

Core, Simone

From: Figueroa, Javen S. [JSFigueroa@pbsj.com]
Sent: Monday, July 26, 2004 5:13 PM
To: Core, Simone
Cc: Miller, Joseph L.; Mike Gore (E-mail)
Subject: Lena Road Landfill Flare System

Simone,

I just wanted to update you on the status of the Lena Road Flare system. The system went out on June 30 due to a lightning strike and was offline until July 7th, when it was manually restarted by the county. I believe it has been running since. The flare computer was put offline by the strike and is now inoperable. A technician with LFG&E (flare designer) should be down at the landfill early next week for installation. Once the new system is online, we will close the SSM event and prepare a letter to FDEP. Please let me know if you have any questions. Thanks.

Javen S. Figueroa, P.E.
Senior Engineer I
PBS&J
Phone: 407.647.7275
Fax: 407.647.8945
Mobile: 407.808.5805

Core, Simone

From: Figueroa, Javen S. [JSFigueroa@pbsj.com]
Sent: Thursday, July 01, 2004 3:26 PM
To: Core, Simone
Cc: Mike Gore (E-mail); Gayle Carpenter (E-mail); Miller, Joseph L.
Subject: SSM Notification for Lena Road

Simone,

The flare system at Lena Road Landfill is down due to a lightning strike which took place sometime late Tuesday/early Wednesday. We are in the process of ordering a new computer component, since the current one was fried. The part should be delivered to the Landfill on Tuesday. Once the system is up and running, we will prepare a letter for the county describing the event. Please let me know if you have any questions. Thanks.

Javen S. Figueroa, P.E.
Senior Engineer I
PBS&J
Phone: 407.647.7275
Fax: 407.647.8945
Mobile: 407.808.5805

op permit

Pelz, Susan

From: Core, Simone
Sent: Tuesday, July 27, 2004 7:17 AM
To: Pelz, Susan; Ross, Lora
Subject: FW: Lena Road Landfill Flare System

-----Original Message-----

From: Figueroa, Javen S. [mailto:JSFigueroa@pbsj.com]
Sent: Monday, July 26, 2004 5:13 PM
To: Core, Simone
Cc: Miller, Joseph L.; Mike Gore (E-mail)
Subject: Lena Road Landfill Flare System

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Javen S. Figueroa, P.E.
Senior Engineer I
PBS&J
Phone: 407.647.7275
Fax: 407.647.8945
Mobile: 407.808.5805

Pelz, Susan

From: Ford, Kim
Sent: Monday, February 02, 2004 11:52 AM
To: Smith, David G
Cc: Pelz, Susan
Subject: RE: Lena Road

Anna is making a copy of the file for you. Also, you may want to request that they provide you with a copy of the record drawings (23 sheets) for the Storm Water Ditch Liner project (April 1998) by Manatee County noted as Record Drawings and resubmitted in June 1999 signed and sealed by Clayton Barth of Manatee County.

Kim

-----Original Message-----

From: Smith, David G
Sent: Monday, February 02, 2004 9:09 AM
To: Ford, Kim
Subject: Lena Road

Kim

I've got a stormwater modification for Manatee County, Lena Road Landfill. Do you have any copies of the MSSW issued by SWFWMD? Do they have an active permit or did the one issued in 1990 expire?

Thanks for any help you can assist me with.

David G. Smith, P.E.
Stormwater Engineer
Southwest District
(813)-744-6100 ext. 393

Ford, Kim

From: Ford, Kim
Sent: Wednesday, March 31, 2004 4:21 PM
To: 'Miller, Joseph L.'
Cc: Pelz, Susan; Morris, John R.
Subject: RE: Lena Road Landfill - Operation Permit Renewal

Joe,
yes, Thursday 4/8/04 is good, and you are set up for an appt. for file review at 10am-12noon. Please bring what you have for the renewal document and I will take a look at it while you can see what we have in our files that you may be thinking of referencing. as we discussed today by phone, I would like to see the reduced set of the sequence drawings and the drawings for the layout/design of the admin/recycling dropoff facilities (HHWCC, CCC, WT etc) as an attachment to the ops plan. I know that you matching the the ops plan table of contents to the application form Part L. subparts, so please reference the specific ops plan section for each item on the application form also. Thank you again and I look forward to meeting with you.
Kim

-----Original Message-----

From: Miller, Joseph L. [mailto:JLMiller@pbsj.com]
Sent: Wednesday, March 31, 2004 12:02 PM
To: Ford, Kim
Cc: 'gus.difonzo@co.manatee.fl.us'; 'mike.gore@co.manatee.fl.us'; Deans, David E.
Subject: Lena Road Landfill - Operation Permit Renewal

Kim,

We are working on completing the application for renewal of the Lena Road Landfill Operation Permit, and will submit it to you by May 3, 2004. We have already submitted the update of the biennial water monitoring report and the cleaning of the leachate collection system. Last week a contractor completed the repairs and the system has now been successfully pressure cleaned. All the pipes are open and flowing. We will include a complete updated report with the permit application.

With the application, we will submit a site plan that shows the locations for the proposed new administration facility and details for collection and disposal of leachate that will be generated by the dumpsters at the community convenience center. We propose to drain the area around the dumpsters to catch basins and pipe the runoff to a sanitary manhole at the household chemical collection building.

In order to facilitate the permit process, I plan to visit your office on Thursday April 8 around 10:00 AM to review the permit files and discuss the application process with you.

If this time is inconvenient or you have any questions, please call me at 1-800-284-5182 Ext 153.

Thanks,

Joe

Ford, Kim

From: Ford, Kim

Sent: Wednesday, February 04, 2004 4:30 PM

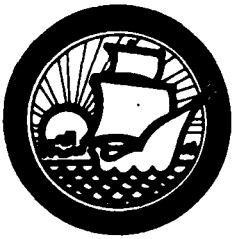
To: Pelz, Susan; Morgan, Steve; Ross, Lora

Subject: Lena Road waste tires

on 2/4 at 4:25pm I left a message for Gus that whole tires must be shredded before landfilling and that only off road tires do not require shredding.

Kim

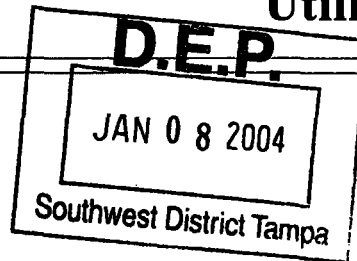
2/4/2004



MANATEE COUNTY GOVERNMENT

Utility Operations Department

January 7, 2004



Mr. Steven Morgan, Engineer II
Solid Waste Section
Florida Department of Environmental Protection
3804 Coconut Palm Drive
Tampa, FL 33619

Re: Waste Tire Disposal
Manatee County Lena Road Landfill

Dear Mr. ^{stem}Morgan:

As you may be aware, Modern Recycling discontinued business on January 1, 2004. Modern Recycling was the company we utilized for waste tire removal and disposal. The fee for their service was \$74.95 per ton. With the unexpected closing of Modern Recycling, obviously this has left us in a predicament for proper disposal of our waste tires and our ability to adhere to regulatory requirements.

Landfill staff has been busy working with our Purchasing Division to locate at least a temporary outlet for these waste tires and to eventually procure through a formal process a long-term agreement, as we previously shared with Modern Recycling.

To date, we have been unable to identify a credible outlet. Florida Tire Recycling has provided a quote of \$200.00 per ton for temporary services to remove our waste tires. We find the quote of \$200.00 per ton arduous, excessive and unacceptable.

To that end and in lieu of a level of credible markets, I am requesting authorization to temporarily dispose of our waste tires in the Manatee County Lena Road Landfill until such time we can formally research and procure a new credible vendor. I would assume this process would cover a six-month period.

Your understanding and cooperation in this matter would be greatly appreciated. For further discussion and/or clarification, please contact me at (941) 795-3473. Thank you.

Sincerely,

Gus DiFonzo
Solid Waste Division Manager

cc: Rob Cuthbert, Financial Management Division Manager
Dan Gray, Director, Utility Operations Director
Mike Gore, Landfill Superintendent
Jeanne' Detweiler, Expediter-Construction

SOLID WASTE ROUTING

Danielle Sobczak
Kim Ford
Steve Morgan
John Morris
Lora Ross
Stephanie Petro

DATE:

1/12/04 Kim, please
respond
to Bus.
11/16/03

DEPOSITION AFTER REVIEW

FILE []

SUSAN PELZ

1/12/04

Ford, Kim

From: Ford, Kim
Sent: Monday, February 02, 2004 11:52 AM
To: Smith, David G
Cc: Pelz, Susan
Subject: RE: Lena Road

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Thanks for any help you can assist me with.

David G. Smith, P.E.
Stormwater Engineer
Southwest District
(813)-744-6100 ext. 393

2/2/2004

PBS& TRANSMITTAL

TO: MR. John Morris
Southwest District Office
Florida Department of Environmental Protection
3804 Coconut Palm Drive
Tampa, FL 33619-8318

DATE: December 11, 2003

JOB NO.: 120498.91 9500

Phone: 407.647.7275, ext. 339

From: P. Greg Mudd, P.G.

RE: Lena Road Landfill
Manatee County

Address/Office: 482 Keller Road
Orlando, FL 32810-6101

D.E.P.
DEC 12 2003

Southwest District Tampa

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____
the following items:

- ☐ Shop Drawings ☐ Prints ☐ Plans ☐ Samples
☐ Copy of Letter ☐ Change Order ☐ Specifications ☐ _____

COPIES	DATE	NO.	DESCRIPTION
2	12/11/03		Biennial Water Quality Monitoring Plan Evaluation 1st Half 2002 -
			2nd Half 2003

THESE ARE TRANSMITTED As Checked Below:

- ☐ For approval ☐ Reviewed as submitted ☐ Resubmit _____ copies for approval
☒ For your use ☐ Reviewed as noted ☐ Submit _____ copies for distribution
☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☐ For review and comment ☐ _____
☐ For bids due _____ 20____
☐ Prints returned after loan to us

REMARKS:

SIGNED

DISTRIBUTION File

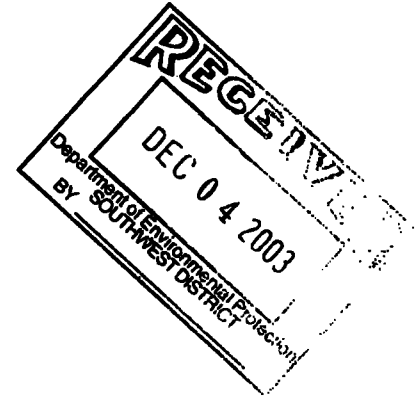
If enclosures are not as noted, kindly notify us at once



An employee-owned company

November 24, 2003

Mr. John R. Morris, P.G.
Solid Waste Section
Florida Department of Environmental Protection
3804 Coconut Palm Drive
Tampa, Florida 33619



RE: Lena Road Class I Landfill
FDEP Letter Dated October 31, 2003 to Mr. Gus DiFonzo

Dear Mr. Morris:

We reviewed the above referenced letter, and have the following explanations for the comments in our reports.

GMW-5: Q3-2001	When we began reading the gas monitoring wells in September 2001, we could not find GMW-5 and presumed it was destroyed. GMW-5 was then located for Q4-2001, and has been read each quarter since then. GMW-5 was never replaced.
GMW-10: Q1-2002	We could not access the well for a reading due to construction. The construction was completed, and GMW-10 was accessible for the next reading. GMW-10 was never replaced.
GMW-10: Q3-2002	The third quarter report (July, August and September) 2002 gives the reading for GMW-10 as 0.0%.
GMW-11:	This well was lost during the construction for the new landfill access road, and cannot be found. It was either buried under fill, or removed by the contractor. GMW-11 was replaced by GMW-11A. Permit Specific Condition 36 requests a permit modification application for replacement of a ground water monitoring well. We were unaware that a permit modification was required for replacement of a gas monitoring well too. GMW-11A was installed using the detail approved for GMW-9A. Since GMW-11A has detected methane, we plan to convert it to a vent, and will submit a permit application for replacement of GMW-11 after we determine the source and extent of methane in the area. The remediation plan is described at the end of this letter.
GMW-15: Q4-2001	The well could not be located for the Q4-2001 reading due to dense vegetation. The vegetation was cut back and we located the well for the next quarterly monitoring report. GMW-15 was never replaced.
GMW-16: Q1-2002	The well could not be located for the Q1-2002 reading due to dense vegetation. The vegetation was cut back and we located the

well for the next quarterly monitoring report. GMW-16 was never replaced.

GMW-18: Q3-2001 When we began reading the gas monitoring wells in September 2001, we could not find GMW-18. GMW-18 was then located, and has been read each quarter since then. GMW-18 was never replaced.

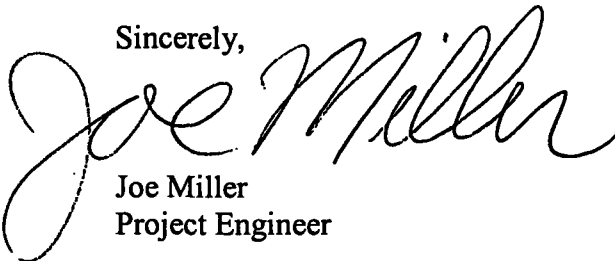
PZ-12 was not replaced. The riser on PZ-12 was damaged when, we believe, a vehicle backed into it. Cutting off the damaged section, and replacing it with a new riser repaired the riser. The well riser elevation was surveyed and designated as PZ-12A. The coordinates are the same.

The Lena Road Landfill Operation Permit expires July 15, 2004, and we are preparing the renewal application. We will submit a revised landfill operation plan with current monitor well, piezometer and gas well monitoring identification numbers and location maps.

Methane was detected in GMW-11A. Since the County is not landfilling in Stage III, and there is only a limited amount of old waste in Stage III, we believe the methane comes from a natural source. The methane may be the result of decaying yard waste used to stabilize the area for vehicles. For the remediation plan, we will probe the soil between GMW-11A and the Stage III Landfill to determine the extent of methane in the area. Based on the results, we will submit a new location for replacement of GMW-11. We will submit the results of the investigation, the well installation detail and proposed location with the renewal application for the Landfill Operation Permit.

If you have any questions, please call me at 407-647-7275 Ext. 153.

Sincerely,



Joe Miller
Project Engineer

Cc: Gus DiFonzo, Manatee County
Mike Gore, Manatee County

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Department of Environmental Protection

Jeb Bush
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

David B. Struhs
Secretary

Mr. Gus DiFonzo
Manatee County Utility Operations Department
4410 66th Street West
Bradenton, FL 34210

October 31, 2003

Re: Lena Road Class I Landfill, Permit No. 39884-001-SO, Manatee County
Gradient Monitoring/Piezometer Replacement, Gas Monitoring Well Replacement

Dear Mr. DiFonzo:

This letter has been prepared to identify the Department's continuing concerns regarding the status of several monitoring points at the referenced facility. Please recall that permit modification No. 39884-009 was issued on December 16, 2002 to specifically address the installation of replacement monitoring points (well GC-4A and gas monitoring location GMW-9A) that were impacted by construction activities at the facility. In addition, the Department's letter dated February 24, 2003 identified the need for further modifications to the permit based on the reported damage to interior gradient monitoring location PZ-12 and requested the submittal of technical justification for its proposed replacement. The PBS&J monthly reports indicated replacement PZ-12A was put in service in March 2003 (report dated April 21, 2003) and the survey information for the riser elevation at this new location was available in April 2003 (report dated May 15, 2003). It is noted that the requested justification of construction details for the replacement piezometer, abandonment records for the damaged piezometer, and permit modification application were not submitted to authorize the installation of this replacement piezometer.

Selected quarterly gas monitoring reports prepared by PBS&J also appear to indicate that several gas monitoring locations were obstructed, damaged, destroyed and/or replaced, as summarized below:

- GMW-5: Q3-2001 – destroyed; no later indication that it was replaced
- GMW-10: Q1-2002 – obstructed, Q3-2002 – unable to be located; no later indication that it was replaced
- GMW-11: Q2-2002 – unable to be located; Q1-2003 – unable to be located; Q2-2003 – unable to be located
- GMW-11A: Q3-2003 – replacement gas well installed August 2003
- GWM-15: Q4-2001 – unable to be located; Q1-2002 – replaced
- GWM-16: Q1-2002 – replaced
- GMW18: Q3-2001 – unable to be located; no later indication that it was replaced

Please identify which of the listed gas monitoring locations have been physically replaced. For all gas monitoring locations that were replaced please provide the dates of replacement, construction details and unique identification number for each replacement location, and a discussion of how the damaged gas monitoring location was properly abandoned. Please also submit revisions to Figure K-3 from the Operations Plan (Landfill Gas Migration Monitoring Locations) and the drawing entitled "Lena Road Landfill Methane Gas Monitoring Location Map" prepared by Manatee County Public Works Department dated November 4, 1994 to reflect the unique identification numbers assigned to all current gas monitoring locations.

Please note that Specific Condition No. 28 requires immediate Department notification upon discovery of damage to or failure of any portion of the landfill facilities that are regulated by the operations permit. This condition also requires the permittee to follow up with written detailed notification within seven days of the occurrence to propose remedial measures. The descriptions provided in the PBS&J reports for monthly gradient data or quarterly gas monitoring data have not been submitted in a timely manner to address the notification requirements of this permit condition.

"More Protection, Less Process"

Mr. Gus DiFonzo
October 31, 2003
Page 2 of 2

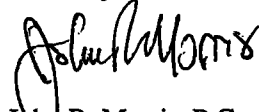
Please be advised that changes to the gradient and gas monitoring locations presented above require the submittal of a minor permit modification request. Please submit the permit modification application form, supporting information and application fee within 30 days of the date of this letter. The supporting information must address the following issues, at a minimum:

- Justification of the construction details for the replacement piezometer PZ-12A (total depth, screen length, top and bottom screen elevations, historical water level range recorded at PZ-12)
- Revisions to the Stormwater/Leachate Management Plan to reflect all current monitor well and piezometer identification numbers (Table 1, Table 2, Figure 2 and Exhibit C)
- Documentation of proper abandonment of PZ-12 in accordance with Specific Condition No. 37
- Revisions to the Operation Plan to reflect all current gas monitoring location identification numbers (Figure K-3 and Table K-4)

It is also noted that the gas monitoring report prepared for Q3-2003 indicates that measurements exceeded 100% of the lower explosive limit for combustible gases at location GWM-11A (PBS&J report dated October 15, 2003). The report indicates that the elevated gas measurements were obtained at this location on September 26, 2003 and confirmed on September 30, 2003. The indications in the report that it appears unlikely that the gas is due to migration from the landfill and that it is suspected that the presence of this gas is due to the decay of naturally-occurring organic material in the subsurface were not substantiated. Please submit the gas remediation plan required by Specific Condition No. 20 to detail the nature and extent of the elevated gas measurements and propose a remedy. Please include the construction details and soil description for replacement gas monitoring location GWM-11A as part of the remediation plan.

Please contact me at (813) 744-6100, extension 336, if you have any questions regarding this letter.

Sincerely,



John R. Morris, P.G.
Solid Waste Section

cc: Mike Gore, Manatee County Landfill Superintendent, 3333 Lena Road, Bradenton, FL 34210
Joe Miller, P.E., PBS&J, 482 South Keller Road, Orlando, FL 32810
Susan Pelz, P.E., FDEP Tampa
Kim Ford, P.E., FDEP Tampa
Lora Ross, FDEP Tampa



An employee-owned company

October 24, 2003

Mr. Kim Ford, P.E.
Solid Waste Engineer
Florida Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, FL 33619-8318

**RE: Manatee County Lena Road Landfill
GMS ID No.: 4041C02025
Operation Permit Renewal
Permit No.: 39884-001-SO**

Dear Mr. Ford:

The above referenced operation permit will expire on July 15, 2004, and as required for permit renewal the leachate collection system must be pressure cleaned and inspected.

On behalf of Manatee County, PBS&J is submitting the report and video of the inspection and pressure cleaning of the leachate collection system. The leachate collection system had a blockage at three points as shown on the drawing. Manatee County plans to hire a contractor to repair the leachate collection system. After the repairs are complete, the leachate collection system in the area of the blockage will be pressure cleaned and videotaped to document that the pipe was successfully repaired. This work should be completed prior to permit renewal.

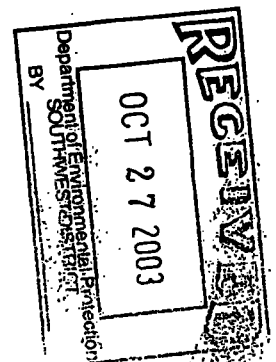
Please call me at 1-800-284-5182 Ext. 153 if you have any questions or comments on successfully completing this task for permit renewal.

Sincerely,

Joseph L. Miller, P.E.
Senior Project Manager

Cc: Gus DiFonzo, Manatee County
File 120498.28


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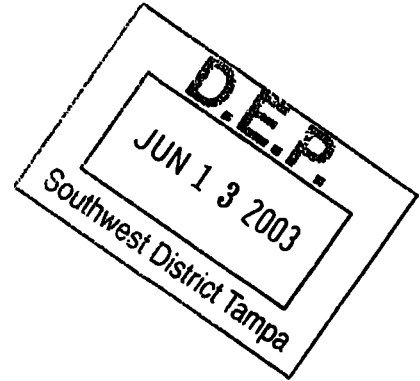




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June 12, 2003

Kim Ford, P.E. 
Solid Waste Section
Division of Waste Management
Department of Environmental Protection
Southwest District
3804 Coconut Palm Drive
Tampa, FL 33619



RE: Lena Road Landfill
Permit No.: #39884-001-SO, Manatee County

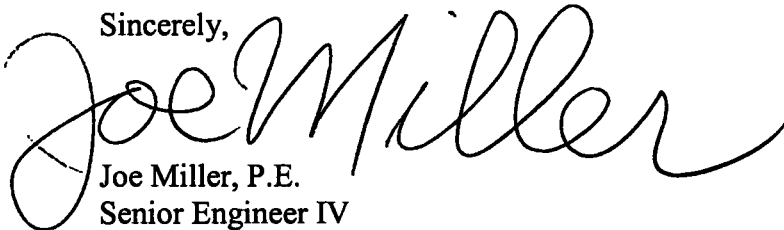
Dear Mr. Ford:

Per your request, PBS&J is sending you a copy of the Lena Road Landfill topography based on a June 27, 2002 aerial photograph. The landfill will be photographed again in July 2003 and a topographic map prepared. We will send FDEP a copy of that drawing when it is available.

Also, we enclosed a plot of the landfill volume consumed based on the topographic maps from 1991 through 2002. We used this plot to determine that the average landfill-filling rate is 493,000 cubic yards per year. We also enclosed Tables 5 and 6 from our landfill life evaluation report for Manatee County. Table 6 summarizes the landfill life for various assumptions. We project the remaining landfill life to be 2028, 2037 or 2042 for the landfill as designed depending on the assumptions. This includes Stages I, II and III. Table 6 gives the assumptions related to each projection

If you have any questions, please call me at 407-647-7275, ext. 153.

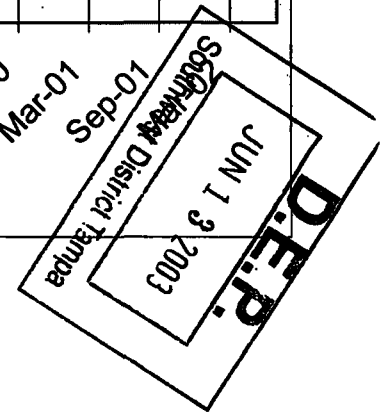
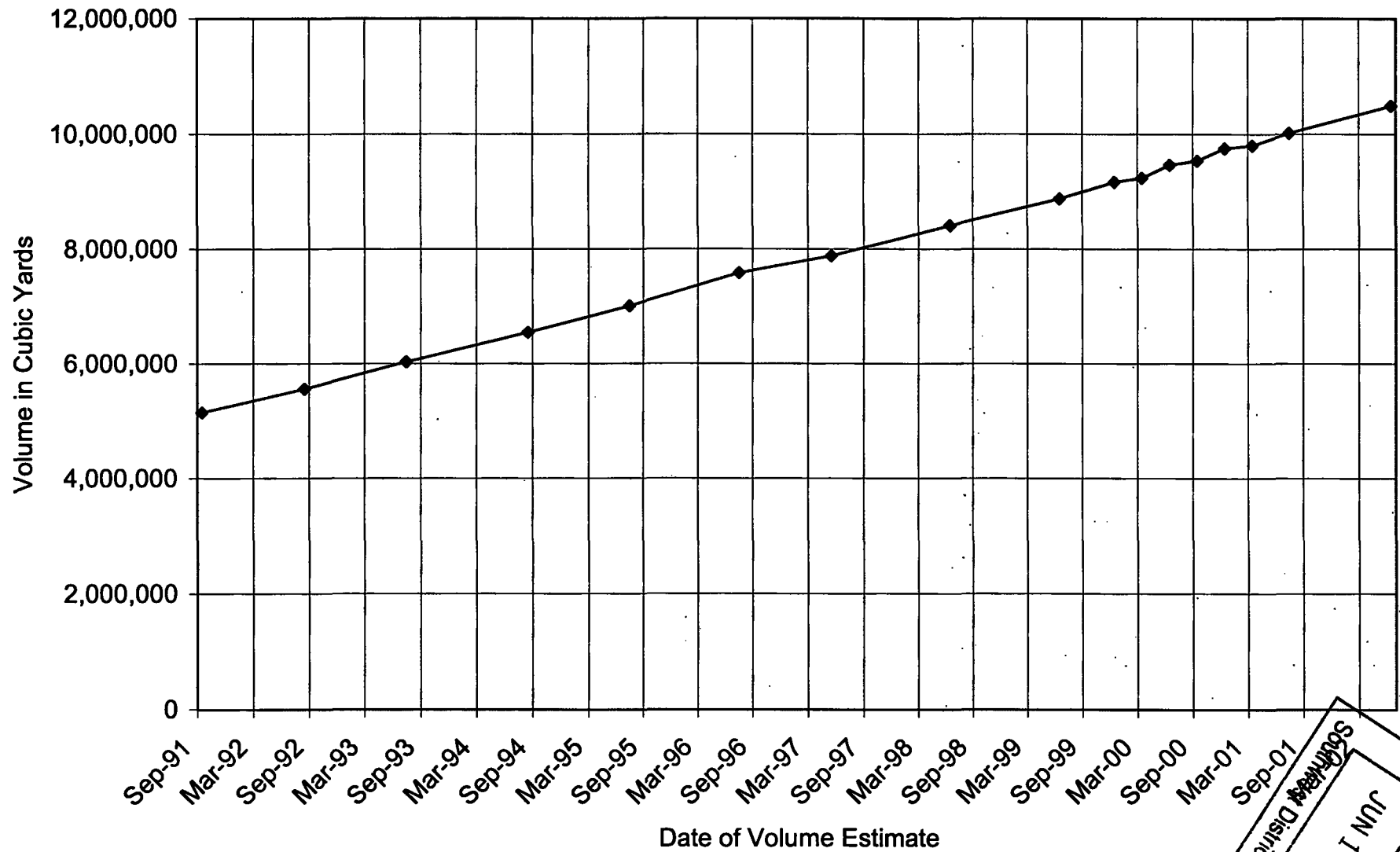
Sincerely,


Joe Miller, P.E.
Senior Engineer IV

cc File 120498.16

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LENA ROAD LANDFILL PLOT OF VOLUME CONSUMED VERSUS DATE FOR 1991 TO 2002



LENA ROAD LANDFILL LIFE PROJECTION FROM 2002 TO 2060

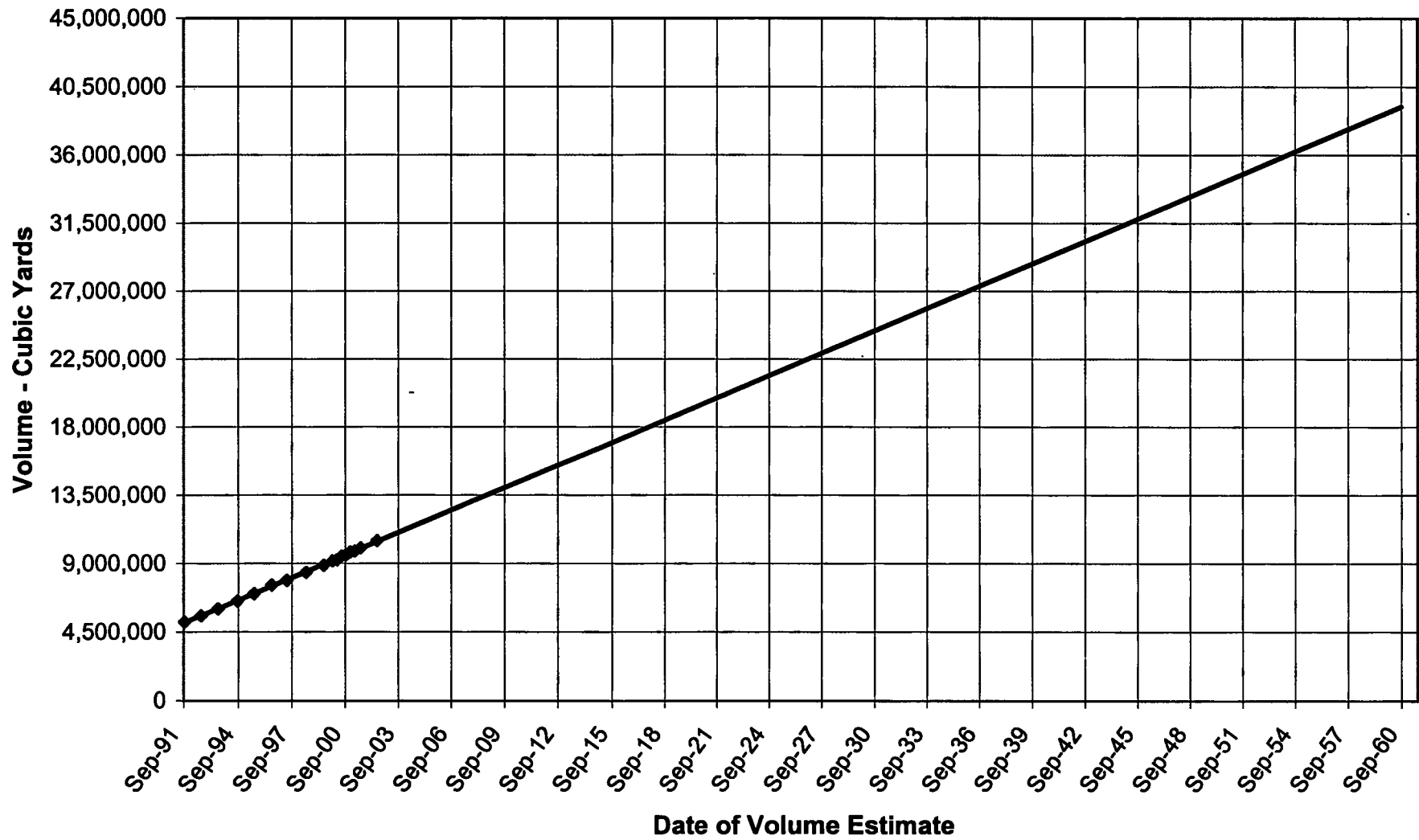


Table 5
Manatee County Lena Road Landfill

**LANDFILL LIFE EXPECTANCY BASED ON POPULATION, LANDFILL RATE
PER CAPITA AND SOLID WASTE DENSITY OF 1800 POUNDS/CUBIC YARD
FOR LANDFILL CONTOURS AS DESIGNED, ALTERNATIVES 1 AND 2**

ASSUMPTIONS:

Landfilled solid waste in pounds/capita/day. (Note 1): 7.07
Landfilled solid waste in tons per capita per year. 1.29
Solid waste compaction density. (Note 3.): 1,800

Year	Population	Landfilled Solid Waste in Tons per Capita per Year (2)	Landfilled Solid Waste Volume Consumed In Cubic Yards @ 1,800/lbs/yd (3)	Landfill Capacity Remaining (4)		
				As Designed cubic yards	Alternative 1 cubic yards	Alternative 2 cubic yards
2002				19,960,103	24,037,103	28,714,103
2003	283,215	365,425	406,028	19,554,075	23,631,075	28,308,075
2004	292,286	377,129	419,033	19,135,042	23,212,042	27,889,042
2005	299,357	386,253	429,170	18,705,873	22,782,873	27,459,873
2006	306,428	395,376	439,307	18,266,565	22,343,565	27,020,565
2007	313,499	404,500	449,444	17,817,121	21,894,121	26,571,121
2008	320,570	413,623	459,582	17,357,539	21,434,539	26,111,539
2009	327,641	422,747	469,719	16,887,821	20,964,821	25,641,821
2010	334,712	431,871	479,856	16,407,964	20,484,964	25,161,964
2011	341,784	440,995	489,995	15,917,970	19,994,970	24,671,970
2012	348,856	450,120	500,134	15,417,836	19,494,836	24,171,836
2013	353,928	456,664	507,405	14,910,431	18,987,431	23,664,431
2014	363,000	468,370	520,411	14,390,020	18,467,020	23,144,020
2015	370,072	477,495	530,550	13,859,471	17,936,471	22,613,471
2016	377,144	486,619	540,688	13,318,782	17,395,782	22,072,782
2017	384,216	495,744	550,827	12,767,955	16,844,955	21,521,955
2018	391,288	504,869	560,966	12,206,990	16,283,990	20,960,990
2019	398,360	513,994	571,104	11,635,885	15,712,885	20,389,885
2020	405,432	523,119	581,243	11,054,642	15,131,642	19,808,642
2021	412,504	532,244	591,382	10,463,260	14,540,260	19,217,260
2022	419,576	541,368	601,520	9,861,740	13,938,740	18,615,740
2023	426,648	550,493	611,659	9,250,081	13,327,081	18,004,081
2024	433,720	559,618	621,798	8,628,283	12,705,283	17,382,283
2025	440,792	568,743	631,937	7,996,346	12,073,346	16,750,346
2026 (5)	448,065	578,127	642,364	7,353,983	11,430,983	16,107,983
2027	455,458	587,666	652,963	6,701,020	10,778,020	15,455,020
2028	462,973	597,363	663,736	6,037,284	10,114,284	14,791,284
2029	470,612	607,219	674,688	5,362,596	9,439,596	14,116,596
2030	478,377	617,238	685,820	4,676,776	8,753,776	13,430,776
2031	486,271	627,423	697,136	3,979,639	8,056,639	12,733,639
2032	494,294	637,775	708,639	3,271,000	7,348,000	12,025,000
2033	502,450	648,299	720,332	2,550,668	6,627,668	11,304,668
2034	510,740	658,995	732,217	1,818,451	5,895,451	10,572,451
2035	519,168	669,869	744,299	1,074,152	5,151,152	9,828,152
2036	527,734	680,922	756,580	317,573	4,394,573	9,071,573
2037	536,441	692,157	769,063	(451,491)	3,625,509	8,302,509
2038	545,293	703,578	781,753		2,843,756	7,520,756
2039	554,290	715,187	794,652		2,049,105	6,726,105
2040	563,436	726,987	807,763		1,241,341	5,918,341
2041	572,733	738,982	821,092		420,250	5,097,250
2042	582,183	751,176	834,640		(414,390)	4,262,610
2043	591,789	763,570	848,411			3,414,199
2044	601,553	776,169	862,410			2,551,789
2045	611,479	788,976	876,640			1,675,149
2046	621,568	801,994	891,104			784,045
2047	631,824	815,227	905,807			(121,763)

Note 1. Landfilled solid waste is based on data from 2002 as given in Table 3.

Note 2. Landfilled solid waste in tons per year = population x Tons per capita per year / 2000 pounds per ton.

Note 3. The solid waste compaction density includes the initial soil cover, and is calculated in Table 3.

Note 4. Landfill capacity remaining is based on the June 27,2002 aerial survey.

Note 5. Assumed rate of population growth after 2025. 1.65%

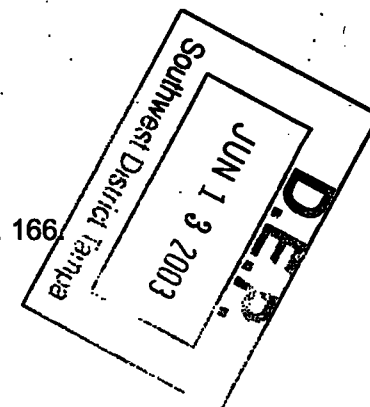
Table 6
Manatee County Lena Road Landfill

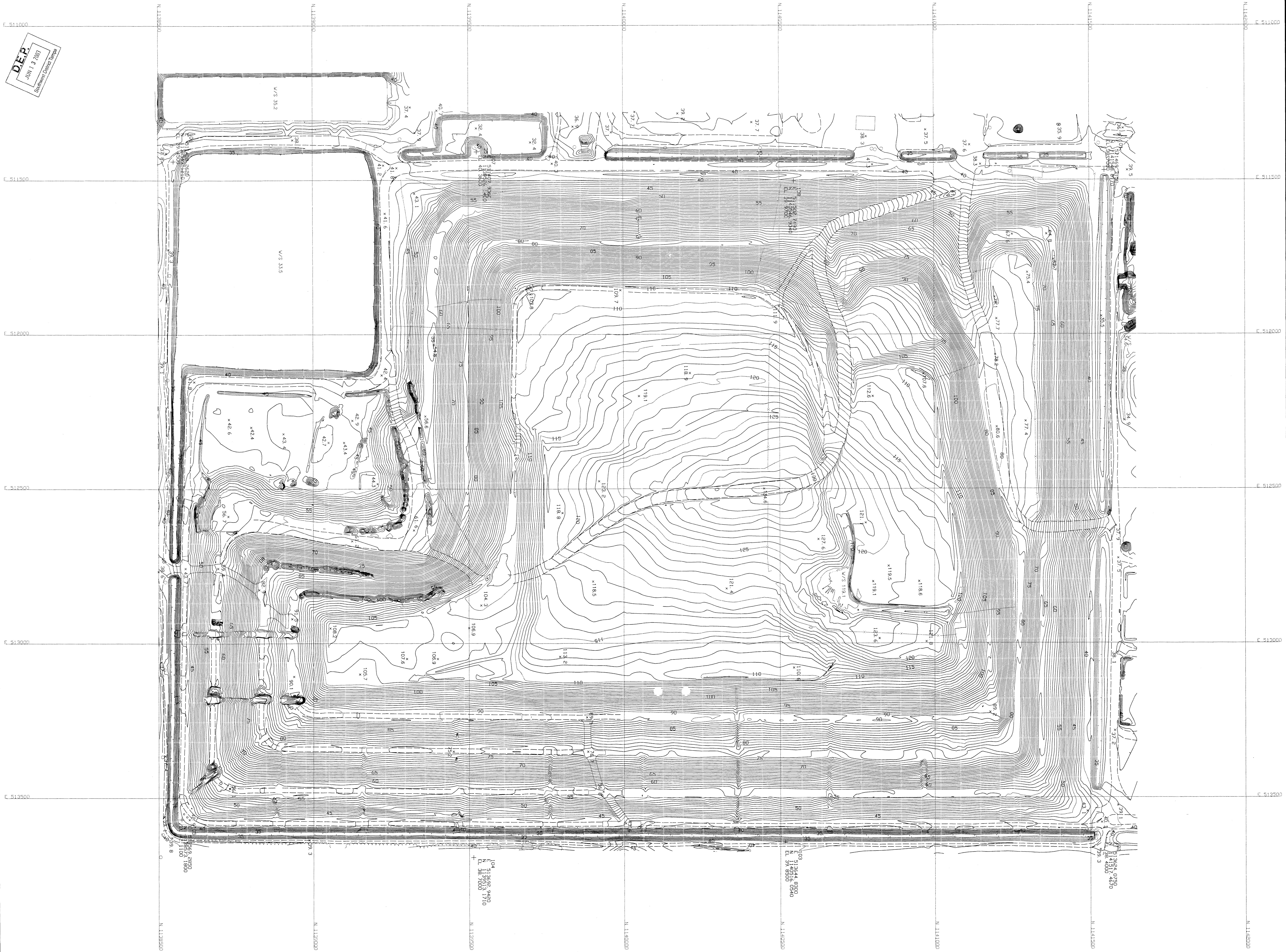
SUMMARY OF LANDFILL LIFE PROJECTIONS

ASSUMPTIONS	OPTION WITH REMAINING CAPACITY IN CUBIC YARDS		
	AS DESIGNED (4)	ALTERNATIVE 1 (5)	ALTERNATIVE 2 (6)
	19,960,103 CY Year	24,037,103 CY Year	28,714,103 CY Year
Solid Waste Density of 1225 pounds per cubic yard (1)	2028	2032	2036
Solid Waste Density of 1800 pounds per cubic yard (2)	2037	2042	2047
Filling Rate of 493,000 Cubic Yards per Year (3)	2042	2050	2060

Notes!

1. The solid waste density of 1225 pounds per cubic yard is the average density for 1999 through 2002.
2. The solid waste density of 1800 pounds per cubic yard is the average density achieved over time due to solid waste decomposition and secondary landfill settlement due to the weight of the solid waste.
3. The filling rate of 493,000 cubic yards per year is the average filling rate for 1991 through 2002.
4. As designed is for the landfill contours with 6H:1V side slopes and a maximum El. 136.
5. Alternative 1 is for the landfill contours with 6H:1V side slopes and an increase of 30 feet in height to a maximum El. 166.
6. Alternative 2 is for the landfill with 4H:1V side slopes and an increase of 30 feet in height to a maximum El. 166.





PAVED ROAD
CURB-GUTTER
DIRT ROAD
TRAIL
DRIVEWAYS
PARK-LOTS
SIDEWALKS
RUNWAYS
RR SINGLE
RR DOUBLE
WALLS
DRAINAGE

GUARDRAIL
RETAINING WALL
FENCES
PIPELINES
LAKE
RIVER
STREAM
TREE LINE
BRUSH LINE
HEDGE
GROVE

INDEX CONTOUR
OBSCURED INDEX
OBSCURED DEP INDEX
INTERMEDIATE CONTOUR
OBSCURED INTERMEDIATE
OBSCURED DEP INTERMEDIATE
STRUCTURES
BUILDINGS
OUTLINE

SPOT HEIGHT
OBSCURED SPOT
CONTROL POINT
WATER SURFACE ELEV.
SWAMP
EDGE OF PAVEMENT
RAILROAD SIGNAL
RAILROAD SWITCH
RAILROAD CROSSING GATE

STREET LIGHT
TRAFFIC LIGHT
TOWER
UTILITY POLES
VALVE
FIRE HYDRANT
ELECTRICAL BOX
CATCH BASIN
DROP INLET
MANHOLE
MAIL BOX
MISC. POST

SIGN
DOUBLE LEGGED SIGN
TELEPHONE BOOTH
ANTENNA
SATELLITE DISH
BIRD BATH
FLAG POLE
SHRUB
PALM TREE
EVERGREEN TREE

1. THE UNDERSIGNED REGISTERED SURVEYOR & MAPPER
CERTIFY THAT THIS MAP WAS COMPILED USING PHOTOGRAMMETRIC
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TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.
THIS SURVEY MEETS THE MINIMUM TECHNICAL STANDARDS
FLORIDA CHAPTER 86G17-FLORIDA ADMINISTRATIVE CODE.
6-27-02
DATE OF PHOTOGRAPHY
ISAC F. ROOKS, JR., PSM #5416
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106 N.W. 56th ST.
FLORIDA CITY, FL 33566
(813) 752-2113
PHOTOGRAMMETRY

100 0 100 200 300

TOPOGRAPHIC SURVEY

MANATEE COUNTY PUBLIC WORKS
LENA ROAD LANDFILL
SHEET 1 OF 1

1094676
1
DEP.
JUN 1 3 2003
Southern District Office