

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

- | | | | | |
|--------------------------|-------|--------------------------|--------------------------|---|
| ☐ | _____ | ☐ | ☐ | d. The source and type of cover material used for the landfill. |
| ☐ | _____ | ☐ | ☐ | 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) |
| ☐ | _____ | ☐ | ☐ | 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>
-----------------	------------------------	-------------------	-------------------

- | | | | | |
|--------------------------|-------|--------------------------|--------------------------|--|
| ☐ | _____ | ☐ | ☐ | 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) |
| ☐ | _____ | ☐ | ☐ | 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>
-----------------	------------------------	-------------------	-------------------

- | | | | | |
|-------------------------------------|---|--------------------------|--------------------------|---|
| ☒ | See Landfill Operation Plan & Geotechnical Report 9.0 | ☐ | ☐ | 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) |
| ☒ | See below for each item & attached description. | ☐ | ☐ | 2. Landfill liner requirements; (62-701.400(3),FAC) |
| ☒ | See Specifications Section 1 and Responses below. | ☐ | ☐ | a. General construction requirements; (62-701.400(3)(a),FAC): |
| ☒ | Specifications Sections 5.2.3, 7.2.1.3, 7.2.2, 7.3.1.1, | ☐ | ☐ | (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	
☒	See Geotechnical Report Section 9.0	☐	☐	(2)	Document foundation is adequate to prevent liner failure;
☒	The liner is above seasonal high groundwater.	☐	☐	(3)	Constructed so bottom liner will not be adversely impacted by fluctuations of the ground water;
☐	_____	☒	☐	(4)	Designed to resist hydrostatic uplift if bottom liner located below seasonal high ground water table;
☒	See Drawing C-4 and C-5 for limits of Liner.	☐	☐	(5)	Installed to cover all surrounding earth which could come into contact with the waste or leachate.
☐	_____	☒	☐	b. Composite liners; (62-701.400(3)(b),FAC)	
☐	_____	☒	☐	(1)	Upper geomembrane thickness and properties;
☐	_____	☒	☐	(2)	Design leachate head for primary LCRS including leachate recirculation if appropriate;
☐	_____	☒	☐	(3)	Design thickness in accordance with Table A and number of lifts planned for lower soil component.
☒	See Responses below for each specific item	☐	☐	c. Double liners; (62-701.400(3)(c),FAC)	
☒	Specifications 5.2.3 Text. Liner Physical Properties	☐	☐	(1)	Upper and lower geomembrane thicknesses and properties;
☒	See Results of HELP Model calculations	☐	☐	(2)	Design leachate head for primary LCRS to limit the head to one foot above the liner;
☒	See Drawing C-9 Sub-base is GCL, Spec. 4.8.1	☐	☐	(3)	Lower geomembrane sub-base design;
☒	Specifications Section 7.2.1.3 & attached report.	☐	☐	(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);
☒	Specifications Sections 4, 5, 6 and 7.	☐	☐	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	
☒	Specifications 6.4.3.1 No factory seams allowed	☐	☐	(1)	Factory and field seam test methods to ensure all geomembrane seams achieve the minimum specifications;
☒	Specifications 5.3.3 _____	☐	☐	(2)	Geomembranes to be used shall pass a continuous spark test by the manufacturer;
☒	See Drawing C-9. _____	☐	☐	(3)	Design of 24-inch-thick protective layer above upper geomembrane liner;
☒	See Landfill Operation Plan Page 6. _____	☐	☐	(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.
☒	Specifications 5.1 _____	☐	☐	(5)	HDPE geomembranes, if used, meet the specifications in GRI GM13 and LLDPE geomembranes, if used, meet the specifications in GRI GM17;
☐	_____	☐	☒	(6)	PVC geomembranes, if used, meet the specifications in PGI 1104;
☒	Specifications 5.2.4 _____	☐	☐	(7)	Interface shear strength testing results of the actual components which will be used in the liner system;
☒	Specifications 7.2.1.3 and Section 7.6 _____	☐	☐	(8)	Transmissivity testing results of geonets if they are used in the liner system;
☒	Specifications 4.4, 4.5 and Section 4.8.3 _____	☐	☐	(9)	Hydraulic conductivity testing results of geosynthetic clay liners if they are used in the liner system;
☒	See Specifications Sections 2,3, 4, 5, 6 and 7 _____	☐	☐	e. Geosynthetic specification requirements; (62-701.400(3)(e),FAC)	
☒	Specifications Sections 2.2, 2.3, 2.4, 5.4, 7.6, 8.7, 9.7 _____	☐	☐	(1)	Definition and qualifications of the designer, manufacturer, installer, QA consultant and laboratory, and QA program;
☒	Specifications Sections 4, 5, 6 and 7. _____	☐	☐	(2)	Material specifications for geomembranes, geocomposites, geotextiles, geogrids, and geonets;

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
	Specifications Section 5			
☒	_____	☐	☐	(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;
	Specifications Section 6			
☒	_____	☐	☐	(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;
	Specifications Section 7			
☒	_____	☐	☐	(5) Geotextile and geogrid specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil materials and any overlying materials;
	Specifications Section 7			
☒	_____	☐	☐	(6) Geonet and geocomposite specifications including handling and placement, conformance testing, stacking and joining, repair, and placement of soil materials and any overlying materials;
	Specifications Section 4			
☒	_____	☐	☐	(7) Geosynthetic clay liner specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil material and any overlying materials;
☐	_____	☒	☐	f. Standards for soil liner components (62-710.400(3)(f),FAC):
☐	_____	☒	☐	(1) Description of construction procedures including overexcavation and backfilling to preclude structural inconsistencies and procedures for placing and compacting soil component in layers;
☐	_____	☒	☐	(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;
☐	_____	☒	☐	(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
☐	_____	☒	☐	(4) Specifications for soil component of liner including at a minimum:
☐	_____	☒	☐	(a) Allowable particle size distribution, Atterberg limits, shrinkage limit;
☐	_____	☒	☐	(b) Placement moisture and dry density criteria;
☐	_____	☒	☐	(c) Maximum laboratory-determined saturated hydraulic conductivity using simulated leachate;
☐	_____	☒	☐	(d) Minimum thickness of soil liner;
☐	_____	☒	☐	(e) Lift thickness;
☐	_____	☒	☐	(f) Surface preparation (scarification);
☐	_____	☒	☐	(g) Type and percentage of clay mineral within the soil component;
☐	_____	☒	☐	(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.
☐	_____	☒	☐	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.
☒	See Responses to Individual Items below.	☐	☐	3. Leachate collection and removal system (LCRS); (62-701.400(4),FAC)
☒	See Drawings C-9 and C-13	☐	☐	a. The primary and secondary LCRS requirements; (62-701.400(4)(a),FAC)
☒	Specifications Section 5.2.3	☐	☐	(1) Constructed of materials chemically resistant to the waste and leachate;
☒	See Pipe Strength Calculations	☐	☐	(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	
☒	See Drawings C-9 and C-13 & Specifications 9.3	☐	☐	(3)	Have granular material or synthetic geotextile to prevent clogging;
☒	See Drawing C-13	☐	☐	(4)	Have method for testing and cleaning clogged pipes or contingent designs for rerouting leachate around failed areas;
☒	See Responses to Individual Items below.	☐	☐	b. Other LCRS requirements; (62-701.400(4)(b) and (c),FAC)	
☒	See Drawing C-9	☐	☐	(1)	Bottom 12 inches having hydraulic conductivity $\geq 1 \times 10^{-3}$ cm/sec;
☒	See Drawing C-9	☐	☐	(2)	Total thickness of 24 inches of material chemically resistant to the waste and leachate;
☒	See Drawings C-4	☐	☐	(3)	Bottom slope design to accommodate for predicted settlement and still meet minimum slope requirements;
☐		☒	☐	(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.
☐		☒	☐	4. Leachate recirculation; (62-701.400(5),FAC)	
☐		☒	☐	a. Describe general procedures for recirculating leachate;	
☐		☒	☐	b. Describe procedures for controlling leachate runoff and minimizing mixing of leachate runoff with storm water;	
☐		☒	☐	c. Describe procedures for preventing perched water conditions and gas buildup;	
☐		☒	☐	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;	
☐		☒	☐	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
☐	_____	☒	☐	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.
☐	_____	☒	☐	5. Leachate storage tanks and leachate surface impoundments; (62-701.400(6), FAC)
☐	_____	☒	☐	a. Surface impoundment requirements; (62-701.400(6)(b), FAC)
☐	_____	☒	☐	(1) Documentation that the design of the bottom liner will not be adversely impacted by fluctuations of the ground water;
☐	_____	☒	☐	(2) Designed in segments to allow for inspection and repair as needed without interruption of service;
☐	_____	☒	☐	(3) General design requirements;
☐	_____	☒	☐	(a) Double liner system consisting of an upper and lower 60-mil minimum thickness geomembrane;
☐	_____	☒	☐	(b) Leak detection and collection system with hydraulic conductivity ≥ 1 cm/sec;
☐	_____	☒	☐	(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;
☐	_____	☒	☐	(d) Design calculation to predict potential leakage through the upper liner;
☐	_____	☒	☐	(e) Daily inspection requirements and notification and corrective action requirements if leakage rates exceed that predicted by design calculations;
☐	_____	☒	☐	(4) Description of procedures to prevent uplift, if applicable;
☐	_____	☒	☐	(5) Design calculations to demonstrate minimum two feet of freeboard will be maintained;
☐	_____	☒	☐	(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
☐	_____	☒	☐	b. Above-ground leachate storage tanks; (62-701.400(6)(c),FAC)
☐	_____	☒	☐	(1) Describe tank materials of construction and ensure foundation is sufficient to support tank;
☐	_____	☒	☐	(2) Describe procedures for cathodic protection if needed for the tank;
☐	_____	☒	☐	(3) Describe exterior painting and interior lining of the tank to protect it from the weather and the leachate stored;
☐	_____	☒	☐	(4) Describe secondary containment design to ensure adequate capacity will be provided and compatibility of materials of construction;
☐	_____	☒	☐	(5) Describe design to remove and dispose of stormwater from the secondary containment system;
☐	_____	☒	☐	(6) Describe an overfill prevention system such as level sensors, gauges, alarms and shutoff controls to prevent overfilling;
☐	_____	☒	☐	(7) Inspections, corrective action and reporting requirements;
☐	_____	☒	☐	(a) Overfill prevention system weekly;
☐	_____	☒	☐	(b) Exposed tank exteriors weekly;
☐	_____	☒	☐	(c) Tank interiors when tank is drained or at least every three years;
☐	_____	☒	☐	(d) Procedures for immediate corrective action if failures detected;
☐	_____	☒	☐	(e) Inspection reports available for department review.
☐	_____	☒	☐	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	
☐	_____	☒	☐	(1)	Describe materials of construction;
☐	_____	☒	☐	(2)	A double-walled tank design system to be used with the following requirements;
☐	_____	☒	☐	(a)	Interstitial space monitoring at least weekly;
☐	_____	☒	☐	(b)	Corrosion protection provided for primary tank interior and external surface of outer shell;
☐	_____	☒	☐	(c)	Interior tank coatings compatible with stored leachate;
☐	_____	☒	☐	(d)	Cathodic protection inspected weekly and repaired as needed;
☐	_____	☒	☐	(3)	Describe an overfill prevention system such as level sensors, gauges, alarms and shutoff controls to prevent overfilling and provide for weekly inspections;
☐	_____	☒	☐	(4)	Inspection reports available for department review.
☐	_____	☒	☐		d.Schedule provided for routine maintenance of LCRS; (62-701.400(6)(e),FAC)
☒	See Specifications Sections 2, 3, 4, 5, 6, 7, 8 & 9.	☐	☐		6.Liner systems construction quality assurance (CQA); (62-701.400(7),FAC)
☒	See Specifications & Const. Quality Assurance Plan	☐	☐	a.	Provide CQA Plan including:
☒	Specifications Sections 5 and 6	☐	☐	(1)	Specifications and construction requirements for liner system;
☒	Specifications Sections 4.5, 5.3 and 7.3	☐	☐	(2)	Detailed description of quality control testing procedures and frequencies;
☒	Specifications Cover Page & Section 17.3	☐	☐	(3)	Identification of supervising professional engineer;
☒	Specifications 2.2, 2.3 and 2.4	☐	☐	(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
☒	Specifications Section 2.4	☐	☐	(5) State qualifications of CQA professional engineer and support personnel;
☒	Specifications 2.5, 4.8.2 and 6.5.6,	☐	☐	(6) Description of CQA reporting forms and documents;
☒	Specifications Sections 4.8, 5.3.4.3, 6.5.4, 6.6, 7.6 & 8.7	☐	☐	b. An independent laboratory experienced in the testing of geosynthetics to perform required testing;
☐		☒	☐	7. Soil Liner CQA (62-701.400(8)FAC)
☐		☒	☐	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;
☐		☒	☐	b. Description of field test section construction and test methods to be implemented prior to liner installation;
☐		☒	☐	c. Description of field test methods including rejection criteria and corrective measures to insure proper liner installation.
☒	Design submitted to FDEP for review and approval.	☐	☐	8. Surface water management systems; (62-701.400(9),FAC)
☐	Permitted under Power Plant Siting Application.	☒	☐	a. Provide a copy of a Department permit for stormwater control or documentation that no such permit is required;
☒	See Storm water Calcs. & Landfill Operation Plan	☐	☐	b. Design of surface water management system to isolate surface water from waste filled areas and to control stormwater run-off;
☒	See Drawings C-13, C-14, C-15 and C-16.	☐	☐	c. Details of stormwater control design including retention ponds, detention ponds, and drainage ways;
☐	No gas system is needed.	☒	☐	9. Gas control systems; (62-701.400(10),FAC)
☐	The waste is fly ash. There are no degradable wastes.	☒	☐	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;
☐	Landfill design is above groundwater table.	☒	☐	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)