



# Florida Department of Environmental Protection

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

Rick Scott  
Governor

Carlos Lopez-Cantera  
Lt. Governor

Jonathan P. Steverson  
Secretary

March 24, 2016

## NOTICE OF PERMIT

E-Mail

[Mike.gore@mymanatee.org](mailto:Mike.gore@mymanatee.org)

In the Matter of an  
Application for Permit by:  
Mr. Mike Gore  
Director  
Manatee County Utilities Department  
4410 66<sup>th</sup> Street  
Bradenton, FL 34210

Manatee County  
WACS # 44795  
Lena Road Class 1 Landfill

Attention: Mr. Mike Gore

DEP File No: 39884-021-SO-01

Enclosed is Permit Number 399884-021-SO-01 to operate a Class I Landfill, issued pursuant to Section 403.061(14) and 403.707, Florida Statutes.

Any party to this order (permit) has the right to seek judicial review of the permit under Section 120.68, Florida Statutes, by the filing of a Notice of Appeal under rule 9.110 of the Florida Rules of Appellate Procedure, with the Clerk of the Department of Environmental Protection, Office of General Counsel, Mail Station 35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000 and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within thirty days after this Notice is filed with the Clerk of the Department.

Executed in Leon County, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

A handwritten signature in black ink, appearing to read "Tim Bahr".

Tim Bahr, P.G., Program Administrator  
Permitting and Compliance Assistance Program

Mr. Mike Gore  
March 24, 2016  
Page 2 of 2

#### FILING AND ACKNOWLEDGEMENT

FILED, on this date, pursuant to Section 120.52, F.S. with the designated Department Clerk, receipt of which is hereby acknowledged.

_____ Clerk	_____ 03/24/2016 Date
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#### CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF PERMIT and all copies were sent before the close of business on March 24, 2016 to the listed persons.

\_\_\_\_\_  
Clerk

Enclosure: Permit No. 39884-021-SO-01

#### Copies furnished to:

Bryan White, Manatee County  
John Banks, P.E, Jones, Edmunds & Associates  
Matthew Taylor, Atkins Global  
Cory Dilmore, P.E.  
Steve Morgan

[bryan.white@mymanatee.org](mailto:bryan.white@mymanatee.org)  
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Secretary

## Permit Issued to:

Manatee County Utilities Department  
4410 66<sup>th</sup> Street West  
Bradenton, Florida 34210  
(941) 792-8811

WACS Facility ID No.: 44795  
Facility Name: Lena Road Class I Landfill  
3333 Lena Road  
Bradenton, Manatee County, Florida  
(941) 748-5543

Contact Person:  
Mike Gore, Director  
Manatee County Utilities Department  
4410 66<sup>th</sup> Street West  
Bradenton, Florida 34210  
[mike.gore@mymanatee.org](mailto:mike.gore@mymanatee.org)  
(941) 792-8811

Solid Waste Operation Renewal Permit – Landfill  
Permit No.: 39884-021-SO-01  
Permit Modification No.: N/A, new  
Replaces Permit No.: 39884-018-SO-01

Permit Issued: March 24, 2016  
Permit Renewal Application Due Date: January 23, 2036  
Permit Expires: March 24, 2036

Permitting Authority  
Florida Department of Environmental Protection  
Permitting and Compliance Assistance Program  
2600 Blair Stone Road, MS 4565  
Tallahassee, Florida 32399-2400  
850-245-8707 (voice)  
850-245-8803 (fax)

## **SECTION 1 - SUMMARY INFORMATION**

### **A. Authorization**

The permittee is hereby authorized to operate the facility described below in accordance with the specific and general conditions of this permit and any documents attached to this permit or specifically referenced in this permit and made a part of this permit. This solid waste operation permit is issued under the provisions of Chapter 403, Florida Statutes, (F.S.), and Chapters 62-4 and 62-701, Florida Administrative Code, (F.A.C.).

This permit does not relieve the permittee from complying with any other appropriate local zoning or land use ordinances or with any other laws, rules or ordinances. Receipt of any permits from the Department does not relieve the applicant from obtaining other federal, state, and local permits and/or modifications required by law, including those from other Sections within the Department or of the Water Management District.

### **B. Facility Location**

The facility is located at 3333 Lena Road in Bradenton, Florida, in all or portions of Sections 1 and 12, Township 35 South, Range 18 East, Section 31, Township 34 South, Range 19 East, and Sections 6 and 7, Township 35 South, Range 19 East. The coordinates to the approximate center of the facility are latitude 27°28'10" North and longitude 82° 26'35" West.

### **C. Facility Description**

The Lena Road Class I Landfill consists of 316 acres of disposal area and related facilities. The landfill is constructed with a perimeter slurry wall. Leachate is collected by a leachate collection system. The landfill includes gas management and leachate collection systems. The facility also consists of a household hazardous waste collection and storage facility, a community drop off center, a yard waste processing area, and a scrap metal and white goods management area.

The Class I disposal facility consists of three areas: Stage I (approximately 132 acres) of which 30 acres has received final cover; Stage II (approximately 118 acres), and Stage III (approximately 66 acres). Stage I and Stage III have an active landfill gas (LFG) collection system with an open candlestick LFG flare control device. A thermal sludge dryer and an engine driven electric generator also utilize LFG generated by the landfill as a supplemental fuel. The facility has a Title V Air Permit (#0810055-012-AV expires February 23, 2020). The facility is required to meet the requirements of 62-701.530, F.A.C. and the facility's Title V Air Permit.

<b>General Information:</b>	
Disposal Acres	316 acres
Bottom Liner Design	Stages I & III- Natural clay unit (approx. +29 ft. NGVD), with a perimeter slurry wall. Stage II Natural clay unit (approx. +24-29 ft. NGVD), with a perimeter slurry wall.
LCS Design	Stages I & II- Perimeter underdrains & lift stations, slurry wall keyed into the underlying natural clay unit. Stage II- Lateral 8" perforated HDPE collection pipes and perimeter underdrains & lift stations, slurry wall keyed into the underlying natural clay unit.
LDS Design	None
Final Elevation	Stage I- approx. +130 feet NGVD Stage II- approx. +130 feet NGVD (inactive) Stage III- +118 feet NGVD
Slopes	4H:1V side-slopes, final top slope cover 1%, intermediate cover 2%

#### **D. Appendices Made Part of This Perm**

APPENDIX 1 - General Conditions

APPENDIX 2 – List of Approved Documents Incorporated into the Permit

APPENDIX 3 – Water Quality Monitoring Plan

## SECTION 2 - SPECIFIC CONDITIONS

### A. Administrative Requirements

1. Documents Part of This Permit. The permit application as revised in final form replaced or amended in response to the Department's Request(s) for Additional Information are contained in the Department's files and are made a part of this permit. Those documents that make up the complete permit application are listed in APPENDIX 2.
2. Permit Modification. Any change to construction, operation, monitoring, or closure requirements of this permit may require a modification to this permit, in accordance with the provisions of Rule 62-701.320(4), F.A.C.
3. Permit Renewal. In order to ensure uninterrupted operation of this facility, a timely and sufficient permit renewal application must be submitted to the Department in accordance with Rule 62-701.320(10), F.A.C. A permit application submitted at least 61 days prior to the expiration of this permit is considered timely and sufficient.
4. Transfer of Permit or Name Change. In accordance with Rule 62-701.320(11), F.A.C., and Rule 62-4.120, F.A.C., the Department must be notified by submitting Form 62-701.900(8) within 30 days: (a) of any sale or conveyance of the facility; (b) if a new or different person takes ownership or control of the facility; or (c) if the facility name or permittee's legal name is changed.
5. Submittals Required Every Five Years. No later than March 24, 2021, March 24, 2026, and March 24, 2031 the permittee shall submit a report to the Department that contains the following:
  - a. An updated closure plan to reflect changes in closure design, long-term care requirements, and financial assurance requirements.
  - b. A revised closure cost estimate, made by recalculating the total cost of closure or long-term care, in current dollars.
  - c. A demonstration that the leachate collection system has been water pressure cleaned or inspected by video recording.
  - d. An updated operation plan, if operational procedures have changed.
6. Permit Fee Payments. The total permit fee required for this permit is \$40,000 for 20-year permit. The applicant has elected to pay this fee in installments in accordance with Rule 62-701.315(13), F.A.C., and submitted a fee of \$10,000 with this application. No later than, March 24, 2021 and March 24, 2026 and March 24, 2031, the permittee shall submit to the Department an installment payment of this fee in the amount of \$10,000. This fee is due to the State regardless of whether the permittee closes the facility, surrenders the permit, has the permit revoked, or transfers the permit before it expires. If the permittee elects to transfer the permit, it must either pay the entirety of the fee due before submitting the application for transfer, or it must include with the transfer application a signed

agreement from the proposed transferee to accept responsibility for the remainder of the permit fee due.

### **B. Construction Requirements**

1. Construction authorized. Construction activities are not authorized by this permit.

### **C. Operation Requirements**

1. General Operating Requirements. The Permittee shall operate the landfill in accordance with the approved Operation Plan as listed in the permit application. The Department shall be notified before any changes, other than minor deviations, to the approved Operation Plan are implemented in order to determine whether a permit modification is required.
2. Operation Plan. A copy of the approved Operation Plan, including the operating record as defined in Rule 62-701.500(3), F.A.C., shall be kept at the onsite administrative office and shall be accessible to landfill operators. (APPENDIX 2, Document #A.4)
3. Authorized Waste Types. The facility is authorized to manage only the following waste types:
  - a. Waste types defined in Rule 62-701.200, F.A.C.:
    - 1) Class I waste
      - a. Residential
      - b. Commercial
    - 2) Construction and demolition debris
    - 3) Agricultural
    - 4) Sludge (domestic and water treatment)
    - 5) Shredded/cut tires
  - b. Other Wastes Specifically Authorized:
    - 1) Asbestos. Asbestos may be accepted and managed in accordance with the requirements of Rule 62-701.520(3), F.A.C.
    - 2) Non-hazardous contaminated soil. Contaminated soil acceptance is conducted on a case-by-case basis in accordance with Chapter 62-713, F.A.C.
    - 3) Oily Waste. Materials as described in Chapter 62-701.300(11)(b), F.A.C. may be accepted for disposal.
4. Special Wastes. The disposal or control of special wastes shall be in accordance with the approved Operation Plan, Rules 62-701.300(8), F.A.C. and 62-701.520, F.A.C. and any other Department Rules, to protect the public safety, health, and welfare. The following separate areas are maintained for special wastes:
  - a) Lead-Acid Battery Collection Area
  - b) Household Hazardous Waste Drop-off Facility
  - c) White Goods/Scrap Metal Area

- d) Yard Waste Processing Area (Yard trash shall be managed according to rule 62-709.320, F.A.C., and described in the approved Operation Plan at the yard waste facility.)
  - e) Tire Storage Area
  - f) Freon Containing Staging Area
  - g) E-Scrap Area
5. Unauthorized Waste Types. The facility is not authorized to accept, process or dispose any waste types not listed in C.3. above. Any unauthorized waste inadvertently received by the facility shall be managed in accordance with the approved Operation Plan.
6. Waste Management and Handling.
- a. Solid waste shall be formed into cells to construct horizontal lifts. The working face of the cell, and side grades above land surface, shall be at a slope no greater than three feet horizontal to one-foot vertical rise (3H:1V) or as authorized by this permit in accordance with the approved operation plan.
  - b. No solid waste shall be disposed of outside of the permitted footprint of the solid waste disposal units.
  - c. The sequence of waste filling shall be as specified in the approved Operation Plan.
7. Landfill Elevation. The final elevations for Stages I and II shall not exceeded 130 ft. NGVD and the final elevation for Stage III shall not exceed 118 ft. as shown on the Final Grading and Drainage Plan (Figure O-1, Part O Landfill Closure Requirements, Operation Permit Renewal Application, October 27, 2015, Appendix 2, Document #A.1).
8. Initial Waste Placement. The first layer of waste placed above the natural clay confining unit and leachate collection system shall be a minimum of four feet in compacted thickness and consist of selected wastes containing no large rigid objects that may damage the natural clay confining unit or leachate collection system.
9. Cover Requirements.
- a. Initial Cover: Daily cover and alternate daily cover materials can include street sweepings, ditch cleanings, crushed glass, tarps, soil, soil with up to 25% yard-waste fines, and recovered screen material from FDEP permitted facilities. Except for the tarp, daily cover will be applied to a minimum thickness of 6 inches.
  - b. Intermediate Cover: An additional 12 inches of compacted soil will be 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 cover shall be sodded and graded in accordance with Section 7.g of the approved Operation Plan. (APPENDIX 2, Document #A.4)
10. Erosion Control. Erosion control measures shall be employed to correct any erosion which exposes waste or causes malfunction of the storm water management system. Such measures shall be implemented within three days of occurrence. If the erosion cannot be



corrected within seven days of occurrence, the landfill operator shall notify the Department and propose a correction schedule.

11. Contingency Plan and Notification of Emergencies. The Permittee shall notify the Department in accordance with the approved Contingency Plan. Notification shall be made to the Solid Waste Section of DEP's Notification shall be made to the Solid Waste Section of DEP's Southwest District Office at [SWD\\_Waste@dep.state.fl.us](mailto:SWD_Waste@dep.state.fl.us) (813-632-7600).
12. Housekeeping. The facility shall be operated to control dust, vectors, litter and objectionable odors. If objectionable odors are confirmed beyond the landfill property boundary, the owner or operator shall comply with the gas management requirement in Section 2, Part E.
13. Leachate Management.
  - a. The permittee shall operate the leachate management system (including the collection, removal, and storage), and maintain the system as designed, so that leachate is not discharged from the system except as provided for in the approved Operation Plan.
  - b. Routine inspections and maintenance of the leachate management system shall be conducted in accordance with the schedule established in the approved Operation Plan.
  - c. The leachate collection pipes shall be cleaned or video inspected at least once every five years. A summary of the results shall be submitted in accordance with Specific Condition 2.A.5.c.
  - d. The hydraulic gradient will be maintained so that the water level in the piezometer/monitor well outside the slurry wall is higher than the water level inside the slurry wall and an inward gradient exists at all times.
  - e. The permittee, on a daily basis, shall record quantities of leachate generated in gal/day and precipitation at the facility, and shall compare these measurements.
  - f. The primary leachate disposal method is pumping to the adjacent County Waste Water Treatment Plant. In the event that the adjacent County WWTP is unable to accept leachate for disposal, leachate shall be transported to one of Manatee County Utilities other WWTPs.
14. Spotters and Operators. This facility shall have at least the minimum number of spotters present when waste is accepted as specified in the Operation Plan. The spotters shall be located as specified in the Operation Plan. A trained operator shall be on duty at the facility at all times the facility is operating. Approved training courses can be found at the following web site: <http://www.treeo.ufl.edu/sw>.
15. Record Keeping Requirements.
  - a. Waste Quantity Records. Waste records shall be compiled monthly, and copies shall be provided to the Department no less than annually by February 1, in accordance with Rule 62-701.500(4)(a), F.A.C. This information may be reported to the Department through the DEP Business Portal located at: <http://www.fldepportal.com/go>.

- b. **Estimate of Remaining Life.** The permittee shall submit the annual estimate of the remaining life and capacity by May 1 of each year. The report is required by Rule 62-701.500(13)(c), F.A.C. and must be submitted to the District Office and to:  
Florida Department of Environmental Protection  
Solid Waste Section, MS 4565  
2600 Blair Stone Road  
Tallahassee, Florida, 32399-2400
16. **Hazardous Waste.** If any regulated hazardous wastes are discovered to be deposited at the facility, the facility operator shall promptly notify the Department, the person responsible for shipping the wastes to the facility, and the generator of the wastes, if known. The area where the wastes are deposited shall immediately be cordoned off from public access. If the generator or hauler cannot be identified, the facility operator shall assure the cleanup, transportation, and disposal of the waste at a permitted hazardous waste management facility. In the event that hazardous wastes are discovered they shall be managed in accordance with the procedures provided in facility Operation Plan.
17. **Stormwater.** Stormwater shall be managed in accordance with Section 10 of the approved Operation Plan. Leachate shall not be discharged into the stormwater management system. Stormwater or other surface water which comes into contact with or mixes with the solid waste or leachate shall be considered leachate and is subject to the requirements of Rule 62-701.500(8), F.A.C.

#### **D. Water Quality Monitoring Requirements**

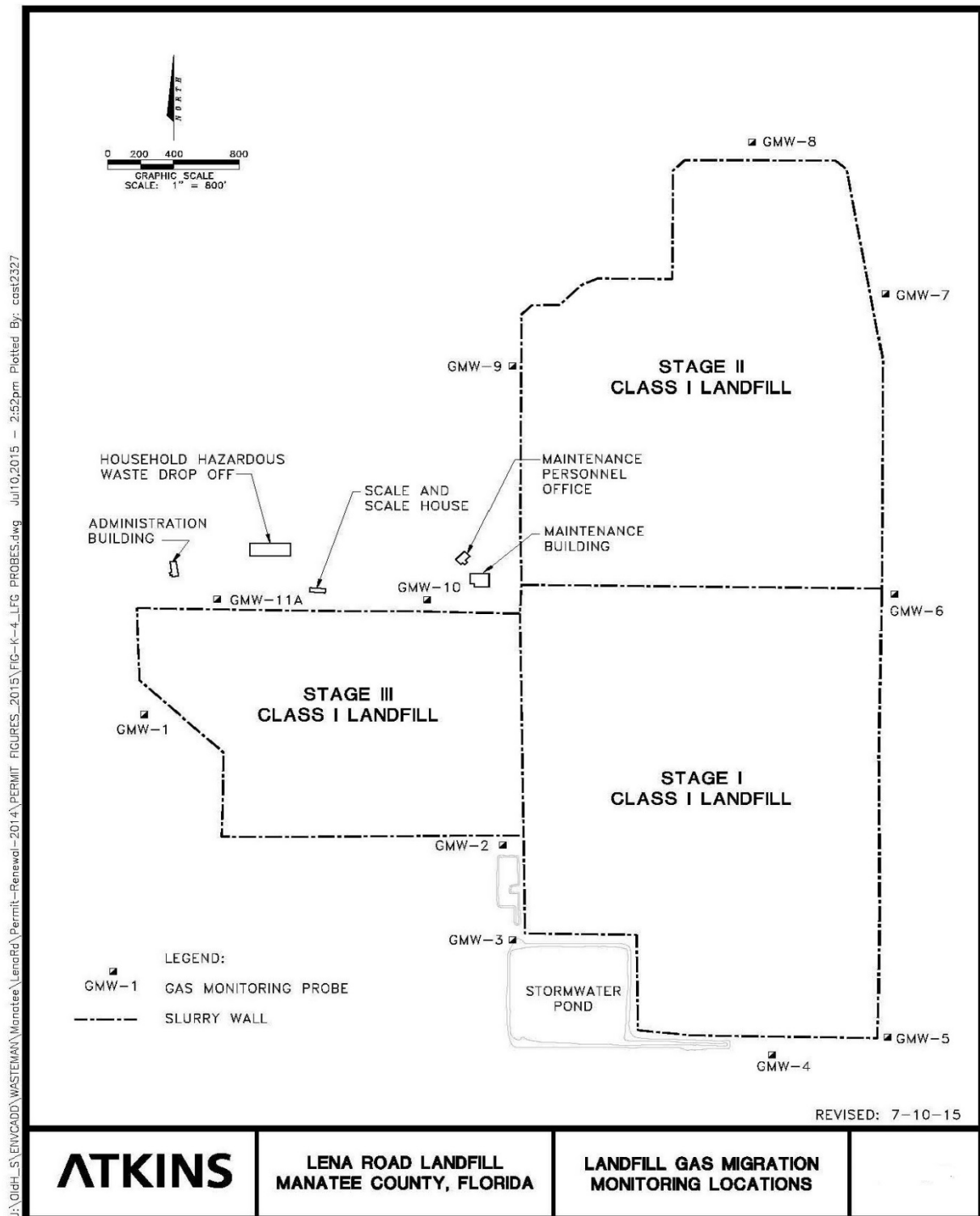
1. **Zone of Discharge.** The zone of discharge for this facility shall be a three dimensional volume described as extending 100 feet horizontally from the limits of the landfill slurry wall (designated as Stage I, II and III landfill areas) or to the property boundary, whichever is less and shall extend vertically to the bottom of the unconfined surficial aquifer. The permittee shall ensure that Class G-II water quality standards will not be exceeded at the boundary of the zone of discharge, per Rule 62-520.420, F.A.C., and that ground water minimum criteria will not be exceeded outside the boundary of the zone of discharge, per Rule 62-701.320(17), F.A.C.
2. **Water Quality Monitoring Plan.** The Water Quality Monitoring Plan for this permit is included as APPENDIX 3.

### **E. Gas Management System Requirements**

1. Construction Requirements. All construction shall be done in accordance with the approved gas management system design, drawings, and specifications. The Department shall be notified before any changes, other than minor deviations, to the approved design are implemented in order to determine whether a permit modification is required.
  - a. Locations of ambient monitoring points are shown on Figure 1 and listed in the table below.
  - b. Locations of soil monitoring probes are shown on Figure 1 and identified as numbers GMW-1 through GMW-11C in the table below.
  - c. Locations of gas extraction or venting wells are specified in Figure K-1-1 of the approved Operation Plan (APPENDIX 2, Document #A.4).
2. Certification of Construction Completion. After construction is completed the engineer of record shall certify to the Department in accordance with Rule 62-701.320(9)(b), F.A.C., that the permitted construction is complete and was performed in substantial conformance with the approved construction plans except where minor deviations were necessary. All deviations shall be described and the reasons therefore enumerated.
3. Operational Requirements. Gas controls shall be operated and maintained so that they function as designed in accordance with Part N: Gas Management System Requirements of the application for Operation Permit renewal dated October 27, 2015, received October 30, 2015 (APPENDIX 2, Document #A.1).
4. Monitoring Requirements. Monitoring for methane gas at the property boundary and within structures on the property shall be performed quarterly as required by Rule 62-701.530, F.A.C. and in accordance with Section 9 of the approved Operation Plan (APPENDIX 2, Document #A.4) to determine the effectiveness of the gas migration controls. Monitoring for methane gas at the ambient monitoring points and soil monitoring probes listed below and shown on Figure 1. The gas monitoring results shall be reported as a percent of the lower explosive limit (LEL), calibrated to methane. The report shall be submitted to the Department under separate cover no later than 15 days after the end of the period in which the monitoring occurred.

<b>Monitoring Point</b>	<b>Type of Monitoring</b>	<b>Location</b>
Administration Building	Ambient Monitoring Location	North of Phase III
HH Waste Drop-off Building	Ambient Monitoring Location	North of Phase III
Scale House Building	Ambient Monitoring Location	North of Phase III
Maintenance Building	Ambient Monitoring Location	North of Phase III
Maintenance Office	Ambient Monitoring Location	North of Phase III
GMW-1	Perimeter Probe	Stage III landfill perimeter-west
GMW-2	Perimeter Probe	Stage III landfill perimeter-southeast
GMW-3	Perimeter Probe	Stage I landfill perimeter-west
GMW-4	Perimeter Probe	Stage I landfill perimeter-south
GMW-5	Perimeter Probe	Stage I landfill perimeter-southeast
GMW-6	Perimeter Probe	Stage I landfill perimeter-northeast
GMW-7	Perimeter Probe	Stage II landfill perimeter-east
GMW-8	Perimeter Probe	Stage II landfill perimeter-north
GMW-9	Perimeter Probe	Stage II landfill perimeter-west
GMW-10	Perimeter Probe	Stage III landfill perimeter-north
GMW-11A	Perimeter Probe	Stage III landfill perimeter-north
GMW-11B	Perimeter Probe	Stage III landfill perimeter-north
GMW-11C	Perimeter Probe	Stage III landfill perimeter-north

Figure 1. Landfill Gas Monitoring Locations



5. Gas Remediation Plan. The facility landfill gas management system shall be operated to prevent the concentration of combustible gases from exceeding 25% of the lower explosive limit in structures, excluding gas control or recovery components, and from exceeding the lower explosive limit at or beyond the property boundary. If either of these limits is exceeded then a gas remediation plan shall be designed and implemented in accordance with Rule 62-701.530(3)(a), F.A.C. Section 3 of Part N (Gas Remediation and Odor Remediation Plan) provides details of the site specific plan. (APPENDIX 2, Document #A.1)
6. Odor Remediation Plan. The facility shall be operated to control objectionable odors. If objectionable odors are confirmed beyond the property boundary then upon notification by the Department the permittee shall develop and implement an odor remediation plan in accordance with the requirements of Rule 62-701.530(3)(b), F.A.C. Section 3 of Part N (Gas Remediation and Odor Remediation Plan) provides details of the site specific plan. (APPENDIX 2, Document #A.1)

#### **F. Financial Assurance and Cost Estimates**

1. Financial Assurance Mechanism. The permittee may not receive waste for disposal or storage in any disposal unit for which financial assurance has not been approved. Proof that the financial mechanisms are established and funded in accordance with Rule 62-701.630, F.A.C. shall be submitted to the Department at least sixty (60) days prior to the planned acceptance of solid waste in any disposal unit. When established, the permittee shall maintain, in good standing, the financial assurance mechanisms. Supporting documentation and evidence of increases associated with cost estimate increases shall be submitted within the time frames specified in Rule 62-701.630, F.A.C.

All submittals in response to this specific condition shall be sent to:

Florida Department of Environmental Protection  
Financial Coordinator - Solid Waste Section  
2600 Blair Stone Road, MS 4548  
Tallahassee, Florida 32399-2400

2. Cost Estimates.
  - a. The permittee shall submit closure cost estimates, including annual adjustments for inflation, in accordance with the requirements of Rule 62-701.630(3) and (4), F.A.C., and 40 CFR Part 264.142(a) using Form 62-701.900(28).
  - b. An owner or operator using an escrow account shall submit the annual inflation adjusted estimate(s) between July 1 and September 1. An owner or operator using a letter of credit, guarantee bond, performance bond, financial test, corporate guarantee, trust fund or insurance shall submit the inflation adjusted cost estimate(s) between January 1 and March 1.

- c. All submittals in response to this specific condition shall be sent to the District Office and a copy to the address identified in Specific Condition F.1. or to the following email address: [Solid.Waste.Financial.Coordinator@dep.state.fl.us](mailto:Solid.Waste.Financial.Coordinator@dep.state.fl.us).

### **G. Closure Requirements**

1. Closure Permit Requirements. Prior to initiating closure of a solid waste disposal unit, or part of a solid waste disposal unit, the Permittee shall receive authorization from the Department in one of the following ways.
  - a. If the landfill is operating under a Department permit that includes a Closure Plan with sufficient detail to provide reasonable assurance of compliance with the closing requirements of Rule 62-701.600, F.A.C., then the Permittee shall notify the Department at least 30 days prior to initiating the closure activities and receive written approval from the Department prior to beginning the work.
  - b. If the landfill is operating under a Department permit that requires substantive changes to the closing activities in the permitted Closure Plan, then the Permittee shall request a modification of the permit to include sufficient design detail to ensure compliance with the closing requirements of Rule 62-701.600, F.A.C., and shall initiate closing only after the permit has been modified.
  - c. The Permittee shall submit an application to the Department for a closure permit on Form 62-701.900(1) and shall initiate closure activities only after the permit is issued. The application shall include a Closure Plan made up of the following:
    - 1) A closure design plan;
    - 2) A closure operation plan;
    - 3) A plan for long-term care; and,
    - 4) A demonstration that proof of financial assurance for long-term care will be provided.
2. Closure Design. All closure construction shall be done in accordance with the approved closure design plan. The Department shall be notified before any changes, other than minor deviations, to the approved closure design are implemented in order to determine whether a permit modification is required.
3. Closure Operation Plan. All closure shall be done in accordance with the approved closure operation plan.
4. Certification of Closure Construction Completion. After closure construction has been completed, the engineer of record shall certify to the Department on Form 62-701.900(2) that the closure is complete and that it was done in accordance with the plans submitted to the Department except where minor deviation was necessary. All deviations shall be described in detail and the reasons therefore enumerated.

5. List of Closed Units Not in Long-Term Care. Final cover has been installed on 30 acres of Stage I of this facility.

### **H. Long Term Care Requirements**

1. Long-Term Care Period. No areas at the Lena Road Class I Landfill are in long-term care at this time.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION



\_\_\_\_\_  
Tim Bahr, P.G., Program Administrator  
Permitting and Compliance Assistance Program

FILED, on this date, pursuant to Section 120.52, F.S. with the designated Department Clerk, receipt of which is hereby acknowledged.

\_\_\_\_\_  
Clerk

03/24/2016  
\_\_\_\_\_  
Date



## APPENDIX 1

### General Conditions

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.161, 403.727, or 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of rights, nor any infringement of federal, State, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:

- (a) Have access to and copy any records that must be kept under conditions of the permit;
  - (b) Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
  - (c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.
- Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- (a) A description of and cause of noncompliance; and
- (b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit or a copy thereof shall be kept at the work site of the permitted activity.

12. The permittee shall comply with the following:

- (a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
- (b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three

years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

(c) Records of monitoring information shall include:

1. the date, exact place, and time of sampling or measurements;
2. the person responsible for performing the sampling or measurements;
3. the dates analyses were performed;
4. the person responsible for performing the analyses;
5. the analytical techniques or methods used;
6. the results of such analyses.

13. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

## APPENDIX 2

### A. Approved Documents Included in this Permit

The approved application documents for the Lena Road Class I Landfill Operation Permit Renewal are listed below.

1. Operation permit renewal application prepared by Atkins North America, Inc., dated October 27, 2015, and received by the Tallahassee Solid Waste Section on October 30, 2015.  
[http://depdms.dep.state.fl.us:80/Oculus/servlet/shell?command=getEntity&\[guid=8.236888.1\]&\[profile=Permitting\\_Authorization\]](http://depdms.dep.state.fl.us:80/Oculus/servlet/shell?command=getEntity&[guid=8.236888.1]&[profile=Permitting_Authorization])
2. FDEP Request for Additional Information dated November 25, 2016.  
[http://depdms.dep.state.fl.us:80/Oculus/servlet/shell?command=getEntity&\[guid=8.241703.1\]](http://depdms.dep.state.fl.us:80/Oculus/servlet/shell?command=getEntity&[guid=8.241703.1])
3. Response to FDEP Request for Additional Information prepared by Atkins North America, Inc., dated December 18, 2015, and received by the Tallahassee Solid Waste Section on December 20, 2015.  
[http://depdms.dep.state.fl.us:80/Oculus/servlet/shell?command=getEntity&\[guid=8.236888.1\]&\[profile=Permitting\\_Authorization\]](http://depdms.dep.state.fl.us:80/Oculus/servlet/shell?command=getEntity&[guid=8.236888.1]&[profile=Permitting_Authorization])
4. Approved Operation Plan, Prepared by Atkins North America, Inc. dated December 18, 2015 and received by the Tallahassee Solid Waste Section on December 20, 2015.  
[http://depdms.dep.state.fl.us/Oculus/servlet/shell?command=getEntity&\[guid=8.241705.1\]](http://depdms.dep.state.fl.us/Oculus/servlet/shell?command=getEntity&[guid=8.241705.1])
5. Approved Contingency Plan, Operation Permit Number 39884-021-SO-01. Prepared by Atkins North America, Inc. dated December 18, 2015 and received by the Tallahassee Solid Waste Section on December 20, 2015.  
[http://depdms.dep.state.fl.us:80/Oculus/servlet/shell?command=getEntity&\[guid=8.241706.1\]&\[profile=Permitting\\_Authorization\]](http://depdms.dep.state.fl.us:80/Oculus/servlet/shell?command=getEntity&[guid=8.241706.1]&[profile=Permitting_Authorization])

### B. Links to Other Documents Provided For Reference Purposes

1. Compilation of Hydrogeological And Groundwater Data For Lena Road Landfill Stage II Area" report prepared by Ardaman & Associates, Inc., dated August 29, 1985."  
[http://depdms.dep.state.fl.us:80/Oculus/servlet/shell?command=getEntity&\[guid=8.236891.1\]&\[profile=Permitting\\_Authorization\]](http://depdms.dep.state.fl.us:80/Oculus/servlet/shell?command=getEntity&[guid=8.236891.1]&[profile=Permitting_Authorization])
2. Progress Report Slurry Wall Construction Lena Road Landfill report prepared by Ardaman & Associates, Inc., Dated August 19, 1989 Through September, 22, 1989.

[http://depedms.dep.state.fl.us/Oculus/servlet/shell?command=getEntity&\[guid=8.87959.1\]](http://depedms.dep.state.fl.us/Oculus/servlet/shell?command=getEntity&[guid=8.87959.1])

3. Progress Report Slurry Wall Construction Lena Road Landfill report prepared by Ardaman & Associates, Inc., Dated June 19, 1989 through July 21, 1989.  
[http://depedms.dep.state.fl.us/Oculus/servlet/shell?command=getEntity&\[guid=8.87962.1\]](http://depedms.dep.state.fl.us/Oculus/servlet/shell?command=getEntity&[guid=8.87962.1])
4. Manatee County, Florida, Lena Road Landfill Improvements, Stage 2 & 3" Drawings/Plans Prepared By Manatee County Public Works Department/Engineering Division and Ardaman & Associates, Inc., Dated March 1988 (14 Sheets 24" X 36").  
[http://depedms.dep.state.fl.us/Oculus/servlet/shell?command=getEntity&\[guid=8.88059.1\]](http://depedms.dep.state.fl.us/Oculus/servlet/shell?command=getEntity&[guid=8.88059.1])
5. Manatee County, Florida, Lena Road Landfill Improvements, Stage 2-Leachate Collection System, Pump Station, and Force Main" Drawings/Plans prepared by Manatee County Public Works Department/Engineering Division, Dated January 1990 (Revised October 1990) (12 Sheets 24" X 36").  
[http://depedms.dep.state.fl.us:80/Oculus/servlet/shell?command=getEntity&\[guid=8.236890.1\]&\[profile=Permitting\\_Authorization\]](http://depedms.dep.state.fl.us:80/Oculus/servlet/shell?command=getEntity&[guid=8.236890.1]&[profile=Permitting_Authorization])
6. Report of Geotechnical Engineering Services Lena Road Landfill Stage 2 Manatee County, Florida" Prepared by Andreyev Engineering, Inc., September 30, 2010.  
[http://depedms.dep.state.fl.us/Oculus/servlet/shell?command=getEntity&\[guid=8.236893.1\]](http://depedms.dep.state.fl.us/Oculus/servlet/shell?command=getEntity&[guid=8.236893.1])

## APPENDIX 3 WATER QUALITY MONITORING PLAN

### Lena Road Class I Facility

PERMIT NO: 39884-021-SO-01  
WACS FACILITY ID: 44795  
PERMIT DATE: March 24, 2016

### I. GENERAL

1. The field testing, sample collection and preservation and laboratory testing, including quality control procedures, shall be in accordance with Chapter 62-160, F.A.C. Approved methods as published by the Department or as published in Standard Methods, ASTM, or EPA Methods shall be used. **[62-701.510(2)(b), F.A.C.]**
2. The organization collecting samples at this site must use the Field and Laboratory Standard Operating Procedures (DEP-SOP-001/01) referenced in Chapter 62-160, F.A.C. The laboratory designated to conduct the chemical analyses must be certified by the Florida Department of Health Environmental Laboratory Certification Program (DOH ELCP). This Certification must be for the test method and analyte(s) that are reported. **[62-160.210(1), 62-160.300(1), 62-701.510(2)(b), F.A.C. and DEP SOP FS 1008.]**

NOTE: DEP-SOP-001/01 can be accessed at:  
<http://www.dep.state.fl.us/water/sas/sop/sops.htm>

3. The permittee must ensure that the analytical laboratory conducting the analyses uses analytical methods capable of achieving detection limits at or below the Groundwater Cleanup Target Levels (GCTLs) or the Freshwater Surface Water Cleanup Target Levels (SWCTLs) in Table I, Chapter 62-777, F.A.C. except those listed in Table C of the "FDEP Guidance for the Selection of Analytical Methods and for the Evaluation of Practical Quantitation Limits dated 10/12/2004". GCTLs and SWCTLs that are not water quality standards are used as screening tools and interim guidelines for ground water minimum criteria until standards are promulgated. **[DEP SOP FM 1000]**
4. If, at any time, analyses detect parameters which are significantly above background water quality, or which are at levels above the Department's water quality standards or criteria specified in Chapter 62-520, F.A.C., in the detection wells or at the edge of the Zone of Discharge, the Permittee may confirm the data by resampling the affected wells within thirty (30) days of receipt of the sampling data. Should the permittee choose not to resample, the Department will consider the water quality analysis as representative of current ground water conditions at the facility. If the data is confirmed, or if the permittee chooses not to resample, the permittee shall notify the Department within 14 days of this finding. **[62-701.510(6)(a), F.A.C.]**

If the resampling event detects parameters which are significantly above background water quality, or which are at levels above the Department's water quality standards or criteria specified in Chapter 62-520, F.A.C., the Permittee shall notify the Department in writing within 14 days of receipt of the sampling data. Confirmed data must be submitted to the Department within 60 days from completion of lab analyses, unless a different due date is approved. Use "CONF" (for confirmation data) in the report type column. **[62-701.510(8)(a), F.A.C.]**

Upon notification by the Department, the permittee shall initiate evaluation monitoring in accordance with Rule 62-701.510(6)(a), F.A.C.

## II. GROUND WATER QUALITY MONITORING

5. The eighteen active and eleven proposed ground water monitoring wells included in this monitoring plan and designated for water quality testing and water level measurements are listed on **Attachment A: Table 1** and shown on **Attachment C: Figure 1**. **[62-701.510(3)(d)2 & 3, F.A.C.]**
6. Any initial sample collected from a new ground water monitoring well, unless the new monitoring well is installed to replace an existing well within the monitoring network, shall be analyzed for the following Initial Ground Water Monitoring Parameters. **[62-701.510(5)(b), F.A.C.]**

Field Parameters	Laboratory Parameters
1. Static water level in wells before purging	1. Ammonia – N, Total
2. Dissolved oxygen	2. Chlorides
3. pH	3. Iron
4. Specific conductivity	4. Nitrate
5. Temperature	5. Sodium
6. Turbidity	6. Total dissolved solids (TDS)
7. Colors and sheens (by observation)	7. Those parameters listed in 40 CFR Part 258, Appendix II.*

\* Mercury not listed because it is included in Appendix II.

\* Appendix I is not listed because it is a subset of Appendix II

Initial sampling of new wells may be coincident with the semi-annual sampling event.

7. The eighteen active monitoring wells for the landfill shall be routinely sampled and analyzed semi-annually for the following Ground Water Monitoring Parameters. **[62-701.510(5)(c) & (7)(a), F.A.C.]**

Field Parameters	Laboratory Parameters
1. Static water level in wells before purging	1. Ammonia – N, Total
2. Dissolved oxygen	2. Chlorides
3. pH	3. Iron
4. Specific conductivity	4. Mercury
5. Temperature	5. Nitrate
6. Turbidity	6. Sodium
7. Colors and sheens (by observation)	7. Total dissolved solids (TDS)
	8. Those parameters listed in 40 CFR Part Appendix I

8. All water quality analyses will be performed on unfiltered samples unless approved by the Department.

### III. SURFACE WATER MONITORING

9. The two surface water sites included in this monitoring plan are listed on **Attachment A: Table 1** and shown on **Attachment C: Figure 1**. [62-701.510(4)(c), F.A.C.]
10. Semi-annual samples from the two surface water monitoring sites shall be collected. The samples shall be analyzed for the following Surface Water Monitoring Parameters. [62-701.510(5)(d) & (7)(b), F.A.C.]

Field Parameters	Laboratory Parameters
1. Surface Water Elevation	1. Unionized ammonia as N
2. Specific Conductivity	2. Total hardness as CaCO <sub>3</sub>
3. pH	3. Biochemical oxygen demand (BOD <sub>5</sub> )
4. Dissolved oxygen	4. Iron
5. Turbidity	5. Mercury
6. Temperature	6. Nitrate
7. Colors and sheens (by observation)	7. Total Dissolved Solids (TDS)
	8. Total Organic Carbon (TOC)
	9. Fecal Coliform
	10. Total Phosphorus as P
	11. Chlorophyll A
	12. Total nitrogen
	13. Chemical Oxygen Demand (COD)
	14. Total Suspended Solids (TSS)
	15. Those parameters listed in 40 CFR Part 258 Appendix I



#### **IV. MONITORING WELL REQUIREMENTS**

11. If a monitoring well or piezometer becomes damaged or inoperable, the Permittee shall notify the Department within two (2) days of discovery with a written report within ten (10) days of notice. The written report shall describe what problem has occurred and the remedial measures that have been taken to prevent a recurrence. The Department can require the replacement of inoperable monitoring wells or piezometers. **[62-520.600(6)(l), F.A.C.]**
12. New or replacement monitoring well design or placement must be approved by the Department. The design and construction of these wells must be based on site-specific borings with appropriate supporting data such as grain size distribution analyses, in-situ hydraulic conductivity testing, and depth to water. Wells shall be installed using standard, accepted practices for well construction. **[62-701.510(3), F.A.C. and 62-520.600(3) and (6), F.A.C.]**
13. All wells and piezometers shall be clearly and permanently labeled and the well site maintained so that the well is visible at all times. Unless otherwise authorized in a Department permit, new monitoring wells, and existing monitoring wells at the time of permit renewal, shall have protective bollards or other devices installed around them if they are located in areas of high traffic flow to prevent damage from passing vehicles. **[62-701.510(3)(d)5, F.A.C.]**
14. The Department shall be notified in writing before any monitoring wells are abandoned or plugged. Wells shall be abandoned using standard, accepted practices for well abandonment. **[62-701.510(3)(d)6, F.A.C.]**

#### **V. REPORTING REQUIREMENTS**

##### **A. FIELD ACTIVITIES**

15. The Department must be notified in writing, hard copy or e-mail, at least fourteen (14) days prior to the installation and/or sampling of any monitoring well(s) so that the Department may collect split samples. **[62-701.510(8)(a), F.A.C.]**

##### **B. MONITORING WELL COMPLETION REPORT**

16. One (1) paper copy and one (1) electronic copy (Adobe pdf format) of the Monitoring Well Completion Report, Form 62-701.900(30), F.A.C., must be submitted to the Department within thirty (30) days after installation of any new or replacement monitoring well(s). In addition, as-built well construction diagrams and soil boring logs that cover the entire depth of the monitoring well(s) must be submitted to the Department. **[62-520.600(6)(j), F.A.C.]**

**NOTE:** The top of casing elevation of each well, to the nearest 0.01 feet, and the latitude and longitude of each well in degrees, minutes and seconds, to two (2) decimal places, must be

determined and certified by a Florida Licensed Surveyor and Mapper and provided on the form. **[62-701.510(3)(d)1 and 62-520.600(6)(i), F.A.C.]**

### **C. SURVEYING**

17. One (1) paper copy and one (1) electronic copy (Adobe pdf format) of a drawing must be submitted within sixty (60) days following monitoring well installation showing the location of all monitoring sites (active, abandoned, and Evaluation Monitoring), piezometers, water bodies and waste filled areas. The location of features on the drawing must be horizontally and vertically located by standard surveying techniques. The drawing shall include all monitoring well locations, each monitoring well name and identification (WACS) number, the top of casing, pad elevation, permanent benchmark(s) and/or corner monument marker(s) referenced to a nationally recognized datum (such as NGVD 1929 or NAVD 1988) to the nearest 0.01 feet. The latitude and longitude of each well in degrees, minutes and seconds, to two (2) decimal places, must be determined and provided on the drawing. The survey shall be conducted and certified by a Florida Licensed Surveyor and Mapper. **[62-701.510(1)(c) and (3)(d)1, and 62-520.600(6)(i), F.A.C.]**
18. If a monitoring well is being replaced or new wells are being added to an existing ground water monitoring plan, only the new wells need to be surveyed as long as all other monitoring wells in the monitoring plan have been surveyed and certified by a Florida Licensed Surveyor and Mapper and there is no reason to believe that the elevations have changed. The location and elevation determinations and the certification must be provided with the Monitoring Well Completion Report upon completion of each new well. **[62-701.510(3)(d)1, F.A.C.]**

### **D. DEPTH MEASUREMENTS**

19. A total depth measurement must be made on each well at time of the Technical Report or every five years. This measurement is to be reported as total apparent depth below ground surface and should be compared to the original total depth of the well.

### **E. INITIAL AND SEMI-ANNUAL SAMPLING AND SUBMITTING ELECTRONIC DATA**

20. Required monitoring reports must be submitted to the Department within sixty (60) days from completion of laboratory analyses and shall follow the Department's electronic reporting requirements using the ADaPT software. **[Rule 62-701.510(8)(a), F.A.C.]**
21. Required water quality monitoring reports and analytical results shall be submitted electronically. Water quality monitoring reports shall be submitted in Adobe pdf format. The water quality data Electronic Data Deliverable (EDD) shall be provided to the Department in a comma separated text file electronic format consistent with requirements for importing the data into the Department's databases as summarized at: <http://www.dep.state.fl.us/waste/ADaPT/>. Water quality monitoring reports shall be signed and sealed by a Florida registered professional geologist or professional engineer with

experience in hydrogeological investigations and shall include the following:

- a) Cover letter;
- b) Summary of exceedances and recommendations;
- c) Ground water contour maps;
- d) Chain of custody forms;
- e) Water levels, water elevation table;
- f) Water Quality Monitoring Certification using Form 62-701.900(31)
- g) Appropriate information using the Groundwater Sampling Log, Form FD 9000-24 (DEP-SOP-001/01); and,
- h) Laboratory and Field EDDs and error logs, as applicable.

All submittals in response to this specific condition shall be sent both to:

Florida Department of Environmental Protection Southwest District Office Air/Solid Waste Section 13051 N. Telecom Parkway Tampa, Florida 33637-0926 Email to: <a href="mailto:SWD_Waste@dep.state.fl.us">SWD_Waste@dep.state.fl.us</a>	Florida Department of Environmental Protection Solid Waste Section 2600 Blair Stone Road, MS 4565 Tallahassee, Florida, 32399-2400 Email to: <a href="mailto:ADaPT.EDDs.and.Reports@dep.state.fl.us">ADaPT.EDDs.and.Reports@dep.state.fl.us</a>
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## F. WATER ELEVATIONS

22. Water levels in all monitoring wells, whether sampled or not, all piezometers and all surface water sites must be measured to the nearest 0.01 foot and reported semi-annually. Surface water elevations at sampling locations must be measured to the nearest 0.01 foot on the same day as ground water levels in the wells and piezometers and reported semiannually. All water level measurements must be made within a two consecutive day period. These measurements should be reported in a table that includes well or surface water point name, date water level measured, measuring point elevation referenced to a nationally recognized datum (such as NGVD 1929 or NAVD 1988), depth to water and calculated water level elevation referenced to the same nationally recognized datum. The ground water elevations shall be reported in the ADaPT data for the upload into WACS. [62-701.510(8)(a)8, F.A.C.]

## G. GROUND WATER CONTOUR MAPS

23. Ground water elevation contour maps for each monitored aquifer zone must be submitted semi-annually to the Department, with contours at no greater than one foot intervals unless site specific conditions dictate otherwise. Ground water elevation contour map(s) should include monitoring well and piezometer locations, ground water elevation at each monitoring well or piezometer location referenced to a nationally recognized datum (such as NGVD 1929 or NAVD 1988), a bar scale, north arrow, ground water contour interval, date of measurement and ground water flow direction. The map(s) must incorporate adjacent and on-site surface water elevations where appropriate. These maps shall be signed and sealed pursuant to Florida Statutes (F.S.) Chapters 471 and 492 which require that documents requiring the practice of

professional engineering or professional geology, as described in Chapter 471 or 492, F.S., be signed and sealed by the professional(s) who prepared or approved them. This certification must be made by a licensed professional who is able to demonstrate competence in this subject area. **[62-701.510(8)(a)9, F.A.C.]**

## **H. TECHNICAL REPORT**

24. A technical report, signed and sealed by a professional geologist or professional engineer with experience in hydrogeologic investigations, shall be submitted to the Department approximately every two and one-half years during the active life of the facility, and every five years during the long-term care period. The report shall summarize and interpret the water quality monitoring results and water level measurements collected since the last Technical Report. The report shall contain, at a minimum, the following **[62-701.510(8)(b), F.A.C.]**:
- a) Tabular displays of any data which shows that a monitoring parameter has been detected, and graphical displays of any leachate key indicator parameters detected (such as pH, specific conductance, TDS, TOC, sulfate, chloride, sodium and iron), including hydrographs for all monitor wells;
  - b) Trend analyses of any monitoring parameters consistently detected;
  - c) Comparisons among shallow, middle, and deep zone wells;
  - d) Comparisons between background water quality and the water quality in detection and compliance wells;
  - e) Correlations between related parameters such as total dissolved solids and specific conductance;
  - f) Discussion of erratic and/or poorly correlated data;
  - g) An interpretation of the ground water contour maps, including an evaluation of ground water flow rates; and
  - h) An evaluation of the adequacy of the water quality monitoring frequency and sampling locations based upon site conditions.
25. One (1) paper and one (1) electronic copy (Adobe pdf format) of the Technical Report shall be submitted to the Department on the following schedule: **[62-701.510(8)(b), F.A.C.]**

<b>Report</b>	<b>Sampling Periods Covered</b>	<b>Number Of Semi-annual Sampling Events in Report</b>	<b>Date Technical Report Due</b>
<b>Interim Permit Report</b>	Second semi-annual event 2015 through Second semi-annual event 2017	5	March 31, 2018
<b>Interim Permit Report</b>	First semi-annual event 2018 through first semi-annual event 2020	5	September 30, 2020
<b>Interim Permit Report</b>	Second semi-annual event 2020 through Second semi-annual event 2022	5	March 31, 2023
<b>Interim Permit Report</b>	First semi-annual event 2023 through First semi-annual event 2025	5	September 30, 2025
<b>Interim Permit Report</b>	Second semi-annual event 2025 through Second semi-annual event 2027	5	March 31, 2028
<b>Interim Permit Report</b>	First semi-annual event 2028 through First semi-annual event 2030	5	September 30, 2030
<b>Interim Permit Report</b>	Second semi-annual event 2030 through Second semi-annual event 2032	5	March 31, 2033
<b>Renewal Report</b>	First semi-annual event 2033 through First semi-annual event 2035	5	September 30, 2035

26. Required water quality monitoring reports and water quality data for the Technical Report shall be submitted in electronic format as described in Specific Conditions V. 20 and 21 of this Appendix. **[62-160.240, and 62-701.510(8)(a), F.A.C.]**

### **I. HYDRAULIC GRADIENT MONITORING**

27. Horizontal hydraulic gradients across the slurry wall will be measured monthly at the points listed on **Attachment B: Table 2** and shown on **Attachment C: Figure 1**. These points will be monitored monthly for water levels to an accuracy of 0.01 feet. The results of the monthly monitoring shall be submitted by the 15<sup>th</sup> day of the following month. An inward gradient shall be maintained across the slurry wall. If an outward gradient exists, steps correcting the gradient shall be included with the related monthly data. Damaged gradient monitoring points shall be replaced within (30) days to ensure continuous monthly monitoring at all points.

### **List of Attachments**

**Attachment A:** Table 1 – Water Quality Sampling Testsite Information

**Attachment B:** Table 2 – Hydraulic Gradient Monitoring Points

**Attachment C:** Figure 1 –Water Quality and Water Level Monitoring  
Locations Map

**Attachment A: Table 1 – Water Quality Sampling Testsite Information**

Monitoring Site Number	WACS Testsite ID	Designation	Aquifer	WACS Report Type
<b>Ground Water</b>				
<b>Existing Stage I and III Landfill Groundwater Monitoring Wells</b>				
GW-1	21593	Detection	Surficial	SEMGW
GW-2	21594	Detection	Surficial	SEMGW
GW-3	21595	Detection	Surficial	SEMGW
GW-4	21596	Detection	Surficial	SEMGW
GW-5	21597	Detection	Surficial	SEMGW
GW-6	21598	Detection	Surficial	SEMGW
GW-7	21599	Detection	Surficial	SEMGW
GW-8	21600	Detection	Surficial	SEMGW
GW-9	21601	Detection	Surficial	SEMGW
GW-10	21602	Detection	Surficial	SEMGW
GW-11	21603	Detection	Surficial	SEMGW
GW-12	21604	Detection	Surficial	SEMGW
GW-13	21605	Detection	Surficial	SEMGW
GW-14	21606	Detection	Surficial	SEMGW
GW-15	21607	Detection	Surficial	SEMGW
GW-16	21608	Detection	Surficial	SEMGW
GW-17	21609	Detection	Surficial	SEMGW
BGW-1	21610	Detection	Surficial	SEMGW
<b>Proposed Stage II Landfill Ground Water Monitoring Wells</b>				
GW-18	27495	Detection	Surficial	SEMGW
GW-19	27496	Detection	Surficial	SEMGW
GW-20	27497	Detection	Surficial	SEMGW
GW-21	27498	Detection	Surficial	SEMGW
GW-22	27499	Detection	Surficial	SEMGW
GW-23	27500	Detection	Surficial	SEMGW
GW-24	27501	Detection	Surficial	SEMGW
GW-25	27502	Detection	Surficial	SEMGW
GW-26	27503	Detection	Surficial	SEMGW
GW-27	27504	Detection	Surficial	SEMGW
GW-28	27505	Detection	Surficial	SEMGW
<b>Surface Water</b>				
SW-1	1663	Detection	Downstream- Cypress Strand	SEMSW
SW-2	1665	Detection	Upstream Cypress Strand	SEMSW

Note 1. Groundwater monitoring wells are located outside of the slurry wall.

Note 2. GW-1 and GW-2 shall be abandoned after installation of the Stage II monitoring system.

**Attachment B: Table 2 Hydraulic Gradient Monitoring Points**

<b>Interior Monitoring Point</b>	<b>Exterior Monitoring Point</b>
<b>Existing Stage I and III Landfill Monitoring Points</b>	
PZ-1	GW-1
PZ-2	GW-2
PZ-3	GW-3
PZ-4	GW-4
PZ-5	GW-5
PZ-6	GW-6
PZ-7	GW-7
PZ-8	GW-8
PZ-9	GW-9
PZ-10	GW-10
PZ-11	GW-11
PZ-12	GW-12
PZ-13	GW-13
PZ-14	GW-14
PZ-15	GW-15
PZ-16	GW-16
PZ-17	GW-17
<b>Proposed Stage II Landfill Monitoring Points</b>	
PZ-18	GW-18
PZ-19	GW-19
PZ-20	GW-20
PZ-21	GW-21
PZ-22	GW-22
PZ-23	GW-23
PZ-24	GW-24
PZ-25	GW-25
PZ-26	GW-26
PZ-27	GW-27
PZ-28	GW-28

PZ – Piezometer

GW – Groundwater Monitoring Well

Note 1. Piezometers are located inside of the slurry wall, and groundwater monitoring wells are located outside of the slurry wall.

Note 2. GW-1, GW-2, PZ-1 and PZ-2 shall be abandoned after the Stage II Landfill monitoring system is installed



Attachment C: Figure 1 –Water Quality and Water Level Monitoring Locations Map

