CD

Florida Department Of

Memorandum **Environmental Protection**

CENTRAL DISTRICT

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JUL 3 1 2002

Solid Waste Section

TO: Financial Coordinator
Solid Waste Section
MS-4565
Division of Waste Management

OCD-SW-02-0304

FROM: James N. Bradner, P.E.
Program Manager
Solid and Hazardous Waste

DATE: July 29, 2002

SUBJECT: Osceola County – SW
Oak Hammock Disposal, Class I
Permit Application Nos. SC49-0199726-001 & SO49-0199726-002

We have reviewed the enclosed closure and long-term care cost estimates dated April 30, 2002, for the subject facility and believe that they are adequate for the site at this time.

Please feel free to contact me if you need any additional information.

JNB/gc/ew

Enclosures

cc: Frank Hornbrook – DEP – Tallahassee – MS-4565

DEP Form # 62-701.900(28)
Form Title Financial Assurance Cost Estimate Form
Effective Date 05-27-01

DEP Application No. _____
(Filled by DEP)

Florida Department of Environmental Protection
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, FL 32399-2400

FINANCIAL ASSURANCE COST ESTIMATE FORM

Date: 30 APRIL 2002 Date of DEP Approval: _____

I. GENERAL INFORMATION:

Facility Name: OAK HAMMOCK DISPOSAL WACS or GMSID #: _____

Permit / Application No.: _____ Expiration Date: _____

Facility Address: HIGHWAY U.S. 441

Permittee: OMNI WASTE OF OSCEOLA COUNTY, LLC

Mailing Address: 100 CHURCH ST. KISSIMMEE, FLORIDA 34741

Latitude: 28°03'31" Longitude: 81°05'46" or UTM: _____

Solid Waste Disposal Units Included in Estimate:

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Solid Waste Section

PHASE 1

~~Phase~~ / Cell	Acres	Date Unit Began Accepting Waste	Design Life of Unit From Date of Initial Receipt of Waste
1	18.04	PROPOSED	5 YEARS
2	12.44	PROPOSED	5 YEARS
3	10.98	PROPOSED	5 YEARS
4	10.98	PROPOSED	5 YEARS

Total Landfill Acreage included in this estimate. 52.44 Closure 52.44 Long-Term Care

Type of landfill: X Class I _____ Class III _____ C&D Debris

II. TYPE OF FINANCIAL ASSURANCE DOCUMENT (Check Type)

WILL BE PROVIDED TO FDEP PRIOR TO PERMIT ISSUANCE.

_____ Letter of Credit*
_____ Insurance Certificate
_____ Performance Bond*
_____ Escrow Account
_____ Guaranty Bond*
_____ Trust Fund Agreement

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

Northwest District
160 Governmental Center
Pensacola, FL 32501-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. B200
Jacksonville, FL 32256-7590
904-448-4300

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

Southwest District
3804 Coconut Palm Dr.
Tampa, FL 33619
813-744-6100

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33901-3881
941-332-6975

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

III. ESTIMATE ADJUSTMENT N/A

40 CFR Part 264 Subpart H as adopted by reference in Rule 62-701.630, Florida Administrative Code 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**

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 Financial Coordinator at (850)-488-0300.

This adjustment is based on the Department approved closure cost estimate dated: N/A

Latest Department Approved		Current Year		Inflation Adjusted
N/A	x	N/A	=	N/A

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

Latest Department Approved Annual Long-Term Care Cost Estimate:		Current Year Inflation Factor		Inflation Adjusted Annual Long-Term Care Cost Estimate:
N/A	x	N/A	=	N/A

Number of Years of Long Term Care Remaining: x N/A

Inflation Adjusted Long-Term Care Cost Estimate: = N/A

☐ **(b) Recalculate Estimates** (see section V)

IV. CERTIFICATION BY ENGINEER

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

Signature of Engineer

KENNETH W. CARGILL, P.E. PRINCIPAL
Name & Title (please type)

54435
Florida Registration Number (affix seal)

GEOSYNTEC CONSULTANTS
14055 RIVEREDGE DR. SUITE 300 TAMPA, FL 33637
Mailing Address

(813) 558-0990
Telephone Number

Signature of Owner/Operator

TIMOTHY J. SALOPEK, PRESIDENT
Name & Title (please type)

(407) 957-7284
Telephone Number

tjsomni@aol.com
Owner/Operator E-Mail Address

KCargill@geosyntec.com
Engineer E-Mail Address

V. RECALCULATE ESTIMATED CLOSING COST

For the time period in the landfill operation when the extent and manner of its operation makes closing **most expensive**.

**** Third Party Estimate / Quote must be provided for each item**

**** Costs must be for a third party providing all material and labor**

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL
1. Proposed Monitoring Wells *	(Do not include wells already in existence.)			
	EA	N/A WELLS TO BE INSTALLED PRIOR TO TAKING WASTE		
2. Slope and Fill (bedding layer between waste and barrier layer): *				
Excavation	CY			
Placement and Spreading	CY	84,975	$ 6.50	$ 552,338
Compaction	CY			
Off-Site Material	CY			N/A
Delivery	CY			N/A
			Subtotal Monitoring Wells :	$ 552,338
3. Cover Material (Barrier Layer): *				
Off-Site Clay	CY			N/A
Synthetics - 40 mil TEXTURED PE GEOMEMBRANE	SY	143,316	$ 5.50	$ 788,238
Synthetics - ~~CCL~~ 40 MIL SMOOTH PE GEOMEMBRANE	SY	111,610	$ 5.00	$ 558,050
Synthetics - ~~Geonet~~ GEOCOMPOSITE	SY	143,316	$ 4.50	$ 644,922
Synthetics - Other	SY			N/A
			Subtotal Barrier Layer Cover:	$ 1,991,210
4. ~~Top Soil~~ VEGETATIVE SOIL Cover: *				
Off-Site Material	CY			N/A
Delivery	CY			N/A
Spread	CY	42,488	$ 4.00	$ 169,952
			Subtotal Top Soil Cover:	$ 169,952

* SEE ATTACHED NOTES AND CALCULATIONS

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL
5. Vegetative Layer *				
Sodding	SY			N/A
Hydroseeding	AC			
Fertilizer	AC	53 ACRES	$ 2,000/ACRE	$ 106,000
Mulch	AC			
Other	SY			N/A
			Subtotal Vegetative Layer:	$ 106,000
6. Stormwater Control System: *				
Earthwork	CY	20,000	$ 6.50	$ 130,000
Grading	SY			N/A
Piping / CONNECTORS	LF			$ 17,247
Ditches	LF			N/A
Berms	LF			N/A
Control Structures	EA	6	$ 1,884	$ 11,304
Other	LS			N/A
			Subtotal Stormwater Controls:	$ 158,551
7. Gas Controls: ~~Passive~~ ACTIVE *				
Wells	EA	19	$ 95.75/ft	$ 90,963
Pipe and Fittings	LF			
Monitoring Probes	EA	11	$ 50/ft	$ 11,000
NSPS/Title V requirements	LS			N/A
			Subtotal Passive Gas Control:	$ 101,963

* SEE ATTACHED NOTES AND CALCULATIONS

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL
8. Gas Control: Active Extraction *				
Traps	EA	1	$ 850	$ 850
Sump	EA	1	$ 7,500	$ 7,500
Flare Assembly	EA	1	$ 76,550	$ 76,550
Flame Arrestor	EA	1	$ 4,000	$ 4,000
Mist Eliminator	EA	1	$ 3,900	$ 3,900
Flow Meter	EA	1	$ 4,200	$ 4,200
Blowers	EA	1	$ 17,000	$ 17,000
Collection System	~~LF~~ LUMP SUM			$ 21,413
Other (describe)				N/A
			Subtotal Active Gas Extraction:	$ 135,413
9. Security System: *				
Fencing	LF	LUMP SUM COST		N/A
Gate(s)	EA	LUMP SUM COST		$ 5,000
Sign(s)	EA	LUMP SUM COST		N/A
			Subtotal Security System:	$ 5,000
10. Engineering: *				
Closure Plan report	LS			N/A
Certified Engineer	LS			N/A INCLUDED IN CERTIFICATION REPORT
NSPS/Title V Air Permit	LS			N/A
Final Survey	LS	1	$ 7,500	$ 7,500
Certification of Closure	LS	1	$ 16,500	$ 16,500
Other (detail) CONSTRUCTION DRAWINGS AND TECHNICAL SPECIFICATIONS		1	$ 52,000	$ 52,000
			Subtotal Engineering:	$ 76,000

* SEE ATTACHED NOTES AND CALCULATIONS

11. Professional Services *

	Contract Management		Quality Assurance		
	Hours	LS	Hours	LS	Total
P.E. Supervisor		N/A		N/A	N/A
On-Site Engineer		N/A		N/A	N/A
Office Engineer		N/A		N/A	N/A
On-Site Technician		N/A		N/A	N/A
Other (explain)		$ 128,817		$ 225,430	$ 354,247

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL
Quality Assurance Testing	LS	1	$ 128,000	$ 128,000

Subtotal Professional Services: $ 482,247

Subtotal of 1-11 Above: $ 3,778,674

12. Contingency * 10 % of Total $ 377,867

Closing Cost Subtotal: $ 4,156,541

13. Site Specific Costs (explain) *

Mobilization	$ 161,021
Waste Tire Facility	N/A
Materials Recovery Facility	N/A
Special Wastes	N/A
Leachate Management System Modification	N/A
Other	N/A
	N/A

Subtotal Site Specific Costs: $ 161,021

TOTAL CLOSING COSTS $ 4,317,562

* SEE ATTACHED NOTES AND CALCULATIONS

VI. ANNUAL COST FOR LONG-TERM CARE

(Check Term Length)

_____ 5 Years _____ 20 Years X 30 Years _____ Other

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.

**** Third Party Estimate / Quote must be provided for each item**
**** Costs must be for a third party providing all material and labor**

All items must be addressed. Attach a detailed explanation for all items marked not applicable (N/A)

Description	Sampling Frequency (events/yr.)	Number of Wells	$ / Well / Event	$ / Year
1. Groundwater Monitoring (62-701.510(6), and (8)(a)) *				
Monthly	12			N/A
Quarterly	4			N/A
Semi-Annual	2	45	$ 495	$ 44,550
Annual	1			N/A
			Subtotal Groundwater Monitoring:	$ 44,550
2. Surface Water Monitoring (62-701.510(4), and (8)(b) *				
Monthly	12			N/A
Quarterly	4			N/A
Semi-Annual	2			N/A
Annual	1			N/A
			Subtotal Surface Water Monitoring:	N/A
3. Gas Monitoring *				
Monthly	12			N/A
Quarterly	4	1 EVENT	$ 750 / EVENT	$ 3,000
Semi-Annual	2			N/A
Annual	1			N/A
			Subtotal Gas Monitoring:	$ 3,000

* SEE ATTACHED NOTES AND CALCULATIONS

Description	Sampling Frequency (events/yr.)	Number of Locations	$/Location/Event	$ / Year
4. Leachate Monitoring (62-701.510(5), (6)(b) and 62-701.510(8)(c) *				
Monthly	12			N/A
Quarterly	4			N/A
Semi-Annual	2			N/A
Annual	1	4	$ 1,268	$ 5,072
Other				N/A
			Subtotal Leachate Monitoring:	$ 5,072

DESCRIPTION	UNIT	QUANTITY	UNIT COST	ANNUAL COST
5. Leachate Collection/Treatment Systems Maintenance *				
Maintenance				
Collection Pipes	LF			$ 1,333
Sumps, ~~Traps~~ PUMPS	EA			$ 1,733
Lift Stations	EA			N/A
Cleaning	LS			N/A
Tanks	EA			N/A
Impoundments				
Liner Repair	SY			$ 800
Sludge Removal	CY			N/A
Aeration Systems	CY			N/A
Floating Aerators	EA			N/A
Spray Aerators	EA			N/A
Disposal				
Off-site (Include Transportation and Disposal)	LUMP SUM ~~1000 gallon~~			$ 175

* SEE ATTACHED NOTES AND CALCULATIONS

6. Leachate Collection/Treatment Systems Operation *

Operation		Hours	$/Hour	Total
P.E. Supervisor	HR			N/A
On-Site Engineer	HR			N/A
Office Engineer	HR			N/A
OnSite Technician	HR	156	$ 50	$ 7,800
Materials	LS			N/A
		Subtotal Leachate Collection/Treatment System Maintenance & Operation:		$ 11,841

7. Maintenance of Groundwater Monitoring Wells *

Monitoring Wells	LF			N/A
Replacement	EA			$ 350
Abandonment	EA			N/A
		Subtotal Groundwater Monitoring Well Maintenance:		$ 350

DESCRIPTION	UNIT	QUANTITY	UNIT COST	ANNUAL COST

8. Gas System Maintenance *

Piping, Vents	LF			N/A
Blowers	EA			$ 1,200 / 30 YRS
Flaring Units	EA			$ 850 / 30 yrs
Meters, Valves	EA			$ 600 / 30 YRS
Compressors	EA			$ 300 / 30 YRS
Flame Arrestors	EA			$ 250 / 30 YRS
Operation	LS			N/A
		SubTotal Gas System:		$ 106 / YR

9. Landscape *

Mowing	AC	60 ACRES x 4 TIMES/YR	$ 100	$ 24,000
Fertilizer	AC			N/A
		Subtotal Landscape Maintenance:		$ 24,000

* SEE ATTACHED NOTES AND CALCULATIONS

DESCRIPTION	UNIT	QUANTITY	UNIT COST	ANNUAL COST
10. Erosion Control & Cover Maintenance				
Sodding	SY	500	$ 1.80	$ 900
Regrading	AC			N/A
Liner Repair	SY	1 EVENT	$ 1,200	$ 1,200
Clay	CY			N/A
		Subtottal Erosion Control and Cover Maintenance:		$ 2,100
11. Storm Water Management System Maintenance				
Conveyance Maintenance	LS	1	$ 2,000	$ 2,000
		Subtotal Storm Water System Maintenance:		$ 2,000
12. Security System Maintenance				
Fences	LF	100	$ 7.50	$ 750
Gate(s)	EA	1	$ 310	$ 310
Sign(s)	EA	2	$ 17	$ 34
		Subtotal Security System:		$ 1,094
13. Utilities *	LS			$ 12,000
14. Administrative *		Hours	$/Hour	Total
P.E. Supervisor	HR			N/A
On-Site Engineer	HR			N/A
Office Engineer	HR			N/A
OnSite Technician	HR			N/A
Other (explain)				$ 13,000
		Subtotal Administrative:		$ 13,000
15. Contingency	10 % of Total	10% OF $ 119,113		$ 11,911
* SEE ATTACHED NOTES AND CALCULATIONS		Subtotal Contingency:		$ 11,911

16. Site Specific Costs (explain)	UNIT COST	
	LS	N/A
	LS	N/A
	LS	N/A

ANNUAL LONG-TERM CARE COST ($/Year): # 131,024

NUMBER OF YEARS OF LONG-TERM CARE 30

TOTAL LONG-TERM CARE COST ($) # 3,930,720

Oak Hammock Disposal

Notes and Calculations to Accompany 2002 Financial Cost Estimate

The items listed below were derived by item/ unit pricing from contractors and manufacturers. Any estimated or assumed quantities are based on State and Federal guidelines. All estimated costs are for work to be performed by a third party.

Closure Costs

1. **Monitoring Wells**

   Ground water monitoring wells will be installed during construction of Phase I (i.e., Cells 1 – 4) and, therefore are not included as part of the closure construction estimate.

2. **Slope and Fill** (Intermediate Cover)

   During construction of the first phase, borrow area soils will be used for future use as initial/intermediate cover. CADD estimated cubic yardage is 84,975 cy for 1 ft. of intermediate cover over waste surface.
   Cost per cubic yard includes excavation, hauling, placement, spreading and compaction.
   84,975 cy @ $6.50 / cy = $ 552,338

3. **Cover Material (Barrier Layer)**

   The final cover system for the Phase I cells is comprised of (from bottom to top) 40-mil PE textured (4:1 slopes) and smooth (5% grades) geomembrane, geocomposite drainage layer on 4:1 side slopes and 18 inch layer of cover protective soil. Cover protective soil will consist of material obtained from on-site borrow area. Cost for cover protective soil includes excavation, hauling, placement, spreading and compaction. Cost for geosynthetics includes material and installation costs. CADD generated quantities are:
   127,463 cy soils @ $6.50 cy = $828,510
   143,316 sy 40-mil PE textured geomembrane @ $5.50 sy = $788,238
   111,610 sy 40-mil PE smooth geomembrane @ $5.00 sy = $558,050
   143,316 sy geocomposite drainage layer @ $4.50 sy = $644,922
   Total = $1,991,210

Closure Costs (Continued)

4. **Top Soil Cover (Vegetative Soil Layer)**

Vegetative soil layer material will be stripped from the Phase I footprint area and stockpiled on-site for use in the cover system. Vegetative soil layer material will also be available from adjacent future cells (i.e., cells 5 – 21). The vegetative soil layer consists of 6 in. layer over entire cover area. Cost per cubic yard includes hauling, placing and spreading. CADD generated quantity: 42,488 cy.
42,488 cy @ $4.00 = $169,952

5. **Vegetative layer**

The final cover area will be hydro-seeded. Hydro-seeding cost includes all labor and materials. CADD generated quantity: 53 acres
53 acres x $ 2,000/ acre = $ 106,000.

6. **Stormwater Control System**

The perimeter and site storm water control system components will be installed as part of the landfill construction and therefore are not included as part of the closure construction estimate. Storm water control components for the Phase I closure will consist of drainage swales, drains and HDPE corrugated pipe downchutes. Drainage swales will be constructed as part of protective cover soil placement and grading. Additional earthwork associated with installation of drains and downchutes is estimated to include 20,000 cy. Earthwork estimate is to include excavation, backfilling and compaction.
Earth work: 20,000 cy @ $6.50 cy = $ 130,000
Piping: 180 lf of 36" HDPE pipe @ $26.28/ft = $4,730
840 lf of 24" HDPE pipe @ $13.24/ft = $11,122
3 x 24" "T" connector @ $430 ea. = $1,290
6 x 24" couplers @ $17.54 ea. = $105
Each downchute requires an energy dissipater (total of 6) @ $1,884 ea. = $11,304
Total cost = $158,551

7. **Gas Controls: Active System**

The Oak Hammock Disposal facility will have an active gas extraction system installed. Nineteen gas extraction wells are to be installed as part of the gas control system. Cost per well: $95.75/ft. Cost per foot includes all labor and materials for installation. Landfill gas monitoring probes will be installed at a minimum spacing of 500 lf around the perimeter of the landfill. Cost per monitoring probe: $50/ft, cost per foot includes all labor and materials for installation.
Gas extraction well installation cost = $95.75/ft x 50 ft. (average depth) x 19 wells = $90,963.

Closure Costs (Continued)

Landfill gas monitoring probe installation cost = $50/ft x 20 ft. (average depth) x 11 = $11,000

8. Gas Control: Active System

Active gas system components based on permit design package. Components and associated costs are listed below. Costs include labor and materials.

1 Trap @ $850
1 Sump @ $7,500
1. Flare Assembly @ $76,550
1 Flame Arrestor @ $4,000
1 Mist Eliminator @ $3,900
1 Flow Meter @ $4,200
1 Blower @ $17,000
Main header pipe: 500 lf 12" solid wall SDR-17 HDPE pipe installed @ $8.76 lf = $4,380
Header pipe: 3,065 lf 8" solid wall SDR-17 HDPE pipe installed @ $3.98 lf = $ 12,199
Collector pipe: 2,912 lf 4" solid wall SDR-17 HDPE pipe installed @ $ 1.66 lf = $ 4,834
Total Active Gas Extraction = $ 135,413

9. Security System

Perimeter fencing, gates and signs will be repaired, if required for closure. A $5,000 lump sum allowance has been estimated for this work. Note that perimeter fencing and gates will be installed as part of the Phase I construction and therefore have not been included as part of the closure costs. Closure signs will be installed as required.

10. Engineering

Certification report to include preparation of report and certification by Florida registered professional engineer: $ 16,500.
Other: Construction Drawings and Technical Specifications: $52,000

11. Professional Services

Estimate that 4% of construction cost will be needed for contract/construction management i.e., 0.04 x $3,220,427 = $128,817

Annual Costs for Long Term Care

1. Ground Water Monitoring

Forty-five ground water monitoring wells are to be installed for Phase I construction. Assume that all wells are sampled on semi-annual basis per F.A.C. Cost to sample each well: $495. Cost includes all labor, equipment and laboratory analyses required per F.A.C.
45 x $495 = $22,275 x 2 times/year = $44,550 /year

2. Surface Water Monitoring

The Oak Hammock facility has been designed to retain all water from a 100-year storm event on-site. No off-site discharge of surface water is anticipated, therefore, no associated monitoring costs have been included.

3. Landfill Gas Monitoring

Landfill gas monitoring probes will be installed a minimum of 500 lf around the perimeter of Phase I construction as part of the closure plan. The monitoring probes will be monitored quarterly for concentrations of combustible gases. Quarterly landfill gas monitoring cost: $750 /event x 4 events/year = $3,000 year

4. Leachate Monitoring

Phase I of the Oak Hammock Disposal consists of four cells. A leachate sample would be collected from each cell annually. Each leachate sampling cost includes all labor, equipment and laboratory analyses required per F.A.C. Annual leachate monitoring cost: $1,268 /leachate sample x 4 leachate samples/year = $5,072 year.

5. Leachate Collection/Treatment System Maintenance

For the long term care, assume the following maintenance activities.
Leachate collection pipes: Estimate that each cell will require one cleaning within the 30-year monitoring period. 4 cells x $10,000 cell = $40,000 / 30 years = $1,333 /year.
Leachate pumps: Estimate pumps require annual maintenance and each cell will require a replacement pump during the 30-year monitoring period. Annual maintenance = 4 cells x $250/cell = $1,000 /year. Leachate pump replacement cost = 4 pumps x $5,500/pump /30 years = $733. Estimated annual cost for pumps = $1,733

Leachate storage containers: Assume each of the three flexible storage bladders will require replacement over the 30 year monitoring period. Replacement cost of $8,000 per flexible bladder. 3 bladders x $8,000 /bladder / 30 years = $800 /year.

Annual Costs for Long Term Care (Continued)

Leachate disposal: After closure, for each cell estimate leachate production rate of 1.0 gal/day x 365 days/year x 4 cells = 1,460 gallons of leachate/year x $.12 / gallon for transportation and treatment = $175/year.
Total leachate system maintenance = $4,041 /year.

6. Leachate Collection/Treatment Systems Operation

Estimate that leachate system operation is monitored on a weekly basis by a technician for total of 3 hours/week x 52 weeks/year x $50 /hour = $7,800/year.

7. Maintenance of Groundwater Monitoring Wells

Estimate that 3 wells require abandonment and replacement within the 30-year monitoring period. Abandonment cost: $500 per well x 3 wells = $1,500 / 30 years = $50 /year. Replacement cost: 60 ft x 50 /ft x 3 wells = $9,000 / 30 years = $300/ year. Total estimated annual cost = $350 /year

8. Gas System Maintenance

Estimate that the equipment listed on DEP form will require replacement once within the 30-year maintenance period. Annual cost = $3,200 / 30 years = $106 /year.

9. Landscape

Estimate 60-acre area requiring maintenance and that the grass will require cutting four times/year at a cost of $100 per acre. Mowing/maintenance: 4 times year x 60 acres x $100/acre = $24,000

10. Erosion Control and Cover Maintenance

As indicated on DEP form.

11. Storm water Management System Maintenance

As indicated on DEP form.

12. Security System Maintenance

As indicated on DEP form.

Annual Costs for Long Term Care (Continued)

13. Utilities

Estimate power requirements for site equipment (i.e., pumps, lights, blowers, etc.) to be $1,000 /month x 12 months = $12,000 /year.

14. Administrative

Estimate that lump sum administrative/overhead costs for Phase I: = $13,000 /year.

15. Contingency

Estimate contingency of 10 % of total long term annual care cost (i.e., 0.10 x $119,113 = $11,911 / year).