Environmental Consultants
and Contractors

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Suite 100
Tampa, FL 33610

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SCS ENGINEERS

April 15, 2010
File No. 09199033.20

Dept. Of Environmental Protection
APR 15 2010
Southwest District
Dept. of Environmental Protection
APR 15 2010
Southwest District
Dept. Of Environmental Protection
APR 15 2010
Southwest District

Susan J. Pelz, P.E.
Solid Waste Program Manager
Florida Department of Environmental Protection
Southwest District
13051 N. Telecom Parkway
Temple Terrace, Florida 33637

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

Dear Ms. Pelz:

SCS Engineers (SCS) is pleased to submit the estimates of remaining capacity and life of site for the Hardee County Landfill. 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. In addition, 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 24, 2010 by Pickett & Associates, Inc. (Pickett) for preparation of the calculations to estimate the remaining capacity and site life. Please refer to Attachment A for a copy of the March 24, 2010 Pickett aerial topographic survey and Survey Report.

WASTE DISPOSAL PROJECTIONS

Hardee County (County) supplied SCS with waste quantity records for April 2009 through March 2010. 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 Class I landfill area is the total amount of residential, commercial, and construction and demolition (C&D) waste materials minus the quantity of waste recycled in the Materials Recycling Facility (MRF).

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 2009 through March 2010. Using the FLOEDR population projections and the actual tonnages disposed in the Class I landfill, SCS estimated a waste disposal tonnage per capita of approximately 0.614 tons per person. This estimated disposal rate was assumed to remain constant for future projections to estimate the life of the site.

TABLE 1. WASTE DISPOSAL IN PHASE I AND PHASE II SECTION I LANDFILL

TIME PERIOD	WASTE DISPOSED OF IN CLASS I LANDFILL[2] (tons/month)	
April 09	1,566	
May 09	1,587	
June 09	1,614	
July 09	1,397	
August 09	1,390	
September 09	1,271	
October 09	1,305	
November 09	1,308	
December 09	1,491	
January 10	1,441	
February 10	1,414	
March 10	1,617	
Total	17,403	
Population[1]		28,321
Waste Tonnage Per Capita[3]		0.614

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 remaining available airspace for placement of waste materials and cover soils in the Phase I and Phase II Section I disposal areas SCS compared the Phase I final buildout and the Phase II Section I Fill Sequence No. 5 as shown on Drawing No. 15 of 26 of the Operations Drawings to the March 24, 2010 aerial topographic survey flown by Pickett. Please refer to Attachment C for Drawing 2 of 3 Remaining Volume Estimate for a comparison between Fill Sequence No. 5 (referenced to the top of intermediate cover) to the March 24, 2010 aerial topographic survey flown by Pickett and Drawing 3 of 3 Remaining Volume Estimate for a comparison between Phase I final buildout (referenced to the top of waste) to the March 24, 2010 aerial topographic survey flown by Pickett. The gross remaining available

airspace for placement of waste materials and cover soils was estimated to be 7,239 cubic yards (CY). SCS assumed that 5 percent of the gross available airspace would be used for cover material, therefore, leaving approximately 6,877 CY of airspace available in the Phase I and Phase II Section I areas for waste disposal.

In addition, SCS compared the March 24, 2010 aerial topographic survey flown by Pickett to the previous March 25, 2009 aerial topographic survey flown by Pickett to determine the airspace consumed to estimate an in-place density for the waste material. Please refer to Attachment C Drawing 1 of 3 Fill Volume Estimate for a comparison between the March 24, 2010 aerial topographic survey and the previous March 25, 2009 aerial topographic survey. During this time period, approximately 38,069 CY of airspace was consumed. County records indicate that during this time period approximately 17,403 tons of waste was disposed. Based on the disposed waste (17,403 tons) and airspace consumed (38,069 CY), SCS estimated the in-place waste density to be approximately 34 pounds per cubic foot (pcf) or approximately 914 pounds per cubic yard. Table 2 represents the available and consumed airspace based on the waste disposal tonnage per capita of approximately 0.614 tons per person as calculated from April 2009 through March 2010.

TABLE 2. AVAILABLE AND CONSUMED AIRSPACE

TIME PERIOD	POPULATION	WASTE DISPOSED OF IN CLASS I LANDFILL (tons)	AIRSPACE CONSUMED (CY)	AVAILABLE AIRSPACE (CY)
				6,877
April 2010	28,321	1,450	3,172	3,705
May 2010	28,321	1,450	3,172	532
June 2010	28,321	1,450	3,172	-2,640

As shown in Table 2, SCS estimates the remaining available airspace in the Phase I and Phase II Section I landfill area up through Fill Sequence No. 5 will be exhausted by approximately early June 2010. Please refer to Attachment D for a further breakdown of the site life calculations.

In addition, based on the limited amount of remaining capacity within the Phase I and Phase II Section I Landfill areas per the current Operations Drawings, SCS is currently in the process of submitting a request for a height increase within the Phase II Section I Landfill footprint active filling area.

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

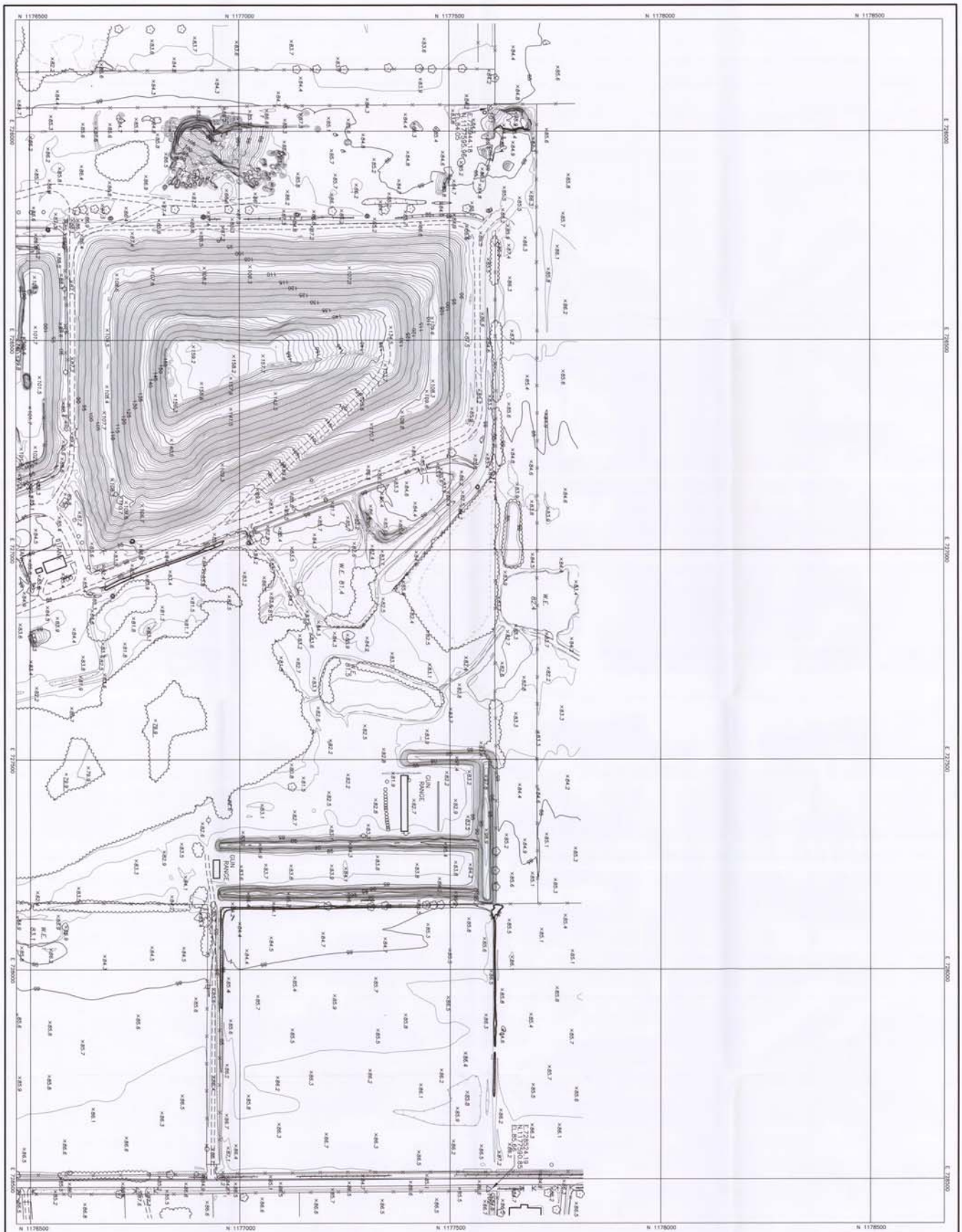
cc: Teresa Carver, Hardee County Solid Waste Director

Attachments
SRF/CEH:srf

LICENSE
58026
4/15/10

Attachment A

Pickett & Associates, Inc.
Aerial Topographic Survey
March 24, 2010
and
Survey Report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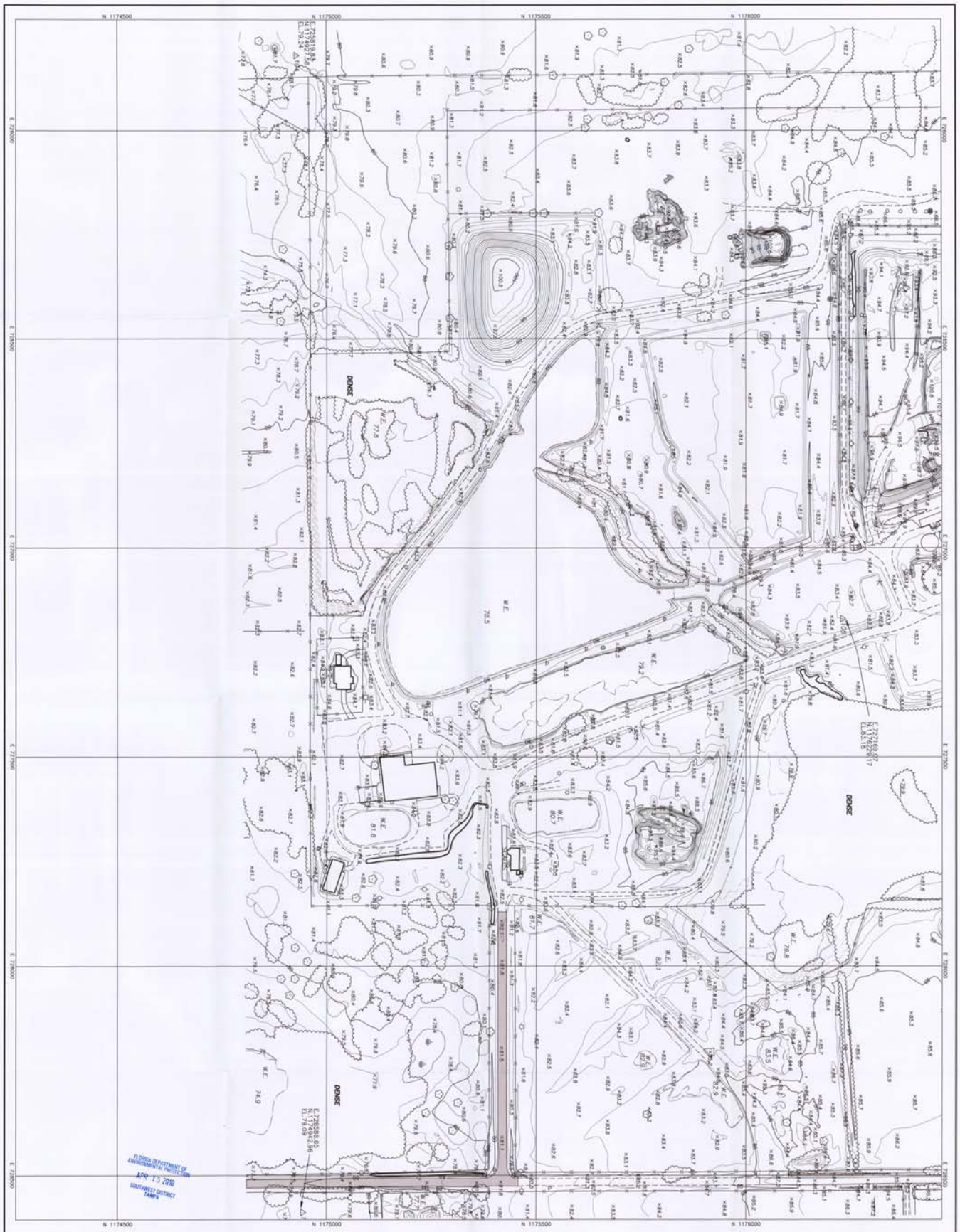
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Attachment B

April 2009 Through March 2010 Waste Quantity Reports
Hardee County Landfill

WASTE QUANTITY REPORT
REPORTED IN TONS
CALENDAR YEAR 2009

MONTH	RESIDENTIAL	COMMERCIAL	CONSTRUCTION AND DEMOLITION DEBRIS	WOOD AND YARD WASTE	SCRAP METAL	TIRES	TOTAL
Jan-09	702.78	830.37	19.96	101.06	18.22	23.68	1696.07
Feb-09	665.84	665.78	17.77	107.28	6.99	29.98	1493.64
Mar-09	755.40	825.08	34.54	131.64	25.64	10.30	1782.60
Apr-09	818.96	759.68	13.72	144.53	15.26	22.10	1774.25
May-09	787.97	787.29	32.22	129.41	14.91	13.86	1765.66
Jun-09	873.22	725.76	21.42	161.89	11.53	9.65	1803.47
Jul-09	715.07	678.92	33.39	156.27	21.82	18.34	1623.81
Aug-09	676.28	707.20	21.14	104.75	13.05	14.79	1537.21
Sep-09	664.68	601.43	11.23	81.22	17.41	13.03	1389.00
Oct-09	660.17	612.25	43.46	63.59	8.77	10.75	1398.99
Nov-09	696.50	605.69	14.61	33.88	3.84	12.48	1367.00
Dec-09	777.96	710.35	9.44	168.26	7.88	14.79	1688.68
TOTAL	8794.83	8509.80	272.90	1383.78	165.32	193.75	19320.38

DISPOSITION REPORT
REPORTED IN TONS
CALENDAR YEAR 2009

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		
Jan-09	3.56	0.00	1549.55	1549.55	3.56	0.12	0.00	19.19		
Feb-09	16.93	0.00	1332.46	1332.46	16.93	0.00	0.00	34.69		
Mar-09	19.29	0.00	1595.73	1595.73	19.29	0.00	0.00	7.65		
Apr-09	25.88	0.00	1566.48	1566.48	25.88	0.33	0.00	5.69	1566.48	
May-09	20.11	0.00	1587.37	1587.37	20.11	0.57	653.89	37.70	1587.37	1587.37
Jun-09	6.27	0.00	1614.13	1614.13	6.27	143.03	0.00	5.23	1614.13	1614.13
Jul-09	30.80	0.00	1396.58	1396.58	30.80	0.55	0.00	11.78	1396.58	1396.58
Aug-09	14.17	0.00	1390.45	1390.45	14.17	0.00	0.00	9.14	1390.45	1390.45
Sep-09	6.80	0.00	1270.54	1270.54	6.80	0.13	0.00	11.98	1270.54	1270.54
Oct-09	10.41	0.00	1305.47	1305.47	10.41	0.00	0.00	20.49	1305.47	1305.47
Nov-09	8.65	0.00	1308.15	1308.15	8.65	0.00	0.00	10.68	1308.15	1308.15
Dec-09	6.55	0.00	1491.20	1491.20	6.55	13.70	0.00	6.54	1491.20	1491.20
TOTAL	169.42	0.00	17408.11	17408.11	169.42	158.43	653.89	180.76	**12930.37**	**11363.89**

WASTE QUANTITY REPORT
REPORTED IN TONS
CALENDAR YEAR 2010

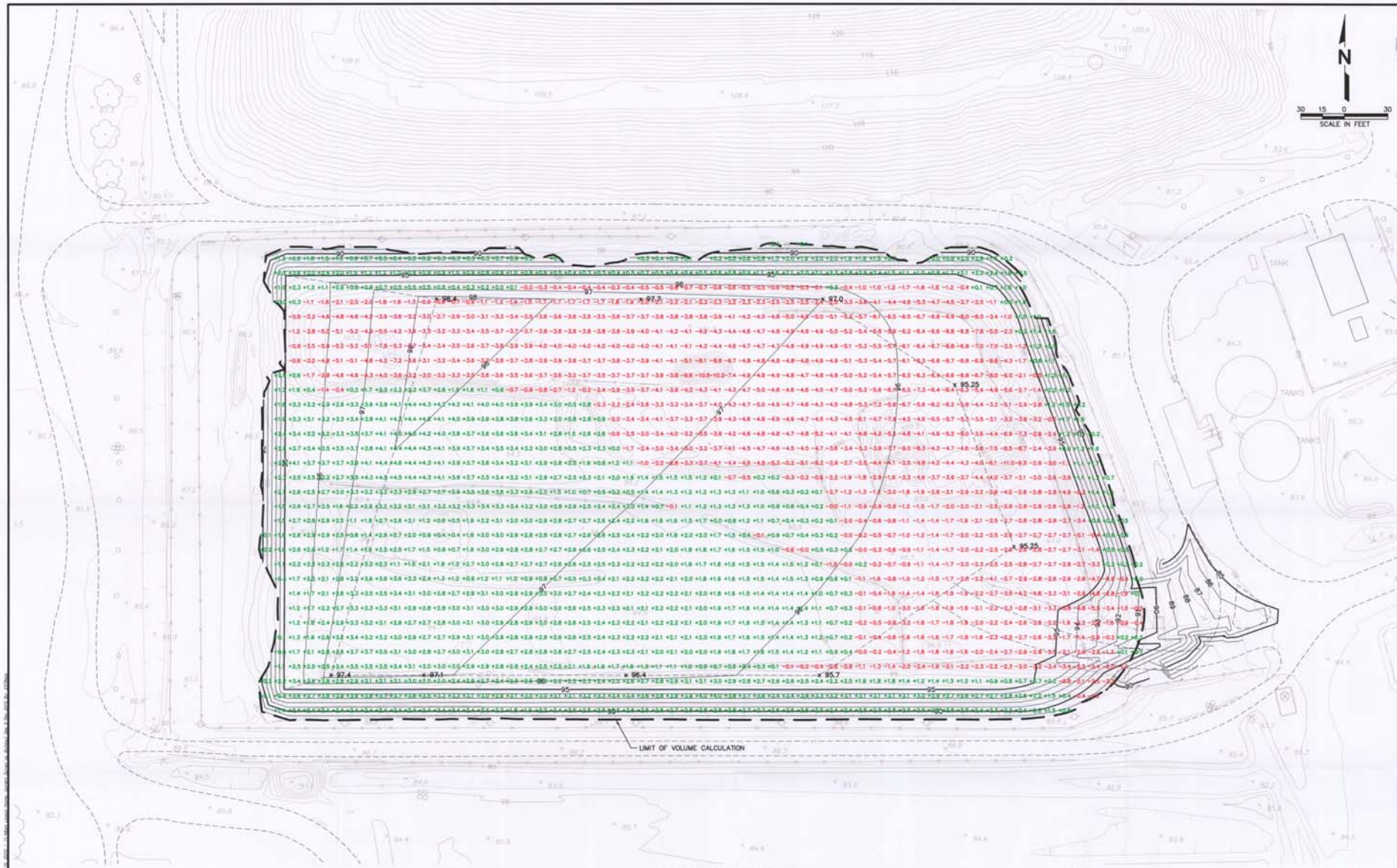
MONTH	RESIDENTIAL	COMMERCIAL	CONSTRUCTION AND DEMOLITION DEBRIS	WOOD AND YARD WASTE	SCRAP METAL	TIRES	TOTAL
Jan-10	743.19	698.51	6.06	106.41	4.26	14.44	1572.87
Feb-08	654.12	751.89	14.08	62.16	10.94	19.15	1512.34
Mar-10	800.31	783.91	36.63	141.23	8.36	9.98	1780.42
Apr-10							0.00
May-10							0.00
Jun-10							0.00
Jul-10							0.00
Aug-10							0.00
Sep-10							0.00
Oct-10							0.00
Nov-10							0.00
Dec-10							0.00
TOTAL	2197.62	2234.31	56.77	309.80	23.56	43.57	4865.63

DISPOSITION REPORT
REPORTED IN TONS
CALENDAR YEAR 2010

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		
Jan-10	6.40	0.00	1441.36	1441.36	6.40	13.35	0.00	15.64	1441.36	
Feb-10	6.41	0.00	1413.68	1413.68	6.41	0.18	0.00	32.37	1413.68	
Mar-10	3.46	0.00	1617.39	1617.39	3.46	80.04	0.00	53.67	1617.39	**4472.43**
Apr-10		0.00	0.00	0.00						
May-10		0.00	0.00	0.00					**4/09 - 3/10**	**5/09 - 3/10**
Jun-10		0.00	0.00	0.00					**17402.80**	**15836.32**
Jul-10		0.00	0.00	0.00						
Aug-10		0.00	0.00	0.00						
Sep-10		0.00	0.00	0.00						
Oct-10		0.00	0.00	0.00						
Nov-10		0.00	0.00	0.00						
Dec-10		0.00	0.00	0.00						
TOTAL	16.27	0.00	4472.43	4472.43	16.27	93.57	0.00	101.68		

Attachment C

Drawing 1 of 3 Fill Volume Estimate 3/25/09 Survey to 3/24/10 Survey
Drawing 2 of 3 Remaining Volume Estimate 3/24/10 Survey to Sequence 5 Buildout
Drawing 3 of 3 Remaining Volume Estimate 3/24/10 Survey to Phase I Top of Waste



VOLUME ESTIMATE RESULTS

SITE VOLUME TABLE: UNADJUSTED

SITE	STRATUM	SURF1	SURF2	CUT CU. YARDS	FILL CU. YARDS	NET CU. YARDS	METHOD
PH2-SEC1	EXIST-032410wP2S1-FILL5-REV-2010	EXIST-032410	P2S1-FILL5-REV-2010	9,800	7,899	1,902 (CUT)	GRID

LEGEND

- —90— SEQUENCE 5 BUILDOUT ELEVATIONAL CONTOUR (5 FOOT INTERVAL)
- SEQUENCE 5 BUILDOUT ELEVATIONAL CONTOUR (1 FOOT INTERVAL)
- EXISTING ELEVATIONAL CONTOUR – 5 FOOT INTERVAL (03/24/10 TOPOGRAPHIC SURVEY)
- EXISTING ELEVATIONAL CONTOUR – 1 FOOT INTERVAL (03/24/10 TOPOGRAPHIC SURVEY)
- +2.3 FILL DEPTH (FEET) – BETWEEN 03/24/10 SURVEY AND SEQUENCE 5 BUILDOUT
- -1.7 CUT DEPTH (FEET) – BETWEEN 03/24/10 SURVEY AND SEQUENCE 5 BUILDOUT

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 24, 2010.

REV	DATE	DESCRIPTION	BY

SHANE R. FRISHER, P.E.
LICENSE NO. 58028

DRAWING TITLE: REMAINING VOLUME ESTIMATE 03/24/10 SURVEY vs. SEQ. 5 BUILDOUT

PROJECT TITLE: HARDEE COUNTY LANDFILL PHASE II - SECTION I ANNUAL SITE LIFE ANALYSIS

CLIENT: HARDEE COUNTY BOARD OF COUNTY COMMISSIONERS

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS
4401 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610
813 621-6000 FAX 813 623-6757
FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00000693

PROJECT NO.	DWN. BY:	CHK. BY:
09J19033.19	SDA	CEH
DSR. BY: SRF		

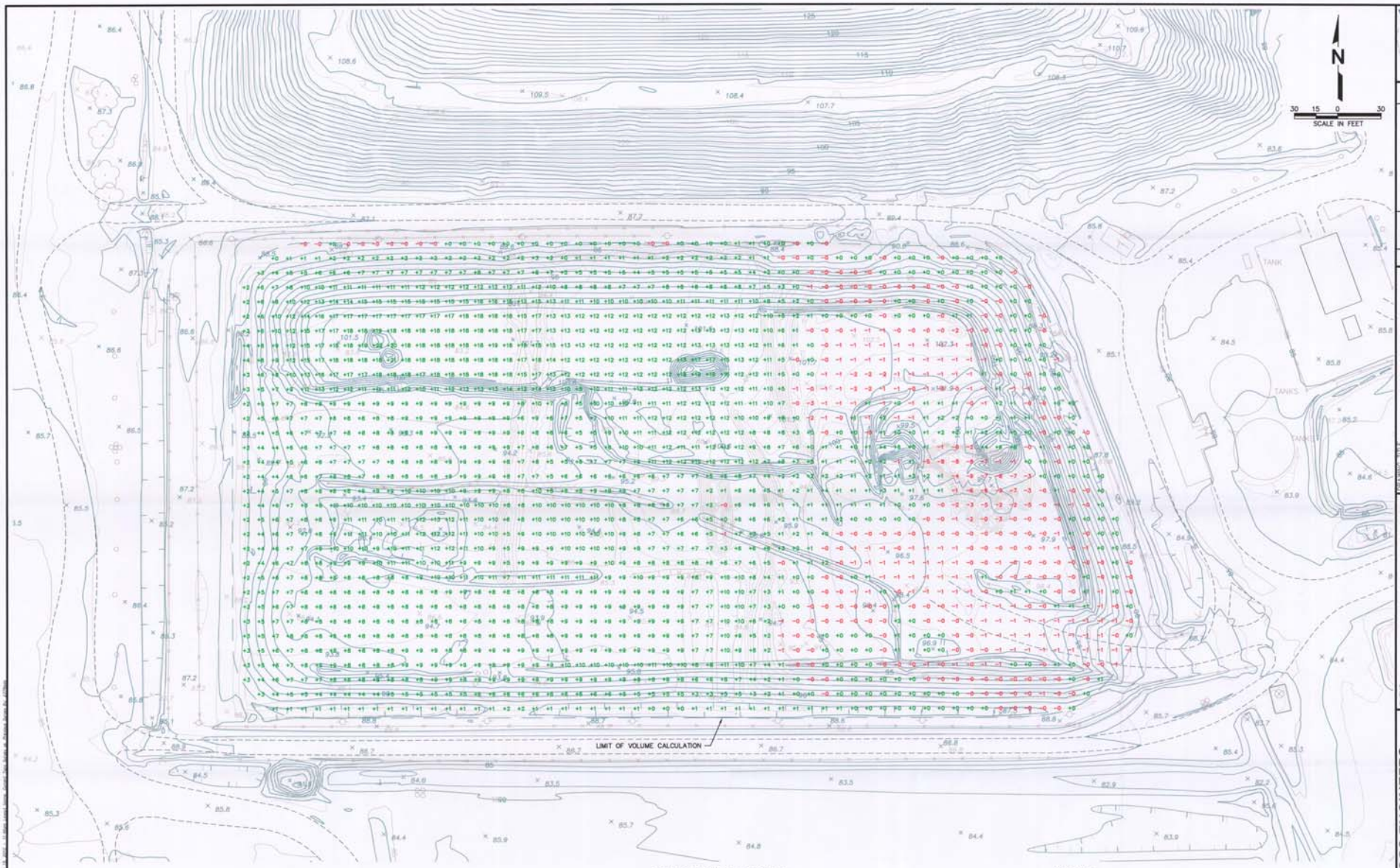
DATE: 10-07-10	APP. BY: SRF
	CEH

CADD FILE: 993319PH2SECT1-Vols2

DATE: APRIL 2010

SCALE: AS SHOWN

DRAWING NO. 2 of 3



VOLUME ESTIMATE RESULTS

SITE VOLUME TABLE: UNADJUSTED

SITE	STRATUM	SURF1	SURF2	CUT CU. YARDS	FILL CU. YARDS	NET CU. YARDS	METHOD
PH2-SEC1							
	EXIST-032509	wEXIST-032410-CROPPED					
		EXIST-032509					
			EXIST-032410-CROPPED				
				1,188	39,256	38,069 (FILL)	GRID

LEGEND

- EXISTING ELEVATIONAL CONTOUR – 5 FOOT INTERVAL (03/25/09 TOPOGRAPHIC SURVEY)
- EXISTING ELEVATIONAL CONTOUR – 1 FOOT INTERVAL (03/25/09 TOPOGRAPHIC SURVEY)
- 90 EXISTING ELEVATIONAL CONTOUR – 5 FOOT INTERVAL (03/24/10 TOPOGRAPHIC SURVEY)
- EXISTING ELEVATIONAL CONTOUR – 1 FOOT INTERVAL (03/24/10 TOPOGRAPHIC SURVEY)
- +10 FILL DEPTH (FEET) – BETWEEN 03/25/09 SURVEY AND 03/24/10 SURVEY
- -1 CUT DEPTH (FEET) – BETWEEN 03/25/09 SURVEY AND 03/24/10 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 25, 2009 AND MARCH 24, 2010.

REV	DATE	DESCRIPTION	BY

SHANE R. PICKER, P.E.
LICENSE NO. 58028

DRAWING TITLE: FILL VOLUME ESTIMATE 03/25/09 SURVEY vs. 03/24/10 SURVEY

PROJECT TITLE: HARDEE COUNTY LANDFILL PHASE II - SECTION I ANNUAL SITE LIFE ANALYSIS

CLIENT: HARDEE COUNTY BOARD OF COUNTY COMMISSIONERS

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
601 PARK OAKS BLVD. SUITE 100, TAMPA, FL 33610
813 621-6000 FAX 813 623-4757
FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892

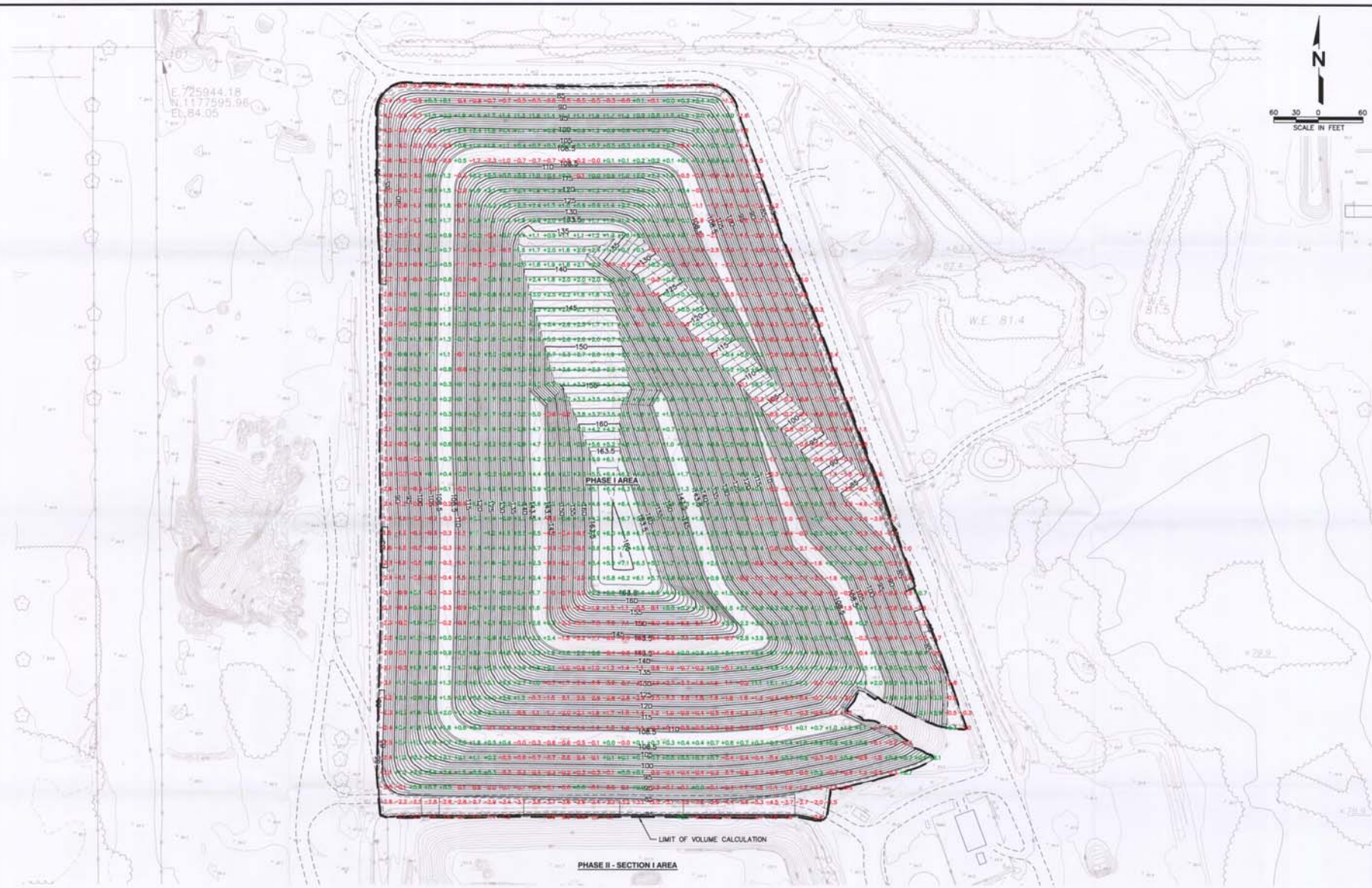
DATE	DR. BY	CH'K BY	APP. BY
09/09/03.19	SOA	SRF	CEH

CADD FILE: 993319PH2SECT1-Vols2

DATE: APRIL 2010

SCALE: AS SHOWN

DRAWING NO. 1 of 3



PHASE II - SECTION I AREA

VOLUME ESTIMATE RESULTS

SITE VOLUME TABLE: UNADJUSTED

SITE	STRATUM	SURF1	SURF2	CUT CU. YARDS	FILL CU. YARDS	NET CU. YARDS	METHOD
PH1-CLOSURE							
	EXIST-032410-PH1vsPROP-TOP-OF-WASTE						
	EXIST-032410-PHASE-1						
	PROP-TOP-OF-WASTE						
				14,840	23,981	9,141 (FILL)	GRID

LEGEND

—90— PHASE I CLOSURE BUILDOUT – TOP OF WASTE ELEVATIONAL CONTOUR (5 FOOT INTERVAL)

PHASE I CLOSURE BUILDOUT – TOP OF WASTE ELEVATIONAL CONTOUR (1 FOOT INTERVAL)

EXISTING ELEVATIONAL CONTOUR – 5 FOOT INTERVAL (03/24/10 TOPOGRAPHIC SURVEY)

EXISTING ELEVATIONAL CONTOUR – 1 FOOT INTERVAL (03/24/10 TOPOGRAPHIC SURVEY)

+2.3 FILL DEPTH (FEET) – BETWEEN 03/24/10 SURVEY AND PHASE I CLOSURE BUILDOUT – TOP OF WASTE

-1.7 CUT DEPTH (FEET) – BETWEEN 03/24/10 SURVEY AND PHASE I CLOSURE BUILDOUT – TOP OF WASTE

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 24, 2010.

REV	DATE	DESCRIPTION	BY

SHANE R. EISENER, P.E.
LICENSE NO. 58025

DRAWING TITLE: REMAINING VOLUME ESTIMATE 03/24/10 SURVEY vs. TOP OF WASTE

PROJECT TITLE: HARDEE COUNTY LANDFILL PHASE II - SECTION I ANNUAL SITE LIFE ANALYSIS

CLIENT: HARDEE COUNTY BOARD OF COUNTY COMMISSIONERS

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS
4041 PARK OAKS BLVD., SUITE 100, TAMPA, FL 33610
813 621-6000 FAX 813 623-6757
FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00000693

PROJECT NO.	DWN. BY	QC'D BY	APP. BY
02196033.19	SGA	SRF	CEH

DSN. BY	CHK. BY
SRF	CEH

CADD FILE: 993319PH2SECT1-Vols2

DATE: APRIL 2010

SCALE: AS SHOWN

DRAWING NO. 3 of 3

Attachment D

Site Life Calculations

SCS ENGINEERS

SHEET 1 of 1

CLIENT	PROJECT	JOB NO.
Hardee County	Site Life Estimates	09199033.20

SUBJECT	BY	DATE
Site Life Estimates Waste Quantity Estimates	SRF	4/15/2010
	CHECKED	DATE

	WASTE DISPOSED OF IN CLASS I LANDFILL (tons)[4]
Apr-09	1,566
May-09	1,587
Jun-09	1,614
Jul-09	1,397
Aug-09	1,390
Sep-09	1,271
Oct-09	1,305
Nov-09	1,308
Dec-09	1,491
Jan-10	1,441
Feb-10	1,414
Mar-10	1,617
TOTAL	17,403

TIME PERIOD	POPULATION[1]	WASTE DISPOSED OF IN CLASS I LANDFILL (tons)[4]	WASTE TONNAGE PER CAPITA
April 09 - March 10	28,321	17,403	0.614

TONS PER CAPITA PER YEAR: 0.614 tons/capita-yr

Gross Airspace Available March 24, 2010[2] =	7,239	CY
Estimated Percent Cover =	5%	
Airspace for Cover =	362	CY
Net Airspace available from March 24, 2010 =	6,877	CY
Airspace consumed 4/09 - 3/10[3] =	38,069	CY
Waste Density =	34	lb/CF
Waste Density =	914	lb/CY

TIME PERIOD	POPULATION[1]	WASTE DISPOSED OF IN CLASS I LANDFILL (tons)[4]	AIRSPACE CONSUMED (CY)	AVAILABLE AIRSPACE (CY)		
				6,877		
April 10 - March 11	28,321	17,403	38,069	-31,192	3,172	CY/month
4/2010	28,321	1,450	3,172	3,705		
5/2010	28,321	1,450	3,172	532		
6/2010	28,321	1,450	3,172	-2,640		

NOTES:

[1] Source : Florida Legislative Office of Economic and Demographic Research

[2] Airspace computed using March 24, 2010 topography vs Phase I and Phase II Section I landfill area up through Fill Sequence No. 5 refer to Attachment C.

[3] Airspace consumed computed using March 24, 2010 topography vs March 25, 2009 topography.

[4] Waste quantity disposed in Phase I and Phase II Section I provided by Hardee County.