

SCS ENGINEERS

June 28, 2013
File No. 09199033.23

Mr. Steven G. Morgan
Florida Department of Environmental Protection
Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

Subject: Estimate of Remaining Capacity and Life of Site
Hardee County Landfill
Phase II Section I Disposal Area
Hardee County, Florida

Dear Mr. Morgan:

On behalf of the Hardee County Board of County Commissioners (BOCC), SCS Engineers (SCS) is pleased to submit the remaining capacity estimate and life of site estimate for the Hardee County Landfill Phase II Section I disposal area. The estimates of remaining capacity and life of site are being submitted in fulfillment of Specific Condition No. C.13.f of Operation Permit No. 38414-011-SO/01 for the Hardee County Landfill. As required by Specific Condition No. C.13.f of the Operations Permit, a full aerial topographic survey of the landfill was conducted on March 22, 2013 by Pickett & Associates, Inc. (Pickett). The Pickett survey was used for preparation of the calculations to estimate the remaining capacity and site life. Please refer to Attachment A for a copy of the March 22, 2013 Pickett aerial topographic survey and Survey Report.

WASTE DISPOSAL PROJECTIONS

Hardee County supplied SCS with waste quantity records for April 2012 through March 2013. This information is provided in Attachment B and is also summarized in this section in Table 1. As shown in the waste quantity reports, the amount of waste disposed in the Phase II Section I disposal area is the total amount of residential, commercial, and construction and demolition waste materials minus the quantity of waste recycled in the Materials Recycling Facility.

SCS used the projected population estimates prepared by the Florida Legislative Office of Economic and Demographic Research (FLOEDR) for Hardee County to estimate the waste quantity disposal rate per capita for the period from April 2012 through March 2013. Using the FLOEDR population projections and the actual tonnages disposed in the Phase II Section I disposal area, SCS estimated a waste disposal tonnage per capita of approximately 0.586 tons per person.

**TABLE 1. WASTE DISPOSAL IN
PHASE II SECTION I**

TIME PERIOD (MONTHS)	WASTE DISPOSED OF IN CLASS I LANDFILL² (tons/month)	
April 12	1,399	
May 12	1,387	
June 12	1,674	
July 12	1,288	
August 12	1,286	
September 12	1,131	
October 12	1,423	
November 12	1,191	
December 12	1,346	
January 13	1,458	
February 13	1,299	
March 13	1,370	
Total	16,250	
Population ¹		27,725
Waste Tonnage Per Capita ³		0.586

Notes:

¹ Florida Legislative Office of Economic and Demographic Research

² Actual Waste Quantity disposed in landfill provided by Hardee County.

³ Waste disposed based upon population.

ESTIMATED REMAINING DISPOSAL CAPACITY AND SITE LIFE

To estimate the airspace volume utilized during the time period, SCS compared the aerial topographic survey conducted by Pickett dated March 22, 2013 with the previous aerial topographic survey conducted by Pickett dated April 3, 2012. The difference between the two topographies represents the airspace volume consumed for the recorded quantity of waste disposed by the County. Please refer to Attachment C for the airspace volume consumed drawing. Based on the difference of the two topographic surveys, approximately 27,698 CY of airspace was consumed for placement of 16,250 tons of waste. Based on these values, SCS estimated the in-place waste density to be approximately 43 pounds per cubic foot or approximately 1,173 pounds per cubic yard. Table 2 provided below represents the available and

consumed airspace based on the waste disposal tonnage per capita of approximately 0.586 tons per person as calculated from April 2012 through March 2013.

To estimate the remaining available airspace for placement of waste materials and daily cover soils, SCS compared the Phase II Section I disposal area build out through Sequence 7 of the Operations Plans with the aerial topographic survey conducted by Pickett dated March 22, 2013. The difference between the two topographies represents the remaining volume available for landfill operations as currently permitted. Please refer to Attachment D for the remaining volume estimate drawing. The gross remaining available airspace for placement of waste materials and daily cover soils was estimated to be 55,213 cubic yards (CY). SCS assumed that 5 percent of the gross available airspace would be used for daily cover material (2,761 CY) which would leave approximately 52,452 CY of airspace available in the Phase II Section I area for waste disposal.

TABLE 2. AVAILABLE AND CONSUMED AIRSPACE

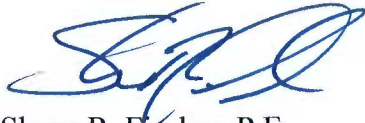
TIME PERIOD	POPULATION ¹	WASTE DISPOSED (tons) ²	CUMULATIVE WASTE DISPOSED (tons/month)	AIRSPACE CONSUMED (CY)	CUMULATIVE AIRSPACE CONSUMED (CY)	AVAILABLE AIRSPACE (CY)
						52,452
April 13 - March 14	27,877	16,339	-----	27,850	-----	24,602
April 14 - March 15	28,021	16,424	-----	27,994	-----	-3,392
April 14	28,021	1,369	1,369	2,333	2,333	22,269
May 14	28,021	1,369	2,737	2,333	4,666	19,937
June 14	28,021	1,369	4,106	2,333	6,998	17,604
July 14	28,021	1,369	5,475	2,333	9,331	15,271
August 14	28,021	1,369	6,843	2,333	11,664	12,938
September 14	28,021	1,369	8,212	2,333	13,997	10,605
October 14	28,021	1,369	9,581	2,333	16,330	8,273
November 14	28,021	1,369	10,949	2,333	18,663	5,940
December 14	28,021	1,369	12,318	2,333	20,995	3,607
January 15	28,021	1,369	13,686	2,333	23,328	1,274
February 15	28,021	1,369	15,055	2,333	25,661	-1,059

As shown in Table 2, SCS estimates the remaining available airspace in the Phase II Section I disposal area through Fill Sequence No. 7 will be exhausted by approximately mid February 2015. Please refer to Attachment E for a further breakdown of the site life calculations.

Mr. Steven G. Morgan
June 28, 2013
Page 4

Please do not hesitate to call should you have any questions or require additional information.

Sincerely,



Shane R. Fischer, P.E.
Project Manager
SCS ENGINEERS

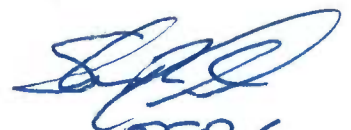


C. Ed Hilton, P.E.
Vice President/Solid Waste Division Director
SCS ENGINEERS

cc: Teresa Carver, Hardee County Solid Waste Director

Attachments

SRF/CEH:srf



55026
6/28/13

ATTACHMENT A

PICKETT & ASSOCIATES, INC.
AERIAL TOPOGRAPHIC SURVEY
March 22, 2013
AND
SURVEY REPORT



NOTE: THIS REPORT AND ACCOMPANYING MAP TITLED HARDEE COUNTY LANDFILL 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.: 14198-11

TITLE/TYPE OF SURVEY: Topographic Survey

DATE OF SURVEY: This Map is based on aerial data flown 3/22/13

SUBJECT: Hardee County Landfill

CLIENT: Hardee County

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 meet or exceed the Florida Minimum Technical Standards.

VERTICAL: Contours have been 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'.

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. Pickett & Associates provided the horizontal coordinates.

VERTICAL: Elevations are to National Geodetic Vertical Datum of 1929. Pickett & Associates provided the vertical elevations.

Control Points Used:

Pt#	Easting	Northing	Elevation
701	728524.20	1177590.85	85.66
703	728588.65	1174942.96	79.15
706	727169.10	1176229.17	83.19
708	725944.18	1177595.96	84.55
711	725819.93	1174927.65	79.04

PICKETT & ASSOCIATES, INC.

Feature List

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

Measurement Methods:


This map is limited to those features visible on aerial imagery. Color digital imagery was acquired at an altitude of 3000' using a metric precision digital camera whose focal length is 70.3mm. Mapping was performed using LiDAR and softcopy photogrammetric techniques. The LiDAR data for the final ground surface has a Ground Sample Distance of 0.92 foot and a density of 1.19 points per square foot (± 13 points per square meter). For a vertical accuracy check, the LiDAR data was compared to five (5) points set as targets for aerial imagery. The Root Mean Square Error of the Elevations (RMSEZ) is 0.06 foot, being the equivalent of 0.2' FGDC/NSSDA Vertical Accuracy. All measurements are in U.S. Survey Feet.

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



SURVEY DATE





ACTUALITY STATEMENT: The following stated data or actual information was obtained by the surveyor or his/her assistants by means of a surveying instrument, and the same is true and correct to the best of their knowledge and belief. The surveyor is not responsible for the accuracy of the data or information obtained by means of a surveying instrument, and the same is true and correct to the best of their knowledge and belief.

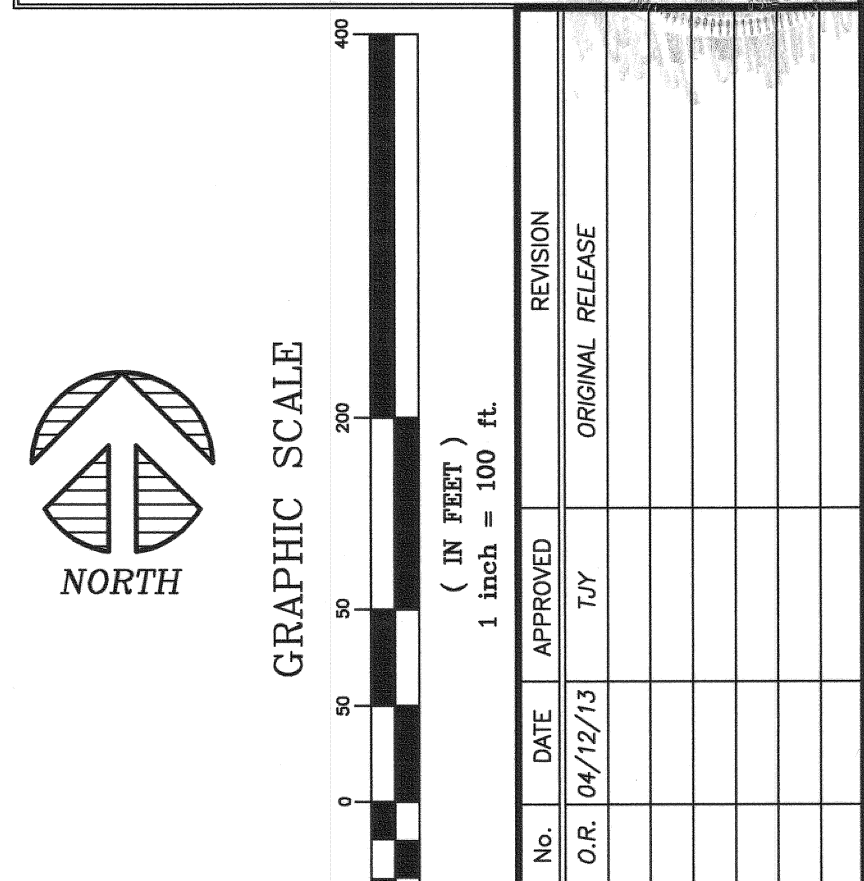
VERTICAL: Contours have been measured to an estimated vertical accuracy of 1:500 (1:1000) or better. The horizontal accuracy of the map is 1:500 (1:1000) or better.

MEASUREMENT: MEASUREMENTS in cases where vegetation makes it impossible to measure directly, have been measured to an estimated vertical accuracy of 1:500 (1:1000) or better. The horizontal accuracy of the map is 1:500 (1:1000) or better.

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

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

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



No.	DATE	APPROVED	REVISION
1	04/12/13	TJY	ORIGINAL RELEASE

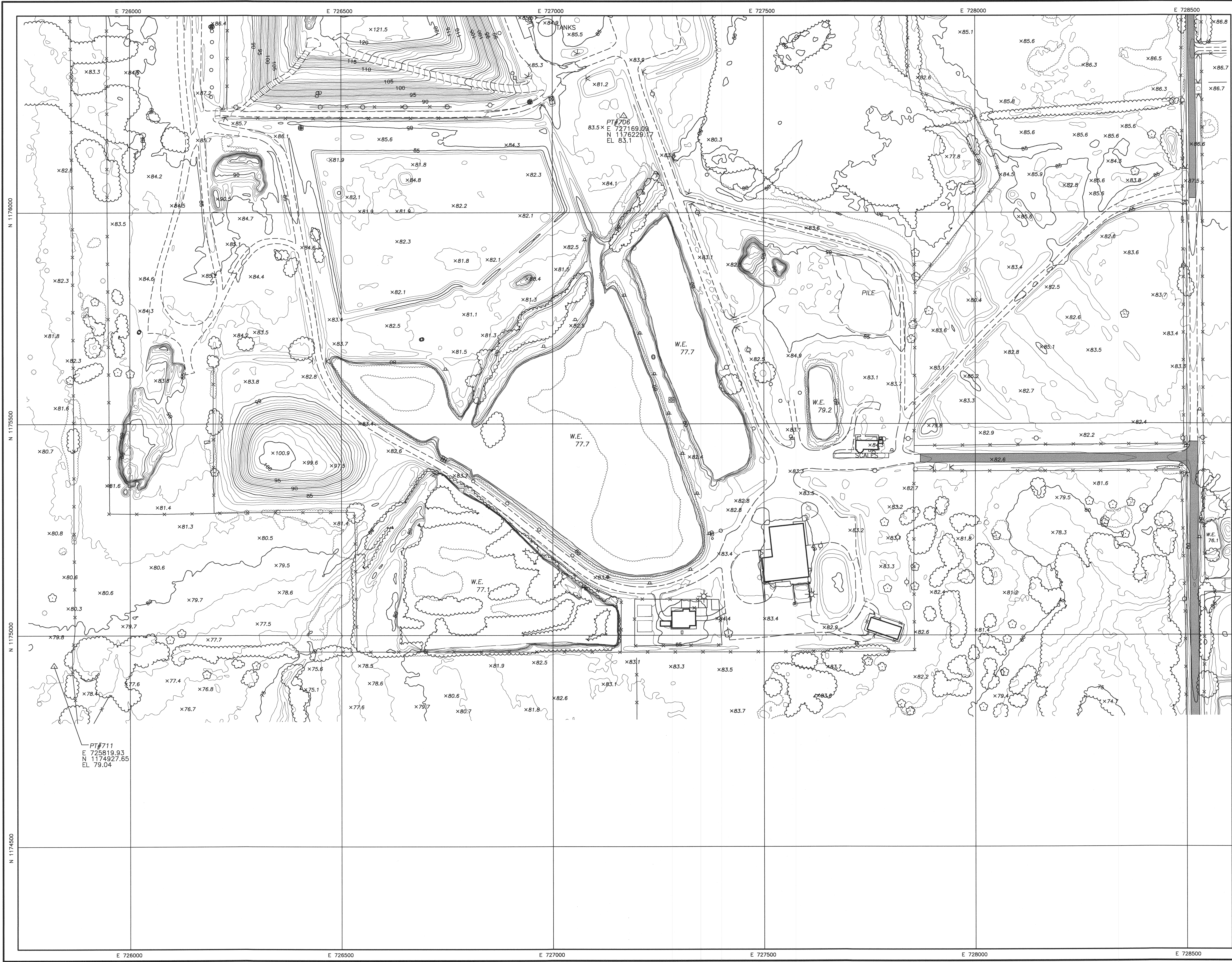
PICKETT
SURVEYING & PHOTOGRAMMETRY
PICKETT & ASSOCIATES, INC.
14198-11.DWG
Drawing 14198-11.DWG
Name: _____
Flight Date: 03/22/13
Compiled by: CE/AK
Edited by: RP
Horiz. Scale: 1" = 100'
Contour Interval: 1'

SURVEYOR'S NOTES:

- 1.) North, the grid, and the coordinates shown herein are referenced to the West Zone of the North American Datum of 1983 (NAD 83), 1983 adjustment.
- 2.) Elevation data to National Geodetic Vertical Datum of 1929.
- 3.) This topographic survey was prepared by the use of aerial photography and ground control points. The map is intended to be used for map construction and surveying. The map is not to be used for any other purpose without the written consent of the surveyor.

TOPOGRAPHIC SURVEY
HARDEE COUNTY LANDFILL
LOCATED IN SECTION 35, TOWNSHIP 33 SOUTH,
RANGE 25 EAST, HARDEE COUNTY, FLORIDA
PREPARED FOR: HARDEE COUNTY SOLID WASTE

PROJECT No.	No.
14198-11	1
DRAWING No.	OF
LD-5126	2



SURVEYOR'S NOTES:

- 1.) North, the grid, and the coordinates shown on this map are based on the Florida State Plane Coordinate System, NAD 83, 1990 adjustment.
- 2.) Elevations are to National Geodetic Vertical Datum of 1929.
- 3.) This topographic survey was prepared by photogrammetric methods. See the attached report for map accuracy and surveyor's signature and seal. This map is limited to those features visible on aerial photography.

LEGEND:

(THESE FEATURES ARE REPRESENTED BY SYMBOLS NOT TO SCALE)

CONTROL	FLAG	MAIL BOX	GLYPH	MANHOLE	HYDRANT	CULVERT	CATCH BASIN	AIR CONDITIONER	ELECTRICAL	TRAFFIC LIGHT	POST	VALVE
PT#	TARGET NUMBER	N	NORTHING	E	EASTING	EL	ELEVATION	UTILITY POLE	★	★	★	★
RECREATION	PIPERLINE	CONCRETE SURFACE	UNPAVED ROAD	FENCE	GUARDRAIL	WALL	RAILROAD	STRUCTURE	SHRUB LINE	MISC	MISCELLANEOUS SYMBOL	
EDGE OF GROVE	EDGE OF WATER	SWAMP/ MARSH	OBSCURED CONTOUR	OBSCURED LABELS	ARE NOT SCALE DEFENDENT	W.E.	WATER ELEVATION	x 120.1	SPOT ELEVATION	x 120.1	SPOT ELEVATION	

(THESE FEATURES ARE TO SCALE)

PIPERLINE	RECREATION	CONCRETE SURFACE	UNPAVED ROAD	FENCE	GUARDRAIL	WALL	RAILROAD	STRUCTURE	SHRUB LINE	MISC	MISCELLANEOUS SYMBOL	
EDGE OF GROVE	EDGE OF WATER	SWAMP/ MARSH	OBSCURED CONTOUR	OBSCURED LABELS	ARE NOT SCALE DEFENDENT	W.E.	WATER ELEVATION	x 120.1	SPOT ELEVATION	x 120.1	SPOT ELEVATION	

GRAPHIC SCALE

1 inch = 100 ft.

(IN FEET)

0 50 100 150 200 250 300 350 400

ACTUARY STATEMENT: This map is based on a series of aerial photographs taken on or about 1990. The map is not a true representation of the ground surface and is not intended to be used for any purpose other than that for which it was prepared. The map is not a true representation of the ground surface and is not intended to be used for any purpose other than that for which it was prepared.

VERTICAL: Contours have been measured to an estimated vertical accuracy of ± 1 foot. Contours have been measured to an estimated vertical accuracy of ± 1 foot. Contours have been measured to an estimated vertical accuracy of ± 1 foot.

HORIZONTAL: Map features have been measured to an estimated horizontal accuracy of ± 1 foot. Map features have been measured to an estimated horizontal accuracy of ± 1 foot. Map features have been measured to an estimated horizontal accuracy of ± 1 foot.

MAP DATUM: This map is based on the Florida State Plane Coordinate System, NAD 83, 1990 adjustment. This map is based on the Florida State Plane Coordinate System, NAD 83, 1990 adjustment. This map is based on the Florida State Plane Coordinate System, NAD 83, 1990 adjustment.

LIMITATIONS: This map is intended to be used for preliminary planning only. It is not intended to be used for any other purpose. It is not intended to be used for any other purpose. It is not intended to be used for any other purpose.

PICKETT SURVEYING & PHOTOGRAMMETRY

PICKETT & ASSOCIATES, INC.

405 SOUTH FIRST AVENUE
BARTON, FLORIDA 32808
TEL: (407) 334-1400
FAX: (407) 334-1400

No.	DATE	APPROVED	REVISION
O.R.	04/12/13	TUT	ORIGINAL RELEASE

Flight Date: 03/22/13
Drawing: 14198-11.DWG
Name:

TOPOGRAPHIC SURVEY

HARDEE COUNTY LANDFILL

LOCATED IN SECTION 35, TOWNSHIP 33 SOUTH,

RANGE 25 EAST, HARDEE COUNTY, FLORIDA

PREPARED FOR: HARDEE COUNTY SOLID WASTE

PROJECT No.	No.
14198-11	2
DRAWING No.	2
LD-5126	

ATTACHMENT B

APRIL 2012 THROUGH MARCH 2013
WASTE QUANTITY REPORTS
HARDEE COUNTY LANDFILL

SCS ENGINEERS

SHEET 1 OF 1

CLIENT Hardee County			PROJECT Site Life Estimates		JOB NO. 09199033.24	
SUBJECT Site Life Estimates Waste Quantity Reports Reported in Tons				BY SRF	DATE 6/28/13	
				CHECKED	DATE	

REPORTING PERIOD

MONTH	RESIDENTIAL	COMMERCIAL	CONSTRUCTION AND DEMOLITION DEBRIS	WOOD AND YARD WASTE	SCRAP METAL	TIRES	TOTAL
Apr-12	681.69	736.94	8.65	86.54	2.19	15.35	1531.36
May-12	722.05	663.39	12.04	100.88	1.44	9.88	1509.68
Jun-12	871.57	795.35	18.07	59.27	5.30	17.70	1767.26
Jul-12	668.34	603.23	21.87	97.00	1.09	41.86	1433.39
Aug-12	647.35	634.49	16.76	93.82	4.10	12.08	1408.60
Sep-12	538.70	569.10	23.46	88.35	0.79	10.29	1230.69
Oct-12	692.85	727.23	16.32	68.01	1.99	17.88	1524.28
Nov-12	646.34	588.69	10.42	59.52	2.21	8.50	1315.68
Dec-12	700.28	646.19	15.54	22.82	0.50	17.69	1403.02
Jan-13	700.18	757.42	13.10	104.79	2.22	7.63	1585.34
Feb-13	646.98	619.59	32.43	93.08	0.51	8.12	1400.71
Mar-13	645.04	708.73	24.58	83.73	0.33	11.15	1473.56
TOTAL	8161.37	8050.35	213.24	957.81	22.67	178.13	17583.57

MONTH	PROCESSED THROUGH MRF	BALED WASTE DISPOSED OF IN CLASS I	LOOSE WASTE DISPOSED OF IN CLASS I	TOTAL WASTE DISPOSED OF IN CLASS I	RECYCLED THROUGH MRF	SCRAP METAL RECYCLED	WOOD AND YARD TRASH PROCESSED	WASTE TIRES REMOVED FOR RECYCLING
Apr-12	28.67	0.00	1398.61	1398.61	28.67	0.00	900.64	6.48
May-12	10.09	0.00	1387.39	1387.39	10.09	0.00	0.00	11.66
Jun-12	11.44	0.00	1673.55	1673.55	11.44	0.00	0.00	12.21
Jul-12	5.83	0.00	1287.61	1287.61	5.83	0.00	0.00	15.39
Aug-12	12.29	0.00	1286.31	1286.31	12.29	0.00	0.00	11.61
Sep-12	0.00	0.00	1131.26	1131.26	0.00	0.00	0.00	11.86
Oct-12	13.67	0.00	1422.73	1422.73	13.67	0.00	0.00	27.28
Nov-12	54.58	0.00	1190.87	1190.87	54.58	0.00	0.00	11.19
Dec-12	16.18	0.00	1345.83	1345.83	16.18	0.00	0.00	11.52
Jan-13	13.15	0.00	1457.55	1457.55	13.15	44.07	0.00	11.52
Feb-13	0.00	0.00	1299.00	1299.00	0.00	0.00	0.00	11.52
Mar-13	8.77	0.00	1369.58	1369.58	8.77	0.00	0.00	11.52
TOTAL	174.67	0.00	16250.29	16,250.29	174.67	44.07	900.64	153.76

ATTACHMENT C

DRAWING 1 OF 2 VOLUME CONSUMED
3/22/13 SURVEY TO 4/03/12 SURVEY



Base Surface	ExistGrade_04-03-2012
Comparison Surface	ExistGrade_03-22-2013
Cut volume (unadjusted)	2,876.17 Cu. Yd.
Fill volume (unadjusted)	30,574.29 Cu. Yd.
Net volume (unadjusted)	27,698.12 Cu. Yd.<Fill>

LEGEND

EXISTING ELEVATIONAL CONTOUR (5 FOOT INTERVAL)
04/03/12 TOPOGRAPHIC SURVEY

EXISTING ELEVATIONAL CONTOUR (1 FOOT INTERVAL)
04/03/12 TOPOGRAPHIC SURVEY

EXISTING ELEVATIONAL CONTOUR (5 FOOT INTERVAL)
03/22/13 TOPOGRAPHIC SURVEY

EXISTING ELEVATIONAL CONTOUR (1 FOOT INTERVAL)
03/22/13 TOPOGRAPHIC SURVEY

FILL DEPTH (FEET) – BETWEEN 04/03/12 SURVEY AND 03/22/13 SURVEY

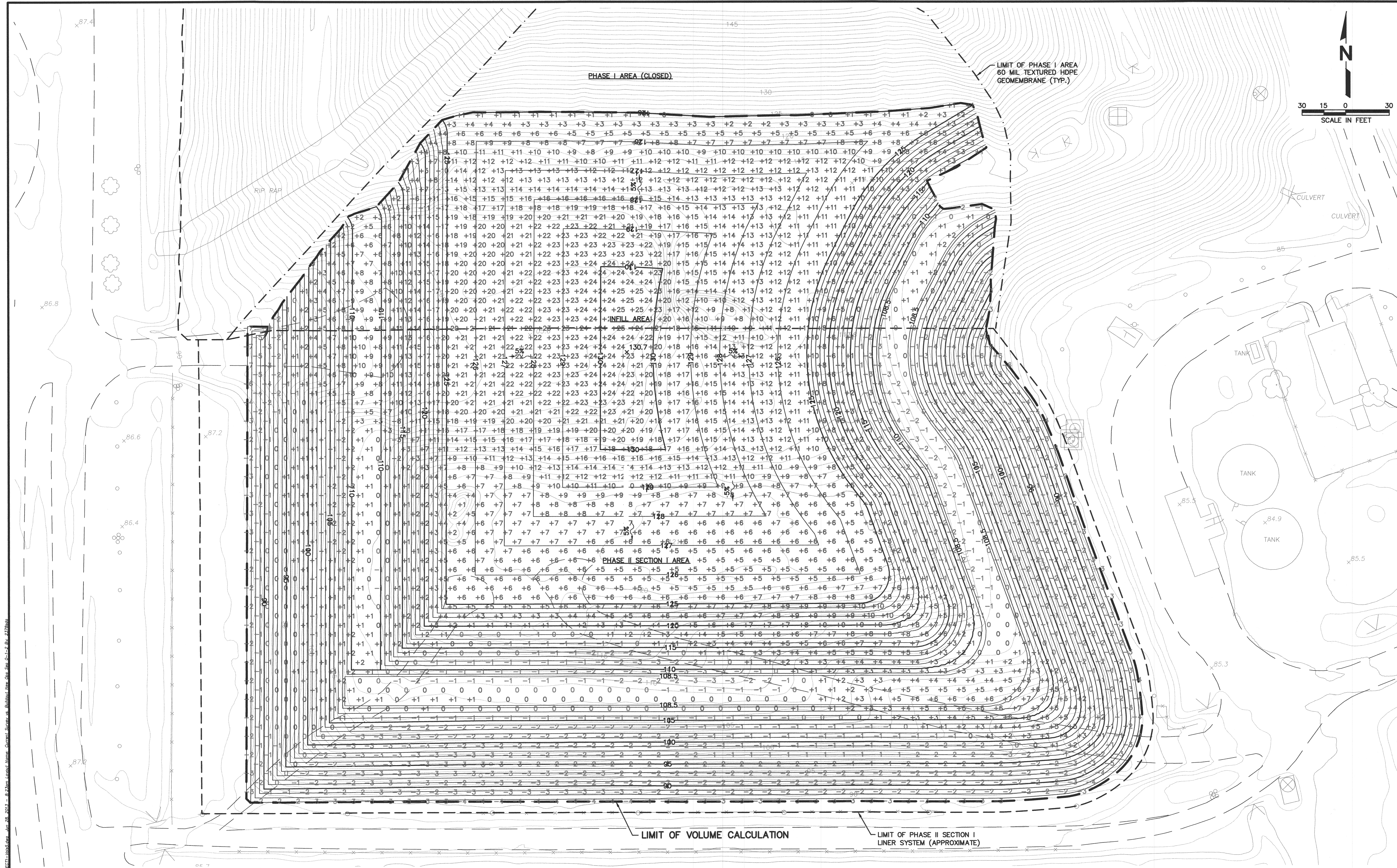
CUT DEPTH (FEET) – BETWEEN 04/03/12 SURVEY AND 03/22/13 SURVEY

SURVEY SOURCE NOTE:
AERIAL TOPOGRAPHIC SURVEY PERFORMED BY:
PICKETT SURVEYING & PHOTOGRAMMETRY
475 S. 1ST AVENUE
BARTOW, FL 33830
PHONE: (863) 533-9095
PHOTO DATE: APRIL 3, 2012 & MARCH 22, 2013.

SCS ENGINEERS STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS 4041 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610 813 821-0080 FAX 813 822-6757 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00044862	CLIENT HARDEE COUNTY BOARD OF COUNTY COMMISSIONERS		DRAWING TITLE FILL VOLUME ESTIMATE 04/03/12 SURVEY vs. 03/22/13 SURVEY		REV	DATE	DESCRIPTION	BY
			PROJECT TITLE HARDEE COUNTY LANDFILL		△			
			PHASE II - SECTION I		△			
			ANNUAL SITE LIFE ANALYSIS - 2013		△			
					△			
CADD FILE: 993323PH2SECT1-Vols5		SCALE: AS SHOWN		DRAWING NO.				
DATE: APRIL 2013		1 of 2						

ATTACHMENT D

DRAWING 2 OF 2 REMAINING VOLUME ESTIMATE
PHASE II SECTION I TOP AREA TO 3/22/13 SURVEY



SURVEY SOURCE NOTE:
AERIAL TOPOGRAPHIC SURVEY PERFORMED BY:
PICKETT SURVEYING & PHOTOGRAMMETRY
475 S. 1ST AVENUE
BARTOW, FL 33830
PHONE: (863) 533-9095
PHOTO DATE: MARCH 22, 2013.

TOP OF WASTE 3D SURFACE
AREA WITHIN LIMITS OF VOLUME
CALCULATION:
258,244 Sq. Ft.

VOLUME ESTIMATE RESULTS	
CUT/FILL VOLUME BETWEEN 03/22/2013 SURVEY AND FILL SEQUENCE 7 (REVISED) BUILDOUT	
Base Surface	ExistGrade_03-22-2013
Comparison Surface	PROP-P252-FILL-SEQ-0-1-2
Cut volume (unadjusted)	5,194.77 Cu. Yd.
Fill volume (unadjusted)	55,212.88 Cu. Yd.
Net volume (unadjusted)	50,018.11 Cu. Yd.<Fill>

LEGEND	
—90—	ELEVATIONAL CONTOUR (5 FOOT INTERVAL) SEQUENCE 7 (REVISED) BUILDOUT - TOP OF WASTE
—90—	ELEVATIONAL CONTOUR (1 FOOT INTERVAL) SEQUENCE 7 (REVISED) BUILDOUT - TOP OF WASTE
—90—	EXISTING ELEVATIONAL CONTOUR (5 FOOT INTERVAL) 03/22/13 TOPOGRAPHIC SURVEY
—90—	EXISTING ELEVATIONAL CONTOUR (1 FOOT INTERVAL) 03/22/13 TOPOGRAPHIC SURVEY
+10	FILL DEPTH (FEET) - BETWEEN 03/22/13 SURVEY AND FILL SEQUENCE 7 (REVISED) TOP OF WASTE
-2	CUT DEPTH (FEET) - BETWEEN 03/22/13 SURVEY AND FILL SEQUENCE 7 (REVISED) TOP OF WASTE

 SHANE R. FISCHER, P.E. LICENSE NO. 58026	
BY	DESCRIPTION
DATE	DATE
REV	REV
DRAWING TITLE REMAINING VOLUME ESTIMATE 03/22/13 SURVEY vs. SEQ. 7 BUILDOUT	
PROJECT TITLE HARDEE COUNTY LANDFILL PHASE II - SECTION I ANNUAL SITE LIFE ANALYSIS - 2013	
CLIENT HARDEE COUNTY BOARD OF COUNTY COMMISSIONERS	
SCS ENGINEERS STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS 4041 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610 813 621-0880 FAX 813 624-4575 FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892 PROJ. NO. 993323PH2SECT1-1 DWN. BY: CDR. B.S.D.A. APP. BY: SRF	
CADD FILE: 993323PH2SECT1-1-Vol5	
DATE: APRIL 2013	
SCALE: AS SHOWN	
DRAWING NO. 2 of 2	

ATTACHMENT E
SITE LIFE CALCULATIONS

CLIENT Hardee County	PROJECT Site Life Estimates	JOB NO. 09199033.23
SUBJECT Site Life Estimates Waste Quantity Estimates	BY SRF	DATE 06/28/13
	CHECKED CEH	DATE 06/28/13

TIME PERIOD (MONTHS)	WASTE DISPOSED (tons/month) ²
Apr-12	1,399
May-12	1,387
Jun-12	1,674
Jul-12	1,288
Aug-12	1,286
Sep-12	1,131
Oct-12	1,423
Nov-12	1,191
Dec-12	1,346
Jan-13	1,458
Feb-13	1,299
Mar-13	1,370
TOTAL	16,250

TIME PERIOD	POPULATION ¹	WASTE DISPOSED (tons/year) ²	WASTE TONNAGE PER CAPITA
April 12 - March 13	27,725	16,250	0.586
TONS PER CAPITA PER YEAR:			0.586

Gross Airspace Available March 22, 2013 ⁴ =	55,213	CY
Estimated Percent Daily Cover =	5%	
Airspace for Daily Cover =	2,761	CY
Net Airspace Available March 22, 2013 =	52,452	CY
Gross Airspace Available April 3, 2012 =	84,385	CY
Airspace Consumed 4/3/12 - 3/22/13 ³ =	27,698	CY
Waste Density 4/3/12 - 3/22/13 =	43	lbs/CF
Waste Density 4/3/12 - 3/22/13 =	1,173	lbs/CY

TIME PERIOD	POPULATION ¹	WASTE DISPOSED (tons) ²	CUMULATIVE WASTE DISPOSED (tons/month)	AIRSPACE CONSUMED (CY)	CUMULATIVE AIRSPACE CONSUMED (CY)	AVAILABLE AIRSPACE (CY)
						52,452
April 13 - March 14	27,877	16,339	-----	27,850	-----	24,602
April 14 - March 15	28,021	16,424	-----	27,994	-----	-3,392
April 14	28,021	1,369	1,369	2,333	2,333	22,269
May 14	28,021	1,369	2,737	2,333	4,666	19,937
June 14	28,021	1,369	4,106	2,333	6,998	17,604
July 14	28,021	1,369	5,475	2,333	9,331	15,271
August 14	28,021	1,369	6,843	2,333	11,664	12,938
September 14	28,021	1,369	8,212	2,333	13,997	10,605
October 14	28,021	1,369	9,581	2,333	16,330	8,273
November 14	28,021	1,369	10,949	2,333	18,663	5,940
December 14	28,021	1,369	12,318	2,333	20,995	3,607
January 15	28,021	1,369	13,686	2,333	23,328	1,274
February 15	28,021	1,369	15,055	2,333	25,661	-1,059

27,994 CY/12 months
2,333 CY/month
1,369 tons/month

**Available airspace utilized
in mid February 2015.**

NOTES:

¹ Source : Florida Legislative Office of Economic and Demographic Research.

² Waste quantity disposed in Phase II Section I provided by Hardee County refer to Attachment B.

³ Airspace consumed computed using March 22, 2013 topographic survey vs April 3, 2012 topographic survey, refer to Attachment C.

⁴ Airspace available computed using Phase II Section I landfill area up through Fill Sequence No. 7 vs March 22, 2013 topographic survey, refer to Attachment D.

Total County Population: April 1, 1970 - 2030*

County / State	2007	2008	2009	2010	2011	2012	2013	2014	2015
Alachua	241,462	244,106	246,074	247,336	247,337	248,482	251,372	255,116	258,861
Baker	26,035	26,596	27,015	27,115	26,927	27,143	27,819	28,716	29,596
Bay	165,952	168,297	168,424	168,852	169,278	170,417	172,558	175,187	177,809
Bradford	28,790	28,908	29,021	28,520	28,662	28,977	29,293	29,586	29,840
Brevard	538,211	541,331	542,239	543,376	545,184	548,660	554,507	561,516	568,561
Broward	1,741,657	1,739,708	1,738,093	1,748,066	1,753,162	1,757,650	1,766,582	1,777,481	1,788,172
Calhoun	14,278	14,339	14,656	14,625	14,685	14,792	14,915	15,045	15,172
Charlotte	160,083	160,412	159,860	159,978	160,463	161,484	163,234	165,339	167,453
Citrus	140,279	141,852	141,696	141,236	140,956	142,002	144,471	147,656	150,876
Clay	185,427	187,657	188,814	190,865	191,143	193,627	198,966	205,766	212,656
Collier	313,657	315,928	318,120	321,520	323,785	327,771	334,299	342,162	350,194
Columbia	66,198	66,999	67,259	67,531	67,528	68,032	69,189	70,662	72,122
DeSoto	34,170	34,459	34,709	34,862	34,708	34,760	35,129	35,650	36,168
Dixie	15,921	16,108	16,280	16,422	16,385	16,535	16,919	17,410	17,882
Duval	847,384	853,077	858,291	864,263	864,601	867,985	877,098	889,028	901,001
Escambia	300,184	299,993	298,845	297,619	299,261	300,388	300,858	300,922	300,883
Flagler	90,604	93,430	94,600	95,696	96,241	98,752	103,396	109,149	114,996
Franklin	11,597	11,606	11,617	11,549	11,527	11,603	11,765	11,954	12,115
Gadsden	46,139	46,850	46,341	46,389	48,200	47,894	47,590	47,287	46,987
Gilchrist	16,548	16,695	16,806	16,939	16,983	17,139	17,450	17,833	18,211
Glades	12,379	12,649	12,791	12,884	12,812	12,860	13,081	13,390	13,702
Gulf	16,078	15,996	16,014	15,863	15,789	15,777	15,816	15,874	15,924
Hamilton	14,650	14,776	14,854	14,799	14,744	14,769	14,882	15,039	15,192
Hardee	27,384	27,620	27,691	27,731	27,653	27,627	27,725	27,877	28,021
Hendry	38,970	39,169	39,095	39,140	38,908	38,897	39,233	39,739	40,244
Hernando	168,170	171,316	171,878	172,778	173,078	175,250	179,650	185,182	190,775
Highlands	98,907	99,686	99,274	98,786	98,712	99,279	100,511	102,067	103,619
Hillsborough	1,194,436	1,206,084	1,215,216	1,229,226	1,238,951	1,252,841	1,274,216	1,299,497	1,325,278
Holmes	19,893	20,057	20,126	19,927	19,901	19,972	20,108	20,271	20,428
Indian River	135,494	137,420	137,557	138,028	138,694	140,214	142,760	145,819	148,897
Jackson	48,488	50,221	50,139	49,746	49,964	49,920	49,876	49,832	49,789
Jefferson	14,555	14,650	14,772	14,761	14,666	14,684	14,842	15,070	15,295
Lafayette	8,318	8,509	8,418	8,870	8,752	8,874	9,393	10,076	10,695
Lake	288,419	292,154	294,456	297,052	298,265	302,888	311,536	322,254	333,122
Lee	597,156	608,210	612,169	618,754	625,310	636,637	653,748	673,849	694,224
Leon	270,544	273,155	274,241	275,487	276,278	277,672	280,256	283,421	286,608
Levy	39,856	40,500	40,682	40,801	40,767	41,063	41,776	42,696	43,625
Liberty	8,033	8,260	8,334	8,365	8,370	8,485	8,716	8,994	9,254
Madison	19,220	19,300	19,405	19,224	19,298	19,318	19,338	19,358	19,379
Manatee	317,899	319,970	321,035	322,833	325,905	329,873	335,004	340,743	346,581
Marion	322,610	328,356	330,507	331,298	331,745	335,697	343,483	353,202	362,992
Martin	144,022	144,911	145,657	146,318	146,689	147,655	149,492	151,764	154,060
Miami-Dade	2,448,806	2,472,387	2,480,537	2,496,435	2,516,515	2,536,404	2,557,672	2,579,365	2,600,932
Monroe	75,125	74,094	73,773	73,090	72,670	72,421	72,341	72,316	72,248
Nassau	69,335	71,081	72,349	73,314	73,684	74,616	76,329	78,437	80,568
Okaloosa	182,760	181,880	181,281	180,822	181,679	182,674	183,793	184,951	186,087
Okeechobee	39,681	40,013	39,973	39,996	39,870	40,030	40,560	41,261	41,940
Orange	1,111,307	1,125,822	1,133,453	1,145,956	1,157,342	1,173,516	1,196,929	1,224,183	1,252,033
Osceola	251,598	260,071	264,768	268,685	273,867	280,964	290,032	300,153	310,436
Palm Beach	1,302,451	1,307,784	1,312,016	1,320,134	1,325,758	1,335,648	1,352,697	1,373,360	1,394,293
Pasco	452,140	459,070	461,777	464,697	466,533	473,007	484,895	499,535	514,333
Pinellas	927,882	923,266	918,725	916,542	918,496	918,825	918,328	917,139	915,562
Polk	580,352	591,659	597,560	602,095	604,792	611,778	624,192	639,335	654,591
Putnam	74,863	75,028	74,714	74,364	74,052	74,068	74,501	75,128	75,736
St. Johns	176,032	182,504	186,383	190,039	192,852	197,422	204,195	212,122	220,172
St. Lucie	263,261	270,903	274,108	277,789	279,696	284,654	293,445	304,212	315,122
Santa Rosa	145,231	147,730	149,279	151,372	154,901	158,206	161,265	164,158	166,987
Sarasota	373,928	376,390	377,360	379,448	381,319	384,220	388,896	394,464	400,099
Seminole	419,049	420,468	421,130	422,718	424,587	427,778	432,933	439,071	445,270
Sumter	82,297	86,494	90,129	93,420	96,615	99,902	103,470	107,214	111,036
Suwannee	40,109	40,959	41,097	41,551	43,215	44,559	45,393	45,911	46,310
Taylor	21,747	22,387	22,508	22,570	22,500	22,515	22,680	22,916	23,147
Union	15,376	15,643	15,358	15,535	15,473	15,460	15,617	15,858	16,104
Volusia	498,480	499,273	496,456	494,593	495,400	497,978	502,489	507,911	513,303
Wakulla	28,333	28,944	30,155	30,776	30,877	31,168	31,766	32,522	33,290
Walton	52,874	54,066	54,696	55,043	55,450	56,344	57,763	59,454	61,169
Washington	23,694	24,669	24,769	24,896	24,638	24,668	25,112	25,755	26,384
Florida	18,446,768	18,613,905	18,687,425	18,801,310	18,905,048	19,073,170	19,340,145	19,656,210	19,974,411

*Projections begin in 2012 based on 2010 Census counts.

Source: Florida Demographic Estimating Conference, July 2011 and the Florida Demographic Database, January 2012.