



Public Works

TECHNICAL MEMORANDUM

DATE: November 10, 2016

TO: Lance Kautz, Florida Department of Environmental Protection
Steve Morgan, Florida Department of Environmental Protection

FROM: Larry Ruiz, Hillsborough County Solid Waste Management Division
Ron Wiesman, Hillsborough County Solid Waste Management Division

CC: Beth Schinella, Hillsborough County Public Utilities Department
Kim Byer, Hillsborough County Solid Waste Management Division

SUBJECT: Hillsborough County Biosolids Composting Monthly Report: November 2016

Biosolids Received (wet tons):	809.75 tons received 10/10 through 10/31
Source of Biosolids:	Hillsborough County AWWTP (Falkenburg, Valrico, and South)
Source of Bulking Agent:	Hillsborough County Yard Waste Processing Sites (Falkenburg Road and South County facilities)
General Description of Activities:	<ul style="list-style-type: none"> All incoming biosolids were mixed with bulking agent and formed into windrows on the same day as received. 5 total windrows have been constructed as of 11/1/16. Windrow temperatures were monitored daily, insufficient time has elapsed to report whether windrows have achieved time and temperature requirements. All windrows are currently in active composting. No materials are in curing. No sampling or analysis was performed. No compost was distributed for use.
Attachments:	Windrow construction and temperature records.

Board of County Commissioners

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Ramin Kouzehkanani
Liana Lopez
Bonnie M. Wise

Internal Auditor
Peggy Caskey

County Attorney
Chip Fletcher

Public Works
PO Box 1110
Tampa, FL 33601-1110
Phone: (813) 272-5912
Fax: (813) 272-5811

Hillsborough County Composting - Monitoring Sheet (MSAP Method)					Windrow # 16-10-13	
Windrow Construction:			Date Commenced: 10-10-16		Date Completed: 10--16	
Date	Operator Name	Biosolids (tons)	Biosolids (yards)	Yard Waste (yards)	Overs (yards)	Cover (yards)
10/10/16	Oscar Ochoa	20.85	27.11	60.00	0.00	
10/10/16	Oscar Ochoa	21.38	27.79	60.00	0.00	44.00
10/11/16	Oscar Ochoa	22.27	28.95	60.00	0.00	
10/11/16	Oscar Ochoa	22.66	29.46	60.00	0.00	40.00
10/12/16	Ron Wiesman	22.82	29.67	60.00	0.00	
10/12/16	Ron Wiesman	22.63	29.42	60.00	0.00	36.00
10/13/16	Ron Wiesman	17.99	23.39	60.00	0.00	
10/13/16	Ron Wiesman	22.75	29.58	60.00	0.00	44.00
Totals		173.35	225.36	480.00	0.00	164.00
Windrow Construction ratio:		2.86 /1				

MSAP Process Temperature Chart Windrow# 16-10-13

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	10/14/16	161	166	153	138	159	149	144	150	149	139	130	129	143	128	116	116	153	145.5	135.75	133.25	
2	10/15/16	161	161	153	144	155	152	149	150	149	139	131	129	147	139	129	125	153	147.75	140.5	137	
3	10/16/16																					
4	10/17/16	160	166	154	150	160	164	160	162	151	148	142	140	160	154	140	138	157.75	158	149	147.5	
5	10/18/16	160	165	160	154	160	160	158	158	154	152	154	160	164	162	150	142	159.5	159.75	155.5	153.5	
6	10/19/16	158	166	162	152	162	160	158	156	160	158	158	160	160	164	154	144	160	162	158	153	
7	10/20/16	156	168	166	154	160	160	158	156	159	158	158	160	162	164	157	150	159.25	162.5	159.75	155	
8	10/21/16	160	166	164	152	158	160	156	155	158	160	158	160	158	168	162	154	158.5	163.5	160	155.25	
9	10/22/16	159	162	164	160	158	161	165	171	150	161	163	165	152	169	172	163	154.75	163.25	166	164.75	
10	10/23/16																					
11	10/24/16	160	164	160	154	162	162	160	160	162	162	160	162	154	166	166	154	159.5	163.5	161.5	157.5	
12	10/25/16	158	166	160	152	166	164	160	158	166	164	160	160	160	166	166	158	162.5	165	161.5	157	
13	10/26/16	156	166	160	152	164	164	161	160	164	164	160	160	158	164	166	158	160.5	164.5	161.75	157.5	
14	10/27/16	150	166	160	150	162	164	162	161	164	162	162	162	154	162	165	158	157.5	163.5	162.25	157.75	
15	10/28/16	146	166	160	150	160	162	162	162	163	162	162	162	144	160	164	158	153.25	162.5	162	158	
16	10/29/16	142	158	162	162	161	168	172	172	152	164	162	162	138	162	168	164	148.25	163	166	165	
17	10/30/16																					
18	10/31/16	148	166	164	162	156	168	168	170	160	164	164	162	140	160	166	164	151	164.5	165.5	164.5	

Hillsborough County Composting - Monitoring Sheet (MSAP Method)					Windrow #_16-10-18	
Windrow Construction:			Date Commenced: 10-14-16		Date Completed: 10-18-16	
Date	Operator Name	Biosolids (tons)	Biosolids (yards)	Yard Waste (yards)	Overs (yards)	Cover (yards)
10/14/16	Oscar Ochoa	21.66	28.16	60.00	0.00	
10/14/16	Oscar Ochoa	21.47	27.91	60.00	0.00	20
10/15/16	Oscar Ochoa	22.18	28.83	60.00	0.00	
10/15/16	Oscar Ochoa	21.03	27.34	60.00	0.00	30
10/17/16	Oscar Ochoa	22.27	28.95	60.00	0.00	
10/17/16	Oscar Ochoa	21.49	27.94	60.00	0.00	50
10/18/16	Oscar Ochoa	21.50	27.95	60.00	0.00	
10/18/16	Oscar Ochoa	22.53	29.29	60.00	0.00	50
Totals		174.13	226.37	480.00	0.00	150.00
Windrow Construction ratio:		2.78 /1				

MSAP Process Temperature Chart Windrow# 16-10-18

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	10/19/16	166	170	152	136	164	170	162	146	160	166	152	136	136	150	136	118	156.5	164	150.5	134	
2	10/20/16	160	162	154	142	160	162	154	144	158	160	156	144	150	156	140	134	157	160	151	141	
3	10/21/16	166	168	156	150	168	164	160	146	166	170	162	154	164	164	148	132	166	166.5	156.5	145.5	
4	10/22/16	158	172	170	162	151	163	164	161	140	162	165	161	156	153	164	163	151.25	162.5	165.75	161.75	
5	10/23/16																					
6	10/24/16	168	170	164	158	166	168	166	156	162	166	165	160	152	158	154	154	162	165.5	162.25	157	
7	10/25/16	160	166	160	154	164	168	162	154	162	167	166	160	156	164	158	156	160.5	166.25	161.5	156	
8	10/26/16	162	168	162	156	160	166	160	154	160	166	164	160	152	162	160	160	158.5	165.5	161.5	157.5	
9	10/27/16	164	168	162	158	161	164	159	153	156	162	162	160	150	161	162	160	157.75	163.75	161.25	157.75	
10	10/28/16	168	170	164	158	162	160	156	152	154	160	162	160	148	160	162	162	158	162.5	161	158	
11	10/29/16	156	170	171	178	152	150	158	161	152	148	158	162	137	152	158	160	149.25	155	161.25	165.25	
12	10/30/16																					
13	10/31/16	158	168	168	164	158	162	164	160	156	162	160	161	138	160	160	162	152.5	163	163	161.75	

Hillsborough County Composting - Monitoring Sheet (MSAP Method)					Windrow #_16-10-22	
Windrow Construction:			Date Commenced: 10-19-16		Date Completed: 10-22-16	
Date	Operator Name	Biosolids (tons)	Biosolids (yards)	Yard Waste (yards)	Overs (yards)	Cover (yards)
10/19/16	Ron Wiesman	23.10	30.03	60.00	0.00	
10/19/16	Ron Wiesman	21.27	27.65	60.00	0.00	36
10/20/16	Ron Wiesman	22.56	29.33	60.00	0.00	
10/20/16	Ron Wiesman	21.18	27.53	52.00	0.00	40
10/21/16	Oscar Ochoa	21.62	28.11	52.00	0.00	
10/21/16	Oscar Ochoa	21.62	28.11	56.00	0.00	40
10/22/16	Oscar Ochoa	19.79	25.73	52.00	0.00	
10/22/16	Oscar Ochoa	19.81	25.75	56.00	0.00	40
Totals		170.95	222.24	448.00	0.00	156.00
Windrow Construction ratio:		2.72 /1				

MSAP Process Temperature Chart Windrow# 16-10-22

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	10/23/16																					
2	10/24/16	160	142	132	124	164	148	134	120	164	158	144	128	142	128	118	116	157.5	144	132	122	
3	10/25/16	158	148	136	128	166	150	128	120	162	163	142	128	156	140	120	120	160.5	150.25	131.5	124	
4	10/26/16	158	156	148	132	164	150	136	129	156	164	152	134	156	144	131	125	158.5	153.5	141.75	130	
5	10/27/16	156	160	160	138	162	152	141	131	153	164	158	146	158	148	135	131	157.25	156	148.5	136.5	
6	10/28/16	154	166	162	140	160	152	146	132	148	166	162	156	160	150	138	131	155.5	158.5	152	139.75	
7	10/29/16	152	164	164	162	140	160	155	150	142	162	172	165	165	159	157	157	149.75	161.25	162	158.5	
8	10/30/16																					
9	10/31/16	156	166	166	160	156	161	158	151	152	163	172	160	166	162	158	156	157.5	163	163.5	156.75	

Hillsborough County Composting - Monitoring Sheet (MSAP Method)					Windrow # <u>16-10-27</u>	
Windrow Construction:			Date Commenced: 10-24-16		Date Completed: 10-27-16	
Date	Operator Name	Biosolids (tons)	Biosolids (yards)	Yard Waste (yards)	Overs (yards)	Cover (yards)
10/24/16	Oscar Ochoa	19.02	24.73	52.00	0.00	
10/24/16	Oscar Ochoa	17.81	23.15	52.00	0.00	40
10/25/16	Oscar Ochoa	21.00	27.30	52.00	0.00	
10/25/16	Oscar Ochoa	22.02	28.63	52.00	0.00	40
10/26/16	Ron Wiesman	21.57	28.04	60.00	0.00	
10/26/16	Mike Bayne	21.72	28.24	60.00	0.00	36
10/27/16	Mike Bayne	22.37	29.08	60.00	0.00	
10/27/16	Mike Bayne	20.96	27.25	60.00	0.00	40
Totals		166.47	216.41	448.00	0.00	156.00
Windrow Construction ratio:		2.79 /1				

MSAP Process Temperature Chart Windrow# 16-10-27

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	10/28/16	148	166	166	146	132	166	162	156	150	138	124	120	131	160	162	148	140.25	157.5	153.5	142.5	
2	10/29/16	144	163	167	162	132	159	170	170	160	165	158	136	136	162	165	162	143	162.25	165	157.5	
3	10/30/16																					
4	10/31/16	156	164	166	160	150	161	170	166	162	162	160	150	150	162	165	160	154.5	162.25	165.25	159	