SCS ENGINEERS

# Lena Road Class I Landfill

# Operations Plan

Presented to:

Manatee County
FLORIDA

Utilities Department, Solid Waste Division
3333 Lena Road
Bradenton, FL 34211
(941) 748-5543

Presented by:

**SCS ENGINEERS**
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Tampa, FL 33619
(813) 621-0080

Revised March 2021
File No. 09217088.18

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**Prepared for:**

Manatee County Utilities Department
Solid Waste Division
3333 Lena Road
Bradenton, FL 34211
FDEP Permit No. 39884-021-SO-01
WACS ID No. 44795

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# K.1 TRAINED OPERATORS

Manatee County government personnel operate the Lena Road Landfill. The County requires at least one trained landfill operator certified in accordance with F.A.C., Chapter 62-701.500 (1) and one spotter at the working face at all times during waste disposal operations. The spotter is responsible for guiding vehicles and for assisting with control of the waste received. An example of a typical workweek staff schedule is shown in Figure K-1.

General daily operations are as follows:

| Time | Activity |
|---|---|
| 7:00 am | Landfill Operations Supervisors, Solid Waste Disposal Chiefs and/or the Solid Waste Maintenance Chief (all certified, trained operators) arrive; distribute daily assignments, checks attendance, and equipment sheets. The equipment moves to the working area to prepare the roads and sites for that working day. At least one trained spotter is present assuming spotter responsibility at the working face each time waste is received to inspect each load ensuring prohibited waste is removed. |
| 8:00 am | The Scalehouse opens and traffic is routed to the appropriate disposal area. |
| 9:00 am | Personnel begin the morning break times |
| 11:30 pm | Personnel begin the lunch break times |
| 2:00 pm | Personnel begin the afternoon break times |
| 5:00 pm | Operators clean up the designated tipping area, cover the compacted garbage with dirt and/or alternate daily cover as required by FDEP, and then staff clean their assigned equipment |
| 6:00 pm | Equipment and buildings are secured; alarm set; gates locked; and personnel depart |

## K.1.a Training Plan

Each landfill operator or spotter for Manatee County is required to participate in the County's landfill operator and spotter training plan. The County provides operator and spotter training each year through an approved training company to provide the required initial and/or continuing training. A list of each employee's training status and continuing training requirements is maintained by TREEO and is provided as Attachment K-4.

**Figure K-1. Landfill Operations – Typical Workweek Staff Schedule**

| Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|
| Anthony Detweiler Landfill Operations Supervisor | Anthony Detweiler Landfill Operations Supervisor | Anthony Detweiler Landfill Operations Supervisor | Anthony Detweiler Landfill Operations Supervisor | Anthony Detweiler Landfill Operations Supervisor | |
| | | Keith Jones Disposal Chief | Keith Jones Disposal Chief | Keith Jones Disposal Chief | Keith Jones Disposal Chief |
| Devin Wilson Landfill Operator | Devin Wilson Landfill Operator | | | Devin Wilson Landfill Operator | Devin Wilson Landfill Operator |
| Juan Garza Landfill Operator | Juan Garza Landfill Operator | Juan Garza Landfill Operator | Juan Garza Landfill Operator | | |
| | Darrel Seegmiller Landfill Operator | Darrel Seegmiller Landfill Operator | Darrel Seegmiller Landfill Operator | Darrel Seegmiller Landfill Operator | |
| Clayton Mathis Landfill Operator | Clayton Mathis Landfill Operator | Clayton Mathis Landfill Operator | Clayton Mathis Landfill Operator | Clayton Mathis Landfill Operator | |
| Evan Wolfe Landfill Operator | Evan Wolfe Landfill Operator | | Evan Wolfe Landfill Operator | Evan Wolfe Landfill Operator | |
| Ray Collins Landfill Operator | Ray Collins Landfill Operator | | | Ray Collins Landfill Operator | Ray Collins Landfill Operator |
| (vacant) Disposal Chief | (vacant) Disposal Chief | (vacant) Disposal Chief | (vacant) Disposal Chief | | |
| Riley Stephens Landfill Operator | Riley Stephens Landfill Operator | | Riley Stephens Landfill Operator | Riley Stephens Landfill Operator | |
| | | Woodrow Hockaday Landfill Operator | Woodrow Hockaday Landfill Operator | Woodrow Hockaday Landfill Operator | Woodrow Hockaday Landfill Operator |
| | | Rusty Blakely Landfill Operator | Rusty Blakely Landfill Operator | Rusty Blakely Landfill Operator | Rusty Blakely Landfill Operator |
| Danny Newman Landfill Operator | Danny Newman Landfill Operator | Danny Newman Landfill Operator | Danny Newman Landfill Operator | | |
| Anthony Gigliotti Landfill Operator | Anthony Gigliotti Landfill Operator | Anthony Gigliotti Landfill Operator | Anthony Gigliotti Landfill Operator | Anthony Gigliotti Landfill Operator | |
| Richard Jones Maintenance Chief | Richard Jones Maintenance Chief | Richard Jones Maintenance Chief | Richard Jones Maintenance Chief | Richard Jones Maintenance Chief | |
| Michael Guy Landfill Operator | Michael Guy Landfill Operator | Michael Guy Landfill Operator | Michael Guy Landfill Operator | Michael Guy Landfill Operator | |
| Arron Von Keitz Landfill Operator | Arron Von Keitz Landfill Operator | Arron Von Keitz Landfill Operator | Arron Von Keitz Landfill Operator | Arron Von Keitz Landfill Operator | |
| Brett Walker Landfill Operator | Brett Walker Landfill Operator | Brett Walker Landfill Operator | Brett Walker Landfill Operator | Brett Walker Landfill Operator | |
| Steven Petty Landfill Operator | Steven Petty Landfill Operator | Steven Petty Landfill Operator | Steven Petty Landfill Operator | Steven Petty Landfill Operator | |
| Doug Karpenko Landfill Operator | Doug Karpenko Landfill Operator | Doug Karpenko Landfill Operator | Doug Karpenko Landfill Operator | Doug Karpenko Landfill Operator | |
| Jeff Hassen Landfill Operator | Jeff Hassen Landfill Operator | Jeff Hassen Landfill Operator | Jeff Hassen Landfill Operator | Jeff Hassen Landfill Operator | |
| Robert Bennett Landfill Operations Supervisor | Robert Bennett Landfill Operations Supervisor | Robert Bennett Landfill Operations Supervisor | Robert Bennett Landfill Operations Supervisor | Robert Bennett Landfill Operations Supervisor | |

# K.2 OPERATIONS PLAN

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

The Manatee County Solid Waste Management Facility (Landfill) is owned by Manatee County Government and operated under the direction of the Utilities Department, Solid Waste Division. An After Hours Contact List is provided in Table K-1, and a list of landfill positions is given below:

- Solid Waste Division Manager
- Landfill Operation Supervisor (2)*
- Landfill Scalehouse Operator (3)*
- Senior Scalehouse Operator (2)*

- Fiscal Specialist *
- Solid Waste Maintenance Chief *
- Solid Waste Disposal Chief (2)*
- Landfill Operator (17)*
- Landfill Superintendent *
- Household Hazardous Waste Technician (2)
- Administrative Assistant
- Solid Waste Collection Supervisor (2)*
- Recycling Special Waste Collection Supervisor *
- Recycling Coordinator
- Solid Waste Enforcement Superintendent*
- Solid Waste Enforcement Officer (4)*

**Trained Spotters*

**Table K-1. Emergency and After Hours Contacts**
**Lena Road Landfill/Solid Waste Division**

| Person/Agency | Telephone Number |
|---|---|
| **Fire Department** | 911 or Non-Emergency 941-751-5611 |
| Battalion Captain Stacey Bailey | |
| Chief Byron Teates | |
| **Manatee County Fire Rescue Administration**<br>**Office:** 3200 Lakewood Ranch Blvd.<br>Bradenton, FL 34211<br>**First Responder: Station 2**<br>803 60th Street Court East<br>Bradenton, FL 34202 | |
| Ambulance | 911 |
| Sheriff | 911 |
| Bomb Squad | 911 or Non-Emergency 941-747-3011 |
| Public Safety Hazardous | 911 |
| Robert Shankle, Solid Waste Division Manager | C: 941-448-3635<br>Office: 941-748-5543 |
| Bryan White, Landfill Superintendent | C: 941-812-2455 |
| Bob Bennett, Landfill Operations Supervisor | H: 941-758-1741<br>C: 941-704-7855 |
| Anthony Detweiler Landfill Operations Supervisor | C: 941-465-8630 |
| Vacant, Solid Waste Disposal Chief | H:<br>C: |
| Keith Jones, Solid Waste Disposal Chief | C: 941-704-6640 |
| Richard Jones, Solid Waste Maintenance Chief | C: 941-322-4104 |
| Teresa Chaffee, Recycling and Special Waste Collection Supervisor | C: 941-713-3507 |
| Jeanne Detweiler, Superintendent Solid Waste Enforcement | C: 941-812-4301 |
| Debora Braziel-Jones, Solid Waste Collections Supervisor | H: 941-350-9399<br>C: 941-900-7604 |
| Angela Dunton, Solid Waste Collections Supervisor | C: 941-666-0188 |

| | |
|---|---|
| Department of Environmental Protection<br>Kaitlyn Newsome | Office: 813-470-5700<br>Direct: 813-470-5877 |

## K.2.b Contingency Operations for Emergencies

In the event of an emergency, the County may close the landfill during the emergency event, but will maintain open access to the landfill after the emergency condition passes or the threat level drops. For example, the landfill will be closed during a hurricane, but opened after the hurricane has passed. On-site equipment may not be sufficient to maintain the excess volume of waste generated as a result of an emergency. If so, back-up landfill equipment will be rented within 24 hours from the County's approved bid list. Additionally, back-up equipment will be provided for equipment breakdowns and down time for routine maintenance. In the case of equipment failure or emergencies, rental equipment or equipment from other County agencies will be delivered to the site within 24 hours.

Emergency conditions at the landfill may occur as a result of natural weather events (tornado, flooding, hurricane, etc.) or fire. Staff is currently equipped to mobilize to alternative sites that will be designated as such in conjunction with the Manatee County Emergency Management Department. In the event that emergency conditions interrupt operations at the landfill, a contingency plan will be developed and implemented to establish temporary operations on a case-by-case basis, dependent on conditions at alternative sites. Such temporary operations will accept storm debris only, and will be terminated and disposal operations resumed at Lena Road Landfill as soon as practical. If the Lena Road Landfill cannot operate during an emergency, solid waste collection trucks will be diverted to the closest landfill that will accept waste.

When an emergency condition threatens the landfill operation, the following actions will be taken:

1. Daily Cover shall be applied to all exposed refuse before a major storm arrives, if possible.

2. All landfill equipment shall be parked near any natural windscreens such as earthen mounds and berms.

3. All lightweight signs and equipment shall be secured.

4. When operation resumes, work shall commence in dry areas only (up from the active face).

5. Refuse shall not be disposed of in standing water.

### K.2.b.1 Fire Event

Small fires on the working face will be controlled by a water wagon, bulldozer or landfill compactor and ample water and cover material to extinguish the fire. On-site stockpiles of soil cover material are available for suppressing fires. In the event an uncontrollable fire does occur at the landfill site, the East Manatee Fire Rescue District (941-751-5611) is the responding Department and will be called immediately. The East Manatee Fire Rescue District presently maintains a fire station approximately 3.5 miles west of the facility. In the event of a fire or other emergency, the landfill operator will notify the FDEP within twenty-four (24) hours by telephone and within seven (7) days a written report will be submitted describing the origins of the emergency, actions taken, result of the actions taken, and an analysis of the success or failure of the actions.

A hot load area is provided in a location away from the working face to allow vehicles arriving at the landfill with a fire in their load to dump quickly in an area where the material can be spread out and quickly sprayed by the water wagon. All water sprayed on hot loads will be managed as leachate. The location of the hot load area will change from time to time with the changing working face locations. Hot loads will not be dumped on the working face until sufficiently cool to avoid combustion.

The landfill has accommodations for wet weather solid waste disposal for the residential or small business patrons. The location of the wet weather operations area changes depending upon progression of the fill sequence. The area is bermed and a stabilized tipping surface is provided.

The solid waste disposed of in the wet weather area is loaded into dump trucks and transported to the working face for proper disposal. The wet weather area is also cleaned at the end of each day in order to provide proper litter and vector control.

## K.2.c Control of Types of Materials Received

Procedures for observing waste as it is brought to the landfill and unloaded are provided in Section K.2.e. The load-checking program is described in Section K.6. The landfill may dispose of Class I solid waste as defined in 62-701.200 (13).

1. Lead-Acid Battery Collection Area (HHW Drop-off Facility)
2. Household Hazardous Waste Collection Site (HHW Drop-off Facility)
3. White Goods/Scrap Metal Storage Area
4. Yard Waste Facility
5. Tire Storage Area
6. Freon Containing Staging Area
7. E-Scrap

Special wastes such as white goods, tires, and yard wastes, require special handling and management. The locations for the Waste Tire Facility, White Goods/Scrap Metals Facility, Household Hazardous Waste Drop-off Facility and Yard Waste Facility are shown on Drawing 2 of the Fill Sequence Plan. The County temporarily stores white goods and whole tires prior to processing. The white goods are stored in an upright position until such time as the contracted

commercial recyclers remove them. Waste tires are stored in the permitted waste tire site prior to removal by the contractor. Tires mixed in loads are removed from the active face. Yard wastes that are processed on site by a contracted vendor are typically removed from the site for re-use in land applications, but may also be used to assist with working face access during wet weather. Yard waste may also be directly disposed in the landfill without processing. Waste types not accepted for landfilling include all hazardous wastes, all infectious wastes, pesticides and unexpended pesticide containers, free liquids, flammable and volatile wastes, and radioactive wastes.

### K.2.c.1 Asbestos

Asbestos waste haulers are required to notify the landfill operator in advance and provide information on the estimated volume and delivery date of friable asbestos. All incoming asbestos material is required to comply with all applicable permit conditions and to be wet down and double bagged. Asbestos will not be accepted during adverse weather conditions. Asbestos is covered with non-asbestos containing waste or soil and the location will be recorded. Additional procedures for handling asbestos are given in Section K.14.c Special Waste Handling – Asbestos.

### K.2.c.2 Hazardous Waste

If hazardous wastes are located at any area of the landfill, the area must be isolated and management notified immediately. Management/Supervisory staff must notify the below listed agencies dependent on the type of material brought to the landfill.

Management/Supervisory staff must notify the following offices for handling and proper disposal of hazardous wastes:

| | |
|---|---|
| 1. Environmental Management Department | (941) 742-5980 |
| 2. Sheriff's Department/HazMat Section | (941) 721-2693 |
| 3. Utilities Department Director | (941) 792-8811, Extension 5323 |
| 4. Recycling and Special Waste Collection Supervisor | (941) 782-8811, Extension 8049 |
| 5. SWE Supervisor | (941) 748-5543, Extension 8013 |

All events regarding receipt of non-household hazardous waste material are kept at the landfill office.

A brief outline of the following materials/programs is given below.

Typical household hazardous wastes (HHW) are as follows:

| | | | |
|---|---|---|---|
| Paint | Pesticides | Used motor oil | Ammunition |
| Herbicides | Aerosol cans | Propane tanks | Flares |

| | | |
|---|---|---|
| Gasoline | Mercury Containing Devices | Cleaning Supplies |

The Recycling and Special Waste Collection Supervisor responsible for operation of the Household Hazardous Waste Collection and Storage Facility must be notified if HHW material is to be disposed. The Supervisor will arrange for removal and proper disposal. The maximum onsite storage and frequency for removing these recyclables from the site is as follows:

- Used oil (up to 3.000 gallons) is to be removed quarterly
- Paints (up to 20,000 gallons) are to be removed quarterly
- Batteries (up to 1,000 batteries including lead-acid, Ni-Cad and lithium) are to be removed quarterly
- Light bulbs (up to 5,000) are to be removed at least quarterly
- Electronic devices (up to 80 tons or 160,000 pounds) are to be removed quarterly
- Household Hazardous Waste (up to 75 tons or 150,000 pounds) are to be removed quarterly

A detailed Operations Plan for the HHW facility in provided in Attachment K-2.

### K.2.c.3 White Goods

All white goods containing Freon (e.g., refrigerators, air conditioners) are segregated from the waste stream and placed upright in the staging area. Freon is removed by a certified operator, and the item marked as being Freon free. The compressors are removed and oils drained off-site for collection by a licensed hazardous waste transporter under the direction of the scrap metal processor. PCB capacitors are removed by County staff. The white goods are then moved to the general white goods/scrap metal area for collection at the location indicated on Sheet C-2 of the Drawings.

All white goods, as defined in 62-701.200 (141), entering the landfill in separated loads are sent directly to the designated white goods/scrap metal storage area to be collected and hauled by County staff to a scrap metal contractor for recycling purposes.

Up to 400 tons of scrap metal and white goods (a maximum of 600 pieces of white goods) can be stored in this area. The minimum frequency for removal is every six months.

### K.2.c.4 Yard Waste

Incoming yard waste is typically directed to the designated area to be processed on site by a contracted vendor and removed from the site for re-use in land applications or waste-to-energy plants as fuel. Mulch is also used for the wet weather area during rainy season to assure access to the tipping area during rain events. The minimum frequency for processing yard trash is once every six months or when 3,000 tons (12,000 cubic yards) are accumulated. The contracted vendor then removes the shredded material for resale to various outlets for land applications or waste-to-energy plants for fuel. The fines generated are also utilized at the landfill and mixed with soil for use as initial cover.

Alternately, loads of yard waste may be directly disposed in the landfill as the gas from decomposition is beneficially reused. This disposal option is not intended to be the primary method of yard waste management, but may supplement management options as deemed appropriate by the Landfill Superintendent and/or Operations Supervisor.

### K.2.c.5 Tires

Tires entering the landfill are directed to the permitted storage area. Large agricultural equipment tires and large or solid forklift tires are sent to the landfill for disposal. The contracted vendor removes the tires to a permitted waste tire processing facility. Removal by the vendors is conducted on an on-call basis.

### K.2.c.6 Batteries

State regulations prohibit disposal of lead-acid batteries in a landfill. The County prohibits collection of batteries by its franchised waste haulers. The Solid Waste Management Act aids in providing for proper disposal by requiring that all entities that sell batteries at retail shall accept used batteries as trade-ins for new batteries.

The County accepts lead-acid, Ni-Cad and lithium batteries at no cost to its residents who bring them to the landfill facility. Upon entering the scales, the transporter is advised to place all batteries in the storage shed located in the Community Drop Off area on weekends and holidays. In addition, batteries are accepted at the HHW Facility during its collection events and Monday through Friday (except holidays).

The Household Hazardous Waste Technician conducts frequent inspections of the storage shed and HHW Facility to monitor the number of batteries on site. When the on-site count reaches 1,000, the contracted battery vendor is called to remove them for recycling and/or proper disposal.

The contracted vendor collects the batteries on an on-call basis. When the vendor arrives on site, they are met by the Household Hazardous Waste Technician who observes the transfer of batteries from the collection shed to the vendor's vehicle. The vendor must sign a battery log before the batteries are removed from the facility. The log is also signed by the Household Hazardous Waste Technician verifying the count of batteries removed. The collection agreement is renewed or updated on an annual basis.

## K.2.d Weighing Incoming Waste

The Scalehouse operations are supervised and operated by the Manatee County Utilities Department, Solid Waste Division. Three scales are located at the entrance to the landfill. Two are inbound and one is outbound. The weighing of waste is required prior to entering the landfill and weight records are reported to the Department monthly. Vehicles that enter the electronic scales are recorded on an information management system. This system records the date, type of vehicle, weight, material to be disposed, daily transaction number, and any other information available pertaining to account name or status. The driver is directed to the appropriate disposal area by the scale attendant.

## K.2.e Vehicle Traffic Control and Unloading

The landfill facility is surrounded by fencing and other natural barriers that limit vehicle access to the landfill. Directional signs have been placed to safely direct vehicles to the current waste disposal area. These signs have large legible letters and are cleaned, refurbished and moved as necessary. The signs are strategically placed so that the route is clear to the drivers. In addition, verbal instruction is issued by the Scalehouse attendant as required. Fencing or temporary barricades are employed as additional traffic control features. Speed limit, safety, and prohibitive practice signs are also placed as necessary in order to encourage a safe, clean operating area.

The Disposal Chiefs direct disposal operations. The landfill operator acts as the spotter at the active face. Unloading is permitted only at the designated tipping area next to the working face. At the fill areas, temporary signs and at least one spotter direct vehicles to the proper tipping areas. Haulers are responsible for unloading their own vehicles. Wastes requiring special handling are coordinated with and unloaded under the direct supervision of landfill personnel. The trained spotter, located safely in heavy equipment or a vehicle, is stationed where they can inspect each shipment of waste for unauthorized waste prior to compaction. If spotters are located on heavy equipment spreading the waste at the working face, the heavy equipment operator shall be trained as a spotter and as a heavy equipment operator. When unauthorized waste is discovered, the operator must either move the unauthorized waste away from the active area for later removal and proper management, or must stop operation and notify another person on the ground or on other equipment who will come to the active area and remove the unauthorized waste before operations are resumed. The spotters may move about the working face in equipment or a vehicle as needed to properly direct the positioning of vehicles for unloading and to observe waste as it is unloaded.

Any suspicious loads or vehicles are stopped by the Scalehouse staff for inspection. The County also has a random load inspection program in place as discussed in Section K-6. If the spotter detects prohibited, special or hazardous waste while the hauler is still present, the waste is reloaded into the vehicle and is removed from the site. If the hauler cannot be identified, it is the County's responsibility to remove the waste from the landfill for proper disposal.

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

The Fill Sequence Plan through closure is bound separately and included in Appendix C with the permit application.

Prior to placement of solid waste, the excavated base grades will be surveyed and a signed/sealed construction certification report and survey of base grades for each new disposal area will be submitted to the Department for review and approval. The certification report will include a drawing displaying the post-excavation clearance between the top of the sand protective layer and the previously installed leachate collection system piping after accounting for the modified fill sequence.

## K.2.g Waste Compaction and Application of Cover

Waste is typically dumped at the toe of the active face and is spread over the face in a maximum two-foot lift with dozers. Upon completion of waste spreading, compactors typically roll the waste with six passes prior to spreading of additional waste. To achieve the optimum compaction, while minimizing initial cover usage, the active face slopes are maintained at approximately 5:1 (H:V). The flatter the slope, the greater is the compaction rate and greater amount of soil to cover the waste. The 5:1 face slope provides a good compromise between compaction and soil usage. The compaction with the given equipment and working conditions is approximately 1,200 lb/cy.

Cover material for daily operations of the landfill is obtained from a designated stockpile area. The location for the Cover Material Stockpile is located in the footprint of the Stage II Landfill and moves as future Stages are built. The County manages cover soil supply and purchases soil when needed to supplement the on-site stockpiles. To minimize soil usage, Manatee County has purchased mechanically operated tarp-type alternate daily cover system (ADC). Tarps are laid across the working face and taken up the next day. Tarps are loaded to minimize the effects of wind uplift. If waste is not deposited on the working face within 24 hours, then soil is used as the cover material. The areas of the working face not covered by the tarps are covered with soil.

## K.2.h Operations of Gas, Leachate, and Storm Water Controls

Leachate management is described in K-8, gas monitoring in K-9 and storm water controls in K-10.

## K.2.i Water Quality Monitoring

See Part L of this permit application.

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

The entire LCRS was jetted and pressure cleaned in August 2020. The report on the pressure cleaning is provided in Appendix D to the permit application.

# K.3 LANDFILL RECORDS AND RECORD LOCATIONS

The operating records consist of all records, reports, analytical results, demonstrations, and notifications required by Chapter 62-701, F.A.C., all permits and permit modifications, and training records. The operating records are maintained within the filing system at the landfill facility.

Operating records denoting events are maintained by the landfill staff in accordance with the Operational Permit. Some examples of daily operations of the landfill are:

- Operation and maintenance of the facility
- Special wastes monitoring
- Manpower and equipment usage
- Storm water and leachate issues
- Compliance with permits, applicable rules, regulations, and laws
- Fill sequence plan adherence

## K.4 WASTE RECORDS

Monthly waste records are kept on site and submitted to the FDEP quarterly. A sample report is included as Figure K-2.

**Figure K-2. Manatee County Class I Landfill Waste Records 2020**

**MANATEE COUNTY CLASS I LANDFILL**
**WASTE RECORDS**
**YEAR 2020**

| TOTAL WASTE RECEIVED AND WASTE TYPE | SOLID WASTE RECEIVED MONTHLY REPORTED IN TONS | | | | | | | | | | | | TOTAL FOR YEAR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FIRST QUARTER | | | SECOND QUARTER | | | THIRD QUARTER | | | FOURTH QUARTER | | | |
| (SEE NOTEs BELOW) * | January | February | March | April | May | June | July | August | September | October | November | December | |
| TOTAL WASTE RECEIVED | | | | | | | | | | | | | |
| Manatee County Class I Waste | | | | | | | | | | | | | |
| Sarasota County Class I Waste | | | | | | | | | | | | | |
| Duval County Class I Waste | | | | | | | | | | | | | |
| Hillsborough County Class I Waste | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Manatee County Class III Waste | | | | | | | | | | | | | |
| Sarasota County Class III Waste | | | | | | | | | | | | | |
| Pinellas County Class III Waste | | | | | | | | | | | | | |
| Hillsborough County Class III Waste | | | | | | | | | | | | | |
| Polk County Class III Waste | | | | | | | | | | | | | |
| Hernando County Class III Waste | | | | | | | | | | | | | |
| Pasco County Class III Waste | | | | | | | | | | | | | |
| Lee County Class III Waste | | | | | | | | | | | | | |
| Collier County Class III Waste | | | | | | | | | | | | | |
| Charlotte County Class III Waste | | | | | | | | | | | | | |
| Manatee County Other Waste/Sludge | | | | | | | | | | | | | |
| Manatee County Other Waste/Agricultural | | | | | | | | | | | | | |

*** The Landfill Operator shall:**

1) Weigh all solid waste as it is received;
2) Record, in tons per day, the amount of solid waste received;
3) Estimate the amount received by waste type as listed in this table; and,
4) Compile the reports monthly, and send copies to the Department quarterly.
5) The first line for each waste type represents the waste amount from Manatee County.
6) Waste from other counties shall be identified by county of origin and amounts received on the lines below each waste type.

## K.5 ACCESS CONTROLS

Access to the landfill is controlled by a six-foot high chain link fence along the west side of the landfill and a barbed-wire and/or field fence around the remainder of the site. The landfill access gates are locked at the close of each business day. Signs indicating hours of operation, operating and permitting authorities, and directions for persons delivering waste are posted at the entrance. Additional signs are used along the site access roads and at the working face to direct traffic to the proper disposal areas. An attendant will be on duty at the scalehouse during all periods of public access.

## K.6 LOAD CHECKS

The County has a random load inspection program in accordance with F.A.C. Chapter 62.701 and inspects at least three loads per week. Drivers with loads selected for random inspection are instructed to dump their loads at a designated location near the working face but segregated from other waste. The selected load is inspected to determine if the load contains any unauthorized waste. Spot-checking also occurs at the active face. The Load Inspection Form is included as Figure K-3.

If the spotter detects a load of unauthorized waste while the hauler is still present, the waste is reloaded into the vehicle and is removed from the site. If the hauler has left the site, attempts will be made to identify the generator, hauler, or other party responsible for shipping the waste. Identified responsible parties will be contacted and asked to remove the unauthorized waste. If the generator, hauler, or other party responsible for shipping the waste cannot be identified, or if they will not remove the waste, the County will remove the waste from the landfill for proper disposal.

If any regulated hazardous wastes are identified by random load inspection, or are otherwise discovered to be improperly deposited at Lena Road Landfill, the landfill operator shall notify the FDEP, the person responsible for shipping the wastes to the landfill and the generator of the wastes, if known. The area where the wastes are deposited shall be immediately cordoned off from public access. If the generator or hauler cannot be identified, the landfill operator shall assure the cleanup, transportation, and disposal of the waste at a permitted hazardous waste management facility.

A small quantity of unauthorized waste which must be stored on-site while awaiting removal for disposal will be stored in the household hazardous waste collection area until it can be removed by contractor for proper disposal. Waste quantities too large to store in the household hazardous waste collection area, will be isolated at the landfill face with temporary berms constructed around the waste to ensure containment of any surface runoff. The area will be properly marked with signs, and temporary fencing will be used to prevent unauthorized access to the material until it can be shipped off-site for proper disposal.

Sources found or suspected to be previously responsible for shipping regulated hazardous waste will be informed of landfill requirements and referred to FDEP for hazardous waste information. Subsequent shipments from such sources will be scrutinized for unauthorized or hazardous

waste. Inspection results, information, and observations resulting from each random inspection will be recorded and retained at the landfill for at least three years.

Supervisors, landfill operators, and spotters are trained to identify unauthorized wastes or potential sources of regulated hazardous wastes. This training emphasizes familiarity with containers and labels typically used for hazardous wastes and hazardous materials. Controlling types of waste received is discussed in Section K.2.e.

**Figure K-3. Load Inspection Form**

LOAD INSPECTION FORM

DATE: _____ TIME: _____ INSPECTOR: _____

LOCATION: _____

DRIVER NAME: _____

COMPANY NAME: _____ DECAL #: _____

TAG #: _____ TRUCK DESCRIPTION: _____

ORIGIN OF WASTE: _____

WASTE COMPOSITION: _____

_____

NOTE QUANTITY OF THE FOLLOWING, IF APPLICABLE:

FLUORESCENT LAMPS (10 or more) _____

MERCURY CONTAINING DEVICES _____
Thermostats, Thermometers, Bilge Pumps, Manometers, Etc.

BIO-HAZARD MATERIALS FOUND _____

OTHER HAZARDOUS MATERIALS FOUND _____

TIRES, LEAD ACID BATTERIES _____

OIL BASED PAINT _____

IF YES, EXPLAIN CIRCUMSTANCES OF COLLECTION: _____

_____

IF YES, MANAGEMENT INFORMED: Yes _____ No _____

NAME AND TITLE: _____

# K.7 WASTE COMPACTION

## K.7.a Waste Layer Thickness

Waste is typically dumped at the toe of the working face and is spread over the face in a maximum of two-foot lifts prior to compaction. This procedure continues throughout the day for a typical lift thickness of no more than 10-feet.

## K.7.b First Waste Layer

The area to be filled has been completely covered by waste during previous permit periods. The first layer of waste placed above the leachate collection system in Stage II will be a minimum of four feet in compacted thickness and shall consist of selected wastes containing no large rigid objects that may damage the leachate collection system. Special care shall be exercised when filling around pump stations to prevent damage.

## K.7.c Slopes and Lift Depths

The exterior landfill side slope is constructed at 4:1 (H:V) or slightly steeper because settlement of the side slope causes a lesser slope to result in a final slope of no more than 4:1. Interior waste slopes (that will received additional waste in the future) may be constructed with slopes no steeper than 3:1. Also, any temporary slopes for such structures as storm water diversion dikes, roads, excavations, etc. are constructed with slopes no steeper than 3:1. The lift depths shall be 10-feet or less. The typical minimum top slopes to promote drainage are generally one percent within the bermed working face, and two percent on the intermediate cover areas.

## K.7.d Working Face

The active face width is no greater than necessary to accommodate the peak number of disposal vehicles at one time. The wider the active face, the more cover soil is used. The County uses an active face of 150 feet in width. The working area of the active face has a slope of approximately 5 horizontal to 1 vertical. The objective for the dimensions of the active face is to maximize the volume to face surface ratio.

## K.7.e Initial Cover Controls

Materials used as initial cover include street sweepings, ditch cleanings, crushed glass, and/or a tarp as an alternative daily cover (ADC), soil, soil with up to 25% fines from the yard processing area, and recovered screen material (RSM) from FDEP permitted facilities. The tarp, when used, covers the working face with a weighted tarp. Currently, 100' x 40' tarps are used to cover the working face. Initial cover is applied daily at a minimum thickness of six inches. Soil with up to 25% fines (by volume) from yard trash processing, may be used for initial cover.

## K.7.f Initial Cover Applications

The tarp alternative daily cover system is the primary method of daily cover. Soil is used to supplement ADC and when conditions prohibit use of ADC. For those times when conditions prohibit the use of ADC, initial cover will be stockpiled near the active face for use at the end of each day. Dozers used for spreading waste will spread cover soil, when used or authorized equipment for tarp cover application will be utilized to cover the exposed refuse when ADC is used.

## K.7.g Intermediate Cover

An additional 12 inches of compacted cover soil (intermediate cover) is placed over six inches of initial cover, within seven days of cell completion, on areas that are not scheduled to receive wastes within 180 days. The top of the intermediate soil cover is graded at a minimum of two percent. These areas have sod to reduce erosion. Prior to placement of additional wastes in these areas, the intermediate cover is removed and stockpiled adjacent to the active face for use as initial cover.

## K.7.h Final Cover Timing

Final cover is placed after the landfill is closed in accordance with the approved Closure Plan.

## K.7.i Scavenging

Scavenging is prohibited.

## K.7.j Litter Policing

Litter fences are installed near the active face to capture wind-blown litter. Manatee County contracts a temporary labor employer to police the landfill property daily to ensure that litter outside the working area is picked up within 24 hours. Litter fences are also installed along the top of the banks, parallel with interior storm water ditches to minimize litter from entering the storm water management system.

## K.7.k Erosion Control

Erosion is controlled with sod and terraces. Manatee County has implemented an aggressive sod plan to protect intermediately covered side slopes from erosion. Temporary piping is used to remove runoff from the sod covered terraces. This temporary piping drains collected runoff for discharge into the perimeter storm water ditch system.

The landfill is inspected daily for signs of erosion and exposed solid waste. Erosion control measures are employed to correct any erosion which exposes waste or causes malfunction of the storm water management system. Such measures are implemented within three days of occurrence. Typically this requires replacing the eroded cover soil with clean cover soil, and covering the soil with sod, or removing debris from the storm water inlets, pipes and outlet

structures. If the erosion cannot be corrected within seven days of occurrence, the landfill operator shall notify the Department and propose a correction schedule.

# K.8 LEACHATE MANAGEMENT

## K.8.a Leachate Level Monitoring

### K.8.a.1 Leachate Collection and Removal System Overview

### K.8.a.2 Stage I System

The Stage I Leachate Collection and Removal System (LCRS) as shown on Figure K-4 is a perimeter underdrain around Stage I. The underdrain is approximately 10 feet inside the perimeter slurry wall and approximately 12 feet below grade. The underdrain is an 8-inch, perforated pipe surrounded by aggregate. The pipe and aggregate are wrapped in a geotextile. Manholes and cleanouts are constructed to provide access for cleaning and repairs.

The slurry wall and underlying clay-confining unit is the containment/barrier system designed to prevent leachate movement to the outside surficial aquifer. The slurry wall and LCRS is the FDEP-approved method designed and constructed to minimize impacts, due to landfill operations, to the surrounding environment. The slurry wall is keyed into the underlying natural clay unit. The depth of the slurry wall varies, depending on depth to the clay unit.

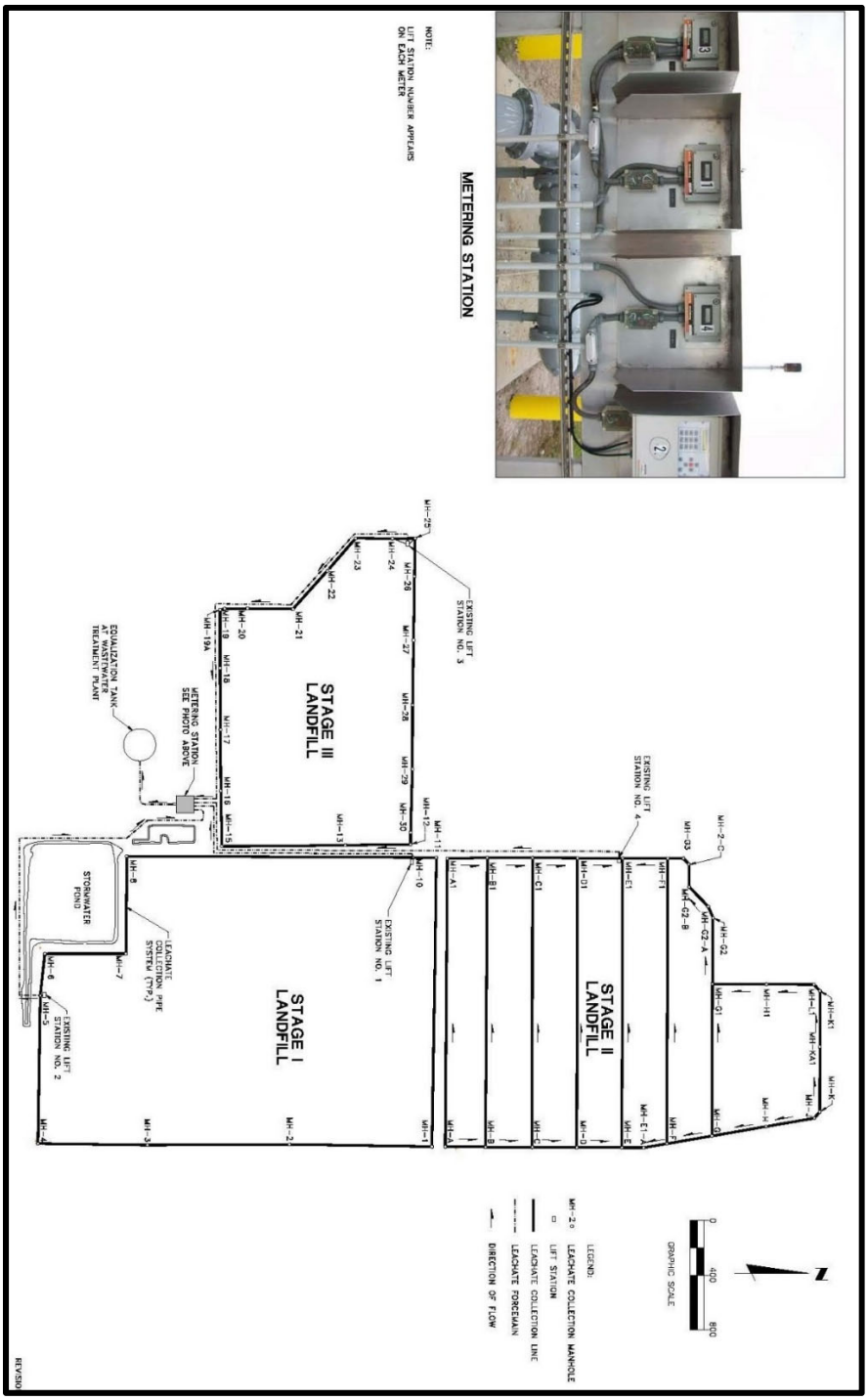
Two lift stations are used to pump collected leachate to the wastewater treatment plant (WWTP). Lift Station No. 1 is located in the northwest corner of Stage I. Lift Station No. 2 is located at the southeast corner. Collected leachate enters the underdrain system and gravity flows back to either lift station. Both lift stations operate in the similar manner. Two submersible pumps pump collected leachate from the lift station. The first pump is activated when the low-level float senses leachate entering the lift station. The pump will operate until the float sensor deactivates. If leachate enters the lift station at a faster rate than the first pump can draw it down, the high-level float will activate the second pump to turn on. Upon deactivation of the high-level float, the second pump will shut off. Lift stations can operate in the hand or automatic setting. Both lift stations are set to operate in the automatic mode. Both pumps are 10HP 230/60 1735 RPM. From the lift stations, leachate is pumped through a 6-inch pipe to the adjacent WWTP storage tank. The flow in each forcemain will be individually metered. After the meters, the individual forcemains will be manifolded into a single 12-inch forcemain and connected to the waste treatment plant piping.

### K.8.a.3 Stage II

The Stage II LCRS has a perimeter leachate collection trench and an underdrain to collect leachate which flows to Lift Station (Pump Station) 4. The location for the leachate collection system and pump station is shown on Figure K-4 and on the Fill Sequence Plan drawings. The slurry wall is keyed into the underlying clay unit to prevent movement of leachate to the outside surficial aquifer. Unlike Stages I and III, Stage II has collection laterals which run the entire width of Stage II, spaced on 200 foot centers. As shown in the Filling Sequence Drawings (Appendix C of permit application), leachate is collected in waste filled areas that are separated

with berms from sub-sequences that have not yet received waste. This enables ponded stormwater and runoff from areas without waste to be managed as stormwater. As Stage II contains solid waste, water that percolates into the ground drainage sand is collected by the leachate collection system and the associated pump station pumps the leachate to the wastewater treatment plant.

**Figure K-4. Leachate Collection System Plan**



### K.8.a.4 Stage III

The Stage III LCRS is similar in design to Stage I and Stage II LCRS. The underdrain runs along the north, south, east, and west sides of Stage III, approximately 10 feet inside the slurry wall. The slurry wall ties into the west side of the Stage I slurry wall. The alignment of the slurry wall defines the footprint for Stage III. Leachate entering the underdrain gravity flows back to the lift station. One lift station, Lift Station 3, is located in the northwest corner of Stage III. Collected leachate is pumped to the WWTP. The lift station is similar in design and operation to the lift stations described for Stage I. Storm water runoff from Stage III drains from the surface through a sand trench into an underdrain. This runoff adds significantly to the total volume of leachate produced from Stage III. When above grade filling begins, top slopes will be graded to drain storm water to the perimeter storm water ditches.

### K.8.a.5 Operational Performance Objectives

It is the County's intent to maintain an inward gradient by collection and removal of leachate, with subsequent discharge to the WWTP. Staff will evaluate the following conditions in an effort to maintain water levels lower inside the slurry wall compared to levels outside the slurry wall, or to recover the inward gradient within thirty days.

- Water Levels
- WWTP Availability
- Pumping Rates
- Seasonal Variations
- Unexpected or Scheduled Downtime

### K.8.a.6 Compliance Monitoring and Evaluation

#### Monitoring Reports

Figure K-5A is the typical Water Balance Report format used for the Lena Road Landfill. This report is used to quantify the volume of leachate generated on a daily and per month basis from Stages I, II, and III.

Additional information includes:

- The volume of leachate pumped to the WWTP
- The volume of leachate pumped from Stages I, II, and III
- Rainfall in gallons and inches

The content and format of the report are approved by the FDEP. Figure K-6A ( is a typical Monthly Leachate Summary Report. This report is used to summarize the following information:

- Total leachate
- Total rainfall
- Total leachate treated by the WWTP

# Figure K-5A. Monthly Water Balance Report

EXHIBIT A

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY**
**LENA ROAD LANDFILL**
**MONTHLY WATER BALANCE REPORT**
**September 2020**

| A | B | C | D | E | F | G | H | I |
|---|---|---|---|---|---|---|---|---|
| DATE | **LEACHATE STAGE I** Lift Station 1 (gallons) | **LEACHATE STAGE I** Lift Station 2 (gallons) | **LEACHATE STAGE I** TOTAL (gallons) | **LEACHATE STAGE II** TOTAL (gallons) | **LEACHATE STAGE III** TOTAL (gallons) | **TOTAL LEACHATE PUMPED** (gallons) | **RAINFALL** (inches) | **RAINFALL** (gallons) |
| 1-Sep-20 | 33,096 | 11,391 | 44,487 | 233,936 | 149,528 | 427,951 | 0.39 | 3,028,980 |
| 2-Sep-20 | 41,136 | 11,896 | 53,032 | 205,824 | 116,644 | 375,500 | 0.26 | 2,019,320 |
| 3-Sep-20 | 32,028 | 10,987 | 43,015 | 62,896 | 92,332 | 198,243 | 0.00 | 0 |
| 4-Sep-20 | 33,944 | 11,811 | 45,755 | 235,568 | 93,004 | 374,327 | 0.00 | 0 |
| 5-Sep-20 | 0 | 0 | 0 | 0 | 0 | 0 | 0.02 | 155,332 |
| 6-Sep-20 | 0 | 0 | 0 | 0 | 0 | 0 | 0.19 | 1,475,657 |
| 7-Sep-20 | 0 | 0 | 0 | 0 | 0 | 0 | 0.01 | 77,666 |
| 8-Sep-20 | 127,848 | 45,260 | 173,108 | 681,168 | 301,912 | 1,156,188 | 0.32 | 2,485,317 |
| 9-Sep-20 | 2,472 | 11,289 | 13,761 | 151,072 | 64,244 | 229,077 | 0.59 | 4,582,303 |
| 10-Sep-20 | 1,044 | 11,102 | 12,146 | 164,224 | 65,088 | 241,458 | 0.57 | 4,426,971 |
| 11-Sep-20 | 1,184 | 10,907 | 12,091 | 155,858 | 59,813 | 227,762 | 0.21 | 1,630,989 |
| 12-Sep-20 | 0 | 0 | 0 | 0 | 0 | 0 | 0.13 | 1,009,660 |
| 13-Sep-20 | 0 | 0 | 0 | 0 | 0 | 0 | 1.22 | 9,475,272 |
| 14-Sep-20 | 15,776 | 39,395 | 55,171 | 464,638 | 188,015 | 707,824 | 0.17 | 1,320,325 |
| 15-Sep-20 | 94,634 | 567 | 95,201 | 152,264 | 75,312 | 322,777 | 0.17 | 1,320,325 |
| 16-Sep-20 | 51,090 | 131 | 51,221 | 158,903 | 79,356 | 289,480 | 0.07 | 543,663 |
| 17-Sep-20 | 47,376 | 143 | 47,519 | 171,681 | 80,212 | 299,412 | 0.00 | 0 |
| 18-Sep-20 | 51,300 | 158 | 51,458 | 167,424 | 79,640 | 298,522 | 0.43 | 3,339,645 |
| 19-Sep-20 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 |
| 20-Sep-20 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 |
| 21-Sep-20 | 131,556 | 415 | 131,971 | 485,208 | 198,376 | 815,555 | 0.00 | 0 |
| 22-Sep-20 | 9,076 | 26 | 9,102 | 146,632 | 59,160 | 214,894 | 0.00 | 0 |
| 23-Sep-20 | 71,085 | 235 | 71,320 | 158,090 | 58,176 | 287,586 | 0.00 | 0 |
| 24-Sep-20 | 42,731 | 128 | 42,859 | 146,374 | 57,716 | 246,949 | 0.00 | 0 |
| 25-Sep-20 | 41,480 | 128 | 41,608 | 153,632 | 54,648 | 249,888 | 0.00 | 0 |
| 26-Sep-20 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 |
| 27-Sep-20 | 0 | 0 | 0 | 0 | 0 | 0 | 0.29 | 2,252,319 |
| 28-Sep-20 | 125,220 | 377 | 125,597 | 498,360 | 162,096 | 786,053 | 0.00 | 0 |
| 29-Sep-20 | 40,984 | 123 | 41,107 | 91,320 | 49,164 | 181,591 | 0.70 | 5,436,631 |
| 30-Sep-20 | 39,028 | 114 | 39,142 | 115,820 | 45,812 | 200,774 | 0.00 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 |
| **TOTAL** | **1,034,088** | **166,583** | **1,200,671** | **4,800,892** | **2,130,248** | **8,131,811** | **5.74** | **44,580,376** |
| Leachate Pumped as Percentage of Rainfall | | | | 7.6% | 26.1% | 20.7% | | |

**Column Notes:**

A - Date of reading.
B - Leachate pumped (gallons) from Stage I by lift station 1.
C - Leachate pumped (gallons) from Stage I by lift station 2.
D - Total Stage I leachate pumpage (B+C).
E - Leachate pumped (gallons) from Stage II.
F - Leachate pumped (gallons) from Stage III.
G - Total leachate pumped to WWTP storage tank (D+E+F).
H - Rainfall (inches) recorded on this date.
I - Rainfall (gallons) calculated based on open area (H x Area x 27,156 gal/acre-in).

| | **Stage I** (acres) | **Stage II** (acres) | **Stage III** (acres) | **TOTAL** (acres) |
|---|---|---|---|---|
| Initial Cover | 102.0 | 113.0 | 66.0 | 281.0 |
| Interm. Cover | 0.0 | 5.0 | -- | 5.0 |
| Closed | 30.0 | 0.0 | -- | 30.0 |
| TOTAL | 132.0 | 118.0 | 66.0 | 316.0 |
| **Open Area** | **102.0** | **118.0** | **66.0** | **286.0** |

**Comments**

"0" = no data recorded

# Figure K-6A. Monthly Leachate Tracking Summary

EXHIBIT B

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY**
**LENA ROAD LANDFILL**
**MONTHLY LEACHATE TRACKING SUMMARY -- 2020**

| MONTH | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|
| | STAGE I LEACHATE (gallons) | STAGE II LEACHATE (gallons) | STAGE III LEACHATE (gallons) | TOTAL LEACHATE (gallons) | RAINFALL (inches) | RAINFALL (gallons) | STAGE I LEACHATE/ RAINFALL (%) | STAGE II LEACHATE/ RAINFALL (%) | STAGE III LEACHATE/ RAINFALL (%) |
| JANUARY | 227,433 | 11,377,632 | 954,028 | 12,559,093 | 1.14 | 8,853,942 | 7.2% | 311.5% | 46.7% |
| FEBRUARY | 1,281,599 | 5,749,824 | 723,184 | 7,754,607 | 1.96 | 15,222,567 | 23.6% | 91.5% | 20.6% |
| MARCH | 1,002,110 | 4,283,984 | 737,112 | 6,023,206 | 0.00 | 0 | 0.0% | 0.0% | 0.0% |
| APRIL | 814,608 | 3,218,320 | 731,000 | 4,763,928 | 5.66 | 43,959,047 | 5.2% | 17.7% | 7.2% |
| MAY | 1,058,495 | 3,103,328 | 942,856 | 5,104,679 | 3.24 | 25,163,836 | 11.8% | 29.9% | 16.2% |
| JUNE | 1,279,207 | 4,585,126 | 1,850,808 | 7,715,141 | 10.07 | 78,225,356 | 4.6% | 14.2% | 10.3% |
| JULY | 1,187,339 | 3,547,514 | 1,143,156 | 5,878,009 | 7.92 | 61,511,599 | 5.4% | 14.0% | 8.1% |
| AUGUST | 1,689,650 | 3,642,640 | 442,776 | 5,775,066 | 8.81 | 68,423,887 | 6.9% | 12.9% | 2.8% |
| SEPTEMBER | 1,200,671 | 4,800,892 | 2,130,248 | 8,131,811 | 5.74 | 44,580,376 | 7.6% | 26.1% | 20.7% |
| OCTOBER | | | | | | | | | |
| NOVEMBER | | | | | | | | | |
| DECEMBER | | | | | | | | | |
| TOTAL | 9,741,112 | 44,309,260 | 9,655,168 | 63,705,540 | 44.54 | 345,940,610 | 7.9% | 35.9% | 7.8% |

Notes:

1. (B) Total leachate pumped from Stage I.
2. (C) Total leachate pumped from Stage II
3. (D) Total leachate pumped from Stage III
4. (E) Total leachate (Column B+C+D) pumped to WWTP storage tank.
5. (F) Total rainfall in inches.
6. (G) Total rainfall in gallons (Stage I, II, and III Open Area of 286-acres x Rainfall)
7. (H) Stage I leachate as a percentage of rainfall.
8. (I) Stage II leachate pumped as a percentage of rainfall.
9. (J) Stage III leachate pumped as a percentage of rainfall.

**Landfill Stage Land Area**

| | Stage I (acres) | Stage II (acres) | Stage III (acres) | TOTAL (acres) |
|---|---|---|---|---|
| Initial Cover | 102.0 | 113.0 | 66.0 | 281.0 |
| Intermed. Cover | 0.0 | 5.0 | -- | 5.0 |
| Closed | 30.0 | 0.0 | -- | 30.0 |
| TOTAL | 132.0 | 118.0 | 66.0 | 316.0 |
| **Open Area** | **102.0** | **118.0** | **66.0** | **286.0** |

Figure K-7A is a typical Ground Water Gradient Monitoring Report. Twenty-five ground water monitoring wells are installed around the perimeter of the landfill, outside the slurry wall to monitor the shallow aquifer. Twenty-five piezometers are installed around the perimeter of the landfill inside the slurry wall to measure depth to ground water of the shallow aquifer only. No ground water samples are collected from the piezometers. This report presents ground water elevations recorded at selected monitoring wells and compares them to the ground water elevations recorded at the piezometers. These locations are shown on Figure 1 in Attachment L-1, the Water Quality Monitoring Plan. The monitoring wells are located outside the slurry wall. The piezometers are located inside the slurry wall. An inward gradient is maintained when water elevations outside the slurry wall are higher than elevations recorded inside the slurry wall.

**Figure K-7A. Monthly Groundwater Gradient Report**

**Month and Year:**

| Piezometers Inside Slurry Wall | | | | Groundwater Monitoring Wells Outside Slurry Wall | | |
|---|---|---|---|---|---|---|
| Piezometer | Riser Elevation | Leachate Elevation | Gradient Flow | Monitoring Well | Riser Elevation | Groundwater Elevation |
| P-1 | 42.68 | NA | *NA* | GW-1 | 38.68 | NA |
| P-2 | 42.32 | NA | *NA* | GW-2 | 40.92 | NA |
| P-3 | 40.36 | 24.76 | *inward* | GW-3 | 39.40 | 32.56 |
| P-4 | 40.78 | 22.18 | *inward* | GW-4 | 40.53 | 32.63 |
| P-5 | 40.73 | 20.87 | *inward* | GW-5 | 39.90 | 32.15 |
| P-6 | 40.74 | 19.93 | *inward* | GW-6 | 38.95 | 31.35 |
| P-7 | 40.60 | 19.06 | *inward* | GW-7 | 39.49 | 29.42 |
| P-8 | 40.21 | 18.99 | *inward* | GW-8 | 39.75 | 28.32 |
| P-9 | NA | NA | *NA* | *NA* | *NA* | *NA* |
| P-9A | 39.83 | 22.77 | *inward* | GW-9 | 39.65 | 30.55 |
| P-10 | 39.86 | 25.82 | *inward* | GW-10 | 38.34 | 28.84 |
| P-11 | 40.52 | 22.12 | *inward* | GW-11 | 38.26 | 30.03 |
| P-12 | 43.28 | 29.44 | *inward* | GW-12 | 42.09 | 31.89 |
| P-13 | 44.78 | 30.21 | *inward* | GW-13 | 44.79 | 32.29 |
| P-14 | 45.09 | 29.79 | *inward* | GW-14 | 39.63 | 33.78 |
| P-15 | 45.57 | 30.77 | *inward* | GW-15 | 42.33 | 34.13 |
| P-16 | 44.67 | 30.87 | *inward* | GW-16 | 44.41 | 32.79 |
| P-17 | 44.28 | 30.16 | *inward* | GW-17 | 42.19 | 33.37 |
| P-18 | 43.16 | 24.16 | *inward* | GW-18 | 41.76 | 32.87 |
| P-19 | 42.91 | 23.11 | *inward* | GW-19 | 41.20 | 32.40 |
| P-20 | 42.54 | 25.57 | *inward* | GW-20 | 41.00 | 30.73 |
| P-21 | 42.23 | 24.88 | *inward* | GW-21 | 40.94 | 26.80 |
| P-22 | 42.06 | 23.86 | *inward* | GW-22 | 41.53 | 27.18 |
| P-23 | 42.08 | 22.41 | *inward* | GW-23 | 40.91 | 28.70 |
| P-24 | 42.03 | 19.93 | *inward* | GW-24 | 41.37 | 29.78 |
| P-25 | 42.16 | 19.20 | *inward* | GW-25 | 41.11 | 31.59 |
| P-26 | 42.50 | 19.20 | *inward* | GW-26 | 41.44 | 32.69 |
| P-27R | 42.73 | 19.63 | *inward* | GW-27R | 40.90 | 32.70 |

## K.8.b Operation and Maintenance of Leachate Collection System

Quantities from Lift Station Nos. 1, 2, 3 and 4 are recorded and submitted to FDEP on a monthly basis using the forms on Figures K-5A and K-6A. Flow rates are checked and confirmed semi-annually and kept at the Lena Road Landfill. If a failure in the underdrain system is suspected, the system is videoed. Every five years, or if a problem is suspected, the underdrain is cleaned by hydro jetting. Manholes are visually inspected on a monthly basis. When necessary, the manholes are cleaned to promote drainage towards the lift station.

## K.8.c Leachate as Hazardous Waste

Based on years of analysis, leachate from the landfill is not a hazardous waste. If at any time the leachate is determined to be hazardous, it will be managed in accordance with Rule 62-730, F.A.C. If the leachate analysis indicates a contaminate listed in 40 CFR Part 261.24 exceeds the regulatory level, a monthly sampling of leachate will begin 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 implemented.

## K.8.d Off-Site Discharge Agreements

All collected leachate is pumped to an equalization tank at the WWTP for treatment and disposal. Due to the common ownership of the landfill and the WWTP, the Utilities Department Director has issued a letter stating leachate will be accepted at this facility or at another off-site treatment plant as required.

## K.8.e Leachate Management Contingency Plan

In the event of short duration system failure, the landfill can store leachate. The County intends to maintain a one-foot inward gradient across the slurry wall so leachate would have to rise a foot before the facility was out of compliance with the permit condition to maintain an inward gradient. In the event of an extended power outage at the landfill (i.e., more than 7 days), the County will rent a portable generator to provide power to the lift stations.

Any treatment plant operational or power problems will be addressed by the treatment plant as a part of its permitting procedures. Generators are available to provide emergency power at the treatment plant.

Leachate will be trucked to the County's Southwest Treatment Plant or North Wastewater Treatment Plant, if necessary.

## K.8.f Leachate Generation Recording

Leachate generation records are reported on the forms in Figures K-6A and K-7A.

## K.8.g Precipitation/Leachate Comparison

Precipitation is comparted to leachate collected using the form in Figures K-6A and K-7A.

## K.8.h Procedures for Water Pressure Cleaning or Video Inspecting Leachate Collection System

Every five years, or if a problem is suspected, the leachate collection pipes are pressure cleaned.

Video inspection is not used unless there is a suspected problem or blockage.

# K.9 GAS MONITORING

Gas monitoring is performed on a monthly and quarterly basis by a qualified solid waste engineer or consultant. The gas monitoring at the site is divided into three separate tasks: Quarterly monitoring of the gas well and points; quarterly monitoring of surface emissions on the closed portions of the landfill; and monthly monitoring of the landfill gas extraction system. Each task will be discussed in detail below.

## K.9.a Gas Well and Point Monitoring

On a quarterly basis, the solid waste engineer monitors landfill gas emissions at eleven gas wells located on the site as shown on Figure K-8. The gas monitoring wells are located along the perimeter of the landfill, and are constructed of 1¼ to 2-inch diameter PVC, encased in locking aluminum stand-boxes.

The monitoring is performed using the CES Landtec Gas Extraction Monitor Model 2000 (GEM 2000). According to Chapter 62-701.530(1) of the Florida Administrative Code, methane gas levels are required to be less than the maximum level of 25% of the Lower Explosive Limit (LEL) for the interior of structures (gas points) and less than 100% of the LEL for points at or beyond the landfill property boundary.

The gas well samples are collected by removing the PVC cap of the well and inserting the intake tube of the GEM 2000 into the casing, or attaching it to the sampling port on the top of the well cap. The sample points are monitored by walking the area of interest while exposing the GEM 2000 intake tube to the atmosphere. The monitoring event typically takes one workday. The results are reported using a typical form as shown on Figure K-9.

## Figure K-8. Landfill Gas Migration Monitoring Locations

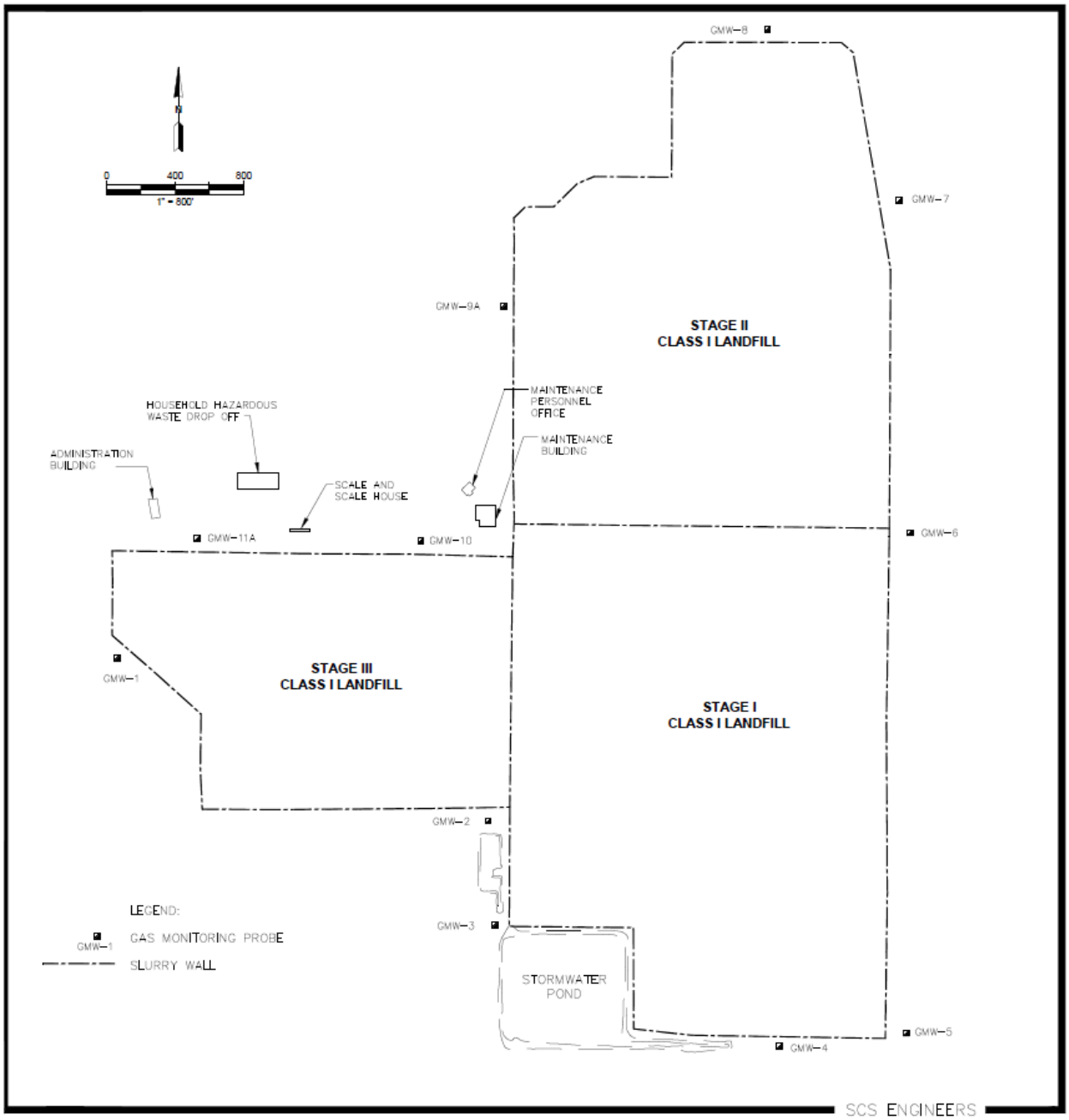


**Figure K-9. Gas Monitoring Report**

## MANATEE COUNTY LENA ROAD LANDFILL
## GAS MONITORING REPORT

### METHANE GAS READINGS

**Date of Readings:_____**

| Gas Well | Reading % LEL | NOTES |
|---|---|---|
| Well 1 | 0.0 | |
| Well 2 | 0.0 | |
| Well 3 | 0.0 | |
| Well 4 | 0.0 | |
| Well 5 | 0.0 | |
| Well 6 | 0.0 | |
| Well 7 | 0.0 | |
| Well 8 | 0.0 | |
| Well 9A | 0.0 | |
| Well 10 | 0.0 | |
| Well 11A | 0.0 | |
| | | |
| | | |
| | | |
| | | |

## K.9.b Surface Emission Monitoring

The solid waste engineer performs surface-emission monitoring event on a quarterly basis on the Stage I and III Landfills in compliance with Section 60.753 of the Title V Permit No. 0810055-015-AV. Quarterly monitoring will begin at the Stage II Landfill five years after solid waste is placed in the Stage II Landfill. During this event, the solid waste engineer performs surface gas sampling with Thermo Environmental Instruments Model 680 Hydrocarbon Vapormeter (HVM). The monitoring path followed the same grid system as in previous events as approved for the permit. The sensor of the HVM was maintained at approximately 5 centimeters above the Landfill surface during monitoring. The perimeter of the Landfill was checked. All landfill penetrations for gas wells, pipes, etc., areas with distressed vegetation and cracks in the soil cover were also checked for landfill gas emissions.

Locations at which a methane concentration of 500 parts per million (ppm) or greater as observed will be noted on a site map and the appropriate changes to the landfill gas system will be made. The location of interest should be rechecked within a week to verify that the problem has been rectified. This event takes approximately one day to perform. However, depending on the number of locations (if any) that are observed to be in violation, additional monitoring time may be necessary.

## K.9.c Landfill Gas Extraction System Monitoring

The solid waste engineer performs monthly monitoring of the landfill gas extraction system. There are currently 285 vertical wells and 8 horizontal collectors in the system. The sample points include locations in the extraction system pipes leading into the flare and a point at the flare itself. The gas composition, static pressure, differential pressure, flow and temperatures at each of the well locations and points are recorded using the GEM 2000. The flare temperature and total gas flow at the flare reported by the flare computer are recorded by hand. In order to minimize the amount of air pulled into the system, it may be necessary to close some of the extraction wells. As a result, not all of the wells will be sampled on a monthly basis.

The data recorded using the GEM 2000 is reported in tabular form on a monthly basis. A sample data table is shown on Figure K-10. The table indicates which wells or point locations that are not in compliance with the landfill's Title V Air Operation Permit. Compliance at a gas well or point is achieved when the concentration of oxygen is less than 5%, the concentration of nitrogen or balance gas is less than 20%, the static pressure is less than 0 inches of water (i.e., the well is under vacuum) and the temperature is less than 131˚ F. Shaded boxes on the data table indicate out-of-compliance parameters.

When wells are encountered with out-of-compliance parameters, changes can be made to the valve setting that may improve or eliminate the problem. If the gas composition indicates high levels of oxygen or nitrogen in the gas, the valve should be turned down. This would lower the flow at the well and lessen the amount of air that may be drawn into the system. If the static pressure at the well is positive, then the valve setting should be turned up, effectively increasing the flow at the well. The valve settings should be adjusted in small increments in order to decrease the possibility of improving gas composition while causing the pressure to become positive, or vice versa.

# Figure K-10. Gas Extraction Well Monthly Monitoring

**LFG Wellhead Monitoring Summary**
**Lena Road Landfill, Manatee County, Florida**
**July 2017**

- Oxygen exceedance above 5% by vol.
- Static Pressure exceedance above 0"-$H_2O$
- Temperature exceedance above 131 °F

| Well ID | Date/Time | $CH_4$ (%) | $CO_2$ (%) | $O_2$ (%) | Balance (%) | Init. Static Press. (in H2O) | Adj. Static Press. (in H2O) | Initial Temp (Deg F) | System Press. (in H2O) | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| GW- 1 | 7/26/17 7:52 | 58.7 | 37.5 | 0.4 | 3.4 | -0.15 | -0.19 | 79.8 | -11.60 | |
| GW- 2 | 7/26/17 7:55 | 58.2 | 36.8 | 0.6 | 4.4 | -0.07 | -0.12 | 79.3 | -11.79 | |
| GW- 3 | 7/26/17 7:57 | 56.8 | 36.0 | 0.6 | 6.6 | -0.10 | -0.14 | 79.6 | -11.65 | |
| GW- 4 | 7/26/17 8:00 | 53.5 | 35.4 | 0.6 | 10.5 | -0.06 | -0.09 | 82.2 | -11.70 | |
| GW- 5 | 7/26/17 8:03 | 52.0 | 33.1 | 1.0 | 13.9 | -0.08 | -0.11 | 80.6 | -11.38 | |
| GW- 6 | 7/26/17 8:06 | 56.2 | 36.6 | 0.6 | 6.6 | -0.06 | -0.10 | 80.9 | -11.60 | |
| GW- 7 | 7/26/17 8:08 | 54.9 | 34.7 | 1.5 | 8.9 | -0.16 | -0.20 | 81.9 | -11.49 | |
| GW- 8 | 7/26/17 8:11 | 54.6 | 38.0 | 0.2 | 7.2 | -0.03 | -0.04 | 82.1 | -11.58 | |
| GW- 9 | 7/26/17 8:14 | 52.1 | 36.8 | 0.3 | 10.8 | -0.05 | -0.07 | 82.2 | -11.42 | |
| GW- 10 | 7/26/17 8:16 | 50.1 | 31.6 | 2.3 | 16.0 | -0.02 | -0.02 | 82.2 | -10.99 | |
| GW- 11 | 7/26/17 8:18 | 44.7 | 27.8 | 4.5 | 23.0 | -0.06 | -0.05 | 86.3 | -11.27 | |
| GW- 12 | 7/26/17 8:20 | 42.5 | 28.8 | 4.0 | 24.7 | -0.41 | -0.40 | 86.5 | -11.24 | |
| GW- 13 | 7/26/17 8:22 | 48.7 | 33.5 | 3.2 | 14.6 | -8.28 | -8.26 | 83.5 | -11.32 | |
| GW- 14 | 7/26/17 8:25 | 30.9 | 25.1 | 4.7 | 39.3 | -2.08 | -2.08 | 83.5 | -11.37 | |
| GW- 15 | 7/26/17 8:29 | 18.6 | 21.9 | 3.8 | 55.7 | -1.69 | -1.70 | 82.5 | -11.37 | |
| GW- 16 | 7/26/17 8:30 | 21.0 | 24.2 | 2.2 | 52.6 | -0.63 | -0.63 | 84.2 | -11.34 | |
| GW- 17 | 7/26/17 8:34 | 24.1 | 21.7 | 4.8 | 49.4 | -2.63 | -2.64 | 84.3 | -11.30 | |
| GW- 18 | 7/26/17 8:45 | 6.4 | 3.7 | 17.9 | 72.0 | -5.49 | -5.50 | 84.3 | -11.27 | Exceedant Reading |
| GW- 18 | 8/7/17 12:05 | 53.3 | 36.4 | 1.9 | 8.4 | -3.11 | -3.11 | 97.3 | -11.10 | Recheck - In Compliance |
| GW- 19 | 7/26/17 9:35 | 42.5 | 28.1 | 3.9 | 25.5 | -1.06 | -1.06 | 88.4 | -11.04 | |
| GW- 20 | 7/26/17 9:36 | 45.8 | 32.2 | 1.4 | 20.6 | -1.02 | -1.03 | 90.1 | -11.47 | |
| GW- 21 | 7/26/17 9:38 | 51.0 | 36.8 | 0.2 | 12.0 | -1.17 | -1.16 | 90.7 | -11.30 | |
| GW- 22 | 7/26/17 9:39 | 51.3 | 37.4 | 0.2 | 11.1 | -0.66 | -0.66 | 91.4 | -11.25 | |
| GW- 23 | 7/26/17 9:41 | 48.4 | 34.2 | 2.2 | 15.2 | -1.84 | -1.73 | 94.0 | -11.19 | |
| GW- 24 | 7/26/17 9:43 | 50.0 | 32.8 | 3.3 | 13.9 | -1.71 | -1.68 | 93.8 | -9.78 | |
| GW- 25 | 7/26/17 9:44 | 50.4 | 35.4 | 0.5 | 13.7 | -0.50 | -0.49 | 106.7 | -9.87 | |
| GW- 26 | 7/26/17 9:47 | 56.6 | 37.7 | 0.2 | 5.5 | -0.13 | -0.22 | 95.1 | -9.76 | |
| GW- 27 | 7/26/17 9:52 | 57.8 | 37.2 | 0.2 | 4.8 | -0.07 | -0.08 | 97.2 | -11.38 | |
| GW- 28 | 7/26/17 9:53 | 60.1 | 35.6 | 0.1 | 4.2 | -0.04 | -0.06 | 100.7 | -11.37 | |
| GW- 29 | 7/26/17 10:01 | 58.7 | 33.2 | 0.5 | 7.6 | -0.17 | -0.18 | 100.3 | -11.18 | |
| GW- 30 | 7/26/17 10:02 | 54.9 | 36.1 | 0.9 | 8.1 | -0.63 | -0.68 | 91.2 | -11.12 | |
| GW- 31 | 7/26/17 10:05 | 54.1 | 35.7 | 0.5 | 9.7 | -0.04 | -0.06 | 96.3 | -11.04 | |
| GW- 32 | 7/26/17 10:08 | 52.3 | 34.7 | 0.1 | 12.9 | -0.04 | -0.06 | 107.1 | -10.84 | |
| GW- 33 | 7/26/17 10:11 | 52.7 | 35.3 | 0.6 | 11.4 | -0.05 | -0.07 | 113.7 | -11.15 | |
| GW- 34 | 7/26/17 10:13 | 54.4 | 36.2 | 1.1 | 8.3 | -1.63 | -2.82 | 108.8 | -11.04 | |
| GW- 35 | 7/26/17 10:23 | 58.8 | 33.0 | 1.9 | 6.3 | -0.13 | -0.16 | 96.8 | -11.10 | |
| GW- 37 | 7/26/17 10:26 | 56.5 | 34.7 | 1.8 | 7.0 | -0.05 | -0.06 | 92.3 | -10.85 | |
| GW- 38 | 7/26/17 10:28 | 55.4 | 35.9 | 0.6 | 8.1 | -0.24 | -0.24 | 101.1 | -10.91 | |
| GW- 39 | 7/26/17 10:31 | 56.4 | 35.3 | 0.8 | 7.5 | -0.64 | -0.68 | 99.8 | -11.11 | |
| GW- 40 | 7/26/17 10:33 | 58.5 | 36.7 | 0.2 | 4.6 | -0.91 | -0.98 | 95.3 | -10.67 | |
| GW- 41 | 7/26/17 10:35 | 57.9 | 37.1 | 0.5 | 4.5 | -0.19 | -0.19 | 91.9 | -10.76 | |
| GW- 42 | 7/26/17 10:39 | 1.5 | 1.4 | 18.7 | 78.4 | -1.01 | -1.02 | 95.9 | -10.70 | Exceedant Reading |
| GW- 42 | 7/28/17 9:10 | 45.9 | 32.3 | 2.9 | 19.0 | -9.24 | -9.26 | 96.9 | -9.34 | Recheck - In Compliance |
| GW- 43 | 7/26/17 10:42 | 10.0 | 9.0 | 13.7 | 68.3 | -0.64 | -0.64 | 96.1 | -8.38 | Exceedant Reading |
| GW- 43 | 8/7/17 12:07 | 50.0 | 32.3 | 3.0 | 14.7 | -3.48 | -3.48 | 98.5 | -10.91 | Recheck - In Compliance |
| GW- 44 | 7/26/17 10:43 | 23.4 | 22.1 | 1.9 | 52.6 | -2.93 | -2.90 | 98.0 | -7.52 | |
| GW- 45 | 7/26/17 10:47 | 44.9 | 28.6 | 2.8 | 23.7 | -6.44 | -6.50 | 99.3 | -10.52 | |
| GW- 46 | 7/26/17 10:48 | 48.5 | 32.3 | 1.4 | 17.8 | -1.11 | -1.11 | 92.1 | -10.91 | |
| GW- 47 | 7/26/17 10:50 | 51.3 | 34.2 | 1.6 | 12.9 | -1.11 | -1.11 | 90.4 | -11.06 | |
| GW- 48 | 7/26/17 11:49 | 54.7 | 34.0 | 1.4 | 9.9 | -0.52 | -0.63 | 99.4 | -6.90 | |
| GW- 49 | 7/26/17 11:45 | 50.0 | 32.3 | 1.8 | 15.9 | -10.64 | -10.64 | 93.5 | -10.63 | |
| GW- 50 | 7/26/17 11:43 | 52.2 | 34.7 | 1.8 | 11.3 | -9.87 | -9.86 | 93.4 | -8.75 | |
| GW- 51 | 7/26/17 11:42 | 49.8 | 30.7 | 1.7 | 17.8 | -8.96 | -8.90 | 93.0 | -9.07 | |
| GW- 52 | 7/26/17 11:39 | 55.8 | 33.2 | 1.1 | 9.9 | -10.55 | -10.59 | 92.2 | -10.63 | |
| GW- 53 | 7/26/17 11:35 | 41.8 | 25.8 | 5.8 | 26.6 | -10.58 | -10.59 | 93.9 | -10.62 | Exceedant Reading |
| GW- 53 | 7/28/17 9:13 | 58.7 | 38.4 | 0.2 | 2.7 | -10.70 | -10.67 | 99.3 | -10.66 | Recheck - In Compliance |
| GW- 54 | 7/26/17 11:32 | 43.8 | 27.6 | 4.8 | 23.8 | -10.82 | -10.83 | 93.5 | -10.83 | |
| GW- 55 | 7/26/17 12:01 | 34.1 | 30.8 | 0.3 | 34.8 | 0.04 | -11.01 | 94.1 | -11.00 | Exceedant Reading, Adjustment Mode - In Compliance |
| GW- 56 | 7/26/17 12:04 | 45.6 | 31.2 | 2.4 | 20.8 | -10.05 | -10.06 | 102.6 | -10.08 | |
| GW- 57 | 7/26/17 12:05 | 45.7 | 29.3 | 2.5 | 22.5 | -9.37 | -9.35 | 95.0 | -9.57 | |
| GW- 58 | 7/26/17 12:09 | 33.6 | 23.3 | 7.4 | 35.7 | -11.09 | -11.09 | 89.0 | -11.09 | Exceedant Reading |
| GW- 58 | 7/28/17 8:49 | 51.7 | 38.4 | 2.4 | 7.5 | -0.70 | -0.61 | 84.2 | -11.40 | Recheck - In Compliance |
| GW- 59 | 7/26/17 12:15 | 49.4 | 31.0 | 1.2 | 18.4 | -4.73 | -4.71 | 101.4 | -10.97 | |
| GW- 59 | 7/26/17 12:15 | 49.4 | 31.0 | 1.2 | 18.4 | -4.73 | -4.71 | 101.4 | -10.97 | |
| GW- 60 | 7/26/17 12:16 | 50.6 | 31.3 | 0.9 | 17.2 | -4.77 | -4.76 | 109.0 | -10.69 | |
| GW- 61 | 7/26/17 12:18 | 42.5 | 28.8 | 4.5 | 24.2 | -3.82 | -3.80 | 97.0 | -10.95 | |
| GW- 90 | 7/26/17 11:24 | 45.9 | 29.3 | 4.5 | 20.3 | -11.07 | -11.08 | 102.6 | -11.02 | |
| GW- 91 | 7/26/17 11:26 | 56.6 | 36.6 | 0.6 | 6.3 | -7.51 | -7.51 | 92.1 | -10.69 | |
| GW- 92 | 7/26/17 11:28 | 57.3 | 36.9 | 0.8 | 5.0 | -2.41 | -2.40 | 93.6 | -11.06 | |
| GW- 93 | 7/26/17 11:30 | 33.0 | 23.9 | 4.5 | 38.6 | -10.74 | -10.73 | 93.2 | -10.72 | |
| GW- 94 | 7/26/17 11:54 | 44.0 | 31.0 | 4.4 | 20.6 | -2.87 | -2.88 | 89.2 | -10.85 | |
| GW- 95 | 7/26/17 11:58 | 49.4 | 35.3 | 1.7 | 13.6 | -9.83 | -9.83 | 107.1 | -9.85 | |
| GW- 96 | 7/26/17 12:00 | 48.1 | 32.6 | 2.7 | 16.6 | -4.89 | -4.89 | 98.0 | -11.08 | |
| GW- 97 | 7/26/17 12:39 | 47.3 | 30.6 | 3.6 | 18.5 | -5.17 | -5.16 | 96.0 | -11.14 | |
| GW- 98 | 7/26/17 12:36 | 51.3 | 35.5 | 1.1 | 12.1 | -10.21 | -10.21 | 103.2 | -10.21 | |
| GW- 99 | 7/26/17 12:35 | 49.5 | 32.8 | 2.1 | 15.6 | -10.65 | -10.67 | 110.9 | -10.68 | |
| GW- 100 | 7/26/17 12:33 | 49.1 | 32.4 | 2.2 | 16.3 | -8.14 | -8.14 | 107.0 | -9.57 | |
| GW- 101 | 7/3/17 11:02 | 58.3 | 39.5 | 0.2 | 2.0 | -1.63 | -1.79 | 94.0 | -10.20 | June Recheck - In Compliance |
| GW- 101 | 7/26/17 12:31 | 55.4 | 30.4 | 0.3 | 13.9 | -8.21 | -8.24 | 103.9 | -10.98 | |
| GW- 102 | 7/26/17 12:29 | 56.1 | 37.7 | 0.5 | 5.7 | -0.58 | -1.03 | 87.6 | -8.40 | |
| GW- 103 | 7/26/17 12:26 | 49.3 | 33.2 | 2.7 | 14.8 | -6.15 | -6.16 | 117.4 | -10.36 | |
| GW- 104 | 7/26/17 12:10 | 45.9 | 33.7 | 2.6 | 17.8 | -3.00 | -3.01 | 99.0 | -10.83 | |
| GW- 105 | 7/26/17 12:08 | 47.4 | 34.8 | 2.5 | 15.3 | -6.97 | -6.96 | 99.0 | -11.19 | |
| GW- 106 | 7/26/17 12:06 | 43.5 | 30.7 | 4.3 | 21.5 | -10.05 | -10.06 | 99.0 | -10.06 | |
| GW- 107 | 7/26/17 12:05 | 46.9 | 31.1 | 3.6 | 18.4 | -9.98 | -9.97 | 99.0 | -10.77 | |
| GW- 108 | 7/26/17 12:03 | 48.6 | 34.1 | 2.4 | 14.9 | -10.55 | -10.55 | 99.0 | -10.54 | |
| GW- 109 | 7/26/17 12:00 | 51.9 | 35.9 | 1.6 | 10.6 | -9.19 | -9.19 | 99.0 | -10.94 | |
| GW- 110 | 7/26/17 12:57 | 51.9 | 33.8 | 1.4 | 12.9 | -5.63 | -5.63 | 99.0 | -11.14 | |
| GW- 111 | 7/26/17 13:30 | 56.1 | 33.6 | 1.4 | 8.9 | -8.45 | -8.44 | 99.0 | -11.00 | |
| GW- 112 | 7/26/17 13:28 | 44.8 | 31.4 | 3.5 | 20.3 | -9.16 | -9.15 | 99.0 | -10.93 | |
| GW- 113 | 7/26/17 13:25 | 49.1 | 35.4 | 1.4 | 14.1 | -6.43 | -6.43 | 99.0 | -10.76 | |
| GW- 114 | 7/26/17 13:23 | 51.6 | 37.3 | 0.3 | 10.8 | -4.40 | -4.38 | 99.0 | -10.72 | |
| GW- 115 | 7/26/17 13:20 | 48.0 | 35.8 | 0.2 | 16.0 | -1.65 | -1.65 | 99.0 | -11.15 | |
| GW- 116 | 7/26/17 13:47 | 54.9 | 36.5 | 0.8 | 7.8 | -3.49 | -3.50 | 98.0 | -11.16 | |
| GW- 117 | 7/26/17 13:45 | 58.0 | 37.9 | 0.3 | 3.8 | -6.38 | -6.37 | 98.0 | -10.96 | |
| GW- 118 | 7/26/17 13:43 | 55.3 | 38.2 | 1.0 | 5.5 | -8.99 | -9.02 | 99.0 | -11.00 | |
| GW- 119 | 7/26/17 13:41 | 54.1 | 36.1 | 0.6 | 9.2 | -6.34 | -6.37 | 99.0 | -11.12 | |
| GW- 120 | 7/26/17 13:39 | 48.5 | 34.3 | 0.6 | 16.6 | -10.83 | -10.83 | 99.0 | -10.83 | |
| GW- 121 | 7/26/17 13:37 | 49.8 | 33.5 | 1.2 | 15.5 | -4.85 | -4.84 | 99.0 | -11.07 | |
| GW- 122 | 7/26/17 14:07 | 39.5 | 28.2 | 3.8 | 28.5 | -0.08 | -0.08 | 105.6 | -11.09 | |
| GW- 122 | 7/28/17 8:54 | 0.6 | 0.8 | 20.0 | 78.6 | -11.34 | -11.33 | 87.6 | -11.32 | Exceedant Reading |
| GW- 122 | 8/7/17 12:30 | 45.6 | 31.5 | 2.5 | 20.4 | -9.14 | -9.13 | 101.4 | -11.27 | Recheck - In Compliance |
| GW- 123 | 7/26/17 14:03 | 45.7 | 31.7 | 3.9 | 18.7 | -6.96 | -6.96 | 104.2 | -11.19 | |

This task typically takes between two and three days to perform, depending on the number of valve setting adjustments. A site map displaying the locations of the landfill gas collection wells is included as Attachment K-1.

# K.10 STORM WATER MANAGEMENT

## K.10.a Introduction

The purpose of this Storm Water Management Plan (SWMP) is to describe the system, operation and maintenance of the Storm Water Management System (SWMS) for the Lena Road Landfill.

The Manatee County Lena Road Landfill is located in Bradenton Florida on approximately 1,200 acres owned by Manatee County. 316 acres are designated for landfill. The rest of the property is used for wetlands mitigation, buffer, administration facilities, storm water management and the Manatee County regional wastewater treatment plant.

The Lena Road Landfill is divided into three stages which are listed below with the acreage and status for each stage:

- Stage I – 131 acres – partly filled and inactive
- Stage II – 110 acres – partly filled and active
- Stage III – 75 acres – partly filled and inactive

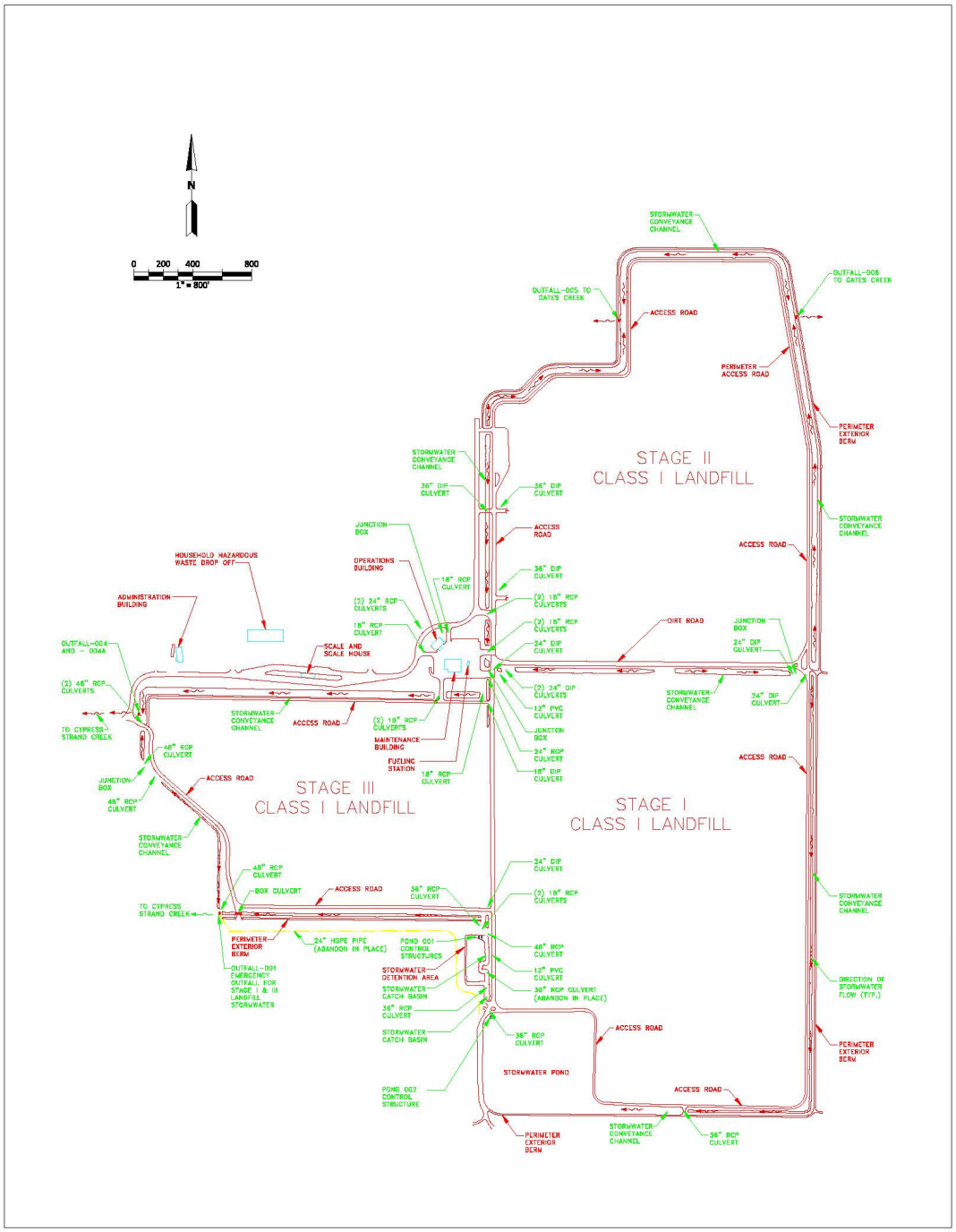
Figure K-11 is a site map of the Lena Road Landfill Storm Water Management System. The map shows the landfill stages, storm water swales, storm water pond and outfall structures. The landfill waste areas have a storm water drainage system. The details for the drainage system on the Stage I, II and III Landfills are shown on the Fill Sequence Plan drawings.

Currently all of the areas within Stages I and III have not been filled to final design dimensions. Waste is currently not being placed within Stages I nor III. Both Stages have received 12 inches of soil and or soil/mulch cover (intermediate cover) in addition to the six-inch initial cover and are vegetated as necessary to reduce slope erosion. As the waste mass within Stages I and III degrades with time and the elevations become more stable, the County may elect to place waste within those areas. Per Rule when those areas have then been filled to design dimensions they shall receive final cover within 180 days after attaining final elevation or in accordance with the Closure Plan.

## K.10.b Storm Water Management System overview

The purpose of the storm water management system is to collect clean storm water run-off from the landfill in terrace swales located on the landfill side slopes and convey the storm water to the detention areas for treatment and disposal to Cypress Strand Creek or Gates Creek. Any storm water that comes in contact with solid waste or is contaminated by leachate makes the storm water leachate, and requires discharge of the storm water to the leachate collection system for treatment at the wastewater treatment plant.

**Figure K-11. Site Map Lean Road Landfill**



- For retention and dry detention ponds only: The retention and/or dry detention pond is intended to become dry within 72 hours after a rainfall event. A system that is regularly wet will be considered as not in compliance with this permit and possible modification to the system may be required.

- The Operation and Maintenance Entity shall provide for the inspection of the permitted project after conversion of the permit to the operation and maintenance phase. For systems utilizing retention or wet detention, the inspections shall be performed five (5) years after operation is authorized and every five (5) years thereafter. Facility shall submit inspection reports in the form required by the Department, FDEP Form #62-343.900(6), Inspection Certification, for effluent filtration or exfiltration: 18 months after operation is authorized and every 18 months thereafter.

**2. NPDES Multi-Sector Generic Permit (MSGP)**

This permit was effective January 17, 2019 with an expiration date of January 16, 2024. The facility ID is FLR05F797-005. The requirements for this permit are included in the "Storm Water Pollution Prevention Plan for the Lena Road Landfill" which is periodically updated, with the most recent update dated December 2018.

**3. Lean Road Class I Landfill Operation Permit #39884-021-SO/01**

This permit was issued March 24, 2016 with an expiration date of March 24, 2036. Specific Condition 9 of the permit describes the surface water sampling requirement.

### K.10.b.1 Stage I System

The Stage I storm water perimeter swale was created by constructing two berms. The inner berm, called the landfill berm, is constructed around the area filled with solid waste, and the outer berm, called the storm water berm, was constructed around the inner berm to hold storm water runoff from the landfill in the swale until the storm water could be treated prior to discharge to Cypress Strand. The storm water swale drains to either a 10 acre storm water wet retention pond (Pond #2), or a 1.5 acre dry detention pond (Pond #1). The ponds are located at the southwest corner of the Stage I Landfill. Storm water enters the perimeter swale via direct rainfall, sheet flow down the outside slopes of the landfill, and from storm water discharge structures. Storm water collected in terrace swales on the landfill is diverted to inlets on the terrace swales which are connected to storm water pipes. The storm water pipes discharge storm water at the bottom of the landfill into the perimeter swale through the discharge structures. The treatment volume for Pond #2 provides for the first inch of runoff over the 115.38-AC contributing area. 9.61 ac-ft is required while 24.04 ac-ft is required and the discharge is routed to Pond #1. The treatment volume for Pond #1 provides for the first half inch of runoff over the 39.0-AC contributing area. 1.62 ac-ft is required while 3.52 ac-ft is required. Pond #1 includes an underdrain system to provide additional filtration of the stormwater prior to discharge to a perimeter ditch that drains westward to the southwest corner of Stage III, to the Outfall 001/Cypress Strand.

### K.10.b.2 Stage II System

The Stage II storm water management system is independent of Stages I and III. The system consists of a perimeter swale constructed with under drains and drop inlets for the discharge of storm water from the swale. Emergency Outfall Weirs 005 and 006 discharge storm water from the Stage II storm water swale to Gates Creek. The storm water swale was created by constructing two berms. The inner berm, called the landfill berm, is constructed around the area designated to be filled with solid waste, and the outer berm, called the storm water berm, was constructed around the inner berm to hold storm water runoff from the landfill in the swale until the storm water could be filter by the under drain and discharged to Gates Creek.

Runoff from Stage II areas that have not been developed for waste disposal is directed into the perimeter swale. The Stage II area is graded to allow runoff until new fill sequences are built and filled with solid waste. If the storm water does not run off or evaporate fast enough, Manatee County pumps the storm water over the landfill berm into the storm water swale. Storm water entering the storm water swale due to direct rainfall, run off or from pumping accumulated storm water inside the Stage II landfill, is filtered through the under drain system and discharged to Gates Creek.

All rainfall that falls within waste disposal areas will be contained and treated as leachate and pumped to the wastewater plant for treatment and disposal. As waste fill increases in height, the outer slopes that are covered with intermediate soil cover will be drained to the perimeter storm water swale. Storm water that comes in contact with solid waste will be treated as leachate. Areas of Stage II that do not contain waste will be allowed to drain storm water runoff to the storm water management system. Details of the filling sequence and storm water drainage are shown on the Fill Sequence Plans included in Appendix C to the permit application package.

### K.10.b.3 Stage III System

The Stage III system consists of a perimeter channel-pond dry detention with effluent filtration system, which will receive runoff from 74 acres of project area. The pond is designed to provide for the first one-half inch of runoff over the contributing area. The water quality treatment volume required for Stage III is 134,310 cubic feet (3.08 ac-ft) and the system provides for 146,573 cubic feet (3.36 ac-ft). The water quality treatment is provided between the pond bottom (elevation 31.0 feet) and the weir elevation of 32.4 feet. The water will drain through an under drain located in the northwest corner of Stage III and will recover in 72 hours. Attenuation for the 100-year, 24 hour storm event is provided by two outfall structures, 001 and 004. Outfall 001 consists of two identical modified FDOT Type “E” inlets. Two sides of the inlets have weirs set at elevation 32.4 feet and the front of the structure has a weir set at elevation 33.4 feet. The inlets discharge through two 42” RCPs to a double mitered end section at the southwest corner of Stage III. Outfall 004 consists of two FDOT Type “E” inlets in the northwest corner of Stage III and has the same weir set up as Outfall 001. The inlets discharge through two 27” x 42” HERCP to Cypress Strand Creek.

## K.10.c Maintenance Plan

This maintenance plan applies to the storm water management system for the Stage I, II and III Landfills. The storm water management system consists of a series of swales, inlets and pipes that divert storm water from the non-working areas of the landfill to the storm water pond. The swales discharge into pipes and/or other swales, or directly into the storm water pond. Runoff from the detention pond ultimately discharges into the Cypress Strand Creek or the Gates Creek via the on-site wetlands.

Storm water perimeter ditches and the filter facility are inspected daily for sediment, wash outs, litter, vegetation and non-performance. In the event of a side-slope wash out, the slope is repaired within 3 working days. Litter fences are installed along the top bank of each swale around the active landfill to minimize litter. Excessive vegetation is removed from the swale system and storm water pond. Sediment is removed from the swale and hauled to the working face.

Storm water runoff 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 storm water management system. Storm water runoff that has been in contact with waste materials is classified as leachate and cannot be diverted into the storm water management system. Storm water runoff from the upper portion of the landfill travels via sheet flow into collection terraces located along the side slopes of the landfill. Storm water runoff flows within the collection terraces and is conveyed, via storm water structures, and as shown on the Fill Sequence Drawings, down the landfill and into swales that are located along the perimeter of the landfill. The perimeter swales convey storm water runoff to a storm water management pond. Storm water runoff collected in the pond is allowed to percolate. As the water in the pond rises, it is pumped to the automatic disc filter system.

The following procedures have been implemented at the landfill to minimize maintenance requirements and to ensure efficient performance of the storm water system operation:

- 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 storm water collection facility.
- All drainage ditches are inspected periodically for erosion and reshaped and re-sodded 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 have 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.

# K.11 EQUIPMENT/OPERATION FEATURES

## K.11.a Sufficient Equipment

The County has sufficient equipment to provide flexible landfill operations. Attachment K-3 provides a list of the current landfill heavy equipment for daily operations.

All landfill equipment that will be in operation on that day is serviced with special attention to any maintenance or minor repair needs. If the repair work required is more than minor in nature, it is sent to the landfill garage. The equipment is primarily serviced by Manatee County Fleet Services that operates a repair center at the Landfill Facility.

The following procedures are used in fueling equipment each day:

1. Check the following fluids to ensure they are at the manufacturer's recommended level:
   - Pivot shaft oil
   - Engine oil
   - Hydraulic oil
   - Fuel
   - Transmission oil
   - Radiator water
   - Battery water level
2. Check and clean the following filters:
   - Air clean
   - Interior/exterior air conditioner filters
3. Pressure wash with water and/or air:
   - Radiator core
   - Transmission oil coolers
   - Hydraulic oil coolers
4. Clean all air intake openings such as door panels, steps, hood, and air-breather intake.
5. Visually check for water, fuel and oil leaks in the final drive, radiator hoses, hydraulic hoses, fuel lines, injector pumps, fuel filters, etc.

6. Check tire inflation and/or track adjustment, chain tension and alignment on scrapers.

7. Grease all fittings at recommended intervals.

8. Complete the Daily Equipment Maintenance Report.

Fuel for the landfill equipment is pumped from a fuel tank, located as shown on Figure 5. The tank is an above ground, double walled, steel tank with a total capacity of 20,000 gallons, and is split into two compartments. One 5,000-gallon compartment is for gasoline, and a 15,000-gallon compartment for diesel fuel. The tank is on a concrete slab, and protected by bollards. The tank is inspected weekly. 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.11.b Reserve Equipment

Attachment K-3 indicates the County possesses sufficient equipment to operate the landfill. In the event the dozer is out of service, the compactors can be used to spread refuse over the active face. In addition, the County can rent backup equipment from its approved Bid List or from County sources within 24 hours if necessary.

## K.11.c Communication Equipment

All equipment operators and traffic controllers are equipped with hand-held radios. This radio transmission service links the field personnel to the office and management. Telephones are available in the office, maintenance garage and Scalehouse.

## K.11.d Dust Control

Internal access roads are sprayed with water to control dust. Vegetation on filled areas assists in controlling dust from this area.

## K.11.e Fire Protection

Further details regarding the fire protection can be found in Section K.2.b.

## K.11.f Litter Control Devices

See Section K.7.j.

## K.11.g Signs

Signs are used around the site to direct traffic to the active face, white goods area, tire area, lead-acid battery drop-off, clean debris, yard waste, mulch site, speed limits, disposal rates and hours of operation, and prohibitions.

## K.11.h Shelter/Sanitation/First Aid Features

Shelter and sanitation facilities for the landfill staff are provided at the scale house, landfill office and public restroom facility. First aid kits are provided in the cab of all heavy equipment and in vehicles.

An AED (Automated External Defibrillator) is available in the scale house. First aid kits, located in the Landfill Administration Office and the scale house, are maintained and inspected regularly. The kits will contain, at a minimum, the following:

| | | |
|---|---|---|
| sterile gauze pads | band aids (regular and non-stick) | eye wash |
| rolls of gauze bandage | adhesive tape | |
| bandage scissors | peroxide | |
| roll of sterile cotton gauze | safety pins | |
| tweezers | rubbing alcohol | |
| CPR mouth barrier | gloves | |

In the case of accidental poisoning:

Step 1: Carefully remove poison from contact with person.

Eyes: Flush with lukewarm water, NOT HOT WATER, in a gentle stream for 10-15 minutes with eyelids open. Pour water from a container held 2-4 inches above the eye. **DO NOT RUB THE EYES.**

Skin: REMOVE any clothing that has come in contact with the poison. Flush poison off with large amounts of water poured from a container held 2-4 inches above the affected skin area for 10-15 minutes.

Mouth: REMOVE any poison from the mouth. Rinse the mouth out with water. If unable to rinse, gently rub out mouth with a clean cloth. Check mouth for any burns, cuts, unusual coloring, swelling or irritations.

Lungs: Get to fresh air as soon as possible. Loosen clothing if exposed to gases or fumes. Initiate mouth-to-mouth resuscitation if necessary.

Step 2: Give water when potential poisons have been swallowed. DO NOT give water if the person is unconscious, having convulsions or cannot swallow.

Step 3: **NEVER** make the person vomit **unless** the poison center or a physician directs you to do so.

Step 4: KEEP CALM. **DO NOT DELAY IN SEEKING HELP!**

# K.12 ALL-WEATHER ACCESS ROADS

The main haul road in the landfill is paved. Vehicles leaving the main haul road in route to the working face travel across an interior road. The interior road base is constructed of construction and demolition (C&D) material and covered with a sand-shell mixture. The road is routinely maintained to provide waste hauler access to the work face. As discussed in K.2.b, during severe wet weather, small vehicles are directed to the wet weather disposal area for tipping.

# K.13 ADDITIONAL RECORD KEEPING

Required landfill records are reported to the Department on a monthly, quarterly, semi-annually, annual, biennial basis. All records are maintained at the landfill for a minimum of ten years or for the design period as specified below. The design period is projected to end in the year 2071 (unless long-term care is decreased).

## K.13.a Permit Application Development

All reports used to develop permit applications and operation records will be maintained for the design period. Records such as geotechnical investigations, foundation analyses, demonstration reports, and previous permits and regulations are examples of records to be maintained.

## K.13.b Monitoring Records

All water quality, gas, and leachate monitoring records are required to be maintained for at least ten years. Background water quality records shall be maintained for the design period of the landfill.

In accordance with various Environmental Protection Agency (EPA), Southwest Florida Water Management District (SWFWMD), and the Florida Department of Environmental Protection (FDEP) rules, regulations and permits, the Landfill must conduct various field monitoring /maintenance activities and submit reports on a scheduled basis. The following information is intended as an overview of required activities and reports and is also addressed in individual sub-sections regarding the activity or program.

### K.13.b.1 Groundwater

The County contracted laboratory inspects and samples one background monitoring well, BGW-1 and 25 groundwater monitoring wells, which includes 15 wells (GW-3 trough GW-17) for the Stage I and III Landfills, and 10 wells (GW-18 trough GW-27R) for Stage II Landfill. The results are submitted semi-annually to the Department.

A review of the analyses, comparisons of the data, and comments on any substantial differences in parameters is to be submitted to the FDEP every two and one-half years or as required in the permit.

#### K.13.b.2 Leachate

Flow meters which record leachate directed to the Southeast Waste Water Treatment Plant are inspected daily. The leachate quantity is reported monthly.

#### K.13.b.3 Department of Environmental Protection Reports

- Prepare monthly groundwater report.
- Prepare annual compaction and fill volumes.
- Prepare groundwater report semi-annually.
- Prepare leachate analysis report annual.
- Prepare monthly water balance reports.
- Prepare monthly report on the landfill gas readings taken at each landfill gas wellhead and flare.
- Prepare quarterly report of the landfill gas readings at gas monitoring probes and ambient points.
- Prepare quarterly report of the landfill gas surface emissions monitoring.

### K.13.c Annual Estimate of the Remaining Life of Constructed Landfill

Manatee County will annually estimate the remaining solid waste disposal capacity in cubic yards and the remaining landfill life in years. The estimate will be based on the geometry of the filled landfill, final contours, scale house records for waste received and the filling rate of the landfill. The estimate will be submitted annually to FDEP by the date specified in the permit.

### K.13.d Archiving and Retrieving Records

All records pertaining to the operation of the facility will be retained throughout the design life of the landfill. All monitoring records, calibration and maintenance records and reports required by the landfill operation permit will be retained for at least ten years. Records may be archived after five years provided they can be retrieved within seven days.

## K.14 SPECIAL WASTE HANDLING

### K.14.a Motor Vehicles

Motor vehicles are not presently accepted for disposal or temporary storage at the Lena Road Landfill.

### K.14.b Shredded Waste

Shredded municipal waste is not accepted for disposal at the Lend Road Landfill. Shredded tires may be accepted if not recycled.

## K.14.c Asbestos

Asbestos containing materials from sources covered under the National Emission Standards for Asbestos, 40 CFR Part 61, Subpart M are accepted at the Lena Road Landfill, with prior approval of the County. These materials will be placed in the landfill by appointment only, covered with a minimum of one foot of non-asbestos containing material, and the location will be recorded in accordance with 40 CFR Part 61.154. A record of the location of asbestos-containing waste will be maintained.

## K.14.d Contaminated Soil

Soils contaminated with non-hazardous waste and petroleum-contaminated soil, which has been treated pursuant to Chapter 62-713, F.A.C., will be accepted at the discretion of the County.

## K.14.e Biological Waste

Biological waste is generally not accepted. However, carcasses of domestic animals that have died due to disease may be accepted and disposed, provided they are buried at least two feet below the surface of the ground in accordance with 823.041(1), Florida Statutes. Captive wildlife, fish or marine animals, and domestic animals that died from causes other than disease may also be accepted and disposed at least two feet below the surface of the ground and above the water table.

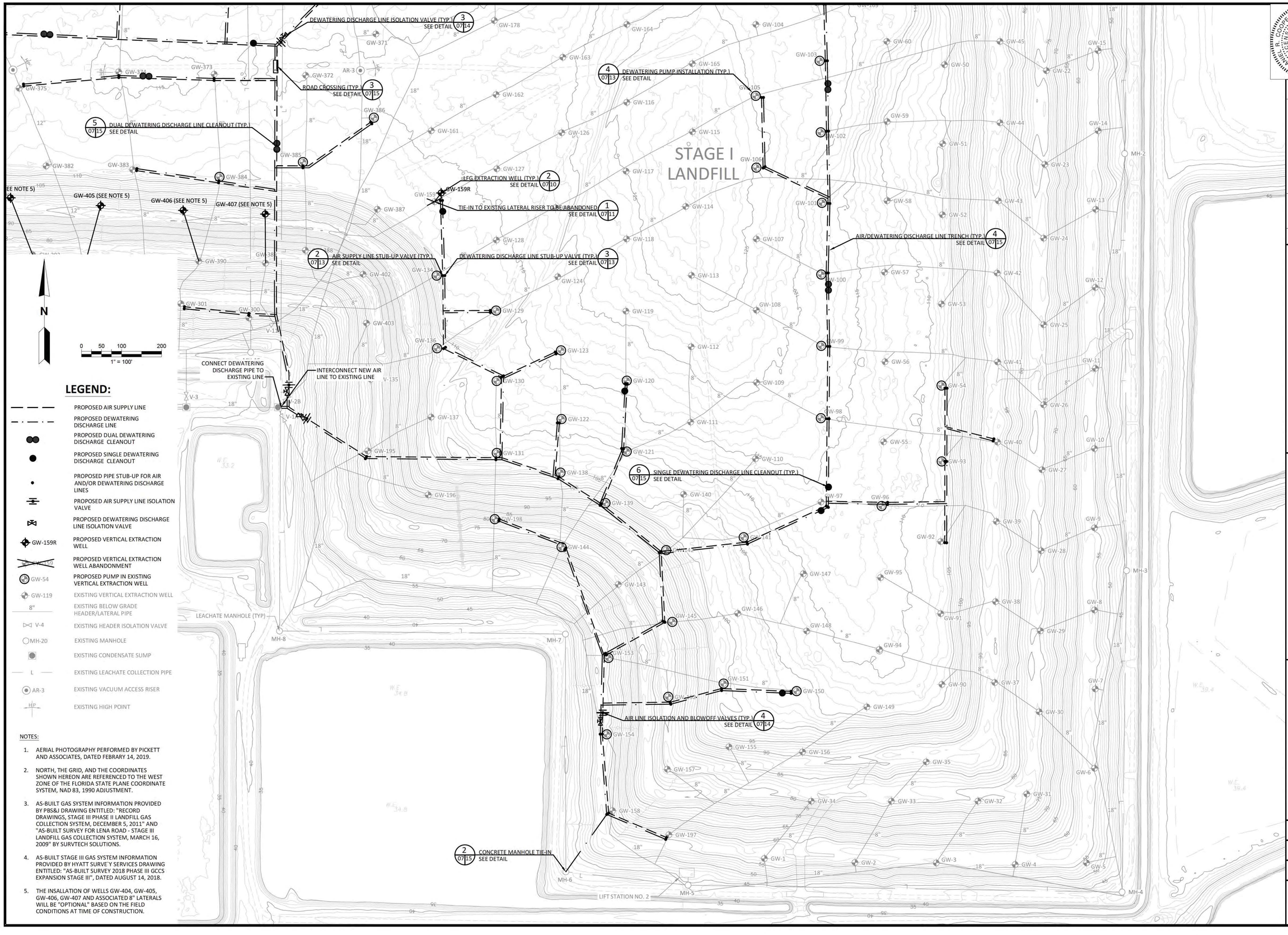
The landfill may also accept and dispose of dead poultry and hatchery residue.

## K.14.f Oily Waste

Materials as defined in Chapter 62-701.300 (11)(b), F.A.C., may be accepted for disposal at the discretion of the County.

# Attachment K-1

# Landfill Gas Collection System




## LEGEND:

- PROPOSED AIR SUPPLY LINE
- PROPOSED DEWATERING DISCHARGE LINE
- PROPOSED DUAL DEWATERING DISCHARGE CLEANOUT
- PROPOSED SINGLE DEWATERING DISCHARGE CLEANOUT
- PROPOSED PIPE STUB-UP FOR AIR AND/OR DEWATERING DISCHARGE LINES
- PROPOSED AIR SUPPLY LINE ISOLATION VALVE
- PROPOSED DEWATERING DISCHARGE LINE ISOLATION VALVE
- GW-159R — PROPOSED VERTICAL EXTRACTION WELL
- PROPOSED VERTICAL EXTRACTION WELL ABANDONMENT
- GW-54 — PROPOSED PUMP IN EXISTING VERTICAL EXTRACTION WELL
- GW-119 — EXISTING VERTICAL EXTRACTION WELL
- 8" — EXISTING BELOW GRADE HEADER/LATERAL PIPE
- V-4 — EXISTING HEADER ISOLATION VALVE
- MH-20 — EXISTING MANHOLE
- EXISTING CONDENSATE SUMP
- L — EXISTING LEACHATE COLLECTION PIPE
- AR-3 — EXISTING VACUUM ACCESS RISER
- HP — EXISTING HIGH POINT

NOTES:

1. AERIAL PHOTOGRAPHY PERFORMED BY PICKETT AND ASSOCIATES, DATED FEBRARY 14, 2019.
2. NORTH, THE GRID, AND THE COORDINATES SHOWN HEREON ARE REFERENCED TO THE WEST ZONE OF THE FLORIDA STATE PLANE COORDINATE SYSTEM, NAD 83, 1990 ADJUSTMENT.
3. AS-BUILT GAS SYSTEM INFORMATION PROVIDED BY PBS&J DRAWING ENTITLED: "RECORD DRAWINGS, STAGE III PHASE II LANDFILL GAS COLLECTION SYSTEM, DECEMBER 5, 2011" AND "AS-BUILT SURVEY FOR LENA ROAD - STAGE III LANDFILL GAS COLLECTION SYSTEM, MARCH 16, 2009" BY SURVTECH SOLUTIONS.
4. AS-BUILT STAGE III GAS SYSTEM INFORMATION PROVIDED BY HYATT SURVE'Y SERVICES DRAWING ENTITLED: "AS-BUILT SURVEY 2018 PHASE III GCCS EXPANSION STAGE III", DATED AUGUST 14, 2018.
5. THE INSALLATION OF WELLS GW-404, GW-405, GW-406, GW-407 AND ASSOCIATED 8" LATERALS WILL BE "OPTIONAL" BASED ON THE FIELD CONDITIONS AT TIME OF CONSTRUCTION.

DANIEL R. COOPER LICENSE No 66440 STATE OF FLORIDA PROFESSIONAL ENGINEER

DANIEL R. COOPER, P.E.
LICENSE NO. 66440

| REV | DATE | DESCRIPTION | CHK. BY |
|---|---|---|---|
| | | | |

SHEET TITLE
**PROPOSED SITE PLAN - STAGE I**

PROJECT TITLE
**STAGE II, PHASE I GCCS SYSTEM EXPANSION**

CLIENT
**MANATEE COUNTY SOLID WASTE DIVISION**


**SCS ENGINEERS**
STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS
3922 COCONUT PALM DRIVE, SUITE 102, TAMPA, FL 33619
PH (813) 621-0080 FAX NO. (813) 623-6757
FLORIDA CERTIFICATE OF AUTHORIZATION NO. 00004892


| PROJ. NO. | DWN. BY: | QUA./REVW BY: |
|---|---|---|
| 09217088.12 | SWT | CAR |
| DSN. BY: | CHK. BY: | APP. BY: |
| DRC | DRC | DRC |

CADD FILE:
07 PROPOSED LENA ROAD

DATE:
APRIL 2020

SCALE:
AS SHOWN

DRAWING NO.
**07**
SHEET **07** of **17**

F:\PROJECT\09217088.12\Task 2 - GCCS Design Services\Drawings\Engineering Drawings\07 Proposed Lena Road.dwg Apr 10, 2020 - 5:03pm Layout Name: 07 PROPOSED SITE PLAN - STAGE I By: 4430swt

STAGE III LANDFILL

LIFT STATION NO. 3

LIFT STATION NO. 1

LANDFILL GAS BLOWER/FLARE AREA

HDPE MANHOLE TIE-IN (1 / 08|15) SEE DETAIL

DUAL DEWATERING DISCHARGE LINE CLEANOUT (TYP.) (5 / 08|15) SEE DETAIL

DEWATERING DISCHARGE LINE STUB-UP VALVE (TYP.) (3 / 08|13) SEE DETAIL

AIR SUPPLY LINE LINE STUB-UP VALVE (TYP.) (2 / 08|13) SEE DETAIL

DEWATERING DISCHARGE LINE ISOLATION VALVE (TYP.) (3 / 08|14) SEE DETAIL

AIR LINE ISOLATION AND BLOWOFF VALVE (TYP.) (4 / 08|14) SEE DETAIL

18" LFG HEADER TIE-IN (2 / 08|14) SEE DETAIL

ROAD CROSSING (TYP.) (3 / 08|15) SEE DETAIL

TIE-IN TO EXISTNG LATERAL RISER TO BE ABANDONED (TYP.) (1 / 08|11) SEE DETAIL

LFG EXTRACTION WELL (TYP.) (2 / 08|10) SEE DETAIL

DEWATERING PUMP INSTALLATION (TYP.) (4 / 08|13) SEE DETAIL

SINGLE DEWATERING DISCHARGE LINE CLEANOUT (TYP.) (6 / 08|15) SEE DETAIL

GW-404 (SEE NOTE 5)

GW-405 (SEE NOTE 5)

GW-406 (SEE NOTE 5)

GW-407 (SEE NOTE 5)

HEADER/LATERAL PIPE TRENCH (TYP.) (3 / 08|11) SEE DETAIL

AIR/DEWATERING DISCHARGE LINE TRENCH (TYP.) (4 / 08|15) SEE DETAIL

CONNECT DEWATERING DISCHARGE PIPE TO EXISTING LINE

INTERCONNECT NEW AIR LINE TO EXISTING LINE

N

0 50 100 200

1" = 100'

## LEGEND:

- PROPOSED 18" HEADER
- PROPOSED 8" LATERAL PIPE
- PROPOSED AIR SUPPLY LINE
- PROPOSED DEWATERING DISCHARGE LINE
- PROPOSED DUAL DEWATERING DISCHARGE LINE CLEANOUT
- PROPOSED SINGLE DEWATERING DISCHARGE LINE CLEANOUT
- PROPOSED PIPE STUB-UP FOR AIR AND/OR DEWATERING DISCHARGE LINES
- PROPOSED AIR SUPPLY LINE ISOLATION VALVE
- PROPOSED DEWATERING DISCHARGE LINE ISOLATION VALVE
- V-12 PROPOSED HEADER ISOLATION VALVE
- HC-01 PROPOSED HORIZONTAL COLLECTOR WELL
- EW-200 PROPOSED VERTICAL EXTRACTION WELL
- PROPOSED ROAD CROSSING
- PROPOSED VERTICAL EXTRACTION WELL ABANDONMENT
- GW-119 PROPOSED PUMP IN EXISTING VERTICAL EXTRACTION WELL
- GW-119 EXISTING VERTICAL EXTRACTION WELL
- 8" EXISTING BELOW GRADE HEADER/LATERAL PIPE
- V-4 EXISTING HEADER ISOLATION VALVE
- MH-20 EXISTING MANHOLE
- EXISTING CONDENSATE SUMP
- L EXISTING LEACHATE COLLECTION PIPE
- AR-3 EXISTING VACUUM ACCESS RISER
- HP EXISTING HIGH POINT
- EXISTING ROAD CROSSING

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2. NORTH, THE GRID, AND THE COORDINATES SHOWN HEREON ARE REFERENCED TO THE WEST ZONE OF THE FLORIDA STATE PLANE COORDINATE SYSTEM, NAD 83, 1990 ADJUSTMENT.
3. AS-BUILT GAS SYSTEM INFORMATION PROVIDED BY PBS&J DRAWING ENTITLED: "RECORD DRAWINGS, STAGE III PHASE II LANDFILL GAS COLLECTION SYSTEM, DECEMBER 5, 2011" AND "AS-BUILT SURVEY FOR LENA ROAD - STAGE III LANDFILL GAS COLLECTION SYSTEM, MARCH 16, 2009" BY SURVTECH SOLUTIONS.
4. AS-BUILT STAGE III GAS SYSTEM INFORMATION PROVIDED BY HYATT SURVE'Y SERVICES DRAWING ENTITLED: "AS-BUILT SURVEY 2018 PHASE III GCCS EXPANSION STAGE III", DATED AUGUST 14, 2018.
5. THE INSALLATION OF WELLS GW-404, GW-405, GW-406, GW-407 AND ASSOCIATED 8" LATERALS WILL BE "OPTIONAL" BASED ON THE FIELD CONDITIONS AT TIME OF CONSTRUCTION.

DANIEL R. COOPER LICENSE No 66440 STATE OF FLORIDA PROFESSIONAL ENGINEER

DANIEL R. COOPER, P.E. NO.66440
LICENSE NO.

| REV | DATE | DESCRIPTION | CHK. BY |
|---|---|---|---|

SHEET TITLE: PROPOSED SITE PLAN - STAGE III

PROJECT TITLE: STAGE II, PHASE I GCCS SYSTEM EXPANSION

CLIENT: MANATEE COUNTY SOLID WASTE DIVISION

SCS ENGINEERS
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| PROG. NO. | DWN. BY | QUA. REVW BY | APP. BY |
|---|---|---|---|
| 09217088.12 | SWT | CAR | DRC |
| DSN. BY: DRC | CHK. BY: DRC | | |

CADD FILE: 07 PROPOSED LENA ROAD

DATE: APRIL 2020

SCALE: AS SHOWN

DRAWING NO. 08

SHEET 08 of 17

N

0 50 100 200

1" = 100'

## LEGEND:

- 18" — PROPOSED 18" HEADER
- 8" — PROPOSED LATERAL PIPE
- PROPOSED AIR SUPPLY LINE
- PROPOSED DEWATERING DISCHARGE LINE
- PROPOSED CONDENSATE SUMP
- PROPOSED PIPE STUB-UP FOR AIR AND/OR DEWATERING DISCHARGE LINES
- AR-4 — PROPOSED ACCESS RISER
- PROPOSED BLIND FLANGE
- PROPOSED DEWATERING DISCHARGE LINE CLEANOUT
- PROPOSED SINGLE DEWATERING DISCHARGE LINE CLEANOUT
- V-12 — PROPOSED HEADER ISOLATION VALVE
- HC-01 — PROPOSED HORIZONTAL COLLECTOR WELL HEAD
- GW-200 — PROPOSED VERTICAL EXTRACTION WELL
- PROPOSED ROAD CROSSING
- PROPOSED VERTICAL EXTRACTION WELL ABANDONMENT
- GW-119 — PROPOSED PUMP IN VERTICAL EXTRACTION WELL
- GW-119 — EXISTING VERTICAL EXTRACTION WELL
- 8" — EXISTING BELOW GRADE HEADER/LATERAL PIPE
- V-4 — EXISTING HEADER ISOLATION VALVE
- MH-20 — EXISTING MANHOLE
- EXISTING CONDENSATE SUMP
- L — EXISTING LEACHATE COLLECTION PIPE
- EXISTING ROAD CROSSING
- EXISTING SOLID HORIZONTAL COLLECTOR PIPE
- EXISTING PERFORATED HORIZONTAL COLLECTOR PIPE

NOTES:

1. AERIAL PHOTOGRAPHY PERFORMED BY PICKETT AND ASSOCIATES, DATED FEBRARY 14, 2019.
2. NORTH, THE GRID, AND THE COORDINATES SHOWN HEREON ARE REFERENCED TO THE WEST ZONE OF THE FLORIDA STATE PLANE COORDINATE SYSTEM, NAD 83, 1990 ADJUSTMENT.
3. AS-BUILT GAS SYSTEM INFORMATION PROVIDED BY PBS&J DRAWING ENTITLED: "RECORD DRAWINGS, STAGE III PHASE II LANDFILL GAS COLLECTION SYSTEM, DECEMBER 5, 2011" AND "AS-BUILT SURVEY FOR LENA ROAD - STAGE III LANDFILL GAS COLLECTION SYSTEM, MARCH 16, 2009" BY SURVTECH SOLUTIONS.
4. AS-BUILT STAGE III GAS SYSTEM INFORMATION PROVIDED BY HYATT SURVEY SERVICES DRAWING ENTITLED: "AS-BUILT SURVEY 2018 PHASE III GCCS EXPANSION STAGE III", DATED AUGUST 14, 2018.
5. STAGE II HORIZONTAL COLLECTORS INSTALLED DURING OCTOBER 2019 HORIZONTAL COLLECTOR GCCS EXPANSION.

STAGE II LANDFILL

LIFT STATION NO. 4

LIFT STATION NO. 1

MH-E1, MH-D1, MH-C1, MH-B1, MH-A1, MH-11, MH-30, MH-12, MH-10, MH-E, MH-D, MH-C, MH-B, MH-A, MH-1

CS-5, CS-4, CS-6

GW-208, GW-207, GW-206, GW-205, GW-204, GW-203, GW-202, GW-201, GW-200, GW-217, GW-216, GW-215, GW-214, GW-213, GW-212, GW-211, GW-210, GW-209, GW-191, GW-190, GW-186, GW-185, GW-184, GW-183, GW-182, GW-181, GW-180, GW-179, GW-179R, GW-178, GW-177, GW-176, GW-175, GW-174, GW-173, GW-172, GW-171, GW-170, GW-169, GW-168, GW-167, GW-167R, GW-166, GW-164, GW-104, GW-60, GW-45, GW-15, GW-360A, GW-359, GW-371, GW-370, GW-369, GW-349, GW-335, GW-334, GW-333, GW-332, GW-331, GW-330, GW-329, GW-328, GW-327, GW-326, GW-3B, GW-3A, GW-61, GW-49, GW-48, GW-47, GW-46, GW-21, GW-20, GW-19, GW-18, GW-17, GW-16

HC-04, HC-03, HC-02, HC-01, HC-08, HC-07, HC-06, HC-05

V-12, V-13, V-10, V-9

1 09\14 BURIED BLIND FLANGE FOR FUTURE EXPANSION (TYP.) SEE DETAIL

1 09\17 HORIZONTAL COLLECTOR WELL (TYP.) SEE DETAIL

LEG WELL HEAD (TYP.) 1 09\12 SEE DETAIL

2 09\11 HEADER PIPE TRENCH (TYP.) SEE DETAIL

LEG EXTRACTION WELL (TYP.) 2 09\10 SEE DETAIL

2 09\14 18" LEG HEADER TIE-IN SEE DETAIL

HEADER ISOLATION VALVE (TYP.) 4 09\17 SEE DETAIL

TIE-IN LOCATION N: 1,141,358.77 E: 515,166.88

DEWATERING PUMP INSTALLATION (TYP.) 4 09\13 SEE DETAIL

3 09\15 ROAD CROSSING (TYP.) SEE DETAIL

2 09\13 AIR SUPPLY LINE STUB-UP VALVE (TYP.) SEE DETAIL

DEWATERING DISCHARGE LINE STUB-UP VALVE (TYP.) 3 09\13 SEE DETAIL

2 09\12 CONDENSATE SUMP FLANGED INTERCONNECTION TIE-IN SEE DETAIL

CONDENSATE SUMP (TYP.) 3 09\16 SEE DETAIL

HEADER ACCESS RISER (TYP.) 1 09\16 SEE DETAIL

BLIND FLANGE FOR FUTURE SYSTEM EXPANSION, SEE SHEET 12, DETAIL 1

CONCRETE MANHOLE TIE-IN 2 09\15 SEE DETAIL

SINGLE DEWATERING DISCHARGE LINE CLEANOUT (TYP.) 6 09\15 SEE DETAIL

AIR/DEWATERING DISCHARGE LINE TRENCH 4 09\15 SEE DETAIL

TIE-IN TO EXISTNG LATERAL RISER TO BE ABANDONED (TYP.) 1 09\11 SEE DETAIL

EXISTING LEG EXTRACTION WELL ABANDONMENT (TYP.) 2 09\11 SEE DETAIL

5 09\15 DUAL DEWATERING DISCHARGE LINE CLEANOUT (TYP.) SEE DETAIL

3 09\14 DEWATERING DISCHARGE LINE ISOLATION VALVE (TYP.) SEE DETAIL

AIR LINE ISOLATION AND BLOWOFF VALVE (TYP.) 4 09\14 SEE DETAIL

DANIEL R. COOPER LICENSE No 66440 STATE OF FLORIDA PROFESSIONAL ENGINEER

DANIEL R. COOPER, P.E. NO.66440 LICENSE NO.

| REV | DATE | DESCRIPTION | CHK. BY |
|---|---|---|---|

SHEET TITLE: **PROPOSED SITE PLAN - STAGE II**

PROJECT TITLE: **STAGE II, PHASE I GCCS SYSTEM EXPANSION**

CLIENT: **MANATEE COUNTY SOLID WASTE DIVISION**


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PROJ. NO. 09217088.12 | DWN. BY: SWT | QUA.R/V.W BY: CAR | CHK. BY: DRC | APP. BY: DRC | DSN. BY: DRC

CADD FILE: 07 PROPOSED LENA ROAD

DATE: APRIL 2020

SCALE: AS SHOWN

DRAWING NO. **09**

SHEET **09** of **17**

F:\PROJECT\09217088.12\Task 2 - GCCS Design Services\Drawings\Engineering Drawings\07 Proposed Lena Road.dwg Apr 10, 2020 - 5:03pm Layout Name: 09 PROPOSED SITE PLAN - STAGE II By: 4430swt

# Attachment K-2

# Operations Plan
# Household Hazardous Waste Collection and Storage Facility

**Attachment K-2**

# Household Hazardous Waste Collection And Storage Facility Operations Plan

## Lena Road Class I Landfill

**Manatee County**
Utilities Department
Solid Waste Division
3333 Lena Road
Bradenton, FL 34211

Revised March 2021

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**Figures**

Figure K.2.1 HHW Building Floor Plan

# SECTION 1

# DEFINITIONS

Conditionally Exempt Small Quantity Generators (CESQG): (40 CFR 261.5) A generator who produces no more than 100 kg (220 lbs) of hazardous waste or no more than 1 kg of acutely hazardous waste per month.

Contingency Plan: A document setting out an organized, planned, and coordinated course of action.

Hazardous Material: A substance or material including a hazardous substance, which has been determined by the Secretary of Transportation capable of posing an unreasonable risk to health, safety, and property during transportation.

Household Hazardous Waste Collection and Storage Facility: A facility established by the Manatee County Board of County Commissioners to provide hazardous waste disposal services to households.

Household: Single and multiple dwellings and other residential sources within Manatee County.

Personal Protective Equipment: Equipment used to protect individuals from chemical, physical and biological hazards.

Training: Instruction in the use of equipment, personal protective equipment, site safety and handling.

# SECTION 2

# HISTORY

The Manatee County Household Hazardous Waste Collection and Storage Facility (HHW Facility) opened in May 1993 within the Stage III Landfill. This facility was removed as solid waste filled the Stage III Landfill.

The Administration Facilities includes a household hazardous waste collection and storage facility. The facility floor plan is shown on Figure K.2.1. The building includes forced air ventilation, dry chemical fire suppression system, and storage for hazardous waste. The building is engineered to comply with EPA, NAPA, and OSHA standards and regulations for storing hazardous chemicals and wastes. The building is also corrosion resistant and features secondary containment for the prevention of spills or leaks. The facility has a concrete slab and is under a roof as shown on the figures. The materials processed and the method of processing remains the same.

# SECTION 3

# FACILITY PROGRAM

The Manatee County HHW Facility is located at 3333 Lena Road, Bradenton, Florida. The Facility has a secured storage building specifically designed for the storage of hazardous materials and/or wastes. The major components of the HHW Facility are as follows:

- Security System: The entire site is fenced with a six (6) foot high chain link fence. Six gates provide ingress and egress to the facility. When not in use, the facility is locked and secured. A double security exists in that the main access road into the County Landfill has a gate and is secured when the Landfill is not in operation.

- Containment and Storage System: The storage building is specifically designed for hazardous materials featuring secondary containment in the event of a spill. The building is equipped with forced air ventilation and dry chemical fire suppression systems**.** The building has separate storage bays. A heavy-duty locked aluminum storage cabinet anchored to a concrete slab serves as the ammunition locker and does not have a dry chemical fire suppression system.

- Other hazardous materials storage is under roof along with covered containment areas for storage of fluorescent bulbs in a closed rack system, surrounded by a concrete curbing and waste oil tanks that are in submerged containment area surrounded by cement reinforced containment.

- The storage buildings sit flush with an impervious, slightly sloped, reinforced containment area. The Facility is located inside the confines of the Manatee County Solid Waste Management Landfill Facility.

The facility is open to Manatee County residents Monday through Friday from 8:00 a.m. to 5:00 p.m. and on the third Saturday of each month from 9:00 a.m. to 3:00 p.m. Wastes that are classified as medical or radioactive are not accepted. There is not a disposal weight limit during the collections and disposal is provided free of charge to County residents. The cost of the program is funded by landfill disposal tipping fees.

Events are held at several sites throughout Manatee County in the spring and fall of the year. Siting locations of the event are at the HHW Lena Road Landfill Facility and at the Utilities Department Complex, 4501 4410 66$^{th}$ Street West, Bradenton, Florida, Palmetto Fairgrounds, 1303 17$^{th}$ St. W. Palmetto, Florida and various other County locations. Commercial HHW collection information is provided to the commercial generator categories under the same rate schedule as that of Manatee County.

Monthly collections/events are operated by the certified Recycling Supervisor in the HHW Facility located at the Landfill. The contracted collection/disposal vendor is on site at the collection to assist with unloading. The contractor bulks and lab packs any of the waste material received during the

collection. Partial containers are stored in the HHW Facility until the following monthly collection. The Recycling Supervisor reviews all paperwork and has the responsibility of approving and signing outgoing manifests.

The monthly and occasional events described in the previous paragraphs are advertised in the County's utility billing and the local radio adds. General Household Hazardous Waste program information is available on the County's website at www.mymanatee.org/hhw.

# SECTION 4

# CONTAINMENT

## 4.1. CONTAINMENT

- Containers of paint adjacent to the outside containment areas on concrete slabs covered with plastic sheeting prior to removal by the contracted vendor.
- Propane tanks and electronic waste (e-scrap) are stored in designated areas on the concrete slab inside the HHW building.
- Other wastes such as small flammables and pesticides are contained in the storage building.
- Storm water shall be prevented from accumulating within in-service containment structures.

# SECTION 5

# WASTE ACCEPTANCE CRITERIA

## 5.1. HOUSEHOLD WASTE

Household Hazardous Wastes are accepted Monday through Friday from 8:00 a.m. to 5:00 p.m. and on the third Saturday of each month from 9:00 a.m. to 3:00 p.m. The waste must fall within the categories permitted by the contracted collection/disposal vendor and not be of a radioactive, bio-hazardous or medical nature. A residential disposer must also have generated the waste.

## 5.2. CESQG WASTE

CESQG waste is collected by arrangement directly between the contracted collection/disposal vendor and the generator.

# SECTION 6

# PERSONNEL

## 6.1. TRAINING

Facility personnel must successfully complete a 24-hour OSHA training program that teaches performance of duties in a way that ensures the facility is operated in a manner that protects them and the public from potential health and safety hazards at the site and is protective of the environment.

The instructor providing the training includes appropriate aspects of hazardous waste/material management including selection of protective clothing and equipment and emergency response. At a minimum, the training program is designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including where applicable:

- Contact list for departments to respond to fire and/or explosions, discharges to the land surface; incidents
- Shutdown of operations

Facility personnel shall take part in annual eight (8) hour refresher training.

Facility personnel has on staff at least one person who has no less than 24 hours training in appropriate aspects of hazardous waste/material management whenever waste is being received and whenever any hazardous material is being bulked or otherwise treated.

# SECTION 7

# RECORDS

The following documents and records shall be maintained at the Facility offices:

- A record of all personnel engaged in work, either full-time or temporary.
- Facility personnel who have completed a record of training.

# SECTION 8

# PERSONNEL TRAINING REQUIREMENTS

All County personnel participating in the HHW collection programs shall be trained to the appropriate level for their participation. All trained County personnel are specifically trained as Hazardous Waste Collection Staff. The Recycling Supervisor is responsible for enforcing all safety policies. The following guidelines outline the training requirements to be completed by personnel so they may safely work with hazardous materials during the collection programs. This training will, therefore, reduce the potential for hazardous material-related accidents.

## 8.1. UNLOADERS/PAINT SORTERS

Training for this level is limited to on-the-job instruction. Personnel trained will have minimal contact with the waste, but will work under the direction of the Recycling Supervisor. After initial screening of the waste, personnel will unload the waste from the vehicles into carts. Collected paint containers are placed in containers for collection by contracted collection/disposal vendor.

## 8.2. FACILITY STAFF

Training for this level of participation includes both classroom instruction and on-the-job training. Staff assists with opening and closing the Facility, screening incoming materials, and assisting with spills, releases, or any other emergency. Specific training includes, but is not limited to:

HAZWOPER Operational Level (29 CFR 1910.120)
On-the-job training in accepting, identifying, segregating, and sorting waste
Hazardous waste rules and regulations

## 8.3. HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE (29 CFR.1910.120)

The objective of this training is to provide personnel with the knowledge and skills necessary to safely and successfully respond to any on-site spills and/or releases. A five level classification system is used to provide appropriate training to indicate the scope of their authorized response activities:

First Responder Awareness Level
First Responder Operations Level
Hazardous Materials Technician
Hazardous Materials Specialist
On-Scene Incident Commander

Personnel trained in accordance with this Section shall receive annual refresher training of sufficient content and duration to maintain their competency.

# SECTION 9

# PERSONNEL PROTECTION EQUIPMENT

Personal Protective Equipment (PPE) is used to limit exposure to various hazardous materials and wastes at the Hazardous Waste Collection and Storage Facility. PPE is necessary when handling hazardous materials to prevent skin contact with harmful substances. Whenever removing and/or working with hazardous materials or waste, personnel are required to wear, at a minimum, the following protective equipment.

## 9.1. UNLOADERS/PAINT SORTERS

- Safety glasses
- Protective gloves
- Protective apron (optional)
- Steel-toed boots or safety shoes

## 9.2. FACILITY STAFF

- Safety glasses
- Protective gloves
- Respirator with organic vapor cartridge on high efficiency particulate air filter (HEPA), if necessary, as determined by the waste material being handled.
- Steel-toed boot or safety shoes
- Protective apron

In the event of a spill or release of a hazardous material or waste, the following protective equipment is on site:

- Full-faced air purifying respirators

When specialized training is required to properly utilize personal protective equipment, this training must be provided to the employee prior to its use.

# SECTION 10

# SPILL/RELEASE PROCEDURES

The Recycling Supervisor shall be properly trained in hazardous material emergency response to efficiently mitigate, contain, and clean up any accidental spill/release that might occur at the HHW Facility. At all times, the safety of personnel and program participants are the primary concern.

The following will be considered emergencies at the Facility:

- Fire or smoke is noticed
- An explosion occurs
- A leak or spill is discovered
- Medical emergencies, including heat induced injuries
- Discovery of explosive devices

When a spill/release or any other emergency occurs, the following guidelines will be followed:

- Cease operations/perform initial size up
- Make mental note of nature, extent, source, and amount of any released product
- Evaluate potential harm to human health and the environment
- Scene control. Keep all unauthorized persons away from the scene
- Protect individuals directing them, if not contaminated, away from the scene
- If flammable materials are involved, check for all ignition sources
- Take measures to contain release or fire from spreading to other hazardous areas as quickly as possible
- Notify 911 if warranted
- Notify Superintendent of Solid Waste Enforcement, if necessary
- Notify State Warning Point if reportable quantity
- Perform basic first aid to stabilize any victims until EMS arrives
- Clean up any spills using compatible materials
- Place waste in proper container for disposal through the County's Hazardous Waste Transporter

Under no circumstances will the health and safety of County staff be placed in harm's way in the attempt to handle suspected explosives. If explosives are discovered, evacuate the immediate area, cease traffic flow, and notify the Manatee County Sheriff's Department Haz-Mat Team.

If a reportable quantity of a hazardous material has been spilled or released, a follow-up written report must follow within fifteen working days and be filed with the State Emergency Response Center.

An eyewash station and shower is permanently installed on site. In the event of materials being splashed into staff's eyes, minimum eyewash of fifteen minutes shall take place.

# SECTION 11

# EQUIPMENT

Following is a partial list of the equipment on site:

- Forklift with drum grabber
- Fire extinguishers
- Funnels
- Shovels and brooms
- 3 and 5 gallon buckets
- Absorbent
- Neutralizing agents
- Eyewash station and shower
- Assorted tools
- Utility carts
- 55-gallon drums
- Traffic cones
- Assorted tape
- Two-way radio communication

# SECTION 12

# SAFETY

Safety is the primary concern of all personnel participating at the HHW Facility. Appropriate staff is instructed in how to handle emergencies as well as site safety. The collection program is maintained in a neat and organized manner at all times. Good housekeeping practices are followed. The unloading area will be kept clean and free of excess materials. It is the responsibility of all HHW Facility staff to follow these guidelines. No smoking signs are posted. Smoking is prohibited at the HHW Facility.

HHW Facility staff will assist participants by unloading vehicles, answering questions about proper disposal methods and handing out informational literature as necessary. Only hazardous waste generated by residential customers will be accepted during the HHW disposal programs. In the event a participant arrives to dispose of waste generated from a business, the CESQG hazardous waste disposal program will be explained and contractor contact information provided.

Following are guidelines to follow in processing the participants' waste.

## 12.1. SAFETY PROCEDURES

HHW Facility staff will, at all times, act in a safe manner. Work practices are carried out to minimize or eliminate the possibility of an injury-related accident. Proper ergonomics are followed. All personnel use correct lifting techniques in order to prevent injury to the body. Containers are removed from vehicles one at a time into the utility carts.

Appropriate Personal Protective Equipment (PPE) is worn when handling hazardous waste. Close attention is given to staff during the summer months to reduce the risk of heat related injuries. All Facility staff monitor themselves for any signs or symptoms of heat stress and act accordingly.

## 12.2. REMOVAL FROM VEHICLES

Traffic is directed from the scale house and/or by signs on the entrance road of the Landfill to the HHW Facility site. Signs to a stopping point direct all incoming cars where participants will be greeted by trained County staff. An initial spotting of the chemicals is performed before removal of chemicals from the vehicle. The participants are questioned on the contents of any unknown materials or unmarked containers. If any unacceptable or unknowns are spotted, personnel will immediately notify the Recycling Supervisor.

The waste from the vehicles will then be unloaded into carts by the HHW Facility staff. Participants remain in or at their vehicles. This reduces the risks of spills or injuries. HHW Facility staff evaluates the contents as they unload. If any leaking containers are spotted, the container will be placed into an additional container. The participant will be informed of the leak. It is not the responsibility of contractor or facility staff to clean up the leak or spill in the participant's vehicle beyond the initial containment.

# SECTION 13

# WASTE SEGREGATION

County and contractor personnel transport the waste from the vehicles to the preliminary sorting areas. Cardboard boxes are flattened then placed in a dumpster designated for cardboard recycling. Any packaging, similar debris, and/or household trash will be removed and placed in the dumpsters designated for trash. The HHW technician and contractors examine all materials received. The waste is then sorted, bulked and lab packed into the appropriate shipping containers for removal. Usually used motor oil, pesticides, paints, and flammables represent the majority of the waste received.

## 13.1. LOCKER STORAGE

Each chemical storage unit is clearly labeled with DOT placards.

Wastes are stored according to their primary hazard. The basic categories of wastes are as follows:

- Flammables
- Pesticides
- Poisons
- Corrosives

The Recycling Supervisor shall have the final decision on what wastes to accept or not accept, classification, and any other decision regarding the waste.

## 13.2. WASTE BULKING

Only the HHW technician and/or Recycling Supervisor, along with the contracted collection/disposal vendor, determines which wastes should be bulked. All labels are read before bulking any wastes together to ensure compatibility. Safety is the major factor in bulking. No bulking shall take place in inclement weather.

Containers of compatible waste are opened and drained directly into fifty-five gallon drums. When the drum is full or bulking is discontinued for the work period, the lid shall be securely replaced. A small space for vapor expansion shall be left at the drumhead space.

Drums are required to have the proper markings adhered to them. The markings are placed so that they are clearly visible. The HHW marking contains the following information:

- The material contents
- The accumulation start date

The proper marking procedure is applied at the beginning of the bulking procedure.

Bulking of any material takes place when needed. Items to be bulked may include the following:

- Latex based paints
- Oil based paints
- Antifreeze
- Motor oil and transmission fluid

The wastes are compatible for bulking, and are only bulked if clearly identified by sight, smell, container, label and source. Any wastes that are not clearly identifiable are not bulked, and the unknown wastes are sent with contractor.

Paint is placed in a lined, roll-off container provided by the collection/disposal vendor. is bulked into a 55-gallon steel drum when needed, and generally removed the same day or within 24-hours. If paint is spilled, it is contained on the plastic sheet by absorbent pads or absorbent. All paint is currently collected and placed in containers which are stored on Visqueen. All paint is sent out for disposal by the collection/disposal vendor.

Antifreeze is bulked into a 55-gallon drum. If antifreeze is spilled it is contained on the plastic sheet by absorbent pads or absorbent.

Motor oils and transmission fluids are poured into a 20 gallon tank then pumped (or poured using a funnel) into 500-gallon storage tanks or in 375 or 275 gallon portable tanks.

## 13.3. UNKNOWNS

Unknowns are accepted. These items are materials that cannot be identified by either original labels or by participant knowledge. The following procedures are adhered to:

- Unknowns will be sent out with the contractor.
- Place material into appropriate storage building according to suspected hazards.

## 13.4. ELECTRONIC WASTE

Electronic waste such as TVs, computer monitors, microwave ovens, telephones, keyboards, VCRs, radios, etc. are received at the Household Hazardous Waste Collection. The materials are sorted, palletized, shrink wrapped or put in Gaylord boxes . The pallets of materials and/or Gaylord boxes are stored under the roof of the HHW Facility until the contractor comes to pick them up. The contracted e-scrap recycler removes the e-scrap for processing and recycling. Broken glass and components from broken units is swept up and properly disposed.

Electronic waste is also collected curbside by the contracted waste haulers. The hauler brings the materials to the landfill to be stored in the designated area which is the SW corner of the white goods/scrap metal concrete pad or within the HHW Facility. Additionally, residents may drop off electronic waste Monday through Saturday during landfill hours. This material is stored in the SW corner of the white goods/scrap metal area or within the HHW Facility also. Materials are removed by a private recycling contractor for proper recycling.

# SECTION 14

# CONTINGENCY PLAN AND EMERGENCY PROCEDURES

The following procedures serve as the Facility's guideline for Contingency Plan. Specific information may be located in the Manatee County Solid Waste Division All Hazard Plan

## 14.1. PURPOSE AND IMPLEMENTATION OF CONTINGENCY PLAN

The contingency plan should be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.

The provision of the plan should be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents that could threaten human health or the environment.

## 14.2. CONTENT OF CONTINGENCY PLAN

The contingency plan describes the actions facility personnel should take to protect the public from potential health and safety hazards in response to fire, explosion or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility.

The plan lists names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (as described later). This list should be kept up to date. Where more than one person is listed, one should be named as primary emergency coordinator and others should be listed in the order in which they will assume responsibility as alternates.

The plan includes a list of all emergency equipment at the facility (i.e., fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list should be kept up to date. In addition, the plan should include the location and physical description of each item on the list, and a brief outline of its capabilities.

The plan should include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan should describe signal(s) to begin evacuation, evacuation routes, and alternate evacuation routes in cases where the primary routes could be blocked by releases of hazardous waste or fires.

## 14.3. COPIES OF CONTINGENCY PLAN

A copy of the contingency plan and all revisions to the plan should be maintained at the HHW Facility, submitted to local police and fire departments, hospitals, and State and local emergency response teams that would be called up to provide emergency services.

## 14.4. CHANGES OF CONTINGENCY PLAN

The contingency plan should be reviewed, and immediately changed if necessary, whenever:

- The plan fails in an emergency.
- The HHW Facility changes in its design, construction, operation, maintenance, or other circumstances in a way that increases the potential for fires, explosions, or release of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency.
- The list of emergency coordinators or emergency equipment changes.

## 14.5. EMERGENCY COORDINATOR

At all times, there should be at least one employee either on the facility premises, or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator should be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the locations and characteristics of waste handled the location of all records within the facility, and the facility layout. In addition, this person should have the authority to commit the resources needed to carry out the contingency plan.

The emergency coordinator's responsibilities vary, depending on factors such as type and variety of waste(s) handled by the facility, and type and complexity of coordinator is responsible for.

## 14.6. EMERGENCY PROCEDURES

Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his/her designee when the emergency coordinator is on call) should immediately:

- Activate internal facility alarms or communication systems, where applicable, to notify all facility alarms or communication systems.
- Notify appropriate State or local agencies with designated response roles if their help is needed.

Whenever there is a release, fire, or explosion, the emergency coordinator should immediately identify the character, exact source, amount, and the extent of any released materials. He or she may do this by observation or review of facility records, or if necessary, by chemical analysis.

Concurrently, the emergency coordinator should assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment should consider

both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire, or heat-induced explosions).

If the emergency coordinator determines that the facility has had a release, fire, or explosion that could threaten human health, or the environment, outside the facility, he/she should report his findings as noted below:

- If the assessment indicates that evacuation of local areas may be advisable, the proper authorities should be immediately notified. The emergency coordinator should be available to help appropriate officials decide whether local areas should be evacuated.
- The government official designated as the on-scene coordinator for the area or the State should be notified immediately. The report should include:

    - Name and telephone number of reporter.
    - Name and address of the facility.
    - Time and type of incident (e.g., release, fire, explosion).
    - Name and quantity of material(s) involved, to the extent known.
    - The possible hazards to human health, or the environment outside the facility.

During the emergency, the emergency coordinator shall take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other areas of the facility. These measures should include, where applicable, stopping processes and operations, collecting and containing release waste, and removing or isolating containers.

During an emergency, the emergency coordinator shall monitor for leaks, pressure buildup, gas generation, or ruptures in containers and/or equipment, wherever this is appropriate.

Immediately after an emergency, the emergency coordinator should provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material contaminated by a release, fire, or explosion at the facility.

# SECTION 15

# OPERATIONS

## 15.1. MAINTENANCE AND OPERATION OF THE FACILITY

The HHW Facility shall be maintained and operated to minimize the possibility of fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water that could threaten human health or the environment.

All HHW Facility communications, alarm system and spill control equipment, where required, shall be tested and maintained in accordance with manufacturer's recommendations and as necessary to assure its proper operation in time of emergency.

HHW Facility personnel shall maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spills control equipment, and decontamination equipment to any area of facility operation in an emergency.

Whenever hazardous waste facility is staffed, all personnel involved in the operation shall have immediate access to an emergency communication device, either directly or through visual or voice contact with another employee.

Normal operational procedures require one member of personnel on site. This member shall, while in the facility, have immediate access to a two-way radio capable of summoning external emergency assistance. Telephones and/or radios shall not be placed in areas where the atmosphere may be come explosive due to the presence of flammable vapors, dusts, or gases.

## 15.2. ACCUMULATION TIME

The HHW Facility will be accumulating hazardous waste on site, and shall store the material as follows:

- The waste will be placed in containers. A container is a storage building or a DOT shippable drum.
- The amount of waste accumulated will not place the HHW Facility in violation of any regulations required on a Federal, State, or Local level.
- While being accumulated on-site, each container is labeled with a description of the contents and date.

The household hazardous waste collected for treatment or disposal shall not be accumulated on site for more than 210 days. Once the capacity limit is reached, all hazardous waste collected shall be shipped by a registered transporter to an authorized hazardous waste treatment or disposal facility. The operator may request FDEP approval of a longer accumulation time period for specific wastes that are accumulated slowly.

## 15.3. MANAGEMENT OF CONTAINERS

If a container is not in good condition or if it begins to leak, the operator shall pack the container and its contents in a larger container, seal the container and place it in the proper storage building bay.

The operator shall use containers made of or lined with materials that will not react with, and are otherwise compatible with the waste to be stored, so that the ability of the container to contain the waste is not impaired.

A container shall always be closed during storage except when it is necessary to add or remove waste. Also a container holding waste should not be opened, handled, or stored in a manner that may rupture the container or cause it to leak.

The operator shall inspect areas where containers are stored, at least weekly, looking for leaks and for deterioration caused by corrosion or other factors.

## 15.4. SPECIAL REQUIREMENTS FOR IGNITABLE OR REACTIVE WASTE

Containers holding ignitable or reactive waste shall be located within the transfer/containment slab or within the proper hazardous waste storage building bay. An overhead fire suppression system is located in the storage buildings.

The operator shall take precautions to prevent accidental ignition of ignitable waste. This waste shall be separated and protected from sources of ignition including but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat. The HHW Facility is a posted no smoking area.

Reactive wastes shall receive special handling as described in this section, and storage as needed to prevent unintentional reactions.

## 15.5. HANDLING REQUIREMENTS FOR IGNITABLE, REACTIVE, OR INCOMPATIBLE WASTES

Repackaging or treatment, including bulking or neutralizing of ignitable, reactive, or incompatible waste is not done at this facility. A contracted collection/disposal vendor removes hazardous waste stored in the storage building.

## 15.6. MATERIAL REDISTRIBUTION GUIDELINES

In the event Manatee County decides to establish a Material Redistribution Program in the future, the following shall serve as the basic program guideline for facility personnel.

### 15.6.1 Selection of Materials for Redistribution to the Public

Materials selected for exchange programs should include but not be limited to meet the following minimum criteria:

- Original containers only.
- Original label with ingredients, instructions, and warnings must be present and readable.
- Contents should be visually inspected and should look like correct material in new condition.
- Containers should be at least three-quarters full.

The following items will be excluded from redistribution programs:

- Ammunition.
- Pesticides.
- Reactive materials.
- Cancelled or banned products.
- Poisons.

Each item selected for the redistribution program should be approved by the facility manager or his/her designee.

### 15.6.2 Storage

Materials designated for redistribution should be stored in a separate area of the HHW Facility. This area will be clearly marked and secured from unauthorized access.

At a minimum, secondary containment sufficient to contain the entire contents of the largest two containers in storage should be provided.

### 15.6.3 Customers

All customers should be at least 18 years of age and shall be allowed to stop only in the designated area.

### 15.6.4 Documentation

The redistribution program will develop and use a waiver/inventory form, pre-approved in format by the County Attorney's Office that includes the following elements:

- Customer's printed name and signature.
- Date.
- Name and quantity of each material received.
- Liability statement ("hold harmless" statement).

The form shall be kept on file in the offices of the facility manager or his/her designee.

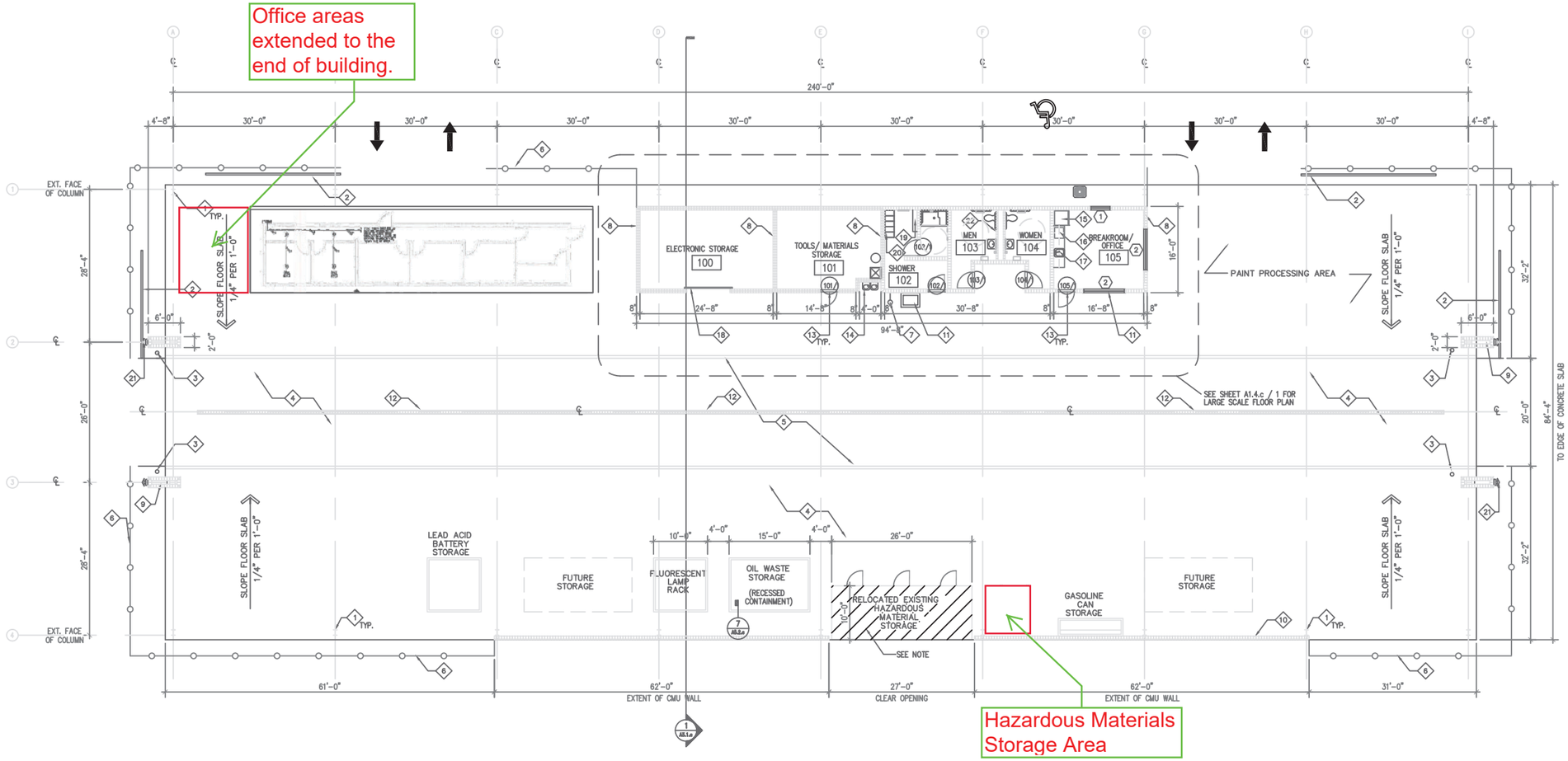
# SECTION 16

# PREPAREDNESS AND PREVENTION

## 16.1. ARRANGEMENTS WITH LOCAL AUTHORITIES

The Facility Manager has arrangements with the fire department and emergency response teams for assistance in an emergency. The Facility Manager has familiarized these agencies with the potential need for services, layout of the facility, properties of the facility, types and properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes.

Office areas extended to the end of building.




## DRAWING NOTES

1. COLUMNS FOR METAL BUILDING STRUCTURE (TYP.)
2. 25'-0" WIDE ROLLING GATE WITH OVERHEAD TRACK (TYP.)
3. 8" PIPE BOLLARDS
4. CONCRETE SLAB
5. PAINTED STRIPES ON CONCRETE SLAB
6. 8'-0" HIGH CHAIN LINK FENCE
7. EMERGENCY SHOWER / EYE WASH COMBINATION
8. 8" CMU WALLS
9. 2'-0" x 6'-0" CONC. PILASTERS (SEE ELEVATION SHEET A2.1.c)
10. 8" CMU – SCREEN WALL
11. UTILITY TUB/SINK
12. TRENCH DRAIN
13. THRESHOLDS
14. HI-LO ELECTRIC WATER COOLERS
15. REFRIGERATOR (N.I.C.)
16. MICROWAVE (N.I.C.)
17. SINK
18. OVERHEAD DOOR
19. BENCH
20. LOCKERS
21. WALL SCONCES (TYP.)
22. 4" CMU WALLS – INTERIOR WALLS

NOTE:
CONTRACTOR SHALL COORDINATE WITH OWNER THE RELOCATION OF AN EXISTING HAZARDOUS MATERIAL STORAGE (PREFABRICATED BUILDING). THE EXISTING HAZARDOUS MATERIAL STORAGE SHALL BE PLACED IN ITS NEW LOCATION PRIOR TO INSTALLATION OF METAL BUILDING ROOF AND/OR STRUCTURAL MEMBERS THAT MAY INTERFERE WITH THE PLACEMENT OF THE STORAGE BUILDING.

## LEGEND

- CMU WALLS
- INT. FRAME WALLS, NON-RATED
- DRAWING NOTES – SEE THIS SHEET
- DOOR KEY – SEE DOOR SCHEDULE, SHEET A6.1.c
- WINDOW KEY – SEE WINDOW SCHEDULE, SHEET A6.1.c
- ROOM TAG – SEE FINISH SCHEDULE, SHEET A6.1.c
- DETAIL KEY – SEE SHEET AS INDICATED
- WALL TYPES – SEE SHEET A5.1.c

NORTH

FLOOR PLAN
SCALE: 3/32" = 1'-0"
20,493 SQ. FT.

REVISION: DEC. 2020

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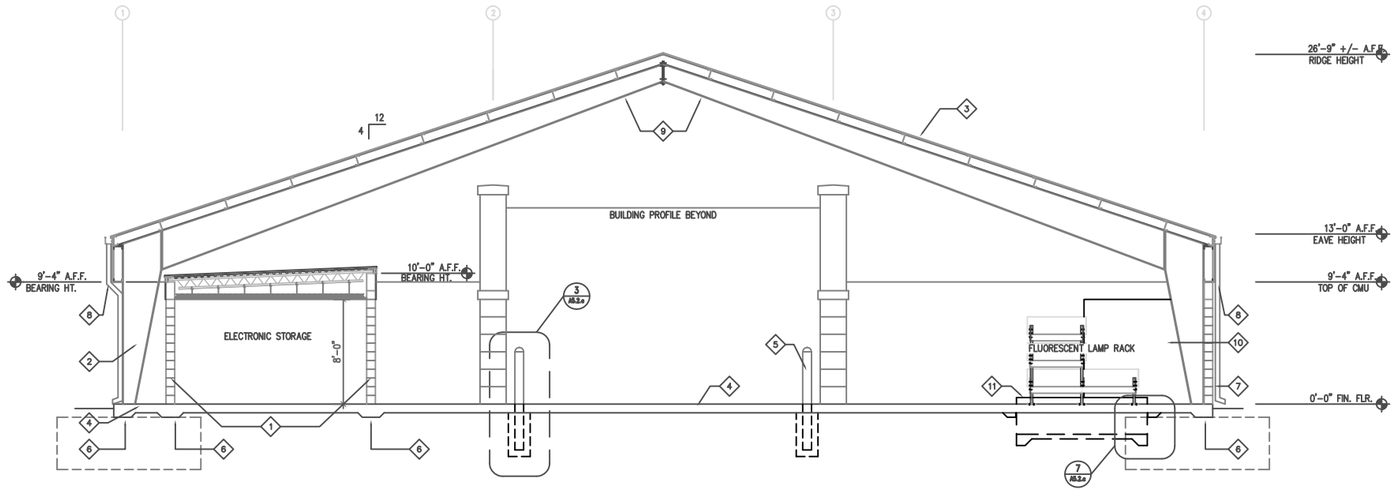
MANATEE COUNTY – LENA ROAD LANDFILL
OPERATIONS PLAN UPDATE 2020

HOUSEHOLD HAZARDOUS WASTE COLLECTION AND STORAGE FACILITY OPERATION PLAN
FLOOR PLAN

FIGURE K-2-1

## DRAWING NOTES

1. 8" CMU WALLS
2. TYPICAL RIGID FRAME WITH TAPERED COLUMNS
3. STANDING SEAM METAL ROOF
4. CONCRETE SLAB (SEE STRUCTURAL DRAWINGS)
5. 8" PIPE BOLLARDS
6. SEE STRUCTURAL DRAWINGS FOR FOUNDATION FOOTING REQUIREMENTS
7. METAL WALL PANELS
8. ALUMINUM GUTTER AND DOWNSPOUT
9. PRE-ENGINEERED METAL BUILDING TRUSS
10. RELOCATED EXISTING HAZARDOUS MATERIAL STORAGE (BEYOND)
11. RECESSED OIL STORAGE CONTAINMENT AREA (BEYOND)




1 / K-2-1 BUILDING SECTION
SCALE: 3/16" = 1'-0"

REVISION: DEC 2020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MANATEE COUNTY – LENA ROAD LANDFILL
OPERATIONS PLAN UPDATE 2020

HOUSEHOLD HAZARDOUS WASTE COLLECTION AND STORAGE
FACILITY OPERATION PLAN
SECTION

FIGURE
K-2-2

# Attachment K-3

# List of Heavy Equipment

# Landfill Equipment List

| | Quantity |
|---|---|
| Air Compressor, Sullair | 1 |
| Excavator, Caterpillar 308CR | 1 |
| Bulldozer, Caterpillar D6 | 3 |
| Bulldozer, Caterpillar D8 | 2 |
| Club Car | 1 |
| Compactor, Caterpillar 836H | 2 |
| Dump Truck, Caterpillar 740 | 3 |
| Excavator, Caterpillar 349FL | 1 |
| Excavator, Caterpillar 349CL | 1 |
| Freightliner Fuel Truck | 1 |
| Forklift, Yale Veractor 60VX | 1 |
| Gator, John Deere | 6 |
| Generator - Admin & Ops Kohler | 2 |
| Generator - CDO, Caterpillar | 1 |
| Generator - Scalehouse, Ram Power | 1 |
| Grader, Caterpillar 143H | 1 |
| Loader, Caterpillar 950 | 3 |
| Mowing Deck, 8’ Bosh Hog | 1 |
| Mowing Deck, 20’ Flex Deck | 2 |
| Pump, Thompson 6V-DPRT-1004CPU | 2 |
| Riding Lawnmower | 2 |
| Roll Off Containers | 8 |
| Roll Off Truck, International | 1 |
| Scraper, Caterpillar 623G | 1 |
| Street Sweeper, Tennant | 1 |
| Tarpomatic, 28T | 2 |
| Trailer, Tow Master T20 | 1 |
| Tractor, John Deere 6175M | 1 |
| Tractor, John Deere 6120 | 1 |
| Tractor, John Deere 6175M | 1 |
| Truck, International 4300 Refueler | 1 |
| Vibratory Roller, Saki | 1 |
| Water Wagon, Caterpillar 725C | 1 |
| Welder W/Plasma Cutter | 1 |