

 ORIGINAL

4 December 2012

Mr. Thomas Lubozynski, P.E.
Waste Program Administrator
Florida Department of Environmental Protection
Central District Office
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

RECEIVED

DEC 05 2012

DEP Central District

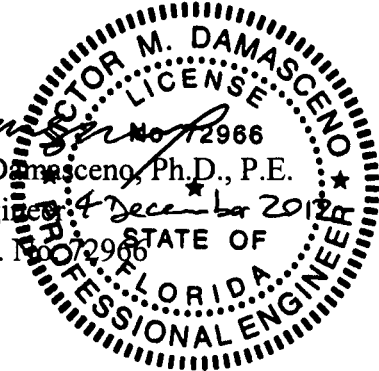
Subject: Phased Financial Assurance Update
J.E.D. Solid Waste Management Facility (WACS #89544)
Osceola County, Florida

Dear Mr. Lubozynski:

Transmitted herein are four copies of the J.E.D. Solid Waste Management Facility (JED facility) financial assurance update. This financial assurance update is submitted on behalf of Omni Waste of Osceola County, LLC (Omni) for the JED facility located in St. Cloud, Florida. This package contains four (4) hard-copies of the updated financial assurance in accordance with Rule 62-701.315(4), F.A.C.

If you have any questions or need additional information, please do not hesitate to contact the undersigned.

Sincerely,


Victor M. Damasceno, Ph.D., P.E.
Project Engineer
Florida P.E. No. 72966


Attachment

Copies to: Michael Kaiser, WSI

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Prepared for



Omni Waste of Osceola County, LLC

1501 Omni Way
St. Cloud, Florida 34773

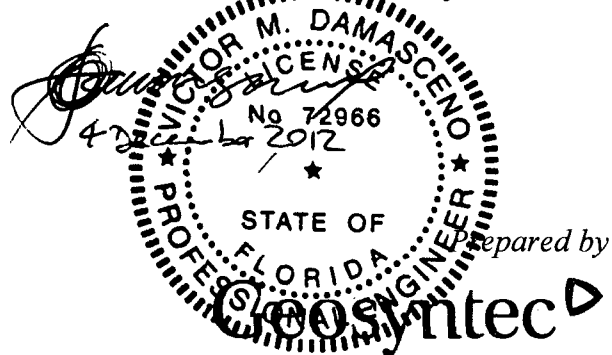
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DEC 05 2012

DEP Central District

**UPDATE TO FINANCIAL ASSURANCE COST
ESTIMATES DUE TO CLOSURE OF PHASE 1,
CELLS 1-4, UPPER SIDESLOPES AND TOP
AREA**

J.E.D. Solid Waste Management Facility
Osceola County, Florida



consultants

13101 Telecom Drive, Suite 120
Tampa, Florida 33637

Project No. FL2098
December 2012

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**FINANCIAL ASSURANCE UPDATE
J.E.D. SOLID WASTE MANAGEMENT FACILITY
OSCEOLA COUNTY, FLORIDA**

1 INTRODUCTION

Geosyntec Consultants (Geosyntec) has prepared this report to provide the updated closure and long-term care cost estimates for the J.E.D. Solid Waste Management (JED) facility, located in Osceola County, Florida. The closure and long-term care cost estimates for the JED facility are being updated to account for the recently closed Phase 1 area at the JED facility. The Phase 1 development at the JED facility consists of four cells – Cells 1 through 4. Closure occurred over the upper side slopes and top area of Cells 1 through 4.

The JED facility is owned and operated by Omni Waste of Osceola County, LLC (Omni), which is a wholly owned subsidiary of Waste Services, Inc. (WSI). This report is submitted to the Florida Department of Environmental Protection (FDEP), Central District on behalf of Omni to comply with the requirements of Specific Condition F.1 of FDEP Solid Waste Permit No. SC49-0199726-022 and provides updated closure and long-term care cost estimates for the JED facility. Attachment 1 includes FDEP Form 62-701.900(28) (Closure Cost Estimating Form for Solid Waste Facilities) and Attachment 2 the financial assurance notes and calculations.

2 PROJECT BACKGROUND

The current 5-year construction and operation permit authorizes the development of Phases 1 through 4 of the JED facility. Phase 1 consists of four cells, Cells 1 through 4, and has a footprint of approximately 53 acres. Phase 2 consists of three cells, Cells 5 through 7, and has a footprint of approximately 36 acres. Phase 3 consists of three cells, Cells 8 through 10, and has a footprint of approximately 37 acres. Phase 4 consist of three cells, Cells 11 through 13, and has a footprint of approximately 47 acres. The combined footprint of Phases 1 through 4 is approximately 173 acres. To date, Cells 1 through 8 have been constructed at the JED facility.

The existing financial assurance was approved by FDEP for the JED facility as part of the 5 year Solid Waste Operation Permit renewal application titled “Renewal Permit Application to Operate Phases 1 through 4 of the J.E.D. Solid Waste Management Facility.” The above referenced permit application was deemed complete on 4 April 2012. The April 2012 financial assurance was submitted as part of the response to the Second Request for Additional Information and is referred to hereafter as FA-RAI-02.

FA-RAI-02 includes the closure cost for the remaining portion of Phase 1, Cells 1 through 4 areas (not closed as part of the Phase 1 partial closure completed in 2009), Cells 5 through 8, and the long-term care costs for Cells 1 through 8. The currently approved and financially assured closure and long-term care costs are \$9,541,740.31 and \$9,099,143.79, respectively.

The Phase 1 disposal area was partially closed in 2009 and included side slopes from the toe of Cells 1 through 4 up to an approximate elevation of 180 feet National Geodetic Vertical Datum (NGVD) and were certified by FDEP on 16 March 2010. Closure activities for approximately 19.4 acres of the remaining side slope (i.e., 17.9 acres) and top deck (i.e., 1.5 acres) areas of the Phase 1 disposal area were substantially completed on 17 July 2012 and documented in the 30 October 2012 Construction Quality Assurance Certification Report prepared by Weaver Boos Consultants and submitted to the FDEP. This report provides a revised financial assurance to account for the reduced closure costs resulting from the 17 July 2012 closure.

3 FINANCIAL ASSURANCE COST ESTIMATE

As previously stated, this report is submitted to provide an update to the financial assurance cost estimate for the JED facility to account for the recently closed Phase 1 area. FDEP Form 62-701.900(28) is included as Attachment 1 and the notes and calculations presented in Attachment 2. The closure and long-term care costs were estimated using the FDEP approved unit rate costs from FA-RAI-02. The unit rate costs used to calculate the revised closure costs are based on the rates presented in the renewal application and account for a 2% inflation factor as presented in the Annual Adjustment of Cost Estimates established by FDEP (<http://www.dep.state.fl.us/waste/categories/swfr/pages/CostEstimates.htm>). Note that long-term care costs associated with Cells 1 through 8 are not affected by the 17 July 2012 closure. Therefore, long-term care costs were not adjusted at this time; however, long-term care costs are provided for completeness purposes. The notes and calculations presented in Attachment 2 provide the revised closure cost estimates for Cells 1 through 8 at the JED facility and have been summarized in the table below.

Cell Identification	Closure Cost Estimate	Long-Term Care Cost Estimate	Financial Assurance Cost Estimate
Cells 1 – 8	\$7,796,218.53	\$9,099,143.79	\$16,895,362.32

Omni will provide FDEP with an insurance certificate for the revised financial assurance cost estimate of **\$16,895,362.32** upon verbal or written approval of this revised closure cost estimate.

ATTACHMENT 1
FDEP FORM 62-701.900(28)



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form # 62-701.900(28), F.A.C.
Form Title: Closure Cost Estimating Form
For Solid Waste Facilities
Effective Date: January 6, 2010
Incorporated in Rule 62-701.630(3), F.A.C.

CLOSURE COST ESTIMATING FORM FOR SOLID WASTE FACILITIES

Date of DEP Approval: _____

I. GENERAL INFORMATION:

Facility Name: J.E.D. Solid Waste Management Facility WACS ID: 89544
Permit Application or Consent Order No.: SO49-199726-022 Expiration Date: 7/03/2017
Facility Address: 1501 Omni Way, Saint Cloud, Florida 34773
Permittee or Owner/Operator: Omni Waste of Osceola County, LLC (a wholly owned subsidiary of WSI, Inc.)
Mailing Address: 1501 Omni Way, Saint Cloud, Florida 34773

Latitude: 28 ° 03 ' 32 " Longitude: 81 ° 05 ' 46 "
Coordinate Method: DGPS Datum: WGS84
Collected by: Johnston's Surveying Company/Affiliation: Johnston's Surveying

Solid Waste Disposal Units Included in Estimate:

Phase / Cell	Acres	Date Unit Began Accepting Waste	Active Life of Unit From Date of Initial Receipt of Waste	If active: Remaining life of unit	If closed: Date last waste received	If closed: Official date of closing
Phase 1/Cells 1-4	53	Jan 2004	4 to 8 years	~1 year		
Phase 2/Cells 5-7	35.7	Mar 2009	3 to 6 years	1 to 2 years		
Phase 3/Cell 8	11.3	N/A	1 to 2 years	1 to 2 years		

Total disposal unit acreage included in this estimate: Closure: 56.8 Long-Term Care: 100
The 56.8-acre closure area is the plan view area. The 3D area is equal to 59.3 acres

Facility type: ☒ Class I ☐ Class III ☐ C&D Debris Disposal
(Check all that apply) ☐ Other: _____

II. TYPE OF FINANCIAL ASSURANCE DOCUMENT (Check type)

- ☐ Letter of Credit* ☒ Insurance Certificate ☐ Escrow Account
☐ Performance Bond* ☐ Financial Test ☐ Form 29 (FA Deferral)
☐ Guarantee Bond* ☐ Trust Fund Agreement

* - Indicates mechanisms that require the use of a Standby Trust Fund Agreement

Northwest District
160 Government Center
Pensacola, FL 32502-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. B200
Jacksonville, FL 32256-7590
904-807-3300

Central District
3319 Maguire Blvd., Ste. 232
Orlando, FL 32803-3767
407-894-7555

Southwest District
13051 N. Telecom Pky.
Temple Terrace, FL 33637
813-632-7600

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33901-3881
239-332-6975

Southeast District
400 N. Congress Ave., Ste. 200
West Palm Beach, FL 33401
561-681-6600

III. ESTIMATE ADJUSTMENT

40 CFR Part 264 Subpart H as adopted by reference in Rule 62-701.630, Florida Administrative Code, (F.A.C.) sets forth the method of annual cost estimate adjustment. Cost estimates may be adjusted by using an inflation factor or by recalculating the maximum costs of closure in current dollars. Select one of the methods of cost estimate adjustment below.

☐ (a) Inflation Factor Adjustment

☒ (b) Recalculated or New Cost Estimates

Inflation adjustment using an inflation factor may only be made when a Department approved closure cost estimate exists and no changes have occurred in the facility operation which would necessitate modification to the closure plan. The inflation factor is derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its survey of Current Business. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year. The inflation factor may also be obtained from the Solid Waste website www.dep.state.fl.us/waste/categories/swfr or call the Financial Coordinator at (850) 245-8706.

This adjustment is based on the Department approved closing cost estimate dated: _____

Latest Department Approved Closing Cost Estimate:	Current Year Inflation Factor, e.g. 1.02		Inflation Adjusted Closing Cost Estimate:
_____	_____	x =	_____

This adjustment is based on the Department approved long-term care cost estimate dated: _____

Latest Department Approved Annual Long-Term Care Cost Estimate:	Current Year Inflation Factor, e.g. 1.02		Inflation Adjusted Annual Long-Term Care Cost Estimate:
_____	_____	x =	_____

Number of Years of Long Term Care Remaining: _____ x _____ = _____

Inflation Adjusted Long-Term Care Cost Estimate: _____ = _____

Signature by: ☐ Owner/Operator ☒ Engineer (check what applies)

Signature

Address

Name & Title

City, State, Zip Code

Date

E-Mail Address

Telephone Number

☐ **New Facility Cost Estimate**

2. Cost estimate must be certified by a professional engineer.

4. In some cases, a price quote in support of individual item estimates may be required.

3 of 9

Description	Unit	Number of Units	Cost / Unit	Total Cost
7. Passive Gas Control:				
Wells	EA	41	\$8,950.69	\$366,978.29
Pipe and Fittings	LF	14,507	\$49.55	\$718,821.85
Monitoring Probes	EA			
NSPS/Title V requirements	LS	1		
Subtotal Passive Gas Control:				\$1,085,800.14
8. Active Gas Extraction Control:				
Traps	EA	2	\$6,834.00	\$13,668.00
Sumps	EA			
Flare Assembly	EA			
Flame Arrestor	EA			
Mist Eliminator	EA			
Flow Meter	EA			
Blowers	EA			
Collection System	LF			
Other (explain) <u>gas flare station</u>	EA	1	\$325,350.21	\$325,350.21
Subtotal Active Gas Extraction Control:				\$339,018.21
9. Security System:				
Fencing	LF			
Gate(s)	EA			
Sign(s)	EA			
Subtotal Security System:				
10. Engineering:				
Closure Plan Report	LS	1	\$15,300.00	\$15,300.00
Certified Engineering Drawings	LS	1		
NSPS/Title V Air Permit	LS	1		
Final Survey	LS	1	\$105,850.50 ✓	\$105,850.50
Certification of Closure	LS	1	\$10,200.00	\$10,200.00
Other (explain) _____				
Subtotal Engineering:				\$131,350.50

Description	Hours	Cost / Hour	Hours	Cost / Hour	Total Cost
11. Professional Services					
	<u>Contract Management</u>		<u>Quality Assurance</u>		
P.E. Supervisor					
On-Site Engineer					
Office Engineer					
On-Site Technician					
Other (explain) <u>1</u>		\$175,821.11 175,822	<u>1</u>	\$410,251.11 ✓ \$410,251	\$586,073.00

Description	Unit	Number of Units	Cost / Unit	Total Cost
Quality Assurance Testing	LS	1	\$41,025.11	\$41,025.11
Subtotal Professional Services:				\$627,098.11

Subtotal of 1-11 Above: \$6,487,828.39

12. Contingency 10 % of Subtotal of 1-11 Above \$648,782.84

Subtotal Contingency: \$648,782.84

Estimated Closing Cost Subtotal: \$7,136,611.23

Description	Total Cost
13. Site Specific Costs	
Mobilization	
Waste Tire Facility (Closure)	<u>\$39,226.93</u>
Materials Recovery Facility (Auto Fluff Recycler)	<u>\$41,620.08</u>
Special Wastes	
Leachate Management System Modification	
Other (explain) <u>see financial assurance</u>	<u>\$578,760.29</u>
<u>notes</u>	
Subtotal Site Specific Costs:	<u>\$659,607.30</u>

TOTAL ESTIMATED CLOSING COSTS (\$): \$7,796,218.53

V. ANNUAL COST FOR LONG-TERM CARE

See 62-701.600(1)a.1., 62-701.620(1), 62-701.630(3)a. and 62-701.730(11)b. F.A.C. for required term length. For landfills certified closed and Department accepted, enter the remaining long-term care length as "Other" and provide years remaining.

(Check Term Length) ☐ 5 Years ☐ 20 Years ☒ 30 Years ☐ Other, ____ Years

Notes: 1. Cost estimates must be certified by a professional engineer.

2. Cost estimates based on third party suppliers of material, equipment and labor at fair market value.

3. In some cases, a price quote in support of individual item estimates may be required.

All items must be addressed. Attach a detailed explanation for all entries left blank.

Description	Sampling Frequency (Events / Year)	Number of Wells	(Cost / Well) / Event	Annual Cost
1. Groundwater Monitoring [62-701.510(6), and (8)(a)]				
Monthly	12			
Quarterly	4			
Semi-Annually	2	33	\$772.73	\$51,000.18
Annually	1			
Subtotal Groundwater Monitoring:				\$51,000.18
2. Surface Water Monitoring [62-701.510(4), and (8)(b)]				
Monthly	12			
Quarterly	4			
Semi-Annually	2	2	\$325.00	\$1,300.00
Annually	1			
Subtotal Surface Water Monitoring:				\$1,300.00
3. Gas Monitoring [62-701.400(10)]				
Monthly	12			
Quarterly	4	1	\$670.00	\$2,680.00
Semi-Annually	2	1	\$7,500.00	\$15,000.00
Annually	1	1	\$12,700.00	\$12,700.00
Subtotal Gas Monitoring:				\$30,380.00
4. Leachate Monitoring [62-701.510(5), (6)(b) and 62-701.510(8)c]				
Monthly	12			
Quarterly	4			
Semi-Annually	2			
Annually	1	8	\$926.00	\$7,408.00
Other (explain) Leachate ponds	1	1	\$1,050.00	\$1,050.00
Subtotal Leachate Monitoring:				\$8,458.00

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
5. Leachate Collection/Treatment Systems Maintenance				
<u>Maintenance</u>				
Collection Pipes	LF			
Sumps, Traps	EA	8	\$858.63	\$6,869.04
Lift Stations	EA			
Cleaning	LS	1	\$926.66	\$926.66
Tanks	EA			

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
5. (continued)				
<u>Impoundments</u>				
Liner Repair	SY	371	\$3.54	\$1,313.34
Sludge Removal	CY			
<u>Aeration Systems</u>				
Floating Aerators	EA	1	\$250.00	\$250.00
Spray Aerators	EA			
<u>Disposal</u>				
Off-site (Includes transportation and disposal)	1000 gallon	840	\$40.00	\$33,600.00
Subtotal Leachate Collection / Treatment Systems Maintenance:				\$42,959.04
6. Groundwater Monitoring Well Maintenance				
Monitoring Wells	LF			
Replacement	EA	3	\$130.94	\$392.82
Abandonment	EA	3	\$29.11	\$87.33
Subtotal Groundwater Monitoring Well Maintenance:				\$480.15
7. Gas System Maintenance				
Piping, Vents	LF	50	\$50.00	\$2,500.00
Blowers	EA	1	\$2,500.00	\$2,500.00
Flaring Units	EA			
Meters, Valves	EA			
Compressors	EA			
Flame Arrestors	EA			
Operation	LS	1	\$5,800.00	\$5,800.00
Subtotal Gas System Maintenance:				\$10,800.00
8. Landscape Maintenance				
Mowing	AC	100	\$240.00	\$24,000.00
Fertilizer	AC			
Subtotal Landscape Maintenance:				\$24,000.00
9. Erosion Control and Cover Maintenance				
Sodding	SY	1,210	\$1.23	\$1,488.30
Regrading	AC			
Liner Repair	SY	1	\$2,500.00	\$2,500.00
Clay	CY			
Subtotal Erosion Control and Cover Maintenance:				\$3,988.30
10. Storm Water Management System Maintenance				
Conveyance Maintenance	LS	1	\$2,500.00	\$2,500.00
Subtotal Storm Water Management System Maintenance:				\$2,500.00
11. Security System Maintenance				
Fences	LS	1	\$350.00	\$350.00
Gate(s)	EA	1	\$250.00	\$250.00
Sign(s)	EA	1	\$20.00	\$20.00
Subtotal Security System Maintenance:				\$620.00

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
12. Utilities	LS	1	\$77,105.96	\$77,105.96
			Subtotal Utilities:	\$77,105.96

13. Leachate Collection/Treatment Systems Operation

Operation

P.E. Supervisor	HR			
On-Site Engineer	HR			
Office Engineer	HR			
OnSite Technician	HR	156	\$60.00	\$9,360.00
Materials	LS	1	\$500.00	\$500.00

Subtotal Leachate Collection/Treatment Systems Operation: \$9,860.00

14. Administrative

P.E. Supervisor	HR	8	\$150.00	\$1,200.00
On-Site Engineer	HR	8	\$120.00	\$960.00
Office Engineer	HR			
OnSite Technician	HR	8	\$65.00	\$520.00
Other Administrative/overhead	LS	1	\$9,600.00	\$9,600.00

Subtotal Administrative: \$12,280.00

Subtotal of 1-14 Above: \$275,731.63

15. Contingency	10	% of Subtotal of 1-14 Above		\$27,573.16
			Subtotal Contingency:	\$27,573.16

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
16. Site Specific Costs				
			Subtotal Site Specific Costs:	

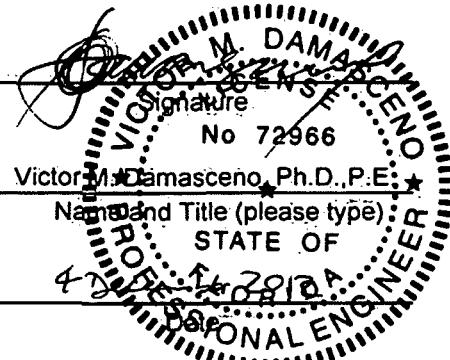
ANNUAL LONG-TERM CARE COST (\$ / YEAR): \$303,304.79

Number of Years of Long-Term Care: 30

TOTAL LONG-TERM CARE COST (\$): \$9,099,143.79

VI. CERTIFICATION BY ENGINEER

This is to certify that the Cost Estimates pertaining to the engineering features of this solid waste management facility have been examined by me, and found to conform to engineering principles applicable to such facilities. In my professional judgment, the Cost Estimates are a true, correct and complete representation of the financial liabilities for closing and/or long-term care of the facility and comply with the requirements of Rule 62-701.630 F.A.C. and all other Department of Environmental Protection rules, and statutes of the State of Florida. It is understood that the Cost Estimates shall be submitted to the Department annually, revised or adjusted as required by Rule 62-701.630(4), F.A.C.


Signature
No 72966
Victor M. Damasceno, Ph.D., P.E.
Name and Title (please type)
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
72966
Florida Registration Number
(please affix seal)

13101 Telecom Drive, Suite 120

Mailing Address

Temple Terrace, Florida 33637

City, State, Zip Code

VDamasceno@Geosyntec.com

E-Mail address (if available)

813-558-0990

Telephone Number

VII. SIGNATURE BY OWNER/OPERATOR


Signature of Applicant

Mike Kaiser, Regional Engineer

Name and Title (please type)

MKaiser@Wasteservicesinc.com

E-Mail address (if available)

1501 Omni Way

Mailing Address

Saint Cloud, Florida 34773

City, State, Zip Code

(904)673-0446

Telephone Number

ATTACHMENT 2
NOTES AND CALCULATIONS

**FINANCIAL ASSURANCE COST ESTIMATE FOR
CLOSURE OF CELLS 1-8:
NOTES AND CALCULATIONS
J.E.D. SOLID WASTE MANAGEMENT FACILITY**

The information provided below presents the methods and assumptions used to estimate the cost for the items listed on the Florida Department of Environmental Protection (FDEP) Form 62-701.900(28), F.A.C., “*Closure Cost Estimating Form for Solid Waste Facilities*” (January 6, 2010). The section numbers noted below correspond to the item numbers on FDEP Form 62-701.900(28), F.A.C. The original and closed two-dimensional areas for each Cell are as follows:

Cell	Original Area	Area Closed	Remaining Area to be Closed
Cell 1	18	18	0
Cell 2	12	12	0
Cell 3	12	6.5	5.5
Cell 4	11	6.7	4.3
Cell 5	11.2	0	11.2
Cell 6	12.5	0	12.5
Cell 7	12	0	12
Cell 8	11.3	0	11.3
Totals	100	43.2	56.8

I. GENERAL INFORMATION

The financial assurance cost estimate presented on the FDEP Form 62-701.900(28) provides the closure and long-term care costs for Cells 1-8 at the J.E.D. Solid Waste Management facility in Osceola County, Florida. The closure and long-term care costs were estimated using the FDEP approved unit rate costs from the financial assurance cost estimate revision associated with the response to the Second Request for Additional Information (FA-RAI-02), dated 3 April 2012, for the permit renewal application titled “Renewal Permit Application to Operate Phases 1 through 4 of the J.E.D. Solid Waste Management Facility” dated November 2011.

The unit rate costs from the FA-RAI-02 were adjusted to account for the 2% inflation factor presented in the Annual Adjustment of Cost Estimates prepared by FDEP (<http://www.dep.state.fl.us/waste/categories/swfr/pages/CostEstimates.htm>) and used to estimate the closure costs presented herein. Note that the Phase 1 disposal area closure activities completed on 17 July 2012 do not affect the long-term care costs for Cells 1-8 at the J.E.D. Solid Waste Management Facility. As such, long-term care costs were not adjusted and are included for completeness purposes only.

IV. ESTIMATED CLOSING COST

1. Proposed Monitoring Wells

The groundwater monitoring well system for Phases 1 through 3 (Cells 1 through 10) has already been completed. Therefore, no costs have been included as part of this financial assurance revision.

2. Slope and Fill (Bedding layer/Intermediate Cover)

Soils purchased and transported from the offsite Bronson borrow area will be used for intermediate cover. The total estimated volume is 83,328.7 cubic yards (yd³) for the 1-ft thick intermediate cover layer over the waste surface. The cost per yd³ includes purchase, excavation, hauling, placement, spreading, grading, and compaction. The estimated cost for slope and fill material is as follows:

As presented in Figure 1, the two-dimensional top deck area for Cells 1 through 8 covers approximately 9.35 acres and the 3:1 side slope area is equal to 90.65 acres resulting in a total area of approximately 100 acres. However, as of 17 July 2012, approximately 41.7 acres along the side slopes and 1.5 acres along the top deck of Phase 1 have been closed. As such, the top deck area to be closed is equal to 7.85 and the side slope area to be closed is equal to approximately 49 acres. To account for the additional area attributed to the 3:1 side slopes the plan areas are multiplied by 1.05. Therefore, the 3:1 side slope area is 49 acres $\times$ 1.05 = 51.45 acres plus the 7.85-acre top deck area equals a total corrected area of approximately **59.3 acres**.

- $(59.3 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \times 1 \text{ ft cover thickness}) \div 27 \text{ ft}^3/\text{yd}^3 = 95,670.7 \text{ yd}^3$
- $95,670.7 \text{ yd}^3 @ (\$4.32/\text{yd}^3 + \$0.28/\text{yd}^3) = \mathbf{\$440,085.22}$

3. Cover Material (Barrier Layer)

The final cover system for the JED facility is comprised of (from bottom to top):

- 12 inch intermediate cover soil layer (Item No.2 above)
- 40-mil PE geomembrane
- geocomposite drainage layer (on 3:1 side slopes only)
- 18-inch cover protective soil layer (Item No. 4 below)
- 6-inch vegetative soil layer (Item No. 5 below)

Cost for geosynthetics includes material and installation costs. The estimated quantities are:

40-mil geomembrane (textured sideslopes and smooth top-deck):

Textured on Sideslopes (Purchase \$2.30/yd² & Install \$1.31/yd²):

- $51.45 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \div 9 \text{ ft}^2/\text{yd}^2 = 249,018 \text{ yd}^2$
- $249,018 \text{ yd}^2 \text{ 40-mil textured geomembrane @ } \$3.61/\text{yd}^2 = \$898,954.98$

Smooth on Top Deck (Purchase \$2.02/yd² & Install \$1.32/yd²)

- $7.85 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \div 9 \text{ ft}^2/\text{yd}^2 = 37,994 \text{ yd}^2$
- $37,994 \text{ yd}^2 \text{ 40-mil smooth geomembrane @ } \$3.34/\text{yd}^2 = \$126,899.96$

To calculate the average cost for 40-mil geomembrane for the FDEP form, the total cost to purchase and install was divided by the total area installed:

- $(\$898,954.98 + \$126,899.96) \div (249,018 \text{ yd}^2 + 37,994 \text{ yd}^2) = \$3.58/\text{yd}^2$
- Total average cost 40-mil geomembrane = $\$3.58/\text{yd}^2 \times 287,012 \text{ yd}^2 = \mathbf{\$1,027,502.96}$

Geocomposite Drainage Layer (on 3:1 side slopes only):

Geocomposite (Purchase $\$3.21/\text{yd}^2$ & $\$0.73/\text{yd}^2$):

- $51.45 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \div 9 \text{ ft}^2/\text{yd}^2 = 249,018 \text{ yd}^2$
- $249,018 \text{ yd}^2 \text{ geocomposite drainage layer @ } \$3.94/\text{yd}^2 = \mathbf{\$981,130.92}$

The total cost for final cover materials (excluding the intermediate and vegetative soil layers) is **\$2,008,633.88**.

4. Top Soil Cover (Protective Cover Layer)

Soils purchased and transported from the offsite Bronson borrow area will be used for the protective cover. Cost for the 18-inch cover protective soil layer includes purchase, excavation, hauling, placement, spreading, grading, and compaction.

- $(59.3 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \times 1.5 \text{ ft cover thickness}) \div 27 \text{ ft}^3/\text{yd}^3 = 143,506 \text{ yd}^3$
- $143,506 \text{ yd}^3 \text{ cover soils @ } (\$4.36/\text{yd}^3 + \$0.28/\text{yd}^3) = \mathbf{\$665,867.84}$

5. Vegetative Layer

The vegetative soil layer consists of a 6 inch layer over the protective cover layer. The estimated volume is $47,835.3 \text{ yd}^3$. Soils purchased and transported from the offsite Bronson borrow area will be used for the vegetative layer. The cost per cubic yard includes hauling, placing, spreading, and grading.

The final cover area will be sodded. Sodding costs include all labor and materials.

- $59.3 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \div 9 \text{ ft}^2/\text{yd}^2 = 287,012 \text{ yd}^2$
- $287,012 \text{ yd}^2 \text{ Bahia sod @ } \$1.25/\text{yd}^2 = \mathbf{\$358,765.00}$

Fertilizer (Amendments) for the vegetative soil layer is \$1,061.31 per acre.

- $59.3 \text{ acres} \times \$1,061.31/\text{acre} = \mathbf{\$62,935.68}$

The estimated cost for the vegetative soil layer is as follows:

- $(59.3 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \times 0.5 \text{ ft cover thickness}) \div 27 \text{ ft}^3/\text{yd}^3 = 47,835.3 \text{ yd}^3$
- $47,835.3 \text{ yd}^3 @ (\$4.36/\text{yd}^3 + \$0.28/\text{yd}^3) = \mathbf{\$221,955.79}$

The total cost for the vegetative layer (vegetative soil cover and sod) is **\$643,656.47**

6. Storm Water Control System

Storm water control components that will be installed during closure consist of side slope drainage swales, inlet structures on the side slope bench swales, seepage header piping, and

HDPE corrugated down chute pipes. The earthwork estimate includes excavation, hauling, placement, spreading, grading, and compaction of the additional soils required on the drainage benches for sloping and cover over the down chute piping.

The total adjusted cost for the storm water control system is estimated to be **\$546,318.02**, as indicated below.

- Earthwork: Additional soil to construct drainage swales is calculated based on the typical cross-section detail for the drainage swale from the ERP Lateral Expansion Permit Drawings and using the average depth of the swale = 20.6 ft² per linear foot of swale and placement cost for protective cover soils:
 - 20,528 yd³ @ (\$4.36/yd³ + \$0.28/yd³) = **\$95,249.92**
- Piping (material and installation):
 - 27,501 ft of 4-inch HDPE corrugated pipe @ \$7.93/ft = \$218,082.93 (the cost of the 4-inch drainage pipe includes the cost of the pipe and installation, and 3-ft wide strip of geomembrane used to wrap the pipe.
 - 3,197 ft of 18-inch HDPE corrugated pipe @ \$28.84/ft = \$92,201.48
 - 750 ft of 24-inch HDPE corrugated pipe @ \$34.84/ft = \$26,130.00

To calculate an average cost per foot of pipe for the FDEP form, the total pipe cost above has been divided by the total length of pipe to be installed:

$$\text{○ } (\$218,082.93 + \$92,201.48 + \$26,130.00) \div (27,501 \text{ ft} + 3,197 \text{ ft} + 750 \text{ ft}) = \textbf{\$10.70/ft}$$

- A concrete pad and grate will be installed with each “wye” connection – which joins the bench swale pipes to the main side slope downchute – to hold the piping in place and reduce erosion. Fifty (50) concrete pads remain to be installed in Cells 1-8. Each concrete pad will be 6-inches thick with dimensions of approximately 7.5-ft x 7.5-ft and fitted with a galvanized grate. The cost to install all fittings, concrete and grates is: 50 structures × \$2,291.49 = **\$114,574.50**

7. Passive Gas Control

The JED facility has an active gas collection and control system (GCCS) within the Phase 1 and 2 development areas (i.e., Cells 1-7), which will be expanded with the closure and development of subsequent cells. The costs associated with the installation of the passive gas control elements were calculated utilizing the proposed GCCS design as provided in the Lateral Expansion Solid Waste Permit Drawings (Sheet 29 of 40). Costs include materials and installation. Presently, with the exception of gas extraction well GW-31, all header and lateral piping and gas extraction wells have been installed in Cells 1-4. Additional header and lateral piping and gas extraction wells have been installed in Cells 5 and 6 and the lower tier (2 total) horizontal gas collectors in Cell 7. Additionally, two (2) horizontal collectors will be required in Cell 7 and four (4) total in Cell 8. The gas extraction wells have been categorized as Shallow (<50 ft), Intermediate (50-100 ft), and Deep (100-150 ft). For estimating purposes the well

depths have been assumed as 50, 100 and 150 ft of which 15 ft is solid well casing and the remainder is perforated zone casing.

Cost for gas wells [drilling, perforated pipe section (including gravel), solid pipe section (including soil backfill), and well head] was calculated as follows:

- 16-Shallow depth gas wells @ \$4,827.15/gas well = **\$77,234.40**
- 11-Intermediate depth gas wells @ \$9,162.15/gas well = **\$100,783.65**
- 14-Deep gas wells @ \$13,497.15/gas well = **\$188,960.10**

To calculate an average cost per gas well for the FDEP form, the total well costs above have been divided by the proposed number of gas wells:

- $(\$77,234.40 + \$100,783.65 + \$188,960.10) \div 41 \text{ wells} = \mathbf{\$8,950.69 \text{ per well}}$

Lateral piping (6-inch SDR-17 HDPE Pipe):

The total plan dimension length for 6-inch lateral pipe has been increased by 10% to allow for a 3:1 slope correction factor and additional length required for vertical risers to connect to the adjacent extraction well.

- $6,350 \text{ ft} \times 1.10 = 6,985 \text{ ft} @ \$20.40/\text{ft} = \mathbf{\$142,494.00}$

Header piping (12-inch SDR-17 HDPE Pipe):

The total plan dimension length of 12-inch header pipe has been increased by 10% to allow for varying bury depths to meet the required minimum 5% slope (sideslope areas) and a 3:1 slope correction for the cross over header.

- $2,320 \text{ ft} \times 1.10 = 2,552 \text{ ft} @ \$42.84/\text{ft} = \mathbf{\$109,327.68}$

Horizontal Collectors Cell 7 & 8 (10-inch SDR-17 HDPE Pipe with Stone Backfill):

- $4,970 @ \$70.09/\text{ft} + 6 \text{ well heads} @ \$714.00 = \mathbf{\$352,631.30}$

Other Remaining Installation Costs:

Other remaining costs described in the FA-RAI-02 total **\$80,070.00**

To calculate the cost per foot of gas system piping, the total pipe and installation cost has been divided by the total estimated length of pipe:

- $(\$142,494.00 + \$109,327.68 + \$352,631.30 + \$80,070.00) \div (6,985 + 2,552 + 4,970) \text{ ft} = \mathbf{\$47.19/\text{ft}}$

It is assumed that an additional 5% of the pipe cost is needed for fittings.

- $(\$47.19 \times 1.05) = \mathbf{\$49.55/\text{ft}}$

The total cost for the lateral and header piping and fittings is:

- $\$49.55/\text{ft} \times 14,507 \text{ ft} = \mathbf{\$718,821.85}$

Perimeter gas monitoring probes have already been installed for Phases 1 through 3 (i.e., Cells 1-10). NSPS Title V requirements have been met.

The total cost for passive gas controls is **\$1,085,800.14**

8. Active Gas Control

Based on the proposed GCCS design, two gas flare stations will be installed as part of the GCCS for Phases 1 through 3. One gas flare station was already installed as part of the Phase 1, Sequence 1 and 2 GCCS installation (for Cells 1 through 6). The estimated cost of the second gas flare is equal to $\$233,615.70 + \$91,734.51 = \mathbf{\$325,350.21}$.

Two additional condensate J-traps will be installed as part of the GCCS system within the footprint of Cell 7 and 8. The cost per condensate trap is $\$6,834 \times 2 = \mathbf{\$13,668.00}$

The total cost for active gas extraction control is **\$339,018.21**.

9. Security System

The perimeter fencing and gates were installed as part of the Phase 1 construction and therefore have not been included as part of this closure cost estimate.

10. Engineering

Closure Plan Report – The closure plan is included as part of the permit renewal application. Geosyntec has estimated **\$15,300** to update this plan.

Final Survey – bid quote survey costs by RCS for the partial closure of Phase 1 Event 2 are $\$35,000 \div 20 \text{ acres} = \$1,750/\text{acre}$. The adjusted costs associated with the final survey are $\$1,785/\text{acre} \times 59.3 \text{ acres} = \mathbf{\$105,850.50}$.

Certification of Closure – Geosyntec has estimated **\$10,200** to prepare the closure certification report.

11. Professional Services

These costs are based on Geosyntec estimates and labor rates. It is estimated that approximately 3 percent of construction cost will be needed for contract/construction management, which equates to $0.03 \times \$5,860,730.29 = \mathbf{\$175,822}$.

It is estimated that approximately 7 percent of construction cost will be needed for construction quality assurance (CQA), which equates to:

- $0.07 \times \$5,860,730.29 = \mathbf{\$410,251}$.

Quality assurance testing is estimated to be 10 percent of the CQA cost estimate and is based on the requirements of the CQA Plan, estimated quantities, and Geosyntec's experience. This equates to:

- $0.10 \times \$410,251 = \mathbf{\$41,025.11}$.

12. Contingency

A contingency factor for closure costs of 10 percent is estimated based on the current unit rate cost pricing used for this estimate.

13. Site Specific Costs

The following additional costs represent additional work required by the Earthworks Contractor in completing the closure project that have not included in the above costs estimates for liner and stormwater piping. Other site specific costs include:

- Mobilization and Demobilization
- Development, offloading and staging geosynthetics liner materials
- Borrow area development and management
- Site fencing at borrow area
- NOI, SWPPP, sediment and erosion controls
- Expose existing cap liner at anchor trench
- Excavation and backfilling of anchor trenches
- Remove existing upslope stormwater piping and rip-rap
- Flushing of existing stormwater control structures and outfall piping
- Waste/closure limit markers
- Waste tire processing facility closure
- Auto fluff recycler closure

The FDEP approved FA-RAI-02 closure cost estimates are equal to \$38,450.77 and \$40,804.00 for the waste tire processing facility and auto fluff recycler, respectively. An annual inflation factor of 2% applied to the above estimates result in **\$39,226.93** for the waste tire processing facility and **\$41,620.08** for the auto fluff recycler.

The total adjusted unit rate cost for the above listed items is equal to \$9,759.87/acre. The total Site Specific Costs for Cells 1-8 is:

$$\$9,759.87 \times 59.3 \text{ acres} + \$39,226.93 + \$41,620.08 = \mathbf{\$659,607.30}.$$

The total estimated closing costs for the remaining 59.3-acre area is equal to **\$7,796,218.53**.

V. ANNUAL COST FOR LONG TERM CARE

As previously stated, long-term care costs were not affected as a result of the 17 July 2012 closure activities at the site. Nonetheless, the detailed cost estimate is presented herein for completeness purposes.

All of the unit costs for calculation of the long-term care costs provided below are based on the FDEP approved FA-RAI-02 costs.

1. Ground Water Monitoring

The groundwater monitoring well network for Phases 1 through 3 (Cells 1-10) has already been installed. The long-term care cost for monitoring of groundwater wells equals \$25,500.00 for each semi-annual event (less leachate sampling and analysis). The cost per well is shown below:

- $\$25,500.00/\text{Event} \div 33 \text{ Wells} = \$772.73/\text{Well/Event}$

2. Surface Water Monitoring

Labor costs for collecting surface water samples in accordance with the facility's permits is included in the above estimates for ground water monitoring. Typically the sampling locations are dry and labor costs are minimal to perform the services. If in the event a sample is collected, laboratory costs are estimated at **\$325.00/sample**. It is assumed that two samples will be collected for each Semi-annual event on the FDEP form.

3. Landfill Gas Monitoring

The landfill gas monitoring probes will be monitored quarterly for concentrations of combustible gases. The long-term care cost associated with the landfill gas monitoring shown below are based on an hourly rate for a technician consultant (\$65.00/hour) and current time required to perform the monitoring at the 16 gas probe locations by in-house staff (4 hours).

The cost to perform the monitoring includes field and travel time.

- $(4 \text{ hrs field} + 2 \text{ hrs travel}) \times \$65.00/\text{hr} = \$390.00$
- Monitoring equipment rental and travel costs - \$150.00/event
- Time to prepare report - 2 hrs @ \$65.00/hr = \$130.00

Total cost per monitoring event equals $\$390.00 + \$150.00 + \$130.00 = \mathbf{\$670.00}$

Other gas and air monitoring costs required by the facility permits are listed below and shown as an annual cost in Section 3 of the FDEP form.

- NSPS Reporting - \$7,500.00 (Semi-Annual)
- Title V Permit Reporting (AOR) - \$5,600.00 (Annual)
- Visible Emissions and Sulfur Testing at Flare - \$2,900.00 (Annual)
- Greenhouse Gas Reporting - \$4,200.00 (Annual)

4. Leachate Monitoring

A leachate sample will be collected annually from Cells 1 through 8. Additionally, one sample is collected at the leachate aeration pond to meet the requirements of the City of St. Cloud for disposal of leachate at their WWTP. The leachate sampling costs include all labor, equipment, and laboratory analyses.

- Leachate monitoring unit rate cost at cell sumps equals **\$926.00/sump/year**
- Leachate monitoring unit rate cost a leachate pond equals **\$1,050.00/pond/year**

Total annual leachate monitoring cost equals $(8 \text{ sumps} \times \$926.00/\text{sump}/\text{year}) + (1 \text{ pond} \times \$1,050.00/\text{pond}/\text{year}) = \mathbf{\$8,458.00/\text{year}}$

5. Leachate Collection/Treatment System Maintenance

For the long term care cost estimate, the following maintenance activities have been assumed:

Leachate pumps: Assumed that pumps require annual maintenance and Cells 1 through 8 will require one primary and one secondary replacement pump once during the 30-year monitoring period:

- Annual maintenance = \$500.00/year
- Leachate pump replacement cost = $(\$6,354.00 + \$4,405.00) \div 30\text{years} = \$358.63/\text{year}$
- Total estimated annual cost for pumps per cell = **\$858.63/year**

Cleaning: Assumed that one system cleaning/jetting every 10 years within the 30-year monitoring period will be required (total of 3 cleanings).

- $(\$9,266.64 \times 3) \div 30 \text{ years} = \mathbf{\$926.66/\text{year}}$.

Leachate storage containers: Long term care for the leachate storage ponds assumes that each of the four bladder liners will require replacement over the 30-year monitoring period. Replacement cost has been assumed to be \$9,850.00 per flexible bladder as estimated below.

Approximately 22,500 ft² or 2,500 yd² of geomembrane required for each bladder (150 ft by 150 ft unit). As noted in Section 3 of the Closure Cost Estimates, installation and purchase cost for 40-mil textured geomembrane equals **\$3.54/yd²**. Assume \$1,000/bladder to clean and remove existing bladder. The unit cost for each bladder replacement equals $2,500 \text{ yd}^2 \times \$3.54/\text{yd}^2 + \$1,000.00 = \$9,850.00/\text{bladder}$

Total long-term care cost for the four bladder replacements based on a square yard and cost per year for the FDEP form is as follows:

- $4 \text{ bladders} \times \$9,850.00/\text{bladder} = \$39,400.00 \div 30 = \$1,313.34/\text{year} \div \$3.54/\text{yd}^2 = \mathbf{371 \text{ yd}^2/\text{year}}$

Leachate Aeration: Assume **\$250.00/year** to maintain the leachate aeration system piping, pumps and electrical controls. Cost for electricity is included Section 12.

Leachate disposal: The estimated leachate generation rate is equal to approximately 8,394.53 gal per acre per year (FA-RAI-02). For a subject area equal to 100 acres, the average leachate generated per year over a 30-year period is equal to 839,452.9 gallons.

- As shown on FDEP form $840 \times 1,000 \text{ gallons}/\text{year} \times \$0.04/\text{gallon}$ for transportation and disposal = **\$33,600/year**.

Therefore, total long-term care cost for leachate system maintenance = **\$42,959.04/year**.

6. Groundwater Monitoring Well Maintenance

The long-term care cost for maintenance of groundwater monitoring wells was calculated based on the assumption that one monitoring well per phase would need to be replaced, thus, one monitoring well per phase would need abandonment.

- Average cost per well to replace/30 years = $\$3928.33 \div 30 = \130.94
- Average cost per well to abandon/30 years = $\$873.33 \div 30 = \29.11

7. Gas System Maintenance

Approximately one hundred and sixteen (116) gas wells will eventually be installed within the footprint of Cells 1 through 8. It is estimated that an additional \$50 per well/year will be needed for maintenance ($\$50 \times 116 \text{ wells} = \$5,800$). It is assumed that **\$2,500/year** will be required for general maintenance of both skid mounted flare station (includes blowers, meters, valves and flame arrestors). It is assumed 50 ft of lateral or header piping will require replacement or repair at an average cost of **\$50.00/ft**.

8. Landscape

The long-term care cost estimate assumes a 100-acre area will require mowing four times per year.

- 4 times/year $\times$ \$60.00/acre = **\$240.00/acre/year**

9. Erosion Control and Cover Maintenance

The long-term care cost for erosion control and cover maintenance assumes that a 0.25-acre (1,210 yd²) area will require maintenance (i.e., sodding) per year, as such, 1,210 yd² @ **\$1.23/yd²** = \$1,488.30/year. The lump sum cost for material and equipment mobilization costs to perform maintenance and general grading of the protective liner for resodding is estimated @ \$2,500/year. The total cost associated with the erosion control and cover maintenance, per year, is equal to **\$3,988.30**.

10. Storm Water Management System Maintenance

Maintenance is estimated to occur on an annual basis. For the long-term care cost, a lump-sum cost of **\$2,500** has been assumed to mobilize a rubber tire mounted excavator and operator to clean and clear storm water ditches.

11. Security System Maintenance

Approximately 200 ft of barbed wire fencing is assumed to require repairs or replacement @ \$1.75/ft (includes material and labor). More so, an estimated \$250.00 will be required for gate maintenance. The cost to replace the front gate sign is equal to \$100.00. This financial assurance assumes that the front gate sign will be replaced once every 5 years, resulting in a yearly cost of \$20/year. The total cost associated with security system maintenance, per year, is equal to **\$620.00**.

12. Utilities

The long-term care cost estimate for Phases 1 through 3 assumes that the power requirements for site equipment (i.e., pumps, lights, blowers, etc.) will cost \$4,018.30 per month. The average monthly bill for Cells 1-7 is \$54.72. Below are the corresponding estimated annual electrical billings. A water well and septic system is provided for the administration office. It is assumed maintenance of the well and septic system will cost \$500.00/year.

- Electric costs Cells 1-8 equals $\$54.72/\text{month} \times 12 \text{ months/year} = \mathbf{\$5,253.12/\text{year}}$
- Electric costs administration office $\$631.34/\text{month} \times 12 \text{ months/year} = \mathbf{\$7,576.08/\text{year}}$
- Electric costs gas flare $\$1,982.49 \times 12 \text{ months/year} \times 2 \text{ flares} = \mathbf{\$47,579.76/\text{year}}$
- Electric costs leachate holding ponds $\$1,349.75 \times 12 \text{ months/year} = \mathbf{\$16,197.00/\text{year}}$
- Maintenance of water well and septic system for administration office = $\mathbf{\$500.00/\text{year}}$

Total annual utilities costs = $\mathbf{\$77,105.96/\text{year}}$

13. Leachate Collection/Treatment Systems Operation

Leachate collection/treatment system operation cost estimates are based on weekly monitoring by a technician for total of 3 hours/week $\times$ 52 weeks/year @ \$60/hour = $\mathbf{\$9,360/\text{year}}$. Additional material maintenance costs for the pumps and aeration system at the storage holding ponds is assumed as $\mathbf{\$500.00/\text{year}}$.

14. Administrative

The administrative long-term cost estimates that 20 hours per month will be expended towards administrative/overhead activities @ \$40.00/hour (i.e., \$9,600). More so, one 3rd party engineer (@\$120.00/hr) and one technician (@\$65.00/hr) are expected to perform a yearly site inspection under oversight of a P.E. Supervisor (@\$150.00/hr). The yearly site inspection is estimated to require 8 hours from each on-site personnel and supervisor. The total yearly administrative cost for the facility is equal to $\mathbf{\$12,280.00}$.

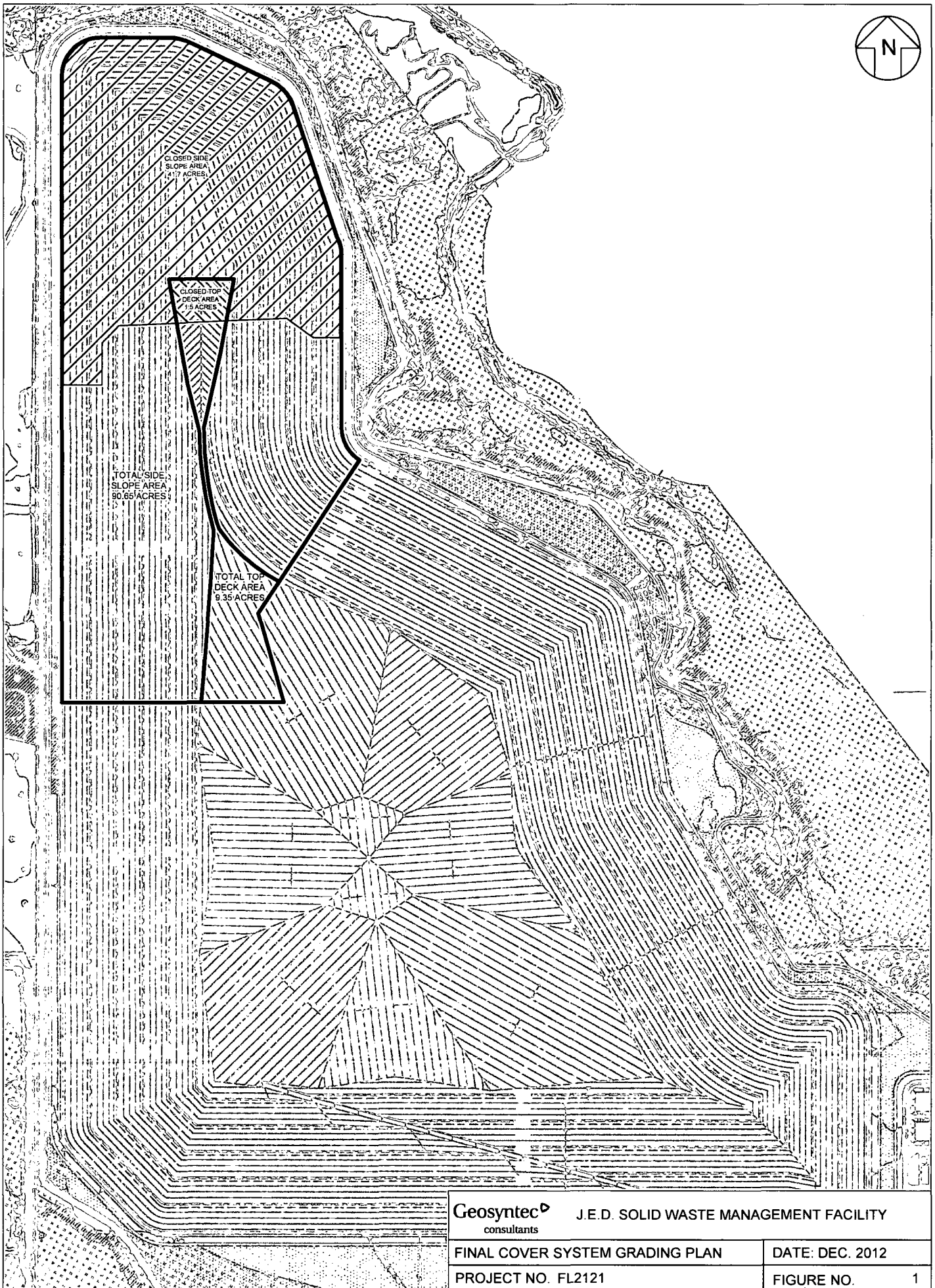
15. Contingency

A contingency factor for long-term care costs of 10 percent is estimated based on the current unit rate cost pricing and level of detail provided for this estimate.

16. Site Specific Costs

No additional site specific costs are estimated.

FIGURES



Geosyntec[®]
consultants

J.E.D. SOLID WASTE MANAGEMENT FACILITY

FINAL COVER SYSTEM GRADING PLAN

DATE: DEC. 2012

PROJECT NO. FL2121

FIGURE NO.

1