

## K OPERATION PLAN

### BACKGROUND INFORMATION

The Hardee County (County) Landfill facility is located east of the City of Wauchula on Airport Road. This Operations Plan addresses the regulatory requirements for the operation of the Class I facility and ancillary operations on the site for the Phase II Section I and Phase II Section II landfill expansion, other than the Materials Recovery Facility (MRF) and the Waste Tire Facility. The Waste Tire Facility operates under a separate permit conditions that are currently outlined in Permit No. 129318-004-WT/05. Refer to Appendix A for a copy of the Waste Tire Permit. This Operations Plan will be kept at the administrative offices and shall be accessible to landfill operators. The facilities on the site include:

- Scalehouse and administrative offices,
- Class I Landfill and leachate storage tanks,
- Construction and Demolition (C&D) debris disposal area (closed)
- Materials Recovery Facility (MRF),
- Waste Tire Facility,
- Yard trash processing area,
- Scrap metal site,
- Household Hazardous Waste Collection Center (HHWCC),
- Maintenance building

These facilities are described below and the locations are shown on the Operation Drawings dated March 12, 2013 located in Attachment E of the Operation Permit renewal application. Other facilities present at the site are the County's Animal Control Kennel located west of the MRF and the Sheriff's Target Range located in the northeast corner of the site. This Operations Plan does not address operations for the Animal Control Kennel or the Sheriff's Target Range.

Normal operating hours for the Hardee County Landfill facility are Monday - Saturday 7:30 am - 5:15 pm. The Hardee County Landfill facility is closed for the following holidays:

- New Year Day
- July 4<sup>th</sup>
- Labor Day
- Thanksgiving Day

- Christmas Eve (if waste haulers are not collecting)
- Christmas Day

#### **K.1.a Scalehouse and Administrative Offices**

The scalehouse and administrative offices are located just inside the entrance to the site. All incoming vehicles must stop at the scalehouse to register. Records, reports, analytical results, and modifications to the operating plan are maintained and kept on file at the administrative offices.

#### **K.1.b Class I, Phase II Section I and Phase II Section II Landfill Expansion**

The Hardee County Landfill is located at 685 Airport Road, approximately one mile north of State Road 636 in Wauchula, Florida. The site property lies within Section 35, Township 33 South, Range 25 East in Hardee County, Florida. The Hardee County Landfill is located at Latitude 27°34'17"N, Longitude 81°46'58"W on Airport Road. The Hardee County Landfill serves Hardee County. A Regional Map identifying the location of the Hardee County Landfill is shown on the Cover Sheet of the Operation Drawings located in Attachment E of the Operation Permit renewal application.

#### **K.1.c C&D Debris Disposal Area (Closed)**

A closed C&D debris disposal area is located in the southwest corner of the site. This disposal area was covered with 24-inches of soil, compacted, and sloped to promote drainage. Vegetative cover was placed over the entire closed area for erosion control.

#### **K.1.d MRF Facility**

Below is a general description of the operations for the MRF as related to the operations of the landfill;

- The MRF is equipped with a Harris Badger Baler.
- When electronic items (e-waste), such as computers, VCRs, TVs and TV remote controls, microwaves are found in the incoming waste loads, their batteries are removed and the batteries taken to the on-site Household Hazardous Waste Collection Center (HHWCC). Electronic items such as TVs, computer monitors, cell phones, keyboards, and computer peripherals are separated from the waste, and taken to a covered box trailer located behind the MRF. Bids are taken from various contractors to recycle the electronic waste materials. Should e-waste glass or components be shattered or smashed into small pieces, then the debris will be collected and placed into a container and placed into storage sheds at the HHWCC. The e-waste contractor or Hazardous waste hauler will be contracted to dispose of the small e-waste debris.

#### **K.1.e Waste Tire Facility**

The Waste Tire Facility is currently operating under a separate permit, Permit No. 129318-004-WT/05. Refer to the Waste Tire Facility Operations Plan for a detailed discussion on the operations and procedures. Below is a general description of the operations for the Waste Tire Facility as related to the operations of the landfill;

- Incoming waste tires and tires with rims are temporarily stored on-site in a designated area for storage of waste tires. The tires are collected by a contractor on an as-needed basis for removal from the site for processing. Per the existing permit, no more than ~~150 tons~~ or 1,500 ~~of~~ whole waste tires, are to be stored at the facility. Additionally, at least 75 percent of both the waste tires and processed tires that are delivered to or are contained at the Waste Tire Facility at the beginning of each calendar year are to be removed for processing and disposal or recycled during the year. A report on the operations of the Waste Tire Facility is submitted annually to the FDEP.

#### **K.1.f Yard Trash Processing Area**

Yard trash is collected in separate loads by the waste haulers and delivered directly to the Yard Trash Processing Area. When yard trash loads arrive at the landfill, a spotter escort the loads to the area designated for yard trash processing as shown on the Operations Drawings. Loads are spread out to look for unacceptable waste materials or waste material that does not belong in the Yard Trash Processing Area (refer to Section K.2.c for waste material designations). County personnel or contract labor will to remove plastic bags prior to pushing the yard trash into a larger pile.

An independent contractor processes the yard trash material on-site. The minimum frequency for processing yard trash is once every 6 months or when 3,000 tons (12,000 cubic yards) are accumulated, whichever is greater. To be considered processed, material must pass a 6-inch sieve. However, logs with a diameter of 6-inches or greater may be stored for up to 12 months before being processed or removed from the area. The logs shall be separated and stored apart from other yard trash material within the area. The processed material is provided to Hardee County residents. The remaining processed yard trash will be used for stabilizing sideslopes, controlling erosion in the Phase II Section I or Phase II Section II landfill areas, as an organic additive to cover soils, or as general landscaping around the landfill.

The Yard Trash Processing Area is operated such that a 20-foot wide, all weather, access road around the perimeter of the area will be maintained. Interior lanes will be maintained to be at least a minimum of 15 feet wide. Dust control and fire protection for the area is provided in accordance with Section K.11.d and K.2.b.3, respectively. No part of the area that is occupied by processed or unprocessed material is more than 50 feet from access by motorized fire-fighting equipment. Refer to Figure 1 for the Yard Trash Processing Area Layout provided at the end of the Operation Plan.

#### **K.1.g Scrap Metal and White Goods Storage Site**

When scrap metals and white goods arrive at the landfill, a spotter escorts the loads to the area designated for scrap metals and white goods storage as shown on the Operation Drawings located in Attachment E of the Operation Permit renewal application. Incoming loads of scrap

metal, appliances, and white goods (with and without Freon) are segregated and temporarily stored in this area. The storage area has a stable base comprised of compacted shell to minimize rutting due to traffic. The storage area is surrounded by a two foot vegetated stormwater containment berm designed to prevent stormwater from sheet flowing into the nearby wetland. In addition to the berm, silt fence will also be installed around the outer perimeter of the berm to further contain turbidity that may sheet flow off the outer side of the berm. Clean, unused, recyclable metal cans are also transported to the scrap metal site for temporary storage. Propane tanks are accepted only if they are empty and the valves have been removed.

Lawnmowers are also stored at the scrap metal site. However, lawn mowers are not accepted at the facility unless any oil or gasoline has been removed prior to their delivery. If the scalehouse attendant spots a lawnmower, the attendant will question the driver concerning the gasoline and oil content of the lawnmower; if the lawnmower contains gas or oil, the scalehouse attendant will not accept it. If a lawnmower is found in a load delivered the operating personnel inspect the lawnmower to ensure that it is free of gasoline and oil prior to taking it to the scrap metal site. Gasoline and oil, removed from lawnmowers and other yard tools, will be taken to the HHWCC for storage.

White goods and appliances with Freon are stored separately from the rest of the scrap pile. These items are stored in an upright position to prevent the Freon from discharging to the atmosphere. An independent contractor is hired to remove the scrap metal and white goods from the site. The contractor is required to provide certification of qualification for removal of any chlorofluorohydrocarbons (i.e., Freon or CFCs) from the white goods. Up to 400 tons of scrap metal and white goods (a maximum of 200 individual pieces of white goods) can be stored in this area. The minimum frequency for scrap metal and white good removal is semi-annually (every six months).

#### **K.1.h Household Hazardous Waste Collection Center**

A Household Hazardous Waste Collection Center (HHWCC) is located southeast of the MRF. The HHWCC is comprised of a roofed building with a curb in order to promote spill containment. The HHWCC is used for the temporary storage of special wastes such as used oil, paint, lead acid batteries, florescent light bulbs, and household hazardous wastes. Used oil is consolidated into two double-walled oil storage tanks. Lead acid batteries are stacked three high on pallets, with cardboard placed between each layer, and then shrink wrapped when pallets are full. Private contractors are hired for the removal of the special wastes such as the used oil, paint, lead acid batteries, and fluorescent light bulbs. The maximum onsite storage and frequency for removing these recyclable from the site is as follows:

- Used oil (up to 700 gallons) is removed quarterly,
- Paints (up to 100 gallons) removed quarterly,
- Batteries (up to 140 batteries) removed quarterly,
- Light bulbs (up to 400) are to be removed at least every 6 months, and

- Household Hazardous Waste (up to 50 gallons and 250 pound bags of chemicals) to be removed quarterly.

Household hazardous waste is defined as discarded, small quantity residential waste (less than 220 lbs.) which is either listed by the U.S. Environmental Protection Agency (EPA) in its hazardous waste regulations or exhibits one of the four (4) following hazardous characteristics:

- Ignitability - It may catch fire.
- Corrosivity - It can damage other materials (including human tissue) on contact.
- Reactivity - It reacts violently with water and may catch fire or explode.
- Toxicity - It may cause illness or health problems if handled incorrectly.

Amnesty days are held four times per year in which residents can deliver their household hazardous wastes (including cans of paint) at no charge. The contractor removes these wastes from the site that same day. Only empty dried out paint cans are accepted throughout the year. If a can of paint or a propane tank with a valve is found by landfill personnel it is taken to the Household Hazardous Waste Collection Center for temporary storage in hazardous waste storage sheds until removed from the site by the qualified contractor. The HHWCC is also used to temporarily hold any unacceptable wastes found at any of the other on-site disposal or storage areas. Currently, EQ Florida, Inc. is contracted to remove and properly dispose of the household hazardous wastes. The Household Hazardous Waste Haulers Agreement is contained in Appendix B.

#### **K.1.i Maintenance Building**

The onsite maintenance building is within the southeast corner of the lined area of the closed Phase I landfill and to the east of the Phase II Section I Landfill disposal area. Routine maintenance and inspection of landfill equipment is performed in this building. Fuel for the landfill equipment is pumped from a fuel tank, with a containment wall, located immediately adjacent to the maintenance building. Fuel and fluids (engine oil, transmission oil, hydraulic oil, or radiator fluid) are added to the equipment in the maintenance building as needed. If repairs on the equipment are necessary, the equipment is sent to the County's central maintenance shop, located off-site, or to the dealer's authorized maintenance facility.

#### **K.1.j Borrow Area**

There are no active borrow areas at the Hardee County Landfill. If offsite borrow material is needed for additional cover soils or for other operational uses, then a contracted independent contractor will haul in soils.

### **K.1 TRAINED OPERATORS**

#### **K.1.a Personnel Documentation and Training**

In accordance with Rule 62-701.500(1), Florida Administrative Code (FAC), key supervisory

staff has received Landfill Operator Certification training. A State-certified Landfill Operator will be on site when waste is received for disposal, and a trained spotter is on site during all times when waste is deposited at the landfill working face to detect any unacceptable wastes. In addition, the equipment operators have sufficient training and knowledge to move waste and soil, and to develop the site in accordance with the design and operational standards.

As required by Rule 62-701.320(15), FAC a trained operator will be onsite at all times when waste is received at the Hardee County Landfill and a trained spotter will be onsite during all times when solid waste is deposited at the working face. In addition, the equipment operators shall have sufficient training and knowledge to move waste and soil, and to develop the site in accordance with the design and operational standards described in this Operation Plan.

In order to be considered trained; Operators of Class I and Class III landfills shall complete 24 hours of initial training, and shall pass an examination as part of that training. Within three years after passing the examination, and every three years thereafter, operators shall complete an additional 16 hours of continued training.

In order to be considered trained; spotters shall complete 8 hours of initial training. Within three years after attending the initial training, and every three years thereafter, spotters shall complete an additional 4 hours of continued training.

The following staff positions, along with the names of the current staff, are designated for the landfill operation.

- Solid Waste Director - Teresa Carver
- Executive Assistant - Ofelia Reyna
- MRF/Landfill Spotter - Moises Serrano
- Heavy Equipment Operator/Landfill Spotter - Mike Davis
- Heavy Equipment Operator/Landfill Operator/Spotter - Carl Daniels
- Leachate Tanker Driver/Landfill Spotter - Open
- Weighmaster - Joe Roman

Operator and Spotter training courses will be attended as offered by the University of Florida Center for Training, Research and Education for Environmental Occupations (TREEO) and through other FDEP approved sources. A listing of TREEO training courses and schedule is available at [www.treeo.ufl.edu](http://www.treeo.ufl.edu) and as presented in Appendix C of this Operations Plan.

## **K.2 LANDFILL OPERATION PLAN**

### **K.2.a Designation of Responsible Operating and Maintenance Personnel**

In accordance with Rule 62-701.500(2)a, FAC the Operation Plan designates responsible operating and maintenance personnel. The currently designated person responsible for operations and maintenance at the Hardee County Landfill is:

Ms. Teresa Carver  
Solid Waste Director  
Hardee County Solid Waste Department  
685 Airport Road  
Wauchula, FL 33873  
Phone: (863) 773-5089

Any inquiries concerning the management and operation of the Hardee County Landfill facility should be submitted to the Solid Waste Director's attention.

### **K.2.b Contingency Operations**

In accordance with Rule 62-701.500(2)b, FAC the Operation Plan identifies emergency preparedness and response as required in Subsection 62-701.320(16), FAC.

#### **K.2.b.1 Accidental Liquid Spills**

In the case of an accidental spill of oil, fuel, leachate, or chemicals, the spill will be minimized by controlling the source immediately (e.g. by closing a valve, turning off switches, or taking other necessary actions to minimize the amount of spillage). The affected area will be controlled by diverting traffic around the spill. Runoff from the affected area will be controlled by placing a berm around the area, plugging a drain or ditch if appropriate, or adding absorbent material. The affected area will be cleaned and the effectiveness of the cleanup will be confirmed by sampling, as needed, depending upon the nature of the spilled material.

If a liquid spill material is found during offloading of waste materials, the hauler will be asked by the County to remove the liquid from the site. If a liquid is found and the hauler cannot be identified or an accidental spill occurs, then absorbent granules or soils will be placed on the spilled liquid by the County. The absorbent granules or soils will be placed in barrels at the Household Hazardous Waste Area until a private hauler can remove the material.

#### **K.2.b.2 Handling of Hazardous Waste Materials**

Hazardous waste materials are not accepted at the Phase II Section I or Phase II Section II disposal areas. If a hazardous waste is mistakenly delivered to the landfill or identified after unloading, FDEP will be promptly notified by the County and the hauler identified from a license plate or by hauling records. A front-end loader will isolate the hazardous material from other waste while keeping it within the lined area and marking it with applicable markers. The hazardous materials will be covered with 6-mil visqueen or water-proof plastic tarp and a

perimeter berm will be placed around the area to minimize contact with stormwater. The visqueen rolls or plastic tarps are available at the Household Hazardous Waste Collection Center. If the hauler is identified, the County will contact the person/entity who dumped the hazardous materials and request removal of the materials within 48 hours. If the 48 hours expire without removal, the County will contact an independent hazardous waste hauler for proper disposal of the hazardous material at a permitted hazardous waste management facility.

Subsequent shipments from sources previously identified for delivery of or delivery from suspected sources of unacceptable waste will only be allowed to dispose of waste materials at the landfill after the load has been thoroughly inspected by County personnel. The inspection will take place prior to unloading the waste and after unloading the waste. After unloading the waste, in a contained designated area, the load will be spread and inspected while the hauler is present. The hauler will be allowed to leave only after the load has been accepted.

In addition to the measures taken at the landfill, the County is involved with several programs, which should reduce the risk of receiving hazardous wastes. The County contracts with the Central Florida Regional Planning Council (Council) to participate in their Site Notification and Verification and Pollution Prevention Program (Program). In this Program, the Council inspects all businesses in the County, once every five years, to verify the types of wastes generated by each facility and provide proper procedures for handling, storage, transporting, and disposing of any hazardous wastes.

### **K.2.b.3 Fires**

In the event of fire, the responding agency is the Hardee County Fire and Rescue Service (HCFRS), located approximately three miles west of the site in Wauchula, Florida. Additionally, the landfill site is equipped with a dry fire hydrant for the filling of pumper trucks. The dry fire hydrant is located along the access road and is connected to the stormwater pond located immediately north of the scalehouse. Several on-site ponds are also available for filling fire fighting trucks equipped with pumps. Four water hydrants are located along the eastside of the Phase I landfill on the east side of the access road. Fire extinguishers are located in the equipment and at the maintenance barn for use in the event of small fires. There are also six fire extinguishers and five hose bibs located in the on-site MRF.

If a fire or “hot load” is discovered on the working face, the Solid Waste Director is notified immediately. Landfill equipment is used to pull the burning waste away from the working area and smother it with soil. The area is closed and another area opened to allow landfill operations to continue. If necessary, the HCFRS will be called for assistance. The HCFRS is equipped with self-contained breathing devices. While the service does not receive formal training on fighting landfill fires, the Fire Chief is experienced in dealing with landfill fires and has informed his crew of the proper procedures should a landfill fire occur. Should additional help be necessary, the Hardee County Emergency Management is contacted. In the event that a fire is observed or reported when the landfill is closed, the Sheriff’s Office is instructed to contact the Solid Waste Director. The Hardee County Landfill’s Fire Contingency Operations Plan is contained in Appendix E.

[In addition, the County will also notify the Department via phone or e-mail within 24 hours of a](#)



[fire occurring at the facility.](#) All fires occurring at the landfill are reported to FDEP by letter, within seven days, explaining the cause, remedial actions, and measures taken to prevent a recurrence.

**K.2.b.4 Landfill Shutdown**

Should the landfill be shut down for more than 48 hours, FDEP will be notified. The County has a contact list of Class I, Class III, and C&D landfills that neighbor the landfill. Through the “Small County Coalition,” various counties work together during times of emergency. The counties on the contact list will work with Hardee County during a time of emergency. The neighboring county’s Waste Facility Contacts list is contained in Appendix F.

**K.2.b.5 Natural Disasters**

Natural Disasters are handled by the Hardee County Emergency Management personnel. The Hardee County Emergency Management telephone number is (863) 773-6373. The Solid Waste Director will approve and extend the facility’s operating hours during the time of the emergency. The Landfill Hurricane Preparation and Recovery Plan is included as Appendix Q.

**K.2.b.6 Emergency Contacts**

The following phone numbers can be used to notify the appropriate individual or agency:

Landfill Director:	(863) 773-5089 (Office)
(After hours, call Central Dispatch):	(863) 773-4144
Police:	(863) 773-3265 or 911
Fire and Rescue:	(863) 773-4362 or 911
Hardee Co. Emergency Management:	(863) 773-6373 or 911
FDEP, Tampa:	(813) 632-7600
Public Works:	(863) 773-3272
Equipment Rental:	(813) 671-3700

**K.2.c Controlling Types of Waste Received**

The landfill operators and scalehouse personnel are responsible for inspecting loads received at the landfill to detect and discourage attempts to dispose of unacceptable wastes. Each vehicle entering the landfill must stop at the scalehouse and have its load weighed in and classified in one of the following categories:

- Residential
- Commercial
- Yard trash and clean wood
- Appliances/scrap metal
- Construction and Demolition debris

- Mixed loads and garbage
- Special handling (including asbestos)
- Pre-tested contaminated soil
- Tires

After classification, the loads are assigned one of the following destinations:

- Class I Landfill
- Construction and Demolition Debris sent to the Class I Landfill
- Yard trash processing area
- Scrap metals and white goods storage area
- Material Recovery Facility (MRF)
- Waste tire facility
- Household Hazardous Waste Collection Center (HHWCC)

The scalehouse attendant visually checks each load and, depending on the type of material, directs the driver to the appropriate on-site facility. The waste materials is also visually checked by trained County landfill personnel or spotters at the MRF, landfill working face, yard trash processing area, waste tire facility, scrap metals and white goods storage area, and HHWCC. Random inspections of loads is also practiced to detect and discourage attempts to dispose of unacceptable waste, hazardous wastes, special waste materials or materials that require special processing (e.g. asbestos, contaminated soil, used oil, or biomedical waste). If this inspection reveals any unacceptable or potentially hazardous wastes, the Solid Waste Director is notified immediately.

#### **K.2.c.1 Unacceptable Wastes**

Neither Phase II Section I nor the Phase II Section II accepts closed or sealed containers; all drums, tanks and cans must have one end open and must have been flushed. Other unacceptable wastes include septic tank sludge; paint thinners; gasoline or like liquids; biomedical waste from hospitals, doctor's offices or clinics. The facility does not accept any materials that the hauler cannot identify the composition of nor supply certification that the material is non-hazardous waste. Disposal of liquids or non-liquid (soils, rags, or other debris) containing PCB's (polychlorinated biphenyls) are not accepted at the landfill for disposal or storage. Solid wastes generated from outside the borders of Hardee County are not accepted without prior written approval from the Board of County Commissioners or their designee. All unacceptable waste must be managed as described in this Operation Plan.

A Random Load Inspection Form will be filled out for unacceptable waste; the form is located

in Appendix M of this Operation Plan. If the Solid Waste Director deems that the working face should be shut down for safety reasons, another area within the landfill will be opened to allow continuing landfill operations. A private waste hauler will remove unacceptable wastes; the private waste hauler agreement is located in Appendix B.

### **K.2.c.2 Asbestos**

Asbestos Containing Materials (ACM) are accepted at the Hardee County Landfill under certain provision outlined by Chapter 40 CFR Part 61 and the Hardee County Solid Waste Department. The County has notified all known potential asbestos disposers of the required procedures, which must be followed by any person desiring to dispose of ACM. Accepted asbestos material is disposed of using the following procedures (these procedures are also outlined in Appendix G):

- Prepare a hole three feet in depth and adequate diameter to meet the estimated quantity to be received. Place each package by hand into the prepared hole.
- Cover immediately with one foot of soil and compact with dozer, adding more soil cover material with each pass.
- A site map with the location and depth of each disposal site will be attached in a file with the Waste Shipment Record and record weight ticket.

A minimum of one County personnel will escort the waste hauler to the disposal location and remain with the waste hauler until all of the ACM material has been unloaded and placed into the prepared hole.

### **K.2.c.3 Contaminated Soils**

The County accepts contaminated soils on the condition that they are not hazardous. As stated in the Contaminate Soil Acceptance Criteria, located in Appendix H, it is a requirement that all incoming contaminated soils be TCLP (Toxicity Characteristic Leaching Procedure) and paint filter (Method 9095) tested first before being accepted at this facility for disposal. Depending on the known or suspected contaminant, additional analyses may be required. Records of tests and analyses are kept on file at the landfill facility. Accepted contaminated soils are disposed of in the currently active disposal cell within the bermed working area. The contaminated soil is mixed with soils obtained on site and disposed of as daily cover used for the solid waste only within the lined and bermed working face. The location of contaminated soil can be determined based on the contaminated soils date of arrival and the filling sequence at the landfill. A minimum of one County personnel will escort the waste hauler to the location for the soil and remain with the waste hauler until all of the soil has been unloaded.

### **K.2.c.4 Used Oil**

Used oil shall not be commingled or mixed with solid waste and will not be accepted. Used oil will also not be directly disposed in the Phase II Section I or Phase II Section II landfill. Only oily wastes, sorbents, or other materials used for maintenance or to clean up or contain leaks, spills, or accidental releases of oil will be accepted and may be disposed of in the Phase II

Section I or Phase II Section II landfill.

Used oil, generated by residents only, is collected and stored in the used oil containers in the HHWCC. The used oil at the HHWCC is collected by a private waste disposal service for proper offsite recycling. A minimum of one County personnel will escort the waste hauler to the HHWCC area for unloading.

#### **K.2.c.5 Liquid Restrictions**

Noncontainerized liquid waste shall not be placed in solid waste disposal units that accept household waste or construction and demolition debris for disposal unless:

- The waste is household waste other than septic waste; or
- The waste is leachate or gas condensate derived from the solid waste disposal unit, or byproducts of the treatment of such leachate or gas condensate, and the solid waste disposal unit is lined and has a leachate collection system.

Containers holding liquid waste shall not be placed in a solid waste disposal unit unless:

- The container is a small container similar in size to that normally found in household waste;
- The container is designed to hold liquids for use other than storage; or
- The waste is household waste.

Containers or tanks twenty gallons or larger in capacity shall either have one end removed or cut open, or have a series of punctures around the bottom to ensure the container is empty and free of residue. The empty container or tank shall be compacted to its smallest practical volume for disposal.

#### **K.2.c.6 Other Special Waste**

- Batteries - Batteries are not accepted for disposal at the Phase II Section I or Phase II Section II landfill. Batteries are taken to the HHWCC and stored under cover of the HHWCC. The batteries are stacked three high on pallets, with cardboard placed between each layer. The batteries are covered in shrink wrapped when pallets are full. A minimum of one County personnel will escort the waste hauler to the HHWCC area for unloading.
- Paints - Containers with liquid or “wet” paints are not accepted for disposal at the Phase II Section I or Phase II Section II landfill. Only empty dried out paint cans are accepted throughout the year. If a can of paint is found by landfill personnel, the can is taken to the HHWCC for temporary storage in hazardous waste storage sheds until removed from the site by the qualified contractor. A minimum of one County personnel will escort the waste hauler to the HHWCC area for unloading.

- Electronic Waste (e-waste) - E-waste is collected in separate loads by the waste haulers. When E-Waste items, such as computers, VCRs, TVs and TV remote controls, microwaves are found in the incoming waste loads, their batteries are removed and the batteries taken to the on-site HHWCC. Electronic items such as TVs, computer monitors, cell phones, keyboards, and computer peripherals separated from the waste at the working face will be temporarily stored until placed into a truck and taken to the covered trailer, located behind the MRF, by the end of the working day or prior to rainfall. Should E-Waste glass or components be shattered or smashed into small pieces, then the debris will be collected and placed into a container and placed into storage sheds at the HHWCC. The E-Waste contractor or hazardous waste haulers will be contracted to dispose of the small E-Waste debris.
- Tires - Incoming waste tires and tires with rims are accepted. Tires will not be disposed in the Phase II Section I or Phase II Section II landfill. The waste tires and rims are stored at the waste tire facility. A minimum of one trained spotter will escort the waste hauler to the waste tire facility for unloading.
- Scrap Metals and White Goods - Scrap metals and white goods will be accepted. These materials are temporarily stored at the scrap metals and white goods storage area. The white goods will be stored in an upright position. All refrigerants, or CFC gases will be collected by the scrap metals contractor (certified to collect refrigerants and gases) prior to being taken off-site for recycling. A minimum of one trained spotter will escort the waste hauler to the scrap metals and white good area for unloading.
- Lawnmowers - Only lawnmowers or other lawn care equipment that has been drained of all the oil and gasoline, prior to delivery, will be accepted. These items will be stored at the white goods and scrap metals area. If a lawnmower or equipment is later found to contain oil and gasoline, the oil and gasoline is drained and the liquids taken to the HHWCC. A minimum of one trained spotter will escort the waste hauler to the scrap metals and white good area for unloading.
- Agricultural Pesticide Containers - Only containers with no pesticide residue, have been thoroughly rinsed, and inspected by landfill personnel, will be accepted. The accepted containers will be disposed in the Phase II Section I or Phase II Section II landfill. Containers with liquid or dried pesticide are not accepted for disposal. All residents and business are directed to follow the disposal recommendations on the pesticide container prior to bringing it to the landfill.
- Construction and Demolition (C&D) Debris - The Hardee County Landfill currently does not accept C&D debris from commercial haulers. Residential or mixed loads may contain small amounts of C&D debris material. C&D that is mixed or becomes mixed with Class I waste will be considered Class I waste and will be disposed in the Phase II Section I or Phase II Section II disposal areas.

#### **K.2.c.7 Yard Trash and Clean Wood**

Yard trash is defined as vegetative matter resulting from landscaping maintenance or land

clearing operations. “Clean” wood defined as lumber, trees, shrubs trunks, branches, and limbs which are free of paints, glue, filler, pentachlorophenol, creosote, tar, asphalt, or other wood preservatives or treatments.

Yard trash is not accepted for disposal in the Phase II Section I or Phase II Section II landfill areas. Only “Clean” wood and yard trash will be accepted for storage and processing at the yard trash processing area. “Unclean” wood, such as painted wood, pressure treated wood, particle board, etc., with the exception of yard trash, will be accepted for disposal in the Phase II Section I or Phase II Section II landfill.

When a yard trash loads arrive at the landfill, a minimum of one trained spotter will escort the loads to the designated for yard trash processing area.

#### **K.2.c.8 Biomedical**

Biomedical waste from hospitals, doctor’s offices or clinics is not accepted. The County has a Household Sharps Collection Program permitted through the Florida Department of Health. This program is used to prevent the unauthorized disposal of non-regulated household biomedical waste. The collected materials (i.e. needles, etc.) are temporarily stored in a designated room at the on-site County Animal Control Kennel. The operating procedures for the Sharps Collection program are provided in Appendix I.

#### **K.2.c.9 Procedures for Handling Unacceptable or Improperly Placed Waste Loads**

- If unacceptable wastes are discovered, the Solid Waste Director is immediately notified. The waste hauler or generator of the waste is contacted to retrieve and remove the unacceptable waste and instructed on the proper disposal.
- If the waste hauler or generator of the waste is unknown and the unacceptable waste that does not pose a threat to County staff, then the unacceptable waste may be stored, if containers and space are available, at the HHWCC for temporary storage prior to being removed from the site and disposed of properly.
- If unacceptable wastes are of an unknown waste material or pose a threat to County staff or the waste hauler or generator is identified and the quantity of wastes cannot be moved or stored in the HHWCC, a front-end loader will isolate the unacceptable waste from other waste while keeping it within the lined area and marking it with applicable markers. The load will be covered with 6-mil visqueen or water-proof tarp and a perimeter berm will be placed around the load to minimize contact with stormwater. The visqueen rolls or plastic tarps are available at the HHWCC. The County will contact the person/entity who dumped the unacceptable waste and request removal within 48 hours. If the 48 hours expire without removal, the County will contact an independent waste hauler for proper disposal of the waste at a permitted facility.
- Waste materials that can be accepted for storage and disposal; however, are not placed in the appropriate disposal or storage area will be separated from the waste and moved to the appropriate storage or disposal area.

- A Random Load Inspection Form will be filled out for unacceptable waste; the form is located in Appendix M. If the Solid Waste Director deems that the working face should be shut down for safety reasons, another area within the landfill will be opened to allow continuing landfill operations. A private waste hauler will remove unacceptable wastes; the private waste hauler agreement is located in Appendix B.

#### **K.2.d Weighing Incoming Waste**

All waste hauling vehicles entering and exiting the landfill are required to pass over the scales located at the facility entrance. Upon entering the facility, the scale house attendant weighs the vehicle and classifies each load, as described in Section K.2.c. The load weights are printed on tickets and recorded on computer. The waste is categorized and the tonnages are annotated in the appropriate category in the Waste Quantity Form located in Appendix J of this Operation Plan.

#### **K.2.e Vehicle Traffic Control**

Signs are posted that indicate name of the operating authority, traffic flow, hours of operation, and restrictions or conditions of disposal. Signs posted at the gate state hours of operation and types of waste restrictions. Upon entering the site, all vehicles are required to stop at the scalehouse for weighing. The scalehouse attendant directs the driver to the appropriate on-site facility for unloading. All site roads are adequate for two-way traffic, and the speed limits are clearly marked. At each on-site facility, landfill personnel direct traffic to unload at the proper area.

#### **K.2.f Method and Sequence of Filling Waste**

Refer to the Operation Drawings located in Attachment E of the Operation Permit renewal application for the sequence of filling waste. Loose waste will be spread in two-foot thick layers and compacted to approximately one foot in thickness.

[To ensure compliance with the permitted facility filling sequence, the County will survey waste filling elevations, slopes, and dimensions. In addition, as part of the Operation Permit for the facility, an aerial topographic survey is conducted annually which is reviewed to verify waste filling elevations, slopes, and dimensions as part of the annual site life calculations.](#)

[The following subsections describe the sequence and procedures for placement and removal of rain tarps on the Phase I sideslope prior to and during the operation of the vertical expansion over Phase I during Phase II Section I and Phase II Section II operations at the facility.](#)

##### **K.2.f.1 Phase II Section I Vertical Expansion Filling**

The Phase II Section I area will continue filling in the western portion of the “valley” between the Phase I and Phase II Section I areas to approximately EL 125 feet NGVD. Filling will progress from south to north and west to east. This has been identified as Fill Sequence No. 1 on the Operation Drawings located in Attachment E of the Operation Permit renewal application.

Following, the eastern portion of the “valley” between the Phase I and Phase II Section I areas will be filled while raising the entire Phase II Section I area to a peak of approximately EL 130.6 feet NGVD (132.1 feet NGVD top of intermediate cover). Filling will progress from west to east in the “valley” portion and south to north over the top. This has been identified as Fill Sequence No. 2 on the Operation Drawings located in Attachment E of the Operation Permit renewal application.

Fill Sequences 1 and 2 will bring the Phase II Section I area to the current permitted elevation of EL 130.6 feet NGVD (132.1 feet NGVD top of intermediate cover). By the end of Fill Sequence No. 2, the Operation Permit renewal application should be approved by FDEP. Approval of the Operation Permit will allow the Phase II Section I area to be raised vertically higher and operate to the proposed elevations as identified in the Phase II Section II Expansion construction permit application submitted to FDEP dated August 31, 2012 (i.e. fill above the current permit height).

Following approval of the Operation Permit renewal application, the Phase II Section I area will be raised to approximately EL 166 feet NGVD. Filling will progress from north to south and west to east. This has been identified as Fill Sequence No. 3 on the Operation Drawings located in Attachment E of the Operation Permit renewal application. The filling of Phase II Section I in this manner shall provide sufficient time to allow the construction, creation/submittal of the Certification of Construction Completion Report for the Department and approval by the Department for waste filling in the Phase II Section II Expansion.

The Phase II Section II Expansion area consists of the northern portion, approximately 2.33 acres, the center portion approximately 2.22 acres, and the southern portion approximately 1.63 acres. Waste filling of the Phase II Section II Expansion areas will be generally conducted as follows.

#### **K.2.f.2 Phase II Section II Expansion Southern Portion Filling**

Generally, the filling of the Phase II Section II Expansion area will begin in the southern portion of the disposal area adjacent to the western side of the existing Phase II Section I disposal area. This has been identified as Fill Sequence No. 4. The filling will proceed by placing waste along the southern end of this portion and proceeding north and from west to east in this area.

An initial lift of select loose municipal solid waste, a minimum of four feet in thickness, will be placed over the protective sand layer. The select waste will be spread out and inspected for large rigid objects that may puncture the liner system when compacted. This waste thickness will bring the southern portion disposal area slightly below the proposed western and southern perimeter road and the interior separation berm along the north side of the area (which separates it from the Phase II Section II Expansion center portion). After the layer of select waste has been placed, additional waste will be placed in order to make the first lift approximately 10 feet thick across the Phase II Section II Expansion within this area. The limits of waste (as shown on the Operation Drawings located in Attachment E of the Operation Permit renewal application) and surface of the waste layer will be placed so it is sloped back “into” the landfill cell. Also, the limits of waste along the northern portion of this area will be placed



approximately 10 feet to the south of the interior separation berm along the north side of the area to ensure waste/leachate runoff does not enter the Phase II Section II Expansion center portion.

In addition, a perimeter berm will be placed around the exterior of the placed waste (southern and western sides) to ensure no runoff of stormwater from the waste will occur outside of the lined cell area. Successive waste layers will be added in this southern portion in 10-foot lifts working from south to north and west to east. Each layer will be placed across the cell bottom and against the existing western sideslope of the Phase II Section I disposal area. Once the Phase II Section II Expansion southern portion has reached a vertical elevation of approximately EL113.5 feet NGVD top of waste, filling within the portion will be temporarily stopped. [Depending on the quantity of waste received at the facility, filling within this portion could resume within approximately 60 months. During the time period when filling within the portion has been temporarily stopped cover and erosion control measures that will be implemented in the temporarily inactive areas could include soil cover, seeding, mulching, and/or rain tarp placement.](#) Please refer to the Operation Drawings located in Attachment E of the Operation Permit renewal application for a plan view and section views of Fill Sequence No. 4 within the Phase II Section II Expansion southern portion.

#### **K.2.f.3 Phase II Section II Expansion Center Portion Filling**

Filling will then begin in the center portion of the Phase II Section II Expansion area working from north to south. This has been identified as Fill Sequence No. 5. An initial lift of select loose municipal solid waste, a minimum of four feet in thickness, will be placed over the protective sand layer. The select waste will be spread out and inspected for large rigid objects that may puncture the liner system when compacted. After the layer of select waste has been placed, additional waste will be placed in order to make the first lift approximately 10 feet thick across the Phase II Section II Expansion within this area. This waste thickness will bring the center portion disposal area slightly below the proposed western perimeter road and the interior separation berm along the south side of the area (which separates it from the Phase II Section II Expansion southern portion). The limits of waste (as shown on the Operation Drawings located in Attachment E of the Operation Permit renewal application) and surface of the waste layer will be placed so it is sloped back “into” the landfill cell.

Also, the limits of waste along the northern portion of this area will be placed approximately 50 feet to the south of the east/west main LCS header trench which has been elevated with protective cover material to create an interior separation berm. This interior separation berm will separate the Phase II Section II Expansion center portion from the northern portion to ensure waste/leachate runoff does not enter the Phase II Section II Expansion northern portion which is covered with a rain tarp. In addition, a perimeter berm will be placed along the exterior of the placed waste (western side) to ensure no runoff of stormwater from the waste will occur outside of the lined cell area.

After the initial 10-foot lift according to the above-mentioned methods, successive waste layers will be added in this center portion in 10-foot lifts. Filling will proceed from north to south and east to west. Each layer will be placed across the cell bottom and against the existing western sideslope of the Phase I disposal area. In addition, while filling from north to south, waste will

also be placed against the north sideslope of the Phase II Section II Expansion south portion previously filled in Fill Sequence No. 4. Eventually, waste filling will reach an elevation that waste will also be placed on the western and top portion of the Phase II Section I area previously filled in Fill Sequence No. 3. Filling in this manner will meet the peak elevation obtained in Fill Sequence No. 3 of approximately EL 166 feet NGVD.

Prior to placing waste against the Phase I sideslope, the procedures outlined below in “Waste Placement Against Phase I Sideslope” will be followed by the County. Once Fill Sequence No. 5 has been completed, filling within the portion will be temporarily stopped. [Depending on the quantity of waste received at the facility, filling within this portion could resume within approximately 72 months. During the time period when filling within the portion has been temporarily stopped cover and erosion control measures that will be implemented in the temporarily inactive areas could include soil cover, seeding, mulching, and/or rain tarp placement.](#) Please refer to the Operation Drawings located in Attachment E of the Operation Permit renewal application for plan views and section views of the proposed fill sequencing within the Phase II Section II Expansion center portion.

#### **K.2.f.4 Phase II Section II Expansion Northern Portion Filling**

Filling will then begin in the northern portion of the Phase II Section II Expansion working from south to north after removal of the rain tarp. This has been identified as Fill Sequence No. 6. An initial lift of select loose municipal solid waste, a minimum of four feet in thickness, will be placed over the protective sand layer. This will also include the 50 foot offset created during Fill Sequence No. 5 between the north and center portions of the Phase II Section II Expansion. The select waste will be spread out and inspected for large rigid objects that may puncture the liner system when compacted. After the layer of select waste has been placed, additional waste will be placed in order to make the first lift approximately 10 feet thick across the entire Phase II Section II Expansion within this area. This waste thickness will bring the northern portion (and the 50 foot offset area) disposal area below the proposed western and northern perimeter road. The limits of waste (as shown on the Operation Drawings located in Attachment E of the Operation Permit renewal application) and surface of the waste layer will be placed so it is sloped back “into” the landfill cell. In addition, a perimeter berm will be placed along the exterior of the placed waste (western and northern sides) to ensure no runoff of stormwater from the waste will occur outside of the lined cell area.

After the initial 10-foot lift according to the above-mentioned methods, successive waste layers will be added in this northern portion in 10-foot lifts. Filling will proceed from south to north and east to west. Each layer will be placed across the cell bottom and against the existing western sideslope of the Phase I disposal area. In addition, while filling from south to north, waste will also be placed against the north sideslope of the Phase II Section II Expansion center portion previously filled in Fill Sequence No. 5. Prior to placing waste against the Phase I sideslope, the procedures outlined below in “Waste Placement Against Phase I Sideslope” will be followed by the County.

#### **K.2.f.5 Waste Placement Against Phase I Sideslope**

Prior to placement of waste against the western sideslope of the Phase I disposal area (as

indicated above during filling of the center and northern portions of the Phase II Section II Expansion), the County will remove only as much of the [rain tarp \(installed over the existing sod during construction of the Phase II Section II Expansion\)](#) and existing sod within an area of the sideslope where waste would be placed as needed. [Rain tarp and Sod](#) within select areas will only be removed by the County as needed prior to waste filling. The remainder of the [rain tarp and sod](#) along the western sideslope of the Phase I disposal area will remain in place until further removal is required for additional waste placement to prevent washout of the existing drainage sand material along the sideslope during storm events [and stormwater infiltration/runoff into the active waste filling area](#).

As soon as the [rain tarp and sod](#) is removed within a select area of the Phase I sideslope prior to waste filling, County personnel will conduct depth checks by hand (on an approximately 25-foot grid) of the remaining sideslope protective cover material to ensure there is 24-inches (measured perpendicular to the slope) of protective material remaining. If the County depth checks and measurements indicate there is 24-inches of protective material remaining, no other field work will be conducted by the County prior to waste placement along the Phase I sideslope in that area. The County will then notify FDEP according to Part K.2.f.7. prior to waste placement.

If the County depth checks indicate less than 24-inches of protective material is remaining after [the rain tarp and sod](#) removal the County will place additional protective material within the area prior to waste placement as needed to obtain the required depth. Following material placement to the required depth by the County, the County will notify FDEP according to Part K.2.f.7. prior to waste placement.

#### **K.2.f.6 Protective Soil/Drainage Sand Material**

During construction of the Phase II Section II Expansion, the County will ensure that additional protective soil/drainage sand material, which has met the requirements of the project Technical Specifications (minimum hydraulic conductivity of  $1 \times 10^{-3}$  cm/sec, gradation, etc.) and has been approved by the Engineer during construction, is stockpiled onsite for future use. This material would be placed as needed by the County against the Phase I sideslope prior to waste placement in the locations identified from the depth checks that less than 24-inches of the existing protective material was remaining after [the rain tarp and sod](#) removal. If the stockpiled protective material has been depleted by the County and additional material is required, the County shall perform material testing as required for protective soil/drainage sand by Specification Section 02220 Excavation, Backfill, Fill, and Grading from a suitable source. After the material has met the requirements of the Specification, the additional material may be utilized by the County.

#### **K.2.f.7 Confirmation of Protective Soil/Drainage Sand Material Depth**

After confirmation by the County that 24-inches of protective material is in place along the Phase I sideslope [after removal of the rain tarp and existing sod](#), through the processes as indicated above in Part K.2.f.5., the County shall provide FDEP a certification statement to the effect prior to waste placement. [In addition, the County shall provide confirmation that the processes as indicated above in Part K.2.f.6 were followed regarding the protective material](#)

[placed against the Phase I sideslope after sod removal.](#)

[The certification statement shall either be signed and sealed by the Engineer of Record that conducted and/or monitored the protective soil/drainage sand depth checks and soil replacement or reviewed appropriate documentation of the work; or shall include adequate documentation of work that can be reviewed by the Department. In the event that the certification statement is not signed and sealed by the Engineer of Record, the certification statement and supporting documentation shall be submitted at least seven days prior to waste placement over the certified area to allow for Department review of the submittal.](#)

#### **K.2.f.8 Temporary Sideslope Berms**

In addition, to reduce the amount of [stormwater infiltration and](#) surface water runoff into the Phase II Section II Expansion center and northern portions (and generating additional leachate), [the County will ensure the rain tarp \(placed during construction of the Phase II Section II Expansion over the existing sod\) is maintained as needed along the western sideslope of the Phase I area. In addition,](#) the County will construct temporary sideslope berms along the western Phase I sideslope during operations as needed ([discussed further below](#)). The temporary sideslope berms will be active in nature [to ensure the rain tarp directs the surface water runoff away from the active filling area](#). The County will create temporary sideslope berms as needed to accommodate fill sequencing [which will be used to control the surface water runoff from the rain tarp and direct it away from the active filling area](#) to reduce surface water runoff into active waste filling to the extent practical.

The temporary sideslope berms will help direct the southern half of the [rain-tarped](#) western Phase I sideslope surface water runoff into the Phase II Section II Expansion northern portion (which will be covered with a rain tarp while waste filling is not occurring) while filling in the center portion. This surface water runoff can then be pumped [as needed](#) from the northern portion area into the perimeter stormwater management system.

The temporary sideslope berms created along the northern half of the [rain-tarped](#) western Phase I sideslope will help direct the surface water runoff into the northern perimeter stormwater management system swale while filling in the northern portion. This will also reduce the amount of surface water runoff entering the northern portion and generating additional leachate.

In addition, prior to filling, the County will remove the concrete rubble rip rap from within the temporary stormwater downchutes located along the sideslope. After removal of the rip rap, the County will place drainage sand within the area downchute areas to a minimum of two feet.

After removal of [rain tarp](#), sod, and rip rap, filling will begin by placing waste against the sideslope of the Phase I disposal area and raising the Phase II Section II Expansion disposal area up. Final filling will achieve the grades shown on the Operation Drawings located in Attachment E of the Operation Permit renewal application.

The County will not recirculate leachate but will conduct leachate evaporation during operation of the Phase II Section II area. Ditches, berms, or other devices shall be constructed to control leachate runoff. [However, the quantity of leachate applied during leachate evaporation shall not be in such a quantity as to require ditches, berms, or other devices to control leachate runoff or](#)

the need to shed runoff to the leachate collection system. Initial and intermediate cover receiving leachate from the leachate evaporation process shall be graded to shed runoff into the leachate collection system and to minimize mixing of leachate runoff and storm water. Initial and intermediate cover shall be permeable to the extent necessary to prevent perched water conditions and gas buildup. Leachate evaporation shall not be conducted during weather conditions or in quantities that may cause runoff outside the solid waste disposal unit, surface seeps, wind-blown spray, or exceedance of the limits of the leachate head on the liner. The application of leachate for evaporation shall be such that leachate runoff is prevented and leachate is only applied to those areas and cover soils that do not runoff to stormwater.

In summary, while no waste filling is occurring in the center and north portions of the Phase II Section II Expansion, the rain tarp placed along the Phase I western sideslope during the Phase II Section II Expansion will remain intact and unchanged. Just prior to waste filling within the center portion of the Phase II Section II Expansion, the County will remove only as much of the existing rain tarp and sod along the south portion of the Phase I western sideslope as needed to accommodate filling within the center portion (north portion of the sideslope rain tarp will remain in place). After the rain tarp and sod removal the County will construct a temporary sideslope berm within the area which will direct the southern half of the rain-tarped western sideslope surface water runoff into the Phase II Section II Expansion north portion. The County will also wrap the rain tarp over the top of the temporary sideslope berm to minimize erosion of the berm. After the required field work and Department notification has been conducted and provided by the County as indicated within Parts K.2.f.5, K.2.f.6, and K.2.f.7 the County will then begin waste filling within the center portion. Once waste filling within the center portion and up against the Phase I western sideslope has reached the temporary sideslope berm constructed in the area the County will then repeat this process. Rain tarp and sod will be removed, a temporary sideslope berm will be constructed, the remaining rain tarp will be wrapped over the top of the sideslope berm, required field work and Department notification will be conducted and provided as indicated within Parts K.2.f.5, K.2.f.6, and K.2.f.7 and waste filling will continue as per the fill sequencing plans. Once the grades have reached the elevations as indicated in the fill sequencing plans for the center portion, the County will repeat the process along the northern portion of the Phase I western sideslope for waste filling within the Phase II Section II Expansion north portion. The only difference will be the temporary sideslope berms will be constructed by the County in a manner to direct the sideslope surface water runoff into the northern perimeter stormwater management system swale while waste filling in the northern portion.

#### **K.2.g Waste Compaction and Cover Procedures**

Waste compaction and cover procedures are discussed in Section K.7 of this Operation Plan.

#### **K.2.h Operations of Gas, Leachate, and Stormwater Controls**

##### **K.2.h.1 Operation of Gas Controls**

Landfill gas (LFG) that is generated by the anaerobic decomposition of the waste buried within the landfill is allowed to vent to the atmosphere. The current LFG management system in place at the landfill consists of 11 LFG monitoring probes located around the perimeter of the

existing landfill footprint and at the property boundary. The existing LFG monitoring plan includes quarterly monitoring of these probes, as well as on-site structures.

With the construction of the Phase II Section II Expansion to the west and south of the existing landfill, it will be necessary to relocate several of the existing LFG monitoring probes outside of the expansion area. The County will abandon, prior to construction, and replace existing LFG monitoring probes GP-3, GP-4, GP-5, and GP-6, ~~GP-7, and GP-8,~~ and install replacement LFG monitoring wells designated as GP-3R, GP-4R, GP-5R, GP-6R, GP-7R, and GP-8R, as shown on the Operation Drawings located in Attachment E of the Operation Permit renewal application. The replacement LFG monitoring wells are located along the west side and northwest corner of the property. LFG monitoring well, GP-1, GP-2, and GP-3R, will be used to detect possible subsurface migration of LFG toward the north side of the property.

The Hardee County Landfill does not currently have a LFG management system. LFG that is generated is allowed to vent to the atmosphere. A passive LFG vent system was constructed during the Phase I closure project. Along the western sideslope of the Phase I area where the Phase II Section II Expansion will “piggy-back” there is an existing passive LFG vent system which includes horizontal LFG vent trenches under the sideslope (bottom liner system). The horizontal LFG vent trenches are identified as HC-2, HC-3, and HC-4. The horizontal LFG vent trenches also contain a vertical LFG vent under the sideslope (bottom liner system) to collect LFG from the uppermost 2/3 of the waste (vertical component of the horizontal LFG vent trenches). The vertical components of the horizontal LFG vent trenches, 4 within the area, are identified as HC-2.1, HC-2.2, HC-3.1 and HC-4.1. In addition, the horizontal LFG vent trenches (connected to the vertical components) are also connected to a horizontal LFG vent gooseneck located at the crest of the Phase I area. The horizontal LFG vent goosenecks, 3 total, are identified as HC-2, HC-3, and HC-4. Refer to the Operation Drawings located in Attachment E of the Operation Permit renewal application.

The existing passive LFG venting system under the western sideslope of the Phase I area will still be permitted to vent freely to the atmosphere due to the Phase II Section II Expansion “piggy-back”. LFG will be vented from the interface between the existing Phase I landfill western sideslope (bottom liner system) and the vertical expansion slopes above to prevent accumulation of gas under the existing liner system. The horizontal vent trenches and vertical component of the horizontal LFG vent trenches will convey LFG to the existing vertical vents (goosenecks) at the western crest of the Phase I area outside of the limits of where the Phase II Section II Expansion will “piggy-back”.

The LFG gas venting system for the Hardee County Landfill will be designed and permitted upon submittal of the closure application for the area. LFG will be permitted to vent freely to the atmosphere through a proposed passive LFG vent system, vertical vents and horizontal vent trenches, thereby limiting the pressure within the landfill and reducing the potential for lateral migration of LFG through the surrounding subsurface. Surface water and groundwater contact with the wastes will be prevented as demonstrated by the facility design.

#### **K.2.h.2 Operation of Leachate Controls**

Operation of the leachate management system is discussed in Section K.2.j of this Operations

Plan.

### **K.2.h.3 Operation of Stormwater Controls**

Operation of the stormwater control system is discussed in Section K.2.10 of this Operations Plan.

### **K.2.i Water Quality Monitoring**

Refer to the updated Groundwater Monitoring Plan located in Attachment E of the Operation Permit renewal application for site-specific test parameters, locations, frequencies, and reports.

### **K.2.j Maintaining and Cleaning the Leachate Collection System**

The Operation Plan identifies maintaining and cleaning the leachate collection system at the landfill. The leachate collection and leak detection laterals and headers shown on the Operation Drawings located in Attachment E of the Operation Permit renewal application will be cleaned and maintained, ~~as necessary~~, through the cleanout riser pipes. The LCRS pipes will be cleaned by flushing and/or be inspected by video recording in accordance with Rule 62-701.500(8)(h), FAC [effective 8/12/12] at least once every five years during the 20-year Operation Permit period. The pipes will be inspected by video recording after initial construction in accordance with Rule 62-701.500(8)(h), FAC and after one year of waste placement. If material is found to have settled out in the pipes, the pipes will be cleaned and flushed and re-inspected in 12 months and at ~~the time of permit renewal~~ least once every five years during the 20-year Operation Permit period. The Phase II Section I and Phase II Section II landfill disposal areas have independent and separate leachate collection systems.

#### **Phase I Leachate Collection System**

Leachate generated in the Phase I disposal area (with the natural clay bottom and geomembrane sideliner) is collected in a perimeter collection pipe surrounding the waste materials. The leachate collection pipes are accessible through a series of manholes, designated as Manholes 1 through 9 (Manhole Number 8 is the main leachate collection pump station). Leachate in the collection system drains to Manhole Number 8 and is then pumped to one of the leachate storage tanks. The leachate collection lines in the Phase I cell are eight-inch diameter HDPE pipes. The Phase II Section I landfill construction included replacing the existing 8-inch diameter HDPE leachate collection pipes from MH-6 to MH-7 and MH-7 to MH-8 with new 10-inch diameter HDPE leachate collection pipes. This 10-inch diameter pipe can be accessed through MH-8 for inspection and cleaning as needed. These pipes are adequately sized to allow access for jet cleaning hoses and video cameras.

Manholes one (MH-1), two (MH-2), three (MH-3), four (MH-4), eight (MH-8), and nine (MH-9) will not be waste filled above the manhole and therefore will remain accessible for cleanout and inspection of the pipelines. The Phase I leachate collection system can be video inspected as well as cleaned through MH-1, MH-2, MH-3, MH-4, MH-8, or MH-9. From MH-4, a camera can travel to MH-5, MH-6, and MH-7 to inspect the leachate collection lines.

As part of the maintenance of the leachate collection system for the Phase I disposal area, the

manholes will be opened and inspected, at least monthly, for sediment buildup that may impede the flow of leachate. Jet cleaning and/or video taping of the entire system will occur ~~prior to renewal of the operations permit~~ in accordance with Rule 62-701.500(8)(h), FAC [effective 8/12/12] at least once every five years during the 20-year Operation Permit period. **(Note the manholes can gather landfill gases and are a confined space entry. Personnel are required to properly ventilate the manholes and have proper confined space entry training prior to working in the manholes).** Sediment buildup will be removed, using a vacuum assisted truck, and the manhole re-inspected to assess the clean-up operation.

#### Phase II Section I Landfill Leachate Collection/Detection System

The entire Phase II Section I landfill leachate collection and detection system comprises of geocomposite materials that collect and drain leachate toward eight-inch perforated HDPE pipe spaced approximately 105 feet on center. The eight-inch pipes drain towards a sump located in the northeast corner of the Phase II Section I landfill area. A 24-inch leachate sideslope riser pipe is located in the sump with a pump to discharge leachate into the leachate storage tanks. Access to the leachate collection system can be attained from the 24-inch riser pipe. The leachate collection and detection systems are sized adequately to fit jet cleaning and video camera for cleaning and inspection.

As part of the maintenance of the Phase II Section I landfill leachate collection system, the 24-inch riser pipes can be accessed, annually, for inspection of sediment buildup that may impede the flow of leachate. **(Note the sideslope risers can gather landfill gases. Personnel are required to properly ventilate the risers prior to inspecting or cleaning).** Sediment buildup will be removed using a vacuum assisted truck, and the sideslope riser and sump re-inspected to assess the clean-up operation.

#### Phase II Section II Landfill Leachate Collection/Detection System

In accordance with Rule 62-701.500(8)h, new leachate collection systems shall be water pressure cleaned or inspected by video recording after construction but prior to initial placement of wastes. The Hardee County Landfill leachate collection system shall be water pressure cleaned ~~and/or~~ inspected by video recording at the time of permit renewal in accordance with Rule 62-701.500(8)(h), FAC [effective 8/12/12] at least once every five years during the 20-year Operation Permit period.

Per the requirement of the Operation Permit, the entire leachate collection and removal system (Phase I and Phase II Section I) shall be water pressure cleaned and/or video inspected to verify adequate performance. Components not performing adequately shall be cleaned and/or repaired. The inspection report shall include an evaluation of the effectiveness of the system, the location (indicated on a Site Plan) and cause of obstructions encountered, proposed corrective actions as appropriate. The results of the most recent inspection and cleaning conducted in December 2012 have been provided with the Operation Permit renewal application.

The LCRS, as shown on the Operation Drawings located in Attachment E, includes the 24-inch thick sloping sand drainage layer, a sloped bi-planar geocomposite (i.e., the geonet or drainage



net) and a piping network. The bi-planar geocomposite and the drainage layer are installed at a slope across the Phase II Section II Expansion. A series of sloped 8-inch [and 10-inch](#) diameter HDPE perforated pipes are placed in rock-filled trenches wrapped with a geotextile that are spaced at regular, predetermined intervals across the geocomposite lining. Together the piping and geocomposite collect leachate flowing through the drainage layer and transport it to the leachate collection header trench which in turn transports the leachate via gravity to the leachate collection sump. The leachate sump is equipped with submersible pumps that discharge the leachate out of the sump through a pipeline and out of the cell.

From that point the leachate will travel in a pressure pipeline (i.e., a force main) from the cell to the leachate collection sideslope risers located along the western side of the south portion of the Phase II Section II Expansion. The sideslope risers are extensions of the leachate collection pipes for the Phase II Section II Expansion which will be connected to the existing leachate collection lines located within the Phase II Section I area. Leachate will then flow via gravity to the existing leachate collection sump and pumps located within the Phase II Section I area. From the Phase II Section I sump the leachate will be pumped into the existing above ground leachate storage tanks.

#### Leachate Storage Tanks

The County pumps the leachate tanks on a daily basis and takes loads of leachate to the City of Wauchula Municipal Wastewater Treatment Plant. The Hardee County Landfill has an agreement with the City of Wauchula Municipal Wastewater Treatment Plant to receive and treat leachate from the landfill facility; this agreement is located in Appendix L.

The exterior of the leachate storage tanks will be inspected, at least weekly, for the adequacy of overfill protection system, the cathodic protection system, for leaks, corrosion, and maintenance deficiencies. The interior of the tanks shall be inspected when the tank is drained, at a minimum of every three years, or at the manufacturers recommended frequency. Interior inspection shall include inspection of the tank wall for corrosion, coatings, or structural damage.

If the inspection reveals a tank or equipment deficiency or leaks that could result in the failure of the tank to contain the leachate, then remedial measures shall be taken immediately to correct the deficiency or leak.

Hardee County personnel monitor the overfill protection system on a weekly basis. County personnel monitor the amount of liquid entering the tanks at the control panel to prevent possible overfilling of the tank, however ultra-sonic liquid level indicators continually monitor the levels in the tank as described in this Operations Plan. The ultra-sonic level indicators shut-off flow to the tanks from the lift station should the levels exceed a pre-determined level. Routine inspections of the overfill protection systems include:

- Inspection of flow meters from the lift station to the tanks to ensure proper operation.
- Inspection and testing of the overfill alarms and shut-off controls for proper operations.
- Examining the overflow pipes in tank 1 for obstructions.

- Check the operations of the ultra-sonic level indicators located on top of each of the tanks for proper operations.
- Monitoring the liquid levels in both tanks.

### **K.2.k Maintaining and Cleaning the Groundwater Intercept System**

Per the requirement of the Operation Permit, the entire groundwater interceptor system (Phase II Section I) shall be water pressure cleaned and video inspected to verify adequate performance. Components not performing adequately shall be cleaned and/or repaired. The inspection report shall include an evaluation of the effectiveness of the system, the location (indicated on a Site Plan) and cause of obstructions encountered, proposed corrective actions as appropriate. The results of the most recent inspection and cleaning conducted in December 2012 have been provided with the Operation Permit renewal application to demonstrate adequate performance.

The Phase II Section I and a portion of the Phase II Section II Landfill Expansion areas have a series of nine 8-inch diameter underground groundwater collection pipes, identified as CO1 through CO9, to intercept and collect groundwater variances above the seasonal high groundwater elevations. The underground groundwater collection system consists of a series of 8-inch HDPE laterals running west to east that intercepts rises in the groundwater elevation before it impacts the subbase of the Phase II Section I and Phase II Section II areas. The laterals flow west to east into a 12-inch HDPE common header pipe located beneath the eastern side of the Phase II Section I area. The header pipe then flows into a groundwater pump station located southeast of the Phase II Section I Landfill area.

As part of the maintenance of the Phase II Section I and Phase II Section II Landfill Expansion groundwater intercept system, a series of 10-inch groundwater clean-out risers are located along the western side of the Phase II Section II Landfill Expansion area that can be accessed to allow jet cleaning (water pressure cleaning) and/or video inspection of the groundwater intercept system. Jet cleaning and/or video inspection of the entire groundwater intercept system will occur ~~at least once during the permit period, prior to renewal of the operations permit in accordance with Rule 62-701.500(8)(h), FAC [effective 8/12/12] at least once every five years during the 20-year Operation Permit period.~~ The groundwater intercept system laterals are 8-inch diameter pipes and are sized adequately to fit jet cleaning hoses and video cameras. The inspection of the groundwater interceptor system, including the pumps on/off levels (groundwater intercept system pumps on/off levels are listed in the Section Operation and Maintenance of Leachate Collection and Removal System and Groundwater Control System under subsection Groundwater Interceptor System), the stormwater swale located adjacent to the groundwater interceptor system pump station which transports the pumped groundwater to the stormwater management system, and the maintained liquid level within the wet well will be used to evaluate the function of the system. **(Note the groundwater cleanout risers can gather landfill gases. Personnel are required to properly ventilate the risers prior to cleaning).**

Sediment that has been jet cleaned from the groundwater intercept system will be flushed

toward the groundwater intercept pump station. The flushed sediment will be removed from the groundwater intercept pump station using a vacuum assisted truck. **(Note the pump station can gather landfill gases and should be considered a confined space entry). Personnel are required to properly ventilate the pump station and have proper confined entry training prior to working in the pump station).**

### K.3 LANDFILL OPERATING RECORD

Copies of the FDEP Operation Permit, all operating records, reports, engineering drawings, training records, etc. are kept on file at the landfill scalehouse. Upon request, the records will be made available for FDEP inspection. All records pertaining to the operation of the facility, except for weigh tickets, will be retained throughout the design life of the landfill. Weigh tickets shall be kept for five years. All water quality records, monitoring records, calibration and maintenance records, and reports required by the Operation Permit will be retained for at least ten years.

### K.4 WASTE RECORDS

Waste reports that include waste type and quantity are compiled monthly and submitted ~~quarterly to FDEP~~ to the Department annually. The monthly reports shall be kept on file at the facility and are available for inspection by the Department upon request. The waste information shall be reported to the Department through the DEP Business Portal located at: <http://www.fldepportal.com/go>. The waste is categorized and the tonnages are annotated in the appropriate category in the Waste Quantity Form located in Appendix J of this Operation Plan. Reports include: (a) types of solid waste received, and (b) quantities of solid waste received by category. The landfill operator also estimates the amount of the following waste categories:

Residential	Scrap Metals	White Goods	Used Oil
Commercial	Asbestos		
C&D Debris	Battery		
Clean Wood and Yard Trash	Tires		

Additionally, the County maintains all manifests provided by the contractors for the recyclable special wastes on file. These manifests are available for FDEP inspection upon request.

### K.5 METHODS OF ACCESS CONTROL

To prevent unauthorized waste disposal and unauthorized access to and use of the landfill, the entire site is surrounded by a fence. The entrance/exit to the facility is controlled by the scalehouse attendant. All vehicles entering the site must pass by the scalehouse. All visitors or customers must stop at the scalehouse either to have their vehicle weighed or to register by signing a “visitor log.” When the facility is closed the gates are locked.

### K.6 LOAD CHECKING PROGRAM

This Operation Plan lists the waste materials and their proper disposal or storage locations at

the landfill. Also listed are waste materials that are prohibited from entering or being disposed of in the landfill. Load inspections at the yard trash processing area, and the Phase II Section I, and Phase II Section II disposal areas occur as part of the facility's normal operating procedures. During operations, trained spotters will look for unacceptable waste or waste materials that are not properly stored in the appropriate location on the landfill.

The County will conduct a load-checking program to detect and discourage attempts to dispose of unacceptable and special waste materials. Of these inspections, a minimum of three (3) random load inspections are recorded each week. Each inspection will be completed by personnel trained to recognize unacceptable wastes, regulated hazardous waste, and PCB waste.

At the landfill working face, a waste delivery vehicle will be selected at random and directed by County personnel to an area away from the active disposal area (but still within the lined area). The waste delivery vehicle will discharge the load for a detailed inspection by a minimum of one trained County personnel. The waste delivery vehicle will not be allowed to leave the facility until the load the inspection is complete and determination on the acceptance has been made on the waste load. The waste hauler will be required to remove unacceptable waste materials from the landfill. Waste materials that are not placed in the appropriate disposal or storage area will be reloaded on the vehicle and County personnel will escort the vehicle to the appropriate unloading area. The random load inspections will be documented on a inspection form which includes the date and time, name of the hauling company and the driver of the vehicle, the vehicle's license plate number, the source of the waste or generator, and any notes made by the inspector. **The inspector will identify and note all unacceptable or prohibited wastes found during the random load inspection, estimated quantities, and the action taken for the waste material. The inspector will sign the inspection form. The inspection form will be retained at the Hardee County Landfill.**

The inspection results will be recorded on the Random Load Inspection form, located in Appendix M of this Operation Plan. Upon completion of the random load inspection, the procedures for handling waste loads will be followed as described in this Operation Plan.

## **K.7 WASTE SPREADING AND COMPACTION PROCEDURES**

The bulldozer operator at the facility will spread the waste unloaded by trucks. Compaction will be achieved during the spreading and shaping operation with a Caterpillar 816F Compactor and by incoming vehicles driving over the in-place waste.

### **K.7.a Waste Layer Thickness and Compaction Frequencies**

When waste is disposed of, it is spread in two-foot thick layers and compacted with either a Caterpillar D7R Dozer, Caterpillar 816F Compactor, or other equipment of sufficient weight to compact the waste to approximately one-foot in thickness. Generally three to five passes should be sufficient to compact the waste. [The maximum lift height is ten feet high.](#)

Waste will be placed and compacted on the designated slopes of the landfill to match the contours as shown on the Operation Drawings located in Attachment E of the Operation Permit renewal application however;

- Previously filled outside slopes designated to receive additional waste shall be surveyed and marked in the field to ensure that at least a two foot compacted thick waste layer is available prior to disturbance, and
- All slopes shall not exceed 3(horizontal):1(vertical) at any time during waste filling, after application of cover soils, and final closure. All slopes shall conform to the design dimensions, slopes, and elevations shown on the Operations Drawings located in Attachment E of the Operation Permit renewal application.

#### **K.7.b First Layer of Waste**

The procedure for filling and compacting the first layer of waste in the Phase II Section II Landfill Expansion footprint will protect the integrity of the liner and leachate collection system. An initial lift of select waste, a minimum of four feet in thickness, will be placed over the protective sand layer. The select waste will be loose municipal solid waste. The loose waste will be spread out and inspected for large rigid objects that may puncture the liner system when compacted. Large rigid objects will be removed from the loose waste and placed in an area for future placement and disposal above the initial four foot lift. Heavy vehicles will not be allowed to drive directly on the sand layer.

#### **K.7.c Slopes of Cell Working Face, Side Grades, and Lift Depths**

The exterior side slopes of the Phase II Section I and Phase II Section II Landfill Expansion above grade shall not exceed three horizontal to one vertical (3H: 1V). The slopes will vary with daily operations but shall conform to the slopes indicated on the Operation Drawings for the landfill. The typical minimum top slopes to promote drainage will be maintained at approximately two ~~are generally one~~ percent within the bermed working face and two percent on the intermediate cover areas. All slopes shall conform to the slopes indicated on the Operation Drawings located in Attachment E of the Operation Permit renewal application. The top slope will be maintained at an approximate slope of 4 or 5 percent based on the area of the landfill to promote positive drainage. Waste will typically be dumped in a single pile by each incoming truck and spread into approximately two-foot thick lifts by either a Caterpillar D7R Dozer, Caterpillar 816F Compactor, or other equipment of sufficient weight to compact the waste to approximately one-foot in thickness. The maximum lift height is ten feet high. When the lift height is reached, daily cover is placed over the lift.

#### **K.7.d Maximum Width of Working Face**

Berms comprised of clean soil will be placed around the working face at all times to contain all leachate and prevent leachate runoff from the working face from entering the stormwater management system or leaving the lined disposal area. Special attention/maintenance will be used on areas where traffic enters the working area to ensure leachate is contained within the bermed area and to prevent leachate from leaving the working area.

#### **K.7.e Initial Cover Type**

In accordance with Rule 62-701.500(7)e.1 through 62-701.500(7)e.4, FAC Initial cover is used to control disease vector/animal attraction, fires, odors, blowing litter, and moisture infiltration.

The initial cover used at the landfill consists of a 6-inch thick layer of soil obtained from off-site borrow sources. Tarps may be used as a temporary daily cover on the exposed side of the working face of the disposal area if additional waste material will be deposited within 18 hours.

#### **K.7.f Initial Cover Application Procedures and Frequency**

The working face shall be covered with a 6-inch thick layer of soil or tarps at the end of each working day. All waste materials will be compacted prior to application of initial cover.

The initial cover, if soil is used, will be spread to cover the entire working face with a uniform six-inch soil cover (free of waste) using a dozer or applicable equipment. If tarps are used as temporary daily cover then, the tarps will be spread to cover the waste material. Sand or the tarp spreader bar will be used to minimize uplift by wind. When the working face area exceeds the area of available tarp, then six inches of compacted soil will be placed to cover the waste material. Processed yard trash or clean wood (mulch) may be spread over the initial soil cover for stabilization and erosion control measures.

#### **K.7.g Intermediate Cover Application Procedures**

Intermediate cover, an additional 12-inches thick layer of compacted soil on top of the 6-inch thick layer of compacted initial soil cover, will be applied within seven days over areas that will not receive additional waste within 180 days. Intermediate cover consists of compacted sandy soils from an off-site borrow sources. The intermediate cover soils will be spread using a bulldozer. The bulldozer will make a minimum of three to four passes to compact the soils.

Soils containing any waste materials cannot be used as intermediate cover and must be placed within the bermed area of the disposal area. Berms will be placed around the working face to contain all leachate and to prevent leachate runoff from the working face from entering the stormwater management system. The top of the intermediate cover soil will be graded, generally a minimum of two percent, to allow clean, uncontaminated surface water to runoff and to minimize ponding on the top of the cover soil.

When waste is to be placed in areas with intermediate cover, all or part of the intermediate cover can be removed for future use prior to the additional waste placement. The intermediate cover is removed by pushing the cover material into a stockpile on the side or a new berm around the working face with a front-end loader or dozer; the intermediate cover shall be free of waste. After additional waste is placed, the cover material can be used as initial cover by pushing the material back with the loader or dozer. Processed yard trash or clean wood (mulch), may be spread over the intermediate cover for stabilization and erosion control measures.

#### **K.7.h Final Cover Application Time Frame**

The Phase II Section I and Phase II Section II areas will be closed in their entirety with a final closure cap once the disposal areas have been filled to the design dimensions.

As areas of the Phase II Section I and Phase II Section II landfill reach their design elevations they will receive intermediate cover prior to final closure. The landfill area exterior side slopes

will be maintained at a maximum ratio of three horizontal to one vertical (3H: 1V) as shown on the Operation Drawings located in Attachment E of the Operation Permit renewal application.

Solid waste disposal units which have been filled to design dimensions shall receive final cover within 180 days after attaining final elevations or in accordance with an approved closure plan for the landfill.

The schedule for final closure of the landfill will comply, at a minimum, with Rule 62-701.600 FAC, and is as follows;

- At least one year prior to projected date when wastes will no longer be accepted or when all solid waste disposal units are expected to reach design dimensions, the owner or operator will provide written notice to FDEP with a schedule for cessation of waste acceptance and closure of the landfill.
- At 120 days prior to the date when wastes will no longer be accepted at the landfill, the owner or operator shall advise users of the landfill of the intent to close the landfill by posting signs at the entrance to the landfill. The signs will indicate the date of closure, the location of alternative disposal facilities, and the name of persons responsible for the closure activities.
- At least 10 days prior to the date when waste will no longer be accepted at the landfill, the owner or operator will publish notification of the landfill closure in the legal advertising section of the newspaper of general circulation where the activity is proposed.
- The owner or operator of the landfill shall submit a Closure Permit Application to FDEP for final closure of the landfill at least 90 days before the date when wastes will no longer be accepted at the landfill.

#### **K.7.i Controlling Scavenging and Salvaging**

Scavenging and salvaging is not permitted at the Hardee County Landfill. The facility has a fence around the entire perimeter to minimize unauthorized access to the landfill.

#### **K.7.j Litter Policing Methods**

On a daily basis, landfill personnel and/or county jail trustees collect litter along the entrance and access roads, at buildings, in the parking areas, and in the vicinity of the working face. Litter control fences are used near the working face to lessen the amount of blown litter.

#### **K.7.k Erosion Control Procedures**

Erosion of the initial or intermediate cover material on landfill areas is repaired as soon as possible to maintain the required depth of cover. The establishment and maintenance of a good stand of grass on the finished slopes is important to maintaining erosion control. In addition, it may be necessary to use processed yard trash, silt fences, straw bales, or berms to help prevent

erosion. The landfill operator will take appropriate measures to prevent and correct erosion problems on the site.

The fill sequence has been designed to minimize erosion of landfill sideslopes and washout of adjacent areas. The landfill surface will be inspected daily for cracks, eroded areas, and depressions in the landfill surface. In areas where standing water develops, the area will be filled, compacted, and graded to provide positive drainage. For intermediately covered areas, or other areas that discharge to the stormwater management system, which exhibit significant erosion, will be repaired as follows:

- If greater than 50 percent of the soil cover material has eroded, then the area will be repaired within 7 days.
- If waste is exposed, then the area will be repaired by the end of the next working day.
- If erosion cannot be corrected within seven days, the FDEP will be contacted with a corrective actions plan and schedule.

## **K.8 LEACHATE MANAGEMENT PROCEDURES**

### **K.8.a Leachate Level Monitoring, Sampling, Analysis, and Data Results**

The landfill operator is responsible for maintenance and monitoring of the leachate collection system.

#### **K.8.a.1 Leveling**

##### **Phase I**

The leachate levels within the Phase I landfill can be lowered by adjusting the pumping rate from Manhole Number 8; however leachate levels can only be lowered to the invert of the perimeter collection pipe. The lowest elevation of perimeter collection pipe is located on the south side of the disposal area at approximately Elevation 72.8 (source: PBS&J record drawings dated July, 2000).

~~On a monthly basis the landfill operator or designee will collect depth to leachate level readings from the interior piezometers and depth to water level readings in either a piezometer or monitoring well across from the lined area on the exterior. The depth to water level readings will be subtracted from the top of casings and water elevations calculated. Refer to Appendix N of the section for the Monthly Leachate Leveling Form that has the piezometer and monitoring well information to be used on a monthly basis. Based upon the levels of leachate on the interior of the Phase I landfill;~~

- ~~• If the exterior water levels are higher than the interior levels, then an inward gradient is acting on the sidewall barrier geomembrane;~~



- ~~If the interior water levels are higher than the exterior levels, then increase the leachate removal (pumping) from Manhole Number 8 (Lift Station) until the interior water levels are lower.~~
- ~~If the interior water levels are not lower, then check the manholes to see if clogs or debris is present which may not be allowing for adequate leachate collection. If clogs or debris is present, then the County will contract with a vacuum truck service to remove the debris and a jet cleaning service to clean the collection pipes.~~

#### Phase II Section I Landfill Expansion Leveling

The liquid level inside of the Phase II Section I landfill will be controlled by the pressure transducers attached to the leachate collection/detection pumps casing or intakes. Once the liquid levels rise above a predetermined elevation, the pumps will be automatically activated and the liquid will be pumped to the existing leachate storage tanks.

#### Phase II Section II Landfill Expansion Leveling

The liquid level inside of the Phase II Section II landfill will be controlled by the pressure transducers attached to the leachate collection/detection pumps casing or intakes. Once the liquid levels rise above a predetermined elevation, the pumps will be automatically activated and the liquid will be pumped to the leachate collection cleanout risers.

#### Leachate Tank Leveling

Liquid levels in the two leachate storage tanks are monitored, either visually or by reading the liquid level readouts on the side of the tanks, to estimate available storage and prevent possible overflow of the tanks. To adjust the levels of leachate in the tanks, liquid can be transferred from one tank to another or additional truckloads can be sent offsite for disposal.

#### Temporary Sideslope Berms

In addition, to reduce the amount of surface water runoff into the Phase II Section II Expansion center and northern portions (and generating additional leachate), the County will construct temporary sideslope berms along the western Phase I sideslope during operations as needed ([discussed further above in Section K.2.f.8](#)). The temporary sideslope berms will be active in nature. The County will create temporary sideslope berms as needed [as discussed above in Section K.2.f.8](#) to accommodate fill sequencing to reduce surface water runoff into active waste filling to the extent practical.

The temporary sideslope berms will help direct the southern half of the western Phase I sideslope surface water runoff into the Phase II Section II Expansion northern portion (which will be covered with a rain tarp while waste filling is not occurring) while filling in the center portion. This surface water runoff can then be pumped from the northern portion area into the perimeter stormwater management system.

The temporary sideslope berms created along the northern half of the western Phase I sideslope will help direct the surface water runoff into the northern perimeter stormwater management system swale while filling in the northern portion. This will also reduce the amount of surface water runoff entering the northern portion and generating additional leachate.

#### Leachate Evaporation

The County will not recirculate leachate but will conduct leachate evaporation during operation of the Phase II Section II area. Ditches, berms, or other devices shall be constructed to control leachate runoff. However, the quantity of leachate applied during leachate evaporation shall not be in such a quantity as to require ditches, berms, or other devices to control leachate runoff or the need to shed runoff to the leachate collection system. Initial and intermediate cover receiving leachate from the leachate evaporation process shall be graded to shed runoff into the leachate collection system and to minimize mixing of leachate runoff and storm water. Initial and intermediate cover shall be permeable to the extent necessary to prevent perched water conditions and gas buildup. Leachate evaporation shall not be conducted during weather conditions or in quantities that may cause runoff outside the solid waste disposal unit, surface seeps, wind-blown spray, or exceedance of the limits of the leachate head on the liner. The application of leachate for evaporation shall be such that leachate runoff is prevented and leachate is only applied to those areas and cover soils that do not runoff to stormwater.

#### **K.8.b Operation and Maintenance of Leachate Collection and Removal System and Groundwater Control System**

~~Surface water runoff that comes in contact with solid waste is considered leachate. Surface water (leachate) will be directed into low, bermed areas. If this low area is needed to collect leachate generated from runoff for operational purposes, the low area will be excavated downstream and away from the working face. Liquids in the low area will be allowed to percolate. The berms that surround the working face and the low area excavated downstream and away from the working face used to collect leachate generated from runoff will be maintained at all times.~~

With the addition of the Phase II Section II Expansion, leachate generated from the Phase II Section II Expansion north and center portions will be pumped to the leachate collection sideslope risers located along the western side of the south portion of the Phase II Section II Expansion. The sideslope risers are extensions of the leachate collection pipes for the Phase II Section II Expansion which will be connected to the existing leachate collection lines located within the Phase II Section I area during construction. Leachate will then flow via gravity to the existing leachate collection sump and pumps located within the Phase II Section I area. From the Phase II Section I sump the leachate will be pumped into the existing above ground leachate storage tanks.

Therefore, to determine the amount of leachate that is generated from Phase I, Phase II Section I, and Phase II Section II the readings from the flow meters in Section K.8.f will be conducted by the County. The values obtained by the County from the meter readings will then be input into the Monthly Leachate Water Balance Form as outlined below for the quantity calculations. Refer to Appendix O of the Operation Plan for a Monthly Leachate Water Balance Form.

- Column A is daily total reading from Phase II Section II north and center collection flow meter.
- Column B is daily total reading from Phase II Section II north and center detection flow meter.
- Column C is daily total reading from leachate sprayed for evaporation.
- Column D is Phase II Section II north and center collection flow meter reading + Phase II Section II north and center detection flow meter reading - reading from leachate sprayed for evaporation {Col A + Col B - Col C}.
- Column E is Phase II Section I collection flow meter reading.
- Column F is Phase II Section I detection flow meter reading.
- Column G is Phase II Section I collection + Phase II Section II South collection + Phase II Section I detection + Phase II Section II South detection - total leachate Phase II Section II North and Center (less evaporation) {Col E + Col F - Col D}.
- Column H is Phase II Section I detection and Phase II Section II South detection + total leachate Phase II Section I collection and Phase II Section II South collection and Phase II Section I detection and Phase II Section II South detection {Col D + Col G}.
- Column I is daily total reading from MH-8 pump station flow meter (Phase I leachate).
- Column J is total leachate Phase II Section II and Phase II Section I + Phase I (pumped from MH-8) {Col H + Col I}.
- Column K is the total daily amount of rainfall read from rain gauge.
- Column L is total daily rainfall times one-inch of depth of tank {Col K \* gallon per inch rainfall}.
- Column M is total leachate added to tanks + rainfall added to tanks {Col J + Col L}.
- Column N is total liquid balance in tanks end of previous day {Col Q}.
- Column O is previous day liquid remaining in tanks + total leachate and rainfall added to tanks {Col N + Col M}.
- Column P is liquid hauled from tanks per day.
- Column Q is previous day liquid remaining in tanks and total leachate added and rainfall added - liquid hauled from tanks {Col O - Col P}.

### Phase I Collection System

Leachate, from water that is in contact with the waste materials within the Phase I disposal area is collected in a perimeter subsurface collection pipe surrounding the waste materials. The perimeter subsurface collection pipe is a perforated pipe that is located along the outside waste limit. A coarse drainage media, wrapped in geotextile, surrounds the perforated pipe and minimizes migration of fine material into the collection pipe.

The perimeter subsurface leachate collection pipes are accessible through a series of manholes, designated as Manholes 1, [2, 3, 4, 8 and through](#) 9 (Manhole Number 8 is the main leachate collection pump station). [The lids on Manholes 5, 6, and 7 were covered with a concrete cap during the Phase I closure per Permit Number 38414-012-SF/01 dated November 9, 2009.](#)

Leachate in the collection system drains to Manhole Number 8 where it is then pumped to one of the leachate storage tanks. The County pumps the leachate tanks on a daily basis and transports loads of leachate to the City of Wauchula Municipal Wastewater Treatment Plant.

### Phase II Section I Landfill Expansion Collection/Detection System

The Phase II Section I Landfill Expansion collection/detection system collects leachate and drains via gravity to a sump located at the east end of the disposal area. Two sideslope riser pumps collect and discharge leachate to the leachate storage tanks. One pump collects from the detection system and one pump collects from the collection system. Both pumping systems are controlled by independent control panels. The control panels have automatic turn-on and shut-off controls for the pumps.

Independent flow meters [were originally installed during the construction of the Phase II Section I Expansion to](#) track the amount of leachate collected from the collection and detection systems from the Phase II Section I Landfill Expansion.

The main leachate collection header pipe is located along the eastern and southern toe of slope in a manner so that access is provided to insert a TV camera and flushing equipment. The leachate collection pipes have also been sized to accommodate a TV camera and flushing equipment.

The leachate collection and detection pumps are easily accessible from the surface and are equipped so that the pumps and discharge piping can be completely removed for repairs or replacement. In addition, with the pumps removed, the portion of the pipe forming the intake section in the sump can have TV camera and flushing equipment inserted.

### Phase II Section II Landfill Expansion Collection/Detection System

The leachate collection and removal system (LCRS), as shown on the Operation Drawings located in Attachment E of the Operation Permit renewal application, includes the 24-inch thick sloping sand drainage layer, a sloped bi-planar geocomposite (i.e., the geonet or drainage net) and a piping network. The bi-planar geocomposite and the drainage layer are installed at a slope across the Phase II Section II Expansion. A series of sloped 8-inch [and 10-inch](#) diameter HDPE perforated pipes are placed in rock-filled trenches wrapped with a geotextile that are spaced at regular, predetermined intervals across the geocomposite lining. Together the piping

and geocomposite collect leachate flowing through the drainage layer and transport it to the leachate collection header trench which in turn transports the leachate via gravity to the leachate collection/detection sump located within the Phase II Section II Expansion area. The leachate sump is equipped with submersible pumps that discharge the leachate out of the sump through a pipeline and out of the cell.

From the point of discharge the leachate will travel in a pressure pipeline (i.e., a force main) from the leachate collection/detection sump to three leachate collection sideslope risers located along the western side of the south portion of the Phase II Section II Expansion. The leachate force main is sized to serve the flow from the leachate collection and detection pumps. The three sideslope risers are extensions of the leachate collection pipes for the Phase II Section II Expansion which will be connected to the existing leachate collection lines located within the Phase II Section I area during construction. Leachate will then flow via gravity to the existing leachate sump and collection/detection pumps located within the Phase II Section I area. From the Phase II Section I sump the leachate will be pumped into the existing above ground leachate storage tanks.

The Phase II Section I area sump has one collection and one detection pump located within two sideslope risers. One pump collects from the detection system and one pump collects from the collection system. Both pumping systems are controlled by independent control panels. The control panels have automatic turn-on and shut-off controls for the pumps.

[Near the control panel for the Phase II Section II Expansion the collection and detection discharge lines from the sideslope risers each have independent flow meters. The independent flow meters track the amount of leachate collected from the collection and detection systems from the Phase II Section II Landfill Expansion \[north and center portions\]\(#\).](#)

The main leachate collection header pipe for the Phase II Section I area is located along the eastern and southern toe of slope in a manner so that access is provided to insert a TV camera and flushing equipment. The main leachate collection header pipe for the Phase II Section II area is located east/west between the north and center portions of the Expansion and slope to the west in a manner so that access is provided to insert a TV camera and flushing equipment. The leachate collection pipes for the Phase II Section I and Phase II Section II disposal areas have also been sized to accommodate a TV camera and flushing equipment.

The Phase II Section I and Phase II Section II leachate collection and detection pumps are easily accessible from the surface and are equipped so that the pumps and discharge piping can be completely removed for repairs or replacement. In addition, with the pumps removed, the portion of the pipe forming the intake section in the sump can have TV camera and flushing equipment inserted.

#### Leachate Lift Station

The submersible leachate pump station, designated as Manhole Number 8, is a duplex system having a nominal capacity of approximately 130 gallons per minute (gpm). This pump station is operated by float control using the following five floats:

- Lead pump on,
- Lag pump on,
- Pump(s) off,
- High level alarm, and
- Low level shut-off

A control panel, located immediately adjacent to the pump station, has controls to activate the pumps. The pumps can be activated for manual or automatic operations. Meters on the control panel record the amount of leachate pumped [from the Phase I area](#) into the storage tanks. The pump station discharges into a 4-inch force main flowing to the leachate storage tanks. For additional reliability, the submersible leachate pump station is also furnished with an emergency pump out connection to allow for removal of leachate directly from the lift station should the storage tanks not be operational.

The overflow protection system of the tanks is provided by ultra-sonic liquid level indicators, located on the top of each of the tank, that provide continual monitoring of the liquid levels. The ultra-sonic level indicators provide both overflow protection and low liquid level monitoring to protect the pumps at the truck loading area. As liquid levels rise in the tank above a pre-determined height, the ultra-sonic level indicators send a signal to an alarm (an audible and flashing light) on the control panel located at the lift station. A signal is also sent to the control panel at the lift station to shut-off the pump(s). When leachate is pumped from the tanks to the truck loading area, the ultra-sonic level indicators monitor the liquid level in the tanks and shut off the pumps at the truck loading area should the level drop below a pre-determined level. This prevents the pumps from running dry and possibly overheating.

As a back-up contingency plan (**only used should signal alarms and pump shut-offs fail**) the back-up overflow protection system for the tanks are as follows:

1. Tank 1 is filled by the pump station located at Manhole 8 (MH-8). If the liquid level rises above the overflow pipe in Tank 1, the flow is diverted to Tank 2.
2. As Tank 2 fills and equalizes with Tank 1, the two tanks fill simultaneously.
3. Should both tanks continue to fill, each tank has a final overflow pipe, which allows any overflow to be captured in the containment area for each individual tank.

Tanker trucks are used to transport leachate off-site for disposal. The tanker trucks pull around to the western side of the storage tanks and park on top of a concrete lined unloading area. The unloading area is designed to collect accidental spills and convey the spill back into the lift station. After parking the truck, the driver has the option of selecting which tank to begin draining. The control panel, located immediately adjacent to the truck unloading area, allows the truck driver to control the pump while a meter readout allows the driver to monitor the amount of leachate transferred to the truck. Once the truck is full, the leachate is hauled offsite for disposal.

As part of the weekly responsibilities of the landfill operator, the condition of the tanks will be visually inspected, for corrosion, leaks, structural damage to the tanks, loose or broken equipment, for leachate in the secondary containment area of the tanks, integrity of the cathodic protection system, overflow protection system and overflow control piping (located near the top of the tanks). Inspection of the interior of the tanks will be performed whenever the tank is drained or at a minimum of every three years. If the inspection reveals a tank or equipment deficiency, leak, or any other deficiency which could result in the failure of the tank to contain the leachate, then remedial actions will be taken to correct the deficiency immediately.

### Groundwater Interceptor System

The Phase II Section I Landfill Expansion and a portion of the Phase II Section II areas have a series of underground groundwater collection pipes to intercept and collect groundwater variances above the seasonal high groundwater elevation. The groundwater interceptor system pump station, designated as Manhole Number 10, is located to the southeast of the Phase II Section I Landfill Expansion. There are two skid-mounted duplex pumps located on top of the concrete pad surrounding the wet well. The groundwater interceptor system pumps are operated by float control using the following five floats:

- Lead pump on (Elevation 77.5); Lag pump on (Elevation 78.0); Pump(s) off (Elevation 76.9); High level alarm (Elevation 78.5); Low level shut-off (Elevation 76.9).

A control panel located immediately adjacent to the groundwater interceptor system pump station contains the controls to activate the groundwater interceptor pumps. The groundwater pumps may be activated manually or by automatic operations. To activate the pumps manually, the control panel would be opened and the switch which initiates the required pump(s) would be turned and held to the “manual” position. The switch would be held in the “manual” position during the time the pump(s) was required to operate. Once the switch was released the pump(s) would shut down. The switch would be manually manipulated in this manner to activate the pump(s) when needed. The groundwater interceptor system pump station discharges through a 6-inch ductile iron pipe into the adjacent stormwater swale.

Should the groundwater interceptor pumps in the wet well be rendered inoperable, the hatch would be opened on the top of the wet well and a submersible trash pump (or similar type pump) would be lowered into the wet well for temporary operations. The temporary pump would be operated as needed and the groundwater pumped from the wet well would be discharged into the rip rap lined discharge point located adjacent to the wet well as during normal operations.

### **K.8.c Procedures for Managing Leachate if Regulated as Hazardous Waste**

If at any time the leachate is determined to be hazardous, it will be managed in accordance with Rule 62-730, FAC. If the leachate analysis indicates a contaminant listed in 40 CFR Part 261.24 exceeds the regulatory level, a monthly sampling of leachate will be instituted and FDEP notified. If in any three consecutive months no listed contaminant is found to exceed the

regulatory limit, the monthly sampling will be discontinued and the routine sampling schedule will be implemented.

#### **K.8.d Off-Site Leachate Treatment Agreements**

An agreement between the County and the City of Wauchula (City) provides for off-site treatment of leachate. The County retains the City to provide treatment and disposal of leachate on an as-needed basis. The County is responsible for testing, reporting, and transportation of leachate to the City's wastewater treatment plant. The services to be performed and the terms of the agreement are subject to FDEP rules and regulations. A copy of the Resolution for the Interlocal Agreement between the County and the City for leachate treatment and disposal is included in Appendix K. A copy of the Interlocal Agreement between the County and the City for leachate treatment and disposal is included in Appendix L.

The County recently upgraded or completed construction of two other County-owned and operated wastewater treatment plants. The County plants at the Vandolah and Wauchula Hills wastewater treatment facilities are also available to receive leachate for treatment. Since these facilities are owned and operated by the County no agreements are necessary.

#### **K.8.e Contingency Plan for Managing Leachate**

##### **Treatment Plant Options**

Currently, leachate is trucked to the City of Wauchula wastewater treatment plant for treatment. If the City of Wauchula Waste Treatment Plant is unavailable then leachate can be diverted to the Vandolah or Wauchula Hills wastewater treatment plants. Should any or all the available treatment plants become unavailable to the County, arrangements will be made to take the leachate to another treatment facility within seven (7) days.

##### **Leachate Lift Station or Tank Repair Options**

Leachate may be pumped and stored into either of two leachate storage tanks from the pump station allowing for maintenance on one tank while the other remains in service. Leachate may also be pumped from either storage tank or directly from the pump station into tanker trucks for transport to the City of Wauchula wastewater treatment plant or other treatment plants. Should this plant become unavailable to the County, arrangements will be made to take the leachate to another treatment facility within seven (7) days.

#### **K.8.f Procedures for Recording Quantities of Leachate Generation**

The quantities of leachate collected by the leachate collection and removal system are recorded in gallons per day before offsite disposal and are included with the operating record. The quantity of leachate pumped each day is recorded in gal/day and included with the operating record.

##### **Phase II Section I Quantities**



The leachate collection and detection pumps have independent flow meters to measure the amount of leachate pumped from each layer in the Phase II Section I landfill area to the leachate storage tanks. Daily readings from the two flow meters will be recorded. [The amount of leachate generated from the Phase II Section I Expansion area will be calculated by the County based on the flow meter readings obtained and calculated from the Monthly Leachate Water Balance Form provided in Appendix O.](#)

#### Phase II Section II Quantities

The leachate collection and detection pumps have independent flow meters to measure the amount of leachate pumped from each layer in the Phase II Section II landfill [north and center portions-area to the leachate storage tanks](#). Daily readings from the two flow meters will be recorded. [The amount of leachate generated from the Phase II Section II Expansion area will be calculated by the County based on the flow meter readings obtained and calculated from the Monthly Leachate Water Balance Form provided in Appendix O.](#)

#### Lift Station

A 4-inch magnetic flow meter is connected to the forcemain leading from the submersible leachate lift station to the leachate storage tanks. Daily readings of leachate generated [from the Phase I area](#), in gallons per day, are read directly from the meter.

#### Phase I Quantities

The amount of leachate generated from the Phase I area [are read directly off of the MH-8 pump station flow meter \(Phase I leachate\)](#)~~will be the difference between the amount pumped out of the lift station and the amount pumped in by the two Phase II Section II Landfill Expansion pumps.~~

#### Leachate Truck Loading Station

Leachate can be pumped from either of the two storage tanks. Flow meters measure flow in the forcemain leading from the tanks to the truck loading station. The amount of leachate hauled off-site will be recorded daily. The amount hauled off-site versus the amount pumped into the tanks will be recorded as storage. Any differences in storage can be accounted for as precipitation or evaporation.

Leachate generation data and the amounts hauled for treatment are recorded daily by landfill personnel. A copy of the daily leachate summary form and leachate balance form is located in Appendix O.

#### **K.8.g Procedures for Comparing Precipitation with Leachate Generation Rates**

A rain gauge is located onsite, operated, and maintained to record precipitation at the Hardee County Landfill. Precipitation records are included with the operating record and are maintained and used by the County to compare with leachate generation rates. A rain gauge, located onsite is used to compare precipitation with leachate generation. Rain data, in excess of

one tenth of an inch, is recorded daily in the operating record by landfill personnel. In addition, the National Oceanic and Atmospheric Association (NOAA) also has a weather station located in the City of Wauchula that keeps daily records of rainfall in the area.

#### **K.8.h Procedures for Cleaning and Inspecting the Leachate Collection System**

A videotape inspection of the leachate collection system for Phase I and the collection/detection system for the Phase II Section I and Phase II Section II areas shall be conducted ~~prior to permit renewal~~ in accordance with Rule 62-701.500(8)(h), FAC [effective 8/12/12] at least once every five years during the 20-year Operation Permit period. The leachate collection and detection systems will be pressure jet cleaned prior to the video inspection. The video inspection will be conducted using a camera that can provide sufficient light to illuminate the interior of the pipelines clearly. The video camera will also be capable of recording distances along the pipeline so deficiencies, such as crushed or separated pipe, can be located and repaired if possible.

### **K.9 ROUTINE GAS MONITORING PROGRAM**

The County will conduct landfill gas (LFG) monitoring along the property boundaries and within structures located on the facility property. The LFG monitoring program will monitor gas from gas monitoring probes to detect possible subsurface migration of LFG. The regulatory limit for LFG at the property boundary is 100 percent of the Lower Explosive Limit (LEL) for combustible gases and twenty-five (25) percent of the LEL in the structures.

The LFG management system in place at the Hardee County Landfill consists of 11 LFG monitoring probes located around the perimeter of the existing landfill footprint and at the property boundary. With the construction of the Phase II Section II Expansion to the west and south of the existing landfill, it will be necessary to relocate several of the existing LFG monitoring probes outside of the expansion area. The County will abandon and replace existing LFG monitoring probes GP-3, GP-4, GP-5, and GP-6, ~~GP-7, and GP-8,~~ and install replacement LFG monitoring wells designated as GP-3R, GP-4R, GP-5R, GP-6R, GP-7R, and GP-8R, as shown on the Operation Drawings located in Attachment E of the Operation Permit renewal application. The replacement LFG monitoring wells are located along the west side and northwest corner of the property. LFG monitoring well, GP-1, GP-2, and GP-3R, will be used to detect possible subsurface migration of LFG toward the north side of the property.

The LFG monitoring program will also include monitoring for gas from within structures located on the facility property to detect possible gas migration into structures from penetrations in the supporting foundation. The LFG gas monitoring will be conducted at foundation penetrations (restrooms, electrical and mechanical rooms), enclosed spaces such as ground-level cabinets, electrical control boxes, outlets and openings to conduits as well as monitoring the ambient air within the structure for LFG.

The locations of the gas monitoring probes and the monitoring locations within the structures located onsite are shown on Figure 42 Monitoring Locations contained at the end of the Operation Plan and the building layouts contained at the end of the Operation Plan.

At a minimum the LFG monitoring points will be tested quarterly and the results forwarded to FDEP. LFG is monitored following the procedure below:

- Calibrate the field instrument (calibrated to methane),
- Monitoring for gas in the Gas Monitor probes and on-site structures, which include the maintenance building, materials recovery facility, scalehouse, and animal control kennel for methane. Monitoring in the gas monitoring probes will be conducted in the upper portion of the probe and the probe will not be purged (vented) prior to sampling, and
- Record data on the LFG Monitoring Form, located in Appendix P of this Operations Plan.

The LFG Monitoring Form is located in Appendix P. The gas form includes the required monitoring locations, date and time of the sampling event, weather conditions, and methane content as a percentage of the lower explosive limit (LEL).

Gas monitoring at the Hardee County Landfill will be performed using the appropriate hand-held gas-monitoring device capable of measuring and reporting methane as a percentage of the lower explosive limit (LEL) for methane. Hardee County currently owns a X-Check Gas Detector for LFG monitoring. Other industry-standard equipment (such as a GEM-500 Landfill Gas Analyzer) also may be utilized.

If methane gas levels exceed twenty five percent of the lower explosive limit for gases in structures, excluding gas control or recovery components, or the LEL in the gas monitoring probes the landfill operator shall:

- Immediately take all necessary steps to ensure protection of human health and notify FDEP;
- Within seven days of detection, submit to FDEP for approval a remediation plan for the methane gas releases. The plan shall describe the nature and extent of the problem and the proposed remedy. The remedy shall be completed within sixty days of detection unless otherwise approved by FDEP.

Personnel will abide by the following precautions before entering areas where dangerous gases may be present and before entering confined spaces, at a minimum, for worker safety:

- Personnel shall follow the requirements in the “Code of Federal Regulations Title 29, Part 1910.146 OSHA” and the safety guidelines outlined in “A Compilation of Landfill Gas and Field Practices and Procedures” prepared by the SWANA Landfill Gas Division Health and Safety Task Force. The Landfill Manager will keep the most up-to-date version of the above documents available at the facility for personnel to use. The above documents can be obtained at the following websites;
  - **Title 29 CFR Part 1910.146 – <http://www.gpoaccess.gov/cfr/index.html> (Browse for Latest version of Title 29 CFR Part 1910.146)**

- **SWANA Landfill Gas Document – <http://www.swanastore.com> (Publications – landfill Gas Publications)**
- Notify the Landfill Manager prior to entry into the area,
- Follow all County safety procedures,
- Ventilate the area with blowers or fans, if possible, or allow to vent a minimum of 24 hours,
- Monitor the air for explosive or hazardous gases, oxygen, and hydrogen sulfide levels, at a minimum, prior to entering the area,
- Monitor the air quality within the immediate working area at all times, using a hand-held or personal monitoring device.
- Provide safety equipment (radios, respirators, gas monitors, air supplies, ladders, ropes, harnesses, first aid kits, emergency contact list, etc) in case of emergency.

If the facility generates gas concentrations that cause objectionable odors beyond the property boundaries, the follow procedure will be implemented:

- Implement a routine odor monitoring program to determine the timing and extent of any off-site odors;
- If the monitoring program confirms the existence of objectionable odors, an odor remediation plan will be submitted to FDEP for approval. Upon approval, the remediation plan will be initiated within 30 days.

## **K.10 STORMWATER MANAGEMENT SYSTEM OPERATION AND MAINTENANCE**

The stormwater management system at the Hardee County Landfill consists of a series of swales and pipes that divert stormwater from the non-working areas of the landfill to the onsite stormwater ponds. The swales discharge into pipes and/or other swales, or directly into the stormwater ponds. Runoff from the stormwater ponds ultimately discharges into the Peace River.

Stormwater runoff [during operation of the facility](#) from the areas that have at least a 6-inch compacted soil cover (free of waste) over the waste materials can be directed to flow into the stormwater management system. Stormwater runoff that has been in contact with waste materials is classified as leachate and cannot be diverted into the stormwater management system. Stormwater runoff from the upper portion of the landfill travels via sheet flow into collection terraces located along the sideslopes of the landfill. Stormwater runoff flows within the collection terraces and is conveyed, via stormwater structures, down the landfill and into ditches that are located on the perimeter of the landfill. The perimeter ditches convey stormwater runoff to a stormwater management pond located in the northeast corner of the

facility. Stormwater runoff collected in the pond is allowed to percolate. As the water in the pond rises, an overflow structure located on the south side of the pond, allows water to be discharged into the heavily vegetative wetland area designated as Wetland No. 1, located on the eastside of the facility. Two culverts, located beneath the main access road, allow stormwater to flow from the eastside of the site under the road and along a channel to the southwest corner of the site. The stormwater will then enter the old borrow pit that has been transformed into a wet detention system with a manmade littoral zone. The wet detention system will allow for sediments to fall out of suspension. The littoral zone will enhance removal of sediments and turbidity. The wet detention system is designed to allow for the gradual release of stormwater beneath the road where the water will flow into a ditch that leaves the facility. Once offsite the runoff flows overland and via naturally occurring channels until the flows eventually flows into the Peace River.

Certain procedures have been implemented at the landfill to minimize maintenance requirements and to ensure efficient performance of the stormwater system [during operation of the facility](#). These procedures include:

- No excavated cover material is stockpiled in such a manner as to direct sediment laden runoff outside the project site property limits or into any adjacent stormwater collection facility;
- All drainage ditches are inspected periodically for erosion and reshaped and resodded as required;
- Erosion and siltation control devices are cleaned and repaired when clogged or damaged;
- Temporary erosion control features such as silt fencing or hay bales are removed after installation of permanent erosion controls been completed and any permanent erosion control features damaged by such removal are repaired;
- After vegetation has been established, all swales, channels, and detention ponds are mowed regularly; minimum-mowing frequency is once per year.
- The plant types in the littoral zone are checked periodically and any intruding vegetation is removed if required;
- Drainage sumps are cleaned out at least once per year and the storm sewer lines checked for plugging;
- The area in front of the control structure is checked at least quarterly to remove any excess plants or debris that could cause the structure to plug;
- [Additional erosion control measures are implemented when field conditions warrant \(i.e. cover material stockpiling, on-site construction activities, etc.\).](#)

- [Stormwater runoff flows within the collection terraces and is conveyed down the landfill and into ditches that are located on the perimeter of the landfill.](#)
- [Rain tarps to reduce the amount of stormwater infiltration and reduce the amount of leachate generation.](#)
- [Temporary sideslope berms help rain tarp direct surface water runoff away from the active filling area to the extent practical.](#)

## **K.1.1 EQUIPMENT AND OPERATION FEATURE REQUIREMENTS**

The site will have sufficient equipment to ensure proper operation of the facility for excavating, spreading, compacting and covering waste. Normal maintenance will be performed on site. Major maintenance item repairs (e.g., engine, transmissions, and auxiliary drives) will be handled at off-site service facilities.

### **K.1.1.a Sufficient Equipment for Operations**

There is sufficient equipment on-site so that landfill operations would not cease in the event of an equipment failure. The County has budgeted enough funds for one month's leasing or rental of heavy equipment for contingency purposes. The contingency equipment type and source is located in Appendix D. Equipment from the Hardee County Public Works Road and Bridge Section is available to the Solid Waste Department for use during an emergency. During power outages at the landfill, small portable generators, capable of running the scales and scalehouse computers are available for use from the Hardee County Public Works Department. In addition, the County has developed a comprehensive emergency management plan to allow County department the ability to obtain material and equipment immediately thereby minimizing delays due to purchasing procedures.

The following equipment is owned by the County and is currently available at the landfill:

2003	Ford Explorer
2001	Ford F-250
2001	Ford F-150
2002	Dodge 2500 12 passenger van Ram
1987	Ford dump truck
1995	White GMC Tractor Truck, Model WG641, CAT ENG 3306
1993	Ford Truck, Flat bed Dump 8 Cylinder, F70
2000	CAT 950G Nortrax Loader 950G

2002	CAT Dozer D7R
2001	Yale GC060T Fork Lift
2005	Caterpillar 816F Compactor

#### **K.11.b Reserve Equipment**

The existing equipment on site, listed in the section above, is sufficient to handle the incoming waste stream. Should unforeseen circumstances require more equipment than is currently available, the County has budget enough funds for one month's leasing or rental of heavy equipment. Additionally, equipment from the Hardee County Public Works Road and Bridge Section is available to the Solid Waste Department for use during an emergency.

#### **K.11.c Communication Equipment and Shelter**

The scalehouse and on-site landfill office are equipped with telephones for emergency communications; two-way radios are available at the scalehouse for distribution to landfill personnel to allow for emergency communications between the scalehouse/landfill office and employees working on the landfill. The scalehouse is equipped with water supply, toilet facilities, and emergency first-aid supplies. The building also provides shelter for employees in case of inclement weather. The maintenance building is equipped with spare parts, tools, equipment, and electrical services for operations and repair.

#### **K.11.d Dust Control Methods**

During dry periods, when dust control is needed, such as on haul roads, the yard trash processing area, or in area(s) where dusty conditions cause a vehicle safety problem or dust is blowing offsite, water will be sprayed over these areas as necessary to keep dust particles moist and minimize particles from blowing into the air. Water from the on-site stormwater pond or the onsite water hydrants will be pumped into a 1,000-gallon tanker truck equipped with a spray bar and nozzles to use for wetting the roads. The tanker truck will be provided through the Hardee County Public Works Department.

#### **K.11.e Fire Protection**

In the event of fire, the responding agency is the Hardee County Fire and Rescue Service, located approximately three miles west of the site, in Wauchula, FL. Additionally, the landfill site is equipped with a dry fire hydrant located adjacent to the pond immediately north of the scalehouse for the filling of pump trucks. Four water hydrants are located along the eastside of Class I Phase I landfill, on the eastside of the entrance road. Fire extinguishers are located in the equipment and at the maintenance barn for use in the event of small fires. There are also six fire extinguishers and five hose bibs located in the on-site MRF. A Fire Contingency Operations Plan is contained in Appendix E.

#### **K.11.f Litter Control Devices**

On a daily basis, landfill personnel or contract laborers collect litter along the entrance and access roads, at buildings, in the parking areas, and in the vicinity of the working face. Litter control fences are used along the perimeter of the working face to lessen the amount of blown litter.

#### **K.11.g Signs**

A sign at the intersection of S.R. 636 and Airport Road marks the turnoff from S.R. 636 to the Hardee County Landfill. A sign at the entrance to the landfill displays the days and hours of operation. Signs or markers are posted throughout the facility indicating traffic flow directions, types of waste that are not acceptable, speed limits, and under ground liner location. All manholes are marked with a warning sign stating "This Manhole Contains Toxic and Explosive Gasses. Do Not Enter Without Proper Ventilation".

### **K.12 SITE ACCESS ROADS**

The entrance to the landfill, scalehouse, MRF, HHWC, animal control kennel and next to the leachate storage tanks are asphalt paved. The road leading to the waste tire facility, scrap metals and white goods storage area, and Class I Landfill are dirt paved. The roads are crowned and slightly elevated above the surrounding grades with drainage swales on both sides to promote drainage. The roads with excessive washouts are routinely graded by the onsite Landfill personnel or Hardee County Public Works Department. The access ramp to the Phase II Section II Expansion working face will be compacted soil with shell placed over it. This access ramp will be adequate for landfill operating equipment and waste collection trucks to reach the working area during almost all weather conditions.

### **K.13 ADDITIONAL RECORD KEEPING AND REPORTING REQUIREMENTS**

Operating records, such as permits, plans, inspections and other records are maintained on site at the scalehouse

#### **K.13.a Records for Development of Permit Applications**

In addition to waste and operating records, supplemental information from the permit applications and information pertaining to the landfill's construction and maintenance are on file at the facility. These records will be retained at the site for the remainder of the landfill's life.

#### **K.13.b Monitoring Information**

Records of all monitoring information, including calibration and maintenance records, and copies of reports required by the permit will be retained for at least 10 years. The County maintains all monitoring records at the scalehouse. Copies are submitted to FDEP in accordance with its permit requirements