	0	340,495	2,299,422	2,279,210	20,212
May	2.68	550	77,800	125,479	2,037,642	529,404	9,982	1,199,946	378,802	0	913,270	2,241,471	1,739,332	502,139
June	5.93	603	76,843	129,957	1,908,443	565,723	31,878	1,575,161	656,231	0	863,573	2,115,846	2,172,762	-56,916
July	4.29	445	71,374	116,733	1,756,704	917,944	1,532	946,614	317,789	0	601,561	1,945,256	1,866,090	79,166
August	10.70	1,249	74,187	151,985	1,752,794	1,192,207	14,102	698,576	6,516	0	538,771	1,980,215	1,904,885	75,330
September	5.89	627	124,846	249,855	2,112,257	1,686,575	50,311	829,823	0	14,828	860,723	2,487,585	2,566,709	-79,125
October	3.46	422	167,163	274,666	2,295,864	2,039,156	0	1,250,810	0	57,078	636,903	2,738,115	3,289,966	-551,851
November	7.79	1,310	278,849	507,041	3,030,816	2,674,559	0	1,068,725	18,917	0	835,278	3,818,016	3,743,284	74,732
December														
YTD Total	47.08	8,531	1,271,038	2,206,649	24,908,726	16,186,291	111,491	11,425,005	2,965,318	71,906	6,913,435	28,394,944	27,722,787	672,157

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.



PUBLIC UTILITIES

PO Box 1110, Tampa, FL 33601-1110

MEMORANDUM

DATE: January 13, 2021

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

FROM: Ron W. Wiesman, Manager, Solid Waste
Management Division

SUBJECT: Leachate Water Balance Report Forms for December 2020
Southeast County Landfill, Hillsborough County, Florida

The Solid Waste Management Division (SWMD) staff has compiled and reviewed the leachate management operational data from the Southeast County Landfill Phases I-VI, Sections 7-8, and Section 9. Attached are the Leachate Water Balance Report Form (Table 1), the Leachate Field Data Entry Form (Table 2), and the 2020 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 4.27 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 of effluent stored in Pond A was 3.2 feet.

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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 in Pond B was 2.6 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. The average recorded depth of leachate in the PS-B sump was 18.8 inches.

Depth in Clean Out 2-1 (CO 2-1) (Column VI)

Column VI presents the depth of leachate, in inches, in the East side of the landfill. Daily depth readings from the CO 2-1 are included in this column. The average recorded depth of leachate in the CO 2-1 was 22.3 inches.

Depth in Monitoring Port 2-2 (MP 2-2) (Column VII)

Column VII presents the depth of leachate, in inches, in the South East side of the landfill. Daily depth readings from the MP 2-2 are included in this column. The average recorded depth of leachate in the MP 2-2 was 24.7 inches.

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

Column VI presents the daily amount of leachate, in gallons, collected from PS-A and pumped through the MLPS to the 575,000-gallon storage tank at the Leachate Treatment and Reclamation Facility (LTRF) for treatment or disposal. This column also includes the Phase II data from the dewatering wells and PS-2. The average daily amount of leachate pumped from PS-A was 96,119 gallons. A total of 2,979,676 gallons of leachate was pumped this month.

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

Column VII 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 931 gallons of leachate was removed from the leak detection system of Sections 7-8.

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

Column VIII 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 VII). This month a total of 307,475 gallons was removed.

Leachate Pumped to LTRF from the MLPS (Column XI)

Column IX 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 3,287,151 gallons of leachate was pumped to the LTRF.

Leachate Pumped to LTRF from Section 9 (Column XII)

Column X 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 180,659 gallons of leachate was pumped this month.

Leachate Pumped from Section 9 LDS (Column XIII)

Column XI 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 139 gallons of leachate was removed from the leak detection system.

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

Column XII 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 317,100 gallons of leachate was stored in the tank.

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

Column XIII 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/leachate stored in T6 is calculated based on the circumference of the tank and the daily level reading. This month an average of 322,500 gallons of leachate was stored in the tank.

Leachate Treated at LTRF (Column XVI)

Column XIV presents the daily amount of leachate, in gallons, treated at the LTRF. On September 15, 2019, plant staff restarted treatment operations. This month a total of 3,741,014 gallons of leachate was treated at the plant.

Total Leachate Hauled (Column XVII)

Column XV presents the daily amount of leachate, in gallons, hauled off site. This month a total of 2,556,482 gallons of leachate was hauled off site.

Leachate Dust Control Sprayed (Column XVIII)

Column XVI 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 zero gallons of leachate was used for dust control.

Pond A Storage (Column XIX)

Column XVII 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 120,600 gallons of effluent was stored in Pond A.

Pond B Storage (Column XX)

Column XVIII presents the daily amount of effluent, in gallons, stored in Pond B. The daily amount stored in the pond is calculated by using the daily depth of liquid in Pond B (Column IV). Under normal operating conditions, the amount stored in the pond will vary depending upon the daily amount of leachate/effluent removed from the pond by the evaporation system, hauled from the pond, used for dust control or evaporated; was stored in Pond B. This month a daily average of 134,700 gallons of effluent was stored in Pond B.

Effluent Sprayed at Pond B (Column XXI)

Column XIX 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 XX. This month 295,201 gallons of effluent was sprayed in Pond B.

Effluent Irrigation (Column XXII)

Column XX 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 1,140,349 gallons of effluent was sprayed.

Effluent Dust Control Sprayed (Column XXIII)

Column XXI 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 zero gallons of effluent was sprayed as dust control.

Total Effluent Hauled (Column XXIV)

Column XXII presents the daily amount of effluent, in gallons, hauled off site, as measured from the flow meter at the bypass-loading arm. This month zero gallons of effluent was hauled off site.

Total Evaporation (Column XXV)

Column XXIII 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 926,900 gallons.

TABLE 2

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

TABLE 3

Leachate Balance Summary

The Leachate Balance Summary (see Table 3) presents a review of inflow and outflow quantities for the LTRF, as well as rainfall and effluent disposal quantities at the landfill. Total inflow quantity to the LTRF was 3,468,375 gallons. Total outflow quantity from the LTRF was 6,297,496 gallons. The change in storage for the month decreased by 2,829,121 gallons. Please advise should you have any questions concerning the information provided.

**TABLE 1. LEACHATE WATER BALANCE REPORT FORM
DECEMBER 2020
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)	Depth in CO 2-1 (in)	Depth in MP 2-2 (in.)	Leachate Pumped to MLPS from Phases I-VI (gal.)	Leachate Pumped from Sections 7-8 LDS (gal.)	Leachate Pumped to MLPS from Sections 7-8 (gal.)	Leachate Pumped to LTRF from MPLS (gal.)	Leachate Pumped to LTRF from Section 9 (gal.)	Leachate Pumped from Section 9 LDS (gal.)	Leachate in 575K Tank (gal.)	Effluent in 575K Tank (gal.)	Leachate Treated at LTRF (gal.)	Total Leachate Hauled (gal.)	Leachate Dust Control (Sprayed) (gal.)	Pond A Storage (gal.)	Pond B Storage (gal.)	Effluent Sprayed Pond B (gal)	Effluent Irrigation (gal.)	Effluent Dust Control (Sprayed) (gal.)	Total Effluent Hauled (gal.)	Total Evaporation (gal.)
1	0.01	3.1	2.4	16.4	23.9	23.9	96,898	16	13,157	110,055	7,331	40	386,000	473,000	168,791	117,316	0	113,000	115,000	0	0	0	0	0
2	0.00	3.1	2.2	19.9	27.2	23.8	93,505	12	14,401	107,906	5,618	8	362,000	461,000	160,345	127,057	0	113,000	97,000	0	46,984	0	0	37,600
3	0.00	3.4	2.2	22.1	16.6	24.5	95,253	0	13,142	108,395	5,802	4	333,000	432,000	180,267	136,813	0	129,000	97,000	0	17,671	0	0	14,100
4	0.00	3.5	2.2	16.2	17.6	25.1	108,596	15	11,400	119,996	6,962	13	374,000	329,000	167,177	129,424	0	140,000	97,000	0	28,099	0	0	22,500
5	0.00	3.3	2.2	22.3	19.7	25.3	94,803	0	12,211	107,014	5,504	0	290,000	329,000	57,544	7,422	0	123,000	97,000	0	28,551	0	0	22,800
6	0.40	3.5	2.5	21.6	20.7	25.0	107,706	0	11,014	118,720	6,453	20	360,000	336,000	50,122	0	0	140,000	124,000	0	82,365	0	0	65,900
7	0.39	2.5	2.8	17.9	18.4	25.1	107,857	0	11,546	119,403	6,244	0	415,000	331,000	180,224	130,102	0	83,000	152,000	0	24,057	0	0	19,200
8	0.01	3.5	2.6	17.6	20.8	24.3	102,195	113	11,144	113,339	5,838	18	413,000	278,000	158,966	116,481	0	140,000	133,000	0	45,667	0	0	36,500
9	0.00	3.2	2.5	18.9	23.6	24.3	93,789	0	10,478	104,267	4,097	0	394,000	245,000	147,358	100,544	0	118,000	124,000	0	45,668	0	0	36,500
10	0.00	3.2	2.4	20.8	25.4	24.6	92,371	23	9,554	101,925	6,520	12	394,000	221,000	162,214	113,306	0	118,000	115,000	0	49,491	0	0	39,600
11	0.00	3.5	2.2	17.2	25.9	24.6	91,553	0	10,552	102,105	5,058	0	386,000	173,000	180,559	140,038	0	140,000	97,000	71,141	76,250	0	0	64,600
12	0.01	2.8	2.2	16.7	27.6	25.0	96,484	0	9,778	106,262	4,679	0	281,000	245,000	60,139	14,258	0	98,000	97,000	0	64,995	0	0	52,000
13	0.00	3.5	2.7	18.6	24.3	25.1	97,790	0	9,546	107,336	4,967	0	240,000	355,000	45,881	0	0	140,000	143,000	0	81,533	0	0	65,200
14	0.18	2.2	2.7	17.0	20.5	25.1	94,949	0	8,638	103,587	4,548	0	187,000	461,000	153,537	107,656	0	70,000	143,000	0	32,267	0	0	25,800
15	0.01	2.1	2.6	20.1	25.1	25.0	99,998	0	4,409	104,407	5,396	0	288,000	396,000	103,187	100,512	0	65,000	133,000	0	0	0	0	0
16	0.50	2.1	2.4	20.3	22.6	25.2	97,940	0	13,792	111,732	4,783	24	331,000	359,000	105,878	91,494	0	65,000	115,000	0	0	0	0	0
17	0.00	3.3	2.4	17.4	17.1	25.1	96,513	14	5,230	101,743	4,617	0	345,000	317,000	151,357	111,416	0	123,000	115,000	0	19,633	0	0	15,700
18	0.00	3.4	2.7	17.3	19.7	24.1	84,324	13	12,509	96,833	4,904	0	350,000	266,000	169,270	123,788	0	129,000	143,000	0	28,064	0	0	22,500
19	0.01	3.4	1.8	19.3	25.1	24.4	84,191	0	8,857	93,048	5,080	0	345,000	202,000	48,412	0	0	129,000	64,000	0	40,151	0	0	32,100
20	0.00	3.5	1.9	17.2	24.6	25.1	93,723	15	11,398	105,121	4,145	0	396,000	202,000	48,412	0	0	140,000	72,000	0	70,418	0	0	56,300
21	2.15	3.4	2.2	17.9	20.1	24.7	99,609	102	11,554	111,163	4,361	0	468,000	202,000	144,946	111,397	0	129,000	97,000	0	0	0	0	0
22	0.00	3.5	2.4	19.0	20.6	24.4	90,240	329	5,914	96,154	8,151	0	367,000	278,000	124,312	98,059	0	140,000	115,000	0	43,044	0	0	34,400
23	0.00	3.4	2.4	19.9	23.7	24.6	85,504	91	10,436	95,940	6,477	0	259,000	341,000	217,097	190,623	0	129,000	115,000	0	29,129	0	0	23,300
24	0.60	3.4	2.4	16.9	26.7	25.0	104,980	0	9,956	114,936	6,831	0	122,000	384,000	75,480	44,463	0	129,000	115,000	78,754	36,072	0	0	32,800
25	0.00	3.4	2.9	17.3	24.2	24.7	103,217	13	0	103,217	7,107	0	168,000	379,000	44,310	0	0	129,000	152,000	0	0	0	0	0
26	0.00	3.4	3.3	17.6	22.2	24.3	100,409	13	9,423	109,832	7,107	0	214,000	374,000	51,312	7,002	0	129,000	202,000	58,796	53,246	0	0	45,500
27	0.00	3.1	3.4	26.2	25.2	24.6	98,778	162	13,187	111,965	7,176	0	266,000	374,000	44,310	0	0	113,000	213,000	0	65,363	0	0	52,300
28	0.00	3.3	3.4	18.9	26.3	24.8	82,559	0	3,598	86,157	4,690	0	297,000	374,000	140,951	116,195	0	123,000	213,000	0	36,834	0	0	29,500
29	0.00	3.5	3.4	15.6	18.2	24.7	95,771	0	10,037	105,808	7,346	0	278,000	324,000	159,536	135,927	0	140,000	213,000	86,510	37,697	0	0	34,500
30	0.00	3.5	3.6	17.8	18.9	25.0	95,300	0	2,731	98,031	6,858	0	259,000	300,000	166,925	140,400	0	140,000	234,000	0	57,100	0	0	45,700
31	0.00	3.3	3.6	20.9	18.3	25.3	92,876	0	17,883	110,759	6,010	0	261,000	259,000	72,195	44,789	0	123,000	234,000	0	0	0	0	0
Total	4.27				691	767	2,979,676	931	307,475	3,287,151	180,659	139			3,741,014	2,556,482	0			295,201	1,140,349	0	0	926,900
Daily Average		3.2	2.6	18.8	22.3	24.7	96,119	30	9,919	106,037	5,828	4	317,100	322,500				120,600	134,700					
Mo. Average					20	20												0			36,800	0	0	29,900

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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 VI is recorded from the pressure liquid level sensor in CO 2-1.
8. Column VII is recorded from the pressure liquid level sensor in MP 2-2.
9. Columns IX, Section 7-8 leak detection pumped into Section 7 leachate sump riser.
10. Column XIV and XV, calculated from depth in 575,000 gal. tanks.
11. Columns VIII-XI, XVI, XVII, XVIII and XXI-XXIV, quantities from flow meters.
12. Column XXV includes 80% of the daily values from Columns XVIII, XXII - XXIV; plus 5% of the daily values from column XXII.

**TABLE 2. FIELD DATA ENTRY FORM
DECEMBER 2020
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
Day	Rainfall (in.)	Flow Meter Pump Sta. A (gal.)	Reading PS-B (in.)	Section 9 Pump 1 (gal.)	Section 9 Pump 2 (gal.)	Section 9 LDS (gal.)	Sections 7-8 Pump (gal.)	Sections 7-8 LDS (gal.)	Pond B Depth (ft.)	Pond B Effluent Sprayed (gal.)	Pond A Depth (ft.)	Effluent Spray Irrigation (gal.)	Depth in 575K Tank Leachate (ft.)	Depth in 575K Tank Effluent (ft.)	Leachate Treated at LTRF (gal.)	Leachate Hauled		Leachate Dust Control (Sprayed) (gal.)	Effluent Hauled		Effluent Dust Control (Sprayed) (gal.)
																Contractor (gal.)	County (gal.)		Contractor (gal.)	County (gal.)	
1	0.01	8,480,040	16.4	3,124,097	3,115,395	5,890,788	2,036,945	1,900	2.4	0	3.1	0	13.42	16.42	51,475	117,316	0	0	0	0	0
2	0.00	8,555,906	19.9	3,129,715	3,115,395	5,890,796	2,051,346	1,912	2.2	0	3.1	46,984	12.58	16.00	33,288	127,057	0	0	0	0	0
3	0.00	8,628,484	22.1	3,135,517	3,115,395	5,890,800	2,064,488	1,912	2.2	0	3.4	17,671	11.58	15.00	43,454	136,813	0	0	0	0	0
4	0.00	8,709,792	16.2	3,142,479	3,115,395	5,890,813	2,075,888	1,927	2.2	0	3.5	28,099	13.00	11.42	37,753	129,424	0	0	0	0	0
5	0.00	8,786,830	22.3	3,147,983	3,115,395	5,890,813	2,088,099	1,927	2.2	0	3.3	28,551	10.08	11.42	50,122	7,422	0	0	0	0	0
6	0.40	8,867,622	21.6	3,149,481	3,120,350	5,890,833	2,099,113	1,927	2.5	0	3.5	82,365	12.50	11.67	50,122	0	0	0	0	0	0
7	0.39	8,953,252	17.9	3,149,481	3,126,594	5,890,833	2,110,659	1,927	2.8	0	2.5	24,057	14.42	11.50	50,122	130,102	0	0	0	0	0
8	0.01	9,035,520	17.6	3,155,319	3,126,594	5,890,851	2,121,803	2,040	2.6	0	3.5	45,667	14.33	9.67	42,485	116,481	0	0	0	0	0
9	0.00	9,110,092	18.9	3,159,416	3,126,594	5,890,851	2,132,281	2,040	2.5	0	3.2	45,668	13.67	8.50	46,814	100,544	0	0	0	0	0
10	0.00	9,183,156	20.8	3,165,936	3,126,594	5,890,863	2,141,835	2,063	2.4	0	3.2	49,491	13.67	7.67	48,908	113,306	0	0	0	0	0
11	0.00	9,255,358	17.2	3,170,994	3,126,594	5,890,863	2,152,387	2,063	2.2	71,141	3.5	76,250	13.42	6.00	40,521	140,038	0	0	0	0	0
12	0.01	9,331,900	16.7	3,175,673	3,126,594	5,890,863	2,162,165	2,063	2.2	0	2.8	64,995	9.75	8.50	45,881	14,258	0	0	0	0	0
13	0.00	9,409,304	18.6	3,180,640	3,126,594	5,890,863	2,171,711	2,063	2.7	0	3.5	81,533	8.33	12.33	45,881	0	0	0	0	0	0
14	0.18	9,482,774	17.0	3,185,188	3,126,594	5,890,863	2,180,349	2,063	2.7	0	2.2	32,267	6.50	16.00	45,881	107,656	0	0	0	0	0
15	0.01	9,561,076	20.1	3,190,584	3,126,594	5,890,863	2,184,758	2,063	2.6	0	2.1	0	10.00	13.75	2,675	100,512	0	0	0	0	0
16	0.50	9,636,870	20.3	3,195,367	3,126,594	5,890,887	2,198,550	2,063	2.4	0	2.1	0	11.50	12.42	14,384	91,494	0	0	0	0	0
17	0.00	9,714,814	17.4	3,199,984	3,126,594	5,890,887	2,203,780	2,077	2.4	0	3.3	19,633	12.00	11.00	39,941	111,416	0	0	0	0	0
18	0.00	9,781,818	17.3	3,204,888	3,126,594	5,890,886	2,216,289	2,090	2.7	0	3.4	28,064	12.17	9.25	45,482	123,788	0	0	0	0	0
19	0.01	9,847,112	19.3	3,209,968	3,126,594	5,890,886	2,225,146	2,090	1.8	0	3.4	40,151	12.00	7.00	48,412	0	0	0	0	0	0
20	0.00	9,918,554	17.2	3,214,113	3,126,594	5,890,848	2,236,544	2,105	1.9	0	3.5	70,418	13.75	7.00	48,412	0	0	0	0	0	0
21	2.15	9,998,056	17.9	3,218,474	3,126,594	5,890,819	2,248,098	2,207	2.2	0	3.4	0	16.25	7.00	48,412	96,534	14,863	0	0	0	0
22	0.00	88,296	19.0	3,226,625	3,126,594	5,890,775	2,254,012	2,536	2.4	0	3.5	43,044	12.75	9.67	46,295	78,017	20,042	0	0	0	0
23	0.00	157,831	19.9	3,233,102	3,126,594	5,890,770	2,264,448	2,627	2.4	0	3.4	29,129	9.00	11.83	45,101	171,996	18,627	0	0	0	0
24	0.60	236,025	16.9	3,239,933	3,126,594	5,890,705	2,274,404	2,627	2.4	78,754	3.4	36,072	4.25	13.33	44,310	31,170	13,293	0	0	0	0
25	0.00	312,457	17.3	3,247,040	3,126,594	5,890,693	2,283,827	2,640	2.9	0	3.4	0	5.84	13.17	44,310	0	0	0	0	0	0
26	0.00	388,888	17.6	3,254,146	3,126,594	5,890,685	2,293,249	2,653	3.3	58,796	3.4	53,246	7.42	13.00	44,310	7,002	0	0	0	0	0
27	0.00	467,396	26.2	3,255,382	3,132,534	5,890,686	2,306,436	2,815	3.4	0	3.1	65,363	9.25	13.00	44,310	0	0	0	0	0	0
28	0.00	530,845	18.9	3,255,382	3,137,224	5,890,687	2,310,034	2,815	3.4	0	3.3	36,834	10.33	13.00	44,310	96,641	19,554	0	0	0	0
29	0.00	606,081	15.6	3,262,728	3,137,224	5,890,687	2,320,071	2,815	3.4	86,510	3.5	37,697	9.67	11.25	43,662	115,874	20,053	0	0	0	0
30	0.00	678,355	17.8	3,269,586	3,137,224	5,890,687	2,322,802	2,815	3.6	0	3.5	57,100	9.00	10.42	45,196	121,729	18,671	0	0	0	0
31	0.00	755,081	20.9	3,275,596	3,137,224	5,890,687	2,340,685	2,815	3.6	0	3.3	0	9.08	9.00	46,156	26,039	18,750	0	0	0	0
Totals	4.27									295,201		1,140,349			1,328,385	2,412,629	143,853	0	0	0	0

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

Type of Cover	Phases I-VI acres	Section 7-9 acres
Open	5	0
Intermediate	134.4	34.5
Final	23	0
Not Opened	0	0

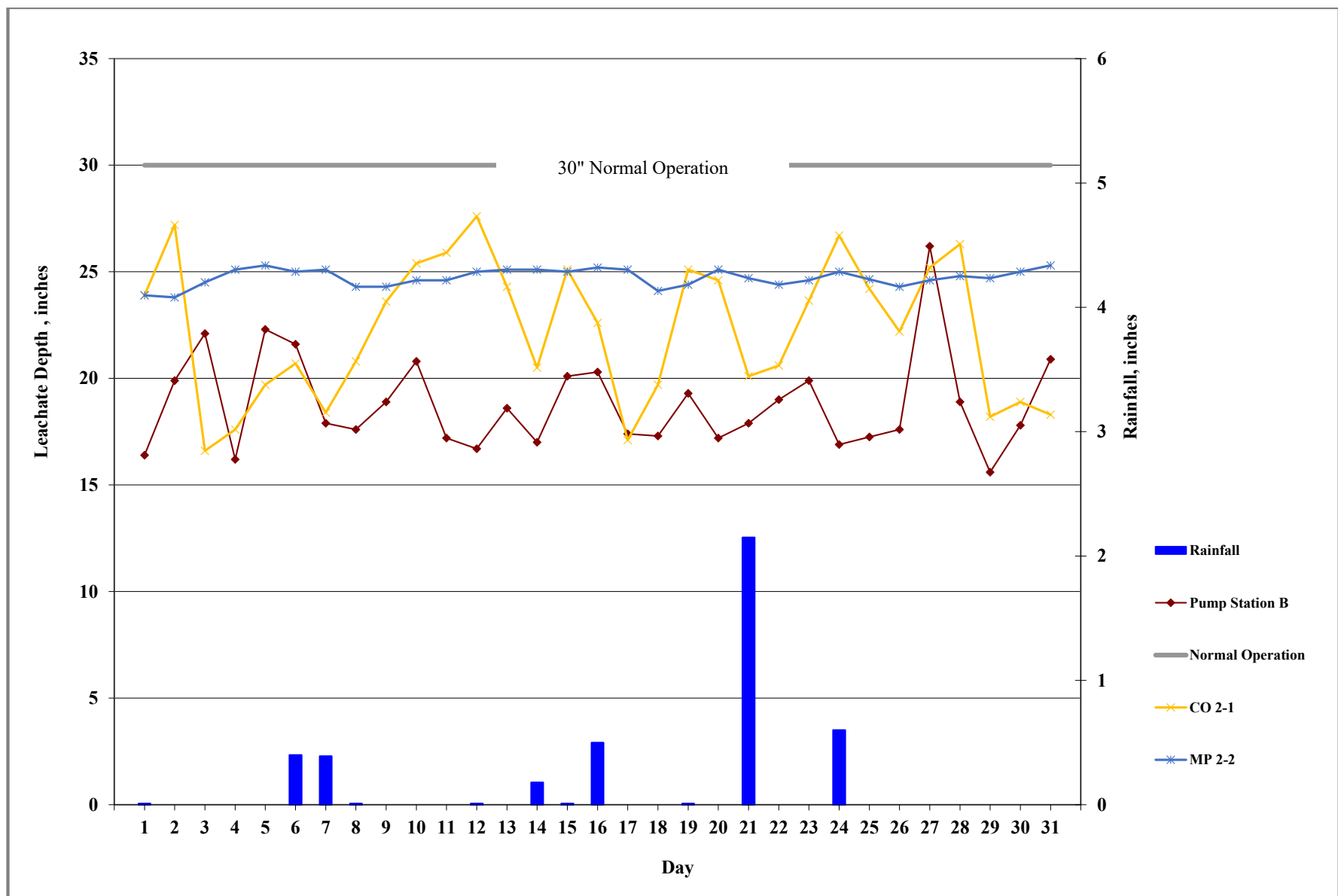


Figure 1. Leachate Levels and Rainfall for December 2020.

**TABLE 3. LEACHATE BALANCE SUMMARY
SOUTHEAST COUNTY LANDFILL
HILLSBOROUGH COUNTY, FLORIDA
YEAR-2020**

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.)	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	0.58	909	141,635	217,468	3,079,565	2,360,372	0	853,457	0	0	544,716	3,439,577	3,213,829	225,748
February	1.66	1,881	89,491	152,518	2,483,841	1,621,644	0	883,611	507,900	0	435,684	2,727,731	2,505,255	222,476
March	0.01	110	90,346	145,289	2,365,967	1,725,217	0	716,248	200,623	0	342,461	2,601,712	2,441,465	160,247
April	4.09	425	78,504	135,658	2,084,835	873,490	3,686	1,402,034	878,540	0	340,495	2,299,422	2,279,210	20,212
May	2.68	550	77,800	125,479	2,037,642	529,404	9,982	1,199,946	378,802	0	913,270	2,241,471	1,739,332	502,139
June	5.93	603	76,843	129,957	1,908,443	565,723	31,878	1,575,161	656,231	0	863,573	2,115,846	2,172,762	-56,916
July	4.29	445	71,374	116,733	1,756,704	917,944	1,532	946,614	317,789	0	601,561	1,945,256	1,866,090	79,166
August	10.70	1,249	74,187	151,985	1,752,794	1,192,207	14,102	698,576	6,516	0	538,771	1,980,215	1,904,885	75,330
September	5.89	627	124,846	249,855	2,112,257	1,686,575	50,311	829,823	0	14,828	860,723	2,487,585	2,566,709	-79,125
October	3.46	422	167,163	274,666	2,295,864	2,039,156	0	1,250,810	0	57,078	636,903	2,738,115	3,289,966	-551,851
November	7.79	1,310	278,849	507,041	3,031,294	2,674,559	0	1,068,725	18,917	0	835,278	3,818,494	3,743,284	75,210
December	4.27	565	180,659	307,475	2,979,676	2,556,482	0	3,741,014	0	0	1,140,349	3,468,375	6,297,496	-2,829,121
YTD Total	51.35	9,096	1,451,697	2,514,124	27,888,881	18,742,773	111,491	15,166,019	2,965,318	71,906	8,053,784	31,863,797	34,020,283	-2,156,486

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

SOLID WASTE MANAGEMENT

PO Box 1110 Tampa, FL 33601-1110
813-272-5680

January 13, 2021

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

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, 2020 through December 31, 2020. 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

LER/rw

Attachments

xc: Ron Cope, EPC

Kimberly Byer, SWMD

BOARD OF COUNTY COMMISSIONERS

Ken Hagan

Pat Kemp

Lesley "Les" Miller, Jr.

Sandra L. Murman

Kimberly Overman

Mariella Smith

Stacy R. White

COUNTY ADMINISTRATOR

Bonnie Wise

COUNTY ATTORNEY

Christine M. Beck

INTERNAL AUDITOR

Peggy Caskey

INFRASTRUCTURE SERVICES

ADMINISTRATOR

John Lyons



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 10/1/20 thru 12/31/20 (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	790.58	791.21			808.07	48.30	640.01
Other whole Tires							
Processed tires							
Processing Waste							
Other							
Total	790.58	798.32			808.07	48.30	640.01

- a. Explain all inventory adjustments. 48.30
48.30 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

1/13/2021

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 2020**

		FOURTH QUARTER	Beginning Tonnage (Oct. 1, 2020)	
Month	Tires Received	Tires Removed by Contractor	Tires to SCTS & RR	Tons Adjusted
Oct. 2020	268.95	255.45	113.84	20.83
Beginning Tons	790.58			
	1,059.53	-255.45	-113.84	-20.83
			Ending Tonnage	669.41
Month	Tires Received	Tires Removed by Contractor	Tires to SCTS & RR	Tons Adjusted
Nov. 2020	257.47	42.28	79.03	0.00
Beginning Tons	669.41			
	926.88	-42.28	-79.03	0.00
			Ending Tonnage	805.57
Month	Tires Received	Tires Removed by Contractor	Tires to SCTS & RR	Tons Adjusted
Dec. 2020	264.79	220.84	96.63	27.47
Beginning Tons	805.57			
	1,070.36	-220.84	-96.63	-27.47
			Ending Tonnage	725.42
Month	Tires Received	Tires Removed by Contractor	Tires to SCTS & RR	Tons Adjusted
Oct. 2020	268.95	255.45	113.84	20.83
Nov. 2020	257.47	42.28	79.03	0.00
Dec. 2020	264.79	220.84	96.63	27.47
Sub-Total	791.21	518.57	289.50	48.30
Beginning Tons	790.58			
TOTAL	1,581.79	-518.57	-289.50	-48.3
			Ending Tonnage	725.42