

## Johnson, Sabrina O

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**From:** Wiesman, Ronald <WiesmanR@hillsboroughcounty.org>  
**Sent:** Wednesday, July 3, 2019 8:33 AM  
**To:** Morgan, Steve; Barker, Maurice; Kautz, Lance; SWD\_Waste  
**Cc:** Byer, Kimberly; Schinella, Beth; O'Neill, Joseph; Ruiz, Larry  
**Subject:** Hillsborough County June Composting Report  
**Attachments:** June2019 Rpt.pdf

Mr. Morgan,

The June composting report for Hillsborough County is attached.  
Please advise should you have any questions concerning the information provided.

Thank you,

### Ron Wiesman II

#### Manager

Solid Waste Management Division  
Public Utilities Department

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**P:** (813) 671-7707 VOIP 42801

**M:** (813) 455-2194

**E:** [wiesmanr@HCFLGov.net](mailto:wiesmanr@HCFLGov.net)

**W:** <http://HCFLGOV.net>

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### Hillsborough County

15960 County Road 672 Lithia, FL 33547

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**Hillsborough  
County Florida**

**SOLID WASTE MANAGEMENT**

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

June 3, 2019

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

Subject: Southeast County Landfill – Composting Monthly Report

Dear Mr. Morgan:

Hillsborough County Solid Waste Management Division hereby submits the June composting report for Hillsborough County.

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

Sincerely,

Ron Wiesman  
Manager  
Solid Waste Management Division

RWW/ya  
Attachments

**CC:** Beth Schinella, Division Director, Utility Operations, PUD  
Kim Byer, Division Director, Solid Waste Management Division  
Joseph O'Neill, Professional Engineer II, Solid Waste Management Division  
Larry Ruiz, Section Manager, Solid Waste Management Division

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Christine M. Beck

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Peggy Caskey

**INFRASTRUCTURE SERVICES  
ADMINISTRATOR**

John Lyons

### Summary of Monthly Events

Biosolids Received (wet tons):	1043.60 tons of biosolids received for the month.
Source of Biosolids:	Hillsborough County Falkenburg AWWTP
Source of Bulking Agent:	Consolidated Resource Recovery
General Description of Activities:	<p>All incoming biosolids were mixed with bulking agent and formed into windrows on the same day as received.</p> <p>6 windrows were formed and in active composting as of 6/30/19.</p> <p>Windrow temperatures were monitored daily.</p> <p>8 windrows has met temperature and time requirements of the Process to Further Reduce Pathogens (PFRP).</p> <p>8 windrow has been turned.</p> <p>Sampling was performed on June 18, 2019.</p> <p>139.84 tons of finished compost was picked up by Life Soils.</p>
Attachments:	A-L: Windrow construction and temperature records.

## Attachment A

<b>MSAP Process Temperature Chart Windrow# 19-5-4</b>																						
<b>Temperature: Shading equals temperature 131 or greater for PFRP.</b>																						
Days	Date	Point 1				Point 2				Point 3				Point 4				Average				Turn
		10	20	30	40	10	20	30	40	10	20	30	40	10	20	30	40	10"	20"	30"	40"	
1	5/5/19																					
2	5/6/19	155	159	159	160	161	165	165	165	159	165	166	168	141	146	146	148	154	158.75	159	160.25	
3	5/7/19	151	157	163	164	151	156	153	148	154	158	160	159	159	162	160	152	153.75	158.25	159	155.75	
4	5/8/19	158	161	165	165	158	161	164	166	158	163	166	167	159	160	164	166	158.25	161.25	164.75	166	
5	5/9/19	162	163	162	158	144	152	160	164	158	159	161	161	152	153	153	151	154	156.75	159	158.5	
6	5/10/19	140	146	151	155	147	156	165	167	153	158	163	168	150	156	160	164	147.5	154	159.75	163.5	
7	5/11/19	137	142	146	150	134	138	143	149	144	149	154	158	145	149	156	160	140	144.5	149.75	154.25	
8	5/12/19																					
9	5/13/19	141	146	149	153	139	142	146	151	149	156	160	162	150	152	158	162	144.75	149	153.25	157	
10	5/14/19	149	155	159	161	158	164	165	165	151	156	156	155	156	157	154	150	153.5	158	158.5	157.75	
11	5/15/19	145	150	155	158	158	161	165	169	144	152	158	162	152	159	160	162	149.75	155.5	159.5	162.75	
12	5/16/19	160	163	163	162	146	154	158	161	162	166	167	158	158	161	165	163	156.5	161	163.25	161	
13	5/17/19	155	159	161	162	148	152	157	160	166	168	166	155	159	160	166	162	157	159.75	162.5	159.75	
14	5/18/19	159	162	165	162	155	155	161	166	166	169	163	150	155	161	169	166	158.75	161.75	164.5	161	
15	5/19/19																					
16	5/20/19	152	155	159	162	156	160	164	165	161	165	169	171	162	166	165	161	157.75	161.5	164.25	164.75	
17	5/21/19	151	153	158	163	158	160	163	166	160	166	170	172	166	166	166	167	158.75	161.25	164.25	167	
18	5/22/19	169	171	168	162	158	159	158	152	159	160	160	158	161	161	157	159	161.75	162.75	160.75	157.75	Turn
19	5/23/19	152	160	162	158	150	156	155	150	154	156	158	158	158	156	160	160	153.5	157	158.75	156.5	
20	5/24/19	139	142	146	153	144	148	156	163	147	153	158	161	156	159	163	163	146.5	150.5	155.75	160	
21	5/25/19	141	145	149	154	148	155	161	164	149	156	160	162	156	161	163	166	148.5	154.25	158.25	161.5	
22	5/26/19																					
23	5/27/19																					
24	5/28/19	158	162	166	170	152	158	165	166	162	166	168	168	151	158	163	168	155.75	161	165.5	168	
25	5/29/19	162	166	170	172	158	165	168	168	166	169	169	170	149	157	164	167	158.75	164.25	167.75	169.25	
26	5/30/19	156	159	164	168	150	158	162	165	162	166	168	168	155	162	165	167	155.75	161.25	164.75	167	
27	5/31/19	148	151	153	155	150	152	160	166	150	151	157	161	143	146	150	157	147.75	150	155	159.75	
28	6/1/19	150	154	156	156	152	154	163	169	155	154	159	164	148	150	153	158	151.25	153	157.75	161.75	Turn
29	6/2/19																					
30	6/3/19	155	159	162	165	157	161	164	164	161	167	169	169	151	156	162	166	156	160.75	164.25	166	
31	6/4/19	156	162	164	166	158	160	162	162	163	166	168	171	154	158	164	166	157.75	161.5	164.5	166.25	

## Attachment B

<b>MSAP Process Temperature Chart Windrow# 19-5-9</b>																						
Temperature: Shading equals temperature 131 or greater for PFRP.																						
Days	Date	Point 1				Point 2				Point 3				Point 4				Average				Turn
		10	20	30	40	10	20	30	40	10	20	30	40	10	20	30	40	10"	20"	30"	40"	
1	5/10/19	161	164	162	150	160	162	166	160	158	162	162	156	164	166	165	150	160.75	163.5	163.75	154	
2	5/11/19	160	163	163	152	158	161	165	161	154	161	160	157	164	166	164	152	159	162.75	163	155.5	
3	5/12/19																					
4	5/13/19	141	149	154	161	148	152	157	160	150	153	158	162	147	152	157	161	146.5	151.5	156.5	161	
5	5/14/19	162	164	165	163	159	163	163	160	158	161	161	160	150	156	160	161	157.25	161	162.25	161	
6	5/15/19	157	168	168	166	158	165	168	168	162	168	169	170	157	162	165	169	158.5	165.75	167.5	168.25	
7	5/16/19	155	160	163	163	155	162	164	161	158	163	164	162	150	158	164	166	154.5	160.75	163.75	163	
8	5/17/19	157	163	166	167	159	165	168	168	162	166	165	164	154	161	167	169	158	163.75	166.5	167	
9	5/18/19	155	163	167	170	160	164	169	171	158	164	167	169	151	155	166	170	156	161.5	167.25	170	
10	5/19/19																					
11	5/20/19	147	160	166	166	160	165	168	166	165	167	163	161	158	161	162	157	157.5	163.25	164.75	162.5	
12	5/21/19	146	163	165	165	163	167	168	168	164	164	164	163	158	160	160	151	157.75	163.5	164.25	161.75	
13	5/22/19	164	168	168	166	150	158	163	165	166	171	172	171	158	164	164	163	159.5	165.25	166.75	166.25	
14	5/23/19	140	143	143	141	141	146	152	158	145	147	151	152	147	152	155	157	143.25	147	150.25	152	
15	5/24/19	137	139	141	143	143	148	155	162	145	149	153	153	150	156	158	162	143.75	148	151.75	155	
16	5/25/19	140	143	145	147	146	149	154	160	147	152	155	156	150	156	160	164	145.75	150	153.5	156.75	Turn
17	5/26/19																					
18	5/27/19																					
19	5/28/19	158	162	164	165	156	161	163	163	155	161	164	164	155	160	163	164	156	161	163.5	164	
20	5/29/19	144	158	164	168	158	162	166	166	154	158	162	163	158	163	165	165	153.5	160.25	164.25	165.5	
21	5/30/19	148	153	157	161	151	159	163	163	151	155	160	163	152	162	165	166	150.5	157.25	161.25	163.25	
22	5/31/19	155	157	160	162	155	158	160	161	158	160	160	161	150	152	155	157	154.5	156.75	158.75	160.25	
23	6/1/19	158	161	163	165	154	160	164	163	163	165	162	160	154	156	159	161	157.25	160.5	162	162.25	Turn
24	6/2/19																					
25	6/3/19	150	155	161	165	160	164	167	168	134	158	161	165	139	162	167	168	145.75	159.75	164	166.5	
26	6/4/19	152	158	164	168	164	168	170	171	160	168	171	173	162	158	171	171	159.5	163	169	170.75	
27	6/5/19	152	158	164	168	164	168	170	171	160	168	171	173	162	158	171	171	159.5	163	169	170.75	
28	6/6/19	152	160	166	172	151	153	158	166	156	163	168	170	151	158	162	165	152.5	158.5	163.5	168.25	Turn
29	6/7/19	152	163	169	171	154	155	160	166	160	166	168	171	155	160	165	169	155.25	161	165.5	169.25	
30	6/8/19	155	165	171	173	157	158	163	169	165	169	169	173	157	164	167	171	158.5	164	167.5	171.5	
31	6/9/19																					
32	6/10/19	147	153	158	162	145	153	158	164	144	150	156	160	145	149	153	156	145.25	151.25	156.25	160.5	

### Attachment C

<b>MSAP Process Temperature Chart Windrow# 19-5-14</b>																						
Temperature: Shading equals temperature 131 or greater for PFRP.																						
Days	Date	Point 1				Point 2				Point 3				Point 4				Average				Turn
		10	20	30	40	10	20	30	40	10	20	30	40	10	20	30	40	10"	20"	30"	40"	
1	5/15/19	164	161	148	140	162	162	154	149	162	162	154	150	160	160	146	140	162	161.25	150.5	144.75	
2	5/16/19	164	163	150	144	166	164	156	150	166	164	160	156	162	162	148	142	164.5	163.25	153.5	148	
3	5/17/19	161	164	156	152	162	168	158	155	164	170	162	160	160	164	154	152	161.75	166.5	157.5	154.75	
4	5/18/19	160	163	156	151	162	166	163	160	162	166	163	161	160	159	148	144	161	163.5	157.5	154	
5	5/19/19																					
6	5/20/19	160	162	160	155	162	166	166	162	161	165	163	165	160	162	161	156	160.75	163.75	162.5	159.5	
7	5/21/19	161	164	162	158	158	164	168	162	159	162	163	165	159	161	162	159	159.25	162.75	163.75	161	
8	5/22/19	154	158	160	160	156	160	165	162	160	154	162	164	154	158	161	159	156	157.5	162	161.25	
9	5/23/19	156	158	159	159	158	161	165	162	161	159	162	164	160	159	162	159	158.75	159.25	162	161	
10	5/24/19	160	165	167	167	164	166	165	160	150	154	159	160	158	157	150	146	158	160.5	160.25	158.25	
11	5/25/19	161	166	168	168	166	166	160	159	148	156	161	164	158	158	152	146	158.25	161.5	160.25	159.25	
12	5/26/19																					
13	5/27/19																					
14	5/28/19	164	166	156	154	162	168	170	168	166	166	163	158	148	157	162	165	160	164.25	162.75	161.25	
15	5/29/19	142	145	149	152	145	147	151	153	140	145	147	148	144	146	149	153	142.75	145.75	149	151.5	
16	5/30/19	141	146	150	155	145	149	153	157	141	145	149	152	145	148	152	159	143	147	151	155.75	
17	5/31/19	144	148	152	156	145	151	155	158	142	147	151	153	145	149	154	158	144	148.75	153	156.25	Turn
18	6/1/19	156	161	166	168	165	169	169	166	166	168	171	170	165	168	168	164	163	166.5	168.5	167	
19	6/2/19																					
20	6/3/19	162	166	169	171	168	168	170	166	160	164	169	171	165	168	170	170	163.75	166.5	169.5	169.5	
21	6/4/19	155	158	161	165	166	169	168	166	165	169	171	171	161	168	171	172	161.75	166	167.75	168.5	
22	6/5/19	158	161	161	163	162	165	166	168	160	165	165	164	158	161	159	157	159.5	163	162.75	163	
23	6/6/19	161	165	167	164	164	168	168	166	164	167	169	166	160	164	160	160	162.25	166	166	164	
24	6/7/19	155	164	169	172	161	165	168	170	160	164	168	170	153	158	163	166	157.25	162.75	167	169.5	
25	6/8/19	158	168	171	172	163	166	170	170	161	164	168	172	158	163	166	169	160	165.25	168.75	170.75	Turn
26	6/9/19																					
27	6/10/19	158	168	171	172	163	166	170	170	161	164	168	172	158	163	166	169	160	165.25	168.75	170.75	
28	6/11/19	156	161	165	171	161	164	168	171	151	154	158	163	153	162	168	172	155.25	160.25	164.75	169.25	
29	6/12/19	152	163	169	171	154	155	160	166	160	166	168	171	155	160	165	169	155.25	161	165.5	169.25	
30	6/13/19	155	165	171	173	157	158	163	169	165	169	169	173	157	164	167	171	158.5	164	167.5	171.5	
31	6/14/19	147	153	158	162	145	153	158	164	144	150	156	160	145	149	153	156	145.25	151.25	156.25	160.5	

## Attachment D

<b>MSAP Process Temperature Chart Windrow# 19-5-20</b>																						
Temperature: Shading equals temperature 131 or greater for PFRP.																						
Days	Date	Point 1				Point 2				Point 3				Point 4				Average				Turn
		10	20	30	40	10	20	30	40	10	20	30	40	10	20	30	40	10"	20"	30"	40"	
1	5/21/19	166	166	163	150	166	168	166	152	164	161	152	142	148	145	134	132	161	160	153.75	144	
2	5/22/19	158	156	152	145	162	163	158	150	160	160	154	152	156	155	150	144	159	158.5	153.5	147.75	
3	5/23/19	143	147	152	157	145	150	155	159	145	147	151	156	150	154	160	160	145.75	149.5	154.5	158	
4	5/24/19	144	149	155	163	149	153	157	161	145	150	157	163	153	157	162	164	147.75	152.25	157.75	162.75	
5	5/25/19	146	151	158	163	150	156	158	161	144	150	157	161	152	158	163	163	148	153.75	159	162	
6	5/26/19																					
7	5/27/19																					
8	5/28/19	150	156	162	164	156	163	166	166	158	165	166	167	166	169	166	160	157.5	163.25	165	164.25	
9	5/29/19	152	160	166	166	160	164	165	161	142	151	158	162	157	164	164	159	152.75	159.75	163.25	162	
10	5/30/19	156	162	163	158	158	165	168	164	156	162	165	166	155	161	166	166	156.25	162.5	165.5	163.5	
11	5/31/19	138	143	148	152	149	150	154	157	157	160	162	165	155	157	163	167	149.75	152.5	156.75	160.25	
12	6/1/19	140	146	149	154	152	155	153	156	159	163	165	169	157	160	160	168	152	156	156.75	161.75	
13	6/2/19																					
14	6/3/19	156	160	163	167	160	162	160	156	164	169	170	170	156	160	164	165	159	162.75	164.25	164.5	
15	6/4/19	158	168	171	172	163	166	170	170	161	164	168	172	158	163	166	169	160	165.25	168.75	170.75	
16	6/5/19	158	168	171	172	163	166	170	170	161	164	168	172	158	163	166	169	160	165.25	168.75	170.75	
17	6/6/19	158	161	166	168	162	168	171	171	151	158	162	165	140	146	153	162	152.75	158.25	163	166.5	
18	6/7/19	153	158	161	165	160	163	166	173	150	157	162	163	150	153	159	161	153.25	157.75	162	165.5	Turn
19	6/8/19	157	161	166	169	163	167	169	173	155	159	164	166	156	155	158	163	157.75	160.5	164.25	167.75	
20	6/9/19																					
21	6/10/19	151	156	161	164	145	153	158	163	156	158	162	163	152	158	162	166	151	156.25	160.75	164	
22	6/11/19	165	168	171	172	168	172	174	174	164	169	172	174	161	168	170	172	164.5	169.25	171.75	173	
23	6/12/19	146	152	156	166	150	156	159	167	146	153	158	166	143	148	154	163	146.25	152.25	156.75	165.5	
24	6/13/19	132	135	139	143	140	147	153	157	142	146	152	156	139	142	144	144	138.25	142.5	147	150	
25	6/14/19	135	139	140	138	141	145	151	160	145	150	152	159	141	145	151	157	140.5	144.75	148.5	153.5	Turn
26	6/15/19	139	144	152	165	149	152	157	163	150	155	161	166	151	155	161	165	147.25	151.5	157.75	164.75	
27	6/16/19																					
28	6/17/19	136	139	144	151	138	141	144	149	140	144	141	138	135	139	138	136	137.25	140.75	141.75	143.5	
29	6/18/19	140	144	149	151	145	151	155	161	140	149	150	155	139	144	150	161	141	147	151	157	
30	6/19/19	136	140	147	155	142	146	153	163	139	145	153	162	135	144	149	159	138	143.75	150.5	159.75	
31	6/20/19	148	156	154	152	150	152	154	157	150	155	159	165	148	150	159	165	149	153.25	156.5	159.75	

## Attachment E

<b>MSAP Process Temperature Chart Windrow# 19-5-24</b>																						
Temperature: Shading equals temperature 131 or greater for PFRP.																						
Days	Date	Point 1				Point 2				Point 3				Point 4				Average				Turn
		10	20	30	40	10	20	30	40	10	20	30	40	10	20	30	40	10"	20"	30"	40"	
1	5/25/19	158	154	150	149	160	156	148	148	152	154	148	144	148	146	140	133	154.5	152.5	146.5	143.5	
2	5/26/19																					
3	5/27/19																					
4	5/28/19	163	163	161	157	161	161	155	148	162	164	165	165	160	164	165	164	161.5	163	161.5	158.5	
5	5/29/19	162	165	165	161	160	163	161	158	162	167	165	158	163	164	163	159	161.75	164.75	163.5	159	
6	5/30/19	152	161	165	166	166	168	166	162	166	166	164	162	165	165	162	159	162.25	165	164.25	162.25	
7	5/31/19	158	160	163	167	152	155	157	162	158	161	163	167	157	160	162	165	156.25	159	161.25	165.25	
8	6/1/19	159	164	169	172	156	157	160	166	161	164	164	169	160	164	166	169	159	162.25	164.75	169	
9	6/2/19																					
10	6/3/19	161	163	163	164	155	156	156	155	143	148	153	157	161	166	168	168	155	158.25	160	161	
11	6/4/19	163	164	165	176	157	158	158	153	142	152	162	166	164	170	168	164	156.5	161	163.25	164.75	
12	6/5/19	165	165	167	166	158	161	161	159	145	154	162	166	162	168	170	169	157.5	162	165	165	
13	6/6/19	160	162	162	156	157	163	165	165	146	151	158	161	163	168	168	166	156.5	161	163.25	162	
14	6/7/19	163	165	169	171	160	163	165	169	140	144	151	162	158	161	165	166	155.25	158.25	162.5	167	
15	6/8/19	166	168	171	173	165	168	168	171	146	148	153	158	161	164	167	169	159.5	162	164.75	167.75	
16	6/9/19																					
17	6/10/19	156	163	165	166	155	159	160	160	141	143	150	158	151	157	162	164	150.75	155.5	159.25	162	
18	6/11/19	156	162	165	165	157	164	166	167	150	157	161	163	148	151	157	159	152.75	158.5	162.25	163.5	Turn
19	6/12/19	142	147	153	158	146	149	156	162	146	149	154	159	155	152	154	155	147.25	149.25	154.25	158.5	
20	6/13/19	147	155	162	168	150	157	163	168	155	163	168	171	157	165	169	172	152.25	160	165.5	169.75	
21	6/14/19	145	161	166	170	153	160	161	167	150	166	169	171	153	166	171	172	150.25	163.25	166.75	170	
22	6/15/19	152	163	167	169	156	159	163	169	152	159	161	166	150	155	164	169	152.5	159	163.75	168.25	
23	6/16/19																					
24	6/17/19	151	160	161	165	152	155	159	160	150	153	154	161	148	150	151	155	150.25	154.5	156.25	160.25	Turn
25	6/18/19	161	169	169	171	160	166	167	171	155	159	161	166	155	159	161	166	157.75	163.25	164.5	168.5	
26	6/19/19	156	159	163	166	156	160	168	166	154	159	164	166	150	156	159	162	154	158.5	163.5	165	
27	6/20/19	155	168	169	170	159	161	166	172	148	156	163	171	158	166	169	171	155	162.75	166.75	171	
28	6/21/19	151	159	164	168	149	155	159	165	161	165	161	168	149	152	157	162	152.5	157.75	160.25	165.75	
29	6/22/19	155	162	167	172	154	158	163	168	163	167	169	173	149	154	159	166	155.25	160.25	164.5	169.75	



## Attachment F

<b>MSAP Process Temperature Chart Windrow# 19-5-30</b>																						
<b>Temperature: Shading equals temperature 131 or greater for PFRP.</b>																						
Days	Date	Point 1				Point 2				Point 3				Point 4				Average				Turn
		10	20	30	40	10	20	30	40	10	20	30	40	10	20	30	40	10"	20"	30"	40"	
1	5/31/19	140	144	152	155	133	138	143	140	151	152	160	163	150	153	160	164	143.5	146.75	153.75	155.5	
2	6/1/19	144	148	156	158	134	139	146	142	154	156	163	163	152	156	162	166	146	149.75	156.75	157.25	
3	6/2/19																					
4	6/3/19	160	162	163	162	163	168	168	167	147	152	158	162	167	170	173	176	159.25	163	165.5	166.75	
5	6/4/19	163	164	165	165	168	171	170	170	150	154	162	167	176	175	175	174	164.25	166	168	169	
6	6/5/19	164	166	169	171	167	170	173	173	152	157	161	166	171	176	175	175	163.5	167.25	169.5	171.25	
7	6/6/19	151	160	166	170	159	166	170	172	154	161	167	170	145	156	162	164	152.25	160.75	166.25	169	
8	6/7/19	151	157	160	163	160	161	167	170	150	155	166	171	150	157	163	169	152.75	157.5	164	168.25	
9	6/8/19	155	159	164	167	166	166	169	172	154	157	169	171	155	159	166	170	157.5	160.25	167	170	
10	6/9/19																					
11	6/10/19	156	164	167	168	145	153	161	165	142	148	157	162	153	159	162	164	149	156	161.75	164.75	
12	6/11/19	154	159	161	163	159	164	165	165	156	160	162	164	156	160	163	163	156.25	160.75	162.75	163.75	
13	6/12/19	145	150	155	159	153	156	160	163	152	157	160	162	148	154	158	161	149.5	154.25	158.25	161.25	
14	6/13/19	150	154	158	163	153	159	164	171	152	156	163	168	150	154	159	165	151.25	155.75	161	166.75	
15	6/14/19	148	155	163	169	157	160	163	169	155	159	161	166	153	155	161	166	153.25	157.25	162	167.5	
16	6/15/19	151	156	158	166	162	166	169	171	150	159	161	166	150	155	166	169	153.25	159	163.5	168	
17	6/16/19																					
18	6/17/19	136	141	141	148	132	141	144	150	138	141	148	151	144	155	160	161	137.5	144.5	148.25	152.5	Turn
19	6/18/19	144	148	151	159	144	156	159	161	140	146	150	161	150	155	161	164	144.5	151.25	155.25	161.25	
20	6/19/19	134	139	143	151	136	143	149	156	139	146	152	161	145	153	157	169	138.5	145.25	150.25	159.25	
21	6/20/19	148	158	161	165	148	151	160	161	152	162	164	167	144	147	149	156	148	154.5	158.5	162.25	
22	6/21/19	160	166	167	168	150	164	163	161	150	159	151	156	151	155	159	160	152.75	161	160	161.25	
23	6/22/19	163	169	169	166	160	167	164	159	156	161	160	158	151	158	163	166	157.5	163.75	164	162.25	
24	6/23/19																					
25	6/24/19	140	147	155	162	145	148	154	160	157	163	163	162	160	164	169	170	150.5	155.5	160.25	163.5	
26	6/25/19	138	146	155	163	142	146	157	163	157	162	165	165	161	166	169	171	149.5	155	161.5	165.5	Turn
27	6/26/19	166	169	167	162	161	165	168	171	166	171	175	171	158	160	158	154	162.75	166.25	167	164.5	
28	6/27/19	169	173	171	165	165	170	174	174	169	173	176	173	161	163	163	160	166	169.75	171	168	
29	6/28/19	165	171	172	169	165	167	171	172	166	169	171	172	160	162	161	161	164	167.25	168.75	168.5	
30	6/29/19	163	166	172	174	163	165	171	173	164	166	169	171	153	163	165	169	160.75	165	169.25	171.75	

### Attachment G

Hillsborough County Composting - Monitoring Sheet (MSAP Method)					Windrow # 19-6-5	
Windrow Construction:			Date Commenced: 5-31-19		Date Completed: 6-5-19	
Date	Operator Name	Biosolids (tons)	Biosolids (yards)	Yard Waste (yards)	Overs (yards)	Cover (yards)
5/31/19	Jerry Devoe	23.59	30.67	44	22	50
6/1/19	Jerry Devoe	23.80	30.94	44	22	50
6/3/19	Mike Bayne	22.21	28.87	44	22	
6/3/19	Mike Bayne	19.43	25.26	44	22	60
6/4/19	Oscar Ochoa	23.09	30.02	44	22	
6/4/19	Oscar Ochoa	21.48	27.92	44	22	60
6/5/19	Mike Bayne	22.27	28.95	44	22	50
Totals		155.87	202.63	308.00	154.00	270.00
Windrow Construction ratio:		3.61 /1				
Note: Yard waste yards = number of buckets * 4.00						

MSAP Process Temperature Chart Windrow# 19-6-5																						
Temperature: Shading equals temperature 131 or greater for PFRP.																						
Days	Date	Point 1				Point 2				Point 3				Point 4				Average				Turn
		10	20	30	40	10	20	30	40	10	20	30	40	10	20	30	40	10"	20"	30"	40"	
1	6/6/19	146	146	144	143	158	156	150	147	162	158	156	149	150	148	146	140	154	152	149	144.75	
2	6/7/19	150	154	155	160	160	163	164	169	160	158	153	150	150	155	155	150	159	157.5	156.75	157.25	
3	6/8/19	157	157	159	163	164	166	166	171	163	160	159	154	153	158	158	161	159.25	160.25	160.5	162.25	
4	6/9/19																					
5	6/10/19	149	155	160	163	140	148	153	157	142	142	146	153	158	161	164	160	147.25	151.5	155.75	158.25	
6	6/11/19	147	151	158	162	142	148	153	155	141	143	146	151	156	159	163	160	146.5	150.25	155	157	
7	6/12/19	140	145	149	155	138	142	147	158	135	139	144	149	150	156	159	156	140.75	145.5	149.75	154.5	
8	6/13/19	135	139	146	155	157	145	149	156	132	137	139	143	137	143	149	156	140.25	141	145.75	152.5	
9	6/14/19	134	140	155	161	140	145	152	161	139	141	152	161	141	144	144	154	138.5	142.5	150.75	159.25	
10	6/15/19	144	149	151	155	149	151	155	161	144	152	159	163	140	149	154	161	144.25	150.25	154.75	160	
11	6/16/19																					
12	6/17/19	140	144	149	151	146	149	151	153	141	149	152	155	140	146	151	155	141.75	147	150.75	153.5	
13	6/18/19	151	156	159	162	153	155	161	165	153	157	161	165	149	150	151	150	151.5	154.5	158	160.5	
14	6/19/19	149	154	159	164	148	151	158	165	145	153	158	164	144	149	156	161	146.5	151.75	157.75	163.5	
15	6/20/19	153	168	170	172	150	154	159	161	151	157	155	156	143	147	159	162	149.25	156.5	160.75	162.75	
16	6/21/19	144	145	155	159	147	148	155	159	140	141	150	151	150	154	157	160	145.25	147	154.25	157.25	
17	6/22/19	142	148	156	162	144	151	158	163	137	145	149	155	151	157	160	163	143.5	150.25	155.75	160.75	Turn
18	6/23/19																					
19	6/24/19	157	162	168	169	160	161	163	165	157	159	161	160	160	160	162	161	158.5	160.5	163.5	163.75	
20	6/25/19	160	165	169	169	159	162	166	167	156	159	162	163	158	162	163	163	158.25	162	165	165.5	
21	6/26/19	160	167	170	168	163	167	168	166	159	162	166	162	156	154	150	148	159.5	162.5	163.5	161	
22	6/27/19	160	169	173	170	166	170	171	169	163	165	169	166	159	156	152	148	162	165	166.25	163.25	
23	6/28/19	160	165	166	171	166	166	171	172	166	169	173	174	155	160	159	155	161.75	165	167.25	168	
24	6/29/19	155	163	169	172	164	169	171	171	164	167	169	171	163	169	171	173	161.5	167	170	171.75	Turn
25	6/30/19																					

## Attachment H

Hillsborough County Composting - Monitoring Sheet (MSAP Method)				Windrow # 19-6-8		
Windrow Construction:			Date Commenced: 6-5-19		Date Completed: 6-8-19	
Date	Operator Name	Biosolids (tons)	Biosolids (yards)	Yard Waste (yards)	Overs (yards)	Cover (yards)
6/5/19	Jerry Devoe	23.85	31.01	44	22	50
6/6/19	Jerry Devoe	23.67	30.77	44	22	
6/6/19	Mike Bayne	23.75	30.88	44	22	60
6/7/19	Mike Bayne	21.95	28.54	44	22	
6/7/19	Mike Bayne	20.82	27.07	44	22	60
6/8/19	Mike Bayne	22.01	28.61	44	22	
6/8/19	Mike Bayne	20.63	26.82	44	22	60
<b>Totals</b>		156.68	203.68	308.00	154.00	230.00
<b>Windrow Construction ratio:</b>		3.40 /1				
Note: Yard waste yards = number of buckets * 4.00						

<b>MSAP Process Temperature Chart Windrow# 19-6-8</b>																						
Temperature: Shading equals temperature 131 or greater for PFRP.																						
Days	Date	Point 1				Point 2				Point 3				Point 4				Average				Turn
		10	20	30	40	10	20	30	40	10	20	30	40	10	20	30	40	10"	20"	30"	40"	
1	6/9/19	147	153	158	162	145	153	158	164	144	150	156	160	145	149	150	146	145.25	151.25	155.5	158	
2	6/10/19																					
3	6/11/19	140	147	152	158	147	155	162	165	148	151	158	161	149	155	158	156	146	152	157.5	160	
4	6/12/19	139	142	148	154	141	147	154	160	141	146	152	159	143	147	152	159	141	145.5	151.5	158	
5	6/13/19	149	155	159	167	148	154	159	163	143	149	156	163	145	149	152	159	146.25	151.75	156.5	163	
6	6/14/19	152	154	152	150	148	151	150	149	140	145	147	151	151	155	157	159	147.75	151.25	151.5	152.25	
7	6/15/19	157	161	166	171	150	155	169	171	151	155	150	149	155	150	150	148	153.25	155.25	158.75	159.75	
8	6/16/19																					
9	6/17/19	136	139	141	148	132	136	144	140	139	141	140	138	138	140	141	148	136.25	139	141.5	143.5	
10	6/18/19	150	156	161	166	148	153	159	163	152	155	163	169	148	153	161	171	149.5	154.25	161	167.25	
11	6/19/19	139	143	148	159	136	144	149	159	147	154	159	163	140	146	149	158	140.5	146.75	151.25	159.75	
12	6/20/19	150	158	148	152	156	160	166	169	158	162	166	172	150	152	156	157	153.5	158	159	162.5	
13	6/21/19	150	156	159	160	157	161	163	165	150	153	157	161	150	154	159	165	151.75	156	159.5	162.75	
14	6/22/19	153	159	163	160	157	163	166	170	147	156	159	164	150	158	162	168	151.75	159	162.5	165.5	
15	6/23/19																					
16	6/24/19	148	151	150	148	160	164	163	161	152	156	160	162	153	157	161	164	153.25	157	158.5	158.75	
17	6/25/19	150	152	157	148	158	165	165	165	150	152	160	164	152	158	166	166	152.5	156.75	162	160.75	Turn
18	6/26/19	167	172	172	170	166	169	166	162	170	172	168	163	162	166	169	167	166.25	169.75	168.75	165.5	
19	6/27/19	170	175	172	171	168	172	169	167	165	171	174	170	166	169	172	170	167.25	171.75	171.75	169.5	
20	6/28/19	155	161	168	171	159	166	169	171	161	166	167	170	155	161	163	163	157.5	163.5	166.75	168.75	
21	6/29/19	150	157	163	167	161	166	169	171	166	166	171	173	160	166	166	170	159.25	163.75	167.25	170.25	
22	6/30/19																					

## Attachment I

Hillsborough County Composting - Monitoring Sheet (MSAP Method)					Windrow # 19-6-13	
Windrow Construction:			Date Commenced: 6-10-19		Date Completed: 6-13-19	
Date	Operator Name	Biosolids (tons)	Biosolids (yards)	Yard Waste (yards)	Overs (yards)	Cover (yards)
6/10/19	Jerry Devoe	23.19	30.15	44	22	
6/10/19	Jerry Devoe	21.54	28.00	44	22	60
6/11/19	Mike Bayne	22.84	29.69	44	22	
6/11/19	Mike Bayne	20.59	26.77	44	22	60
6/12/19	Mike Bayne	23.43	30.46	44	22	
6/12/19	Mike Bayne	23.77	30.90	44	22	60
6/13/19	Mike Bayne	22.35	29.06	44	22	
6/13/19	Mike Bayne	23.53	30.59	44	22	60
<b>Totals</b>		181.24	235.61	352.00	176.00	240.00
<b>Windrow Construction ratio:</b>			3.26 /1			
Note: Yard waste yards = number of buckets * 4.00						

<b>MSAP Process Temperature Chart Windrow# 19-6-13</b>																						
Temperature: Shading equals temperature 131 or greater for PFRP.																						
Days	Date	Point 1				Point 2				Point 3				Point 4				Average				Turn
		10	20	30	40	10	20	30	40	10	20	30	40	10	20	30	40	10"	20"	30"	40"	
1	6/14/19	153	161	165	150	155	163	152	151	152	155	150	146	144	155	148	146	151	158.5	153.75	148.25	
2	6/15/19	158	162	165	154	160	165	152	152	152	157	152	149	151	156	148	148	155.25	160	154.25	150.75	
3	6/16/19																					
4	6/17/19	141	146	151	155	141	144	151	155	148	151	155	159	136	141	152	156	141.5	145.5	152.25	156.25	
5	6/18/19	151	155	162	163	150	151	156	163	150	155	158	162	150	151	155	161	150.25	153	157.75	162.25	
6	6/19/19	149	156	162	168	145	153	156	158	149	156	161	163	140	146	146	149	145.75	152.75	156.25	159.5	
7	6/20/19	150	155	159	167	153	158	160	166	156	161	165	168	153	157	155	152	153	157.75	159.75	163.25	
8	6/21/19	141	145	151	138	143	149	152	157	150	152	159	163	141	145	157	163	143.75	147.75	154.75	155.25	
9	6/22/19	140	147	143	139	145	152	157	161	149	156	159	166	142	147	156	164	144	150.5	153.75	157.5	
10	6/23/19																					
11	6/24/19	157	162	165	166	155	157	160	164	149	155	159	160	158	160	164	164	154.75	158.5	162	163.5	
12	6/25/19	156	163	168	168	153	157	163	165	151	156	161	165	158	161	167	166	154.5	159.25	164.75	166	
13	6/26/19	154	161	164	166	157	161	166	168	162	165	168	167	155	160	164	168	157	161.75	165.5	167.25	
14	6/27/19	157	164	169	169	160	164	170	171	164	169	171	169	159	163	168	168	160	165	169.5	169.25	
15	6/28/19	155	161	168	171	159	166	169	171	161	166	167	170	155	161	163	163	157.5	163.5	166.75	168.75	
16	6/29/19	150	157	163	167	161	166	169	171	166	166	171	173	160	166	166	170	159.25	163.75	167.25	170.25	
17	6/30/19																					

## Attachment J

<b>Hillsborough County Composting - Monitoring Sheet (MSAP Method)</b>				<b>Windrow # 19-6-18</b>		
<b>Windrow Construction:</b>			Date Commenced: 6-14-19	Date Completed: 6-18-19		
Date	Operator Name	Biosolids (tons)	Biosolids (yards)	Yard Waste (yards)	Overs (yards)	Cover (yards)
6/14/19	Jerry Devoe	21.43	27.86	44	22	
6/14/19	Jerry Devoe	24.52	31.88	44	22	60
6/15/19	Mike Bayne	22.78	29.61	44	22	
6/15/19	Mike Bayne	13.78	17.91	44	22	60
6/17/19	Mike Bayne	21.55	28.02	44	22	
6/17/19	Mike Bayne	23.58	30.65	44	22	60
6/18/19	Mike Bayne	23.40	30.42	44	22	50
<b>Totals</b>		151.04	196.35	308.00	154.00	230.00
<b>Windrow Construction ratio:</b>		3.52 /1				
Note: Yard waste yards = number of buckets * 4.00						

<b>MSAP Process Temperature Chart Windrow# 19-6-18</b>																									
Temperature: Shading equals temperature 131 or greater for PFRP.																									
Days	Date	Point 1				Point 2				Point 3				Point 4				Average				Turn			
		10	20	30	40	10	20	30	40	10	20	30	40	10	20	30	40	10"	20"	30"	40"				
1	6/19/19																								
2	6/20/19	148	156	154	152	150	152	154	157	150	155	159	165	148	150	159	165	149	153.25	156.5	159.75				
3	6/21/19	150	156	159	160	157	161	163	165	150	153	157	161	150	154	159	165	151.75	156	159.5	162.75				
4	6/22/19	143	151	154	157	154	162	164	167	157	163	167	172	158	164	168	172	153	160	163.25	167				
5	6/23/19																								
6	6/24/19	157	162	165	166	155	157	160	164	149	155	159	160	158	160	164	164	154.75	158.5	162	163.5				
7	6/25/19	156	162	170	173	168	171	168	166	163	168	172	174	163	168	171	171	162.5	167.25	170.25	171				
8	6/26/19	159	162	163	163	142	148	155	161	140	146	150	152	158	167	173	175	149.75	155.75	160.25	162.75				
9	6/27/19	164	166	167	165	149	152	157	166	147	149	154	161	162	170	175	177	155.5	159.25	163.25	167.25				
10	6/28/19	160	166	167	165	144	150	155	161	144	149	153	155	160	165	170	173	152	157.5	161.25	163.5				
11	6/29/19	155	166	171	170	150	159	164	169	153	159	163	164	160	160	166	169	154.5	161	166	168				
12	6/30/19																								

## Attachment K

Hillsborough County Composting - Monitoring Sheet (MSAP Method)					Windrow # 19-6-24	
Windrow Construction:			Date Commenced: 6-19-19		Date Completed: 6-24-19	
Date	Operator Name	Biosolids (tons)	Biosolids (yards)	Yard Waste (yards)	Overs (yards)	Cover (yards)
6/19/19	Jerry Devoe	23.52	30.58	44	22	
6/19/19	Jerry Devoe	21.82	28.37	44	22	60
6/20/19	Mike Bayne	21.22	27.59	44	22	
6/20/19	Mike Bayne	22.31	29.00	44	22	60
6/21/19	Mike Bayne	21.76	28.29	44	22	
6/21/19	Mike Bayne	21.86	28.42	44	22	60
6/22/19	Mike Bayne	21.92	28.50	44	22	50
6/24/19	Mike Bayne	22.02	28.63	44	22	
6/24/19	Mike Bayne	22.31	29.00	44	22	60
<b>Totals</b>		198.74	258.36	396.00	198.00	290.00
<b>Windrow Construction ratio:</b>		3.42 /1				
Note: Yard waste yards = number of buckets * 4.00						

<b>MSAP Process Temperature Chart Windrow# 19-6-24</b>																						
Temperature: Shading equals temperature 131 or greater for PFRP.																						
Days	Date	Point 1				Point 2				Point 3				Point 4				Average				Turn
		10	20	30	40	10	20	30	40	10	20	30	40	10	20	30	40	10"	20"	30"	40"	
1	6/25/19	142	158	164	166	155	162	161	150	154	158	151	146	144	145	138	134	148.75	155.75	153.5	149	
2	6/26/19	158	166	165	161	160	162	158	151	158	161	156	149	157	163	159	155	158.25	163	159.5	154	
3	6/27/19	161	168	168	163	164	167	165	160	162	163	161	157	161	164	167	163	162	165.5	165.25	160.75	
4	6/28/19	166	167	168	171	160	162	166	162	160	163	165	167	163	164	164	166	162.25	164	165.75	166.5	
5	6/29/19	160	166	170	171	161	166	169	170	155	161	164	165	164	166	167	169	160	164.75	167.5	168.75	
6	6/30/19																					

## Attachment L

Hillsborough County Composting - Monitoring Sheet (MSAP Method)					Windrow # 19-6-29	
Windrow Construction:			Date Commenced: 6-25-19	Date Completed: 6-29-19		
Date	Operator Name	Biosolids (tons)	Biosolids (yards)	Yard Waste (yards)	Overs (yards)	Cover (yards)
6/25/19	Mike Bayne	18.27	23.75	44	22	
6/25/19	Mike Bayne	22.77	29.60	44	22	60
6/26/19	Mike Bayne	23.16	30.11	44	22	
6/26/19	Mike Bayne	21.27	27.65	44	22	60
6/27/19	Jerry Devoe	22.05	28.67	44	22	
6/27/19	Jerry Devoe	23.52	30.58	44	22	60
6/28/19	Jerry Devoe	23.70	30.81	44	22	
6/28/19	Jerry Devoe	23.40	30.42	44	22	60
6/29/19	Oscar Ochoa	22.73	29.55	44	22	
6/29/19	Oscar Ochoa	22.75	29.58	44	22	60
<b>Totals</b>		223.62	290.71	440.00	220.00	300.00
<b>Windrow Construction ratio:</b>		3.30 /1				
Note: Yard waste yards = number of buckets * 4.00						