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28 October 2011

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
OCT 31 2011
DEP Central Dist.

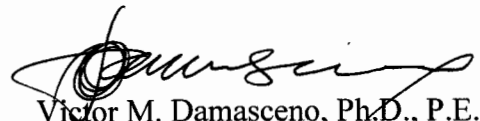
Subject: Minor Modification Permit Application
Phased Financial Assurance Cell 8 Construction
J.E.D. Solid Waste Management Facility (WACS #89544)
Osceola County, Florida

Dear Mr. Lubozynski:

Transmitted herein are four copies of the J.E.D. Solid Waste Management Facility (JED facility) Minor Modification Permit Application (Application). This application is submitted on behalf of Omni Waste of Osceola County, LLC (Omni) for the JED facility located in St. Cloud, Florida. This Application package contains three (3) hard-copies and one (1) electronic copy of the Application, and one check in the amount of \$250 (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

Prepared for



Omni Waste of Osceola County, LLC


1501 Omni Way
St. Cloud, Florida 34773

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**MINOR MODIFICATION APPLICATION
FOR PHASED FINANCIAL ASSURANCE
CELL 8 CONSTRUCTION**

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

Prepared by

Geosyntec 

consultants

13101 Telecom Drive, Suite 120
Tampa, Florida 33637

Project No. FL1985

October 2011

Prepared for



Omni Waste of Osceola County, LLC

1501 Omni Way
St. Cloud, Florida 34773

**MINOR MODIFICATION APPLICATION
FOR PHASED FINANCIAL ASSURANCE
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**MINOR MODIFICATION APPLICATION FOR CELL 8 FINANCIAL ASSURANCE
J.E.D. SOLID WASTE MANAGEMENT FACILITY
OSCEOLA COUNTY, FLORIDA**

1 INTRODUCTION

Geosyntec Consultants (Geosyntec) has prepared this minor permit modification application (application) to provide the closure and long-term care cost estimates for Cell 8 at 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 include Cell 8, the first cell to be constructed as part of Phase 3 development. Phase 3 development at the JED facility consists of three cells – Cells 8 through 10. To date, Cells 1 through 7 have been constructed. Cell 8 construction is scheduled to begin in October 2011 and is expected to be completed in the first quarter of 2012.

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 minor modification application is being submitted to the Florida Department of Environmental Protection (FDEP), Central District on behalf of Omni.

Furthermore, this application is being submitted to comply with the requirements of Specific Condition No. 66 of FDEP Solid Waste Permit No. SC49-0199726-015 and provides updated closure and long-term care cost estimates for Cell 8. Attachment 1 includes the FDEP Form 62-701.900(1) – Application for a Permit to Construct, Operate, Modify or Close a Solid Waste Management Facility – which has been completed for this minor modification for phased financial assurance for Cell 8.

2 PROJECT BACKGROUND

The current 5-year construction and operation permit authorizes the development of Phases 1 through 3 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. The combined footprint of Phases 1 through 3 is approximately 126 acres. To date, Cells 1 through 7 have been constructed at the JED facility.

Since the remaining cells in Phase 3 will be constructed at different times, the financial assurance requirements for each new cell to be constructed will be submitted to FDEP as a minor permit modification for each new cell constructed. Annual financial assurance updates

will consider only the cells containing waste during the period covered by the financial assurance. The current financial assurance approved by FDEP for the JED facility 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 7, and the long-term care costs for Cells 1 through 7. The currently approved and financially assured closure costs are \$5,950,241.32 and long-term care costs are \$7,404,650.74.

3 FINANCIAL ASSURANCE COST ESTIMATE FOR CELL 8

This minor permit modification application is being submitted to update the financial assurance cost estimate for the JED facility to include Cell 8. FDEP Form 62-701.900(28) – Closure Cost Estimating Form for Solid Waste Facilities – is included as Attachment 2; and the notes and calculations presented in Attachment 3. The closure and long-term care costs for Cell 8 were estimated using the FDEP approved unit rate costs from the financial assurance cost estimate revision associated with the addition of Cell 7, completed and approved in 24 February 2011. The unit rate costs used to calculate the closure and long-term care costs for Cell 8 have been inflated by 1% to account for the 2011 inflation adjustment issued by FDEP on 19 July 2011. The unit rates used herein will be verified and/or adjusted after completion of the next partial closure activities – expected to occur on or around spring of 2011. Note that the financial assurance cost estimate presented in Attachment 2 includes the closure and long-term care costs for Cell 8 only.

The closure and long-term care cost estimates for Cells 1 through 7, and Cell 8 at the JED facility are presented in the table below.

Cell Identification	Closure Cost Estimate	Long-Term Care Cost Estimate	Financial Assurance Cost Estimate
Cells 1 – 7	\$5,950,241.32	\$7,404,650.74	\$13,354,892.06
Cell 8	\$988,711.78	\$538,887.69	\$1,527,599.47
Total	\$6,938,953.10	\$7,943,538.43	\$14,882,491.53

Omni will provide FDEP with an insurance certificate for the revised financial assurance cost estimate of **\$14,882,491.53** upon verbal or written approval of this revised closure cost estimate.

ATTACHMENT 1 – FDEP FORM 62-701.900(1)



Florida Department of Environmental Protection

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

DEP Form #: 62-701.900(1), F.A.C.

Form Title: Application to Construct, Operate, Modify, or
Close a Solid Waste Management Facility

Effective Date: January 6, 2010

Incorporated in Rule: 62-701.330(3), F.A.C.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

APPLICATION TO CONSTRUCT, OPERATE, MODIFY, OR CLOSE A SOLID WASTE MANAGEMENT FACILITY

APPLICATION INSTRUCTIONS AND FORMS

Northwest District
160 Governmental 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 Pkwy
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 North Congress Ave.
West Palm Beach, FL 33401
561-681-6600

INSTRUCTIONS TO APPLY FOR A SOLID WASTE MANAGEMENT FACILITY PERMIT

I. General

Solid Waste Management Facilities shall be permitted pursuant to Section 403.707, Florida Statutes, (FS) and in accordance with Florida Administrative Code (FAC) Chapter 62-701. A minimum of four copies of the application shall be submitted to the Department's District Office having jurisdiction over the facility. The appropriate fee in accordance with Rule 62-701.315, FAC, shall be submitted with the application by check made payable to the Department of Environmental Protection (DEP).

Complete appropriate sections for the type of facility for which application is made. Entries shall be typed or printed in ink. All blanks shall be filled in or marked "not applicable" or "no substantial change". Information provided in support of the application shall be marked "submitted" and the location of this information in the application package indicated. The application shall include all information, drawings, and reports necessary to evaluate the facility. Information required to complete the application is listed on the attached pages of this form.

II. Application Parts Required for Construction and Operation Permits

- A. Landfills and Ash Monofills - Submit Parts A through S
- B. Asbestos Monofills - Submit Parts A,B,C,D,E,F,I,K,M, O through S
- C. Industrial Solid Waste Disposal Facilities - Submit Parts A through S

NOTE: Portions of some Parts may not be applicable.

NOTE: For facilities that have been satisfactorily constructed in accordance with their construction permit, the information required for A, B and C type facilities does not have to be resubmitted for an operation permit if the information has not substantially changed during the construction period. The appropriate portion of the form should be marked "no substantial change".

III. Application Parts Required for Closure Permits

- A. Landfills and Ash Monofills - Submit Parts A,B,L, N through S
- B. Asbestos Monofills - Submit Parts A,B,M, O through S
- C. Industrial Solid Waste Disposal Facilities - Submit Parts A,B, L through S

NOTE: Portions of some Parts may not be applicable.

IV. Permit Renewals

The above information shall be submitted at time of permit renewal in support of the new permit. However, facility information that was submitted to the Department to support the expiring permit, and which is still valid, does not need to be re-submitted for permit renewal. Portions of the application not re-submitted shall be marked "no substantial change" on the application form.

V. Application Codes

S	-	Submitted
LOCATION	-	Physical location of information in application
N/A	-	Not Applicable
N/C	-	No Substantial Change

VI. LISTING OF APPLICATION PARTS

PART A:	GENERAL INFORMATION
PART B:	DISPOSAL FACILITY GENERAL INFORMATION
PART C:	PROHIBITIONS
PART D:	SOLID WASTE MANAGEMENT FACILITY PERMIT REQUIREMENTS, GENERAL
PART E:	LANDFILL PERMIT REQUIREMENTS
PART F:	GENERAL CRITERIA FOR LANDFILLS
PART G:	LANDFILL CONSTRUCTION REQUIREMENTS
PART H:	HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS
PART I:	GEOTECHNICAL INVESTIGATION REQUIREMENTS
PART J:	VERTICAL EXPANSION OF LANDFILLS
PART K:	LANDFILL OPERATION REQUIREMENTS
PART L:	WATER QUALITY AND LEACHATE MONITORING REQUIREMENTS
PART M:	SPECIAL WASTE HANDLING REQUIREMENTS
PART N:	GAS MANAGEMENT SYSTEM REQUIREMENTS
PART O:	LANDFILL CLOSURE REQUIREMENTS
PART P:	OTHER CLOSURE PROCEDURES
PART Q:	LONG-TERM CARE
PART R:	FINANCIAL ASSURANCE
PART S:	CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

**STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
APPLICATION FOR A PERMIT TO CONSTRUCT, OPERATE, MODIFY OR CLOSE
A SOLID WASTE MANAGEMENT FACILITY**

Please Type or Print

PART A. GENERAL INFORMATION

1. Type of disposal facility (check all that apply):

- | | |
|--|--|
| <input checked="" type="checkbox"/> Class I Landfill | <input type="checkbox"/> Ash Monofill |
| <input type="checkbox"/> Class III Landfill | <input type="checkbox"/> Asbestos Monofill |
| <input type="checkbox"/> Industrial Solid Waste | |
| <input type="checkbox"/> Other Describe: | |

NOTE: Waste Processing Facilities should apply on Form 62-701.900(4), FAC;
Land Clearing Disposal Facilities should notify on Form 62-701.900(3), FAC;
Compost Facilities should apply on Form 62-701.900(10), FAC; and
C&D Disposal Facilities should apply on Form 62-701.900(6), FAC

2. Type of application:

- ☐ Construction
☒ Operation
☐ Construction/Operation
☐ Closure
☐ Long-term Care Only

3. Classification of application:

- | | |
|----------------------------------|--|
| <input type="checkbox"/> New | <input type="checkbox"/> Substantial Modification |
| <input type="checkbox"/> Renewal | <input type="checkbox"/> Intermediate Modification |
| | <input checked="" type="checkbox"/> Minor Modification |

4. Facility name: J.E.D. Solid Waste Management Facility

5. DEP ID number: 89544 (WACS ID) County: Osceola

6. Facility location (main entrance):

1501 Omni Way, Saint Cloud, Florida 34773

7. Location coordinates:

Section: 11,13,14,17,18 Township: 28S Range: 32E & 33E

Latitude: 28° 3' 32" Longitude: 81° 5' 46"

Datum: WGS84 Coordinate Method: DGPS

Collected by: Johnston's Surveying Company/Affiliation: Johnston's Surveying

PART B. DISPOSAL FACILITY GENERAL INFORMATION

1. Provide brief description of disposal facility design and operations planned under this application:

This minor modification application is being submitted to update the financial assurance for the J.E.D. Facility to include the closure and long-term care costs estimate for Cell 8.

2. Facility site supervisor: Matt Orr

Title: District Manager Telephone: (407) 891-3720

MOrr@Wasteservicesinc.com

E-Mail address (if available)

3. Disposal area: Total 360 acres; Used 88.2 acres; Available 271.8 acres.

4. Weighing scales used: ☒ Yes ☐ No

5. Security to prevent unauthorized use: ☒ Yes ☐ No

6. Charge for waste received: _____ \$/yds³ 35 \$/ton

7. Surrounding land use, zoning:

☐ Residential

☐ Industrial

☒ Agricultural

☐ None

☐ Commercial

☐ Other Describe:

8. Types of waste received:

☒ Household

☒ C & D debris

☒ Commercial

☒ Shredded/cut tires

☒ Incinerator/WTE ash

☐ Yard trash

☒ Treated biomedical

☐ Septic tank

☒ Water treatment sludge

☒ Industrial

<input type="checkbox"/> Air treatment sludge	<input type="checkbox"/> Industrial sludge
<input type="checkbox"/> Agricultural	<input checked="" type="checkbox"/> Domestic sludge
<input checked="" type="checkbox"/> Asbestos	<input checked="" type="checkbox"/> Other Describe:
waste tires, auto shredder waste, and industrial liquid waste for solidification	

9. Salvaging permitted: ☐ Yes ☒ No

10. Attendant: ☒ Yes ☐ No Trained operator: ☒ Yes ☐ No

11. Trained spotters: ☒ Yes ☐ No Number of spotters used: 1 (minimum per work face)

12. Site located in: ☒ Floodplain ☐ Wetlands ☐ Other:

13. Days of operation: Monday through Saturday

14. Hours of operation: Monday-Friday: 6 a.m. to 5 p.m.; Saturday 6 a.m. to 2 p.m.

15. Days Working Face covered: Each working day

16. Elevation of water table: 79 ft. Datum Used: NGVD 1929

17. Number of monitoring wells: 63

18. Number of surface monitoring points: 2

19. Gas controls used: ☒ Yes ☐ No Type controls: ☒ Active ☐ Passive

Gas flaring: ☒ Yes ☐ No Gas recovery: ☐ Yes ☒ No

20. Landfill unit liner type:

<input type="checkbox"/> Natural soils	<input type="checkbox"/> Double geomembrane
<input type="checkbox"/> Single clay liner	<input type="checkbox"/> Geomembrane & composite
<input type="checkbox"/> Single geomembrane	<input checked="" type="checkbox"/> Double composite
<input type="checkbox"/> Single composite	<input type="checkbox"/> None
<input type="checkbox"/> Slurry wall	<input checked="" type="checkbox"/> Other Describe:
Additional GCL layer installed below primary geomembrane liner within the sump area.	

21. Leachate collection method:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Collection pipes | <input checked="" type="checkbox"/> Sand layer |
| <input checked="" type="checkbox"/> Geonets (geocomposite) | <input type="checkbox"/> Gravel layer |
| <input type="checkbox"/> Well points | <input type="checkbox"/> Interceptor trench |
| <input type="checkbox"/> Perimeter ditch | <input type="checkbox"/> None |
| <input type="checkbox"/> Other Describe: | |

22. Leachate storage method:

- | | |
|--|--|
| <input type="checkbox"/> Tanks | <input checked="" type="checkbox"/> Surface impoundments |
| <input type="checkbox"/> Other Describe: | |

23. Leachate treatment method:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Oxidation | <input type="checkbox"/> Chemical treatment |
| <input type="checkbox"/> Secondary | <input type="checkbox"/> Settling |
| <input type="checkbox"/> Advanced | <input checked="" type="checkbox"/> None |
| <input checked="" type="checkbox"/> Other | |

Oxidation achieved through aeration in the uncovered Cell 2 of the leachate storage area. Cells 1, 3, and 4 are covered with no oxidation activity.

24. Leachate disposal method:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Recirculated | <input type="checkbox"/> Pumped to WWTP |
| <input checked="" type="checkbox"/> Transported to WWTP | <input type="checkbox"/> Discharged to surface water/wetland |
| <input type="checkbox"/> Injection well | <input type="checkbox"/> Percolation ponds |
| <input checked="" type="checkbox"/> Evaporation | <input type="checkbox"/> Spray Irrigation |
| <input type="checkbox"/> Other | |

25. For leachate discharged to surface waters:

Name and Class of receiving water:

N/A

26. Storm Water:

Collected: ☒ Yes ☐ No

Type of treatment:

Dry and wet retention for landfill and dry retention for access road.

Name and Class of receiving water:

Bull Creek, Class III

27. Environmental Resources Permit (ERP) number or status:

Current ERP numbers are ERP49-0199752-001-EI (Phase 1 Individual), ERP49-0199752-002EI (Conceptual), ERP49-0199752-003 (Phase 2 Individual), ERP49-0199752-004-EM (Phase 3 Individual), and ERP-49-0199752-005-EI (Conceptual).

PART C. PROHIBITIONS (62-701.300, FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/> 1. Provide documentation that each of the siting criteria will be satisfied for the facility; (62-701.300(2), FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/> 2. If the facility qualifies for any of the exemptions contained in Rules 62-701.300(12) through (18), FAC, then document this qualification(s).
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/> 3. Provide documentation that the facility will be in compliance with the burning restrictions; (62-701.300(3), FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/> 4. Provide documentation that the facility will be in compliance with the hazardous waste restrictions; (62-701.300(4), FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/> 5. Provide documentation that the facility will be in compliance with the PCB disposal restrictions; (62-701.300(5), FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/> 6. Provide documentation that the facility will be in compliance with the biomedical waste restrictions; (62-701.300(6), FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/> 7. Provide documentation that the facility will be in compliance with the Class I surface water restrictions; (62-701.300(7), FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/> 8. Provide documentation that the facility will be in compliance with the special waste for landfills restrictions; (62-701.300(8), FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/> 9. Provide documentation that the facility will be in compliance with the liquid restrictions; (62-701.300(10), FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/> 10. Provide documentation that the facility will be in compliance with the used oil and oily waste restrictions; (62-701.300(11), FAC)

PART D. SOLID WASTE MANAGEMENT FACILITY PERMIT REQUIREMENTS, GENERAL (62-701.320, FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
<input checked="" type="checkbox"/>	Submittal _____	<input type="checkbox"/>	<input type="checkbox"/> 1. Four copies, at minimum, of the completed application form, all supporting data and reports; (62-701.320(5)(a), FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	PART D CONTINUED
<input checked="" type="checkbox"/>	Attachment 1, Sheet 40	<input type="checkbox"/>	<input type="checkbox"/>	2. Engineering and/or professional certification (signature, date and seal) provided on the applications and all engineering plans, reports and supporting information for the application; (62-701.320(6),FAC)
<input checked="" type="checkbox"/>	Attachment 2, Sheet 9	<input type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	Attached to Report Cover	<input type="checkbox"/>	<input type="checkbox"/>	3. A letter of transmittal to the Department; (62-701.320(7)(a),FAC)
<input checked="" type="checkbox"/>	Attachment 1	<input type="checkbox"/>	<input type="checkbox"/>	4. A completed application form dated and signed by the applicant; (62-701.320(7)(b),FAC)
<input checked="" type="checkbox"/>	Attached to Report Cover	<input type="checkbox"/>	<input type="checkbox"/>	5. Permit fee specified in Rule 62-701.315, FAC in check or money order, payable to the Department; (62-701.320(7)(c),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6. An engineering report addressing the requirements of this rule and with the following format: a cover sheet, text printed on 8 1/2 inch by 11 inch consecutively numbered pages, a table of contents or index, the body of the report and all appendices including an operation plan, contingency plan, illustrative charts and graphs, records or logs of tests and investigations, engineering calculations; (62-701.320(7)(d),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. Operation Plan and Closure Plan; (62-701.320(7)(e)1,FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8. Contingency Plan; (62-701.320(7)(e)2,FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9. Plans or drawings for the solid waste management facilities in appropriate format (including sheet size restrictions, cover sheet, legends, north arrow, horizontal and vertical scales, elevations referenced to NGVD 1929) showing; (62-701.320(7)(f),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. A regional map or plan with the project location in relation to major roadways and population centers;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. A vicinity map or aerial photograph no more than 1 year old showing the facility site and relevant surface features located within 1000 feet of the facility;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. A site plan showing all property boundaries certified by a Florida Licensed Professional Surveyor and Mapper; and
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Other necessary details to support the engineering report, including referencing elevations to a consistent, nationally recognized datum and identifying the method used for collecting latitude and longitude data.

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	PART D CONTINUED
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10. Documentation that the applicant either owns the property or has legal authority from the property owner to use the site; (62-701.320(7)(g),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11. For facilities owned or operated by a county, provide a description of how, if any, the facilities covered in this application will contribute to the county's achievement of the waste reduction and recycling goals contained in Section 403.706,FS; (62-701.320(7)(h),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12. Provide a history and description of any enforcement actions taken by the Department against the applicant for violations of applicable statutes, rules, orders or permit conditions relating to the operation of any solid waste management facility in this state; (62-701.320(7)(i),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13. Proof of publication in a newspaper of general circulation of notice of application for a permit to construct or substantially modify a solid waste management facility; (62-702.320(8),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	14. Provide a description of how the requirements for airport safety will be achieved including proof of required notices if applicable. If exempt, explain how the exemption applies; (62-701.320(13),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	15. Explain how the operator and spotter training requirements and special criteria will be satisfied for the facility; (62-701.320(15), FAC)

PART E. LANDFILL PERMIT REQUIREMENTS (62-701.330, FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. Regional map or aerial photograph no more than 5 years old showing all airports that are located within five miles of the proposed landfill; (62-701.330(3)(a),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Plot plan with a scale not greater than 200 feet to the inch showing; (62-701.330(3)(b),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Dimensions;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Locations of proposed and existing water quality monitoring wells;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Locations of soil borings;

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	PART E CONTINUED
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Proposed plan of trenching or disposal areas;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Cross sections showing original elevations and proposed final contours which shall be included either on the plot plan or on separate sheets;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	f. Any previously filled waste disposal areas;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	g. Fencing or other measures to restrict access.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. Topographic maps with a scale not greater than 200 feet to the inch with 5-foot contour intervals showing; (62-701.330(3)(c),FAC):
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Proposed fill areas;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Borrow areas;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Access roads;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Grades required for proper drainage;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Cross sections of lifts;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	f. Special drainage devices if necessary;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	g. Fencing;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	h. Equipment facilities.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. A report on the landfill describing the following; (62-701.330(3)(d),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. The current and projected population and area to be served by the proposed site;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. The anticipated type, annual quantity, and source of solid waste, expressed in tons;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Planned active life of the facility, the final design height of the facility and the maximum height of the facility during its operation;

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
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PART E CONTINUED

- | | | | | |
|-------------------------------------|---|-------------------------------------|--------------------------|---|
| <input type="checkbox"/> | _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | d. The source and type of cover material used for the landfill. |
| <input type="checkbox"/> | _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 5. Provide evidence that an approved laboratory shall conduct water quality monitoring for the facility in accordance with Chapter 62-160,FAC; (62-701.330(3)(g),FAC) |
| <input checked="" type="checkbox"/> | Section 3 of Report and Attachment 2, Section II
_____ | <input type="checkbox"/> | <input type="checkbox"/> | 6. Provide a statement of how the applicant will demonstrate financial responsibility for the closing and long-term care of the landfill; (62-701.330(3)(h),FAC) |

PART F. GENERAL CRITERIA FOR LANDFILLS (62-701.340,FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
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- | | | | | |
|--------------------------|-------|-------------------------------------|--------------------------|--|
| <input type="checkbox"/> | _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1. Describe (and show on a Federal Insurance Administration flood map, if available) how the landfill or solid waste disposal unit shall not be located in the 100-year floodplain where it will restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain unless compensating storage is provided, or result in a washout of solid waste; (62-701.340(3)(b),FAC) |
| <input type="checkbox"/> | _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2. Describe how the minimum horizontal separation between waste deposits in the landfill and the landfill property boundary shall be 100 feet, measured from the toe of the proposed final cover slope; (62-701.340(3)(c),FAC) |

PART G. LANDFILL CONSTRUCTION REQUIREMENTS (62-701.400,FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
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- | | | | | |
|--------------------------|-------|-------------------------------------|--------------------------|---|
| <input type="checkbox"/> | _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1. Describe how the landfill shall be designed so that solid waste disposal units will be constructed and closed at planned intervals throughout the design period of the landfill and shall be designed to achieve a minimum factor of safety of 1.5 using peak strength values to prevent failures of side slopes and deep-seated failures; (62-701.400(2),FAC) |
| <input type="checkbox"/> | _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2. Landfill liner requirements; (62-701.400(3),FAC) |
| <input type="checkbox"/> | _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | a. General construction requirements; (62-701.400(3)(a),FAC): |
| <input type="checkbox"/> | _____ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | (1) Provide test information and documentation to ensure the liner will be constructed of materials that have appropriate physical, chemical, and mechanical properties to prevent failure; |

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	PART G CONTINUED	
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(2)	Document foundation is adequate to prevent liner failure;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(3)	Constructed so bottom liner will not be adversely impacted by fluctuations of the ground water;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(4)	Designed to resist hydrostatic uplift if bottom liner located below seasonal high ground water table;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(5)	Installed to cover all surrounding earth which could come into contact with the waste or leachate.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Composite liners; (62-701.400(3)(b),FAC)	
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(1)	Upper geomembrane thickness and properties;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(2)	Design leachate head for primary LCRS including leachate recirculation if appropriate;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(3)	Design thickness in accordance with Table A and number of lifts planned for lower soil component.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Double liners; (62-701.400(3)(c),FAC)	
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(1)	Upper and lower geomembrane thicknesses and properties;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(2)	Design leachate head for primary LCRS to limit the head to one foot above the liner;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(3)	Lower geomembrane sub-base design;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(4)	Leak detection and secondary leachate collection system minimum design criteria ($k \geq 10$ cm/sec, head on lower liner ≤ 1 inch, head not to exceed thickness of drainage layer);
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Standards for geosynthetic components; (62-701.400(3)(d),FAC)	

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>		PART G CONTINUED
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(1)	Factory and field seam test methods to ensure all geomembrane seams achieve the minimum specifications;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(2)	Geomembranes to be used shall pass a continuous spark test by the manufacturer;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(3)	Design of 24-inch-thick protective layer above upper geomembrane liner;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(4)	Describe operational plans to protect the liner and leachate collection system when placing the first layer of waste above 24-inch-thick protective layer.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(5)	HDPE geomembranes, if used, meet the specifications in GRI GM13 and LLDPE geomembranes, if used, meet the specifications in GRI GM17;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(6)	PVC geomembranes, if used, meet the specifications in PGI 1104;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(7)	Interface shear strength testing results of the actual components which will be used in the liner system;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(8)	Transmissivity testing results of geonets if they are used in the liner system;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(9)	Hydraulic conductivity testing results of geosynthetic clay liners if they are used in the liner system;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>		e. Geosynthetic specification requirements; (62-701.400(3)(e),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(1)	Definition and qualifications of the designer, manufacturer, installer, QA consultant and laboratory, and QA program;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(2)	Material specifications for geomembranes, geocomposites, geotextiles, geogrids, and geonets;

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>		PART G CONTINUED
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(3)	Manufacturing and fabrication specifications including geomembrane raw material and roll QA, fabrication personnel qualifications, seaming equipment and procedures, overlaps, trial seams, destructive and nondestructive seam testing, seam testing location, frequency, procedure, sample size and geomembrane repairs;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(4)	Geomembrane installation specifications including earthwork, conformance testing, geomembrane placement, installation personnel qualifications, field seaming and testing, overlapping and repairs, materials in contact with geomembrane and procedures for lining system acceptance;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(5)	Geotextile and geogrid specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil materials and any overlying materials;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(6)	Geonet and geocomposite specifications including handling and placement, conformance testing, stacking and joining, repair, and placement of soil materials and any overlying materials;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(7)	Geosynthetic clay liner specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil material and any overlying materials;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>		f. Standards for soil liner components (62-710.400(3)(f),FAC):
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(1)	Description of construction procedures including overexcavation and backfilling to preclude structural inconsistencies and procedures for placing and compacting soil component in layers;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(2)	Demonstration of compatibility of the soil component with actual or simulated leachate in accordance with EPA Test Method 9100 or an equivalent test method;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(3)	Procedures for testing in-situ soils to demonstrate they meet the specifications for soil liners;

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	PART G CONTINUED
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(4) Specifications for soil component of liner including at a minimum:
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(a) Allowable particle size distribution, Atterberg limits, shrinkage limit;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(b) Placement moisture and dry density criteria;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(c) Maximum laboratory-determined saturated hydraulic conductivity using simulated leachate;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(d) Minimum thickness of soil liner;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(e) Lift thickness;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(f) Surface preparation (scarification);
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(g) Type and percentage of clay mineral within the soil component;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(5) Procedures for constructing and using a field test section to document the desired saturated hydraulic conductivity and thickness can be achieved in the field.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	g. If a Class III landfill is to be constructed with a bottom liner system, provide a description of how the minimum requirements for the liner will be achieved.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. Leachate collection and removal system (LCRS); (62-701.400(4),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. The primary and secondary LCRS requirements; (62-701.400(4)(a),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(1) Constructed of materials chemically resistant to the waste and leachate;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(2) Have sufficient mechanical properties to prevent collapse under pressure;

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	PART G CONTINUED
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(3) Have granular material or synthetic geotextile to prevent clogging;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(4) Have method for testing and cleaning clogged pipes or contingent designs for rerouting leachate around failed areas;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Other LCRS requirements; (62-701.400(4)(b) and (c),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(1) Bottom 12 inches having hydraulic conductivity $\geq 1 \times 10^{-3}$ cm/sec;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(2) Total thickness of 24 inches of material chemically resistant to the waste and leachate;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(3) Bottom slope design to accommodate for predicted settlement and still meet minimum slope requirements;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(4) Demonstration that synthetic drainage material, if used, is equivalent or better than granular material in chemical compatibility, flow under load and protection of geomembrane liner.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Leachate recirculation; (62-701.400(5),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Describe general procedures for recirculating leachate;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Describe procedures for controlling leachate runoff and minimizing mixing of leachate runoff with storm water;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Describe procedures for preventing perched water conditions and gas buildup;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Describe alternate methods for leachate management when it cannot be recirculated due to weather or runoff conditions, surface seeps, wind-blown spray, or elevated levels of leachate head on the liner;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Describe methods of gas management in accordance with Rule 62-701.530, FAC;

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	PART G CONTINUED
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	f. If leachate irrigation is proposed, describe treatment methods and standards for leachate treatment prior to irrigation over final cover and provide documentation that irrigation does not contribute significantly to leachate generation.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. Leachate storage tanks and leachate surface impoundments; (62-701.400(6), FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Surface impoundment requirements; (62-701.400(6)(b), FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(1) Documentation that the design of the bottom liner will not be adversely impacted by fluctuations of the ground water;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(2) Designed in segments to allow for inspection and repair as needed without interruption of service;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(3) General design requirements;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(a) Double liner system consisting of an upper and lower 60-mil minimum thickness geomembrane;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(b) Leak detection and collection system with hydraulic conductivity ≥ 1 cm/sec;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(c) Lower geomembrane placed on subbase ≥ 6 inches thick with $k \leq 1 \times 10^{-5}$ cm/sec or on an approved geosynthetic clay liner with $k \leq 1 \times 10^{-7}$ cm/sec;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(d) Design calculation to predict potential leakage through the upper liner;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(e) Daily inspection requirements and notification and corrective action requirements if leakage rates exceed that predicted by design calculations;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(4) Description of procedures to prevent uplift, if applicable;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(5) Design calculations to demonstrate minimum two feet of freeboard will be maintained;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(6) Procedures for controlling vectors and off-site odors.

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	PART G CONTINUED
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Above-ground leachate storage tanks; (62-701.400(6)(c),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(1) Describe tank materials of construction and ensure foundation is sufficient to support tank;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(2) Describe procedures for cathodic protection if needed for the tank;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(3) Describe exterior painting and interior lining of the tank to protect it from the weather and the leachate stored;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(4) Describe secondary containment design to ensure adequate capacity will be provided and compatibility of materials of construction;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(5) Describe design to remove and dispose of stormwater from the secondary containment system;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(6) Describe an overfill prevention system such as level sensors, gauges, alarms and shutoff controls to prevent overfilling;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(7) Inspections, corrective action and reporting requirements;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(a) Overfill prevention system weekly;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(b) Exposed tank exteriors weekly;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(c) Tank interiors when tank is drained or at least every three years;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(d) Procedures for immediate corrective action if failures detected;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(e) Inspection reports available for department review.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Underground leachate storage tanks; (62-701.400(6)(d),FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	PART G CONTINUED	
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(1)	Describe materials of construction;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(2)	A double-walled tank design system to be used with the following requirements;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(a)	Interstitial space monitoring at least weekly;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(b)	Corrosion protection provided for primary tank interior and external surface of outer shell;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(c)	Interior tank coatings compatible with stored leachate;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(d)	Cathodic protection inspected weekly and repaired as needed;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(3)	Describe an overfill prevention system such as level sensors, gauges, alarms and shutoff controls to prevent overfilling and provide for weekly inspections;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(4)	Inspection reports available for department review.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>		d.Schedule provided for routine maintenance of LCRS; (62-701.400(6)(e),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>		6.Liner systems construction quality assurance (CQA); (62-701.400(7),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a.	Provide CQA Plan including:
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(1)	Specifications and construction requirements for liner system;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(2)	Detailed description of quality control testing procedures and frequencies;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(3)	Identification of supervising professional engineer;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(4)	Identify responsibility and authority of all appropriate organizations and key personnel involved in the construction project;

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	PART G CONTINUED
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(5) State qualifications of CQA professional engineer and support personnel;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(6) Description of CQA reporting forms and documents;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. An independent laboratory experienced in the testing of geosynthetics to perform required testing;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. Soil Liner CQA (62-701.400(8)FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Documentation that an adequate borrow source has been located with test results or description of the field exploration and laboratory testing program to define a suitable borrow source;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Description of field test section construction and test methods to be implemented prior to liner installation;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Description of field test methods including rejection criteria and corrective measures to insure proper liner installation.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8. Surface water management systems; (62-701.400(9),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Provide a copy of a Department permit for stormwater control or documentation that no such permit is required;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Design of surface water management system to isolate surface water from waste filled areas and to control stormwater run-off;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Details of stormwater control design including retention ponds, detention ponds, and drainage ways;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9. Gas control systems; (62-701.400(10),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Provide documentation that if the landfill is receiving degradable wastes, it will have a gas control system complying with the requirements of Rule 62-701.530, FAC;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10. For landfills designed in ground water, provide documentation that the landfill will provide a degree of protection equivalent to landfills designed with bottom liners not in contact with ground water; (62-701.400(11),FAC)

PART H. HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS (62-701.410(1), FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. Submit a hydrogeological investigation and site report including at least the following information:
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Regional and site specific geology and hydrogeology;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Direction and rate of ground water and surface water flow including seasonal variations;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Background quality of ground water and surface water;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Any on-site hydraulic connections between aquifers;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Site stratigraphy and aquifer characteristics for confining layers, semi-confining layers, and all aquifers below the landfill site that may be affected by the landfill;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	f. Description of topography, soil types and surface water drainage systems;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	g. Inventory of all public and private water wells within a one-mile radius of the landfill including, where available, well top of casing and bottom elevations, name of owner, age and usage of each well, stratigraphic unit screened, well construction technique and static water level;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	h. Identify and locate any existing contaminated areas on the site;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	i. Include a map showing the locations of all potable wells within 500 feet of the waste storage and disposal areas;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Report signed, sealed and dated by PE and/or PG.

PART I. GEOTECHNICAL INVESTIGATION REQUIREMENTS (62-701.410(2),FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. Submit a geotechnical site investigation report defining the engineering properties of the site including at least the following:
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Description of subsurface conditions including soil stratigraphy and ground water table conditions;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Investigate for the presence of muck, previously filled areas, soft ground, lineaments and sink holes;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Estimates of average and maximum high water table across the site;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Foundation analysis including:
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(1) Foundation bearing capacity analysis;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(2) Total and differential subgrade settlement analysis;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(3) Slope stability analysis;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Description of methods used in the investigation and includes soil boring logs, laboratory results, analytical calculations, cross sections, interpretations and conclusions;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	f. An evaluation of fault areas, seismic impact zones, and unstable areas as described in 40 CFR 258.13, 40 CFR 258.14 and 40 CFR 258.15.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Report signed, sealed and dated by PE and/or PG.

PART J. VERTICAL EXPANSION OF LANDFILLS (62-701.430,FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. Describe how the vertical expansion shall not cause or contribute to leachate leakage from the existing landfill, shall not cause objectionable odors, or adversely affect the closure design of the existing landfill;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Describe how the vertical expansion over unlined landfills will meet the requirements of Rule 62-701.400, FAC with the exceptions of Rule 62-701.430(1)(c),FAC;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. Provide foundation and settlement analysis for the vertical expansion;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Provide total settlement calculations demonstrating that the final elevations of the lining system, that gravity drainage, and that no other component of the design will be adversely affected;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. Minimum stability safety factor of 1.5 for the lining system component interface stability and deep stability;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6. Provide documentation to show the surface water management system will not be adversely affected by the vertical expansion;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. Provide gas control designs to prevent accumulation of gas under the new liner for the vertical expansion.

PART K. LANDFILL OPERATION REQUIREMENTS (62-701.500,FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. Provide documentation that landfill will have at least one trained operator during operation and at least one trained spotter at each working face; (62-701.500(1),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Provide a landfill operation plan including procedures for: (62-701.500(2), FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Designating responsible operating and maintenance personnel;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Emergency preparedness and response, as required in subsection 62-701.320(16), FAC;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Controlling types of waste received at the landfill;
<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>	d. Weighing incoming waste;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Vehicle traffic control and unloading;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	f. Method and sequence of filling waste;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	g. Waste compaction and application of cover;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	h. Operations of gas, leachate, and stormwater controls;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	i. Water quality monitoring.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	j. Maintaining and cleaning the leachate collection system;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. Provide a description of the landfill operation record to be used at the landfill; details as to location of where various operational records will be kept (i.e. FDEP permit, engineering drawings, water quality records, etc.) (62-701.500(3),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Describe the waste records that will be compiled monthly and provided to the Department annually; (62-701.500(4),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. Describe methods of access control; (62-701.500(5),FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	PART K CONTINUED
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6. Describe load checking program to be implemented at the landfill to discourage disposal of unauthorized wastes at the landfill; (62-701.500(6),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. Describe procedures for spreading and compacting waste at the landfill that include: (62-701.500(7),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Waste layer thickness and compaction frequencies;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Special considerations for first layer of waste placed above liner and leachate collection system;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Slopes of cell working face and side grades above land surface, planned lift depths during operation;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Maximum width of working face;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Description of type of initial cover to be used at the facility that controls:
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(1) Vector breeding/animal attraction
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(2) Fires
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(3) Odors
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(4) Blowing litter
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(5) Moisture infiltration
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	f. Procedures for applying initial cover including minimum cover frequencies;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	g. Procedures for applying intermediate cover;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	h. Time frames for applying final cover;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	i. Procedures for controlling scavenging and salvaging.

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	PART K CONTINUED
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	j. Description of litter policing methods;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	k. Erosion control procedures.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	8. Describe operational procedures for leachate management including; (62-701.500(8),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Leachate level monitoring, sampling, analysis and data results submitted to the Department;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Operation and maintenance of leachate collection and removal system, and treatment as required;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Procedures for managing leachate if it becomes regulated as a hazardous waste;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Identification of treatment or disposal facilities that may be used for off-site discharge and treatment of leachate;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Contingency plan for managing leachate during emergencies or equipment problems;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	f. Procedures for recording quantities of leachate generated in gal/day and including this in the operating record;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	g. Procedures for comparing precipitation experienced at the landfill with leachate generation rates and including this information in the operating record;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	h. Procedures for water pressure cleaning or video inspecting leachate collection systems.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	9. Describe how the landfill receiving degradable wastes shall implement a gas management system meeting the requirements of Rule 62-701.530, FAC; (62-701.500(9),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10. Describe procedures for operating and maintaining the landfill stormwater management system to comply with the requirements of Rule 62-701.400(9); (62-701.500(10),FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	PART K CONTINUED
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11. Equipment and operation feature requirements; (62-701.500(11),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Sufficient equipment for excavating, spreading, compacting and covering waste;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Reserve equipment or arrangements to obtain additional equipment within 24 hours of breakdown;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Communications equipment;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Dust control methods;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Fire protection capabilities and procedures for notifying local fire department authorities in emergencies;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	f. Litter control devices;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	g. Signs indicating operating authority, traffic flow, hours of operation, disposal restrictions.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12. Provide a description of all-weather access road, inside perimeter road and other roads necessary for access which shall be provided at the landfill; (62-701.500(12),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13. Additional record keeping and reporting requirements; (62-701.500(13),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Records used for developing permit applications and supplemental information maintained for the design period of the landfill;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Monitoring information, calibration and maintenance records, copies of reports required by permit maintained for at least 10 years;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Maintain annual estimates of the remaining life of constructed landfills and of other permitted areas not yet constructed and submit this estimate annually to the Department;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Procedures for archiving and retrieving records which are more than five year old.

PART L. WATER QUALITY AND LEACHATE MONITORING REQUIREMENTS (62-701.510, FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. Water quality and leachate monitoring plan shall be submitted describing the proposed ground water, surface water and leachate monitoring systems and shall meet at least the following requirements;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Based on the information obtained in the hydrogeological investigation and signed, dated and sealed by the PG or PE who prepared it; (62-701.510(2)(a),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. All sampling and analysis performed in accordance with Chapter 62-160, FAC; (62-701.510(2)(b),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Ground water monitoring requirements; (62-701.510(3),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(1) Detection wells located downgradient from and within 50 feet of disposal units;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(2) Downgradient compliance wells as required;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(3) Background wells screened in all aquifers below the landfill that may be affected by the landfill;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(4) Location information for each monitoring well;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(5) Well spacing no greater than 500 feet apart for downgradient wells and no greater than 1500 feet apart for upgradient wells unless site specific conditions justify alternate well spacings;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(6) Well screen locations properly selected;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(7) Monitoring wells constructed to provide representative ground water samples;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(8) Procedures for properly abandoning monitoring wells;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(9) Detailed description of detection sensors if proposed.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Surface water monitoring requirements; (62-701.510(4),FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	PART L CONTINUED
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(1) Location of and justification for all proposed surface water monitoring points;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(2) Each monitoring location to be marked and its position determined by a registered Florida land surveyor;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Leachate sampling locations proposed; (62-701.510(5),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	f. Initial and routine sampling frequency and requirements; (62-701.510(6),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(1) Initial background ground water and surface water sampling and analysis requirements;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(2) Routine leachate sampling and analysis requirements;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(3) Routine monitoring well sampling and analysis requirements;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(4) Routine surface water sampling and analysis requirements.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	g. Describe procedures for implementing evaluation monitoring, prevention measures and corrective action as required; (62-701.510(7),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	h. Water quality monitoring report requirements;(62-701.510(9),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(1) Semi-annual report requirements (see paragraphs 62 701.510(6)(c),(d)and (e) for sampling frequencies);
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(2) Documentation that the water quality data shall be provided to the Department in an electronic format consistent with requirements for importing into Department databases, unless an alternate form of submittal is specified in the permit.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(3) Two and one-half year report requirements, or every five years if in long-term care, signed, dated and sealed by PG or PE.

PART M. SPECIAL WASTE HANDLING REQUIREMENTS (62-701.520, FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. Describe procedures for managing motor vehicles; (62-701.520(1),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Describe procedures for landfilling shredded waste; (62-701.520(2),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. Describe procedures for asbestos waste disposal; (62-701.520(3),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Describe procedures for disposal or management of contaminated soil; (62-701.520(4), FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. Describe procedures for disposal of biological wastes; (62-701.520(5), FAC)

PART N. GAS MANAGEMENT SYSTEM REQUIREMENTS (62-701.530,FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. Provide the design for a gas management system that will (62-701.530(1), FAC):
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Be designed to prevent concentrations of combustible gases from exceeding 25% the LEL in structures and 100% the LEL at the property boundary;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Be designed for site-specific conditions;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Be designed to reduce gas pressure in the interior of the landfill;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Be designed to not interfere with the liner, leachate control system or final cover.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Provide documentation that will describe locations, construction details and procedures for monitoring gas at ambient monitoring points and with soil monitoring probes; (62-701.530(2), FAC):
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. Provide documentation describing how the gas remediation plan and odor remediation plan will be implemented; (62-701.530(3), FAC):
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Landfill gas recovery facilities; (62-701.530(5), FAC):

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	PART N CONTINUED
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Information required in Rules 62-701.320(7) and 62-701.330(3), FAC supplied;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Information required in Rule 62-701.600(4), FAC supplied where relevant and practical;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Estimate of current and expected gas generation rates and description of condensate disposal methods provided;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Description of procedures for condensate sampling, analyzing and data reporting provided;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Closure plan provided describing methods to control gas after recovery facility ceases operation and any other requirements contained in Rule 62-701.400(10), FAC;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	f. Performance bond provided to cover closure costs if not already included in other landfill closure costs.

PART O. LANDFILL FINAL CLOSURE REQUIREMENTS (62-701.600,FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. Closure permit requirements; (62-701.600(2),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Application submitted to Department at least 90 days prior to final receipt of wastes;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Closure plan shall include the following:
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(1) Closure design plan;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(2) Closure operation plan;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(3) Plan for long-term care;
<input checked="" type="checkbox"/>	Section 3 of Report and Attachment 2, Section II	<input type="checkbox"/>	<input type="checkbox"/>	(4) A demonstration that proof of financial responsibility for long-term care will be provided.

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	PART O CONTINUED
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Closure design plan including the following requirements: (62-701.600(3),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Plan sheet showing phases of site closing;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Drawings showing existing topography and proposed final grades;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Provisions to close units when they reach approved design dimensions;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Final elevations before settlement;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Side slope design including benches, terraces, down slope drainage ways, energy dissipaters and discussion of expected precipitation effects;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	f. Final cover installation plans including:
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(1) CQA plan for installing and testing final cover;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(2) Schedule for installing final cover after final receipt of waste;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(3) Description of drought-resistant species to be used in the vegetative cover;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(4) Top gradient design to maximize runoff and minimize erosion;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(5) Provisions for cover material to be used for final cover maintenance.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	g. Final cover design requirements:
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(1) Protective soil layer design;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(2) Barrier soil layer design;

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	PART O CONTINUED
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(3) Erosion control vegetation;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(4) Geomembrane barrier layer design;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(5) Geosynthetic clay liner design if used;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(6) Stability analysis of the cover system and the disposed waste.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	h. Proposed method of stormwater control;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	i. Proposed method of access control;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	j. Description of the proposed or existing gas management system which complies with Rule 62-701.530, FAC.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. Closure operation plan shall include:(62-701.600(4),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Detailed description of actions which will be taken to close the landfill;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Time schedule for completion of closing and long-term care;
<input checked="" type="checkbox"/>	Section 3 of Report and Attachment 2, Section II	<input type="checkbox"/>	<input type="checkbox"/>	c. Describe proposed method for demonstrating financial assurance for long-term care;
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Operation of the water quality monitoring plan required in Rule 62-701.510, FAC.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	e. Development and implementation of gas management system required in Rule 62-701.530, FAC.
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Certification of closure construction completion including: (62-701.600(6),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Survey monuments; (62-701.600(6)(a),FAC)
<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Final survey report; (62-701.600(6)(b),FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	PART O CONTINUED
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<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. Declaration to the public; (62-701.600(7),FAC)
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<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6. Official date of closing; (62-701.600(8),FAC)
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<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. Justification for and detailed description of procedures to be followed for temporary closure of the landfill, if desired; (62-701.600(9),FAC)
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PART P. OTHER CLOSURE PROCEDURES (62-701.610,FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
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<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. Describe how the requirements for use of closed solid waste disposal areas will be achieved;(62-701.610(1),FAC)
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<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Describe how the requirements for relocation of wastes will be achieved; (62-701.610(2), FAC)
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PART Q. LONG-TERM CARE (62-701.620,FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
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<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. Maintaining the gas collection and monitoring system; (62-701.620(5), FAC)
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<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Stabilization report requirements; (62-701.620(6),FAC)
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<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. Right of access;(62-701.620(7),FAC)
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<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Requirements for replacement of monitoring devices; (62-701.620(8),FAC)
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<input type="checkbox"/>	_____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. Completion of long-term care signed and sealed by professional engineer (62-701.620(9), FAC).
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PART R. FINANCIAL ASSURANCE (62-701.630,FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
<input checked="" type="checkbox"/>	Attachment 2	<input type="checkbox"/>	<input type="checkbox"/>	1. Provide cost estimates for closing, long-term care, and corrective action costs estimated by a PE for a third party performing the work, on a per unit basis, with the source of estimates indicated; (62-701.630(3)&(7), FAC).
<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. Describe procedures for providing annual cost adjustments to the Department based on inflation and changes in the closing, long-term care, and corrective action plans; (62-701.630(4)&(8), FAC).
<input checked="" type="checkbox"/>	Attachment 2, Section II	<input type="checkbox"/>	<input type="checkbox"/>	3. Describe funding mechanisms for providing proof of financial assurance and include appropriate financial assurance forms; (62-701.630(5),(6),&(9), FAC).
<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Provide documentation and the appropriate forms for delaying submitting proof of financial assurance for solid waste disposal units that qualify; (62-701.630(2)(c), FAC).

PART S. CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

1. Applicant:

The undersigned applicant or authorized representative of Omni Waste of Osecola County, LLC (Omni)
_____ is aware that statements made in this form and attached

information are an application for a Minor Modification Permit from the Florida Department of Environmental Protection and certifies that the information in this application is true, correct and complete to the best of his/her knowledge and belief. Further, the undersigned agrees to comply with the provisions of Chapter 403, Florida Statutes, and all rules and regulations of the Department. It is understood that the Permit is not transferable, and the Department will be notified prior to the sale or legal transfer of the permitted facility.

_____ Signature of Applicant or Agent	_____ 1501 Omni Way Mailing Address
_____ Mike Kaiser, Regional Engineer Name and Title (please type)	_____ Saint Cloud, Florida 34773 City, State, Zip Code
_____ MKaiser@Wasteservicesinc.com E-Mail address (if available)	_____ (904) 673-0446 Telephone Number
Date: _____	

Attach letter of authorization if agent is not a governmental official, owner, or corporate officer.

2. Professional Engineer registered in Florida (or Public Officer if authorized under Sections 403.707 and 403.7075, Florida Statutes):

This is to certify that the engineering features of this solid waste management facility have been designed/examined by me and found to conform to engineering principles applicable to such facilities. In my professional judgment, this facility, when properly maintained and operated, will comply with all applicable statutes of the State of Florida and rules of the Department. It is agreed that the undersigned will provide the applicant with a set of instructions of proper maintenance and operation of the facility.

_____ Signature	_____ 13101 Telecom Drive, Suite 120 Mailing Address
_____ Victor M. Damasceno, Ph.D., P.E. Name and Title (please type)	_____ Temple Terrace, FL, 33637 City, State, Zip Code
	_____ VDamasceno@Geosyntec.com E-Mail address (if available)
_____ Florida Registration Number (please affix seal)	_____ (813) 558-0990 Telephone Number
Date: _____	

1. Applicant:

_____ is aware that statements made in this form and attached

Mike Kunn
Signature of Applicant or Agent

1501 Omni Way
Mailing Address

(904) 673-0446
Telephone Number

Date: 10/25/11

2. Professional Engineer registered in Florida (or Public Officer if authorized under Sections 403.707 and 403.7075, Florida Statutes):

Signature
Victor M. Damasceno, Ph.D., P.E.
(Name and Title please type)

Florida Registration Number
(please affix seal)

Temple Terrace, FL, 33637
City, State, Zip Code

VDamasceno@Geosyntec.com
E-Mail address (if available)

(813) 558-0990
Telephone Number

Date: 20 October 2011



2893 Executive Park Drive, Suite 305, Weston, Florida 33331

February 6, 2009

RE: Omni Waste of Osceola County, LLC

To Whom It May Concern:

This is to confirm that Mike Kaiser is an authorized signatory of Omni Waste of Osceola County, LLC (the "Corporation"), with authority to execute and deliver all documents and instruments required in connection with environmental matters for the Corporation, including without limitation, permit applications, modifications and financial assurances for permits issued to the Corporation.

Waste Services, Inc.

A handwritten signature in black ink, appearing to read "Edwin D. Johnson", is written over a horizontal line.

Edwin D. Johnson
Executive Vice President & Chief Financial Officer

Omni Waste of Osceola County, LLC

A handwritten signature in black ink, appearing to read "Edwin D. Johnson", is written over a horizontal line.

Edwin D. Johnson
Manager

ATTACHMENT 2 – 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.: SC49 & SO49-199726-017 & 005 Expiration Date: 8/16/2016 - 1/11/2012
 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 3/ Cell 8	11.3	NA	1 to 2 years			

Total disposal unit acreage included in this estimate: Closure: 11.3 Long-Term Care: 11.3

Note: The disposal unit acreage of 11.9 acres represents the two-dimensional area. The three-dimensional area - used in the calculations - is equal to 12.3 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 Deflatory 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

813-558-0990
Telephone Number

IV. ESTIMATED CLOSING COST (check what applies)☒ **Recalculated Cost Estimate**☐ **New Facility Cost Estimate**

Notes: 1. Cost estimates for the time period when the extent and manner of landfill operation makes closing most exp

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

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

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

Description	Unit	Number of Units	Cost / Unit	Total Cost
1. Proposed Monitoring Wells (Do not include wells already in existence.)				
	EA			
Subtotal Proposed Monitoring Wells:				
2. Slope and Fill (bedding layer between waste and barrier layer):				
Excavation	CY			
Placement and Spreading	CY	18,876	\$1.91	\$36,053.16
Compaction	CY			
Off-Site Material	CY			
Delivery	CY			
Subtotal Slope and Fill:				\$36,053.16
3. Cover Material (Barrier Layer):				
Off-Site Clay	CY			
Synthetics - 40 mil	SY	56,628	\$2.41	\$136,473.48
Synthetics - GCL	SY			
Synthetics - Geonet	SY			
Synthetics - Other (explain)	SY	39,204	\$3.11	\$121,924.44
Subtotal Cover Material:				\$258,397.92
4. Top Soil Cover:				
Off-Site Material	CY			
Delivery	CY			
Spread	CY	28,314	\$2.06	\$58,326.84
Subtotal Top Soil Cover:				\$58,326.84
5. Vegetative Layer				
Sodding	SY	56,628	\$1.81	\$102,496.68
Hydroseeding	AC			
Fertilizer	AC	11.7	\$1,010.00	\$11,817.00
Mulch	AC			
Other (explain)	SY	9,438	\$3.09	\$29,163.42
Subtotal Vegetative Layer:				\$143,477.10
6. Stormwater Control System:				
Earthwork	CY	2,100	\$3.09	\$6,489.00
Grading	SY			
Piping	LF	3,650	\$9.50	\$34,675.00
Ditches	LF			
Berms	LF			
Control Structures	EA	1	\$876.00	\$876.00
Other (explain) "Wye" connection	SY	62.5	\$50.00	\$3,125.00
Subtotal Stormwater Control System:				\$45,165.00

Description	Unit	Number of Units	Cost / Unit	Total Cost
7. Passive Gas Control:				
Wells	EA	13	\$9,849.00	\$128,037.00
Pipe and Fittings	LF	2,890	\$25.40	\$73,406.00
Monitoring Probes	EA			
NSPS/Title V requirements	LS	1		
Subtotal Passive Gas Control:				\$201,443.00
8. Active Gas Extraction Control:				
Traps	EA	1	\$6,700.00	\$6,700.00
Sumps	EA			
Flare Assembly	EA			
Flame Arrestor	EA			
Mist Eliminator	EA			
Flow Meter	EA			
Blowers	EA			
Collection System	LF			
Other (explain) _____				
Subtotal Active Gas Extraction Control:				\$6,700.00
9. Security System:				
Fencing	LF			
Gate(s)	EA			
Sign(s)	EA			
Subtotal Security System:				
10. Engineering:				
Closure Plan Report	LS	1	\$5,000.00	\$5,000.00
Certified Engineering Drawings	LS	1		
NSPS/Title V Air Permit	LS	1		
Final Survey	LS	1	\$14,040.00	\$14,040.00
Certification of Closure	LS	1	\$10,000.00	\$10,000.00
Other (explain) _____				
Subtotal Engineering:				\$29,040.00

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) _____	1	\$23,658	1	\$55,202	\$78,860.00

Description	Unit	Number of Units	Cost / Unit	Total Cost
Quality Assurance Testing	LS	1	\$5,520.23	\$5,520.23
Subtotal Professional Services:				\$84,380.23

Subtotal of 1-11 Above: \$862,983.25

12. Contingency 10 % of Subtotal of 1-11 Above \$86,298.32

Subtotal Contingency: \$86,298.32

Estimated Closing Cost Subtotal: \$949,281.57

Description	Total Cost
13. Site Specific Costs	
Mobilization	<u>\$39,430.20</u>
Waste Tire Facility	<u> </u>
Materials Recovery Facility	<u> </u>
Special Wastes	<u> </u>
Leachate Management System Modification	<u> </u>
Other (explain) <u> </u>	<u> </u>
<u> </u>	
Subtotal Site Specific Costs:	<u>\$39,430.20</u>

TOTAL ESTIMATED CLOSING COSTS (\$): \$988,711.78

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	_____	_____	_____
Annually	1	_____	_____	_____
Subtotal Groundwater Monitoring:				_____
2. Surface Water Monitoring [62-701.510(4), and (8)(b)]				
Monthly	12	_____	_____	_____
Quarterly	4	_____	_____	_____
Semi-Annually	2	_____	_____	_____
Annually	1	_____	_____	_____
Subtotal Surface Water Monitoring:				_____
3. Gas Monitoring [62-701.400(10)]				
Monthly	12	_____	_____	_____
Quarterly	4	_____	_____	_____
Semi-Annually	2	_____	_____	_____
Annually	1	_____	_____	_____
Subtotal Gas Monitoring:				_____
4. Leachate Monitoring [62-701.510(5), (6)(b) and 62-701.510(8)c]				
Monthly	12	_____	_____	_____
Quarterly	4	_____	_____	_____
Semi-Annually	2	_____	_____	_____
Annually	1	1	\$1,061.11	\$1,061.11
Other (explain) _____	_____	_____	_____	_____
Subtotal Leachate Monitoring:				\$1,061.11

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	1	\$514.08	\$514.08
Lift Stations	EA	_____	_____	_____
Cleaning	LS	1	\$1,209.58	\$1,209.58
Tanks	EA	_____	_____	_____

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
5. (continued)				
<u>Impoundments</u>				
Liner Repair	SY	<u>1</u>	<u>\$106.11</u>	<u>\$106.11</u>
Sludge Removal	CY	<u> </u>	<u> </u>	<u> </u>
<u>Aeration Systems</u>				
Floating Aerators	EA	<u> </u>	<u> </u>	<u> </u>
Spray Aerators	EA	<u> </u>	<u> </u>	<u> </u>
<u>Disposal</u>				
Off-site (Includes transportation and disposal)	1000 gallon	<u>1</u>	<u>\$123.00</u>	<u>\$123.00</u>
Subtotal Leachate Collection / Treatment Systems Maintenance:				<u>\$1,952.77</u>
6. Groundwater Monitoring Well Maintenance				
Monitoring Wells	LF	<u> </u>	<u> </u>	<u> </u>
Replacement	EA	<u> </u>	<u> </u>	<u> </u>
Abandonment	EA	<u> </u>	<u> </u>	<u> </u>
Subtotal Groundwater Monitoring Well Maintenance:				<u> </u>
7. Gas System Maintenance				
Piping, Vents	LF	<u>25</u>	<u>\$26.02</u>	<u>\$650.50</u>
Blowers	EA	<u> </u>	<u> </u>	<u> </u>
Flaring Units	EA	<u> </u>	<u> </u>	<u> </u>
Meters, Valves	EA	<u> </u>	<u> </u>	<u> </u>
Compressors	EA	<u> </u>	<u> </u>	<u> </u>
Flame Arrestors	EA	<u> </u>	<u> </u>	<u> </u>
Operation	LS	<u>1</u>	<u>\$650.00</u>	<u>\$650.00</u>
Subtotal Gas System Maintenance:				<u>\$1,300.50</u>
8. Landscape Maintenance				
Mowing	AC	<u>46.8</u>	<u>\$127.00</u>	<u>\$5,943.60</u>
Fertilizer	AC	<u> </u>	<u> </u>	<u> </u>
Subtotal Landscape Maintenance:				<u>\$5,943.60</u>
9. Erosion Control and Cover Maintenance				
Sodding	SY	<u>100</u>	<u>\$1.81</u>	<u>\$181.00</u>
Regrading	AC	<u> </u>	<u> </u>	<u> </u>
Liner Repair	SY	<u>10</u>	<u>\$21.21</u>	<u>\$212.10</u>
Clay	CY	<u> </u>	<u> </u>	<u> </u>
Subtotal Erosion Control and Cover Maintenance:				<u>\$393.10</u>
10. Storm Water Management System Maintenance				
Conveyance Maintenance	LS	<u>1</u>	<u>\$1,010.00</u>	<u>\$1,010.00</u>
Subtotal Storm Water Management System Maintenance:				<u>\$1,010.00</u>
11. Security System Maintenance				
Fences	LS	<u>1</u>	<u> </u>	<u> </u>
Gate(s)	EA	<u> </u>	<u> </u>	<u> </u>
Sign(s)	EA	<u> </u>	<u> </u>	<u> </u>
Subtotal Security System Maintenance:				<u> </u>

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
12. Utilities	LS	<u>1</u>	<u>\$2,546.65</u>	<u>\$2,546.65</u>
			Subtotal Utilities:	<u>\$2,546.65</u>
13. Leachate Collection/Treatment Systems Operation				
<u>Operation</u>				
P.E. Supervisor	HR	<u> </u>	<u> </u>	<u> </u>
On-Site Engineer	HR	<u> </u>	<u> </u>	<u> </u>
Office Engineer	HR	<u> </u>	<u> </u>	<u> </u>
OnSite Technician	HR	<u> </u>	<u> </u>	<u> </u>
Materials	LS	<u>1</u>	<u> </u>	<u> </u>
			Subtotal Leachate Collection/Treatment Systems Operation:	<u> </u>
14. Administrative				
P.E. Supervisor	HR	<u> </u>	<u> </u>	<u> </u>
On-Site Engineer	HR	<u> </u>	<u> </u>	<u> </u>
Office Engineer	HR	<u> </u>	<u> </u>	<u> </u>
OnSite Technician	HR	<u> </u>	<u> </u>	<u> </u>
Other <u>See notes</u>	LS	<u>1</u>	<u>\$2,122.20</u>	<u>\$2,122.20</u>
			Subtotal Administrative:	<u>\$2,122.20</u>

Subtotal of 1-14 Above: \$16,329.93

15. Contingency	<u>10</u>	% of Subtotal of 1-14 Above	<u>\$1,632.99</u>
		Subtotal Contingency:	<u>\$1,632.99</u>

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

ANNUAL LONG-TERM CARE COST (\$ / YEAR): \$17,962.92

Number of Years of Long-Term Care: 30

TOTAL LONG-TERM CARE COST (\$): \$538,887.69

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	_____ 13101 Telecom Drive, Suite 120 Mailing Address
_____ Victor M. Damasceno, Ph.D.,P.E. Name and Title (please type)	_____ Temple Terrace, Florida 33637 City, State, Zip Code
_____ Date	_____ VDamasceno@Geosyntec.com E-Mail address (if available)
_____ Florida Registration Number (please affix seal)	_____ 813-558-0990 Telephone Number

VII. SIGNATURE BY OWNER/OPERATOR

_____ Signature of Applicant	_____ 1501 Omni Way Mailing Address
_____ Mike Kaiser, Regional Engineer Name and Title (please type)	_____ Saint Cloud, Florida 34773 City, State, Zip Code
_____ MKaiser@Wasteservicesinc.com E-Mail address (if available)	_____ (904)673-0446 Telephone Number

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
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28

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813-558-0990

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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 3 – NOTES AND CALCULATIONS

**FINANCIAL ASSURANCE COST ESTIMATE FOR
CLOSURE OF CELL 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 FDEP Form 62-701.900(28), F.A.C., “*Closure Cost Estimating Form for Solid Waste Facilities*” (January 6, 2010). The closure and long-term care costs were estimated for Cell 8 using the FDEP approved unit rate costs from the financial assurance cost estimate revision associated with the addition of Cell 7 completed and approved in 24 February 2011. The unit rate costs used to calculate of the closure and long-term care costs for Cell 8 have been inflated by 1% to account for the 2011 inflation adjustment issued by the FDEP on 19 July 2011. It is noted that the financial assurance cost estimate presented in Attachment 2 includes the closure and long-term care costs for Cell 8 only. The section numbers noted below correspond to the item numbers on FDEP Form 62-701.900(28), F.A.C.

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 the Cell 8 at the J.E.D. Solid Waste Management facility in Osceola County, Florida.

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)

On-site soils will be used for intermediate cover. The total estimated volume is 18,876 cubic yards (yd³) for the 1-ft thick intermediate cover layer over the waste surface. The cost per yd³ includes excavation, hauling, placement, spreading, grading, and compaction. The estimated cost for slope and fill material is as follows:

As presented in Figure 1, the Cell 8 top deck area covers 3.6 acres and the 3:1 side slope area is equal to 7.7 acres resulting in a total Cell area of approximately 11.3 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 for Cell 8 is 7.7 acres × 1.05 = 8.1 acres plus the 3.6 acre top deck area equals a total corrected area of approximately **11.7 acres**.

- $(11.7 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \times 1 \text{ ft cover thickness}) \div 27 \text{ ft}^3/\text{yd}^3 = 18,876 \text{ yd}^3$

- $18,876 \text{ yd}^3 @ \$1.91/\text{yd}^3 = \mathbf{\$36,053.16}$

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 smooth geomembrane
- geocomposite drainage layer (on 3:1 side slopes only)
- 18-inch cover protective soil layer
- 6-inch vegetative soil layer (Item No. 4 below)

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

40-mil PE smooth geomembrane:

- $11.7 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \div 9 \text{ ft}^2/\text{yd}^2 = 56,628 \text{ yd}^2$
- $56,628 \text{ yd}^2 \text{ 60-mil PE textured geomembrane @ } \$2.41/\text{yd}^2 = \mathbf{\$ 136,473.48}$

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

- $11.7 \text{ acres} - 3.6 \text{ acres (top deck of Cell 8)} = 8.1 \text{ acres}$
- $8.1 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \div 9 \text{ ft}^2/\text{yd}^2 = 39,204 \text{ yd}^2$
- $39,204 \text{ yd}^2 \text{ geocomposite drainage layer @ } \$3.11/\text{yd}^2 = \mathbf{\$ 121,924.44}$

The total cost for final cover materials (excluding the intermediate and vegetative soil layers) is **\$258,397.92**.

4. Top Soil Cover

Cover protective soil will consist of material obtained from on-site. Cost for the 18-inch cover protective soil layer includes excavation, hauling, placement, spreading, grading, and compaction.

- $(11.7 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \times 1.5 \text{ ft cover thickness}) \div 27 \text{ ft}^3/\text{yd}^3 = 28,314 \text{ yd}^3$
- $28,314 \text{ yd}^3 \text{ cover soils @ } \$2.06/\text{yd}^3 = \mathbf{\$ 58,326.84}$

5. Vegetative Layer

The vegetative soil layer consists of a 6 inch layer over the cover protective soil. The estimated volume is $9,438 \text{ yd}^3$. The vegetative soil will consist of material obtained from on-site sources. 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.

- $11.7 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \div 9 \text{ ft}^2/\text{yd}^2 = 56,628 \text{ yd}^2$
- $56,628 \text{ yd}^2 \text{ Bahia sod @ } \$1.81/\text{yd}^2 = \mathbf{\$ 102,496.68}$

Fertilizer (Amendments) for the vegetative soil layer is \$1,010 per acre.

- $11.7 \text{ acres} \times \$1,010/\text{acre} = \mathbf{\$11,817.00}$

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

- $(11.7 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \times 0.5 \text{ ft cover thickness}) \div 27 \text{ ft}^3/\text{yd}^3 = 9,438 \text{ yd}^3$
- $9,438 \text{ yd}^3 @ \$3.09/\text{yd}^3 = \mathbf{\$29,163.42}$

The total cost for the vegetative layer (vegetative soil cover and sod) is **\$143,477.10**.

6. Stormwater Control System

Storm water control components that will be installed during closure consist of side slope drainage swales, inlet structures on the side slope 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.

Based on the ERP Lateral Expansion Permit Drawings (Sheet 37 of 40), approximately 2,750 feet of side slope drainage swales, 750 feet of 24-inch down chute pipes, 2,900 feet of 4-inch seepage header pipe, and ten (10) wye-connection inlet structures will be installed to convey the storm water from the proposed side slope swales to the dry retention area located at the toe of the landfill perimeter berm. Costs associated with the additional storm water structure installed as part of the Cell 8 construction has also been included.

The total cost for the storm water control system is estimated to be **\$45,165.00** 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. $20.6 \text{ ft}^2 \times 2,750 \text{ ft} = 56,650 \text{ ft}^3 \div 27 \text{ ft}^3/\text{yd}^3 = 2,100 \text{ yd}^3$
 - $2,100 \text{ yd}^3 @ \$3.09/\text{yd}^3 = \mathbf{\$6,489.00}$
- Piping (material and installation):
 - 750 ft of 24-inch HDPE corrugated pipe @ \$29.88/ft = **\$22,410.00**.
 - 2,900 ft of 4-inch HDPE corrugated pipe @ 4.22/ft = **\$12,238.00** (the cost of the 4-inch drainage pipe includes the cost of the pipe and a 3-ft wide strip of geomembrane used to wrap the pipe).

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:

- $(\$22,410 + \$12,238) = \$34,648 \div (750 \text{ ft} + 2,900 \text{ ft}) = \$9.50/\text{ft}$.
- A concrete pad will be installed with each “wye” connection – which joins the swale pipes to the main side slope downchute – to hold the piping in place and reduce erosion. Ten (10) concrete pads are proposed for the Cell 8 closure. Each concrete pad will be 6-inches thick with dimensions of approximately 7.5-ft x 7.5-ft, for a total pad area of 6.25 yd². The price of 6-in thick concrete material and placement is 6.25 yd² x 10 structures = 62.5 yd² @ \$50/yd² = **\$3,125.00**.

- Drainage inlet structures: 1 @ \$876 each = **\$876.00.**

7. Passive Gas Control

The JED facility has an active gas collection and control system (GCCS) within the Phase 1 development area (i.e., Cells 1-4), which will be expanded upon with the closure 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.

Gas Wells [drilling, perforated pipe section (including gravel), solid pipe section (including soil backfill), and well head]: Drilling @ \$27.82/ft, perforated pipe section @ \$53.06/ft, solid pipe section @ \$35.03/ft, and well heads @ \$1,236.24 each. Well depths shown are average depths for shallow, medium, and deep wells within the Cell 8 footprint.

- 3 – 30 ft gas well @ \$3,254.64/gas well = **\$9,763.92**
- 2 – 80 ft gas well @ \$7,298.64/gas well = **\$14,597.28**
- 8 – 150 ft gas well @ \$12,960.24/gas well = **\$103,681.92**

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:

- $(\$9,763.92 + \$14,597.28 + 103,681.92) \div 13 \text{ wells} = \$128,043.12 \div 13 \text{ wells} =$
\$9,849.47 per well

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

- 2,430ft @ \$18.54/ft = **\$45,052.20**

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

- 460 ft @ \$35.03/ft = **\$16,113.80**

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

- $(\$45,052.20 + \$16,113.80) = \$61,166 \div (2,430 + 460) \text{ ft} =$ **\$21.17/ft**

It is assumed that an additional 20% of the pipe cost is needed for fittings.

- $(\$21.17 \times 20\%) + \$21.17 =$ **\$25.40/ft**

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

- $\$25.40/\text{ft} \times 2,890\text{ft} =$ **\$73,406.00**

Perimeter gas monitoring probes have been installed for Phases 1 through 3 (i.e., Cells 1-10) therefore, no costs have been included in this closure cost estimate.

The total cost for passive gas controls is **\$201,443.00**

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 4). The cost of the second gas flare was included as part of the Revised Financial Assurance for the remaining Phase 1 Closure Area; therefore, no additional costs have been included with the Cell 8 closure financial assurance.

One condensate trap will be installed as part of the GCCS system within the footprint of Cell 8. The cost per condensate trap is $\$6,700 \times 1 = \mathbf{\$6,700}$.

The total cost for active gas extraction control is **\$6,700**.

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 **\$5,000** to update this plan.

Final Survey – It was estimated in the previously approved Financial Assurance (Cell 7 Closure) that surveying costs were approximately \$1,200/acre. This estimate was based on a survey cost for the partial closure of Phase 1 ($\$30,000 / 25 \text{ acres} = \$1,200/\text{acre}$). This cost per acre estimate has been applied to the closure of Cell 8; therefore, costs associated with the final survey of Cell 8 are $\$1,200/\text{acre} \times 11.7 \text{ acres} = \mathbf{\$14,040}$.

Certification of Closure – Geosyntec has estimated **\$10,000** 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 $0.03 \times \$788,604.02 = \mathbf{\$23,658}$.

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

- $0.07 \times \$788,604.02 = \mathbf{\$55,202}$.

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:

- $0.10 \times \$55,202.28 = \mathbf{\$5,520.23}$.

12. Contingency

A contingency factor for closure costs of 10 percent is estimated.

13. Site Specific Costs

It is estimated that approximately 5 percent of construction cost will be needed for mobilization and demobilization of equipment which equates to

- $0.05 \times \$788,604.02 = \$39,430.20$.

V. ANNUAL COST FOR LONG TERM CARE

The unit costs for calculation of the long-term care costs were extracted from the Cell 7 Financial Assurance Minor Modification Application. The unit rate costs used in the calculation of the long-term care costs for Cell 8 have been inflated by 1% to account for the 2011 inflation adjustment issued by the FDEP on July 19, 2011.

1. Ground Water Monitoring

Currently, the groundwater monitoring well network for Phases 1 through 3 (Cells 1-10) has been installed. The long-term care cost for groundwater monitoring wells was included in the previously approved financial assurance cost estimate. Therefore, no additional monitoring cost has been included as part of the long-term care cost estimate for Cell 8.

2. Surface Water Monitoring

The long-term care cost for surface water monitoring was included in the previously approved financial assurance cost estimate. Therefore, no additional monitoring cost has been included as part of the long-term care cost estimate for Cell 8.

3. Landfill Gas Monitoring

The long-term care cost for gas monitoring probes was included in the previously approved financial assurance cost estimate which included gas monitoring for Phases 1 through 3. Therefore, no additional monitoring cost has included as part of the long-term care cost estimate for Cell 8.

4. Leachate Monitoring

A leachate sample would be collected annually from Cell 8. The leachate sampling cost includes all labor, equipment, and laboratory analyses required by the regulations.

- Annual leachate monitoring cost: **\$1,061.11/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 Cell 8 will require a replacement pump during the 30-year monitoring period:

- Annual maintenance = \$301.85/year
- Leachate pump replacement cost = $\$6,367/30\text{years} = \$212.23/\text{year}$

- Total estimated annual cost for pumps = **\$514.08/year**

Leachate collection pipes: Assumed that one cleaning every 10 years within the 30-year monitoring period will be required for Cell 8 (total of 3 cleanings).

- $(\$12,095.76 \times 3) / 30 \text{ years} = \mathbf{\$1,209.58/year.}$

Leachate storage containers: Long term care for the leachate storage containers assumes that three of the four bladders will require replacement over the 30-year monitoring period. Replacement cost has been assumed to be \$10,611 per flexible bladder. Total long-term care cost for the three bladder replacement was split based on number of cells (i.e. 10 cells) to estimate the Cell 8 long-term care cost for leachate storage containers.

- $3 \text{ bladders} \times \$10,611/\text{bladder} / 30 \text{ years} \times (1/10) = \mathbf{\$106.11/year}$

Leachate disposal: Leachate generation rate after closure was assumed to be 20 percent of the annual average leachate generation rate for maximum waste height that was obtained from the HELP model Analysis (see Case 4 analyzed for maximum waste thickness of 220 ft in the calculation package entitled *Leachate Management System*).

- $24.63 \text{ ft}^3/\text{ac}/\text{year} \text{ or } 184.3 \text{ gal}/\text{ac}/\text{year} \times 12 \text{ acres} \times 20 \text{ percent} = 442 \text{ gal}/\text{year} \rightarrow \text{use minimum unit of 1,000 gallons as shown on FDEP form } 1,000 \text{ gallons}/\text{year} \times \$0.123/\text{gallon for transportation and treatment} = \mathbf{\$123/year.}$

Therefore, total long-term care cost for leachate system maintenance = **\$1,952.77/year.**

6. Maintenance of Groundwater Monitoring Wells

The long-term care cost for maintenance of groundwater monitoring wells was included in the previously approved financial assurance cost estimate. Therefore, no additional cost is included as part of the long-term care cost estimate for Cell 8.

7. Gas System Maintenance

Thirteen (13) gas wells will eventually be installed within the footprint of Cell 8. It is estimated that an additional \$50 per well/year will be needed for operation ($\$50 \times 13 \text{ wells} = \mathbf{\$650}$). It is also assumed that 25 ft piping will require replacement. The remainder of the long-term care cost for gas system maintenance was included in the previously approved financial assurance cost estimate.

8. Landscape

The long-term care cost estimate assumes that for the 11.7-acre area, the grass will be mowed four times per year at a cost of \$127.00 per acre. Mowing/maintenance:

- $4 \text{ times}/\text{year} \times 11.7 \text{ acres} \times \$127/\text{acre} = \mathbf{\$5,943.60/year}$

9. Erosion Control and Cover Maintenance

As indicated on FDEP form.

10. Storm Water Management System Maintenance

As indicated on FDEP form.

11. Security System Maintenance

The long-term care cost for security system maintenance was included in the previously approved financial assurance cost estimate. Therefore, no additional cost is included as part of the long-term care cost estimate for Cell 8.

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 \$2,101.20 per month. The total utility cost for Phases 1 through 3 is split based on number of cells (i.e. 10 cells) to estimate the utility cost for Cell 8:

- $\$2,101.20/\text{month} \times 12 \text{ months} \times (1/10) = \mathbf{\$2,521.44/\text{year}}.$

13. Leachate Collection/Treatment Systems Operation

The long-term care costs for the leachate collection/treatment system operation was included in the previously approved financial assurance cost estimate. Therefore, no additional cost is included as part of the long-term care cost for Cell 8.

14. Administrative

The long-term care cost estimate assumes that the administrative costs for Phases 1 through 3 to be \$21,222/year. The total administrative cost for Phases 1 through 3 is split based on number of cells (i.e. 10 cells) to estimate the administrative cost for Cell 8:

- $\$21,222/\text{year} \times (1/10) = \mathbf{\$2,122.20/\text{year}}$

15. Contingency

A contingency factor for long-term care costs of 10 percent is estimated.

16. Site Specific Costs

No additional site specific costs are estimated.

FIGURES



LIMIT OF CELL 8
AREA 11.3 ACRES

SIDE SLOPE
AREA
7.7 ACRES

TOP DECK
AREA
3.6 ACRES

Geosyntec
consultants

J.E.D. SOLID WASTE MANAGEMENT FACILITY

FINAL COVER SYSTEM GRADING PLAN

DATE: OCTOBER 2011

PROJECT NO. FL1985

FIGURE NO.

1