



September 30, 2012

Susan J. Pelz, P.E.
Florida Department of Environmental Protection
Southwest District
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

OCT 09 2012

SOUTHWEST DISTRICT
TAMPA

RE: Remaining Disposal Capacity and Site Life - Reporting Year 2012
Phases I-VI and Capacity Expansion Area (Sections 7, 8, and 9)
Southeast County Landfill - Hillsborough County, Florida
Permit No.: 35435-014-S0/01

Dear Ms. Pelz:

On behalf of the Hillsborough County Public Utilities Department, Solid Waste Management Group (SWMG), HDR has prepared the remaining disposal capacity and site life estimates for Phases I-VI and the Capacity Expansion Area (CEA) (Permit No 35435-014-S0/01- SO), Southeast County Landfill (SCLF), Hillsborough County, Florida in accordance with Rule 62-701.500(13)(c) and Specific Condition Part C.13.c of the facility's solid waste operations permit.

Annual Topographic Survey and Remaining Capacity Analysis

The aerial topographic survey was performed by Pickett and Associates, Inc. (Pickett) on July 13, 2012 (see Attachment A) and demonstrates that Phases I-VI and the CEA Sections 7, 8, and 9 have been filled in general accordance with the permitted operations sequence plans including that the sides slopes are no greater than 4H to 1V (Phases I-VI) and 3H to 1V (CEA Sections 7, 8, and 9) and the top elevations do not exceed the permitted maximum design height elevation of 255 feet NVGD and 285 feet NGVD for Phases I-VI and the CEA Sections 7, 8, and 9, respectively. In addition, waste has not been placed outside the permitted limits of waste/liner in both Phases I-VI and the CEA Sections 7, 8, and 9.

Using AutoCAD software, the gross remaining airspace volumes were calculated using the permitted conceptual final build-out contours for the Phases I-VI and the CEA Sections 7, 8, and 9, and comparing the surfaces to the July 13, 2013 topographic survey (refer to Attachment A for volume summaries). The estimated gross remaining airspace for the Phases I-VI and the CEA Sections 7, 8, and 9 is 9,739,967 cubic yards (CY) based on the airspace analyses performed using AutoCAD.

Assumptions used in calculating the remaining site life are discussed in the notes provided in Table 1. Based on the information provided by the SWMG, approximately 239,875 tons of municipal solid waste (MSW) was disposed of at the SCLF between July 1, 2011 and June 30, 2012. Of the 239,875 tons disposed of at the SCLF during this time period, no MSW was disposed of in Phases I-VI due to ongoing sinkhole remediation. Assuming an apparent waste density of 1,900 pounds per cubic yard (PCY), the estimated annual airspace consumed in cubic yards was 252,500 CY in the CEA Sections 7, 8, and 9. The apparent waste density is defined as the actual waste tonnage disposed divided by the volume of airspace consumed by both waste and daily cover soil.

Remaining Disposal Capacity and Site Life for the CEA (Section 7, 8, and 9)

The estimated remaining airspace of CEA Sections 7, 8, and 9 is 1,405,786 CY which was calculated by subtracting the final cover soil volume of 176,056 cubic yards from the gross remaining air space of 1,581,842 CY (see Table 1 attached). Using the assumptions listed on Table 1, the remaining site life for the CEA Sections 7, 8, and 9 was estimated to be approximately 9.0 years from July 13, 2012 (refer to Table 1 attached). The estimated remaining site life will fluctuate depending on the future waste composition and disposal rates.

Remaining Disposal Capacity and Site Life for Phases I-VI

The estimated remaining airspace of Phases I-VI is 7,440,110 CY which was calculated by subtracting the final cover soil volume of 718,015 CY from the gross remaining air space of 8,158,125 CY (see Table 1 attached). Using the assumptions listed on Table 1, the remaining site life for Phases I-VI was estimated to be approximately 29.5 years from July 13, 2011 (refer to Table 1 attached). The estimated remaining site life will fluctuate depending on the future waste composition and disposal rates. In addition, no waste was placed in Phases I-VI during 2012 given the on-going sinkhole remediation work. Therefore, as a result of typical waste decomposition in the landfill, the remaining airspace within Phases I-VI increased during 2012.

Please contact me anytime at 813-262-2776 if you have questions or require additional information.

Sincerely,
HDR Engineering, Inc.



Richard Siemering
Solid Waste Department Manager

Attachments (2) – Table 1 and Topographic Survey (Attachment A)

Xc: Patricia Berry, SWMG
Larry Ruiz, SWMG
Ron Cope, EPC

Table 1
Projected Remaining Capacity and Site Life
Phase I-VI and Capacity Expansion Area (Sections 7, 8, and 9)
Southeast County Landfill
Hillsborough County, Florida
September 11, 2012

Phases I - VI Remaining Gross Air Space⁴ = 8,158,125 CY Phases I - VI Estimated Final Cover Soils = 718,015 CY
CEA Sections 7-9 Remaining Gross Air Space⁴ = 1,581,842 CY CEA Section 7-9 Estimated Final Cover Soils = 176,056 CY
Total Gross Remaining Air Space = 9,739,967 CY

Design Life Estimates from Table Below: Total Remaining Net Air Space (Gross Air Space - Final Cover Soils) = 8,845,896 CY
CEA Sections 7-9 = 9.0 years Annual Disposal Rate Increase = 1.5%
Phases I-VI = 29.5 years Apparent Waste Density = 1,900 lbs/CY

Year	Projected Disposal Rates ^{1,2}	Diversion to Section 7-9	Diversion to Phases I-VI	Waste to Phases I-VI	Waste to Phases I-VI	Waste to Sections 7-9	Waste to Sections 7-9	Remaining Capacity for Phases I-VI ⁴	Remaining Capacity for Sections 7-9 ⁴	
	Tons	%	%	Tons	CY ³	Tons	CY ³	CY	CY	
	Beginning Capacity as of July 13, 2012								7,440,109.79	1,405,786.00
2012	115,000.00	100%	0%	0.00	0.00	115,000.00	121,052.63	7,440,109.79	1,284,733.37	
2013	230,000.00	100%	0%	0.00	0.00	230,000.00	242,105.26	7,440,109.79	1,042,628.11	
2014	233,450.00	50%	50%	116,725.00	122,868.42	116,725.00	122,868.42	7,317,241.37	919,759.68	
2015	236,951.75	50%	50%	118,475.88	124,711.45	118,475.88	124,711.45	7,192,529.92	795,048.24	
2016	240,506.03	50%	50%	120,253.01	126,582.12	120,253.01	126,582.12	7,065,947.80	668,466.12	
2017	244,113.62	50%	50%	122,056.81	128,480.85	122,056.81	128,480.85	6,937,466.95	539,985.27	
2018	247,775.32	50%	50%	123,887.66	130,408.06	123,887.66	130,408.06	6,807,058.89	409,577.20	
2019	251,491.95	50%	50%	125,745.98	132,364.18	125,745.98	132,364.18	6,674,694.70	277,213.02	
2020	255,264.33	50%	50%	127,632.16	134,349.65	127,632.16	134,349.65	6,540,345.06	142,863.37	
2021	259,093.29	52%	48%	123,373.10	129,866.42	135,720.20	142,863.37	6,410,478.64	0.00	
2022	262,979.69	0%	100%	262,979.69	276,820.73	0.00	0.00	6,133,657.91	0.00	
2023	266,924.39	0%	100%	266,924.39	280,973.04	0.00	0.00	5,852,684.87	0.00	
2024	270,928.26	0%	100%	270,928.26	285,187.64	0.00	0.00	5,567,497.23	0.00	
2025	274,992.18	0%	100%	274,992.18	289,465.45	0.00	0.00	5,278,031.78	0.00	
2026	279,117.06	0%	100%	279,117.06	293,807.43	0.00	0.00	4,984,224.34	0.00	
2027	283,303.82	0%	100%	283,303.82	298,214.55	0.00	0.00	4,686,009.80	0.00	
2028	287,553.38	0%	100%	287,553.38	302,687.76	0.00	0.00	4,383,322.03	0.00	
2029	291,866.68	0%	100%	291,866.68	307,228.03	0.00	0.00	4,076,093.95	0.00	
2030	296,244.68	0%	100%	296,244.68	311,836.50	0.00	0.00	3,764,257.45	0.00	
2031	300,688.35	0%	100%	300,688.35	316,514.05	0.00	0.00	3,447,743.40	0.00	
2032	305,198.67	0%	100%	305,198.67	321,261.76	0.00	0.00	3,126,481.64	0.00	
2033	309,776.65	0%	100%	309,776.65	326,080.69	0.00	0.00	2,800,400.96	0.00	
2034	314,423.30	0%	100%	314,423.30	330,971.90	0.00	0.00	2,469,429.06	0.00	
2035	319,139.65	0%	100%	319,139.65	335,936.47	0.00	0.00	2,133,492.59	0.00	
2036	323,926.75	0%	100%	323,926.75	340,975.52	0.00	0.00	1,792,517.07	0.00	
2037	328,785.65	0%	100%	328,785.65	346,090.15	0.00	0.00	1,446,426.91	0.00	
2038	333,717.43	0%	100%	333,717.43	351,281.51	0.00	0.00	1,095,145.41	0.00	
2039	338,723.19	0%	100%	338,723.19	356,550.73	0.00	0.00	738,594.68	0.00	
2040	343,804.04	0%	100%	343,804.04	361,898.99	0.00	0.00	376,695.69	0.00	
2041	348,961.10	0%	100%	348,961.10	367,327.48	0.00	0.00	9,368.21	0.00	
2042	354,195.52	0%	3%	8,899.80	9,368.21	0.00	0.00	(0.00)	0.00	

Notes:

- 1 Projected disposal rate tonnages based on historical tonnage received in 2011/2012 and annual increase based on Hillsborough County Planning Commission Population Estimates of 1.5% average annual increases for 2004 - 2025.
- 2 Project disposal rate for 2012 based on approximately 6 months remaining in 2012 (July 1 - December 31) = 220,000 x 6 months / 12 months = 110,000 tons.
- 3 Cubic yard conversion from tons based on 1,900 lbs/cy apparent waste density based on typical waste densities calculated using monthly surveys and tonnage reports by the County.
- 4 Remaining estimated air space based on Pickett's July 13, 2012 aerial topographic survey and permitted final buildout contours.
- 5 Remaining volumes and site life calculations based on gross remaining air space. Final cover soil for Phases I-VI has been deducted from the available air space. The total remaining air space for Phases I-VI is 8,158,124.79 cubic yards. From the financial assurance cost estimates, it was estimated that 718,015 cubic yards of final cover soil would be needed for closure of Phases I-VI. Therefore, the total available net remaining air space for waste and daily cover soil is 8,158,124.79 - 718,015 cubic yards = 7,440,109.79 cubic yards. Any increase in remaining air space is a result of differential settlement. Remaining volumes and site life calculations based on gross remaining air space. Final cover soil for CEA has been deducted from the available air space. The total remaining air space for the CEA (Sections 7-9) is 1,581,842.63 cubic yards. From the financial assurance cost estimates, it was estimated that 176,056 cubic yards of final cover soil would be needed for closure of the CEA (Sections 7-9). Therefore, the total available net remaining air space for waste and daily cover soil is 1,581,842.63 - 176,056 cubic yards = 1,405,786 cubic yards.



NOTE: THIS REPORT AND ACCOMPANYING MAP ARE NOT FULL AND COMPLETE WITHOUT THE OTHER AND ARE NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER

PICKETT & ASSOCIATES PROJECT NO.: 11994-12B

TITLE/TYPE OF SURVEY: Topographic & Special Purpose Survey

DATE OF SURVEY: This Map is based on aerial photography flown 07/13/12

DATE OF THIS REPORT: 08/09/12

SUBJECT: S.E. Landfill

CLIENT: Waste Management

ACCURACY STATEMENT: The following stated plus or minus tolerances encompass a minimum of 90% of the difference between photogrammetrically measured values and any ground truth of all well-identified features. Mapped features will meet or exceed the Florida Minimum Technical Standards.

VERTICAL: Contours may be measured to an estimated vertical positional accuracy of 0.5'. Spot elevations and well-identified features have been measured to an estimated vertical positional accuracy of 0.25'.

HORIZONTAL: Well-identified features have been measured to an estimated horizontal positional accuracy of 1.66', as per Florida Minimum Technical Standards. All measurements are in U.S. Survey Feet.

MAP PLOTTING: This map is intended to be displayed at a scale of 1" = 50' (1:600) or smaller.

DATUM:

HORIZONTAL: Coordinates are referenced to the West Zone of the Florida State Plane Coordinate System, NAD 83/90 adjustment. Referenced to Hillsborough County Horizontal Control Monuments LW-E and LW-D.

VERTICAL: Elevations are to National Geodetic Vertical Datum of 1929, and are referenced to Hillsborough County Horizontal Control Monuments LW-E and LW-D.

Control Points Used:

<u>Pt#</u>	<u>Easting</u>	<u>Northing</u>	<u>Elevation</u>
4530	597249.91	1253593.61	125.08
4532	594975.02	1250721.79	130.97
6426	600531.06	1252289.80	148.40
10000	596658.59	1249409.50	126.59

PICKETT & ASSOCIATES, INC.

10002	594444.64	1249416.46	127.42
10004	598710.90	1249383.77	126.01
10006	598999.12	1250855.31	137.37
10014	599697.57	1251577.37	134.55
10019	601089.81	1254397.27	122.83
10021	598104.00	1254421.53	114.20
10023	595105.45	1254273.93	96.12
16273	596207.45	1252551.28	127.03

Feature List:

(THESE FEATURES ARE REPRESENTED BY SYMBOLS NOT TO SCALE)			LEGEND:		
△ CONTROL	∟ FLAG	○ TREE	— CURB	— PIPELINE	— RECREATION
PT# TARGET NUMBER	□ MAIL BOX	✱ PALM	▨ PAVED SURFACE	— EDGE OF GROVE	— SYMMPLINE
N NORTHING	→ GUYWIRE	○ SHRUB	▨ CONCRETE SURFACE	— SWAMP/MARSH	— OBSCURED CONTOUR
E EASTING	⊗ MANHOLE	⊠ TOWER	▨ UNPAVED ROAD	— GUARDRAIL	— DEPRESSION CONTOUR
EL ELEVATION	⊕ HYDRANT		— FENCE	— WALL	(THESE INFORMATIVE LABELS ARE NOT SCALE DEPENDENT)
○ UTILITY POLE	K CULVERT		— RAILROAD	— STRUCTURE	W.E. WATER ELEVATION
✱ LIGHT POLE	▨ CATCH BASIN		— TREE LINE	— SHRUB LINE	x 120.1 SPOT ELEVATION
△ SIGN	⊠ AIR CONDITIONER				> 120.1 OBSCURED SPOT
⊕ TRAFFIC LIGHT	⊠ ELECTRICAL				MISC MISCELLANEOUS
○ POST	⊠ MISCELLANEOUS SYMBOL				
○ VALVE					

Measurement Methods: In areas where vegetation makes the ground difficult to determine contours are shown dashed and do not meet the above stated accuracy. This map is limited to those features visible on aerial photography. Color aerial photography was acquired at a negative scale of 1:3960, scanned at a 15-micron resolution and mapped using softcopy photogrammetric techniques.

Limitations: This mapping should be used for preliminary design work only and should not replace an actual field survey where the required accuracy is greater than the accuracy stated in this report. No responsibility is assumed for areas outside the contracted scope.

T. Jeffrey Young

7/13/12

T. JEFFREY YOUNG, PSM, CP
FLORIDA REGISTRATION NO. 5440
PICKETT AND ASSOCIATES, INC.
FLORIDA REGISTRATION NO. 364

SURVEY DATE



To: Richard Siemering	
From: Braden Johnson	Project: Hillsborough County – Site Life Calculations
CC:	
Date: September 10, 2012	Job No: 096-171431-002

RE: Current Available LF Volume in Phase I - VI

Rich here is the remaining airspace in Phases I-VI. The HDR Lift 23 final design contours from sheet 14, "Phases I-VI Operating Sequence-Phases I-IV Lift 23 (Final Lift)" were compared to the July 13, 2012 semi-annual topographic survey by Pickelt. The results of the volumes are as follows:

Volume Surface: Volume - July 2012 Topo vs Lift 23 Final Buildout

Description: Full Volume for Phases 1-6

Volume Fill: 8,158,124.79

Compare Surface: PHI-VI_Lift 23 Final

Base Surface: Existing Topo - Phases 1-6 from 7-13-2012

Gross Remaining Volume Per Phase:

Volume Surface: Volume - Phase I

Description: July 2012 Topo vs Phase I Area Final Design

Volume Fill: 1,868,037.36

Compare Surface: PHI-VI_Lift 23 Final

Base Surface: Existing Topo - Phases 1-6 from 7-13-2012

Volume Surface: Volume - Phase II

Description: July 2012 Topo vs Phase II Area Final Design

Volume Fill: 1,511,784.32

Compare Surface: PHI-VI_Lift 23 Final

Base Surface: Existing Topo - Phases 1-6 from 7-13-2012

Volume Surface: Volume - Phase III

Description: July 2012 Topo vs Phase III Area Final Design

Volume Fill: 1,328,746.67

Compare Surface: PHI-VI_Lift 23 Final

Base Surface: Existing Topo - Phases 1-6 from 7-13-2012

Volume Surface: Volume - Phase IV

Description: July 2012 Topo vs Phase IV Area Final Design

Volume Fill: 996,666.71

Compare Surface: PHI-VI_Lift 23 Final

Base Surface: Existing Topo - Phases 1-6 from 7-13-2012

Volume Surface: Volume - Phase V
Description: July 2012 Topo vs Phase V Area Final Design
Volume Fill: 316,849.48
Compare Surface: PHI-VI_Lift 23 Final
Base Surface: Existing Topo - Phases 1-6 from 7-13-2012

Volume Surface: Volume - Phase VI
Description: July 2012 Topo vs Phase VI Area Final Design
Volume Fill: 2,133,704.46
Compare Surface: PHI-VI_Lift 23 Final
Base Surface: Existing Topo - Phases 1-6 from 7-13-2012

To: Richard Siemering	
From: Braden Johnson	Project: Hillsborough County – Site Life Calculations
CC:	
Date: September 10, 2012	Job No: 096-171431-002

RE: Current Available LF Volume in Section 7, 8 and 9

Rich here is the available volume in Sections 7, 8 and 9 of the Capacity Expansion Area of Southeast County Landfill as of July 13, 2012. I've compared a surface made from the July 13, 2012 existing topographic survey by Pickett versus the design final contours from Fill Sequence 18, sheet C-06 of the Sections 7, 8, 9 Fill Sequence plans by HDR. The results of the volumes are as follows:

Volume Surface: Volume - July 2012 vs Seq 18 Full Buildout
Description: Full Volume for Capacity Expansion Area 7-8-9
Volume Fill: 1,581,842.63
Compare Surface: CEA_SEQ-18_FULLBUILD
Base Surface: Existing Topo - Cap Expan Area from 7-13-2012

Gross Remaining Volume Per Section:

Volume Surface: Volume - Section 7
Description: July 2012 Topo vs Section 7 Fill Area
Volume Fill: 598,129.31
Compare Surface: CEA_SEQ-18_FULLBUILD
Base Surface: Existing Topo - Cap Expan Area from 7-13-2012

Volume Surface: Volume - Section 8
Description: July 2012 Topo vs Section 8 Fill Area
Volume Fill: 220,707.85
Compare Surface: CEA_SEQ-18_FULLBUILD
Base Surface: Existing Topo - Cap Expan Area from 7-13-2012

Volume Surface: Volume - Section 9
Description: July 2012 Topo vs Section 8 Fill Area
Volume Fill: 783,004.79
Compare Surface: CEA_SEQ-18_FULLBUILD
Base Surface: Existing Topo - Cap Expan Area from 7-13-2012