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2 May 2017

Ms. El Kromhout, P.G.
Florida Department of Environmental Protection
Division of Waste Management
Permitting & Compliance Assistance Program
2600 Blair Stone Road, MS 4565
Tallahassee, Florida 32399-2400

Subject: Renewal Permit Application for Operation of J.E.D. Solid Waste Management Facility (WACS #89544) Osceola County, Florida

Dear Ms. Kromhout:

Transmitted herewith is one copy of the subject permit application, which was prepared by Geosyntec Consultants (Geosyntec) on behalf of Omni Waste of Osceola County, LLC (Omni), a wholly owned subsidiary of Waste Connections, Inc. (WCI). The renewal permit application requests approval to continue operations at the J.E.D. Solid Waste Management Facility for a ten-year operation period, and complies with the requirements of Chapter 62-701 of the Florida Administrative Code.

A check in the amount of $10,000 is also enclosed with this permit application. If you or your staff have any questions or need additional information, please feel free to contact the undersigned.

Sincerely,

Alex Rivera, P.E.
Engineer
Florida P.E. No. 78210

Copies to: Kirk Wills, Waste Connections, Inc. (WCI)

Transmittal_JED 2017 Permit Renewal

Prepared for:

WASTE CONNECTIONS, INC.

Omni Waste of Osceola County, LLC
1501 Omni Way
St. Cloud, Florida 34773

RENEWAL PERMIT APPLICATION FOR OPERATION OF J.E.D. SOLID WASTE MANAGEMENT FACILITY

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May 2017

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1 INTRODUCTION

1.1 Terms of Reference

Geosyntec Consultants (Geosyntec) has prepared this 10-year renewal permit application (application) to renew the existing operation permit for the J.E.D. Solid Waste Management Facility (JED facility), a Class I municipal solid waste (MSW) landfill in Osceola County, Florida. The JED facility is owned and operated by Omni Waste of Osceola County, LLC (Omni), which is a wholly owned subsidiary of Waste Connections, Inc. (WCI). This application is submitted to the Florida Department of Environmental Protection (FDEP) on behalf of Omni and has been prepared to comply with the requirements of Chapter 62-701 of the Florida Administrative Code (F.A.C.). FDEP Form 62-701.900(1) – *Application to Construct, Operate, Modify or Close a Solid Waste Management Facility* – included in **Appendix A** – has been used to verify the completeness of this application.

The JED facility is currently operating under FDEP solid waste operation Permit No. SO49-0199726-022, issued in July 2012, and FDEP solid waste construction Permit No. 0199726-031-SC-1, issued in September 2016, and associated permit modifications. The approved operation and construction permits authorize the continued operation of Phases 1 through 5 (Cells 1 through 15), and the construction of the Class I landfill lateral expansion Phase 4, Cell 12 and Phase 5, Cells 14 and 15, respectively. The existing permits recognize the entirety of the JED Class I landfill build-out which includes 8 Phases (Cells 1 through 23) spanning approximately 360 acres of lined footprint. Cells 1 through 11 and 13 (not including Cell 12) have been constructed and disposal operations are currently ongoing in these units. The operation and construction permits expire on 3 July 2017 and 7 September 2026, respectively, and this application has been prepared to renew the operation permit only.

This application is being submitted to renew the existing operation permit at the JED facility for a 10-year period, which is anticipated to include operation through Cell 15 of Phase 5 of the Class I landfill. Phase 1 consists of four cells (Cells 1 through 4) and has a footprint of approximately 52 acres. Phase 2 consists of three cells (Cells 5 through 7) with a footprint of approximately 36 acres. Phase 3 consists of three cells (Cells 8 through 10) and has a footprint of approximately 37 acres. Phase 4 also consists of three cells (Cells 11 through 13) and has a footprint of approximately 46 acres. Phase 5 consists of two cells (Cells 14 and 15) and has a footprint of approximately 37 acres. The combined footprint of Phases 1 through 5 is approximately 208 acres.

The drawing set titled *J.E.D. Solid Waste Management Facility, Phases 1–5 Renewal Permit Drawings* was submitted as part of the 2016 construction permit renewal application and remains valid. Therefore, only drawing sheets that have been updated (e.g., to reflect updates

to the proposed groundwater monitoring network) are being submitted with this application and are presented in **Appendix B** (Renewal Permit Drawings).

This application was prepared by Alexander Rivera, P.E., Craig Browne, P.E., and Matthew Wissler, P.G., and reviewed by Kwasi Badu-Tweneboah, Ph.D., P.E., all with Geosyntec. Professional engineer certification of this application is provided on the cover sheet, on the FDEP Form 62-701.900(1), on the cover page of applicable appendices, and on each sheet of the Renewal Permit Drawings.

1.2 Previous Permit Applications

The solid waste construction and operation permits for Phase 1 of the JED facility were issued by FDEP based on an application prepared and submitted by Geosyntec in May 2002 titled *Application for a Permit to Construct and Operate a Class I Landfill* (2002 Permit Application). A 50-sheet permit drawings set titled *Oak Hammock Disposal, A Solid Waste Facility, Permit Drawings* (2002 Permit Drawings) was issued along with the 2002 Permit Application (Note: the JED facility was previously named the Oak Hammock Disposal facility).

A Conceptual Environmental Resources Permit (ERP) for the entire JED facility and an Individual ERP for Phase 1 development were issued by FDEP based on the application prepared and submitted by Geosyntec in May 2002 titled *Application for Environmental Resources Permit, Oak Hammock Disposal Facility* (2002 ERP Application).

The solid waste construction and operation permits for Phases 1 through 3 of the JED facility were issued by FDEP based on a renewal application prepared and submitted by Geosyntec in September 2006 titled *Renewal Permit Application to Construct and Operate Phases 2 and 3 of the Oak Hammock Disposal Facility* (2006 Renewal Permit Application). A 40-sheet permit drawing set titled *Oak Hammock Disposal Facility, Phases 2 and 3, Renewal Permit Drawings* (2006 Renewal Permit Drawings) was issued along with the 2006 Renewal Permit Application.

An Individual ERP for Phase 2 development was issued by FDEP based on an application prepared and submitted by Geosyntec in November 2006 titled *Application for an Environmental Resources Permit for Phase 2 Construction, Oak Hammock Disposal Facility* (2006 ERP Application).

A major modification application to vertically expand the JED facility was prepared by Geosyntec and submitted to FDEP in September 2007 in an application titled *Major Modification Application for Vertical Expansion of the J.E.D. Solid Waste Management Facility (Phases 1 through 3)* (2007 Major Modification Application). A 40-sheet permit drawing set titled *J.E.D. Solid Waste Management Facility, Vertical Expansion Permit*

Drawings, Phases 1 through 3 (2007 Permit Drawings) was submitted along with the 2007 Major Modification Application.

An Individual ERP for Phase 3 development and a modification to the Conceptual ERP was issued by FDEP based on an application prepared and submitted by Geosyntec in October 2007 titled *Major Modification of Environmental Resources Permit Applications for the Vertical Expansion of the J.E.D. Solid Waste Management Facility* (2007 Major Modification Application).

In February 2011 Geosyntec prepared and submitted a *Major Environmental Resources Permit Modification Application* along with the *Landfill Lateral Expansion – Application for a Major Permit Modification* (jointly the 2011 Major Modification Application). A 40-sheet permit drawing set entitled *J.E.D. Solid Waste Management Facility, Lateral Expansion Major Solid Waste Permit Drawings* (2011 Permit Drawings) was submitted along with the 2011 Major Modification Application.

In November 2011 Geosyntec prepared and submitted a *Renewal Permit Application to Operate Phases 1 through 4 at the J.E.D. Solid Waste Management Facility* (2011 Renewal Permit Application). A 45-sheet permit drawing set entitled *J.E.D. Solid Waste Management Facility, Phases 1 through 4, Renewal Permit Drawings* (2011 Renewal Permit Drawings) was submitted along with the 2011 Renewal Permit Application.

In December 2014 Geosyntec prepared and submitted an *Intermediate Permit Modification Application: Base Grade Revisions to Phase 4 (Cells 11-13)* (2014 Intermediate Modification Application). A permit drawing set titled *J.E.D. Solid Waste Management Facility, Base Grade Revisions, Phase 4 (Cells 11-13) Disposal Area, Intermediate Modification Permit Drawings* (2014 Permit Modification Drawings) was submitted along with the 2014 Intermediate Modification Application.

In June 2015 Geosyntec prepared and submitted a *Minor Modification Permit Application, Operation Plan Revision for Temporary Exposed Geomembrane Covers for Erosion Control* (2015 Minor Modification Permit Application). A revised Operation Plan (2015 Operation Plan) was submitted along with the 2015 Minor Modification Permit Application.

In June 2016 Geosyntec prepared and submitted the *Renewal Permit Application to Construct Through Phase 5 at the J.E.D. Solid Waste Management Facility* (2016 Renewal Permit Application). As previously mentioned, a permit drawing set titled *J.E.D. Solid Waste Management Facility, Phases 1-5 Renewal Permit Drawings* (2016 Renewal Permit Drawings) was submitted along with the 2016 Renewal Permit Application.

The current solid waste operation and construction permits (Permit No. SO49-0199726-022 and 0199726-031-SC-1, respectively) were issued based on the 2011 Renewal Permit Application and 2016 Renewal Permit Application, respectively, and subsequent responses to

FDEP comments. As previously discussed, these permits expire on 3 July 2017 and 7 September 2026, respectively, and this application has been prepared to renew the operation permit only.

1.3 Purpose and Scope

The purpose of this application is to provide sufficient information to renew the solid waste operation permit of the existing Class I landfill for a 10-year period, which is anticipated to include operation through Cell 15. The overall site development plan of the JED facility (Cells 1 through 23) has been previously submitted with the 2016 Renewal Permit Drawings.

The intent of this application is to address the applicable parts of FDEP Form 62-701.900(1). Parts of FDEP Form 62-701.900(1), marked as *no substantial change* (N/C) (i.e., those related to previous investigations, design, and/or analyses) have been submitted in previous application submittals as referenced above. When applicable, sections of FDEP Form 62-701.900(1), marked as N/C are incorporated herein by referencing the appropriate documents on file with the FDEP.

1.4 Organization of the Permit Application

This application is organized as follows:

- Section 1: Introduction – This section provides terms of reference, summarizes previous permit applications, and discusses the scope and organization of the application.
- Section 2: General Information – This section addresses Parts A through G of FDEP Form 62-701.900(1).
- Section 3: Hydrogeological and Geotechnical Investigation – This section addresses Parts H through J of FDEP Form 62-701.900(1).
- Section 4: Operation and Water Quality Plans – This section addresses Parts K through M of FDEP Form 62-701.900(1).
- Section 5: Landfill Gas Management System – This section addresses Part N of FDEP Form 62-701.900(1).
- Section 6: Landfill Closure – This section addresses Parts O and P of FDEP Form 62-701.900(1).
- Section 7: Long-Term Care and Financial Assurance – This section addresses Parts Q and R of FDEP Form 62-701.900(1).

- Section 8: References – This section includes a list of documents referenced herein.

2 GENERAL INFORMATION

2.1 Overview

This section presents and addresses the general requirements in Chapter 62-701, F.A.C., not addressed in other sections or appendices of this application. Specifically, this section is organized to provide the information required by Parts A through G of FDEP Form 62-701.900(1) for the JED facility.

2.2 Location

The JED facility is a Class I landfill located in eastern Osceola County, Florida, west of highway U.S. 441, approximately 6.5 miles south of Holopaw. The JED facility is located in Sections 11, 13, and 14 of Township 28 South, Range 32 East, and Sections 17 and 18 of Township 28 South, Range 33 East, Osceola County, Florida. The site location is shown in the Renewal Permit Drawings. The main entrance of the facility is located at latitude 28° 02' 57" N, longitude 81° 03' 10" W, off highway U.S. 441, at 1501 Omni Way, St. Cloud, Florida, while the center of the landfill footprint is located at latitude 28º 03' 32" N and longitude 81º 05' 46" W.

2.3 Site Description

The property is generally bounded by the Bronson's, Inc. Property to the north and west, Clay Whaley Property to the south, and highway U.S. 441 to the east. The JED facility is connected to highway U.S. 441 with an approximately 3-mile long access road. The JED property comprises a total of approximately 2,179 acres of which approximately 360 acres will be covered by the landfill disposal footprint. The proposed footprint of Phase 5 of landfill development is approximately 38 acres.

2.4 Prohibitions

This section provides information required by Part C of Form 62-701.900(1) that pertain to regulatory landfill prohibitions as described in Rule 62-701.300, F.A.C. There are no proposed modifications to the horizontal or vertical extents of the disposal area. As such, the JED facility will continue to satisfy FDEP siting criteria requirements described by subsection 62-701.300(2), F.A.C. Accordingly, Parts C.1 through C.10 of Form 62-701.900(1) have been marked as "No Change" and the information presented herein is for informational purposes only.

The JED facility satisfies FDEP siting criteria requirements described by subsection 62-701.300(2). F.A.C. No solid waste will be placed:

- in an area where geological formations or other subsurface features will not provide adequate support;
- within 500 feet (ft.) of any existing or approved potable water well (Note: a well survey was completed and submitted with the 2016 Renewal Permit Application);
- in dewatered pits;
- in a natural or artificial body of water;
- within 200 ft. of a natural or artificial body of water except where the facility is designed with permanent leachate control methods, which will result in compliance with water quality standards and criteria; or
- on the right of way of any public highway, road, or alley (refer to 2016 Renewal Permit Drawings).

The exemptions stated in subsections 62-701.300(12) through (18), F.A.C., are not applicable to the JED facility due to the following:

- yard trash storage areas will meet all siting criteria;
- tanks will meet all siting criteria;
- CCA treated wood will not be processed for use outside of the lined waste disposal facility;
- no indoor, vehicle, or container storage of waste will be allowed; and
- there are no existing facilities (i.e., facilities that were constructed prior to 27 May 2001) at the site.

Other Class I landfill prohibitions will be enforced at the JED facility, specifically:

- no open burning of solid waste will be allowed;
- no hazardous waste will be accepted for disposal;
- no liquids or non-liquids containing polychlorinated biphenyls (PCBs) will be accepted for disposal;
- no biomedical waste will be accepted for disposal unless the biomedical waste has been properly incinerated;
- no special waste (lead-acid batteries, used oil, yard trash, white goods, or whole tires) will be accepted for disposal in the landfill, however, yard trash, white goods, and whole tires will be accepted for processing, reuse, or recycling;
- no prohibited liquid waste will be accepted for disposal; and

- no prohibited commingled used oil will be accepted for disposal.

The JED facility is not located within 3,000 ft. of Class I surface waters. The nearest surface water to the landfill is the Bull Creek, an intermittent stream which is designated as a Class III surface water by FDEP. The nearest Class I surface water is located approximately 13 miles east of the JED facility.

2.5 Solid Waste Management Facility Permit Requirements

2.5.1 Overview

As previously stated, the FDEP Form 62-701.900(1) has been completed for this application. A dated and signed copy of FDEP Form 62-701.900(1) is included in **Appendix A** of this application.

2.5.2 Operation Plan

A revised operation plan is discussed in Section 4 and presented in **Appendix C** of this application.

2.5.3 Closure Plan

A separate permit application for closure will be submitted to FDEP in accordance with applicable sections of Chapter 62-701, F.A.C., prior to the final closure construction activities. It is noted that Omni intends to construct final cover in sections of the landfill that have reached the final waste elevations (i.e., close as you go). As such, in April 2011 Geosyntec prepared and submitted a Closure Plan (2011 Closure Plan) in Appendix E of the *Response to Request for Additional Information dated 6 April 2011*. The 2011 Closure Plan has been incorporated into Section 7 of the revised operation plan presented in **Appendix C** of this application.

2.5.4 Renewal Permit Drawings

Appendix B presents the Renewal Permit Drawings for the JED facility that contain updates that are applicable for this application (e.g. updates to the proposed groundwater monitoring network). The 2016 Renewal Permit Drawings (on file with FDEP) include all information set forth in paragraph 62-701.320(7)(f), F.A.C.

2.5.5 Compliance History

As required by paragraph 62-701.320(7)(i), F.A.C., a history of the solid waste management facility enforcement actions against WCI in the State of Florida is presented in **Appendix D** of this application.

2.5.6 Public Notification

A public notification was published as part of the 2011 Major Modification Applications in accordance with the requirements of paragraph 62-701.320(8)(a), F.A.C. As there are no

proposed alterations to the horizontal or vertical extents of the disposal area approved by the current FDEP solid waste construction permit, a Notice of Application is not included as part of this application.

2.5.7 Airport Safety

As part of the 2007 Major Modification Application process, the Federal Aviation Agency (FAA) was contacted to ensure that the proposed vertical expansion of the JED facility did not present a safety concern with respect to air traffic and nearby airports. FAA performed a study and concluded that the proposed maximum elevation of 330 ft. National Geodetic Vertical Datum (NGVD) for the JED facility would not be a hazard to air navigation.

As there are no proposed horizontal or vertical alterations for the disposal area, the JED facility satisfies the siting requirements for airport safety and notification approved by the current FDEP solid waste construction permit. As such, information required by subsection 62-701.320(13), F.A.C., is not included as part of this application.

2.5.8 Screening of Landfill from Public View

Additional measures are not needed to screen the landfill from public view. The JED facility is located approximately 1.7 miles west of highway U.S. 441, which is the closest public area. The area between the facility and highway U.S. 441 consists of the natural vegetation of central Florida, including extensive stands of trees, which screen the site activities from public view.

2.6 Landfill Permit Requirements

2.6.1 Overview

The documentation required by paragraph 62-701.330(3)(a) through (h), F.A.C., [Part E of FDEP Form 62-701.900(1)] has been previously submitted to FDEP in the 2007 Permit Application and 2011 Major Permit Modification. Select items have been updated to reflect the proposed changes to the groundwater monitoring network, as indicated on the FDEP Form and as described below.

2.6.2 Renewal Permit Drawings

The Renewal Permit Drawings, presented in **Appendix B** of this application, contain 3 sheets and to reflect specific changes proposed as part of this operation renewal permit application. Specific updates to the Renewal Permit Drawings include:

- Sheet 1: Title Sheet – updates to the drawing set title and dates as they relate to this operation renewal permit application;
- Sheet 23: Groundwater Monitoring Network – reflects changes to the proposed monitoring well network; and

- Sheet 24: Phase 4 Construction Sequencing – reflects changes to the proposed monitoring well network as it relates to the projected construction sequence during Phase 4.

2.6.3 Estimated Population for the Service Area

The area serviced by the JED facility is primarily Osceola County. However, based on the agreement with Osceola County, the JED facility may also accept waste from surrounding counties. The primary counties from which the JED facility can accept waste include Osceola, Brevard, Indian River, Okeechobee, Orange, Polk, Volusia, Sumter, Lake, Seminole, Pasco, Hillsborough, Hardee, and Highlands.

According to population data available from the Office of Economic and Demographic Research (OEDR), the 1 April 2016 estimated population for Osceola County is 322,862 and the estimated population of all the counties (from which JED facility may accept waste) is 6,393,503 (OEDR, 2017).

2.6.4 Type, Source of Solid Waste, and Annual Quantity

Household trash, commercial waste, construction and demolition debris, shredded/cut tires, incinerator/WTE ash, treated biomedical, industrial, water treatment sludge, asbestos, industrial sludge, domestic sludge, waste tires, auto shredder waste, industrial liquid waste for solidification, and other waste classified as Class I waste are being and will be disposed in the JED landfill. The waste will be from residential communities and commercial sources.

The landfill is currently open from Monday through Sunday (half-day or less on Saturday and Sunday). As such, the landfill operates approximately 286 equivalent full days per year. The estimated waste disposal rate for the JED landfill is expected to average 6,000 tons/day, resulting in approximately 1,716,000 tons/year.

2.6.5 Anticipated Life

The waste disposal rate at the JED facility is variable and dependent on market conditions, and may be as high as 9,200 tons/day. The facility's Title V air operations permit limits the annual acceptance rate in Phases 1-3 to 2,631,200 tons/year. The existing operations plus the proposed development through Phase 5 of the JED facility yield approximately 23,672,200 yd^3 of airspace as of May 2015, as presented in the 2016 Renewal Permit Application. At an estimated in-place unit weight of approximately 1,600 lb/yd^3 (including daily cover) and an approximate average disposal rate of 6,000 tons/day, the expected life including Phases 3, 4, and 5 under build-out conditions is estimated to be approximately 10 years.

No change is proposed to the final design height of the JED facility; the maximum height of the facility during its operation was provided in the 2016 Renewal Permit Drawings.

2.7 General Criteria for Landfills

2.7.1 Floodplain

The documentation required by paragraph 62-701.340(3)(b), F.A.C., with respect to the 100-year flood plain has been previously submitted in the 2011 Major Modification Application and 2011 ERP Major Modification Application. As there are no proposed alterations to the horizontal or vertical extents of the disposal area approved by the current FDEP solid waste construction permit, the documentation previously submitted is still valid and is not re-submitted in this application.

2.7.2 Horizontal Separation

The 2016 Renewal Permit Drawings included dimensions between the landfill liner system perimeter anchor trench, which corresponds to the toe of the proposed final cover system slope, and the property boundary. As demonstrated, the horizontal separation between waste placed in the proposed landfill and the landfill property boundary exceeds the 100-foot setback requirement of paragraph 62-701.340(3)(c), F.A.C.

2.8 Landfill Construction Requirements

The applicable landfill construction requirements in Part G of FDEP Form 62-701.900(1), and Rule 62-701.400, F.A.C., were provided in the 2016 Renewal Permit Application. As such, Part G on FDEP Form 62-701.900(1) has been marked as “Not Applicable”.

3 HYDROGEOLOGICAL AND GEOTECHNICAL INVESTIGATIONS

3.1 Overview

This section presents and addresses the hydrogeological and geotechnical investigation requirements in Chapter 62-701, F.A.C., not addressed in other sections or appendices of this application. Specifically, this section is organized to provide the information required by Parts H through J of FDEP Form 62-701.900(1) for the JED facility.

3.2 Previous Investigations

In April 2002 Kubal-Furr & Associates (KFA) prepared and submitted a *Hydrogeologic Investigation Report and Water-Quality Monitoring Plan, Oak Hammock Disposal, A Solid Waste Disposal Facility* (2002 Hydrogeologic Investigation Report) during the 2002 Permit Application.

In February 2011, Geosyntec prepared and submitted a *Hydrogeological Investigation Report Addendum and Conceptual Water Quality Monitoring Plan* (2011 Hydrogeologic Investigation Report) as Attachment C of the 2011 Major Modification Application. The 2002 Hydrogeologic Investigation Report was included as Attachment A in the 2011 Hydrogeologic Investigation Report.

Also in February 2011, Geosyntec prepared and submitted a *Geotechnical Investigation Report* (2011 Geotechnical Investigation Report) as Attachment D of the 2011 Major Modification Application.

As there are no proposed alterations to the horizontal or vertical extents of the disposal area approved by the current FDEP solid waste construction permit, no further investigations have been completed and the previously submitted information is still valid and is not re-submitted in this application. As such, Parts H and I on FDEP Form 62-701.900(1) have been marked as “Not Applicable”.

3.3 Vertical Expansion

There are no proposed design alterations that involve an increase in maximum waste elevation. As such, Part J on FDEP Form 62-701.900(1) has been marked as “Not Applicable”.

4 OPERATION AND WATER QUALITY PLANS

4.1 Overview

This section describes the Operation and Water Quality Plans for the JED facility as required by Rule 62-701.500 and 62-701.510, F.A.C., respectively. Also, this section presents and addresses the general requirements in Chapter 62-701, F.A.C., not addressed in other sections or appendices of this application. Specifically, this section is organized to provide the information required by Parts K through M of FDEP Form 62-701.900(1) for the JED facility.

4.2 Operation Plan

The 2015 Operation Plan, previously submitted to FDEP along with the 2015 Minor Modification Permit Application, has been updated and revised as part of this application. To facilitate the FDEP's review process of the revised Operation Plan, changes have been indicated with either a strikethrough (deletion to the 2015 Operation Plan on file with the FDEP) or underline (addition or revision to the 2015 Operation Plan on file with the FDEP). The revised Operation Plan is included in **Appendix C** of this application.

4.3 Water Quality Monitoring Plan

The original water quality monitoring plan for the JED facility was discussed in Section 5 of the 2002 Hydrogeologic Investigation Report and Water Quality Monitoring Plan authored by KFA, included as Appendix E of the 2002 Permit Application. The FDEP issued a permit to construct and operate Phase 1 development of the JED facility in October 2003. Associated with the permit was a Monitoring Plan Implementation Schedule (MPIS) which summarizes the required sampling schedule, constituents, and locations. The October 2003 approved water quality monitoring plan was revised for the development of Phases 2 and 3 and approved in March 2007. Also, the March 2007 approved water quality monitoring plan was revised for the development of Phases 3 and 4 and approved in July 2012. Finally, an updated groundwater monitoring network plan was revised and submitted with the 2016 Renewal Permit Application (Sheet 23 of the 2016 Renewal Permit Drawings) for the development through Phase 5 and approved in September 2016. The *Sixth Technical Report on Water Quality* (Environmental Planning Specialists, Inc., 2017) was submitted under separate cover, as part of this operations permit renewal application.

The previously approved groundwater monitoring network plan has been revised and updated to reflect existing conditions. The water quality monitoring plan update is provided in **Appendix B** of this application.

4.4 Special Waste Handling Requirements

The special waste handling procedures set forth in Chapter 62-701.520, FAC, are addressed in the Operation Plan provided in **Appendix C** of this application.

4.5 Leachate Pipe Cleaning

As required by Specific Condition C.12.c of Permit No. SO49-0199726-022, the leachate collection pipes shall be cleaned or video inspected at least once every five years with the results to be included in the permit renewal application. Cells 9 through 13 have been jet cleaned within the past 5 years (as part of cell construction) and the leachate pipe cleaning reports (previously submitted to FDEP), provided by Florida Jetclean, are included as **Appendix F**. Omni is currently scheduling the jet cleaning activities for Cells 1 through 8 and the leachate pipe cleaning reports will be submitted under separate cover.

5 LANDFILL GAS MANAGEMENT SYSTEM

5.1 Overview

This section presents and addresses the landfill gas management system requirements in Chapter 62-701, F.A.C., not addressed in other sections or appendices of this application. Specifically, this section is organized to provide the information required by Part N of FDEP Form 62-701.900(1) for the JED facility.

5.2 Background

The JED facility has a gas management system (GMS) that complies with the requirements of Rule 62-701.530, F.A.C. As currently constructed, the GMS consists of active vertical and horizontal landfill gas (LFG) extraction wells, lateral and header conveyance piping within the waste, and a landfill gas to energy system and backup flares located to the southeast of the waste disposal footprint. In addition, the GMS includes a well dewatering system consisting of a network of pneumatic pumps and associated compressed air and condensate force main piping. The layout of future LFG extraction wells, associated piping, and well dewatering system was provided in the 2016 Renewal Permit Drawings.

As there are no proposed alterations to the GMS approved by the current FDEP solid waste construction permit, Part N on FDEP Form 62-701.900(1) has been marked as “Not Applicable”.

6 LANDFILL CLOSURE

6.1 Overview

This section presents and addresses the landfill closure requirements in Chapter 62-701, F.A.C., not addressed in other sections or appendices of this permit application. Specifically, this section is organized to provide the information required by Parts O and P of FDEP Form 62-701.900(1) for the JED facility.

The general approach for closure of the JED facility is presented in Section 7 of the Operation Plan. Also, this application is only for renewal of the solid waste operation permit, and items related to landfill closure are associated with construction activities; therefore, Parts O and P of FDEP Form 62-701.900(1) have been marked as "Not Applicable".

7 LONG-TERM CARE AND FINANCIAL ASSURANCE

7.1 Overview

This section presents and addresses the long-term care and financial assurance requirements in Chapter 62-701, F.A.C., not addressed in other sections or appendices of this application. Specifically, this section is organized to provide the information required by Parts Q and R of FDEP Form 62-701.900(1) for the JED facility.

7.2 Long-Term Care and Closure Costs

A financial assurance cost estimate has been prepared for the JED facility, in compliance with Rule 62-701.630, F.A.C. The financial assurance cost estimate covers the closure costs and long-term care costs for cells that have been constructed (i.e., Cells 1 through 11 and Cell 13). The combined total two-dimensional area of these cells is approximately 153.5 acres, as summarized on Table 1 of the *Financial Assurance Cost Estimate* included as **Appendix E** of this application. Of this total area, 43.8 acres of side slopes and top deck area of Phase I have been closed as of April 2017, which leaves 109.7 acres remaining to be closed.

The closure cost estimate (for 109.7 acres) and long-term care cost estimate (for 153.5 acres) are included on the FDEP Form 62-701.900(28), *Closure Cost Estimating Form for Solid Waste Facilities*, in Attachment 1 of **Appendix E**. In summary, the total estimated closing cost included for the areas noted above is calculated to be $13,002,046.87. Similarly, the estimated long-term care cost (for a 30-year period) for the areas noted above is calculated to be $6,248,713.55.

8 REFERENCES

Geosyntec Consultants (2002a) "Application for a Permit to Construct and Operate a Class I Landfill," received by FDEP on 24 May 2002.

Geosyntec Consultants (2002b) "Application for Environmental Resources Permit, Oak Hammock Disposal Facility," received by FDEP on 24 May 2002.

Geosyntec Consultants (2006a) "Renewal Permit Application to Construct and Operate Phases 2 and 3 of the Oak Hammock Disposal Facility," received by FDEP on 12 September 2006.

Geosyntec Consultants (2006b) "Application for an Environmental Resources Permit for Phase 2 Construction, Oak Hammock Disposal Facility," received by FDEP on 12 September 2006.

Geosyntec Consultants (2007a) "Major Modification Application for Vertical Expansion of the J.E.D. Solid Waste Management Facility (Phases 1 through 3)," received by FDEP on 21 September 2007.

Geosyntec Consultants (2007b) "Major Modification of Environmental Resources Permit Applications for the Vertical Expansion of the J.E.D. Solid Waste Management Facility," received by FDEP in October 2007.

Geosyntec Consultants (2011a) "Major Environmental Resources Permit Modification Application," received by FDEP on 18 February 2011.

Geosyntec Consultants (2011b) "Landfill Lateral Expansion – Application for a Major Permit Modification," received by FDEP on 18 February 2011.

Geosyntec Consultants (2011c) "Renewal Permit Application to Operate Phases 1 through 4 at the J.E.D Solid Waste Management Facility," received by FDEP on 10 November 2011.

Geosyntec Consultants (2014) "Intermediate Permit Modification Application: Base Grade Revisions to Phase 4 (Cells 11-13)," received by FDEP on 9 December 2014.

Geosyntec Consultants (2015) "Minor Modification Permit Application, Operation Plan Revision for Temporary Exposed Geomembrane Covers for Erosion Control," received by FDEP on 30 June 2015.

Geosyntec Consultants (2016) "Renewal Permit Application to Construct Through Phase 5 at the J.E.D. Solid Waste Management Facility," received by FDEP on 15 June 2016.

Office of Economic and Demographic Research, "The Florida Legislature, Econographic News", 2017 Volume I.

APPENDICES

Appendix A

FDEP Form 62-701.900(1)

Florida Department of Environmental Protection

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

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

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

Effective Date: February 15, 2015

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

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

APPLICATION INSTRUCTIONS AND FORMS

INSTRUCTIONS TO APPLY FOR A SOLID WASTE MANAGEMENT FACILITY PERMIT

I. General

Solid Waste Management Facilities shall be permitted pursuant to Section 403.707, Florida Statutes (FS) and in accordance with Florida Administrative Code (FAC) Chapter 62-701. A permit application shall be submitted in accordance with the requirements of Rule 62-701.320(5)(a), F.A.C., to the appropriate Department office having jurisdiction over the facility. The appropriate fee in accordance with Rule 62-701.315, FAC, shall be submitted with the application by check made payable to the Department of Environmental Protection (DEP).

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

II. Application Parts Required for Construction and Operation Permits

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

NOTE: Portions of some Parts may not be applicable.

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

III. Application Parts Required for Closure Permits

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

NOTE: Portions of some Parts may not be applicable.

IV. Permit Renewals

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

V. Application Codes

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

VI. Listing of Application Parts

PART A: GENERAL INFORMATION

PART B: DISPOSAL FACILITY GENERAL INFORMATION

PART C: PROHIBITIONS

PART D: SOLID WASTE MANAGEMENT FACILITY PERMIT REQUIREMENTS, GENERAL

PART E: LANDFILL PERMIT REQUIREMENTS

PART F: GENERAL CRITERIA FOR LANDFILLS

PART G: LANDFILL CONSTRUCTION REQUIREMENTS

PART H: HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS

PART I: GEOTECHNICAL INVESTIGATION REQUIREMENTS

PART J: VERTICAL EXPANSION OF LANDFILLS

PART K: LANDFILL OPERATION REQUIREMENTS

PART L: WATER QUALITY AND LEACHATE MONITORING REQUIREMENTS

PART M: SPECIAL WASTE HANDLING REQUIREMENTS

PART N: GAS MANAGEMENT SYSTEM REQUIREMENTS

PART O: LANDFILL CLOSURE REQUIREMENTS

PART P: OTHER CLOSURE PROCEDURES

PART Q: LONG-TERM CARE

PART R: FINANCIAL ASSURANCE

PART S: CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

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

Please Type or Print

PART A. GENERAL INFORMATION

1. Type of disposal facility (check all that apply):
   - ☑ Class I Landfill
   - ☐ Class III Landfill
   - ☐ Industrial Solid Waste
   - ☐ Other (describe):
   - ☐ Ash Monofill
   - ☐ Asbestos Monofill

NOTE: Waste Processing Facilities should apply on Form 62-701.900(4), FAC;
Yard Trash Disposal Facilities should notify on Form 62-701.900(3), FAC;
Compost Facilities should apply on Form 62-709.901(1), FAC; and
C&D Disposal Facilities should apply on Form 62-701.900(6), FAC

2. Type of application:
   - ☐ Construction
   - ☑ Operation
   - ☐ Construction/Operation
   - ☐ Closure
   - ☐ Long-term Care Only

3. Classification of application:
   - ☐ New
   - ☑ Renewal
   - ☐ Substantial Modification
   - ☐ Intermediate Modification
   - ☐ Minor Modification

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

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

6. Facility location (main entrance):
   1501 Omni Way, St. Cloud, FL 34773

7. Location coordinates:
   Section: 11,13,14,17, & 18 Township: 28S Range: 32E & 33E
   Latitude: 28 ° 3 ' 32 " Longitude: 81 ° 5 ' 46 "
   Datum: WGS84 Coordinate method: DGPS
   Collected by: Johnston's Surveying Company/Affiliation: Johnston's Surveying

8. Applicant name (operating authority): Omni Waste of Osceola County LLC

Mailing address: 1501 Omni Way St. Cloud FL 34773
Street or P.O. Box City State Zip

Contact person: Kirk Wills Telephone: (813) 388-1026

Title: South Region Engineer

kirk.wills@wasteconnections.com
E-Mail address (if available)

9. Authorized agent/Consultant: Geosyntec Consultants

Mailing address: 13101 Telecom Drive, Suite 120 Temple Terrace FL 33637
Street or P.O. Box City State Zip

Contact person: Alex Rivera, P.E. Telephone: (813) 558-0990

Title: Engineer

arivera@geosyntec.com
E-Mail address (if available)

10. Landowner (if different than applicant): N/A

Mailing address: _____
Street or P.O. Box City State Zip

Contact person: _____ Telephone: (_____) _____

_____
E-Mail address (if available)

11. Cities, towns, and areas to be served:
Primarily Osceola, Brevard, Indian River, Okeechobee, Orange, Polk, Volusia, Sumter, Lake, Seminole, Pasco, Hillsborough, Hardee, and Highlands Counties. Other Florida counties are served as waste streams are available.

12. Population to be served:
Current: 6,266,000 Five-Year Projection: 6,500,000

13. Date site will be ready to be inspected for completion: N/A

14. Expected life of the facility: 22 years

15. Estimated costs:
Total Construction: $ _____ Closing Costs: $ 13,002,046.87

16. Anticipated construction starting and completion dates:
From: N/A To: N/A

17. Expected volume or weight of waste to be received:
_____ yds^3/day 6000 tons/day _____ gallons/day

PART B. DISPOSAL FACILITY GENERAL INFORMATION

1. Provide brief description of disposal facility design and operations planned under this application:
This application is being submitted in support of the renewal of the operation permit for the JED facility, which is anticipated to include through Phase 5, Cell 15.

2. Facility site supervisor: Benjamin Gray
Title: District Manager Telephone: (407) 932-8672
BenjaminG@WasteConnections.com
E-Mail address (if available)

3. Disposal area: Total acres: 360 Used acres: 154 Available acres: 206

4. Weighing scales used: ☑ Yes ☐ No

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

6. Charge for waste received: _____ $/yds^3 35 $/ton

7. Surrounding land use, zoning:
- ☐ Residential
- ☑ Agricultural
- ☐ Commercial
- ☐ Industrial
- ☐ None
- ☐ Other (describe):

8. Types of waste received:
- ☑ Household
- ☑ Commercial
- ☑ Incinerator/WTE ash
- ☑ Treated biomedical
- ☑ Water treatment sludge
- ☐ Air treatment sludge
- ☐ Agricultural
- ☑ Asbestos
- ☑ C & D debris
- ☑ Shredded/cut tires
- ☐ Yard trash
- ☐ Septic tank
- ☑ Industrial
- ☑ Industrial sludge
- ☑ Domestic sludge
- ☑ Other (describe):

Waste tires and liquid waste for solidification.

9. Salvaging permitted: ☐ Yes ☑ No

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

11. Trained spotters: ☑ Yes ☐ No Number of spotters used: Minimum of 1 per work face

12. Site located in: ☑ Floodplain ☑ Wetlands ☐ Other (describe):

13. Days of operation: Monday through Sunday

14. Hours of operation: Mon-Fri: 4am to 4pm, Sat: 6am to 12pm, Sun: 6am to 10am

15. Days working face covered: each working day

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

17. Number of monitoring wells: 63

18. Number of surface monitoring points: 2

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

Gas flaring: ☑ Yes ☐ No Gas recovery: ☑ Yes ☐ No

20. Landfill unit liner type:

- ☐ Natural soils
- ☐ Single clay liner
- ☐ Single geomembrane
- ☐ Single composite
- ☐ Slurry wall
- ☐ Double geomembrane
- ☑ Geomembrane & composite (Cells 5 through 23)
- ☑ Double composite (Cells 1 through 4)
- ☐ None
- ☑ Other (describe):

A GCL layer is provided below primary geomembrane liner in the sump area in Cells 5 through 23.

21. Leachate collection method:

- ☑ Collection pipes
- ☑ Geonets
- ☐ Well points
- ☐ Perimeter ditch
- ☑ Other (describe):
- ☐ Double geomembrane
- ☐ Gravel layer
- ☐ Interceptor trench
- ☐ None

Sand layer above geocomposite.

22. Leachate storage method:

☐ Tanks ☑ Surface impoundments

☐ Other (describe):

23. Leachate treatment method:

☑ Oxidation ☐ Chemical treatment

☐ Secondary ☐ Settling

☐ Advanced ☐ None

☑ Other (describe):

Oxidation performed through aeration in the uncovered Cell of the leachate storage area.

24. Leachate disposal method:

☑ Recirculated ☐ Pumped to WWTP

☑ Transported to WWTP ☐ Discharged to surface water/wetland

☐ Injection well ☐ Percolation ponds

☑ Evaporation ☐ Spray irrigation

☐ Other (describe):

25. For leachate discharged to surface waters:

Name and Class of receiving water:

N/A

26. Storm Water:

Collected: ☑ Yes ☐ No

Type of treatment:

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

Name and Class of receiving water:

Bull Creek, Class III

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

Current ERP Numbers are ERP49-0199752-001-EI (Phase 1 Individual), ERP49-0199752-002-EI (Conceptual), ERP-49-0199752-003-EI (Phase 2 Individual), ERP49-0199752-004-EM (Phase 3 Individual), ERP-49-0199752-006-EM (Conceptual Permit Mod.), ERP-49-0199752-007-EM (Leachate Storage Facility), ERP-49-0199752-008 (Leachate Storage Facility Mod.), ERP49-0199752-010-EI (Phase 4 Individual).

PART C. **PROHIBITIONS** (62-701.300, FAC)

LOCATION

S ☐ _____ N/A ☐ N/C ☑ 1. Provide documentation that each of the siting criteria will be satisfied for the facility; (62-701.300(2), FAC)

S ☐ _____ N/A ☑ N/C ☐ 2. If the facility qualifies for any of the exemptions contained in Rules 62-701.300(12), (13) and (16) through (18), FAC, then document this qualification(s);

S ☐ _____ N/A ☐ N/C ☑ 3. Provide documentation that the facility will be in compliance with the burning restrictions; (62-701.300(3), FAC)

S ☐ _____ N/A ☐ N/C ☑ 4. Provide documentation that the facility will be in compliance with the hazardous waste restrictions; (62-701.300(4), FAC)

S ☐ _____ N/A ☐ N/C ☑ 5. Provide documentation that the facility will be in compliance with the PCB disposal restrictions; (62-701.300(5), FAC)

S ☐ _____ N/A ☐ N/C ☑ 6. Provide documentation that the facility will be in compliance with the biomedical waste restrictions; (62-701.300(6), FAC)

S ☐ _____ N/A ☐ N/C ☑ 7. Provide documentation that the facility will be in compliance with the Class I surface water restrictions; (62-701.300(7), FAC)

S ☐ _____ N/A ☐ N/C ☑ 8. Provide documentation that the facility will be in compliance with the special waste for landfills restrictions; (62-701.300(8), FAC)

S ☐ _____ N/A ☐ N/C ☑ 9. Provide documentation that the facility will be in compliance with the liquid restrictions; (62-701.300(10), FAC)

S ☐ _____ N/A ☐ N/C ☑ 10. Provide documentation that the facility will be in compliance with the used oil and oily waste restrictions; (62-701.300(11), FAC)

S ☐ _____ N/A ☐ N/C ☑ 11. Provide documentation that the facility will be in compliance with the CCA treated wood restrictions; (62-701.300(14), FAC)

S ☐ _____ N/A ☐ N/C ☑ 12. Provide documentation that the facility will be in compliance with the dust control restrictions; (62-701.300(15), FAC)

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

	LOCATION			
S ☑	Attached	N/A ☐	N/C ☐	1. A minimum of one completed electronic application form, all supporting data and reports; (62-701.320(5)(a), FAC)
S ☑	Report/Appendices	N/A ☐	N/C ☐	2. Engineering and/or professional certification (signature, date, and seal) provided on the applications and all engineering plans, reports, and supporting information for the application; (62-701.320(6), FAC)
S ☑	Attached letter	N/A ☐	N/C ☐	3. A letter of transmittal to the Department; (62-701.320(7)(a), FAC)
S ☑	Appendix A	N/A ☐	N/C ☐	4. A completed application form dated and signed by the applicant; (62-701.320(7)(b), FAC)
S ☑	Attached	N/A ☐	N/C ☐	5. Permit fee specified in Rule 62-701.315, FAC in check or money order, payable to the Department; (62-701.320(7)(c), FAC)
S ☑	Attached	N/A ☐	N/C ☐	6. An engineering report addressing the requirements of this rule and with the following format: a cover sheet, text printed on 8 ½ inch by 11 inch consecutively numbered pages, a table of contents or index, the body of the report and all appendices including an operation plan, contingency plan, illustrative charts and graphs, records or logs of tests and investigations, engineering calculations; (62-701.320(7)(d), FAC)
S ☑	Appendix C	N/A ☐	N/C ☐	7. Operation Plan and Closure Plan; (62-701.320(7)(e)1, FAC)
S ☑	Appendix C	N/A ☐	N/C ☐	8. Contingency Plan; (62-701.320(7)(e)2, FAC)
S ☑	Appendix B	N/A ☐	N/C ☐	9. Plans or drawings for the solid waste management facilities in appropriate format (including sheet size restrictions, cover sheet, legends, north arrow, horizontal and vertical scales, elevations referenced to NGVD 1929) showing: (62-701.320(7)(f), FAC)
S ☐		N/A ☐	N/C ☑	a. A regional map or plan with the project location in relation to major roadways and population centers;
S ☐		N/A ☐	N/C ☑	b. A vicinity map or aerial photograph no more than one year old showing the facility site and relevant surface features located within 1000 feet of the facility;
S ☐		N/A ☐	N/C ☑	c. A site plan showing all property boundaries certified by a Florida Licensed Professional Surveyor and Mapper;
S ☐		N/A ☐	N/C ☑	d. Other necessary details to support the engineering report, including referencing elevations to a consistent, nationally recognized datum, and identifying the method used for collecting latitude and longitude data;

LOCATION **PART D CONTINUED**

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

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

LOCATION

S ☐	_____	N/A ☐	N/C ☑	1. Regional map or aerial photograph no more than five years old showing all airports that are located within five miles of the proposed landfill; (62-701.330(3)(a), FAC)
S ☑	Appendix B	N/A ☐	N/C ☐	2. Plot plan with a scale not greater than 200 feet to the inch showing: (62-701.330(3)(b), FAC)
S ☑	App. B/Sheet 23	N/A ☐	N/C ☐	a. Dimensions;
S ☑	App. B/Sheet 23	N/A ☐	N/C ☐	b. Locations of proposed and existing water quality monitoring wells;
S ☐	_____	N/A ☐	N/C ☑	c. Locations of soil borings;
S ☐	_____	N/A ☐	N/C ☑	d. Proposed plan of trenching or disposal areas;
S ☐	_____	N/A ☐	N/C ☑	e. Cross sections showing original elevations and proposed final contours which shall be included either on the plot plan or on separate sheets;

LOCATION				PART E CONTINUED
S ☐	_____	N/A ☐	N/C ☑	f. Any previously filled waste disposal areas;
S ☐	_____	N/A ☐	N/C ☑	g. Fencing or other measures to restrict access;
S ☐	_____	N/A ☐	N/C ☑	3. Topographic maps with a scale not greater than 200 feet to the inch with five foot contour intervals showing: (62-701.330(3)(c), FAC)
S ☐	_____	N/A ☐	N/C ☑	a. Proposed fill areas;
S ☐	_____	N/A ☐	N/C ☑	b. Borrow areas;
S ☐	_____	N/A ☐	N/C ☑	c. Access roads;
S ☐	_____	N/A ☐	N/C ☑	d. Grades required for proper drainage;
S ☐	_____	N/A ☐	N/C ☑	e. Cross sections of lifts;
S ☐	_____	N/A ☐	N/C ☑	f. Special drainage devices if necessary;
S ☐	_____	N/A ☐	N/C ☑	g. Fencing;
S ☐	_____	N/A ☐	N/C ☑	h. Equipment facilities;
S ☑	Section 2.6	N/A ☐	N/C ☐	4. A report on the landfill describing the following: (62-701.330(3)(d), FAC)
S ☑	Section 2.6.3	N/A ☐	N/C ☐	a. The current and projected population and area to be served by the proposed site;
S ☑	Section 2.6.4	N/A ☐	N/C ☐	b. The anticipated type, annual quantity, and source of solid waste expressed in tons;
S ☑	Section 2.6.5	N/A ☐	N/C ☐	c. Planned active life of the facility, the final design height of the facility, and the maximum height of the facility during its operation;
S ☐	_____	N/A ☐	N/C ☑	d. The source and type of cover material used for the landfill;
S ☐	_____	N/A ☐	N/C ☑	5. Provide evidence that an approved laboratory shall conduct water quality monitoring for the facility in accordance with Chapter 62-160, FAC; (62-701.330(3)(g), FAC
S ☑	Appendix E	N/A ☐	N/C ☐	6. Provide a statement of how the applicant will demonstrate financial responsibility for the closing and long-term care of the landfill; (62-701.330(3)(h), FAC)

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

LOCATION

S ☐ Section 2.7.1 N/A ☐ N/C ☑ 1. Describe (and show on a Federal Insurance Administration flood map, if available) how the landfill or solid waste disposal unit shall not be located in the 100 year floodplain where it will restrict the flow of the 100 year flood, reduce the temporary water storage capacity of the floodplain unless compensating storage is provided, or result in a washout of solid waste; (62-701.340(3)(b), FAC)

S ☐ Section 2.7.2 N/A ☐ N/C ☑ 2. Describe how the minimum horizontal separation between waste deposits in the landfill and the landfill property boundary shall be 100 feet, measured from the toe of the proposed final cover slope; (62-701.340(3)(c), FAC)

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

LOCATION

S ☐ _____ N/A ☑ N/C ☐ 1. Describe how the landfill shall be designed so the solid waste disposal units will be constructed and closed at planned intervals throughout the design period of the landfill, and shall be designed to achieve a minimum factor of safety of 1.5 using peak strength values to prevent failures of side slopes and deep-seated failures; (62-701.400(2), FAC)

S ☐ _____ N/A ☑ N/C ☐ 2. Landfill liner requirements; (62-701.400(3), FAC)

S ☐ _____ N/A ☑ N/C ☐ a. General construction requirements; (62-701.400(3)(a), FAC)

S ☐ _____ N/A ☑ N/C ☐ (1) Provide test information and documentation to ensure the liner will be constructed of materials that have appropriate physical, chemical, and mechanical properties to prevent failure;

S ☐ _____ N/A ☑ N/C ☐ (2) Document foundation is adequate to prevent liner failure;

S ☐ _____ N/A ☑ N/C ☐ (3) Constructed so bottom liner will not be adversely impacted by fluctuations of the ground water;

S ☐ _____ N/A ☑ N/C ☐ (4) Designed to resist hydrostatic uplift if bottom liner located below seasonal high ground water table;

S ☐ _____ N/A ☑ N/C ☐ (5) Installed to cover all surrounding earth which could come into contact with the waste or leachate;

LOCATION			PART G CONTINUED
S ☐	_____	N/A ☑ N/C ☐	b. Composite liners; (62-701.400(3)(b), FAC)
S ☐	_____	N/A ☑ N/C ☐	(1) Upper geomembrane thickness and properties;
S ☐	_____	N/A ☑ N/C ☐	(2) Design leachate head for primary leachate collection and removal system (LCRS) including leachate recirculation if appropriate;
S ☐	_____	N/A ☑ N/C ☐	(3) Design thickness in accordance with Table A and number of lifts planned for lower soil component;
S ☐	_____	N/A ☑ N/C ☐	c. Double liners; (62-701.400(3)(c), FAC)
S ☐	_____	N/A ☑ N/C ☐	(1) Upper and lower geomembrane thickness and properties;
S ☐	_____	N/A ☑ N/C ☐	(2) Design leachate head for primary LCRS to limit the head to one foot above the liner;
S ☐	_____	N/A ☑ N/C ☐	(3) Lower geomembrane sub-base design;
S ☐	_____	N/A ☑ N/C ☐	(4) Leak detection and secondary leachate collection system minimum design criteria (k ≥ 10 cm/sec, head on lower liner ≤ 1 inch, head not to exceed thickness of drainage layer);
S ☐	_____	N/A ☑ N/C ☐	d. Standards for geosynthetic components; (62-701.400(3)(d), FAC)
S ☐	_____	N/A ☑ N/C ☐	(1) Factory and field seam test methods to ensure all geomembrane seams achieve the minimum specifications;
S ☐	_____	N/A ☑ N/C ☐	(2) Geomembranes to be used shall pass a continuous spark test by the manufacturer;
S ☐	_____	N/A ☑ N/C ☐	(3) Design of 24-inch-thick protective layer above upper geomembrane liner;
S ☐	_____	N/A ☑ N/C ☐	(4) Describe operational plans to protect the liner and leachate collection system when placing the first layer of waste above a 24-inch-thick protective layer;
S ☐	_____	N/A ☑ N/C ☐	(5) HDPE geomembranes, if used, meet the specifications in GRI GM13, and LLDPE geomembranes, if used, meet the specifications in GRI GM17;
S ☐	_____	N/A ☑ N/C ☐	(6) PVC geomembranes, if used, meet the specifications in PGI 1104;

LOCATION			PART G CONTINUED
S ☐	_____	N/A ☑ N/C ☐	(7) Interface shear strength testing results of the actual components which will be used in the liner system;
S ☐	_____	N/A ☑ N/C ☐	(8) Transmissivity testing results of geonets if they are used in the liner system;
S ☐	_____	N/A ☑ N/C ☐	(9) Hydraulic conductivity testing results of geosynthetic clay liners if they are used in the liner system;
S ☐	_____	N/A ☑ N/C ☐	e. Geosynthetic specification requirements; (62-701.400(3)(e), FAC)
S ☐	_____	N/A ☑ N/C ☐	(1) Definition and qualifications of the designer, manufacturer, installer, QA consultant and laboratory, and QA program;
S ☐	_____	N/A ☑ N/C ☐	(2) Material specifications for geomembranes, geocomposites, geotextiles, geogrids, and geonets;
S ☐	_____	N/A ☑ N/C ☐	(3) Manufacturing and fabrication specifications including geomembrane raw material and roll QA, fabrication personnel qualifications, seaming equipment and procedures, overlaps, trial seams, destructive and non-destructive seam testing, seam testing location, frequency, procedure, sample size, and geomembrane repairs;
S ☐	_____	N/A ☑ N/C ☐	(4) Geomembrane installation specifications including earthwork, conformance testing, geomembrane placement, installation personnel qualifications, field seaming and testing, overlapping and repairs, materials in contact with geomembranes, and procedures for lining system acceptance;
S ☐	_____	N/A ☑ N/C ☐	(5) Geotextile and geogrids specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil materials and any overlying materials;
S ☐	_____	N/A ☑ N/C ☐	(6) Geonet and geocomposites specifications including handling and placement, conformance testing, stacking and joining, repair, and placement of soil materials and any overlying materials;
S ☐	_____	N/A ☑ N/C ☐	(7) Geosynthetic clay liner specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil materials and any overlying materials;

LOCATION				PART G CONTINUED
S ☐	_____	N/A ☑	N/C ☐	f. Standards for soil liner components; (62-701.400(3)(f), FAC)
S ☐	_____	N/A ☑	N/C ☐	(1) Description of construction procedures including over-excavation and backfilling to preclude structural inconsistencies and procedures for placing and compacting soil components in layers;
S ☐	_____	N/A ☑	N/C ☐	(2) Demonstration of compatibility of the soil component with actual or simulated leachate in accordance with EPA Test Method 9100, or an equivalent test method;
S ☐	_____	N/A ☑	N/C ☐	(3) Procedures for testing in situ soils to demonstrate they meet the specifications for soil liners;
S ☐	_____	N/A ☑	N/C ☐	(4) Specifications for soil component of liner including at a minimum:
S ☐	_____	N/A ☑	N/C ☐	(a) Allowable particle size distribution, and Atterberg limits including shrinkage limit;
S ☐	_____	N/A ☑	N/C ☐	(b) Placement moisture and dry density criteria;
S ☐	_____	N/A ☑	N/C ☐	(c) Maximum laboratory-determined saturated hydraulic conductivity using simulated leachate;
S ☐	_____	N/A ☑	N/C ☐	(d) Minimum thickness of soil liner;
S ☐	_____	N/A ☑	N/C ☐	(e) Lift thickness;
S ☐	_____	N/A ☑	N/C ☐	(f) Surface preparation (scarification);
S ☐	_____	N/A ☑	N/C ☐	(g) Type and percentage of clay mineral within the soil component;
S ☐	_____	N/A ☑	N/C ☐	(5) Procedures for constructing and using a field test section to document the desired saturated hydraulic conductivity and thickness can be achieved in the field;
S ☐	_____	N/A ☑	N/C ☐	g. If a Class III landfill is to be constructed with a bottom liner system, provide a description of how the minimum requirements for the liner will be achieved;

LOCATION				PART G CONTINUED
S ☐	_____	N/A ☑	N/C ☐	3. Leachate collection and removal system (LCRS); (62-701.400(4), FAC)
S ☐	_____	N/A ☑	N/C ☐	a. The primary and secondary LCRS requirements; (62-701.400(4)(a), FAC)
S ☐	_____	N/A ☑	N/C ☐	(1) Constructed of materials chemically resistant to the waste and leachate;
S ☐	_____	N/A ☑	N/C ☐	(2) Have sufficient mechanical properties to prevent collapse under pressure;
S ☐	_____	N/A ☑	N/C ☐	(3) Have granular material or synthetic geotextile to prevent clogging;
S ☐	_____	N/A ☑	N/C ☐	(4) Have a method for testing and cleaning clogged pipes or contingent designs for reducing leachate around failed areas;
S ☐	_____	N/A ☑	N/C ☐	b. Other LCRS requirements; (62-701.400(4)(b), (c) and (d), FAC
S ☐	_____	N/A ☑	N/C ☐	(1) Bottom 12 inches having hydraulic conductivity ≥ 1 x 10^{-3} cm/sec;
S ☐	_____	N/A ☑	N/C ☐	(2) Total thickness of 24 inches of material chemically resistant to the waste and leachate;
S ☐	_____	N/A ☑	N/C ☐	(3) Bottom slope design to accommodate for predicted settlement and still meet minimum slope requirements;
S ☐	_____	N/A ☑	N/C ☐	(4) Demonstration that synthetic drainage material, if used, is equivalent or better than granular material in chemical compatibility, flow under load, and protection of geomembranes liner;
S ☐	_____	N/A ☑	N/C ☐	(5) Schedule provided for routine maintenance of LCRS.
S ☐	_____	N/A ☑	N/C ☐	4. Leachate recirculation; (62-701.400(5), FAC)
S ☐	_____	N/A ☑	N/C ☐	a. Describe general procedures for recirculating leachate;
S ☐	_____	N/A ☑	N/C ☐	b. Describe procedures for controlling leachate runoff and minimizing mixing of leachate runoff with storm water;
S ☐	_____	N/A ☑	N/C ☐	c. Describe procedures for preventing perched water conditions and gas buildup;

S ☐ _____ N/A ☑ N/C ☐ d. Describe alternate methods for leachate management when it cannot be recirculated due to weather or runoff conditions, surface seeps, wind-blown spray, or elevated levels of leachate head on the liner;

S ☐ _____ N/A ☑ N/C ☐ e. Describe methods of gas management in accordance with Rule 62-701.530, FAC;

S ☐ _____ N/A ☑ N/C ☐ f. If leachate irrigation is proposed, describe treatment methods and standards for leachate treatment prior to irrigation over final cover, and provide documentation that irrigation does not contribute significantly to leachate generation;

S ☐ _____ N/A ☑ N/C ☐ 5. Leachate storage tanks and leachate surface impoundments; (62-701.400(6), FAC)

S ☐ _____ N/A ☑ N/C ☐ a. Surface impoundment requirements; (62-701.400(6)(b), FAC)

S ☐ _____ N/A ☑ N/C ☐ (1) Documentation that the design of the bottom liner will not be adversely impacted by fluctuations of the ground water;

S ☐ _____ N/A ☑ N/C ☐ (2) Designed in segments to allow for inspection and repair, as needed, without interruption of service;

S ☐ _____ N/A ☑ N/C ☐ (3) General design requirements;

S ☐ _____ N/A ☑ N/C ☐ (a) Double liner system consisting of an upper and lower 60-mil minimum thickness geomembrane;

S ☐ _____ N/A ☑ N/C ☐ (b) Leak detection and collection system with hydraulic conductivity ≥ 1 cm/sec;

S ☐ _____ N/A ☑ N/C ☐ (c) Lower geomembrane place on subbase ≥ 6 inches thick with $k \leq 1 \times 10^{-5}$ cm/sec or on an approved geosynthetic clay liner with $k \leq 1 \times 10^{-7}$ cm/sec;

S ☐ _____ N/A ☑ N/C ☐ (d) Design calculation to predict potential leakage through the upper liner;

S ☐ _____ N/A ☑ N/C ☐ (e) Daily inspection requirements, and notification and corrective action requirements if leakage rates exceed that predicted by design calculations;

S ☐ _____ N/A ☑ N/C ☐ (4) Description of procedures to prevent uplift, if applicable;

LOCATION			PART G CONTINUED
S ☐	_____	N/A ☑ N/C ☐	(5) Design calculations to demonstrate minimum two feet of freeboard will be maintained;
S ☑	Appendix C	N/A ☐ N/C ☐	(6) Procedures for controlling vectors and off-site odors;
S ☐	_____	N/A ☑ N/C ☐	b. Above-ground leachate storage tanks; (62-701.400(6)(c), FAC)
S ☐	_____	N/A ☑ N/C ☐	(1) Describe tank materials of construction and ensure foundation is sufficient to support tank;
S ☐	_____	N/A ☑ N/C ☐	(2) Describe procedures for cathodic protection for the tank, if needed;
S ☐	_____	N/A ☑ N/C ☐	(3) Describe exterior painting and interior lining of the tank to protect it from the weather and the leachate stored;
S ☐	_____	N/A ☑ N/C ☐	(4) Describe secondary containment design to ensure adequate capacity will be provided and compatibility of materials of construction;
S ☐	_____	N/A ☑ N/C ☐	(5) Describe design to remove and dispose of stormwater from the secondary containment system;
S ☐	_____	N/A ☑ N/C ☐	(6) Describe an overfill prevention system, such as level sensors, gauges, alarms, and shutoff controls to prevent overfilling;
S ☐	_____	N/A ☑ N/C ☐	(7) Inspections, corrective action, and reporting requirements;
S ☐	_____	N/A ☑ N/C ☐	(a) Weekly inspection of overfill prevention system;
S ☐	_____	N/A ☑ N/C ☐	(b) Weekly inspection of exposed tank exteriors;
S ☐	_____	N/A ☑ N/C ☐	(c) Inspection of tank interiors when tank is drained, or at least every three years;
S ☐	_____	N/A ☑ N/C ☐	(d) Procedures for immediate corrective action if failures detected;
S ☐	_____	N/A ☑ N/C ☐	(e) Inspection reports available for Department review;
S ☐	_____	N/A ☑ N/C ☐	c. Underground leachate storage tanks; (62-701.400(6)(d), FAC)

S ☐	_____	N/A ☑ N/C ☐	(1) Describe materials of construction;
S ☐	_____	N/A ☑ N/C ☐	(2) A double-walled tank design system to be used with the following requirements:
S ☐	_____	N/A ☑ N/C ☐	(a) Interstitial space monitoring at least weekly;
S ☐	_____	N/A ☑ N/C ☐	(b) Corrosion protection provided for primary tank interior and external surface of outer shell;
S ☐	_____	N/A ☑ N/C ☐	(c) Interior tank coatings compatible with stored leachate;
S ☐	_____	N/A ☑ N/C ☐	(d) Cathodic protection inspected weekly and repaired as needed;
S ☐	_____	N/A ☑ N/C ☐	(3) Describe an overfill prevention system, such as level sensors, gauges, alarms, and shutoff controls to prevent overfilling, and provide for weekly inspections;
S ☐	_____	N/A ☑ N/C ☐	(4) Inspection reports available for Department review;
S ☐	_____	N/A ☑ N/C ☐	6. Liner systems construction quality assurance (CQA); (62-701.400(7), FAC)
S ☐	_____	N/A ☑ N/C ☐	a. Provide CQA Plan including:
S ☐	_____	N/A ☑ N/C ☐	(1) Specifications and construction requirements for liner system;
S ☐	_____	N/A ☑ N/C ☐	(2) Detailed description of quality control testing procedures and frequencies;
S ☐	_____	N/A ☑ N/C ☐	(3) Identification of supervising professional engineer;
S ☐	_____	N/A ☑ N/C ☐	(4) Identify responsibility and authority of all appropriate organizations and key personnel involved in the construction project;
S ☐	_____	N/A ☑ N/C ☐	(5) State qualifications of CQA professional engineer and support personnel;

LOCATION				
S ☐	_____	N/A ☑	N/C ☐	(6) Description of CQA reporting forms and documents;
S ☐	_____	N/A ☑	N/C ☐	b. An independent laboratory experienced in the testing of geosynthetics to perform required testing;
S ☐	_____	N/A ☑	N/C ☐	7. Soil liner CQA; (62-701.400(8), FAC)
S ☐	_____	N/A ☑	N/C ☐	a. Documentation that an adequate borrow source has been located with test results, or description of the field exploration and laboratory testing program to define a suitable borrow source;
S ☐	_____	N/A ☑	N/C ☐	b. Description of field test section construction and test methods to be implemented prior to liner installation;
S ☐	_____	N/A ☑	N/C ☐	c. Description of field test methods, including rejection criteria and corrective measures to insure proper liner installation;
S ☐	_____	N/A ☑	N/C ☐	8. For surface water management systems at aboveground disposal units, provide documentation showing the design of any features intended to convey stormwater to a permitted or exempted treatment system; (62-701.400(9), FAC)
S ☐	_____	N/A ☑	N/C ☐	9. Gas control systems; (62-701.400(10), FAC)
S ☐	_____	N/A ☑	N/C ☐	a. Provide documentation that if the landfill is receiving degradable wastes, it will have a gas control system complying with the requirements of Rule 62-701.530, FAC;
S ☐	_____	N/A ☑	N/C ☐	10. For landfills designed in ground water, provide documentation that the landfill will provide a degree of protection equivalent to landfills designed with bottom liners not in contact with ground water; (62-701.400(11), FAC)

PART H. HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS (62-701.410(2), FAC)

LOCATION				
S ☐	_____	N/A ☐	N/C ☑	1. Submit a hydrogeological investigation and site report including at least the following information:
S ☐	_____	N/A ☐	N/C ☑	a. Regional and site specific geology and hydrology;
S ☐	_____	N/A ☐	N/C ☑	b. Direction and rate of ground water and surface water flow including seasonal variations;

LOCATION **PART H CONTINUED**

S ☐ _____ N/A ☐ N/C ☑ c. Background quality of ground water and surface water;

S ☐ _____ N/A ☐ N/C ☑ d. Any on-site hydraulic connections between aquifers;

S ☐ _____ N/A ☐ N/C ☑ e. Site stratigraphy and aquifer characteristics for confining layers, semi-confining layers, and all aquifers below the site that may be affected by the disposal facility;

S ☐ _____ N/A ☐ N/C ☑ f. Description of topography, soil types, and surface water drainage systems;

S ☐ _____ N/A ☐ N/C ☑ g. Inventory of all public and private water wells within a one mile radius of the site including, where available, well top of casing and bottom elevations, name of owner, age and usage of each well, stratigraphic unit screened, well construction technique, and static water level;

S ☐ _____ N/A ☐ N/C ☑ h. Identify and locate any existing contaminated areas on the site;

S ☐ _____ N/A ☐ N/C ☑ i. Include a map showing the locations of all potable wells within 500 feet of the waste storage and disposal areas;

S ☐ _____ N/A ☐ N/C ☑ 2. Report signed, sealed, and dated by P.E. and/or P.G.

PART I. GEOTECHNICAL INVESTIGATION REQUIREMENTS (62-701.410(3) and (4), FAC)

LOCATION

S ☐ _____ N/A ☐ N/C ☑ 1. Submit a geotechnical site investigation report defining the engineering properties of the site including at least the following:

S ☐ _____ N/A ☐ N/C ☑ a. Description of subsurface conditions including soil stratigraphy and ground water table conditions;

S ☐ _____ N/A ☐ N/C ☑ b. Investigate for the presence of muck, previously filled areas, soft ground, and lineaments;

S ☐ _____ N/A ☐ N/C ☑ c. Estimates of average and maximum high water table across the site;

S ☐ _____ N/A ☐ N/C ☑ d. Evaluation of potential for fault areas and seismic impact zones;

S ☐ _____ N/A ☐ N/C ☑ e. Foundation analysis including:

S ☐ _____ N/A ☐ N/C ☑ (1) Foundation bearing capacity analysis;

S ☐ _____ N/A ☐ N/C ☑ (2) Total and differential subgrade settlement analysis;

S ☐ _____ N/A ☐ N/C ☑ (3) Slope stability analysis;

S ☐ _____ N/A ☐ N/C ☑ f. Evaluation of potential for sinkholes and sinkhole activity at the site that is based upon the investigations required in Rule 62-701.410(3)(f), F.A.C.;

S ☐ _____ N/A ☐ N/C ☑ g. A geotechnical report providing a description of methods used in the investigation, and includes soil boring logs, laboratory results, analytical calculations, cross sections, interpretations, conclusions, and a description of any engineering measures proposed for the site;

S ☐ _____ N/A ☐ N/C ☑ 2. Report signed, sealed, and dated by P.E. and/or P.G.

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

LOCATION

S ☐ _____ N/A ☑ N/C ☐ 1. Describe how the vertical expansion shall not cause or contribute to any violations of water quality standards or criteria, shall not cause objectionable odors, or adversely affect the closure design of the existing landfill;

S ☐ _____ N/A ☑ N/C ☐ 2. Describe how the vertical expansion over unlined landfills will meet the requirements of Rule 62-701.400, FAC with the exceptions of Rule 62-701.430(1)(c), FAC;

S ☐ _____ N/A ☑ N/C ☐ 3. Provide foundation and settlement analysis for the vertical expansion;

S ☐ _____ N/A ☑ N/C ☐ 4. Provide total settlement calculations demonstrating that the final elevations of the lining system, gravity drainage, and no other component of the design will be adversely affected;

S ☐ _____ N/A ☑ N/C ☐ 5. Minimum stability factor of safety of 1.5 for the lining system component interface stability and for deep stability;

S ☐ _____ N/A ☑ N/C ☐ 6. Provide documentation to show the surface water management system will not be adversely affected by the vertical expansion;

S ☐ _____ N/A ☑ N/C ☐ 7. Provide gas control designs to prevent accumulation of gas under the new liner for the vertical expansion;

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

	LOCATION			
S ☑	Appendix C	N/A ☐	N/C ☐	1. Provide documentation that the landfill will have at least one trained operator during operation and at least one trained spotter at each working face; (62-701.500(1), FAC)
S ☑	Appendix C	N/A ☐	N/C ☐	2. Provide a landfill operation plan including procedures for: (62-701.500(2), FAC)
S ☑	Appendix C	N/A ☐	N/C ☐	a. Designating responsible operating and maintenance personnel;
S ☑	Appendix C	N/A ☐	N/C ☐	b. Emergency preparedness and response, as required in subsection 62-701.320(16), FAC;
S ☑	Appendix C	N/A ☐	N/C ☐	c. Controlling types of waste received at the landfill;
S ☑	Appendix C	N/A ☐	N/C ☐	d. Weighing incoming waste;
S ☑	Appendix C	N/A ☐	N/C ☐	e. Vehicle traffic control and unloading;
S ☑	Appendix C	N/A ☐	N/C ☐	f. Method and sequence of filling waste;
S ☑	Appendix C	N/A ☐	N/C ☐	g. Waste compaction and application of cover;
S ☑	Appendix C	N/A ☐	N/C ☐	h. Operations of gas, leachate, and stormwater controls;
S ☑	Appendix C	N/A ☐	N/C ☐	i. Water quality monitoring;
S ☑	Appendix C	N/A ☐	N/C ☐	j. Maintaining and cleaning the leachate collection system;
S ☑	Appendix C	N/A ☐	N/C ☐	3. Provide a description of the landfill operation record to be used at the landfill, details as to location of where various operational records will be kept (i.e. DEP permit, engineering drawings, water quality records, etc.); (62-701.500(3), FAC)
S ☑	Appendix C	N/A ☐	N/C ☐	4. Describe the waste records that will be compiled monthly and provided to the Department annually; (62-701.500(4), FAC)
S ☑	Appendix C	N/A ☐	N/C ☐	5. Describe methods of access control; (62-701.500(5), FAC)
S ☑	Appendix C	N/A ☐	N/C ☐	6. Describe load checking program to be implemented at the landfill to discourage disposal of unauthorized waste at the landfill; (62-701.500(6), FAC)

LOCATION			PART K CONTINUED
S ☑	Appendix C	N/A ☐ N/C ☐	7. Describe procedures for spreading and compacting waste at the landfill that include: (62-701.500(7), FAC)
S ☑	Appendix C	N/A ☐ N/C ☐	a. Waste layer thickness and compaction frequencies;
S ☑	Appendix C	N/A ☐ N/C ☐	b. Special considerations for first layer of waste placed above the liner and leachate collection system;
S ☑	Appendix C	N/A ☐ N/C ☐	c. Slopes of cell working face and side grades above land surface, and planned lift depths during operation;
S ☑	Appendix C	N/A ☐ N/C ☐	d. Maximum width of working face;
S ☑	Appendix C	N/A ☐ N/C ☐	e. Description of type of initial cover to be used at the facility that controls:
S ☑	Appendix C	N/A ☐ N/C ☐	(1) Vector breeding/animal attraction;
S ☑	Appendix C	N/A ☐ N/C ☐	(2) Fires;
S ☑	Appendix C	N/A ☐ N/C ☐	(3) Odors;
S ☑	Appendix C	N/A ☐ N/C ☐	(4) Blowing litter;
S ☑	Appendix C	N/A ☐ N/C ☐	(5) Moisture infiltration;
S ☑	Appendix C	N/A ☐ N/C ☐	f. Procedures for applying initial cover, including minimum cover frequencies;
S ☑	Appendix C	N/A ☐ N/C ☐	g. Procedures for applying intermediate cover;
S ☑	Appendix C	N/A ☐ N/C ☐	h. Time frames for applying final cover;
S ☑	Appendix C	N/A ☐ N/C ☐	i. Procedures for controlling scavenging and salvaging;
S ☑	Appendix C	N/A ☐ N/C ☐	j. Description of litter policing methods;
S ☑	Appendix C	N/A ☐ N/C ☐	k. Erosion control procedures;

LOCATION			PART K CONTINUED
S ☑	Appendix C	N/A ☐ N/C ☐	8. Describe operational procedures for leachate management including: (62-701.500(8), FAC)
S ☑	Appendix C	N/A ☐ N/C ☐	a. Leachate level monitoring;
S ☑	Appendix C	N/A ☐ N/C ☐	b. Operation and maintenance of leachate collection and removal system, and treatment as required;
S ☑	Appendix C	N/A ☐ N/C ☐	c. Procedures for managing leachate if it becomes regulated as a hazardous waste;
S ☑	Appendix C	N/A ☐ N/C ☐	d. Identification of treatment or disposal facilities that may be used for off-site discharge and treatment of leachate;
S ☑	Appendix C	N/A ☐ N/C ☐	e. Contingency plan for managing leachate during emergencies or equipment problems;
S ☑	Appendix C	N/A ☐ N/C ☐	f. Procedures for recording quantities of leachate generated in gal/day and including this in the operating record;
S ☑	Appendix C	N/A ☐ N/C ☐	g. Procedures for comparing precipitation experienced at the landfill with leachate generation rates and including this information in the operating record;
S ☑	Appendix C	N/A ☐ N/C ☐	h. Procedures for water pressure cleaning or video inspecting leachate collection systems;
S ☑	Appendix C	N/A ☐ N/C ☐	9. Describe how the landfill receiving degradable wastes shall implement a gas management system meeting the requirements of Rule 62-701.530, FAC; (62-701.500(9), FAC)
S ☑	Appendix C	N/A ☐ N/C ☐	10. Describe procedures for operating and maintaining the landfill stormwater management system to comply with the requirements of Rule 62-701.400(9), FAC; (62-701.500(10), FAC)
S ☑	Appendix C	N/A ☐ N/C ☐	11. Equipment and operation feature requirements; (62-701.500(11), FAC)
S ☑	Appendix C	N/A ☐ N/C ☐	a. Sufficient equipment for excavating, spreading, compacting, and covering waste;
S ☑	Appendix C	N/A ☐ N/C ☐	b. Reserve equipment or arrangements to obtain additional equipment within 24 hours of breakdown;
S ☑	Appendix C	N/A ☐ N/C ☐	c. Communications equipment;

LOCATION **PART K CONTINUED**

S ☑ Appendix C N/A ☐ N/C ☐ d. Dust control methods;

S ☑ Appendix C N/A ☐ N/C ☐ e. Fire protection capabilities and procedures for notifying local fire department authorities in emergencies;

S ☑ Appendix C N/A ☐ N/C ☐ f. Litter control devices;

S ☑ Appendix C N/A ☐ N/C ☐ g. Signs indicating operating authority, traffic flow, hours of operation, and disposal restrictions;

S ☑ Appendix C N/A ☐ N/C ☐ 12. Provide a description of all-weather access road, inside perimeter road, and other on-site roads necessary for access at the landfill; (62-701.500(12), FAC)

S ☑ Appendix C N/A ☐ N/C ☐ 13. Additional record keeping and reporting requirements; (62-701.500(13), FAC)

S ☑ Appendix C N/A ☐ N/C ☐ a. Records used for developing permit applications and supplemental information maintained for the design period of the landfill;

S ☑ Appendix C N/A ☐ N/C ☐ b. Monitoring information, calibration and maintenance records, and copies of reports required by permit maintained for at least 10 years;

S ☑ Appendix C N/A ☐ N/C ☐ c. Maintain annual estimates of the remaining life of constructed landfills, and of other permitted areas not yet constructed, and submit this estimate annually to the Department;

S ☑ Appendix C N/A ☐ N/C ☐ d. Procedures for archiving and retrieving records which are more than five years old;

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

LOCATION

S ☐ Section 4 N/A ☐ N/C ☑ 1. A water quality monitoring plan shall be submitted describing the proposed ground water and surface water monitoring systems, and shall meet at least the following requirements:

S ☐ Section 4 N/A ☐ N/C ☑ a. Based on the information obtained in the hydrogeological investigation and signed, dated, and sealed by the P.G. or P.E. who prepared it; (62-701.510(2)(a), FAC)

LOCATION				PART L CONTINUED
S ☐	Section 4	N/A ☐	N/C ☑	b. All sampling and analysis performed in accordance with Chapter 62-160, FAC; (62-701.510(2)(b), FAC)
S ☑	App. B/Sheet 23	N/A ☐	N/C ☐	c. Ground water monitoring requirements; (62-701.510(3), FAC)
S ☑	App. B/Sheet 23	N/A ☐	N/C ☐	(1) Detection wells located downgradient from and within 50 feet of disposal units;
S ☑	App. B/Sheet 23	N/A ☐	N/C ☐	(2) Downgradient compliance wells as required;
S ☑	App. B/Sheet 23	N/A ☐	N/C ☐	(3) Background wells screened in all aquifers below the landfill that may be affected by the landfill;
S ☑	App. B/Sheet 23	N/A ☐	N/C ☐	(4) Location information for each monitoring well;
S ☑	App. B/Sheet 23	N/A ☐	N/C ☐	(5) Well spacing no greater than 500 feet apart for downgradient wells and no greater than 1500 feet apart for upgradient wells, unless site specific conditions justify alternate well spacings;
S ☐	Section 4	N/A ☐	N/C ☑	(6) Properly selected well screen locations;
S ☐	Section 4	N/A ☐	N/C ☑	(7) Monitoring wells constructed to provide representative ground water samples;
S ☐	Section 4	N/A ☐	N/C ☑	(8) Procedures for properly abandoning monitoring wells;
S ☐		N/A ☑	N/C ☐	(9) Detailed description of detection sensors, if proposed;
S ☐	Section 4	N/A ☑	N/C ☑	d. Surface water monitoring requirements; (62-701.510(4), FAC)
S ☐		N/A ☐	N/C ☑	(1) Location of and justification for all proposed surface water monitoring points;
S ☐		N/A ☐	N/C ☑	(2) Each monitoring location to be marked and its position determined by a registered Florida land surveyor;
S ☐	Section 4	N/A ☐	N/C ☑	e. Initial and routine sampling frequency and requirements; (62-701.510(5), FAC)
S ☐	Section 4	N/A ☐	N/C ☑	(1) Initial background ground water and surface water sampling and analysis requirements;

LOCATION				PART L CONTINUED
S ☐	Section 4	N/A ☐	N/C ☑	(2) Routine monitoring well sampling and analysis requirements;
S ☐	Section 4	N/A ☐	N/C ☑	(3) Routine surface water sampling and analysis requirements;
S ☐	Section 4	N/A ☐	N/C ☑	f. Describe procedures for implementing evaluation monitoring, prevention measures, and corrective action as required; (62-701.510(6), FAC)
S ☐	_____	N/A ☐	N/C ☑	g. Water quality monitoring report requirements; (62-701.510(8), FAC)
S ☐	_____	N/A ☐	N/C ☑	(1) Semi-annual report requirements; (see paragraphs 62-701.510(5)(c) and (d), FAC for sampling frequencies)
S ☐	_____	N/A ☐	N/C ☑	(2) Documentation that the water quality data shall be provided to the Department in an electronic format consistent with requirements for importing into Department databases, unless an alternate form of submittal is specified in the permit;
S ☐	_____	N/A ☐	N/C ☑	(3) Two and one-half year, or annual, report requirements, or every five years if in long-term care, signed dated, and sealed by P.G. or P.E.;

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

LOCATION				
S ☐	_____	N/A ☑	N/C ☐	1. Describe procedures for managing motor vehicles; (62-701.520(1), FAC)
S ☐	_____	N/A ☑	N/C ☐	2. Describe procedures for landfilling shredded waste; (62-701.520(2), FAC)
S ☐	_____	N/A ☑	N/C ☐	3. Describe procedures for asbestos waste disposal; (62-701.520(3), FAC)
S ☐	_____	N/A ☑	N/C ☐	4. Describe procedures for disposal or management of contaminated soil; (62-701.520(4), FAC)
S ☐	_____	N/A ☑	N/C ☐	5. Describe procedures for disposal of biological wastes; (62-701.520(5), FAC)

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

LOCATION

S ☐ _____ N/A ☑ N/C ☐ 1. Provide documentation for a gas management system that will: (62-701.530(1), FAC)

S ☐ _____ N/A ☑ N/C ☐ a. Be designed to prevent concentrations of combustible gases from exceeding 25% the LEL in structures and 100% the LEL at the property boundary;

S ☐ _____ N/A ☑ N/C ☐ b. Be designed for site specific conditions;

S ☐ _____ N/A ☑ N/C ☐ c. Be designed to reduce gas pressure in the interior of the landfill;

S ☐ _____ N/A ☑ N/C ☐ d. Be designed to not interfere with the liner, leachate control system, or final cover;

S ☐ _____ N/A ☑ N/C ☐ 2. Provide documentation that will describe locations, construction details, and procedures for monitoring gas at ambient monitoring points and with soil monitoring probes; (62-701.530(2), FAC)

S ☐ _____ N/A ☑ N/C ☐ 3. Provide documentation describing how the gas remediation plan and odor remediation plan will be implemented; (62-701.530(3), FAC)

S ☐ _____ N/A ☑ N/C ☐ 4. Landfill gas recovery facilities; (62-701.530(5), FAC)

S ☐ _____ N/A ☑ N/C ☐ a. Provide information required in Rules 62-701.320(7) and 62-701.330(3), FAC;

S ☐ _____ N/A ☑ N/C ☐ b. Provide information required in Rule 62-701.600(4), FAC, where relevant and practical;

S ☐ _____ N/A ☑ N/C ☐ c. Provide estimates of current and expected gas generation rates and description of condensate disposal methods;

S ☐ _____ N/A ☑ N/C ☐ d. Provide description of procedures for condensate sampling, analyzing, and data reporting;

S ☐ _____ N/A ☑ N/C ☐ e. Provide closure plan describing methods to control gas after recovery facility ceases operation, and any other requirements contained in Rule 62-701.400(10), FAC;

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

	LOCATION			
S ☐	_____	N/A ☑	N/C ☐	1. Closure permit requirements; (62-701.600(2), FAC)
S ☐	_____	N/A ☑	N/C ☐	a. Application submitted to the Department at least 90 days prior to final receipt of wastes;
S ☑	Appendix C	N/A ☐	N/C ☐	b. Closure plan shall include the following:
S ☐	_____	N/A ☑	N/C ☐	(1) Closure design plan;
S ☐	_____	N/A ☑	N/C ☐	(2) Closure operation plan;
S ☐	_____	N/A ☑	N/C ☐	(3) Plan for long-term care;
S ☑	Appendix E	N/A ☐	N/C ☐	(4) A demonstration that proof of financial assurance for long-term care will be provided;
S ☐	_____	N/A ☑	N/C ☐	2. Closure design plan including the following requirements: (62-701.600(3), FAC)
S ☐	_____	N/A ☑	N/C ☐	a. Plan sheet showing phases of site closing;
S ☐	_____	N/A ☑	N/C ☐	b. Drawings showing existing topography and proposed final grades;
S ☐	_____	N/A ☑	N/C ☐	c. Provisions to close units when they reach approved design dimensions;
S ☐	_____	N/A ☑	N/C ☐	d. Final elevations before settlement;
S ☐	_____	N/A ☑	N/C ☐	e. Side slope design including benches, terraces, down slope drainage ways, energy dissipaters, and description of expected precipitation effects;
S ☐	_____	N/A ☑	N/C ☐	f. Final cover installation plans including:
S ☐	_____	N/A ☑	N/C ☐	(1) CQA plan for installing and testing final cover;
S ☐	_____	N/A ☑	N/C ☐	(2) Schedule for installing final cover after final receipt of waste;
S ☐	_____	N/A ☑	N/C ☐	(3) Description of drought resistant species to be used in the vegetative cover;

S ☐	_____	N/A ☑ N/C ☐	(4) Top gradient design to maximize runoff and minimize erosion;
S ☐	_____	N/A ☑ N/C ☐	(5) Provisions for cover material to be used for final cover maintenance;
S ☐	_____	N/A ☑ N/C ☐	g. Final cover design requirements;
S ☐	_____	N/A ☑ N/C ☐	(1) Protective soil layer design;
S ☐	_____	N/A ☑ N/C ☐	(2) Barrier soil layer design;
S ☐	_____	N/A ☑ N/C ☐	(3) Erosion control vegetation;
S ☐	_____	N/A ☑ N/C ☐	(4) Geomembrane barrier layer design;
S ☐	_____	N/A ☑ N/C ☐	(5) Geosynthetic clay liner design, if used;
S ☐	_____	N/A ☑ N/C ☐	(6) Stability analysis of the cover system and the disposed waste;
S ☐	_____	N/A ☑ N/C ☐	h. Proposed method of stormwater control;
S ☐	_____	N/A ☑ N/C ☐	i. Proposed method of access control;
S ☐	_____	N/A ☑ N/C ☐	j. Description of the proposed or existing gas management system which complies with Rule 62-701.530, FAC;
S ☐	_____	N/A ☑ N/C ☐	3. Closure operation plan shall include: (62-701.600(4), FAC)
S ☐	_____	N/A ☑ N/C ☐	a. Detailed description of actions which will be taken to close the landfill;
S ☐	_____	N/A ☑ N/C ☐	b. Time schedule for completion of closing and long-term care;
S ☑	Appendix E	N/A ☐ N/C ☐	c. Describe proposed method for demonstrating financial assurance for long-term care;
S ☐	_____	N/A ☑ N/C ☐	d. Operation of the water quality monitoring plan required in Rule 62-701.510, FAC;
S ☐	_____	N/A ☑ N/C ☐	e. Development and implementation of gas management system required in Rule 62-701.530, FAC;

LOCATION

S ☐ _____ N/A ☑ N/C ☐ 4. Certification of closure construction completion and final reports including: (62-701.600(6), FAC)

S ☐ _____ N/A ☑ N/C ☐ a. Survey monuments; (62-701.600(6)(a), FAC)

S ☐ _____ N/A ☑ N/C ☐ b. Final survey report; (62-701.600(6)(b), FAC)

S ☐ _____ N/A ☑ N/C ☐ c. Closure construction quality assurance report; (62-701.400(7), FAC)

S ☐ _____ N/A ☑ N/C ☐ 5. Declaration to the public; (62-701.600(7), FAC)

S ☐ _____ N/A ☑ N/C ☐ 6. Official date of closing; (62-701.600(8), FAC)

S ☐ _____ N/A ☑ N/C ☐ 7. Justification for and detailed description of procedures to be followed for temporary closure of the landfill, if desired; (62-701.600(9), FAC)

PART P. OTHER CLOSURE PROCEDURES (62-701.610, FAC)

LOCATION

S ☐ _____ N/A ☑ N/C ☐ 1. Describe how the requirements for use of closed solid waste disposal areas will be achieved; (62-701.610(1), FAC)

S ☐ _____ N/A ☑ N/C ☐ 2. Describe how the requirements for relocation of wastes will be achieved; (62-701.610(2), FAC)

PART Q. LONG-TERM CARE (62-701.620, FAC)

LOCATION

S ☐ _____ N/A ☐ N/C ☑ 1. Maintaining the gas collection and monitoring system; (62-701.620(5), FAC)

S ☐ _____ N/A ☐ N/C ☑ 2. Stabilization report requirements; (62-701.620(6), FAC)

S ☐ _____ N/A ☐ N/C ☑ 3. Right of access; (62-701.620(7), FAC)

S ☐ _____ N/A ☐ N/C ☑ 4. Requirements for replacement of monitoring devices; (62-701.620(8), FAC)

S ☐ _____ N/A ☐ N/C ☑ 5. Completion of long-term care signed and sealed by professional engineer; (62-701.620(9), FAC)

PART R. **FINANCIAL ASSURANCE** (62-701.630, FAC)

	LOCATION			
S ☑	Appendix E	N/A ☐	N/C ☐	1. Provide cost estimates for closing, long-term care, and corrective action costs estimated by a P.E. for a third party performing the work, on a per unit basis, with the source of estimates indicated; (62-701.630(3) & (7), FAC)
S ☐		N/A ☑	N/C ☐	2. Describe procedures for providing annual cost adjustments to the Department based on inflation and changes in the closing, long-term care, and corrective action plans; (62-701.630(4) & (8), FAC)
S ☑	Appendix E	N/A ☐	N/C ☐	3. Describe funding mechanisms for providing proof of financial assurance and include appropriate financial assurance forms. (62-701.630(5), (6), & (9), FAC)

PART S. CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

1. Applicant:

The undersigned applicant or authorized representative of Omni Waste of Osceola County, LLC _____ is aware that statements made in this form and attached information are an application for a Operation permit from the Florida Department of Environmental Protection, and certifies that the information in this application is true, correct, and complete to the best of his/her knowledge and belief. Further, the undersigned agrees to comply with the provisions of Chapter 403, Florida Statutes, and all rules and regulations of the Department. It is understood that the Permit is not transferable, and the Department will be notified prior to the sale or legal transfer of the permitted facility.

Kirk Wills
Signature of Applicant or Agent

Kirk Wills, South Region Engineer
Name and Title (please type)

kirk.wills@wasteconnections.com
E-Mail Address (if available)

5135 Madison Avenue
Mailing Address

Tampa, Florida 33619
City, State, Zip Code

(813) 388-1026
Telephone Number

Date: May 1, 2017

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

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

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

Signature

Alex Rivera, Engineer
Name and Title (please type)

78210
Florida Registration Number (please affix seal)

ALEXANDER RIVERA
LICENSED
No. 78210
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

13101 Telecom Drive, Suite 120
Mailing Address

Temple Terrace, FL 33637
City, State, Zip Code

arivera@geosyntec.com
E-Mail Address (if available)

(813) 558-0990
Telephone Number

Date: 5/2/2017

WRITTEN CONSENT OF
THE SOLE MEMBER AND SOLE MANAGER OF
OMNI WASTE OF OSCEOLA COUNTY LLC

The undersigned, being the sole member and the sole manager of the Board of Managers of OMNI WASTE OF OSCEOLA COUNTY LLC, a Florida limited liability company (the "Company"), consent to the following actions and adopt the following resolutions:

WHEREAS, the sole member and the sole manager of the Company have determined that it is in the best interests of the Company to submit a construction renewal application to the Florida Department of Environmental Protection (the "Application"); therefore, be it

RESOLVED, that Kirk Wills, Senior Region Engineer of the Company, is hereby authorized and directed to execute the Application and to take such other action in furtherance thereof as he deems necessary, convenient or advisable to facilitate the renewal of the construction application.

IN WITNESS WHEREOF, the undersigned sole member of the Company and sole manager of the Board of Managers of the Company, have duly executed this Written Consent in The Woodlands, Texas on the date set forth below.

Dated: June 3, 2016

SOLE MEMBER:

WASTE SERVICES, INC.,
a Delaware corporation

By: _____
Name: Ronald J. Mittelstaedt
Its: Chief Executive Officer

SOLE MANAGER OF THE BOARD OF MANAGERS:

_____
Ronald J. Mittelstaedt, Manager

Appendix B

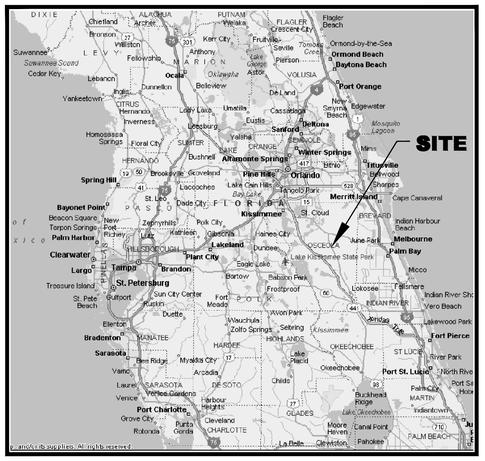
Renewal Permit Drawings

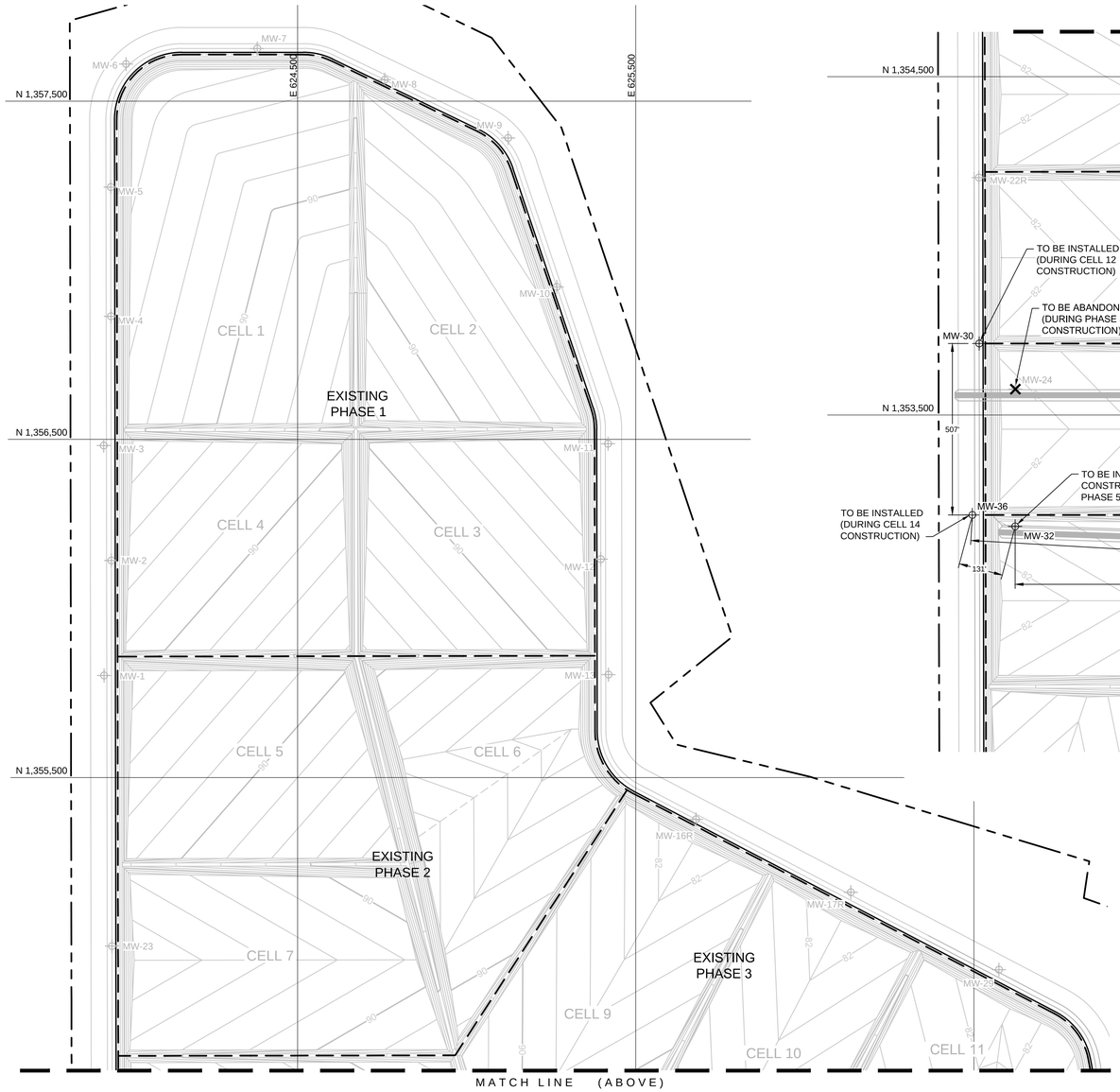
J.E.D. SOLID WASTE MANAGEMENT FACILITY

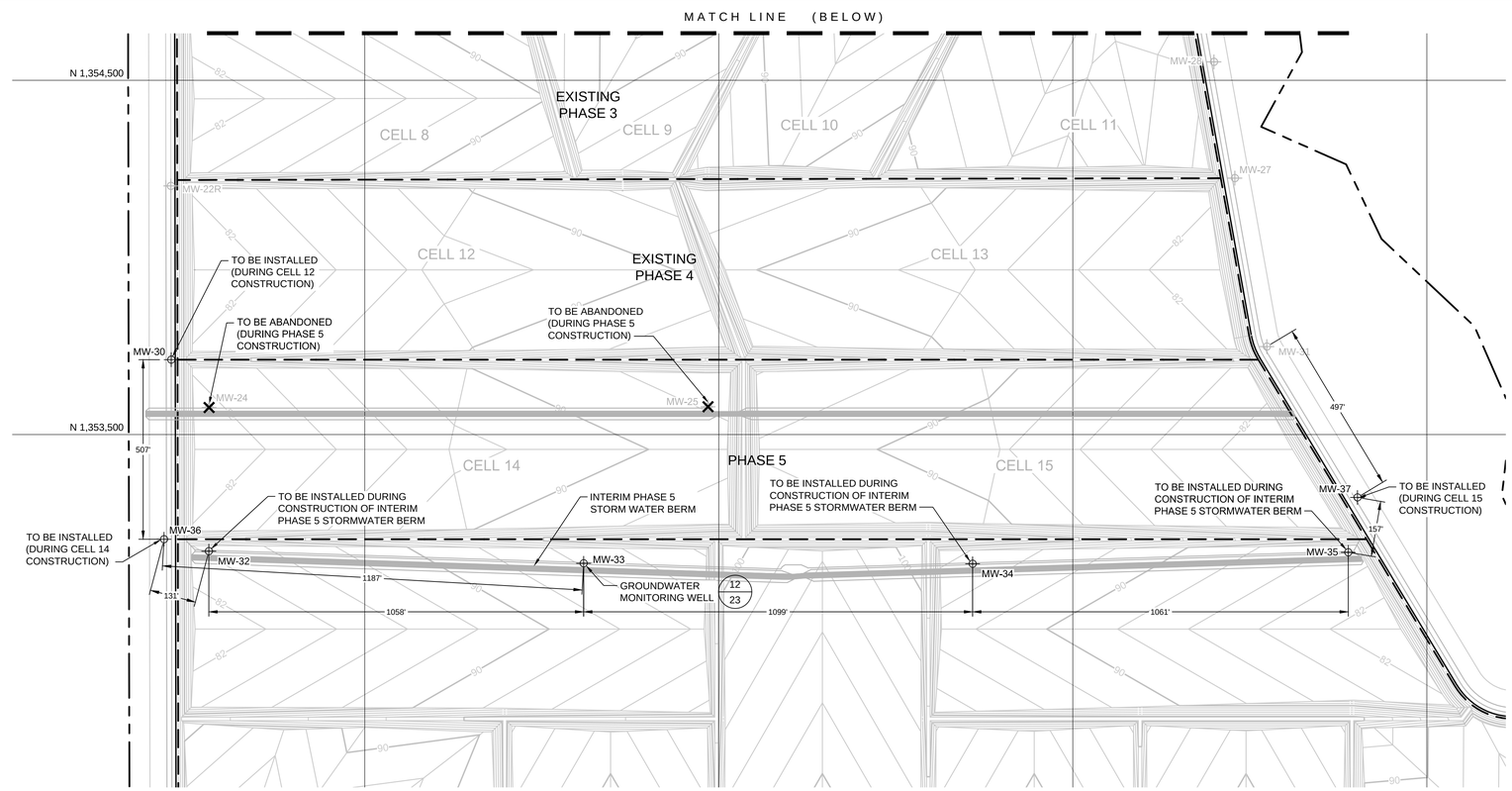
ST.CLOUD, FLORIDA

PHASES 1-5 RENEWAL PERMIT DRAWINGS

MAY 2017

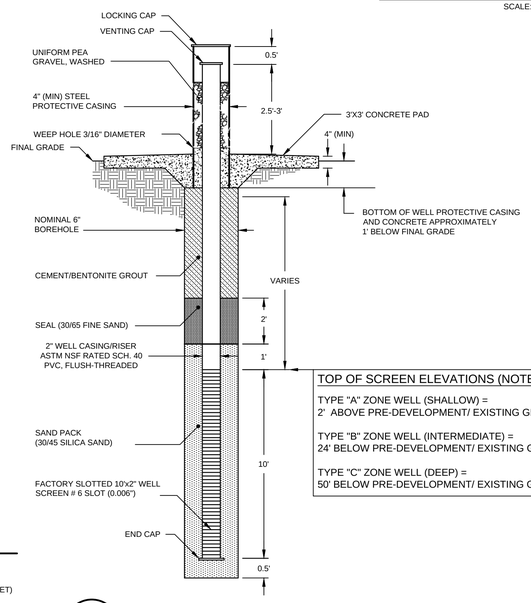

SITE
Orlando
Kissimmee
St. Cloud
Melbourne
Palm Bay
Tampa
St. Petersburg
Clearwater
Lakeland
Sanford
Daytona Beach
Ocala
Gainesville
Port St. Lucie
Fort Pierce
Sarasota
Bradenton
Port Charlotte
Cape Canaveral
Merritt Island
Titusville
Winter Springs
Altamonte Springs
Apopka
Winter Garden
Ormond Beach
Palm Harbor
Largo
Brandon
Plant City
Bayonet Point
Spring Hill
Deltona
Palm Coast
Port Orange
Melbourne Beach
Indian Harbour Beach
Indian River Shores
Vero Beach
Lake Okeechobee
Lake Kissimmee State Park
Lake Placid
Okeechobee
Arcadia
Venice
Punta Gorda
Cape Coral
Fort Myers
Naples
Marco Island
Everglades City
Clewiston
Pahokee
Belle Glade
Canal Point
Jupiter
Tequesta
Hobe Sound
Stuart
Port St. Lucie
Fort Pierce
Vero Beach
Sebastian
Micco
Palm Bay
Melbourne
Titusville
Cocoa
Rockledge
Cape Canaveral
Merritt Island
Kissimmee
Orlando
Winter Garden
Ocoee
Apopka
Altamonte Springs
Winter Springs
Sanford
Deltona
Daytona Beach
Ormond Beach
Port Orange
Palm Coast
Flagler Beach
Crescent City
Palatka
Gainesville
Ocala
Lake City
Live Oak
Jasper
Madison
Monticello
Tallahassee
Quincy
Chiefland
Cedar Key
Yankeetown
Inverness
Brooksville
Spring Hill
New Port Richey
Dade City
Zephyrhills
Lutz
Plant City
Lakeland
Winter Haven
Bartow
Sebring
Avon Park
Frostproof
Lake Wales
Haines City
Kissimmee
St. Cloud
Poinciana
Kissimmee
Lake Tohopekaliga
Lake Cypress
Lake Hatchineha
Lake Marion
Lake Kissimmee
Lake Rosalie
Lake Istokpoga
Lake Placid
Lake Okeechobee
Lake Okeechobee
Lake Istokpoga





PHASES 1 THROUGH 5
GROUNDWATER MONITORING WELL LAYOUT

SCALE: 1" = 200'



TOP OF SCREEN ELEVATIONS (NOTE 3)

TYPE "A" ZONE WELL (SHALLOW) =
2' ABOVE PRE-DEVELOPMENT/ EXISTING GRADE

TYPE "B" ZONE WELL (INTERMEDIATE) =
24' BELOW PRE-DEVELOPMENT/ EXISTING GRADE

TYPE "C" ZONE WELL (DEEP) =
50' BELOW PRE-DEVELOPMENT/ EXISTING GRADE

12/23 DETAIL (TYPICAL)
GROUNDWATER MONITORING WELL

SCALE: NOT TO SCALE

XREF: FL1962.02X1206

NOTES:

1. NORTHING AND EASTING COORDINATES SHOWN REPRESENT FLORIDA STATE PLANE EAST ZONE NORTH AMERICAN DATUM OF 1983 (NAD83).THE ELEVATIONS SHOWN REPRESENT NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29)(FEET).
2. THE PROPERTY BOUNDARY IS BASED ON A COMPOSITE BOUNDARY SURVEY PROVIDED BY JOHNSTON SURVEYING INC., KISSIMMEE FLORIDA, DATED AUGUST 12, 1999.
3. AT EACH MONITORING LOCATION A TWO WELL CLUSTER WILL BE INSTALLED TO A AND B ZONE DEPTHS. C ZONE WELLS WILL ONLY BE INSTALLED IF SUSTAINED DETECTIONS OF LEACHATE RELATED CONTAMINANTS OF CONCERN ARE DETECTED IN A AND B ZONE WELLS. THESE WELLS WILL BE SPACED 5 FEET APART AND ARRANGED PARALLEL TO THE PERIMETER MAINTENANCE ROAD OR INTERCELL BERM ALIGNMENTS OR ON TOP OF THE INTERIM STORM WATER BERMS.

GROUNDWATER MONITORING WELL SCHEDULE

WELL	NORTHING	EASTING	STATUS
MW-1	1355801.76	623927.76	EXISTING
MW-2	1356141.76	623949.18	EXISTING
MW-3	1356481.70	623926.60	EXISTING
MW-4	1356863.75	623947.95	EXISTING
MW-5	1357245.77	623947.30	EXISTING
MW-6	1357609.65	623992.77	EXISTING
MW-7	1357655.74	624380.68	EXISTING
MW-8	1357563.00	624757.34	EXISTING
MW-9	1357390.93	625122.57	EXISTING
MW-10	1356950.48	625266.36	EXISTING
MW-11	1356487.15	625418.09	EXISTING
MW-12	1356145.69	625396.67	EXISTING
MW-13	1355804.30	625419.26	EXISTING
MW-14	1355846.36	624922.02	ABANDONED

GROUNDWATER MONITORING WELL SCHEDULE

WELL	NORTHING	EASTING	STATUS
MW-15	1355845.51	624424.85	ABANDONED
MW-16R	1355376.34	625677.81	EXISTING
MW-17R	1355160.79	626135.96	EXISTING
MW-18	1354645.10	626139.82	ABANDONED
MW-19	1354265.03	625742.27	ABANDONED
MW-20	1354105.48	625215.92	ABANDONED
MW-21	1354133.12	624582.67	ABANDONED
MW-22R	1354201.80	623952.49	EXISTING
MW-23	1355001.79	623951.12	EXISTING
MW-24	1353576.17	624060.36	EXISTING
MW-25	1353578.36	625469.63	EXISTING
MW-26	1353614.23	626973.10	ABANDONED
MW-27	1354223.69	626957.52	EXISTING
MW-28	1354552.02	626898.52	EXISTING

GROUNDWATER MONITORING WELL SCHEDULE

WELL	NORTHING	EASTING	STATUS
MW-29	1354931.80	626573.82	EXISTING
MW-30	1353711.32	623953.32	PROPOSED
MW-31	1353748.34	627048.06	EXISTING
MW-32	1353170.56	624059.78	PROPOSED
MW-33	1353136.09	625118.21	PROPOSED
MW-34	1353134.91	626217.06	PROPOSED
MW-35	1353167.20	627277.73	PROPOSED
MW-36	1353204.07	623933.19	PROPOSED
MW-37	1353322.16	627303.81	PROPOSED

N

0 200' 400'

SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- 90 SUBBASE ELEVATION (FEET)
- MW-1 EXISTING GROUNDWATER MONITORING WELL LOCATION
- MW-16 PROPOSED GROUNDWATER MONITORING WELL LOCATION

PERMIT DRAWING

REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2017	ISSUED FOR FDEP APPROVAL (OPERATIONS PERMIT RENEWAL)	CMV	AR
0	JUN 2016	ISSUED FOR FDEP APPROVAL	CMV	CRB

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WASTE CONNECTIONS, INC.
Connect with the Future
1501 OMNI WAY
ST. CLOUD, FLORIDA 34773
TEL: 407-891-3720 FAX: 407-891-3730

TITLE: GROUNDWATER MONITORING NETWORK

PROJECT: PHASES 1-5 RENEWAL PERMIT DRAWINGS

SITE: J.E.D. SOLID WASTE MANAGEMENT FACILITY

SIGNATURE

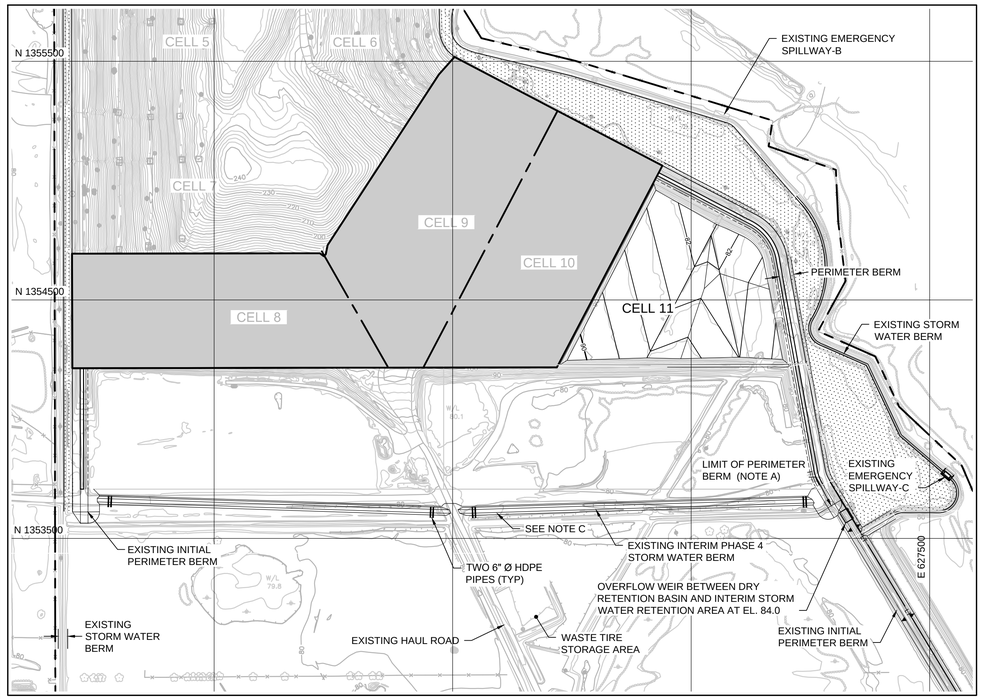
5/2/2017
DATE

ALEX RIVERA - LICENSE NO. 78210

ALEXANDER RIVERA LICENSE No. 78210 STATE OF FLORIDA PROFESSIONAL ENGINEER

DESIGN BY:	CRB	DATE:	MAY 2017
DRAWN BY:	CMV	PROJECT NO.:	FL2987.01
CHECKED BY:	AR	FILE:	FL2987P23
REVIEWED BY:	KBT	DRAWING NO.:	
APPROVED BY:	AR		23 OF 48

I:_CADD\PROJECTS\JED\ADD FILL\PERMIT\PHASES 1-5\RENEWAL REV1\FL2987\DWG\FL2987P23.DWG (24.4x36.0)17-435 (PAR) Cadalis

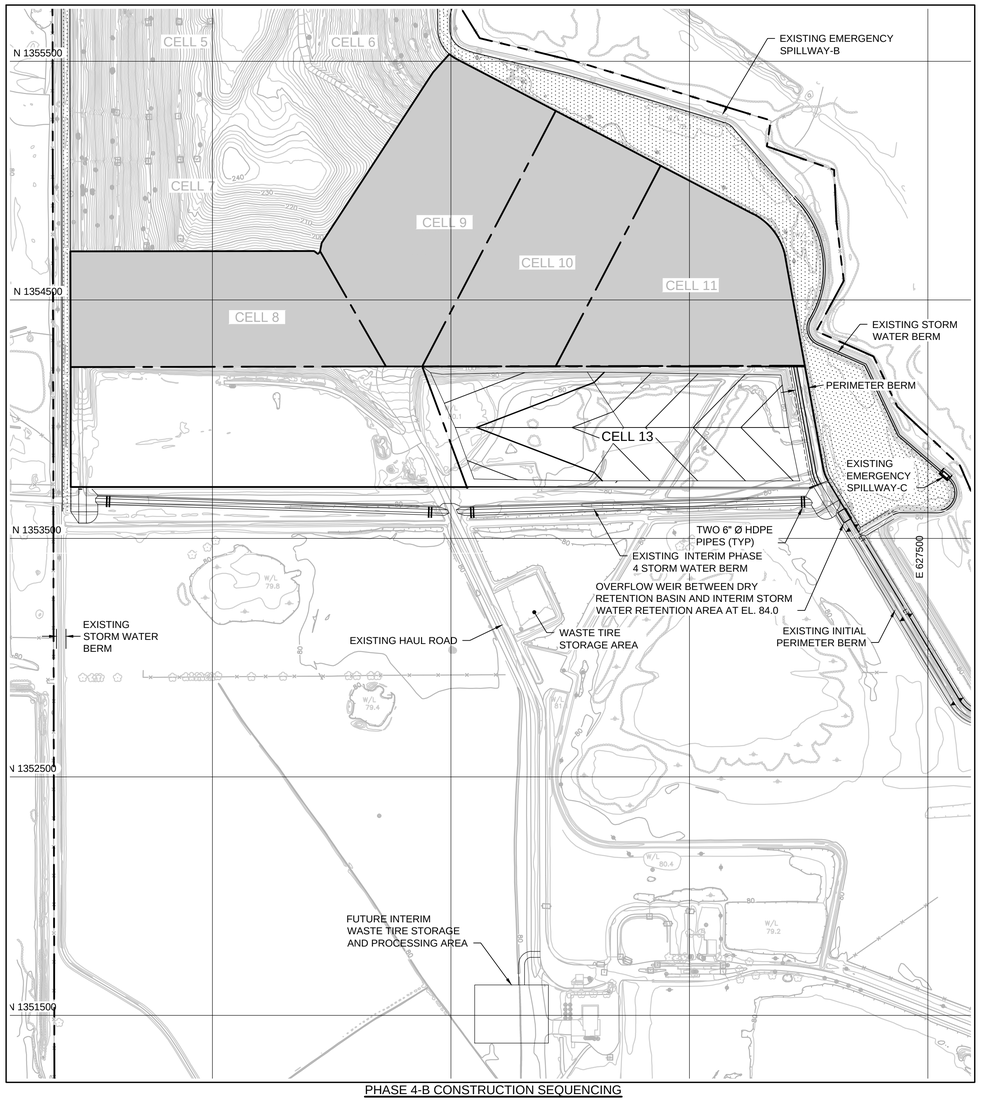


PHASE 4-A CONSTRUCTION SEQUENCING

SCALE: 1" = 300'

PHASE 4-A CONSTRUCTION SEQUENCING NOTES

A. AS OF JUNE 2016, CELL 11 HAS BEEN CONSTRUCTED AND IS CURRENTLY RECEIVING WASTE FOR DISPOSAL.

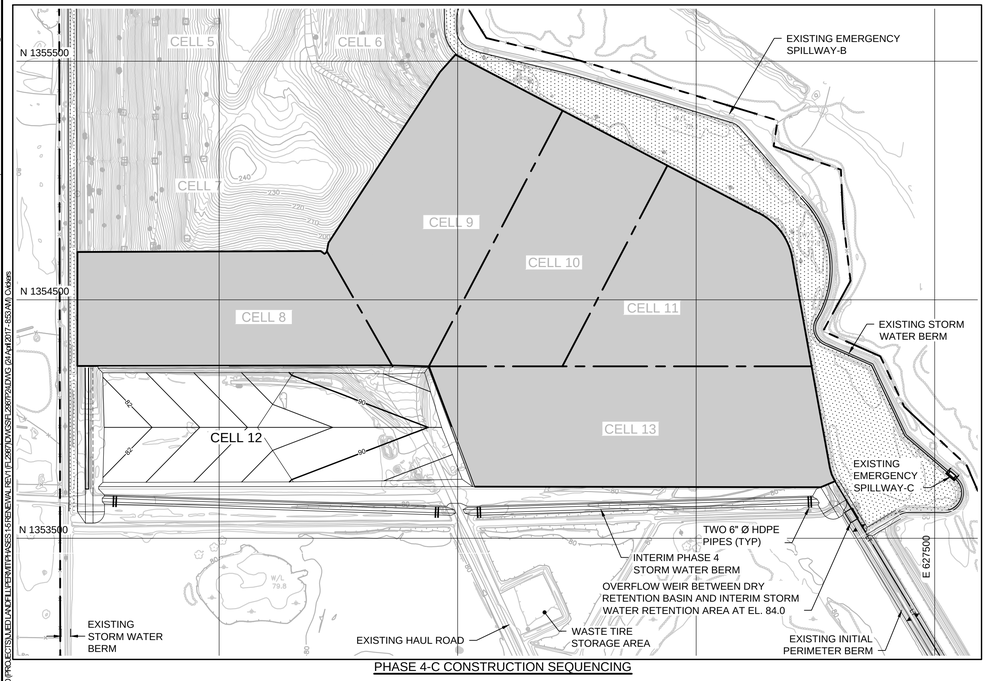


PHASE 4-B CONSTRUCTION SEQUENCING

SCALE: 1" = 300'

PHASE 4-B CONSTRUCTION SEQUENCING NOTES

A. AS OF OCTOBER 2016, CELL 13 HAS BEEN CONSTRUCTED AND IS CURRENTLY RECEIVING WASTE FOR DISPOSAL.



PHASE 4-C CONSTRUCTION SEQUENCING

SCALE: 1" = 300'

PHASE 4-C CONSTRUCTION SEQUENCING NOTES

A. EXTEND EXISTING PERIMETER BERM TO 100FT SOUTH OF LIMITS OF CELL 12 DURING CONSTRUCTION OF CELL 12.

B. CONSTRUCT CELL 12.

C. INSTALL NEW WATER QUALITY MONITORING WELL MW-30.

N

0 300' 600'

SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- 80 — EXISTING GROUND ELEVATION (FEET) (NOTE 4)
- EXISTING FENCE
- 90 — PROPOSED SUBBASE ELEVATION (FEET)
- STORM WATER MANAGEMENT BASIN

NOTES:

1. NORTHING AND EASTING COORDINATES SHOWN REPRESENT FLORIDA STATE PLANE EAST ZONE NORTH AMERICAN DATUM OF 1983 (NAD83).
2. THE ELEVATIONS SHOWN REPRESENT NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29)(FEET).
3. THE PROPERTY BOUNDARY BASED ON A COMPOSITE BOUNDARY SURVEY PROVIDED BY JOHNSTON SURVEYING INC., KISSIMMEE FLORIDA, DATED AUGUST 12, 1999.
4. TOPOGRAPHIC INFORMATION SHOWN ON THIS DRAWING WAS PROVIDED BY BASE MAPPING CO. LTD BASED ON AN AERIAL PHOTOGRAPH TAKEN ON 20 MAY 2015.
5. RUNOFF FROM THE LANDFILL WILL BE DIRECTED TO, RETAINED BY, AND INFILTRATED WITHIN THE CONSTRUCTED STORM WATER MANAGEMENT SYSTEM.
6. EXISTING STORM WATER MANAGEMENT SYSTEM FOR PHASE 4 HAS BEEN CONSTRUCTED IN ACCORDANCE WITH ERP49-0199752.010.EI AND APPROVED FOR OPERATIONAL PHASE BY THE FDEP.
7. DURING CELL CONSTRUCTION, CONTRACTOR STAGING AREAS WILL BE LOCATED IN ADJACENT FUTURE CELL FOOTPRINT.

PERMIT DRAWING

REV	DATE	DESCRIPTION	DRN	APP
1	MAY 2017	ISSUED FOR FDEP APPROVAL (OPERATIONS PERMIT RENEWAL)	CMV	AR
0	JUN 2016	ISSUED FOR FDEP APPROVAL	CMV	CRB

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1501 OMNI WAY
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TEL: 407-891-3720 FAX: 407-891-3730

TITLE: PHASE 4 CONSTRUCTION SEQUENCING

PROJECT: PHASES 1-5 RENEWAL PERMIT DRAWINGS

SITE: J.E.D. SOLID WASTE MANAGEMENT FACILITY

SIGNATURE
5/2/2017
DATE
ALEX RIVERA - LICENSE NO. 78210

ALEXANDER RIVERA LICENSE No. 78210 STATE OF FLORIDA PROFESSIONAL ENGINEER

DESIGN BY:	CRB	DATE:	MAY 2017
DRAWN BY:	CMV	PROJECT NO.:	FL2987.01
CHECKED BY:	AR	FILE:	FL2987P24
REVIEWED BY:	KBT	DRAWING NO.:	24 OF 48
APPROVED BY:	AR		

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Appendix C
Operation Plan

Prepared for:

WASTE CONNECTIONS, INC.

Omni Waste of Osceola County, LLC.
1501 Omni Way
St. Cloud, Florida 34773

OPERATION PLAN
J.E.D. SOLID WASTE MANAGEMENT FACILITY

Prepared by:

Geosyntec consultants
13101 Telecom Drive, Suite 120
Temple Terrace, Florida 33637
Authorization Number: 4321
Project Number FL2987

ALEXANDER RIVERA
LICENSE
No. 78210
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

May 2017

Alex Rivera, P.E.
Florida Registration No. 78210
Date: 5/2/2017

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1 INTRODUCTION

1.1 Terms of Reference

This Operation Plan has been prepared by Geosyntec Consultants (Geosyntec) on behalf of Omni Waste of Osceola County, LLC (Omni) for a Class I landfill known as the J.E.D. Solid Waste Management (JED) facility. The Operation Plan for the JED facility has been prepared to comply with the requirements of Chapter 62-701, Florida Administrative Code (F.A.C.).

1.2 Purpose and Scope of the Operation Plan

The Operation Plan provides a detailed description of the daily operations at the JED facility, including contingency operations as required by subparagraphs 62-701.320(7)(e)1,2, and Rule 62-701.500, F.A.C. The primary purpose of the Operation Plan is to describe the framework to operate and manage the JED facility so that the landfill is operated and maintained in a condition that protects the public health and the environment. This Operation Plan also provides a description of borrow area operations for obtaining fill material during both the construction and operation phases of the landfill.

1.3 Operation Plan Organization

The organization of the Operation Plan is described below:

- Section 2 describes personnel requirements, landfill entrance procedures, traffic routing, and facilities for the Class I landfill;
- Section 3 discusses landfill operations including basic landfilling procedures, waste handling, waste relocation, equipment, on-site roads, and general maintenance procedures for drainage swales;
- Section 4 discusses environmental controls including leachate containment and control, surface-water control, facility inspection, maintenance, monitoring, landfill active area controls, and record keeping;
- Section 5 describes the contingency plan for emergencies at the site;
- Section 6 describes the safety plan for the site;
- Section 7 discusses final closure of the JED facility; and
- Section 8 describes operation of the borrow area.

2 LANDFILL PERSONNEL AND FACILITIES

2.1 Personnel Requirements

2.1.1 Numbers and Types

The positions and number of personnel anticipated to be employed for each position are presented in Table 1. Omni will have at least one trained operator at the landfill during active operations and at least one trained spotter at each working face. Spotter(s) will be located on heavy equipment spreading wastes while at the working face. All heavy equipment operators performing spotting duties while operating heavy equipment will be trained as an operator or spotter. The staffing levels presented in Table 1 provide for absences due to vacation, illness, holidays, or other reasons. Peak solid waste receipt periods, or other emergency conditions may require additional personnel and/or staff working overtime. These staffing levels are based on the assumption that work activities will generally take place 10 hours per day, 5 days per week and a half day on Saturday and Sunday.

If the daily volume at the landfill increases enough to require additional equipment, the staff will be increased as required to supply the personnel to operate and maintain the additional equipment. The minimum crew required to operate the landfill for receipt of waste is also presented in Table 1. In addition to the permanent staff, casual labor may be hired for area clean-up, ground maintenance, and other intermittent activities as required.

2.1.2 Employee Training

Employees of the landfill will receive initial and continued training in accordance with requirements of subsection 62-701.320(15), F.A.C., and other Omni on-the-job training in the safe and environmentally secure operation of the landfill. In accordance with subparagraph 62-701.320(15)(b)1, F.A.C., the operators at the landfill will complete 24 hours of initial training and pass the examination as part of the initial training. Within three years of the initial training, and every three years thereafter, landfill operators will complete additional 16 hours of continued training. In accordance with paragraph 62-701.320(15)(c), F.A.C., the spotters at the landfill will complete 8 hours of initial training as described in this Operation Plan. Within three years of the initial training, and every three years thereafter, landfill spotters will complete additional 4 hours of continued training. All certified training (initial and continuing education) will be provided by a Florida Department of Environmental Protection (FDEP) approved, qualified, independent third party in accordance with Section 403.716, Florida Statutes (F.S.).

Omni will maintain training records for current employees at the facility and will make all records available to FDEP upon request. The requirements of the training program will

also be documented in writing. Examples of subjects to be covered in the employee training program include the following:

- overview of this Operation Plan;
- review of permits and regulations for operators and other key personnel;
- general landfill safety procedures pertaining to work around solid waste, landfill gases, and leachate;
- instruction in the operation and maintenance of equipment, machinery, and systems which the employee must operate, service, or monitor during his/her daily job duties;
- instruction in emergency response procedures for landfill fires or explosions, leachate pumping system failure or leaks, or other emergency situations;
- instruction in emergency shutdown procedures; and
- appropriate procedures for spotters and equipment operators, scale masters and other key personnel including recognition of hazardous wastes and reporting procedures for discovery of unauthorized wastes.

A list of trained spotters and operators at the JED facility and a list and schedule of the classes offered to the public, which may be attended by the JED facility's operators and spotters, is presented in **Attachment A**.

2.2 Landfill Entrance Procedures

2.2.1 Hours and Days of Operation

~~The landfill may be open to accept and dispose of solid waste from dawn to dusk, or 10 hours per day, whichever is greater.~~ Typical landfill hours for acceptance of waste are:

Monday through Friday: ~~5~~4:00 am to ~~5~~4:00 pm

Saturday: 6:00 am to 12:00 pm

Sunday: 6:00 am to 10:00 am

Construction, daily cell preparation, hauling/excavating, road building, leachate management, or all non-disposal waste acceptance can be performed both within and outside of the posted operating hours. The actual hours of operation will be posted at the main entrance to the landfill. The landfill may be closed on Sundays, Thanksgiving, Christmas, and New Year's Day.

2.2.2 Processing Customers

Upon entering the site, all landfill users entering the disposal area will be required to stop at the weigh station. The scale master will record the weight and type of waste for each waste load brought to the landfill. All waste loads will be visually inspected for hazardous or other unauthorized wastes in accordance with the waste inspection plan, which is presented in **Attachment B**. Unauthorized waste includes yard trash which cannot be disposed in a Class I facility. Customers will be directed to the City of St. Cloud, Osceola County, or other registered/permitted yard trash processing facility. A load-checking program will be used at the landfill to detect and discourage attempts to dispose of unauthorized wastes at the landfill. The load checking program consists of the following:

- ~~The Landfill Site Manager is~~Trained staff are required to examine at least three random loads each week. The selected waste hauling vehicles are to be directed to discharge their loads at a designated location within the landfill for a detailed inspection of the discharged material for any hazardous waste.
- If any regulated hazardous wastes are identified by the random load inspection or otherwise discovered to be improperly deposited at the landfill, the Landfill Site ~~Manager~~ Management will promptly notify FDEP, and if known the person responsible for shipping the wastes to the landfill, and the generator of the wastes. The area where the hazardous wastes are found will be immediately cordoned off from public access and properly removed from the designated location/work face. If the generator or hauler cannot be identified, the landfill operator will assure the cleanup, transportation, and disposal of the waste at a permitted hazardous waste management facility.
- A record of information and observations gathered during each random waste load inspection will be maintained. This documentation will include: the date and time of inspection; load weight; names of the hauling firm and driver of the vehicle; vehicle license plate number; source of waste as indicated by the driver; and observations made by the inspector during the detailed inspection. The responsible inspector will sign each waste inspection record. The random waste load inspection documentation will be maintained at the landfill for a period of at least three years.

Vehicles will be directed to the appropriate disposal area by signs or other means. Verbal instructions will be given by facility personnel when necessary. The appropriate area depends on whether the waste is typical municipal solid waste, white goods, used tires, or waste that should be placed in a particular location for special handling.

2.2.3 Public Use

Small, private vehicles will be directed to place their load in the appropriate disposal area by the scale master. Private vehicles will typically be directed to unload in two 20-yard roll-off containers located in the administrative area. However, private vehicles with a dump trailer will be directed to the landfill. These vehicles will be directed to unload in an area away from the commercial waste trucks and will be assisted to unload and return as quickly as practical.

2.2.4 Vehicle Inspection

A plan will be implemented by the Landfill Site ~~Manager~~ Management to prevent the on-site disposal of unauthorized wastes. A copy of the Waste Inspection Plan prepared for the Class I landfill is presented in **Attachment B**. This plan will be implemented by the Landfill Site ~~Manager~~ Management or designee to prevent the on-site disposal of unauthorized wastes.

The Landfill Site ~~Manager~~ Management or designee (Inspector) will be in charge of inspecting waste vehicles arriving at the site. The Inspectors will receive training in unauthorized waste identification. The training provides the opportunity to improve the inspector's knowledge and ability to effectively screen incoming waste.

2.3 Traffic Routing

2.3.1 Access Points/Signs

Access by all vehicles shall be via a single secured site entrance located on highway US 441. The entrance will allow for safe and orderly traffic flow into and out of the facility. The site entrance gate will be locked outside of operation hours.

Signs will be posted at the site entrance indicating the name of the facility, name of the operating authority, and hours and days of operation. In addition, a sign which clearly states "NO HAZARDOUS WASTES ACCEPTED" will be located at the entrance to the landfill. Traffic control and safety requirement signs will be located at and near the entrance to the facility as required.

2.3.2 On-Site Traffic Flow

Once vehicles delivering wastes have been weighed, they will follow directions or signs posted along the haul road(s) to the current active work areas of the landfill, or designated offloading area for waste solidification and waste tire storage and processing operations. Trucks will then proceed to deposit their loads at the appropriate working face. Signs or

the scale master will direct small public vehicles to deposit their loads in the appropriate disposal area.

2.4 On-Site Structures

The site includes the following structures:

- office building/ticket office/weigh station
- scales
- maintenance shop
- storage area

2.5 Communication Facilities

The following communication facilities will be provided for routine communication and for use in emergencies at the site:

- cellular and/or conventional telephone in the office building; and
- on-site two-way radios.

3 LANDFILL OPERATIONS

3.1 Basic Landfilling Procedures

This section describes the procedures that constitute the daily landfill operations, the sequence of landfilling, working face practices, and control of the first and subsequent lifts. The landfill will be operated in accordance with these procedures and filled in the general sequence as indicated on the Permit Drawings.

3.1.1 Method of Operations

Landfilling areas will generally progress from north to south and from west to east. When a cell is opened, waste lifts will be placed to cover all areas to a depth of 10 to 15 feet to reduce leachate generation prior to placement to higher elevations in a cell.

Controlling truck routes and properly spotting loads will facilitate the spreading, compaction, and covering of refuse. During construction of the first lift, trucks will be positioned on a lift of previously compacted waste adjacent to the first lift being placed. In subsequent lifts, unloading at the toe of the working face and pushing uphill may be the preferred method. Lateral confinement or small work faces will be maintained to avoid wasting soil cover material. Temporary barricades or flags may be used as daily width markers for guiding equipment operators and for traffic control.

Vehicles transporting refuse and cover material to the working face will be routed over previously filled areas, whenever possible, for additional compaction of refuse and soil. Vehicles will not be routed over areas of the final cover system unless on a road specifically designed for hauling waste. Disposal vehicles will not be routed over a lined area before a lift of waste has been placed, in order to prevent damage to the liner.

Signs will also be posted in the operational areas if and when required. These signs will direct traffic, identify buildings, and specify types of material to be deposited in particular areas, including the waste solidification and waste tire storage areas. Safety signs will also be posted to identify certain safety requirements such as no smoking, speed limits, and stop signs.

The refuse may consist of household and commercial wastes, construction, demolition debris, and other similar materials, as allowed by regulations for Class I landfills. These readily compactable wastes lend themselves to the typical operations described in Sections 3.1.2 and 3.1.3.

3.1.2 Working Face Practices

3.1.2.1 Start-Up and First Lift

To assure protection of the landfill liner system, no disposal vehicles will be operated directly on the liner protective cover. Soil platforms or similar protective measures will be placed adjacent to the working face to keep vehicles off the liner protective cover. Landfill personnel will be positioned at the working face for the start-up of each new area to direct vehicles to their unloading points.

The first lift of waste on the liner protective cover will be placed with great care, using special methods to protect the liner from damage. The first lift of waste will be a minimum of 4 feet in compacted thickness and consist of select wastes containing no large rigid objects that may damage the liner or leachate collection system. Equipment will not be allowed on the liner protective cover and equipment will not spread waste in a manner that displaces the liner protective cover soil. Landfill personnel will closely monitor the placement, compaction, and covering of the first layer of waste. Landfill personnel will maintain grade control and inspect the filling techniques. Inadvertent damage or suspected damage to the liner system will be reported to the Landfill Site ~~Manager~~ Management and restored prior to filling in the damaged area.

To protect the liner system, the bulldozer will normally be used as the primary spreading and compacting machine for the first lift. The compactor will only be operated on top of the waste and not on the landfill base or on the waste sideslopes. The equipment operators will also make sure that no bulky waste or other material, which could damage the liner system is placed within the first lift.

3.1.2.2 Subsequent Lifts

After the first lift is properly in place, normal operating procedures will be used for the second lift and all subsequent lifts. Trucks and compactors are permitted to operate on these lifts. Bulky wastes delivered to the facility and any stockpiled bulky wastes received during construction of the first lift will be placed in subsequent lifts. The daily operating procedures including routing of traffic, placement, spreading and compaction of refuse, and application of initial and/or intermediate cover will be followed for the subsequent lifts of waste. Soil erosion control and site maintenance tasks will be implemented throughout the development of all lifts. Once the final landfill elevations have been reached over a suitably sized area, final cover may be applied to the landfill during the next construction season and vegetated during the customary planting season. Areas at final grade and interior slopes with intermediate cover may be covered with a temporary exposed geomembrane cover for erosion control purposes until such time final closure occurs or waste filling operations resume.

At the end of each working day, initial cover material (e.g., soil or alternate material) will be applied. An excavator, loader and truck will be used to load and haul soil from the stockpile area to the working face where it will be temporarily stockpiled or spread directly over the waste. Intermediate cover will be applied on areas that will be exposed for more than 180 days (i.e., outside sideslopes and the top of the final lift or portions of other lifts not soon to be covered by additional refuse.) An alternative to the soil, which is used as initial cover may consist of contaminated soils, auto shredder residuals, processed tires, mulch mixed with soils, tarps, or other approved material. As previously noted, a temporary exposed geomembrane cover may be installed over the intermediate cover for erosion control.

Material from on-site stockpile or borrow areas will be used to supply initial and intermediate cover requirements. To conserve soils and landfill space, the initial and intermediate cover will be scraped back immediately before placement of additional solid waste on top of the lift, and then reused as cover material if appropriate, or will be incorporated into the working face. Areas with initial, intermediate, and temporary exposed geomembrane cover will be graded to drain away from the active work area.

3.1.3 Filling Procedures

After the first lift, waste materials will be placed in approximately 2-ft thick horizontal layers when possible and compacted to approximately 1-ft thickness or as thin a layer as practical before the next lift is applied. Lift depths will typically not exceed 10-ft in thickness and the working face slope will not be greater than 3-ft horizontal to 1-ft foot vertical rise. However, a lift thickness of 10 to 15-ft may be necessary at times during days of higher waste acceptance rates and fill transition at outer slopes and change in direction. The need for an increased lift thickness is highly dependent on the fill configuration on that particular day and actual waste acceptance rate. An increased lift thickness is allowed by paragraph 62-701.500(7)(c), F.A.C. When operating with an increased lift thickness, Omni will maintain adequate widths and spacing of operations as further described below to ensure safe operating practices.

The refuse cell is the basic building block of a landfill. It is composed of multiple compacted layers of waste and enclosed by cover material (i.e., initial, intermediate and/or final cover). Basic instructions for constructing the refuse cell are outlined below.

3.1.3.1 Width of Working Face

The working face is the portion of the uncompleted cell on which additional waste is spread and compacted. To maintain sanitary operation, the working face will be kept as narrow as possible. By keeping the working face narrow, equipment movement, cover material requirements, and the area of exposed waste is minimized. In order to facilitate

proper unloading and waste placement operations, two working faces may be required from time to time.

The optimal daily working face width will vary depending on the number of vehicles bringing waste to the site. The working face will be wide enough to prevent a large backlog of trucks. ~~It is expected that a working face 150 to 200 ft (46 to 61 m) in width will be sufficient for operation of the JED facility.~~

3.1.3.2 Unloading

When unloading waste from top of the refuse cell, the waste will be discharged as close to the edge of the active working face as safe operations permit and pushed down slope. For safety reasons, a minimum 8 to 10 ft separation will be maintained between the refuse trucks and the landfill equipment.

When unloading waste from the bottom of the refuse cell, the waste will be discharged approximately 10 ft from the toe of the working face and pushed up the slope. Truck and landfill equipment separation, as discussed above, will be maintained. In order to prevent loads of waste from being discharged too far away from the toe, refuse trucks can be backed toward the toe, following a path created by the equipment pushing refuse into the working face.

3.1.3.3 Pushing, Spreading, and Compacting

Proper refuse cell construction involves pushing, spreading, and compacting the waste. These functions will be accomplished with a bulldozer and/or a compactor.

Pushing the waste is the action of moving the waste from the discharge location into the working face. This function will be accomplished with a bulldozer and/or compactor.

Spreading of the waste can be done by either a bulldozer or compactor. The purpose of the spreading action is to distribute the waste over the working face in a thin layer (approximately 2 ft thick). High in-place compacted unit weight of the waste is achieved by compacting in thin layers (i.e., 2 ft thick).

Good compaction is achieved by operating the landfill compactor up and down the working face after the refuse has been spread into a thin layer. Proper compaction of the waste will extend landfill life, while reducing litter and vector problems. To maximize compaction of the waste, the working face and inside temporary slopes will not exceed a maximum slope of 3H:1V. The Landfill Site ~~Manager~~Management will periodically verify the compaction procedures and make corrections as necessary.

3.1.3.4 Daily Clean-Up

The area receiving wastes will be policed daily for loose waste and litter. Such waste, as well as litter along the litter fences, will be removed. The litter may be stored in trash bags until it can be deposited in the landfill.

3.1.4 Cover

3.1.4.1 Stockpiling

Cover soil stockpile locations, if needed, will change throughout the life of the landfill depending on site conditions and the location of the active working face. Landfill equipment will begin pushing or spreading the cover over the active cell area when and where it has reached its limit for the day.

~~A minimum of a three-week supply of acceptable initial cover will be maintained at the landfill and be available at all times. All stockpiles will be graded to minimize erosion potential. Silt fences or diversion berms will be utilized to control erosion.~~

3.1.4.2 Application and Phasing of Cover Materials

A 6-in. thick initial earth cover will be placed on top of all exposed waste on the working face at the end of each day's operation unless additional waste is to be deposited on the working face within 18 hours. The initial cover may consist of alternative materials including tarps, processed tire chips, auto shredded residuals, mulch mixed with soil, and contaminated soils. A 12-in. thick intermediate earth cover will be placed over the initial cover within 7 days of completion of an area if no additional solid waste will be deposited within 180 days. As noted in Section 3.1.2, a temporary exposed geomembrane cover may be placed over the intermediate cover materials to facilitate erosion control.

Final cover will be placed over the areas of the landfill that have reached final design elevations. Final cover will be placed within 180 days of reaching the final design elevations. Temporary exposed geomembrane covers will be removed, if present, prior to placement of final cover. The final cover system will be as described in Section 7 of this Operation Plan. Vegetation will be maintained over the final cover areas throughout the life of the landfill and the post closure care period. Maintenance of the final cover swales, and access roads will also be performed throughout the life of the landfill and the post closure care period.

3.2 Equipment

3.2.1 Primary Equipment

Based on the available range of handling capacities and the initial projected waste receipts, the allocation of heavy, primary equipment presented in Table 2 will be sufficient to handle the wastes received at the landfill. The primary functions of heavy landfill equipment are spreading and compacting solid waste, and excavating, hauling, and spreading cover material. Equipment similarities allow different equipment to perform functions as necessary. For example, when a compactor breaks down, a bulldozer can perform the compaction operation.

3.2.2 Back-Up Equipment

The equipment selection guide indicated in Table 2 will be adequate even if one of the pieces of equipment is temporarily out of service. If a piece of equipment is out of service for an extended period or if additional equipment is required on a temporary basis, this equipment is available for rental from several heavy equipment rental companies listed in Table 3.

3.2.3 Support Equipment

In addition to the heavy equipment used for operating and maintaining the landfill, other support equipment may be used to perform work not essential to the operations. This equipment will be present at the site most of the time, but some may be off-site, temporarily out of service, or rented for a specific occasion.

One 3,000-gallon or larger water truck will remain on site at all times and will be used for dust control and fire protection. The water truck will normally be positioned close to the working face for fire protection and will be equipped with spray bars so it can be used for dust control.

A utility tractor will be used to perform site maintenance activities. It will be fitted with attachments for mowing grassed areas. A backhoe or small excavator will assist the small dozer in maintaining drainage courses and ditches and for other site maintenance activities.

Pumps will be used for filling the portable water storage tank. These pumps will also be used to dewater any ponded water that forms in low areas around the site, including roads and lined landfill areas not in use.

3.2.4 Equipment Care

Routine preventive maintenance will be performed near the active landfilling area or at the maintenance facility to minimize equipment downtime and increase equipment service life.

Preventive maintenance varies with each piece of equipment. Therefore, the operation and maintenance (owner's) manual for each should be consulted. However, three applicable maintenance activities, which will be implemented at the site are:

- establish a routine equipment inspection program
- lubricate according to manufacturer's recommendations
- keep maintenance records

3.3 Roads

3.3.1 Road Construction

The main access road from the site entrance area to the scale house will be paved or covered with suitable aggregate material. Haul roads from the scale house to the active work area in the landfill will be improved, all weather, rock/recycled concrete surfaced or paved. A perimeter maintenance road will provide all weather access to leachate management systems, groundwater monitoring wells, landfill gas monitoring wells, and storm water management structures. The perimeter maintenance road ~~will be surfaced with limerock or recycled crushed concrete. In the active work area,~~ and ~~the~~ roads in the active work area will be surfaced with ~~construction/demolition waste or other acceptable waste~~suitable aggregate material.

3.3.2 Maintenance of Roads

3.3.2.1 Filling of Potholes

Potholes will be filled with materials compatible with the road construction material. Potholes will be filled on a routine basis so that they are not allowed to remain open for extended periods. Before placing patches in holes, all loose material will be removed from the hole. New material will then be placed in the hole and compacted so that it will be approximately as dense as the materials originally used in the road.

3.3.2.2 Grading

As unpaved, all-weather roads become uneven due to traffic-caused rutting or displacement of stone, fresh rock or recycled crushed concrete will be applied to the surface and smoothed to an evenly sloped grade to promote drainage.

3.3.2.3 Restoring Settlement

When all-weather roads are built on fill areas, settlement of the filled area may cause cracks to appear in a road or cause the slope of a road to change. Cracks will be filled with material that is compatible with the roadbed. Areas of a sloped road, where the slope has changed drastically, will be built up with material compatible with the roadway and constructed utilizing acceptable construction methods until the desired elevation is achieved or the road section is rebuilt. ~~The buildup will be made by placing a 6 in. thick layer of the material, compacting it, then placing another 6 in. thick layer of material and compacting again. This process will be repeated until the desired elevation is achieved or the road section will be rebuilt.~~

3.3.2.4 Cleaning of Public Access Roads

Proper operation of the landfill will result in little or no debris being found on public roads. The public roads adjacent to the site entrance area will be inspected daily. If debris from the wheels of vehicles departing the landfill reaches the public access road at the entrance to the landfill, that road will be cleaned to a distance of 0.25 mi or as required in both directions, if necessary, from the entry point onto the road.

3.3.2.5 Removal of Materials from Landfill Roadways

Any significant accumulation of dirt, brush, and other debris will be removed from the landfill roadways. Dirt left on asphalt roadbeds may cause dust problems during dry weather or mud problems during wet weather. A program of road cleaning will be implemented to prevent any buildup. Unpaved roads will be watered as needed to minimize dust.

3.3.2.6 Maintenance of Drainage Swales

Drainage swales along road beds will be kept free of obstructions. During the wet weather seasons, inspection of all drainage ditches and structures will be made ~~at least once each week, or more frequently as required~~in accordance with the site Stormwater Pollution Prevention Plan (SWPPP), and debris removed as required.

3.4 Drainage Features

- ~~Routine~~ Inspections ~~: Inspection procedures are~~will be performed in accordance with the site SWPPP (outlined in Section 4.2.3).
- Channels, Pipes, and Inlet Structures: Drainage structures will be cleaned of debris as soon as practical after problems are identified to prevent ponding. When unlined channels silt up, routine cleaning will be performed to restore the original capacity of the channels.

- Repair of Structures: Damaged structures will be permanently repaired during dry weather periods. During rainy periods, temporary repairs may be made to prevent further damage to the structure or erosion of soil.
- Sediment Barriers: Sediment barriers will be visually inspected periodically for damage, and to determine if sediment has accumulated behind them. Sediment will not be allowed to accumulate to a height exceeding half that of the barrier. Barriers will be replaced when visibly damaged. Barrier footings will also be inspected to ensure that drainage is not flowing beneath the barrier unless designed to do so.

3.5 Salvaging/Recycling

No scavenging will be permitted at the landfill. Waste tires will be accepted, temporarily stored and ~~processed at the waste tires storage and processing area~~transported to a licensed tire processor. Processed tires may be directly disposed in the landfill or used as initial/daily cover. Other recycling uses of processed tires may be proposed as markets are developed. Waste tire and processing operations are described in the Waste Tire Storage and Processing Plan provided in **Attachment C**. If the volume of other recyclable goods is sufficient, as determined by the Landfill Site ~~Manager~~Management, those items may be separated from the waste which is to be disposed. Landfill gas is planned to be converted to electric energy as described in the Landfill Gas to Energy Operation Plan provided in **Attachment D**.

4 ENVIRONMENTAL CONTROLS

This section presents the basic components of the environmental controls at the JED Class I landfill. The major components of this section are the Facility Inspection Plan, Facility Maintenance Plan, and the Facility Monitoring Plan. In this section, a discussion of each of these components is presented, including a discussion of groundwater and surface-water protection controls, leachate collection system (LCS), and surface water controls, where appropriate. The discussion also includes general facility controls, including initial, intermediate and final cover, temporary exposed geomembrane cover, and access roads.

4.1 Environmental Control Systems

The purpose and function of each of the major environmental control systems are described below. Specific construction and design details are presented in the construction documents, the closure plan, post-closure plan, and the design report with attached plans.

4.1.1 Leachate Containment and Control

The Class I landfill is equipped with a double-composite liner system, which directs any liquid entering the landfill that may have contacted refuse to an LCS. The LCS drains liquid collected on the primary liner into a sump. Leachate in the sump is pumped into an on-site storage ponds and trucked to the City of St. Cloud wastewater treatment plant (WWTP) or other permitted WWTPs for disposal or recirculated back into the lined landfill area in accordance with the procedures described in the Operation Plan for Leachate Recirculation provided in **Attachment E**. The onsite water truck will be used to recirculate leachate under the Surface Leachate Application method described in **Attachment E**. After each use of the water truck for leachate recirculation, one load of clean fresh water will be sprayed within the lined disposal boundary prior to using the water truck for dust control purposes outside of the disposal boundary limits. Quantities of leachate collected by the LCS will be recorded in gallons per day and maintained as part of the landfill operating record.

A recording rain gauge will be installed, operated, and maintained to record precipitation at the landfill. Precipitation records will be maintained as part of the landfill operating record and used to compare with leachate generation rates.

4.1.2 Surface Water Controls

The surface-water management system for the JED facility consists of a system of drainage swales to move storm water to either permanent dry retention basins or interim dry retention basin, depending on the stage of landfill construction. All dry retention basins are surrounded by an earth berm designed to contain all runoff from a 100-year, 24-hour

storm event. Where runoff must pass through a roadway, appropriately sized culverts will be installed.

4.2 Facility Inspection Plan

4.2.1 Leachate Collection System (LCS)

The LCS will be water pressure cleaned or inspected using a video camera after construction but prior to placement of any waste. The pump(s) will be tested in the sump to assure that the system operates properly. Deficiencies will be repaired prior to initial deposition of waste.

The LCS includes manholes, pumps, a leachate wet well and a force main. The LCS pumps will be removed and inspected every 2 years. This 2-year inspection will consist of pressure testing of the pump. Pumps located in active areas, or areas without final cover, will be inspected on a monthly basis to confirm normal operation. Additional inspection, preventative maintenance, and checking of the electrical components will be performed in a manner and frequency in accordance with manufacturer's recommendations. The leachate transmission manholes will be inspected weekly for accumulation of leachate in the manhole and to verify integrity of the force main.

4.2.2 Leachate Storage Facility

The exposed exterior of the polyethylene leachate storage ponds will be inspected weekly for leaks, deterioration, and maintenance deficiencies. The leachate level and overfill control equipment will also be inspected weekly to ensure it is in good working order. The leachate levels in the ponds are inspected and recorded on a daily basis.

If inspection reveals a storage container or equipment deficiency, leak, or any other deficiency that could result in failure of the storage system to contain the leachate, remedial measures will be taken immediately to eliminate the leak or correct the deficiency. Inspection reports will be maintained and made available to FDEP upon request for the lifetime of the leachate storage facility.

4.2.3 Surface Water Control System

Surface-water culverts may contain landfill gas. Prior to accessing piping, protective measures will be taken to avoid explosion(s), fire(s), and asphyxiation(s).

Drainage swales, inlets, structures, and the surface-water management areas will be visually inspected ~~monthly or following storm events~~in accordance with the site SWPPP. The frequency of dry inspections may be modified as appropriate based on progressive experience with the landfill drainage system, however, in no case will inspections be less

frequent than quarterly. Regardless of the inspection frequency, the system will be inspected following each 25-year, 24-hour storm event (i.e., 9 inches of rain in 24-hour period) or greater storm event.

Drainage swales, inlets, and structures will be cleared of obstructing debris as soon as practical after a problem is identified. If channels become filled with an accumulation of debris or soil, cleaning may be required to restore original flow capacity.

Erosion control measures will be employed to correct any erosion that exposes waste or causes malfunction of the storm water management system. The control measures to repair erosion will be implemented within three days of occurrence. If the erosion cannot be corrected within seven days of the occurrence, a proposed correction schedule will be provided to FDEP.

4.2.4 Landfill Cover System

Areas that have received intermediate or final cover will be visually inspected periodically for signs of erosion, cracks and depressions due to settlement, and leachate seeps. Areas where waste or geosynthetics have been exposed by erosion will be filled and regraded to minimize any subsequent erosion. Significant depressions (1 ft or more) will be filled with soil, compacted, and regraded to promote positive drainage. If leachate seeps appear in the uncapped area of the landfill, the seep area will be excavated and backfilled with highly permeable material to promote seepage through the landfill. The intermediate cover will be reworked to seal the area.

Areas that have received temporary exposed geomembrane cover will be visually inspected periodically for signs of damage (e.g., puncture, tearing, etc.) and depressions due to settlement. Geomembrane damage will be repaired if it is resulting in significant undercutting (1 ft or more) of the geomembrane cover. Significant depressions (1 ft or more) that result in water ponding on top of the temporary exposed geomembrane cover will be remediated as follows: i) the geomembrane will be removed from the depression area, ii) the depression will be backfilled with compacted soil and regraded to promote positive drainage, and iii) the temporary exposed geomembrane cover will be placed back over the regraded area.

4.2.5 Facility Inspection Schedule

Daily	Levels in leachate storage ponds
Weekly	Exterior of HDPE leachate storage containers and overfill control equipment
Monthly (Visual)	Leachate collection pumps

	Surface-water management system
	Cover in completed areas
	Leachate force main
Quarterly	Surface-water control system (or after a 25-year, 24-hour storm event)
Annually	Surface-water control system pipes and structures
	Topographic survey of landfill
Bi-Annually (every 2 years)	LCS pumps and pipelines
	Leachate collection and detection flow meters, valves, and risers

4.3 Facility Maintenance Plan

In conjunction with the inspection plan, a regular schedule of maintenance will be prepared and implemented. This section refers specifically to the maintenance of the environmental controls installed at the landfill. It does not include the regularly scheduled maintenance of landfill roads or equipment such as vehicles, scales, or buildings. Maintenance requirements in this section refer primarily to the mechanical equipment associated with environmental controls. In addition, each piece of equipment will be inspected and maintained in accordance with all manufacturers recommendations.

4.3.1 Leachate Collection System

The electrical controls, pumps, flow meters, valves, and couplings will be maintained on at least a bi-annual basis (i.e., every two years). In addition, parts that tend to wear out on a regular basis, including bearings on pumps, seals, and gaskets, will be replaced during regular maintenance. After replacing maintained parts, the equipment will be tested to assure proper performance.

4.3.2 Surface-Water Control System

The surface-water control system does not include mechanical systems that require regular maintenance, however, the system is to be inspected ~~on a monthly basis or following storm events~~in accordance with the site SWPPP. The swales, drainage structures, inlets, and pipelines will be repaired and maintained as soon as practical following identification of any damage or deficiencies. This includes repair of lined and unlined ditches in the active landfilling areas, on intermediate and final cover and diversion ditches around the landfill.

4.3.3 Final Cover Maintenance

Maintenance of the final cover includes all the components of the cap, i.e., the geomembrane, drainage geocomposite, protective soil layer and vegetation. The periodic

inspections will help in assessing the final cover condition to verify the integrity of the cap (e.g., check for cracking of protective cover layer due to differential settlement or erosion and exposure of cover geomembrane/geocomposite), and the condition of the vegetation.

Areas of ponding or substantial differential settlement (1ft or more) will be checked to determine the cause. If a significant problem with the cover, vegetation, perimeter berms, erosion, or drainage structures is identified, work orders will be issued to correct the problems. Repair work shall be initiated as quickly as possible.

The timing of the repairs will be dependent on the nature of the repair. Minor filling to eliminate ponding, and the reseeding and fertilizing disturbed or problem areas will be accomplished with little delay. Major repairs, such as extreme erosion, significant local instability of slopes, or substantial settlement, might require geotechnical evaluation and design prior to implementing final repairs. In some cases, the need for analysis and design of the severely damaged areas will delay repair activities.

If repairs are necessary to the cover system swales, inlets, or downdrains to correct the runoff containment system deficiencies, the repairs will be undertaken prior to start of the wet weather season.

Repair of damages to the cover system resulting from erosion and differential settlement may include locally removing geosynthetics and backfilling depressions beneath the geomembrane, repairing geosynthetics, backfilling soil layers, and revegetating disturbed areas. Additional drainage facilities may be provided to prevent future erosion.

4.4 Water Quality Monitoring Plan

The groundwater and surface water quality monitoring plan for the JED facility is presented in Appendix E of the 2011 Renewal Permit Application. ~~The leachate monitoring plan for the JED facility is presented in Appendix N of the 2006 Solid Waste Renewal Permit Application.~~

4.5 Landfill Gas Monitoring Plan

The landfill gas monitoring plan proposed for the JED facility will allow early detection of the lateral migration of landfill gas and verification of the landfill gas management system performance in accordance with the requirements of subsection 62-701.530(1), F.A.C. The following types of landfill gas monitoring will be performed at the site: (i) monitoring for landfill gas in on-site buildings; (ii) monitoring for landfill gas migration along the perimeter berm; and (iii) monitoring at the property boundary for objectionable odors. The following subsections provide a description of the gas monitoring that will be performed at the JED facility.

4.5.1 Monitoring of On-Site Buildings

The on-site buildings will be located in the entrance area of the landfill. All buildings located within 500 feet of the waste limits on the property will be routinely monitored for methane. Continuous monitoring devices used within on-site buildings will be located in work areas, near any penetrations or cracks in building foundation, or at points where methane might enter the building.

If methane is detected at a concentration greater than 25 percent of the lower explosive limit (LEL) in any on-site building, Omni will perform the activities described in Section 4.5.4.

4.5.2 Monitoring for Landfill Gas Along Property Boundary

Gas monitoring probes along the property boundary (or the storm water berm where property boundary is far away from the waste limits) will be used to detect lateral migration of landfill gases. The gas monitoring probes located around the perimeter of the site will be monitored quarterly for methane. Should the results of the quarterly monitoring indicate lateral migration of landfill gases, Omni will install additional gas monitoring probes, as needed, in the area(s) of concern and/or perform additional monitoring. If methane is detected at a concentration greater than the LEL in the gas monitoring probes at the property boundary, Omni will perform the activities described in Section 4.5.4 below.

4.5.3 Monitoring for Objectionable Odors at the Property Boundary

Omni's on-site personnel will operate the facility to control objectionable odors and will perform monitoring for objectionable odors at the property boundary on a regular basis. It should be noted that no off-site occupied structures currently exist near the property boundary. Upon notification from the FDEP that objectionable odors have been confirmed beyond the property boundary, Omni will:

- Immediately take steps to reduce the objectionable odors. Such steps may include applying or increasing initial cover, reducing the size of the working face, and ceasing operations in the areas where odors have been detected;

- Submit to FDEP for approval an odor remediation plan for the gas or odor releases. The plan shall describe the nature and extent of the problem and the proposed long-term remedy. The remedy shall be initiated within 30 days of approval;

- Implement a routine odor monitoring program to determine the timing and extent of any off-site odors, and to evaluate the effectiveness of the odor remediation plan.

4.5.4 Detecting Exceedances of the Regulations

Should the results of the gas monitoring indicate that the requirements of subsection 62-70.530(1), F.A.C., have been exceeded at the facility, Omni will:

- immediately take all necessary steps to ensure protection of human health and notify the FDEP;
- within 7 days of an observed exceedance, Omni will submit to the FDEP for approval, a plan to remediate the landfill gas migration; and
- within 60 days of an observed exceedance, Omni will complete the remediation, unless otherwise directed by FDEP.

4.6 <u>Landfill Active Area Controls</u>

4.6.1 Litter Control

Maintaining proper litter control is essential to the operation of a landfill. When working in areas below natural grade, litter is less likely to escape than when working above natural grade. Litter control procedures for the landfill are discussed below.

4.6.1.1 Prevention of Litter on the Working Face

Litter will be minimized as follows:

- Following proper techniques at the working face may prevent a considerable amount of potential litter by reducing the amount of refuse exposed to the wind. Where possible, the exposed face of the cell will be oriented into the wind. This will cause the wind to blow any loose litter back into the working face and helps keep waste away from the undercarriages of unloading vehicles, which may track the waste along the public roadway as they exit the facility. The compacted waste already on the face helps trap litter.
- When top discharging, refuse will be placed as usual and spread downward. When possible, the exposed face of the fill will be oriented away from the wind for the same reasons bottom discharging is oriented into the wind.
- Compacted waste will be covered as soon as practical to minimize blowing litter.

4.6.1.2 Control of Litter with Litter Fences

Litter that escapes from the working face of the fill area may be controlled by litter fences. Movable/permanent fences may be positioned near the working face as wind and fill

operations change. Permanent litter fences may also be placed around the perimeter of the fill areas for additional litter control.

4.6.2 Buffer Maintenance

Litter may occur even with proper litter controls. The following clean-up and maintenance procedures will be followed on a routine basis to maintain the buffer areas:

- Litter clean-up from along fences and buffer vegetation: Litter will be removed from and along litter fences and vegetation as necessary. Litter will not be allowed to accumulate in buffer vegetation.
- Clean-up along on-site roads and buffer areas: Litter occurring along on-site roads and in buffers will not be allowed to accumulate. This litter will be cleaned up as necessary.
- Clean-up at entrance area and entrance road: The site entrance and the road leading to the entrance (¼ mile each direction) will be inspected daily. These locations will be cleared of litter as necessary.
- Vegetation will be maintained and supplemented as necessary in order to provide an adequate visual screen.

4.6.3 Dust Control

Dust control will be practiced during operation of the landfill by the application of water sprays from a water tank truck. The frequency of application of water for dust control will depend on site conditions and specific operation being performed. When necessary, water will be sprinkled on all heavily used roads. The main access road will be regularly sprayed to control dust when required.

4.6.4 Vector Control

Vectors, animals, or insects will be minimized. Maintaining the working face as narrow as possible, providing initial cover on exposed areas, and eliminating water ponding are the primary safeguards against vector problems. Well-compacted wastes and cover material effectively prevent vectors emerging from or burrowing into wastes. Inspections of the waste tire storage area will be performed as necessary to monitor the area for the presence of rodents and mosquitoes.

If problems with rodents or insects occur, monitoring and surveys for vectors will be conducted to verify the effectiveness or identify and implement improved vector control practices, including the use of traps and insecticides.

4.6.5 Noise Control

All equipment powered by internal combustion engines will have mufflers installed and maintained in good repair. Screening berms will also be used, when possible, to deflect sound upward.

4.6.6 Recordkeeping

An operating record will be maintained at the site including all records, reports, analytical results, demonstrations and notifications; any construction, operation, and closure permits, including all modifications to those permits, issued by the FDEP, along with the engineering drawings and supporting information; as well as training verifications. This record will be kept with the operation plan at or near the landfill facility, or in an alternate location designated in the operating permit which is readily accessible to landfill operators. The operating record will be available for inspection at reasonable times by the FDEP and maintained for the design period of the landfill.

As part of the operating record, waste records will be maintained. These waste records will indicate the amount of each type of solid waste received each day, and the reporting and record keeping procedures outlined in the Waste Tire Storage and Processing Plan (**Attachment C**), LFGTE Facility Operation Plan (**Attachment D**), and Waste Solidification Operation Plan (**Attachment F**). Waste reports, summarizing the waste records will be compiled monthly and copies will be provided to FDEP annually. The waste records will be kept with the operation plan at the landfill and will be available for inspection at reasonable times by the FDEP. Weight receipt records will be kept for a minimum of five years.

The operating record will also include the information and observations resulting from each random inspection of a waste load conducted as part of the load checking program as described previously in Section 2.2.2.

The operating record will also include:

- the quantities of leachate collected by the primary leachate collection and removal system, and the secondary leachate detection and removal system, in gallons per day; and
- a record of the daily precipitation at the landfill based on the rain gauge installed, operated and maintained at the landfill.

This data will be used to calculate the monthly leachate generation rates expressed as a percentage of the monthly precipitation.

In addition, the operating record will also include the following:

- records of all information used to develop or support the permit applications and any supplemental information required;
- records of all monthly information, including calibration and maintenance records, and water quality records; and
- an annual estimate of the remaining life and capacity in cubic yards of the existing, constructed landfill and remaining life and capacity of other permitted areas not yet constructed. This estimate will be reported annually to FDEP.

The operating records will be maintained at the landfill throughout the design life of the landfill. Records that are more than five years old which are required to be retained may be archived, provided that the landfill operator can retrieve them for inspection within seven days.

5 EMERGENCY CONTINGENCY PLAN

5.1 Introduction

This section identifies a set of unplanned circumstances that may occur at the landfill. If handled correctly, the damage or impacts from these problems can be minimized. This section presents procedures to follow for dealing with problems as they occur. Operating personnel will become familiar with the procedures in order to prevent environmental contamination or damage to landfill facilities.

The entrance to the facility allows emergency vehicles immediate access to the landfill by police, fire, and ambulance.

Attachment G presents a list of individuals responsible for implementation of this Emergency Contingency Plan, and facility and emergency response agencies to contact. This list will be posted near all telephones on-site to provide "ready" access to emergency response agencies.

Within 24-hours, FDEP, Central District, shall be notified of any fire or other emergency which poses an unanticipated threat to the public health or the environment. The notification can be made by telephone or e-mail at the contact information listed in **Attachment G**. ~~Within two weeks of any emergency, the operator of the site shall submit to the Department a written report on the emergency. This report shall describe the origins of the emergency, the actions that were taken to deal with the emergency, the results of the actions that were taken, and an analysis of the success or failure of the actions.~~

This plan is organized by subsection and contains specific plans to address each type of occurrence listed below:

- fire
- accident or injury
- release of contamination to environment
- hazardous waste
- uncooperative customers
- inclement weather
- problems with the leachate collection and leachate removal systems

5.2 Fire Control Plan

The procedures below will be followed in the event of a fire at the facility. Additional fire prevention measures for the waste tire storage and processing operations are presented in Section 6 of the Waste Tire Storage and Processing Plan provided in **Attachment C**.

5.2.1 When Fire Occurs

The following procedures will be followed in the event of a fire at the facility:

- extinguish small fires with fire extinguisher or smother with soil - do not remain near large fires or explosive materials;
- determine location, extent, type, and, if possible, cause of fire or explosion;
- notify on-site personnel and implement safety and fire control procedures;
- if the fire is located at the waste tire storage and processing area, determine if there is a possibility of discharge of oily materials generated by burning tires. If so, implement measures to contain the oily materials within the storage area (i.e., blocking the storm water discharge pipe at the storage pad and installing absorbent sock type materials;
- notify Landfill Site ~~Manager~~Management if the fire cannot be immediately controlled;
- notify fire department if necessary. Clearly state:
  - location of landfill,
  - location of fire or explosion in landfill,
  - extent of fire or explosion,
  - type of fire or explosion,
  - actions now being taken, and
  - injuries;
- notify rescue squad, if necessary;
- notify health care facility, if necessary;
- notify sheriff, if necessary; and
- notify cleanup company for oily material generated at waste tire storage area, if necessary.

5.2.2 "Hot Load" Procedures

In the unlikely event that a "hot load" is not identified before entrance into the facility, the following procedures are implemented:

- the truck carrying the "hot load" is to be directed to discharge the load in the landfill but away from the working face and any exposed liner;
- the load is to be placed on top of intermediate cover which will provide sufficient protection between the "hot load" and the underlying waste;
- soil will be spread over the load to smother the "hot load"; and
- the "hot load" will be monitored until there is no evidence of smoldering or high temperatures.

At the end of the day or when appropriate, the load will be worked into the active working face. Areas where "hot loads" are extinguished varies depending on the location of the working face, but will always be away from the working face and any exposed liner.

5.2.3 Fire Extinguishers and First Aid Kits

Fire extinguishers and first aid kits will be installed in the following locations:

- office building/ticket house/weigh station/maintenance shop
- selected on-site vehicles and equipment
- waste tires storage ~~and processing~~ location

5.3 Accident or Injury

5.3.1 When an Injury Occurs

When an injury occurs, the following procedures will be implemented:

- shut down equipment in the immediate vicinity as is appropriate;
- determine extent of injuries (location, seriousness);
- if injuries are minor, administer First Aid, if trained, and notify Landfill Site Management;
- if injuries are serious, contact phone rescue squad (911) and provide the following:
  - clearly state location, and
  - describe injuries;

- if victim is not breathing and has a pulse, administer rescue breathing, if trained in CPR while waiting for emergency response (911);
- if not trained, immediately notify facility personnel certified in administering CPR/First Aid; and
- ~~apply pressure (compress) on wound to stop severe bleeding;~~
- ~~if victim is not breathing and has a pulse, administer rescue breathing, if trained;~~
- ~~if victim has no signs of circulation, administer CPR, if trained;~~
- ~~DO NOT MOVE VICTIM(S), unless:~~
  - ~~victim is still in danger, or~~
  - ~~victim can move self without great pain;~~
- ~~have someone phone rescue squad (911) unless injuries are clearly minor, and provide the following:~~
  - ~~clearly state location, and~~
  - ~~describe injuries;~~
- ~~stay with and keep victim(s) warm;~~
- notify Landfill Site ~~Manager~~Management~~;~~
- ~~transport victim(s) to a nearby medical center if:~~
- ~~injury is not serious, but requires medical attention (e.g., broken fingers, minor burns), and~~
- ~~victim(s) can move self without great pain;~~
- ~~notify sheriff, if necessary; and~~
- ~~apply first aid, as described below:~~
- ~~Landfill Employees - Minor accidents, such as bee stings, minor cuts, and small burns may be treated on site by an employee trained to administer first aid, and~~
- ~~Customers - First aid treatment will not be given to customers who have minor accidents at the site. However, personal information about the victim and a description of the accident will be obtained. The customer will be instructed to go to his/her doctor for examination and treatment, if required.~~.

5.3.2 Procedures After an Accident

The following procedures will be implemented in the event of an accident:

- Accident Investigation - The Landfill Site ~~Manager~~Management will make a complete investigation of the accident and events leading up to the time of the accident. The investigation will be started as soon as possible after the accident. All witnesses to the accident and persons involved in the accident will be interviewed.
- Determination of Cause - After the facts about the accident have been gathered, the Landfill Site ~~Manager~~Management will make a determination as to the cause(s) of the accident.
- Filing of Reports - The Landfill Site ~~Manager~~Management will complete and file the appropriate accident report forms.
- Corrective Steps - After a thorough investigation and determination of the cause(s) of an accident, the Landfill Site ~~Manager~~Management will take corrective steps so that the same type of accident will not re-occur. These corrective steps may take the form of repair of faulty equipment, installation of safety equipment, or instruction of personnel in safe operating procedures.
- Discussion with Employees - If it is determined that the cause(s) of the accident were related to employee work habits and that remedial safety instructions would be helpful, a meeting with site employees will be held. The accident and the corrective measures that will be taken will be discussed to prevent another accident. All employees will be instructed in proper safety procedures which should be followed.
- Follow-up - The Landfill Site ~~Manager~~Management will follow-up the corrective measures to make certain that proper safety precautions are being taken. All unsafe practices will be called to the attention of the employees.

5.4 Release of Contamination to Environment (Remedial Response)

5.4.1 Response

If contamination is released to the environment, the following procedures will be implemented:

- determine location, extent, type, and, if possible, cause of release (e.g., leachate, contaminated surface water, fuel spill, etc.);
- notify Landfill Site ~~Manager~~Management and implement safety and emergency response procedures; and
- ~~notify fire department. State clearly:~~
  - ~~location of landfill,~~
  - ~~location of contaminant release,~~
  - ~~extent of release,~~

- ~~type of release, and~~
- ~~actions now being taken; and~~
- notify proper authorities including the Florida "Hot Line".

A list of individuals and emergency response agencies to contact in the event of a release of contamination to the environment is provided in **Attachment G**.

5.4.2 Follow-Up

Unless the occurrence of a contaminant release is clearly due to very unusual circumstances, the Landfill Site ~~Manager~~Management will take corrective action to prevent recurrence of the release. The corrective action will be approved by the FDEP.

A report will be filed at the landfill by the Landfill Site ~~Manager~~Management in order to have further reference for inquiries by authorities or Omni personnel. The report will state:

- time/date of incident or its discovery
- type of release and effects
- source
- response and effectiveness
- agencies contacted
- corrective actions planned and scheduled

5.5 Hazardous or Other Unauthorized Materials

In the event that a substance known to be or suspected of being hazardous or other unauthorized material is dumped from any vehicle at the waste disposal facility, the actions described below will be taken immediately.

5.5.1 The Observer

5.5.1.1 Known or Suspected Hazardous Material

The Observer will take the following actions:

- Immediately report the incident to the Landfill Site ~~Manager~~Management or their designee.
- Avoid exposure to the substance in question. Stay upwind.
- Observe where the material was dumped, by whom (which vehicle), how much was dumped, whether the container appears sound or is leaking, and what the

substance looked and smelled like. Such observations will only be made with extreme caution and with the utmost regard for safety. DO NOT SNIFF OR TOUCH THE SUBSTANCE.

- Ask the individual who dumped the suspect load where the material was obtained.
- Isolate the approximate area of the suspected load before it is covered or mixed with wastes from other vehicles.
- Ask the driver of the vehicle to remain at the dumping point to ensure adequate vehicle identification. If the driver attempts to leave the discharge point, the observer should inform the Scale master and/or the Landfill Site ~~Manager~~Management.

5.5.1.2 Other Unauthorized Material

When other unauthorized waste is discovered by a heavy equipment operator while working at the active face area, the heavy equipment operator will either immediately stop operation of the heavy equipment and remove the unauthorized waste to an isolated area away from the active disposal operations or will radio for other site personnel to assist in removing the unauthorized waste to the isolated location. Operations will resume upon removal of the unauthorized waste. All unauthorized waste staged in the isolated location will be removed at the end of the day and temporarily stored in a designated onsite location for proper management/disposal. Unauthorized putrescible waste will be removed from the site within 48 hours and non-putrescible waste within 30 days.

5.5.2 Landfill Site ~~Manager~~Management

The Landfill Site ~~Manager~~Management will take the following actions if a known or hazardous material is discovered:

- Notify the FDEP.
- Record all pertinent facts regarding vehicle, including but not limited to: name of carting company; license plate number; where the load was obtained, if known; any visible evidence identifying the waste substance; and quantity and state of the substance (e.g., solid or liquid or if contained or loose).
- Maintain careful records of other costs incurred as a result of the dumping incident including, but not limited to, security costs in isolating the area, costs of removal (by contract or otherwise) of the suspect material, other costs of intermediate or ultimate treatment and/or disposal, and any other pertinent costs.
- Coordinate the removal of the unacceptable waste with the proper authorities.

5.5.3 Non-Discharged Load

If, before a waste load can be discharged (e.g., during inspection), it is discovered to contain, or is suspected of containing hazardous or other unauthorized materials, the same reporting procedures by the Observer and Landfill Site ~~Manager~~Management described for the discharged loads still apply, except concerning the discharging itself. In addition:

- inform the driver that his load is unacceptable and why;
- do not permit the load to be discharged; and
- suggest to the driver that he phone the FDEP to determine what he should do with the load.

5.6 Uncooperative Customers

The following actions will be implemented if a customer will not obey site rules or cooperate with site personnel.

- if the customer is creating a substantial problem involving their or other's safety, or significantly interfering with disposal operations, the Landfill Site ~~Manager~~Management will decide what action should be taken;
- if the customer is creating a minor nuisance and does not respond to polite suggestions, the employee will record the vehicle description and license number, and report the incident to the Landfill Site ~~Manager~~Management or home office management; and
- in a case where a customer causes or threatens to cause harm to landfill property or personnel, or otherwise interferes with safe operation of the landfill, the Landfill Site ~~Manager~~Management will contact the Sheriff.

5.7 Inclement Weather

5.7.1 Operation in Wet Weather

Problem	Solution
Saturated Unloading Area	1) Stockpile well-drained soil and apply as necessary. 2) Keep compactors off area; use dozers on unloading area. Unload and push refuse perpendicular to area. 3) Grade unloading area slightly to permit runoff.
Mud Carried Onto Access/Public Roads	1) Carefully scrape mud from pavement. 2) Provide clean rock dressing to internal access roads. If internal access roads are properly maintained, then dirt on

	the tires of disposal vehicles will be thrown off prior to reaching public access roads.
Cover is Wet/Unworkable	1) Maintain compacted, sloped stockpiles. 2) Use alternate cover approved by permit.

5.7.2 Preparation for Inclement Weather

The following preparations will be made for inclement weather:

- Wet weather areas will be prepared during periods of dry soil conditions. The wet weather area will be constructed close to an all weather road. Work on the wet weather area will be performed at various times when personnel and equipment are not required for other higher priority assignments.
- Access roads around the site will be maintained as necessary. These roads will be maintained in a serviceable condition with the use of the available equipment on site, such as grader, water truck, dozer and loader. Major repairs will be scheduled, if required.
- Drainage structures, ditches, and sediment control will be checked to ensure they are in good condition and free of significant debris prior to anticipated heavy rains.
- Temporary (Operations Area) Drainage Control - cover material, rock/sand, aggregate, and corrugated metal pipe, will be stockpiled for use in an emergency situation.
- When periods of high wind are predicted, litter fencing will be moved to close proximity of the working face and in the expected downwind direction. Cover may be required frequently during the day.

5.7.3 Preparation for Severe Weather or Hurricanes

In addition to the activities listed in Section 5.7.2 above, the following preparations will be made for severe weather or hurricanes. The following activities will be performed before and after the severe weather condition.

<u>72 hours prior to event</u>

- Pick up any lose debris from the site
- Call supplier to top off all on-site fuel tanks
- Assess inventory
- Test generators
- Make final supply run for non-perishable food items and drinking water

48 hours prior to event

- Continue with housekeeping efforts
- Perform administrative building flood prevention (to protect documents, equipments, furniture, etc.)
- Continue to evaluate situation pertaining to alternate sites
- Inform customers of expected service
- Supply written instructions to all employees (by Omni human resource department)
- Allow employees time to secure their respective belongings

24 hours prior to event

- Continue with housekeeping efforts
- Fit plywood shutters where necessary
- Distribute phone numbers to all employees
- Inform customers & corporations of possible cessation of operations

12 hours prior to event

- Secure the facility
- Fuel all vehicles and heavy equipment
- Park all track machines and rubber tire equipment close together (at ground level, i.e., off the top of the landfill)

Post - Event

- Key personnel (facility manager, operations manager, and certified operators) to assess site
- Contact all employees
- Initiate clean up/recovery of the facility
- Use of non-essential office staff for miscellaneous duties
- Resume limited or complete operations

5.8 Problems Affecting the Leachate Collection and Removal Systems

5.8.1 Interruption of Power Service to the Landfill

The ability to switch over to the secondary power supply allows the leachate collection and removal systems to continue operating with virtually no interruption. In the event that the main power service to the landfill is interrupted for more than 24 hours, the site will be switched over to the secondary power supply system consisting of diesel generators.

5.8.2 Interruption of Flow to Leachate Storage Facility

In the event that leachate flow to the leachate storage facility is temporarily interrupted, the leachate will be stored in the active cell(s). If the system cannot be restored within a reasonably acceptable period, leachate will be pumped directly from the sump to tanker trucks for off-site treatment.

5.8.3 Primary Leachate Sump Alarm Level Switch

An alarm level switch will be installed in one of the primary leachate sumps to notify the operator in the event that leachate levels in the sumps reach this level. The intent of the alarm is to notify the operator of a potential problem with the leachate pumps or piping. The alarm may indicate that either one or possibly both of the primary leachate pumps may have stopped working, the pumping capacity of both pumps has been exceeded, the storage containers are full, or there is possible blockage in the leachate transmission line. The operator shall observe the leachate pumps, pump control panels and flow meter to determine if either or both of the pumps are working. If at least one of the pumps is operational and there is no blockage in the leachate transmission line the operator will open the gate valve located in the secondary leachate manhole. By opening this valve leachate from the adjacent primary sump may flow into the secondary leachate sump for pumping. The operator shall record the flow meter reading on the secondary leachate sump pump prior to opening the gate valve. The operator shall also record the date and time of the occurrence and reason why the valve was opened (i.e., primary pumps failed, excessive leachate flow, etc.). The operator shall monitor the pumping of leachate to determine if the high leachate levels were associated with the pumps. The operator shall also examine the leachate transmission line manholes, piping and storage tanks assess any other potential problem. The leachate pumping system will require troubleshooting to determine the cause of the leachate build-up in the primary sumps and malfunctioning/inoperable pumps shall be replaced or repaired as soon as practical.

5.8.4 Managing Hazardous Leachate

In the event the leachate quality monitoring indicates the leachate is a hazardous material, the leachate will be managed in accordance with Chapter 62-730, F.A.C.

6 SAFETY PLAN

6.1 Emergency Procedures

- Posting of Procedures - All emergency procedures (Emergency Contingency Plan - Section 6 of this Operation Plan) will be updated as appropriate and after each emergency, if required. All emergency procedures will be posted in the Landfill Site ~~Manager~~Management's office, in conspicuous places at the site, and at the gate house.
- The name, location, and telephone number of the nearest doctors, medical treatment facilities, and ambulance services (contained in **Attachment G** of this plan) will be posted in the Landfill Site ~~Manager~~Management's office and all occupied buildings (i.e., maintenance building, gate house and office).
- Instructions on Procedures - All new personnel will be instructed on the emergency procedures used at the landfill. All employees will be informed of any changes in emergency procedures.
- Responsibility of Employee - It is the responsibility of every employee to know and remember their role in each emergency procedure at the site.

6.2 General Safety Practices

- Knowledge of Procedures - All employees at the landfill will know the proper procedures for reporting accidents, injuries, and fires.
- Posting of Information – Roadway limits within the landfill footprint will be clearly posted as necessary. Site speed limits will be clearly posted on the main access road. Direction of travel and location of curves will also be posted. The location of disposal areas will be clearly indicated.
- Site User Rules - Site user rules will be posted at the entrance to the landfill. Employees will watch for violations. Employees will explain rules to violators, stressing that the rules are for their protection. As a last resort, the Landfill Site ~~Manager~~Management will notify the County Sheriff's Office for further action.
- Discharging Loads - For safe operations, the discharging area will be only slightly sloped (for drainage) at all times and equipment maintained in good repair.
- Safety Devices - Proper safety devices, such as roll-over protective cabs, will be installed on all equipment and kept in good repair.
- Fire Extinguishers - Fire extinguishers will be provided in buildings and on equipment. Each extinguisher will be appropriate for the types of fires likely and

they should be checked or serviced as appropriate. Discharged (even partially) fire extinguishers will be removed and replaced with fully charged units.

- First Aid Kits – First aid kits will be maintained in the main office building and in select site vehicles. An inventory of the first aid supplies should be maintained in order to re-supply the first aid kits when items used.
- Safety Meetings - Safety meetings will be regularly scheduled. Situations that can cause accidents and ways to prevent them will be discussed. Also, the effectiveness of corrective actions following accidents at the site will be discussed.
- NO SMOKING will be allowed within the landfill area or near fuel storage facilities.

6.3 Safety Equipment

Certain safety equipment is specified for equipment operator protection. It is the responsibility of every employee to ensure that their safety equipment is in good condition. All employees are to use their safety equipment at appropriate times. The safety equipment recommended for equipment operators is listed in Table 4.

6.4 Site User Rules

The following set of rules will be observed at the landfill.

- No Smoking - Users will not smoke on the site.
- Children and Pets in Vehicles - Individuals (children and pets) not involved in unloading refuse will remain in the vehicle.
- Persons Unloading to Remain Near Vehicle - Persons unloading will remain within 10 ft (3 m) of their vehicle at all times.
- No one will be allowed to ride on the outside of a vehicle while on site.
- Discharge Waste Behind Vehicle - Whenever possible, waste will be discharged immediately behind the unloading vehicle.
- Unloading - No unloading by non-mechanized trucks or passenger cars is to be done using rapid acceleration or deceleration of the vehicle.
- Keep Tools in Vehicle - Tools, removable tailgates, sideboards, wheelbarrows, ladders, and tarps will be kept in, on, or under the vehicles being unloaded to prevent damage to other vehicles or site equipment.

- Speed Limit - The posted speed limit within the landfill site will be enforced. Operating personnel will direct users to further reduce their speed when justified by site conditions.
- No Scavenging - Scavenging is not permitted at the landfill site.
- No Shooting - Firearms are not permitted at the landfill site.
- No Explosives - Explosives are not permitted at the landfill site.

7 ~~FINAL~~ CLOSURE PLAN

7.1 Introduction

The purpose of this Closure Plan is to describe the general aspects of the landfill closure design for the JED facility. In general, the JED facility will be closed as sections of the landfill reach final design elevations (e.g. close-as-you-go) to minimize leachate generation in the landfill. The remainder of this Closure Plan describes (i) the final cover system ~~components~~ design (Section 7.2); (ii)~~.~~ surface water drainage system (Section 7.3) ~~Seeding and planting requirements are described in Section 7.3.~~; (iii) final cover system components; and (iv) ~~E~~erosion minimization activities ~~are described in Section 7.4. The final cover drainage system is described in Section 7.5~~ (Section 7.4).

7.2 Final Cover System Design

The final cover system will include 3H:1V side slopes (between benches) with 15-ft wide benches every 40 vertical feet (at elevations 138, 178, 218, 258, and 298 feet, NGVD) and the top slopes will be graded at 5 percent.

7.3 Surface-Water Drainage System

Drainage swales are incorporated in the final cover system on the top and on the side slopes of the landfill. The drainage swales will convey water to the downdrains. The downdrains will convey the storm water runoff to the storm water retention basins at the toe of the landfill. The downdrains consist of corrugated HDPE pipes that tie into energy dissipater/junction boxes located at the toe of the waste slope.

As required, the swales, downchutes, culverts, and perimeter ditches will be maintained on a regular basis. Significant sediment and debris, which has accumulated in the swales, culverts, and perimeter ditches will be removed to facilitate flow and prevent overflow. Significant sediment and debris is considered any amount that impedes flow in the swale or any buildup greater than 0.5 feet.

~~7.2~~7.4 Final Cover System Components

The cross section of the final cover system on the top slopes of the landfill is shown in the permit drawings and consists of, from top to bottom:

- a 0.5-ft (0.15-m) thick vegetative layer;
- a 1.5-ft (0.45-m) thick vegetative support layer;
- a 40-mil (1-mm) thick polyethylene (PE) geomembrane; and

- a 1-ft (0.3-m) thick intermediate cover layer.

The cross section of the final cover system on the side slopes of the landfill is shown in the permit drawings and consists of, from top to bottom:

- 0.5-ft (0.15-m) thick vegetative layer;
- a 1.5-ft (0.45-m) thick vegetative cover layer;
- a geocomposite drainage layer;
- a 40-mil (1-mm) thick PE geomembrane; and
- a 1-ft (0.3-m) thick intermediate cover layer.

The final cover system incorporates a geomembrane, which significantly reduces infiltration into the landfill cells. The grades of the final cover system are 3H:1V on the side slopes between benches and 5.0 percent on the top slopes.

7.4.1 Vegetation

The surface of the final cover system will be vegetated either by seeding or sodding. The grass seed or sod will be Bahia, which has a high tolerance to drought. The contractor may use an alternate grass seed contingent upon proof that the grass is drought-resistant. The minimum requirements of the grass seed and sod are presented in the Technical Specifications on file with FDEP.

7.4.2 Vegetative and Cap Protective Layer

The upper 6 inches of the final cover system will consist of loosely placed vegetative layer and will be vegetated to minimize erosion. The cap protective layer below the vegetative layer will consist of 18 inches of on-site soil (or approved equal). The cap protective layer will be compacted in the upper 6 inches during construction to inhibit root penetration into the drainage layer underlying the cap protective layer on the side slopes.

7.4.3 Geocomposite Drainage Layer

A geocomposite drainage layer consisting of a geotextile filter, a geonet drainage layer, and a geotextile friction layer will be placed beneath the cap protective layer on the 3H:1V side slopes. The geotextile filter, the geonet drainage layer, and the geotextile friction layer are bonded together to form the geocomposite drainage layer. The function of the proposed geotextile filter is to prevent soil particles of the overlying cap protective layer from penetrating and clogging the underlying geonet drainage layer. The purpose of the drainage layer is to remove the storm water reaching the geonet and to minimize the potential of pore water pressure build-up in the overlying cap protective layer. The

purpose of the geotextile friction layer is to increase the interface friction between the geomembrane and the geonet and thereby increase the stability of the final cover system.

7.4.4 Geomembrane

A geomembrane is proposed as a component of the final cover system to reduce infiltration of the storm water through the final cover system into the waste. The specified geomembrane is a 40-mil thick textured polyethylene geomembrane on the 3H:1V side slopes and a smooth polyethylene geomembrane on the 5 percent top deck surface. The texturing is necessary to increase the stability of the final cover system. Specified property values for the final cover geomembrane are provided in the Technical Specifications on file with FDEP. The specified geomembrane meets the requirements of Section 62-701.600(3)(g), FAC.

~~7.3~~7.5 ~~Seeding and Planting~~Erosion Minimization

Erosion of the final cover system will be minimized by final cover swales. The swales will intercept sheet flow from the final cover system. The final cover swales will direct the collected surface-water runoff to downchutes and the perimeter swale.

A vegetative cover will be placed on the final cover slopes of the landfill as described in Section 7.4.2. This vegetative cover will minimize erosion and reduce soil loss from the final cover system. The final cover system will be periodically inspected and erosion damage or vegetative stress observed during these inspections will be repaired before significant erosion has a chance to develop.

An initial watering schedule will be developed at the time of closure, and will be dependent on whether the landfill is closed in the dry season or the rainy season. The grass will be watered and fertilized, as necessary, to ensure continued growth.

~~A vegetative cover will be established for the JED facility in order to minimize erosion on the final cover. Grass will be propagated by hydroseeding, sodding or by other equivalent method in order to promote vegetative growth on the slopes of the final cover as construction of the cover progresses.~~

~~An initial watering schedule will be developed at the time of closure, and will be dependent on whether the landfill is closed in the dry season or the rainy season. The grass will be watered and fertilized, as necessary, to ensure continued growth.~~

~~7.4 Erosion Minimization~~

~~Erosion of the final cover system will be minimized by final cover swales. The swales will intercept sheet flow from the final cover system. The final cover swales will direct the collected surface-water runoff to downchutes and the perimeter swale.~~

~~A vegetative cover will be placed on the final cover slopes of the landfill as described in Section 7.3. This vegetative cover will minimize erosion and reduce soil loss from the final cover system. The final cover system will be periodically inspected and erosion damage or vegetative stress observed during these inspections will be repaired before significant erosion has a chance to develop.~~

~~7.5 Drainage~~

~~Drainage swales are proposed on the final cover system to intercept the surface water runoff from higher elevations and direct the water via downchutes to the perimeter ditches around the landfill perimeter. The surface water flow direction on top of the final cover is illustrated in the permit drawings.~~

~~As required, the swales, downchutes, culverts, and perimeter ditches will be maintained on a regular basis. Significant sediment and debris, which has accumulated in the swales, culverts, and perimeter ditches will be removed to facilitate flow and prevent overflow. Significant sediment and debris is considered any amount that impedes flow in the swale or any buildup greater than 0.5 feet.~~

8 BORROW AREA OPERATIONS

8.1 Overview

Fill material needed for the JED facility construction and daily operations will be borrowed from excavations, or pits, located in the areas indicated on the Permit Drawings. Prior to any borrow activities in the location designated as Borrow Area A, the storm water management berm, in its interim configuration, will be constructed and vegetated. The outside toe of this berm will be constructed no closer than 25 feet to the nearest wetland boundary. In subsequent stages of the landfill development, the storm water management berm around Borrow Area A will be raised to its final height prior to the edge of the borrow excavation getting closer than 250 feet from the inside toe of the berm.

The development of Borrow Area C will be undertaken in future phases of the JED facility development. It is anticipated that this borrow area will be developed in a manner similar to Borrow Area A.

Two methods are proposed for excavating fill material from the borrow areas. These methods include: (i) mechanical excavation without dewatering (i.e. wet excavation) and/or (ii) dewatering the borrow area (i.e. dry excavation) and excavating fill using conventional earth moving equipment. Both methods are to be implemented in a manner which will minimize impacts to adjacent wetlands.

8.2 Wet Excavation

Wet excavation is expected to be the primary method of borrow area operation during construction at the JED facility. This method of borrow area operation will require removal of soil materials from the pit without first dewatering the pit. Initially, the area will be cleared and grubbed and the topmost organic soil layers will be stripped and used for construction of the perimeter berm or stockpiled for future use. Next, typical excavation equipment such as a dragline or backhoe excavator will be positioned to remove soils and temporarily stockpile the material on the surface adjacent to the excavation. The slope of the temporary stockpile area will be maintained to channel excess water back to the open excavation or to allow infiltration. A bucket-loader or other suitable equipment will maintain the temporary stockpile and will load trucks or pans used to haul the material to the area of current construction or to designated stockpile areas.

All borrow areas will be developed from the center of the designated area towards the outer perimeter. The excavation equipment will continuously move around the perimeter of the borrow area excavation. After digging to the equipment's optimum depth, the equipment will move in a clockwise or counterclockwise direction to continually expand the pit until it reaches the final planned dimensions.

8.3 Dry Excavation

Dry excavation will be the alternative method of borrow area operation at the JED facility. This method of borrow area operation requires dewatering of the borrow area prior to removal of soil materials. Initially, the borrow area will be cleared and grubbed and the topmost organic soil layers will be stripped and used for construction of the perimeter berm or stockpiled for future use. Next, a ditch recharge system will be constructed between the area to be dewatered and adjacent wetland areas, which may be affected by the dewatering activities. The purpose of the ditch recharge system is to maintain a ground water level between the dewatered pit and the adjacent wetland, which will prevent detrimental affects to the wetland area. It is anticipated that Omni may be required to obtain a water use permit from the South Florida Water Management District for the dewatering system if daily pumping quantities exceed 100,000 gallons. In conjunction with the water use permit application, a detailed layout of the recharge ditches, sequence of developing the dry pit, and location of pumps will be prepared.

The groundwater will be lowered in the borrow pit as the soil is excavated to provide trafficability in the excavation for equipment performing the excavation. It is anticipated that earth will be moved using self-loading pans, dump tucks loaded by backhoe, or other suitable heavy equipment, which will cycle through the borrow area to load and to the construction or stockpile site for unloading. As the excavation is progressively deepened, the ground water elevation in the excavation will be lowered ahead of the excavation bottom elevation. All water taken from the pit will be deposited in the recharge ditches, where it will maintain the ground water level in adjacent wetlands.

TABLE 1
PERSONNEL REQUIREMENTS
FOR RECEIPT OF UP TO 3,000 TONS OF WASTE PER DAY*
JED FACILITY

Personnel Classification	Total Number of Personnel Employed	Minimum Number of Personnel Required for Receipt of Waste
Office Administrator	1	0
Scale master	1	1
Landfill Equipment Operator (s)/Spotter(s)**	8	2
Landfill Site Manager/Operator***	1	1

Notes:
* For receipt of volumes greater than 3,000 tons of waste per day, site staffing will be increased accordingly.
** Equipment Operators will perform spotting duties while operating heavy equipment
*** –Random load waste inspector or designee

TABLE 2
HEAVY EQUIPMENT REQUIREMENTS(1)
FOR RECEIPT OF UP TO 3,000 TONS OF WASTE PER DAY(2)
JED FACILITY

Equipment On-site	Quantities
Chevy 1500 1/2 ton pick-up	1
Caterpillar 12G Motor Grader	1
CAT 613 Water Wagon	
6" water pumps	1
4”water pumps	1
Caterpillar D6 Dozer	1
Volvo Articulating Hauling Truck	2
Caterpillar 330 Excavator	1
Caterpillar 836 compactor	2

Note:
(1) Equipment manufacturers' names are provided to indicate the approximate size and/or capacity of the equipment. The specific manufacturer for this equipment is not required but similar size is.
(2) For receipt of volumes greater than 3,000 tons of waste per day, heavy equipment requirements will be increased accordingly.

TABLE 3
HEAVY EQUIPMENT RENTAL COMPANIES

JED FACILITY

Name of Rental Business	Phone Number
United Rental	(407) 332 – 1470
Lundquist Excavating	(407) 847 – 9419

TABLE 4
OPERATOR PROTECTIVE EQUIPMENT

JED FACILITY

Equipment: Each piece of heavy equipment should be provided with:

Safety restraint belt
Roll-over bars
Backup warning system
Fire extinguisher

Personal: Equipment operators should have the following personal protective clothing and accessories:

Ear muffs or ear plugs
Safety glasses or face shields
Rubber or leather (steel toe, shank) boots
Work gloves
Hard hats

ATTACHMENT A

TRAINING PLAN

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Castro, Joao M
Title:	Equipment Operator
Company:	Waste Services, Inc.
Address:	1501 Omni Way Saint Cloud, FL 34773
Phone:	Phone: (407) 891-3720 ext: 226

Class I, III Landfill Operator

Status: **Current**

- Initial Date: 11/17/2006
- Current period: 11/17/2015 - 11/16/2018 Hours needed before 11/16/2018: 16

Period: **11/17/2006 - 11/16/2009 - (Initial Period)**

Course	Course Name	Provider	Completion Date	Hours
195	24-Hour Initial Training Course for Landfill Operators (Class I, II, III and C&D Sites)	University of Florida - TREEO	11/17/2006	Initial
203	8-Hour Initial Training Course for Spotters at Class I, II, III Facilities, Waste Processing Facilities and C&D Facilities	Kohl Consulting, Inc.	01/07/2009	8
532	Paint Filter Test - 1 Hour	Kohl Consulting, Inc.	01/08/2009	1
406	The Sense of Smell, Odor, Theory and Odor Control	Kohl Consulting, Inc.	06/30/2009	4
484	Fires at Landfills and Other Solid Waste Management Facilities	Kohl Consulting, Inc.	06/30/2009	4
			Total:	17
			Hours Needed:	0

Period: **11/17/2009 - 11/16/2012**

Course	Course Name	Provider	Completion Date	Hours
170	Health & Safety Issues for Solid Waste Management Facilities	Kohl Consulting, Inc.	09/30/2010	8
673	Wildlife and Plants at Florida Solid Waste Management Facilities	Kohl Consulting, Inc.	12/21/2011	4
674	Measurement and Improvement of Performance at Solid Waste Management Facilities ("If you Can't Measure it, You Can't Manage It")	Kohl Consulting, Inc.	12/21/2011	4
203	8-Hour Initial Training Course for Spotters at Class I, II, III Facilities, Waste Processing Facilities and C&D Facilities	Kohl Consulting, Inc.	01/24/2012	8
			Total:	24
			Hours Needed:	0

Period: **11/17/2012 - 11/16/2015**

Course	Course Name	Provider	Completion Date	Hours
703	16-Hour Landfill Operator Refresher Course	Kohl Consulting, Inc.	08/20/2015	16
			Total:	16
			Hours Needed:	0

Period: **11/17/2015 - 11/16/2018**

Course	Course Name	Provider	Completion Date	Hours
No courses have been taken yet during this time period.				
			Total:	0
			Hours Needed:	16

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Freeman, Brian
Title:	
Company:	Progressive Waste Solutions
Address:	1501 Omni Way Saint Cloud, FL 34773
Phone:	Phone:

Class I, III Landfill Operator

Status: **Current**

- Initial Date: 07/16/2015
- Current period: 07/16/2015 - 07/15/2018 - (Initial Period) Hours needed before 07/15/2018: 16

Period: **07/16/2015 - 07/15/2018 - (Initial Period)**

Course	Course Name	Provider	Completion Date	Hours
608	24-Hour Initial Training Course for Landfill Operators (Class I, II, III and C&D Sites)	Kohl Consulting, Inc.	07/16/2015	Initial
			Total:	0
			Hours Needed:	16

Status: **Current**

- Continuing Education (CE) Minimum 3 Year Requirements:

16 hours	Class I II III Landfill / Construction and Demolition Debris
8 hours	Transfer Station / Material Recovery Facility
4 hours	Spotter

- **Expired:** If you have exceeded the 3 year training period without achieving the minimum continuing education, you must start over by taking an approved initial course and pass exam. There is not a grace period.
- Initial hours are not counted toward continuing education.
- An Initial course can be taken as a continuing education course only if it was not taken as the operator's or spotter's initial training. No CE credit will be given for the same course taken within the same 3-year period.
- If you have any questions, please contact djenkins@treeo.ufl.edu or mkeilhauer@treeo.ufl.edu or call (352) 392-9570 extensions 227 or 230.

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Morales - Hernandez, Luis
Title:	
Company:	Waste Services, Inc.
Address:	1501 Omni Way St. Cloud, FL 34773
Phone:	Phone: 407 891 3720

Class I, III Landfill Operator

Status: **Current**

- Initial Date: 08/28/2014
- Current period: 08/28/2014 - 08/27/2017 - (Initial Period) Hours needed before 08/27/2017: 16

Period: **08/28/2014 - 08/27/2017 - (Initial Period)**

Course	Course Name	Provider	Completion Date	Hours
608	24-Hour Initial Training Course for Landfill Operators (Class I, II, III and C&D Sites)	Kohl Consulting, Inc.	08/28/2014	Initial
			Total:	0
			Hours Needed:	16

Status: **Current**

- Continuing Education (CE) Minimum 3 Year Requirements:

16 hours	Class I II III Landfill / Construction and Demolition Debris
8 hours	Transfer Station / Material Recovery Facility
4 hours	Spotter

- **Expired:** If you have exceeded the 3 year training period without achieving the minimum continuing education, you must start over by taking an approved initial course and pass exam. There is not a grace period.
- Initial hours are not counted toward continuing education.
- An Initial course can be taken as a continuing education course only if it was not taken as the operator's or spotter's initial training. No CE credit will be given for the same course taken within the same 3-year period.
- If you have any questions, please contact djenkins@treeo.ufl.edu or mkeilhauer@treeo.ufl.edu or call (352) 392-9570 extensions 227 or 230.

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Weeks, Leslie
Title:	
Company:	Waste Services, Inc.
Address:	1501 Omni Way St. Cloud, FL 34773
Phone:	Phone: 407 891 3720

Class I, III Landfill Operator

Status: **Current**

- Initial Date: 08/28/2014
- Current period: 08/28/2014 - 08/27/2017 - (Initial Period) Hours needed before 08/27/2017: 16

Period: **08/28/2014 - 08/27/2017 - (Initial Period)**

Course	Course Name	Provider	Completion Date	Hours
608	24-Hour Initial Training Course for Landfill Operators (Class I, II, III and C&D Sites)	Kohl Consulting, Inc.	08/28/2014	Initial
			Total:	0
			Hours Needed:	16

Status: **Current**

- Continuing Education (CE) Minimum 3 Year Requirements:

16 hours	Class I II III Landfill / Construction and Demolition Debris
8 hours	Transfer Station / Material Recovery Facility
4 hours	Spotter

- **Expired:** If you have exceeded the 3 year training period without achieving the minimum continuing education, you must start over by taking an approved initial course and pass exam. There is not a grace period.
- Initial hours are not counted toward continuing education.
- An Initial course can be taken as a continuing education course only if it was not taken as the operator's or spotter's initial training. No CE credit will be given for the same course taken within the same 3-year period.
- If you have any questions, please contact djenkins@treeo.ufl.edu or mkeilhauer@treeo.ufl.edu or call (352) 392-9570 extensions 227 or 230.

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Kahler, Ronnie
Title:	
Company:	Progressive Waste Solutions
Address:	1501 Omni Way Saint Cloud, FL 34773
Phone:	Phone:

Class I, III Landfill Operator

Status: **Current**

- Initial Date: 07/16/2015
- Current period: 07/16/2015 - 07/15/2018 - (Initial Period) Hours needed before 07/15/2018: 16

Period: **07/16/2015 - 07/15/2018 - (Initial Period)**

Course	Course Name	Provider	Completion Date	Hours
608	24-Hour Initial Training Course for Landfill Operators (Class I, II, III and C&D Sites)	Kohl Consulting, Inc.	07/16/2015	Initial
			Total:	0
			Hours Needed:	16

Status: **Current**

- Continuing Education (CE) Minimum 3 Year Requirements:

16 hours	Class I II III Landfill / Construction and Demolition Debris
8 hours	Transfer Station / Material Recovery Facility
4 hours	Spotter

- **Expired:** If you have exceeded the 3 year training period without achieving the minimum continuing education, you must start over by taking an approved initial course and pass exam. There is not a grace period.
- Initial hours are not counted toward continuing education.
- An Initial course can be taken as a continuing education course only if it was not taken as the operator's or spotter's initial training. No CE credit will be given for the same course taken within the same 3-year period.
- If you have any questions, please contact djenkins@treeo.ufl.edu or mkeilhauer@treeo.ufl.edu or call (352) 392-9570 extensions 227 or 230.

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Perez, Antonio
Title:	
Company:	Waste Services, Inc.
Address:	1501 Omni Way Saint Cloud, FL 34773
Phone:	Phone: (407) 891-3720 ext: 226

Class I, III Landfill Operator

Status: **Current**

- Initial Date: 01/11/2013
- Current period: 01/11/2016 - 01/10/2019 Hours needed before 01/10/2019: 16

Period: **01/11/2013 - 01/10/2016 - (Initial Period)**

Course	Course Name	Provider	Completion Date	Hours
608	24-Hour Initial Training Course for Landfill Operators (Class I, II, III and C&D Sites)	Kohl Consulting, Inc.	01/11/2013	Initial
703	16-Hour Landfill Operator Refresher Course	Kohl Consulting, Inc.	08/20/2015	16
			Total:	16
			Hours Needed:	0

Period: **01/11/2016 - 01/10/2019**

Course	Course Name	Provider	Completion Date	Hours
No courses have been taken yet during this time period.				
			Total:	0
			Hours Needed:	16

Status: **Current**

- Continuing Education (CE) Minimum 3 Year Requirements:

16 hours	Class I II III Landfill / Construction and Demolition Debris
8 hours	Transfer Station / Material Recovery Facility
4 hours	Spotter

- **Expired:** If you have exceeded the 3 year training period without achieving the minimum continuing education, you must start over by taking an approved initial course and pass exam. There is not a grace period.
- Initial hours are not counted toward continuing education.
- An Initial course can be taken as a continuing education course only if it was not taken as the operator's or spotter's initial training. No CE credit will be given for the same course taken within the same 3-year period.
- If you have any questions, please contact djenkins@treeo.ufl.edu or mkeilhauer@treeo.ufl.edu or call (352) 392-9570 extensions 227 or 230.

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Hunter, Shannon
Title:	Operations Manager
Company:	Polk County Waste Resource Management
Address:	10 Environmental Loop S. Winter Haven, FL 33880
Phone:	Phone: (863) 284-4319

Spotter / Waste Screener

Status: **Current**

- Initial Date: 07/24/2013
- Current period: 07/24/2016 - 07/23/2019 Hours needed before 07/23/2019: 4

Period: **07/24/2013 - 07/23/2016 - (Initial Period)**

Course	Course Name	Provider	Completion Date	Hours
462	8-Hour Training Course for Spotters at Landfills, C&D Sites and Transfer Stations	University of Florida - TREEO	07/24/2013	Initial
720	Understanding Hazardous Waste Regulations in Solid Waste Operations and Recycling	University of Florida - TREEO	07/25/2013	4
			Total:	4
			Hours Needed:	0

Period: **07/24/2016 - 07/23/2019**

Course	Course Name	Provider	Completion Date	Hours
No courses have been taken yet during this time period.				
			Total:	0
			Hours Needed:	4

Status: **Current**

- Continuing Education (CE) Minimum 3 Year Requirements:

16 hours	Class I II III Landfill / Construction and Demolition Debris
8 hours	Transfer Station / Material Recovery Facility
4 hours	Spotter

- **Expired:** If you have exceeded the 3 year training period without achieving the minimum continuing education, you must start over by taking an approved initial course and pass exam. There is not a grace period.
- Initial hours are not counted toward continuing education.
- An Initial course can be taken as a continuing education course only if it was not taken as the operator's or spotter's initial training. No CE credit will be given for the same course taken within the same 3-year period.
- If you have any questions, please contact djenkins@treeo.ufl.edu or mkeilhauer@treeo.ufl.edu or call (352) 392-9570 extensions 227 or 230.

Florida DEP Solid Waste Management Facility Operator Courses

Name:	Smith, Karen
Title:	
Company:	Waste Services, Inc.
Address:	1501 Omni Way Saint Cloud, FL 34773
Phone:	Phone: (407) 891-3720 ext: 226

Class I, III Landfill Operator

Status: **Current**

- Initial Date: 01/11/2013
- Current period: 01/11/2016 - 01/10/2019 Hours needed before 01/10/2019: 16

Period: **01/11/2013 - 01/10/2016 - (Initial Period)**

Course	Course Name	Provider	Completion Date	Hours
608	24-Hour Initial Training Course for Landfill Operators (Class I, II, III and C&D Sites)	Kohl Consulting, Inc.	01/11/2013	Initial
703	16-Hour Landfill Operator Refresher Course	Kohl Consulting, Inc.	08/20/2015	16
			Total:	16
			Hours Needed:	0

Period: **01/11/2016 - 01/10/2019**

Course	Course Name	Provider	Completion Date	Hours
No courses have been taken yet during this time period.				
			Total:	0
			Hours Needed:	16

Status: **Current**

- Continuing Education (CE) Minimum 3 Year Requirements:

16 hours	Class I II III Landfill / Construction and Demolition Debris
8 hours	Transfer Station / Material Recovery Facility
4 hours	Spotter

- **Expired:** If you have exceeded the 3 year training period without achieving the minimum continuing education, you must start over by taking an approved initial course and pass exam. There is not a grace period.
- Initial hours are not counted toward continuing education.
- An Initial course can be taken as a continuing education course only if it was not taken as the operator's or spotter's initial training. No CE credit will be given for the same course taken within the same 3-year period.
- If you have any questions, please contact djenkins@treeo.ufl.edu or mkeilhauer@treeo.ufl.edu or call (352) 392-9570 extensions 227 or 230.

ATTACHMENT B

WASTE INSPECTION PLAN

INTRODUCTION

This plan specifically addresses the inspection of routine, Class I waste loads for the exclusion of hazardous or otherwise unauthorized materials. The procedures in this text are intended to apply to routine Class I waste loads until a suspected hazardous or otherwise unauthorized waste is identified.

WASTE INSPECTION PROCEDURES

Upon arrival at the landfill property, each and every load of waste is stopped at the scale house to be logged in and weighed by the scale master. Waste arriving outside of the landfill's operating hours will be turned away by a locked gate. The site is accessible only by the main gate.

Once logged in and weighed by the scale master, the truck drivers are asked to confirm that they are hauling routine Class I waste. If the driver identifies the load as routine Class I waste, then one of the following procedures are implemented:

A) Open Topped Municipal Waste Haulers

If a truck is verbally identified to the landfill employees as hauling Class I waste, the truck contents are visually inspected to confirm that the load appears to contain exclusively Class I waste. This inspection is usually performed by looking down from on top into the open topped load, once the truck is un-tarped, by means of an elevated platform or "gantry" located adjacent to the scales. The presence of very noticeable or suspicious odors may trigger further analysis.

If the waste appears to be acceptable **(i.e., does not contain visible quantities of anything other than routine Class I waste)**, then the truck is directed to the landfill active work face where it is visually inspected again by the spotter as it is unloaded and before it is spread and compacted. Any load discovered to contain potentially hazardous or otherwise unauthorized waste at this point is completely reloaded back into the waste truck and removed from the site. The rejected waste will not be authorized to re-enter the landfill site.

B) Class I Waste in Closed Containers

If a truck is verbally identified to the landfill employees as hauling Class I waste, but is not visually accessible for inspection at the gantry, the truck is forwarded to the active face of the landfill where its contents are inspected by the spotter as it is unloaded and before it is compacted or disposed. The inspection procedure at the active work face is identical to that described in the previous section. Any load discovered to contain potentially

hazardous or otherwise unauthorized waste at this point is completely reloaded back into the truck and removed from the site. The rejected waste will not be authorized to re-enter the landfill site.

RANDOM WASTE LOAD EXAMINATION

The Landfill Site ~~Manager~~Management will examine at least three random loads of waste each week. The waste trucks selected for examination will be directed to the active face where the load can be visually examined upon unloading. Information and observations resulting from each random inspection shall be recorded in writing and retained at the landfill for at least three years. The recorded information, signed by the inspector, will include, at a minimum:

- the date and time of the inspection;
- the names of the hauling firm and the driver of the vehicle;
- the vehicle license plate number;
- the source of the waste as stated by the driver; and
- observations made by the inspector during the examination.

HANDLING HAZARDOUS WASTE

If any suspect wastes or wastes which could potentially be regulated hazardous wastes are identified by random load checking, or are otherwise discovered to be improperly deposited at the landfill, the Landfill Site ~~Manager~~Management shall promptly 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 immediately be cordoned off from public access. If the generator or hauler cannot be identified, the Landfill Site ~~Manager~~Management will assure the cleanup, transportation, and disposal of the waste at a permitted hazardous waste management facility.

HAZARDOUS WASTE TRAINING

The Landfill Site ~~Manager~~Management, and all other staff who may be required to perform a waste inspection, will receive training in hazardous waste identification, as well as an evaluation of their knowledge and ability to effectively screen incoming waste according to this “Waste Inspection Plan”.

All new landfill employees will be teamed up with experienced personnel for at least one week upon commencement of work as an inspector in order to receive immediate on-the-job training.

NOTIFICATION OF UNACCEPTABLE WASTE LOADS

The rejection of waste, pursuant to this plan, will be recorded in writing and filed on site for a period of one year. The pertinent information concerning the rejection, such as truck license number, assumed contents, volume, and other relevant data, will be recorded on a LOAD REJECTION FORM. The Landfill Site ~~Manager~~Management will contact the generator, hauler, or other party responsible for shipping the waste to the landfill to determine the ~~identify of the~~ waste sources. The appropriate local officials will be notified by phone when the waste load is asked to leave the site and all pertinent information made available to them upon their request.

ATTACHMENT C

WASTE TIRE STORAGE AND PROCESSING PLAN

WASTE TIRE STORAGE AND PROCESSING PLAN

J.E.D. SOLID WASTE MANAGEMENT FACILITY

OMNI WASTE OF OSCEOLA COUNTY, LLC
1501 OMNI WAY
ST. CLOUD, FL

Original Prepared by:

15450 New Barn Road - Suite 304
Miami Lakes, FL 33014
Phone: (305) 728-7430

Revised by:

13101 Telecom Drive, Suite 120
Temple Terrace, Florida 33637

~~18 February 2010~~ 2 May 2017

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Sheet 1. Waste Tire Storage and Processing Area

Exhibit A: Calculation of Maximum Whole and Processed Tire Storage Volumes
Exhibit B: ~~Tire Processing Equipment Information~~ (Placeholder)

1. OVERVIEW

Waste tires and processed waste tires will be accepted and stored ~~and processed~~ at the J.E.D. Solid Waste Management Facility (Facility) as authorized under Chapter 62-711, Waste Tire Rule, Florida Administrative Code (FAC). Processed tires may be disposed of or used as initial cover at the Facility as authorized under Rule 62-711.400(3), FAC. Rule 62-711.400(3) allows waste tires that have been cut into sufficiently small parts to be disposed of, or used as initial cover, at a permitted Class I landfill as follows:

- For use as initial cover, a sufficiently small part means 70 percent of the waste tire material is cut into pieces of 4 square inches (sq. in.) or less and 100 percent of the waste tire material is 32 sq. in. or less.

- For purposes of disposal, a sufficiently small part means that the tire has been cut into at least eight substantially equal pieces.

Based on market conditions, the processed tires may also be transported to other authorized end users for other recycling uses or disposal at other permitted solid waste management facilities.

2. WASTE TIRE RECEIPT

Transporters of waste tires to the Facility will follow the typical site entrance procedures for processing of landfill customers. Upon completion of processing at the weigh scale, customers will be directed to the Waste Tire Storage and Processing (WTSP) Area and directed to offload at the designated storage location ~~by a Facility spotter~~. Weigh scale attendants will notify Facility personnel that a waste tire customer is in route to the WTSP Area. The location of the WTSP Area as shown on the attached Sheet 1 may change based on site conditions.

3. MAXIMUM WASTE TIRE STORAGE VOLUMES

In accordance with Rule 62-711.530(2), FAC, the maximum storage limits that will be set in a waste tire processing facility permit are:

- For the aggregate of whole waste tires, processed waste tires, and residuals, 60 times the daily through-put of the processing equipment being used; however, whole waste tires shall not exceed 30 times the daily through-put of the processing equipment being used; and

- For used tires, 10,000 used tires stored separately from other waste tires.

A summary of the maximum storage volumes and weights of whole waste tires, processed tires and residuals for the Facility is provided below. The maximum volumes and weights shown do not exceed the permitted volumes as allowed by the above Rule limits. Supporting calculations for the volumes shown are provided in Exhibit A.

Summary of Maximum Storage Volumes and Weights

One Storage Pile – Maximum Dimensions 50'W X 100'L X 10'H

Whole Waste Tires	27,800 tires	1,851 cy	313 tons

One Storage Pile – Maximum Dimensions 50'W X 100'L X10'H

Processed Tires	N/A	1,043 cy	313 tons

One 40-cy Roll-off Container

Residuals	N/A	40 cy	10 tons

Note: The maximum daily throughput is limited to 313 tons based on the storage area limits. The planned daily throughput is approximately 30 tons and the corresponding annual throughput is approximately 9,300 tons.

4. WASTE TIRE PROCESSING EQUIPMENT

~~The waste tire processing equipment used at the Facility will be a portable Saturn Model 72-44BGHT-300HP Shredder or similar equipment. The equipment will be stationed at the WTSP Area for use at the Facility or mobilized from other WSI owned facilities for use as needed. Information for the processing equipment is provided in Exhibit B.~~The Facility does not currently process waste tires on-site and only receives whole and processed waste tires which are temporarily stored in the WTSP Area. The Florida Department of Environmental Protection (FDEP) will be notified by the Facility if on-site waste tire processing activities are resumed. The Facility will also submit waste tire processing equipment information with the FDEP notification.

5. TIRE STORAGE

5.1 Whole Waste Tires

Whole waste tires received at the Facility will be stored on the ground in a pile within the WTSP Area as shown on Sheet 1 (attached). Whole tires will be stacked/piled within an area 50 ft wide by 100 ft long and no higher than 10 ft. ~~Tires will be~~The Facility ~~processed~~ will transport whole waste tires off site when the pile reaches the maximum storage volume or sooner. Whole waste tires may also be processed~~processing activities~~ on-site, but FDEP will be provided notice by the Facility prior to resuming waste tire processing activities. ~~Processed tires and any residuals will be stored as described in the following section.~~

5.2 Processed Waste Tires

~~Whole waste tires will be processed within the WTSP Area in the general location shown on Sheet 1. The processing equipment is equipped with conveyors that will allow the processed tires to be loaded directly into Facility haul trucks and transferred to the active disposal area for use as~~

~~initial/daily cover or direct disposal. If desired,~~ Processed waste tires may be temporarily stockpiled at the WTSP Area. If processed tires are stockpiled within the WTSP Area, they will be stockpiled in an area 50 ft wide by approximately 100 ft long, and no higher than 10 ft. ~~Stockpiled processed tires will be will be removed from the area within 72 hours. Any residuals~~

~~produced during processing will be stored in one 40 cy roll-off box located at the WTSP Area. The residuals will be transferred to the disposal area when the roll-off container is filled. Based on the maximum storage volumes and shredder equipment process rates, it is estimated mobilization of the equipment, processing, cleanup and demobilization can be completed in approximately two days. Existing Facility heavy equipment will be used to handle whole tires, processed tires and residual materials.~~

5.3 Waste Tire Storage Requirements and Prohibitions

To satisfy the outdoor storage requirements of Rule 62-711.540, FAC, whole waste tires and processed tires stored in the WTSP Area will meet the following:

Rule 62-711.540(1)(a)

A sign will be maintained at the Facility entrance stating operating hours, cost of disposal and Facility rules.

Rule 62-711.540(1)(b)

No operations involving the use of open flames will be conducted within 25 feet of a waste tire pile.

Rule 62-711.540(1)(c)

An attendant will be present when the Facility is open for business.

Rule 62-711.540(1)(d)

Fire protection services for the Facility are assured through notification to the local fire protection authorities. A fire safety survey will be conducted at least annually and the survey report will be included with the next quarterly report submitted to the FDEP.

Rule 62-711.540(1)(e)

Emergency preparedness procedures are included in the Facility's Operation Plan kept on file at the Facility. An additional copy of the Operation Plan is kept at ~~WSI's~~ Waste Connection, Inc's (WCI) Orlando area hauling company located in Altamonte Springs, Florida. Additional fire prevention procedures are described in Section 6 of this Waste Tire Storage and Processing Plan. The emergency preparedness procedures will be reviewed at least annually and updated as necessary. The following information is included in ~~Section 5 and 6 or~~ the Operation Plan:

- a list of names and numbers of persons to be contacted in the event of a fire, flood, or other

emergency;

- a list of emergency response equipment at the site, it's location, and how it should be used in the event of a fire or other emergency; and

- a description of the procedures that will be followed in the event of a fire~~, including procedures to contain and dispose of the oily material generated by the combustion of large numbers of waste tires. These procedures include blocking the storm water discharge pipe at the WTSP Area and using oil absorbent materials as needed to assist in containing oily materials~~.

Rule 62-711.540(1)(f)

Facility personnel will immediately notify the FDEP in the event of a fire or other emergency which poses an unanticipated threat to the public health or the environment and will submit a written report of the emergency to the FDEP within two weeks of the emergency. The report will describe the origins of the emergency, the actions taken to deal with the emergency, results of the actions that were taken, and an analysis of the success or failure of the actions.

Rule 62-711.540(1)(g)

Records of the quantity of tires received, stored, processed and shipped will be maintained at the Facility as described in Section 9 of this Plan.

Rule 62-711.540(1)(h)

Omni Waste of Osceola County, LLC is the owner of the property.

Rule 62-711.540(1)(i)

Communication equipment is maintained at the Facility to assure the local fire protection authorities can be notified in case of a fire.

Rule 62-711.540(1)(j)

Mosquito and rodent control methods are described in Section 7 of this Plan.

Rule 62-711.540(1)(k)

The WTSP Area ~~is~~ will be located adjacent to the paved access road leading to the active disposal area. The road will be kept passable for any motor vehicle at all times.

Rule 62-711.540(3)(a)

The location of the WTSP Area as shown on the attached Sheet 1 may change based on site conditions~~The location of the WTSP Area is within the future disposal footprint boundary as shown on Sheet 1 (attached)~~. ~~This~~ Though, at any time the location of the WTSP Area ~~is~~ will not be within 200 feet of any natural or artificial body of water, including wetlands within the

jurisdiction of FDEP.

Rule 62-711.540(3)(b)

The outdoor waste tire, processed tire and residual storage will not exceed 50 ft in width, 10,000 sq ft in area, and ~~10~~ 15 ft in height.

Rule 62-711.540(3)(c)

A minimum 50 ft wide fire lane will be maintained around each outdoor waste tire pile. Access to the fire lane for emergency vehicles will be maintained at all times.

Rule 62-711.540(3)(d)

Access to the Facility is controlled through use of fences, gates and natural barriers.

Rule 62-711.540(3)(e)

A ~~The WTSP Area is located within the future disposal area as shown on Sheet 1. A~~ storm water detention berm has been constructed around the entire future disposal footprint as required of the Facility's Environmental Resource Permit issued by the FDEP. This berm is designed to contain all storm water discharged from the active disposal operations, including the WTSP Area. In addition to this berm, a smaller storm water berm will be constructed around the WTSP Area to assist in containment of oily material runoff from a potential waste tire fire from entering water bodies. In event of a fire, Omni employees will be directed to block stormwater discharge points at the WTSP Area and use oil absorbent materials as necessary to contain oily materials. ~~Any required cleanup activities will be conducted in accordance with Section 5.4 of the Operation Plan.~~

Rule 62-711.540(3)(f)

The WTSP Area will be kept free of grass, underbrush, and other potentially flammable vegetation at all times.

Rule 62-711.540(4)

Processed tires stockpiled at the WTSP Area will generally be removed within 72 hours after processing. This will greatly reduce or eliminate the possibility of processed tire piles from exceeding 300 degrees Fahrenheit.

Rule 62-711.540(5)

Any residuals produced during tire processing will be ~~loaded in a roll-off container and~~ disposed at the active disposal area as needed.

To satisfy the prohibitions contained in Rule 62-701.300, FAC, the WTSP Area will meet the following:

The construction/operation of the WTSP Area will not violate the following prohibitions of Rule 62-701.300 of the Florida Administrative Code (F.A.C):

- General Prohibition: No waste tires will be stored, processed or disposed of at the Facility:
  - except as authorized by a permit from FDEP [Rule 62-701.300(1)(a)]; and
  - in a manner that would cause violation of air quality standards or water quality standards [Rule 62-701.300(1)(b)].
- Siting: As noted in the 5-Year Permit Renewal Application submitted in September 2006 and the Vertical Expansion Application submitted in September 2007, the below siting prohibitions were met with regards to the solid waste transfer and recycling activities performed at the Facility. Therefore, the siting prohibitions for storage and processing of waste tires is also met. Specifically, there are no potable water wells within 500 feet of the Facility and no natural or artificial body of water within 200 feet of the Facility. No waste tires will be stored or disposed of:
  - in an area where geological formations or other subsurface features will not provide adequate support [Rule 62-701.300(2)(a)];
  - within 500 feet of any existing or approved potable water well [Rule 62-701.300(2)(b)];
  - in a dewatered pit [Rule 62-701.300(2)(c)];
  - ~~in an area subject to frequent and periodic flooding [Rule 62-701.300(2)(d)],~~
  - in a natural or artificial body of water [Rule 62-701.300(2)(~~e~~d)];
  - within 200 feet of a any natural or artificial body of water [Rule 62-701.300(2)(~~f~~e)]; and
  - on the right of way of any public highway, road, or alley [Rule 62-701.300(2)(~~g~~f)].
  - ~~within 1000 feet of an existing or approved potable water well serving a community water supply as defined in subsection 62-550.200(12), FAC [Rule 62-701.300(2)(h)].~~

Other prohibitions, as stated in Rules 62-701.300(3) through (6) and (8) through (11), FAC are not applicable to waste tire processing facilities.

6. FIRE PREVENTION

The following fire prevention measures will be implemented for ~~the tire storage and processing operations~~activities at the WTSP Area:

- At a minimum, the following items will be maintained at the waste tire storage area:

  (1) One 2A:10BC fire extinguisher
  (2) One 2.5 gal (10 L) water extinguisher
  (3) One 10 ft (3 m) long pike pole
  (4) One rigid rake
  (5) One round point shovel
  (6) One square point shovel

- One dry chemical fire extinguisher with a minimum rating of 4A:40BC will be carried on each piece of fuel powered equipment used at the waste tire storage area;
- Whole and processed tires will be stored in separated stockpiles which will greatly improve the ability to fight fires and reduce fire propagation;
- Adequate communication equipment will be maintained at the Facility to assure the local fire protection authorities can be notified in case of a fire;
- A 50 foot fire access lane will be maintained around each whole tire and processed tire stockpile for emergency access;
- Smoking will be prohibited within the waste tire storage area;
- No operations involving the use of open flames, cutting and welding, or heating devices will be conducted within the waste tire storage area;
- As necessary, safeguards will be provided for equipment and vehicles used in the waste tire storage area to minimize the hazard of possible sparks;
- The WTSP Area will be kept free of grass, underbrush, and other potentially flammable vegetation at all times;
- Facility heavy equipment, including dozers, loaders, excavators, backhoes and water wagons will be available to assist Facility and fire department personnel in fighting possible fires;
- The road to the WTSP Area will be kept passable for any motor vehicle at all times;
- Processed tires stockpiled at the WTSP Area will be removed within 72 hours after processing. This will greatly reduce or eliminate the possibility of processed tire piles from exceeding 300 degrees Fahrenheit;
- A fire safety survey will be conducted at least annually and the survey report will be included with the next quarterly report submitted to the FDEP;
- All fire fighting equipment stored at the WTSP Area will be inspected weekly. Fire extinguishers will be serviced at least annually, or as needed;
- Annual training will be provided to site employees in the use of fire fighting equipment.

7. VECTOR CONTROL

Facility personnel will monitor the WTSP Area on a daily basis for the presence of rodents and other vectors (including collected water for mosquito development). Traps and insecticide applications will be performed by a third party pest control company as needed.

8. TRANSPORTATION OF WASTE AND PROCESSED TIRES

Rule 62-711.520, FAC requires any waste tire collector engaged in collecting or transporting waste tires for the purpose of storage, sale, recycling, reuse, disposal or processing to be properly registered with FDEP. Additionally, Rule 62-711.400(5), FAC requires anyone that contracts the services of a waste tire collector for the transportation, disposal, or processing of waste tires to ensure the collector is registered with the FDEP or exempt from registration requirements. Omni will maintain records of waste tire collectors and volumes as described below.

9. RECORD KEEPING AND REPORTING

In accordance with Rule 62-711.530(4), FAC, information regarding waste tire acceptance, storage and processing will be recorded and maintained for three years. Records will be made available at the site for inspection by the FDEP during normal business hours. The records will include the following:

a). For all waste tires shipped from the WTSP Area, the name and waste tire collection registration number of the waste tire collector who accepted the waste tires for transport, and the quantity of waste tires shipped with that collector; and if the waste tires were shipped with a person who is not a waste tire collector, the number of tires shipped, the person's name, address and telephone number; and the place where the waste tires were deposited;

b) For all waste tires received at the WTSP Area, the name and waste tire collector registration number of the collector who delivered the waste tires to the WTSP Area, and the quantity of waste tires received from that collector, and if more than five waste tires were delivered by a person who is not a waste tire collector, the number of tires delivered and the person's name, address and telephone number; and

c) For all waste tires removed for recapping, the quantity and type removed, and the name and location of the recapping facility receiving the tires.

In accordance with Rule 62-711.530(5), FAC, quarterly reports shall be submitted to the FDEP that summarizes the information above. The reports will be submitted by the 20th of the month following the close of each calendar quarter. The reports will be submitted on DEP Form # 62-701.900(21) and will also include the information listed below:

a) The facility name, address and permit number;
b) The quarter covered by the report;
c) The total quantity, by category, of waste tires received at the facility during the quarter covered by the report;

d) The total quantity, by category, of waste tires shipped from the facility during the quarter covered by the report;
e) The total quantity of waste tires processed during the quarter;
f) The total quantity, by category, of waste tires located at the facility on the last day of the quarter; and
g) A list of all dates on which one or more category of waste tires exceeded the storage limit, which category was in excess, and how this condition was relieved or will be relieved.

10. CLOSURE

Closure of the WTSP Area will be performed together with closure of the landfill or prior to that time if waste tire storage and processing operations are no longer performed at the Facility. In closing the WTSP Area, the following activities will be performed:

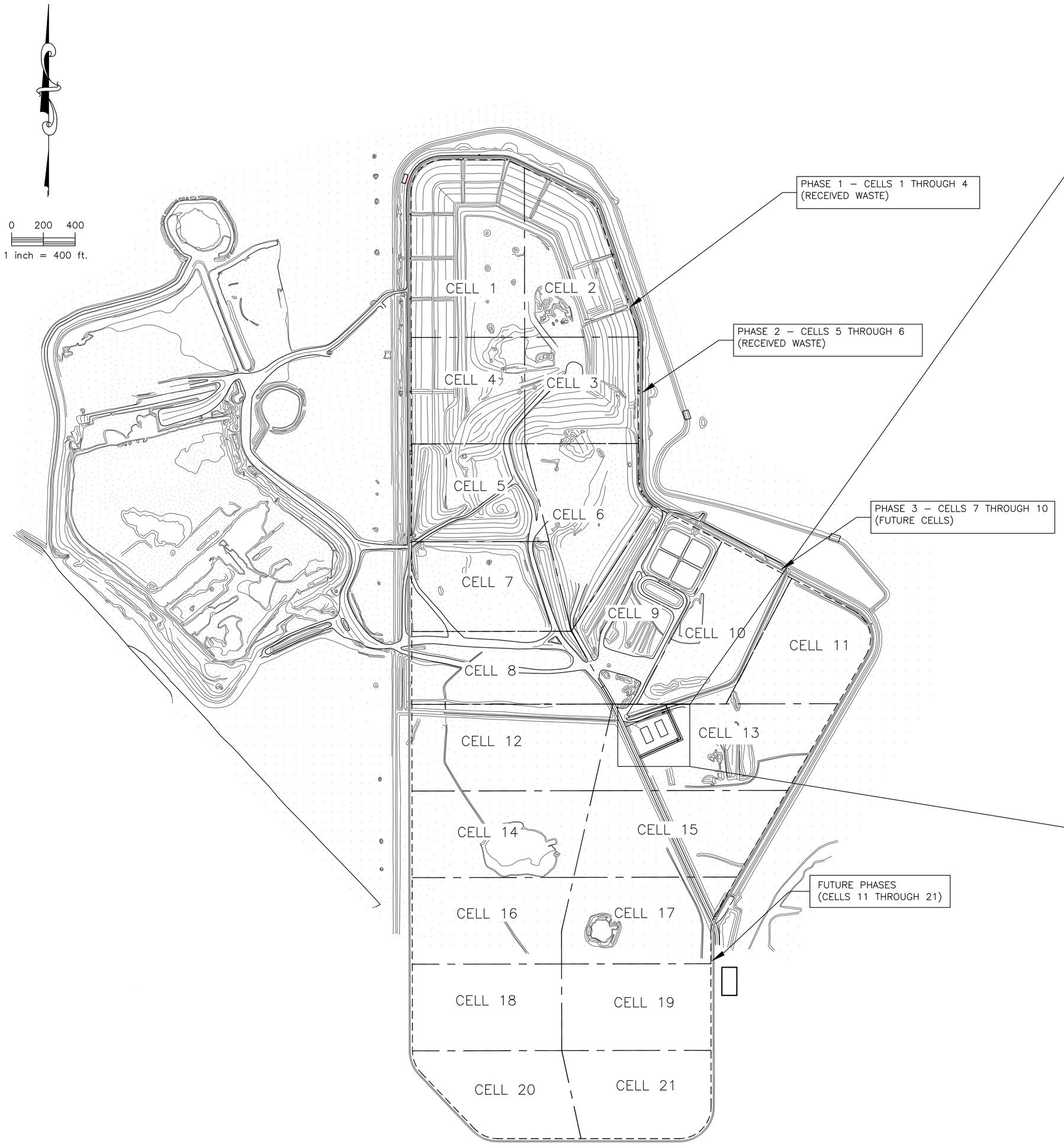
- Notice will be posted at the Facility weigh scales 30 days prior to closing indicating that the WTSP Area will be closing and the date of closure. Drivers of vehicles with tire loads will be provided a flyer that includes the phone number of the Osceola County Solid Waste Office. Notice of the closing will also be provided to FDEP and the Osceola County Solid Waste Office;

- Customers with tire loads will not be accepted at the site after the official closure date;

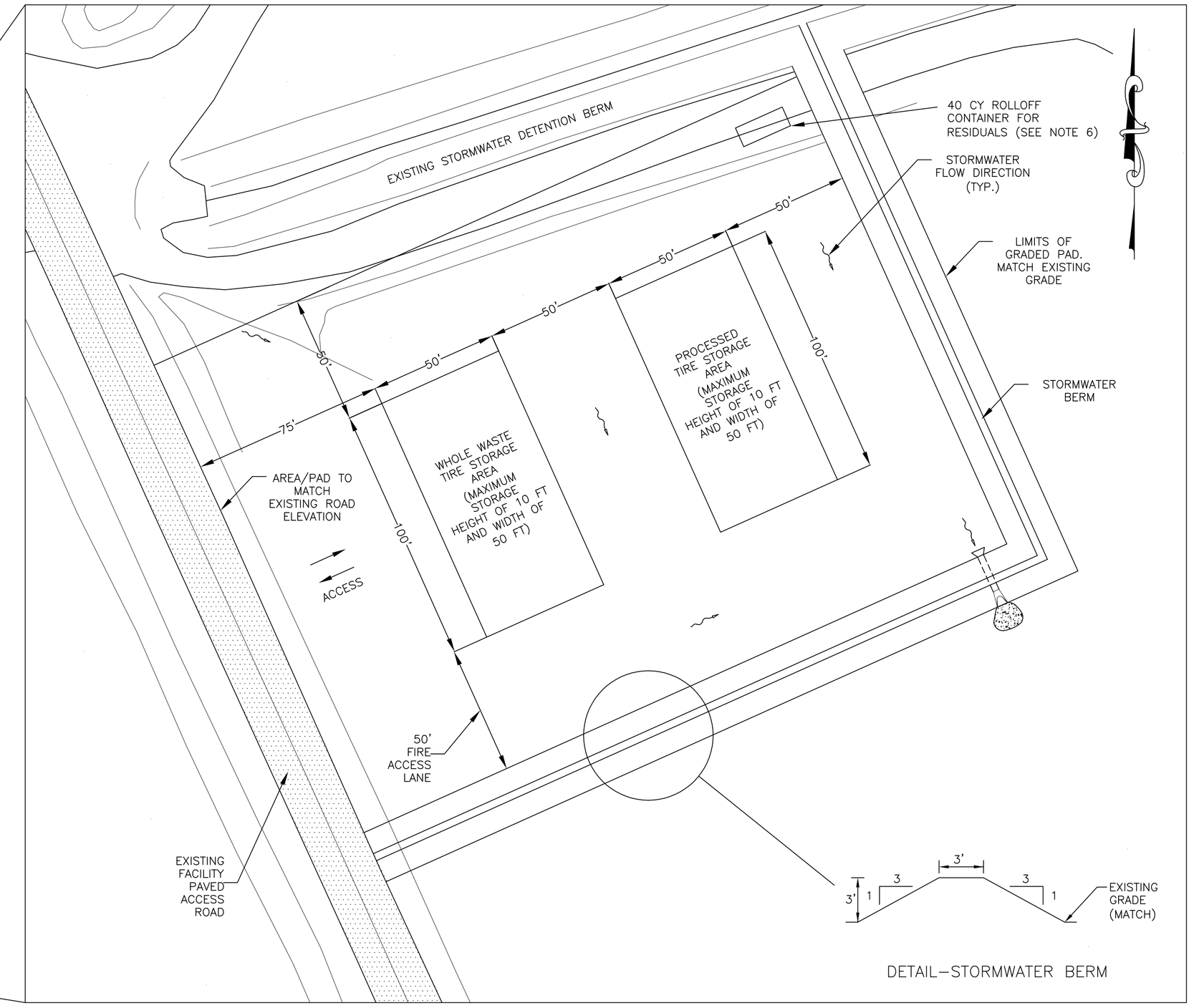
- Remaining processed tires and residuals will be removed from the WTSP Area and disposed directly at the active disposal area. Whole tires will be ~~further processed and disposed directly at the active disposal area or~~ removed from the Facility by an authorized transporter and disposed or recycled at an offsite location; and

- The area will be regraded to the natural grade and revegetated.

EXISTING TOPOGRAPHIC PLAN



WASTE TIRE STORAGE AND PROCESSING AREA



SCALE: 1"=30'

*NOTES:

1. THE WASTE TIRE STORAGE AND PROCESSING AREA WILL BE LOCATED IN THE AREA OF CELL 13 OF FUTURE PHASES, AS SHOWN.
2. THE AREA WILL BE GRADED TO DIRECT STORM WATER AWAY FROM THE WASTE TIRE COLLECTION AND PROCESSING AREA TO THE SOUTHEAST CORNER.
3. AREA WILL BE CONSTRUCTED WITH ROAD BASE MATERIAL AND MAINTAINED FOR VEHICLE ACCESS.
4. 50 FT. MINIMUM SPACING WILL BE PROVIDED AROUND AND BETWEEN ALL STOCKPILES FOR EMERGENCY ACCESS.
5. MOBILE TIRE PROCESSING (SHREDDING) EQUIPMENT WILL BE STATIONED NEAR THE SHOWN STOCKPILE LIMITS DURING PROCESSING.
6. 40–CY ROLLOFF CONTAINER FOR RESIDUALS WILL BE STAGED AS SHOWN. CONTAINER WILL BE REMOVED WHEN PROCESSING IS COMPLETE.
7. TOPOGRAPHIC INFORMATION OBTAINED FROM DRAWING PREPARED BY BASE MAPPING DATED JULY 25, 2009.

WSI Waste Services

HDR

HDR ENGINEERING, INC.
510 NW 33RD AVENUE
SUITE 212
FT. LAUDERDALE, FLORIDA 33309

ISSUE	DATE	DESCRIPTION
2	17 MAR 2010	RAI #2
1	16 FEB 2010	RAI #1

PROJECT MANAGER	BRENDA ANN SMITH CLARK, P.E.
PE. NO.	42754
PROJECT NUMBER	116377

OMNI WASTE OF OSCEOLA COUNTY, LLC.
MINOR MODIFICATION APPLICATION
J.E.D. SOLID WASTE MANAGEMENT FACILITY
ST. CLOUD, FLORIDA

SITE PLAN FOR
WASTE TIRE STORAGE
AND PROCESSING OPERATIONS

FILENAME	00C-02.DWG	SHEET 3
SCALE		

C:\Documents and Settings\ladsyton\My Documents\HDR-Projects\04-Waste Services\01-Minor Permit Mod (ASR)\01-CAD\00C-002-Site Layout.dwg, 00C-003, 4/27/2010 9:02:11 AM, ladsyton

EXHIBIT A

CALCULATION OF MAXIMUM WHOLE AND PROCESSED TIRE STORAGE VOLUMES

In accordance with Rule 62-711.530(2), FAC, the maximum storage limits that will be set in a waste tire processing facility permit are:

- For the aggregate of whole waste tires, processed waste tires, and residuals, 60 times the daily through-put of the processing equipment being used; however, whole waste tires shall not exceed 30 times the daily through-put of the processing equipment being used; and

- For used tires, 10,000 used tires stored separately from other waste tires.

~~Waste tire processing equipment used at the WTSP Area will be a portable Saturn Model 72-44BGHT-300HP Shredder or similar equipment. Information for this shredder equipment is provided in Exhibit B. The shredder's reported single pass through-put capacity for tires is 20 tons per hour. Assuming the waste tire processing equipment is operated from 6:00 a.m. to 5:00 p.m. Monday through Friday and 6:00 a.m. to 2:00 p.m. on Saturday, approximately 220 tons of tires could be shredded in one week day and approximately 160 tons of tires could be shredded on Saturday, based on the reported through-put capacity of the equipment.~~ Therefore, in accordance with the maximum storage limits above, no more than 13,200 tons of the aggregate of whole tires, processed tires, and residuals, or 6,600 tons of whole waste tires could be stored at the WTSP Area at any one time. As the Facility does not currently process waste tires on-site, only the maximum whole tire storage volumes have been estimated. If the Facility resumes on-site waste tire processing, a separate evaluation of maximum storage volumes of processed tires may be completed.

As reported by the Rubber Manufacturers Association (RMA), the average weight of a used heavy truck tire is 110 lbs and 22.5 lbs for a passenger car, representing a passenger tire to heavy truck tire equivalent (passenger tire equivalent [PTE]) of approximately 4.9 to 1 based on weight (see backup provided in this Exhibit A). Based on the processing equipment through-put capacities noted above, the maximum number of waste tires that could be stored at the WTSP Area is 120,000 heavy truck tires or 586,666 passenger tires. Omni will not collect or store used tires separately from waste tires. Therefore, the additional storage limit of 10,000 used tires as noted in Rule 62-711.530(2), FAC does not apply. Due to storage space and operational constraints at the Facility, Omni does not plan to store the maximum allowable number of waste tires as calculated above. The maximum number of tires Omni plans to store at the Facility is further described below.

Whole waste tires and processed tires will be stored on the ground in a pile within the WTSP Area ~~as shown on Sheet 1 of the Waste Tire Storage and Processing Plan~~. The number of whole waste tires stored at the WTSP Area at any one time will depend on the type of tire (passenger or heavy truck). The maximum dimension of the whole waste tire storage area will be 50 ft wide by 100 ft long. The dimension of the process waste tire storage area will be 50 ft wide by 100 ft long.

Density information for stored waste and processed tires was obtained from the RMA and U.S.

Environmental Protection Agency's Scrap Tire Cleanup Guidebook (USEPA Guidebook) (see backup provided in this Exhibit A). As shown on pages 14 through 16 of the USEPA's Guidebook, approximately 100 passenger car tires can be loosely stacked, 150 tires if densely packed, in a 10 cy area. The RMA also reported approximately 100 passenger car tires can be loosely stored in a 10 cy area. However, RMA reported a densely packed number of 500 tires per 10 cy area. This likely represents like sized tires neatly stacked and tightly laced together. Based on WSI's experience in handling incidental waste tires at other solid waste facilities operated throughout Florida, the U.S. EPA's estimate for densely stacked tires is generally consistent with their handling experience. Therefore, the USEPA's density estimate was used. Based on the density information provided above, the number of whole waste passenger tires that could be stored in a an area 50 ft wide by 100 ft long by 10 ft high ranges from 18,500 tires if loosely stacked and 27,800 tires if densely stacked. This represents an equivalent weight of 208 to 313 tons. A lesser number of tires, yet equivalent weight, would be stored if the waste tires consist of a mixture of passenger and heavy truck tires (see example calculation below).

Weight of 27,800 Whole Passenger Tires:

(22.5 lbs/passenger tire × 27,800 tires)/2,000 lbs/ton = 313 tons

Weight of 2,000 Heavy Truck Tires (9,800 PTE) and 18,045 Passenger Tires:

(110 lbs/ heavy truck tire × 2000 tires)/2,000 lbs/ton + (22.5 lbs/passenger tire × 18,045 tires)/2,000 lbs/ton = 110 tons + 203 tons = 313 tons

Based on data reported by the USEPA and RMA, the density of loosely packed single pass shredded tires is approximately 600 lbs/cy. Assuming the maximum number of tires are processed and stored at the WTSP Area, the following volume would be required to store processed tires.

(313 tons x 2000 lbs/ton)/600 lbs/cy = 1,043 cy

Allowing for a maximum pile height of 10 ft based on Osceola County Department of Fire Rescue and Emergency Medical Services, an area approximately 50 ft wide by 100 ft long will be needed to store the processed tires. This area will allow for approximate 2H:1V sideslopes of the processed tire stockpile.

Any residuals produced during processing will be stored in one 40 cy roll-off box and transferred to the disposal area when the roll-off container is filled.

EXHIBIT B

~~TIRE PROCESSING EQUIPMENT INFORMATION~~
(PLACEHOLDER)

ATTACHMENT D

LANDFILL GAS TO ENERGY FACILITY OPERATION PLAN

LANDFILL GAS TO ENERGY FACILITY OPERATION PLAN

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

Submitted to: Florida Department of Environmental Protection
Waste Management Program, Tallahassee
2600 Blair Stone Road, MS 4565
Tallahassee, FL 32399 USA

Prepared for: Omni Waste of Osceola County, LLC
1501 Omni Way
St. Cloud, FL 34773 USA

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9428 Baymeadows Road, Suite 400
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Florida Board of Professional Engineers
Certificate of Authorization Number 1670

Distribution:

1 Copy	Florida Department of Environmental Protection Waste & Air Resource Programs, Central District
2 Copies	Omni Waste of Osceola County, LLC
1 Copy	Golder Associates Inc.

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1.0 OPERATION PLAN

1.1 Introduction

Golder Associates Inc. (Golder) has prepared this Landfill Gas to Energy Facility Operation Plan (LFGTE Plan) to describe the process and operations associated with the LFGTE Facility at the J.E.D. Solid Waste Management Facility (J.E.D. Facility). Information included in this LFGTE Plan will be incorporated as Appendix F to the approved Operation Plan prepared by Geosyntec Consultants dated November 10, 2011 (note that this replaces the former Appendix F – Auto Shredder Residual (ASR) Recycling Plan since the ASR Recycling operations have ceased and been removed from the facility).

1.2 LFGTE Facility General Information

The proposed LFGTE Facility will be located in an area south of the existing leachate holding ponds at the J.E.D. Facility. Drawings for the LFGTE Facility are included in Appendix 1. The LFGTE Facility will be owned and operated by Chicago Bridge and Iron Company (CB&I) under a long-term agreement with Omni Waste of Osceola County, LLC (Omni). CB&I will purchase landfill gas from Omni to generate electricity which will be sold to the Orlando Utilities Commission (OUC). The power will be wheeled to OUC via Duke Energy's transmission system that currently serves the J.E.D. Facility.

Landfill gas from the disposal area will be conveyed to the LFGTE Facility via a vacuum piping system and will then be treated and used as a fuel to generate electricity. At full build-out the LFGTE Facility will have a gross electrical generation capacity of approximately 19.2 megawatts (MW) of electricity and will consist of 12 Caterpillar (CAT) Model G3520C lean-burn internal combustion engines and generator sets. The LFGTE Facility will be constructed in phases with the initial phase consisting of 6 engine/generator sets with a gross electrical output of approximately 9.6 MW. Commercial operation of the initial phase is planned for September 2015. Expansion of the LFGTE Facility to the full capacity will be completed as increases in landfill gas flows allow. Phased installation of future engine/generator sets may occur in quantities of one or greater. Plant operation will be typically 24 hours per day, 7 days, per week.

The LFGTE Facility will consist of a metal building structure to house the CAT engines, electrical room, office control room, and maintenance shop. Exterior equipment will initially include a hydrogen sulfide treatment system, condensate management equipment, electrical switchgear and transmission facilities, and gas compressor/chiller equipment. In addition to the LFGTE Facility equipment, Omni will operate and maintain landfill gas conveyance piping, blowers and flare equipment in the general location of the LFGTE Facility. Omni's blowers will convey landfill gas to the LFGTE Facility and/or the flares when excess landfill gas is being produced or the LFGTE Facility in not in operation.

1.3 Facility Operations

CB&I will own and operate the LFGTE Facility (under a 20+ year contract with Omni). The LFGTE Facility will be operated generally 24-hours a day, 7 days per week, 52 weeks per year. Routine maintenance and over-haul may require partial or complete shutdown of the plant. Typically, the facility will be staffed 5 days per week. During times when no operator/staff is at the facility, a call-in procedure will be enacted automatically by the plant should an alarm or shutdown occur. Should a call-in occur for an upset or alarmed condition, the on-call operator will report to the plant for troubleshooting, repair, or other actions.

Landfill gas will be consumed as fuel in the Cat G3520C engine/generator sets to produce electricity which will be sold to OUC or other 3rd party purchaser. Landfill gas will be conveyed to the LFGTE Facility (and if needed flares) from the waste disposal area via a temporary header system installed along an existing partially constructed landfill perimeter berm. This existing berm contains the leachate force main and was constructed during relocation of the leachate holding facilities in 2012. Additional permanent header piping will be installed in the waste mass as the disposal area is developed. Landfill gas will be pulled under vacuum by blowers stationed at the LFGTE Facility area as shown on attached Drawing C100. The landfill gas will be treated for moisture (moisture conditioned) at the blower skid system prior to being either routed to the hydrogen sulfide (H_2S) treatment system or flares. Moisture conditioning equipment at the blower skid system will consist of a buried knockout sump, and aboveground demisters and knockout pots positioned before blowers. No further moisture conditioning equipment is anticipated at the flares. Landfill gas that requires treatment for H_2S will be routed from the blower system to the H_2S treatment system. After H_2S treatment landfill gas will be routed to the LFGTE Facility where additional compression and moisture conditioning may occur prior to consumption in the CAT engine/generator sets. Excess landfill gas that has been treated for H_2S and not consumed by the CAT engine/generator sets will be routed to the flares. Under certain air permit conditions landfill gas may not require H_2S treatment prior to destruction at the flares. In those circumstances landfill gas will be routed directly from the blower system to the flares, bypassing the H_2S treatment system. Routing of landfill gas to various treatment and end equipment will occur using automated bypass valves, pressure transducers and other system logic. Omni will maintain a 100% capacity of thermal destruction by flares in case of a complete plant shutdown.

The LFGTE Facility will track the amount of total landfill gas used on an hourly basis and the rolling flow rate in standard cubic feet per minute (scfm). Additionally, the LFGTE Facility will maintain records of the total amount of electricity generated on an hourly basis and landfill gas quality as required by permit or otherwise desired.

1.4 Facility Safety

The LFGTE Facility will include a number of safety features including fire alarm and detection, combustible gas detection, lightning protection, utility power protection, and 24/7 monitoring of the facility operations. The following sections summarize these features.

1.4.1 Fire Alarm and Detection

The LFGTE Facility primary occupancy is classified per Florida Building code 2010 section 306.2 as F-1 Factory Industrial Moderate-Hazard occupancy with a secondary occupancy as B – Business. The F-1 occupancy shall be used since it is most restrictive use.

Per Florida Building Code 2010, Section 903.2.4 Group F-1, an *automatic sprinkler system* shall be provided throughout all buildings containing Group F-1 occupancy where one of the following conditions exists:

1. *Fire area* exceeds 12,000 square feet (1115 m^2).
2. A Group F-1 *fire area* is located more than three stories above *grade plane*.
3. The combined area of all Group F-1 *fire areas* on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m^2).

The LFGTE facility does not meet any of the 903.2.4 categories; therefore the facility shall not be required to be automatically sprinkled.

Additionally, per FBC 2010, section 907.2.4 Fire Alarm and Detection systems, Group F Fire alarm system is not required for industrial occupancies because the total capacity of the building is under 100 persons and fewer than 25 persons are above or below level of exit discharge.

See the attached HRG plan sheets A001 and A002 for additional details on the building classifications and personnel egress routes.

Although the LFGTE Facility is not required to have a Fire Alarm and Detection system, the LFGTE Facility has been otherwise designed with a system. It should also be noted that the LFGTE Facility building is constructed with minimum of combustible material so as to limit the propagation of fire. The building fire alarm and detection system consists of thermal detectors, smoke detectors, combustible gas detectors, audible and visual alarm devices, and manual fire pull stations. See HRG plan sheet FA101 for locations and details of fire detection system.

Upon any of the below listed alarms, the generator breakers will be tripped, the engine-generator sets will be shutdown and the gas inlet valve to the LFGTE Fuel Gas Skid will be closed in order to control the potential for fire and explosion within the plant:

- high oxygen in the fuel (as detected at the Fuel Gas Skid);
- fuel gas skid blower failure;
- air compressor failure;
- fire detection alarm; and
- high-high methane alarm.

A Plant Emergency Stop (APET) E-stop Pressed. There will be two (2) APET pushbuttons, one located at the internal side of main gate and the other will be at the fuel gas skid.

The facility will be equipped with type 2A portable fire extinguishers. There will be a total of six (6) portable fire extinguishers located in the facility: 3 in the engine room, 1 in the maintenance shop, 1 in the office, and 1 in the electrical room.

1.4.2 Utility Power Protection

When a power failure, short circuit, voltage or frequency disturbance occurs on the utility line, the event is detected by the Interconnection Protection Relay (SEL-351) which will initiate a trip to the utility breaker (52U-A). Opening breaker 52U-A will cause the generator breakers to trip and the gas compressor to shut down. Upon restoration of the utility line voltage, the on-call operator may close the utility breaker (52U-A), restart the gas compressor, and begin the process of restarting/re-synchronizing the generators to the utility.

Each generator is equipped with an automatic voltage regulator and an automatic power factor controller, and is also protected by a multi-function Generator Protection Relay (SEL-300G) against unbalanced current, instantaneous and time delay overcurrent, reverse power, loss of excitation, abnormal voltage, abnormal frequency, and faults that cause a flow of differential currents through the generator windings. Grounding of each generator is achieved through a neutral grounding resistor. The facility medium voltage distribution system is protected by transformer differential, bus differential, and overcurrent devices. The relays utilized at this plant are solid-state devices which are self-testing and therefore require no routine maintenance.

1.4.3 Combustible Gas Detection

The LFGTE Facility will be equipped with a combustible gas (methane) detection system which will continuously monitor ambient air in all facility rooms of the plant for the presence of unsafe atmospheres. The gas detection system control panel located in the control room, measures ambient atmosphere concentrations taken from all facility occupied spaces.

Methane gas is explosive only between certain concentrations. This explosive range is 5% to 15% methane in air. The 5% level is defined as the LOWER EXPLOSIVE LIMIT (LEL) and the 15% level is defined as the UPPER EXPLOSIVE LIMIT (UEL). Below the LEL, an explosion will not occur because

the concentration of methane is not high enough to support an explosion. Above the UEL, an explosion will not occur because the concentration of gas to oxygen is too rich to support an explosion. Methane concentration levels are indicated on the methane detection control panel from 0 to 100% of the LEL.

The methane detection unit will send alarms should the concentration of methane initiate the alarms as described in the following:

- High Concentration of Methane Gas (10% LEL, or 0.5% in air by volume) Initiates HIGH FACILITY GAS CONCENTRATION alarm in the control room. This alarm will also activate the facility ventilation system to its “High Evacuation Setting”.
- High-High Concentration of Methane Gas (25% LEL, 1.25% in air by volume) Indicates HIGH-HIGH FACILITY GAS CONCENTRATION alarm in the control room and Illuminates an ALARM CONDITION on the methane detection control panel. The LFGTE Facility will automatically shut down and the affected area should be ventilated using confined space blowers and/or the facility exhaust/supply fans. After sufficient time has been allowed for ventilation, facility personnel will confirm ambient air concentrations from the gas control panel. When safe limits are satisfied, operators may enter the affected building with a portable gas detector and attempt to find and repair the leak.

1.4.4 Lightning Protection and Grounding System

The LFGTE facility will have a lightning protection and grounding system installed in accordance with UL 96 and NFPA 780.

1.4.5 Facility Monitoring

As described above, a number of conditions during facility operation could trigger alarm conditions. Alarm conditions will be monitored by the LFGTE control system and will notify facility operators via text alerts, email alerts, and voice messages through the communication system. Although the facility is not staffed 24/7, operators are on call 24 hours a day, seven days a week to respond to upset conditions at the LFGTE Facility.

In addition to notifying the on-call operator of an upset condition, the central control system can be programmed to shutdown all or a portion of the LFGTE Facility. An upset condition might result in the termination of electrical energy flow to the utility grid, shutdown of one or more engine-generator sets, and/or shutdown of incoming gas compressors/blowers.

1.4.6 Facility Security

The LFGTE Facility is surrounded by security fence and is locked during times when the LFGTE operators are not present. The facility access doors are steel insulated and are locking deadbolts. Steel overhead doors also provide access to the electric room, engine room and storage/shop room areas. The overhead doors are controlled from inside the LFGTE Facility.

1.4.7 Emergency Response

Site emergencies are handled in accordance with the J.E.D. Landfill Facility Emergency Contingency plan contained within the most current Operation Plan . This plan covers the following:

- fire response;
- medical emergencies response;
- spill/release/emission response;
- natural disasters; and
- hazardous or other unauthorized materials.

A list of emergency telephone numbers will be posted in the LFGTE Facility:

Ambulance Service	911
Police Department	911
Fire Department	911
J.E.D. Landfill Administration Building	(407) 891-3720
Florida Department of Environmental Protection	(407) 897-4100

1.5 Waste / By-product Management

The following sections discuss the LFGTE facility's plan to properly manage various wastes and by-products.

1.5.1 Condensate Management

Condensate will be generated within the LFGTE Facility during the chilling of the landfill gas to approximately 40°F. The condensate will be collected and directed to a below grade double-wall HDPE tank and then pumped to Omni's condensate management system located near the leachate holding facility. The condensate will be tested as necessary to properly characterize the waste stream in accordance with Federal and State hazardous waste rules. Non-hazardous liquids will be pumped into the existing leachate management system for ultimate disposal. If determined to be hazardous, offsite disposal will be arranged at a properly licensed and permitted hazardous waste treatment/disposal facility. Based upon experience at similar facilities, the expected condensate amount for the initial 6 engines will be approximately 2,500 gallons per day. Once the facility reaches the full 12 engine build out, the estimated condensate amount is expected to double or approximately 5,000 gallons per day.

1.5.2 Waste Handling

The LFGTE Facility expects to generate various waste materials in typically small amounts. All non-hazardous waste will be disposed of at the J.E.D. Facility in coordination with Omni and as authorized permits for the J.E.D. Facility. Should any wastes be considered hazardous, they will be treated/disposed at a licensed and permitted hazardous waste facility.

1.5.2.1 Waste Oil

Waste oil will be generated as part of normal operations at the LFGTE Facility. Based upon information from the engine supplier, each engine during a routine oil change will generate approximately 150 gallons of waste oil. The estimated frequency of oil changes is on the order of once for every 750 to 1,000 hours of operation. Thus, with the initial 6 engines looking at a worst case scenario, the anticipated amount of waste oil is estimated to be approximately 900 gallons per month. The LFGTE Facility anticipates having a 1,000 gallon double-wall tank for waste oil which will be serviced by a licensed waste oil contractor at least monthly. The waste oil will then be disposed of or recycled at a licensed waste oil facility.

1.5.2.2 Hydrogen Sulfide Treatment Waste

Waste materials will be produced during H_2S treatment of the landfill gas. Either a solid scavenger media type or liquid waste will be produced depending on the type of treatment technology selected (non-regenerative or regenerative), These types of wastes are typically non-hazardous and may vary in quantity. Testing will be performed to determine if the wastes are characteristically non-hazardous or hazardous and managed accordingly. Non-hazardous wastes may be disposed at the Omni facility depending on quantities and types of wastes produced. Disposal may also occur at off-site licensed waste handling facility.

1.6 Landfill Gas Conveyance

Landfill gas will be conveyed from the waste disposal area to the LFGTE Facility via a vacuum piping system. As previously noted, Omni will construct a temporary header system installed along an existing partially constructed landfill perimeter berm to convey the landfill gas to the LFGTE Facility as shown on Drawing Sheets 3A and 3B. This temporary landfill gas header system will connect the LFGTE Facility to the waste disposal area's GCCS until future development of disposal area allows for the direct tie-in of the GCCS to the LFGTE Facility. Once the waste disposal area has been developed sufficiently to allow for a direct connection in Cell 23 from the GCCS to the LFGTE Facility, a short supply pipe will be installed. After this occurs, the perimeter header may be left in place as an alternative conveyance pathway for landfill gas and troubleshooting.

Piping will consist of both high density polyethylene (HDPE) for below grade installation and carbon steel piping for above grade installation (as necessary for thermal expansion). Other details of the permitted GCCS system design are provided in documents provided at the J.E.D. Facility.

1.6.1 Blower and Flare Operation

Omni plans to maintain a 100% capacity of flares for thermal destruction of landfill gas independent of the LFGTE Facility. All flares will be located in the landfill gas management area (which also houses the LFGTE Facility) as shown on in the Drawing Set for the permit application. The total number and type of flares has not yet been determined, but the total capacity will enable all landfill gas conveyed by the

GCCS to the landfill gas management area to be destroyed via flares while the LFGTE Facility is completely shutdown, as required by the facility's Title V Permit.

Omni will conduct routine operation and maintenance on the flares to ensure that proper operation can be achieved when 100% of the available landfill gas is being consumed by the LFGTE Facility (i.e. no landfill gas flow to the flares). Omni will conduct full start-up sequencing of each installed (and operational) flare at least once every 6 months to determine and ensure proper operation. During periods of time when both flare and the LFGTE Facility are operating jointly, Omni will ensure that all installed (and operational) flares are operated such that operational time is shared between each flare. An automatic by-pass valve will be installed to direct excess landfill gas not being consumed by the LFGTE Facility to the flare for thermal destruction.

1.7 LFGTE Facility Closure

The contract between Omni and CB&I is for a 20 plus year period commencing after the beginning of energy generation. Operation of the LFGTE Facility beyond that period is likely but unknown at this time. Since Omni will maintain a 100% flaring capacity of landfill gas independent of the LFGTE Facility and the LFGTE Facility is not required by rule or regulation, no closure and long term care costs are included in this plan. Should the LFGTE Facility cease to operate at the end of the 20 year contract period, landfill gas will be controlled via thermal destruction in the facility's flare(s). No formal closure construction (e.g. such as Class I landfill closure construction) to stabilize the facility is required once the LFGTE Facility ceases operation.

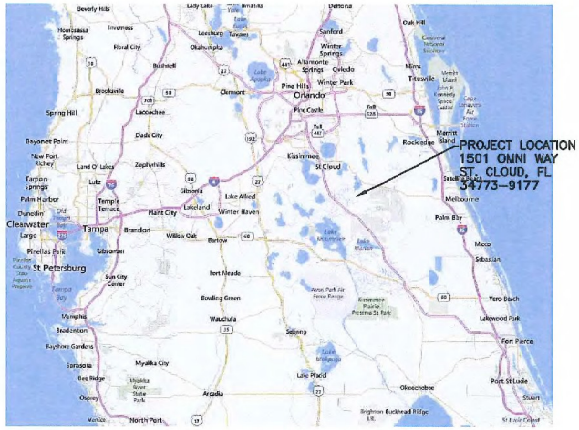
JED SOLID WASTE MANAGEMENT RENEWABLE LANDFILL GAS TO ENERGY FACILITY

CB&I ENVIRONMENTAL & INFRASTRUCTURE

ST. CLOUD, FLORIDA

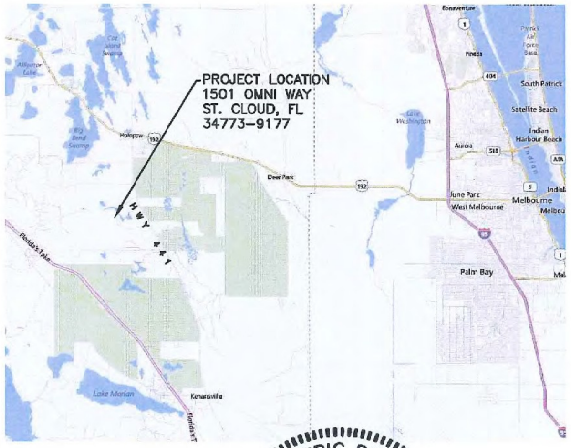
2014

STATE MAP



LOCATION MAP

VICINITY MAP



HRGreen

COURT INTERNATIONAL BUILDING 2550 UNIVERSITY AVE. W., SUITE 400N | St. PAUL, MINNNESOTA 55114

Phone: 651.644.4389 | Toll Free: 800.728.7805 | Fax: 651.644.9446 | HRGreen.com

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JED SWMF RENEWABLE LANDFILL GAS TO ENERGY FACILITY

CB&I ENVIRONMENTAL AND INFRASTRUCTURE

ST. CLOUD, FLORIDA

GENERAL

COVER SHEET

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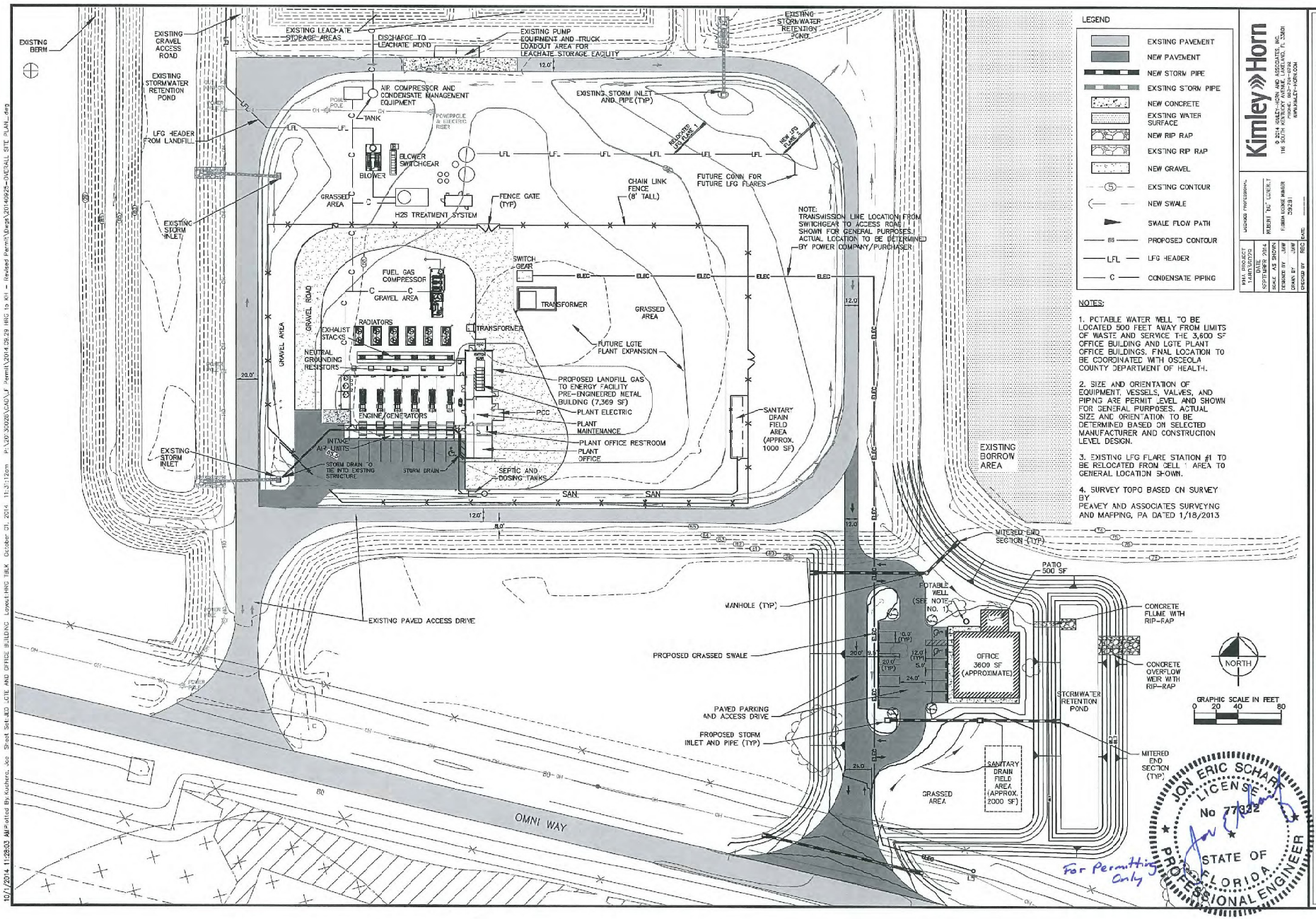

LEGEND

- EXSTING PAVEMENT
- NEW PAVEMENT
- NEW STORM PIPE
- EXSTING STORM PIPE
- NEW CONCRETE
- EXSTING WATER SURFACE
- NEW RIP RAP
- EXSTING RIP RAP
- NEW GRAVEL
- EXSTING CONTOUR
- NEW SWALE
- SWALE FLOW PATH
- PROPOSED CONTOUR
- LFL — LFG HEADER
- C — CONDENSATE PIPING

NOTES:

1. POTABLE WATER WELL TO BE LOCATED 500 FEET AWAY FROM LIMITS OF WASTE AND SERVICE THE 3,600 SF OFFICE BUILDING AND LGTE PLANT OFFICE BUILDINGS. FINAL LOCATION TO BE COORDINATED WITH OSCEOLA COUNTY DEPARTMENT OF HEALTH.

2. SIZE AND ORIENTATION OF EQUIPMENT, VESSELS, VALVES, AND PIPING ARE PERMIT LEVEL AND SHOWN FOR GENERAL PURPOSES. ACTUAL SIZE AND ORIENTATION TO BE DETERMINED BASED ON SELECTED MANUFACTURER AND CONSTRUCTION LEVEL DESIGN.

3. EXISTING LFG FLARE STATION #1 TO BE RELOCATED FROM CELL 1 AREA TO GENERAL LOCATION SHOWN.

4. SURVEY TOPO BASED ON SURVEY BY PEAVEY AND ASSOCIATES SURVEYING AND MAPPING, PA DATED 1/18/2013

Kimley»Horn

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116 SOUTH KENTUCKY AVENUE, LAKELAND, FL 33801
PHONE: 863-701-0104
WWW.KIMLEY-HORN.COM

LICENSED PROFESSIONAL: ROBERT "BOB" GOERTZ
FLORIDA LICENSE NUMBER 39281
DATE: ____

KHA PROJECT 144070070
SEPTEMBER 2014
SCALE AS SHOWN
DESIGNED BY JMW
DRAWN BY JMW
CHECKED BY RGC

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JED SWMF RENEWABLE LANDFILL GAS TO ENERGY FACILITY

CB&I ENVIRONMENTAL AND INFRASTRUCTURE

ST. CLOUD, FLORIDA

CIVIL

OVERALL SITE PLAN

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JOB NO: 20130028

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10/1/2014 11:28:03 AM Plotted By: Kuchera, Joe Sheet Set: JED LGTE AND OFFICE BUILDING Layout: HRG TALK October 01, 2014 11:31:12am P:\20130028\CAD\LF Permit\2014.09.29 HRG to KH - Revised Permit\Dwgs\20140925-OVERALL SITE PLAN.dwg

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ST. CLOUD, FLORIDA

ARCHITECTUAL

RENDERING – SW VIEW

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JOB DATE: 2014
JOB NO: 20130028

DRAWING
A901

Xref's: xgt-1-QV1; xg-1-render

SCOPE OF WORK:
THE PROJECT CONSISTS OF CONSTRUCTING A NEW 7,360 SF PRE-ENGINEERED METAL BUILDING TO HOUSE SIX GENERATORS THAT CONVERT LANDFILL GASES TO ELECTRIC POWER. THE FACILITY CONSISTS OF A GENERATOR ROOM, SWITCHGEAR ROOM, MAINTENANCE SHOP, AND AN OFFICE. WORK INCLUDES SITE AND UTILITY IMPROVEMENTS AND NEW BUILDING CONSTRUCTION.

APPLICABLE CODES:
FLORIDA BUILDING CODE (2010)
FLORIDA ACCESSIBILITY CODE (2012)
FLORIDA BUILDING CODE – MECHANICAL (2010)
FLORIDA BUILDING CODE – FUEL GAS (2010)
FLORIDA BUILDING CODE – PLUMBING (2010)
FLORIDA BUILDING CODE – ENERGY CONSERVATION (2010)
NATIONAL ELECTRICAL CODE/ NFPA 70 (2008)
FLORIDA FIRE PREVENTION CODE (2010)

GENERAL INFORMATION:

ZONING CLASSIFICATION:	AGRICULTURAL DEVELOPMENT & CONSERVATION (AC)
DESCRIPTION:	NEW 1 STORY ELECTRICAL POWER GENERATION BUILDING
JURSDICTION:	OSCEOLA COUNTY, FLORIDA
TYPE OF CONSTRUCTION:	TYPE III–B
	NON-SPRINKLERED
NEW BUILDING:	7,360 SF, NON-COMBUSTIBLE

FLORIDA BUILDING CODE – BUILDING

CHAPTER 3 OCCUPANCY CLASSIFICATION:

PRIMARY USE: 306.2 F-1 FACTOR" INDUSTRIAL
MODERATE-HAZARD OCCUPANCY
ELECTRIC GENERATION PLANTS

SECONDARY USE: 304 B BUSINESS

F-1 IS MOST RESTRICTIVE USE AND SHALL BE USED AS PRIMARY OCCUPANCY.

CHAPTER 5 BUILDING AREAS AND HEIGHTS:

501.2: PROVIDE ADDRESS IDENTIFICATION OF APPROVED ADDRESS NUMBERS.

TABLE 503: F-1 FACTORY INDUSTRIAL MODERATE--HAZARD OCCUPANCY
TYPE V-B

ALLOWABLE STORIES:	2
ALLOWABLE AREA:	12,000 SF
ALLOWABLE HEIGHT:	55'-0"
ACTUAL AREA:	7,360 SF
ACTUAL STORIES:	1
ACTUAL HEIGHT:	22'-0"

SECTION 508 MIXED USE AND OCCUPANCY
TABLE 508.4 NO SEPARATION REQUIRED BETWEEN F-1 AND B OCCUPANCIES

CHAPTER 6 TYPES OF CONSTRUCTION:

BUILDING TYPE III-B
TABLE 601

STRUCTURAL FRAME	0	
BEARING WALLS		
EXTERIOR	2	EXCEPTION F->30' REDUCE TO 0, G APPLIES
INTERIOR	0	
NON-BEARING WALLS AND PARTITIONS		
EXTERIOR (TABLE 602)	0	>30'
INTERIOR	0	
FLOOR CONSTRUCTION	0	0, I ARE NOT APPLICABLE
ROOF CONSTRUCTION	0	

CHAPTER 7 FIRE-RESISTANCE RATED CONSTRUCTION:

NO REQUIRED FIRE RATED ASSEMBLIES PER FBC.
ALL ROOMS SEPARATED BY 1 HOUR RATED ASSEMBLIES.
ENGINE ROOM SEPARATED BY 1 HOUR RATED ASSEMBLY PER NFPA 37
713 SEAL ALL PENETRATIONS THROUGH RATED WALLS
713.1.1 PROVIDE FIRE DAMPERS FOR HVAC/ VENTILATION OR PROTECT ALL PENETRATIONS ACCORDING TO THIS SECTION AND SECTION 715

715 OPENINGS
TABLE 715.4 FIRE PARTITIONS
1 HOUR RATED WALL WITH 3/4 HOUR RATED DOORS AND SHUTTERS.
TABLE 715.3.4 LIMITING SIZES OF WIRED GLASS PANELS
3/4 HOURS – 1296 SQUARE INCHES, MAX. HEIGHT 54 INCHES, MAX. WIDTH 54"

CHAPTER 8 FINISHES:

GROUP F-1 – NONSPRINKLERED

EXIT ENCLOSURES & EXIT PASSAGEWAYS	CLASS B
CORRIDORS:	CLASS C
ROOMS AND ENCLOSED SPACES:	CLASS C

GROUP B – NONSPRINKLERED

EXIT ENCLOSURES & EXIT PASSAGEWAYS	CLASS A
CORRIDORS:	CLASS B
ROOMS AND ENCLOSED SPACES:	CLASS C

ASTM E84	FLAME SPREAD	SMOKE DEVELOPMENT
CLASS A	0–25	0–450
CLASS B	26–75	0–450
CLASS C	76–100	0–450

CHAPTER 9 FIRE PROTECTIVE SYSTEMS:

933.2.4 GROUP F-1
1 FIRE AREA >12,000 SF NO
2. FIRE AREA >3 STORIES NO
3. COMBINED FIRE AREA >54,000 SF NO
THEREFORE AUTOMATIC SPRINKLER SYSTEM NOT REQUIRED.

SECTION 906 PORTABLE FIRE EXTINGUSHERS
OCCUPANCY
F-1 MODERATE HAZARD, B
TABLE 906.3 (1)
MODERATE HAZARD

MINIMUM RATED SINGLE EXTINGUISHER	2-A
MAXIMUM FLOOR AREA PER UNIT OF A	1,500 SF
MAXIMUM FLOOR AREA FOR EXTINGUISHER	11,250 SF
MAXIMUM TRAVEL DISTANCE TO EXTINGISHER	75 FT

EXTINGUISHERS PROVIDED:
3 IN GENERATOR ROOM
1 IN ELECTRICAL ROOM
1 IN SHOP
1 IN OFFICE
TOTAL: 6 EXTINGUISHERS
NOTE: VERIFY LAYOUT WITH LOCAL FIRE MARSHAL.

SECTION 907 FIRE ALARM AND DETECTION SYSTEMS
907.2.4 GROUP F FIRE ALARM SYSTEM NOT REQUIRED FOR INDUSTRIAL OCCUPANCIES BECAUSE TOTAL CAPACITY OF THE BUILDING IS UNDER 100 PERSONS AND FEWER THAN 25 PERSONS ARE ABOVE OR BELOW LEVEL OF EXIT DISCHARGE.

CHAPTER 10 MEANS OF EGRESS:

TABLE 1004.1.1

F-1 (INDUSTRIAL):	100 GROSS
B (BUSINESS):	100 GROSS

OFFICE	573 SF	100 GROSS	6 OCCUPANTS
GENERATOR ROOM	4,675 SF	100 GROSS	47
ELECTRICAL ROOM	1,017 SF	100 GROSS	11
SHOP	554 SF	100 GROSS	6
RESTROOM	110 SF	100 GROSS	2
TOTAL OCCUPANTS			72 OCCUPANTS

ACTUAL OCCUPANT LOAD <15.

1005 EGRESS WIDTH WITHOUT SPRINKLER SYSTEM
OTHER EGRESS – 0.2"/ OCC. 14.4"

1008 MEANS OF EGRESS ILLUMINATION	NOT REQUIRED, EMERGENCY LIGHTING IN FIXTURES PROVIDED.
1008 DOORS	CLEAR OPENING WIDTH OF 32'
1009 STAIRWAYS	44" MIN. WIDTH
1010 RAMPS	1:12 MAX. SLOPE
1011 EXIT SIGNS	ILLUMINATED SIGNS PROVIDED
1014.2 EXIT ACCESS	NO EXIT THROUGH INTERVENING SPACES
1014.3 COMMON PATH OF EGRESS	50' F, S OCCUPANCIES NON-SPRINKLERED
1015.1 MIN NUMBER OF EXITS	TWO (2)
TABLE 1015.1	OFFICE OCCUPANCY = 6 < 49, ONE EXIT S ACCEPTABLE
	SHOP (F) OCCUPANCY = 6 < 49, ONE EXIT IS ACCEPTABLE
ALL OTHER SPACES HAVE TWO EXITS, DIRECTLY TO EXTERIOR	
1015.2.1 TWO EXITS ARE MIN. DISTANCE OF HALF DIAGONAL MET IN ELECTRICAL AND GENERATOR ROOMS	
1016.1 EXIT ACCESS TRAVEL DISTANCE	GROUP F = 200' MAX WITHOUT SPRINKLER
	GROUP B = 200' MAX. WITHOUT SPRINKLER
1017 MIN. AISLE WIDTH	30"
1018 MIN. CORRIDOR WIDTH	44"
1018.4 DEAD-END CORRIDOR	20'
1020 EXTS – 1020.2.2 EXTERIOR EXIT	DOORS SHALL LEAD DIRECTLY TO PUBLIC WAY
1024 LUMINOUS PATH OF TRAVEL	NOT REQUIRED (F)
1027 EXIT DISCHARGE	DIRECTLY TO EXTERIOR AT GRADE
1032 COMMON PATH OF TRAVEL	50' MAX.

CHAPTER 12 INTERIOR ENVIRONMENT:

1208.2 MINIMUM CEILING HEIGHT 7'-6" MIN., TYP.
7'-0" MIN. AT BATHROOMS

CHAPTER 14 EXTERIOR WALLS:

TABLE 1405.2
MIN. THICKNESS OF STEEL .0149 INCHES

CHAPTER 15 ROOF ASSEMBLIEZS AND ROOFTOP STRUCTURES:

TABLE 1505.1 MINIMUM ROOF COVERING CLASSIFICATION
V-B CONSTRUCTION CLASS C

TABLE 1507.4.3 (1)
GALVANIZED STEEL ASTM A653 .013" MIN., G90 ZINC COATED
PRE-PAINTED STEEL ASTM A755

1509.6 BUILDING HEIGHT EXCEEDS 18'. ACCESS PROVIDED BY PERMANENT MEANS OF ACCESS. PROVIDE PERMANENT ROOF LADDER WITH SIDERAILS EXTENDING 30" MIN ABOVE ROOF, RUNG SPACING 14" OC MAX., LADDER TOES SPACING 8" MIN. DEPTH, 18" MIN. BETWEEN RAILS (WIDTH), RUNGS .75 DIAMETER MIN. WITH 200 LB LOAD.

1509.7 ROOF MOUNTED MECHANICAL UNITS
CURBS RAISED 8" MIN.
TABLE 1509.7

WIDTH OF MECH UNIT	MIN. CLEARANCE
<24"	14"
24–36"	18"
36–48"	24"
48–60"	30"
>60"	48"

CHAPTER 16 STRUCTURAL DESIGN:

TABLE 1604.5 RISK CATEGORY III (3)
BUILDINGS AND OTHER STRUCTURES THAT REPRESENT A SUBSTANTIAL HAZARD TO HUMAN LIFE IN THE EVENT OF A FAILURE, INCLUDING: POWER GENERATING STATIONS

TABLE 1607.1 LIVE LOADS

	UNIFORM	CONCENTRATED
MANUFACTURING LIGHT	125 PSF	2000 PSF
ROOFS	20 PSF	300 PSF

1607.12 CRANE LOADS TO BE THE RATED CAPACITY OF THE CRANE

1609 WIND LOADS (ASCE 7)
1541 OMNI WAY, ST. CLOUD, FL OSCEOLA COUNTY, FLORIDA
APPLIED TECHNOLOGY COUNCIL, ADDRESS QUERY
Vult (CAT II) 149 MPH

1609.2 WIND-BORNE DEBRIS REGION
2. ULTIMATE DESIGN WIND SPEED >140 MPH
THEREFORE BUILDING IN WIND-BORNE DEBRIS REGION
PROTECT ALL OPENINGS, COMPONENTS AND CLADDING.
FLORIDA PRODUCT APPROVALS REQUIRED FOR ALL COMPONENTS AND CLADDING.

1609.3 Vasd = Vult *SQ RT OF .6
TABLE 1605.3.1 Vasd = 116 MPH

1609.4.2 SURFACE ROUGHNESS	CATEGORY C OPEN TERRAIN
1609.4.3 EXPOSURE CATEGORY	CATEGORY C
TABLE 1605.7 M(Z) ADJUSTMENT FACTOR	
25' HIGH, EXPOSURE C	1.35

SEE STRUCTURAL DRAWINGS FOR CALCULATONS AND DESIGN PRESSURES.

FLORIDA BUILDING CODE – PLUMBING

CHAPTER 4 FIXTURES, FAUCETS, AND FIXTURE FITTINGS

TABLE 403.1 MINIMUM PLUMBING FIXTURES

F-1 AND F-2	REQUIRED	PROVIDED
WATER CLOSETS	1/ 100 OCC	1 WC AND 1 URINAL
LAVATORIES	1/ 100 OCC	1
SHOWERS	SECT 411	1
DRINKING FOUNTAINS	1/ 400 OCC	1 HI-LO
OTHER (SERVICE SINK)	1	2

CHAPTER 11 STORM DRAINAGE

FIGURE 1106.1 4.5" 100 YEAR, 1 HOUR RAINFALL
1106.3 6920- 8650 SF 5" DIAMETER LEADERS

USE 6" DOWNSPOUTS AND 8" GUTTERS

FLORIDA BUILDING CODE – ENERGY CONSERVATION

CHAPTER 3 DESIGN CRITERIA

301.2 FLORIDA - WARM HUMID CLIMATE

CHAPTER 5 COMMERCIAL ENERGY EFFICIENCY

TABLE 502.1.1.1 BUILDING THERMAL ENVELOPE
(FOR OFFICE, SHOP & ELECTRICAL ROOM AREAS ONLY)

ROOF R-VALUE	R-40 MIN.
WALL R-VALUE	R-30 MIN.
WINDOW U-FACTOR	<.45
SHGC 0-40% WW RATIO	<.25
SHGC 40-50% WW RATIO	<.15
SHGC >50% WW RATIO	NOT ALLOWED
OPAQUE DOOR SWINGING	<.70
NON-SWINGING	<1.45

2012 FLORIDA ACCESSIBILITY CODE

211 DRINKING FOUNTAIN REQUIREMENTS FOR HI-LO
603.2.2 REQUIRED CLEAR FLOOR SPACES, CLEARANCES AT FIXTURE, AND TURNING SPACE SHALL BE PERMITTED TO OVERLAP/
603.2.3 DOORS SHALL NOT SWING INTO CLEAR FLOOR SPACE OR CLEARANCE FOR ANY FIXTURE (CAN TURN INTO TURNING SPACE)

604.5 GRAB BARS 36X42
605/ 606 URINALS AND SINKS 30X48 APPROACH
608 SHOWERS 30X48 APPROACH

PARKING REQUIREMENTS:

OSCEOLA COUNTY ORD 13-34 CHAPTER 7

90 DEGREE PARKING MIN. PARKING SPACE = 9' WIDE X 19' DEEP
DRIVE AISLE MIN. WIDTH ONE-WAY – 22', TWO-WAY – 24'.

INDUSTRIAL USE
1 PARKING SPACE PER 1000 GSF
7,360 GSF = 8 SPACES REQUIRED.

FLORIDA ACCESSIBILITY CODE 2012
1 DISABLED PARKING SPACE REQUIRED FOR 1–25 TOTAL SPACES
DISABLED PARKING SPACE TO BE 12' WIDE WITH 5' ACCESS AISLE
PAINTED WITH 6" BLUE STRIPE LOCATED AT MAIN ENTRY WITH ACCESSIBLE ROUTE, PROVIDE HC PARKING SIGN ON BUILDING PER FS 553.5041

F.S. 553.5041(5)(C)1 STATES: "EACH PARKING SPACE MUST BE NO LESS THAN 12 FEET WIDE. PARKING ACCESS AISLES MUST BE PART OF AN ACCESSIBLE ROUTE TO THE BUILDING OF FACILITY ENTRANCE. IN ACCORDANCE WITH ADAAG S. 4.6.3, ACCESS AISLES MUST BE PLACED ADJACENT TO ACCESSIBLE PARKING SPACES; HOWEVER, TWO ACCESSIBLE PARKING SPACES MAY SHARE A COMMON ACCESS AISLE. THE ACCESS AISLE MUST BE STRIPED DIAGONALLY TO DESIGNATE IT AS A NO-PARKING ZONE."
THE FLORIDA STATUTES CAN BE VIEWED AT WEB SITE:
HTTP://WWW.FLSENATE.GOV/STATUTES/

F.S. 553.5041(6) STATES: "EACH SUCH PARKING SPACE MUST BE PROMINENTLY OUTLINED IN BLUE PAINT AND MUST BE REPAINTED WHEN NECESSARY, TO BE CLEARLY DISTINGUISHABLE AS A PARKING SPACE DESIGNATED FOR PERSONS WHO HAVE DISABILITIES AND MUST BE POSTED WITH A PERMANENT ABOVE-GRADE SIGN OF A COLOR AND DESIGN APPROVED BY THE DEPARTMENT OF TRANSPORTATION WHICH IS PLACED ON OR AT A DISTANCE OF 84 INCHES ABOVE THE GROUND TO THE BOTTOM OF THE SIGN AND WHICH BEARS THE INTERNATIONAL SYMBOL OF ACCESSIBILITY MEETING THE REQUIREMENTS OF ADAAG S. 4.30.7 AND THE CAPTION "PARKING BY DISABLED PERMIT ONLY."
AN APPROVED FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) SIGN IS 12 INCHES WIDE BY 18 INCHES HIGH, DESIGNATED F10-25 IN ACCORDANCE WITH FDOT DESIGN STANDARDS 17355 SHEET 3. DESIGN REQUIREMENTS FOR THIS REFLECTIVE SIGN ARE: 1 INCH SERIES "C" LETTERS ON BLUE BACKGROUND WITH WHITE LEGEND AND BORDER ON TOP, AND A BOTTOM PORTION OF WHITE BACKGROUND WITH BLACK OPAQUE LEGEND AND BORDER.

FDOT STANDARDS REQUIRE THE BLUE OUTLINE TO BE A 6 INCH WIDE BLUE STRIPE TO BE 2 INCHES INSIDE OF THE STANDARD 6 INCH WHITE STRIPE AS SHOWN IN FDOT DESIGN STANDARD 17346 SHEET 10. THIS STANDARD STATES "USE OF PAVEMENT SYMBOL IN ACCESSIBLE PARKING SPACES IS OPTIONAL, WHEN USED THE SYMBOL SHALL BE 3 FEET OR 5 FEET HIGH AND WHITE IN COLOR." BLUE PAVEMENT MARKINGS SHALL BE TINTED TO MATCH SHADE 15180 OF FEDERAL STANDARD 595A.

2
RICHARD M. STAUFFER
FL#0792844 10.06.14

NO.	DATE	BY	REVISION DESCRIPTION

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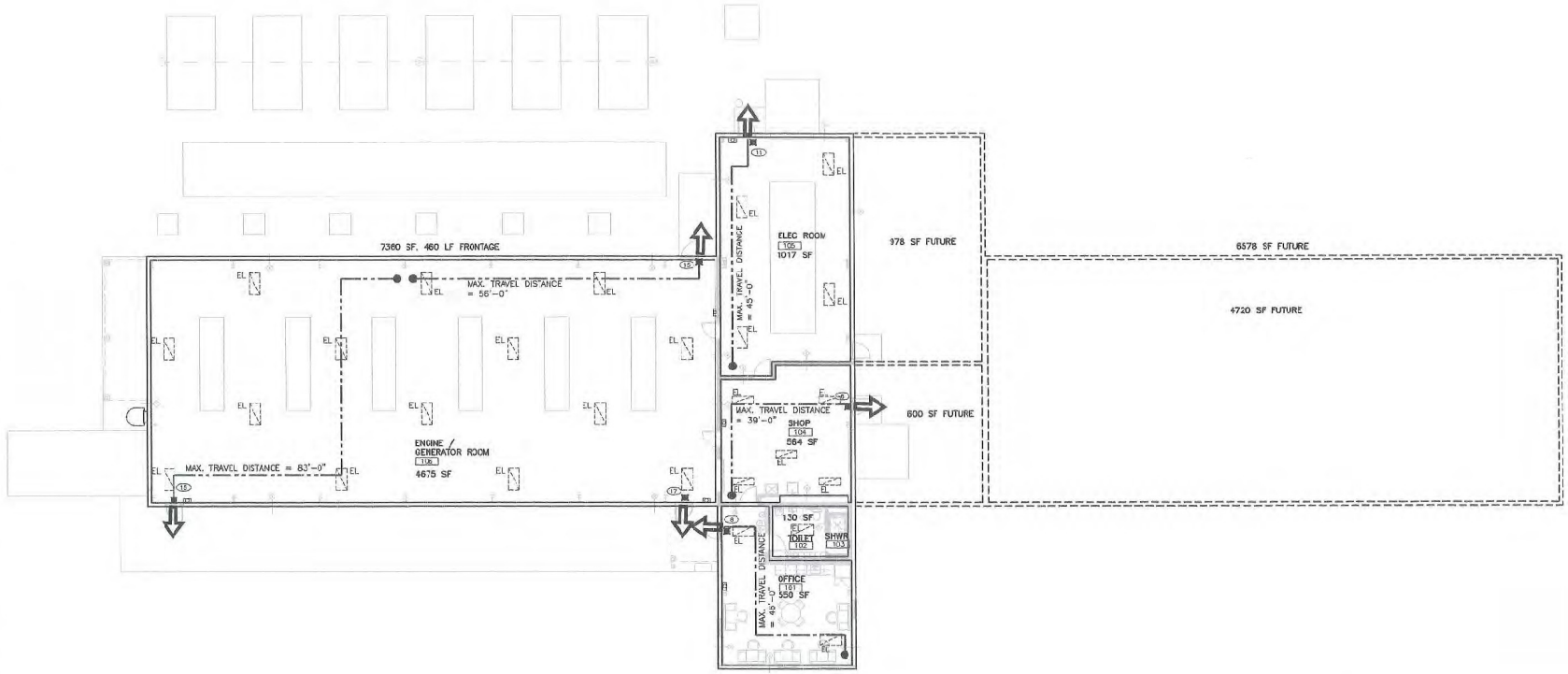
Environmental & Infrastructure
8710 UNIVERSITY LANE, SW
CEDAR RAPIDS, IOWA 52404
#F0900000022833

JED SWMF RENEWABLE LANDFILL GAS TO ENERGY FACILITY
CB&I ENVIRONMENTAL AND INFRASTRUCTURE
ST. CLOUD, FLORIDA
ARCHITECTURAL
GENERAL INFORMATION

BAR IS ONE INCH ON OPTIONAL DRAWINGS
0 1"
IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY

DRAWN BY: JWK
APPROVED: RSA
JOB DATE: 2014
JOB NO: 20130028

DRAWING
A001



1 LIFE SAFETY PLAN
SCALE: 3/32" = 1'-0"

PLAN NORTH

LIFE SAFETY LEGEND	
FE	FIRE EXTINGUISHER CABINET.
	EMERGENCY EXIT SIGN - SINGLE FACE.
	EMERGENCY LIGHTING
30	OCCUPANT LOAD
	PRIMARY MEANS OF EGRESS
	SECONDARY MEANS OF EGRESS
	INDICATES PATH OF TRAVEL TO EXIT
1 HR	INDICATES EXISTING 1-HOUR RATED WALL ASSEMBLY

Richard B. Simmons
FL LIC 92988 10.06.14

NO	DATE	BY	REVISION DESCRIPTION

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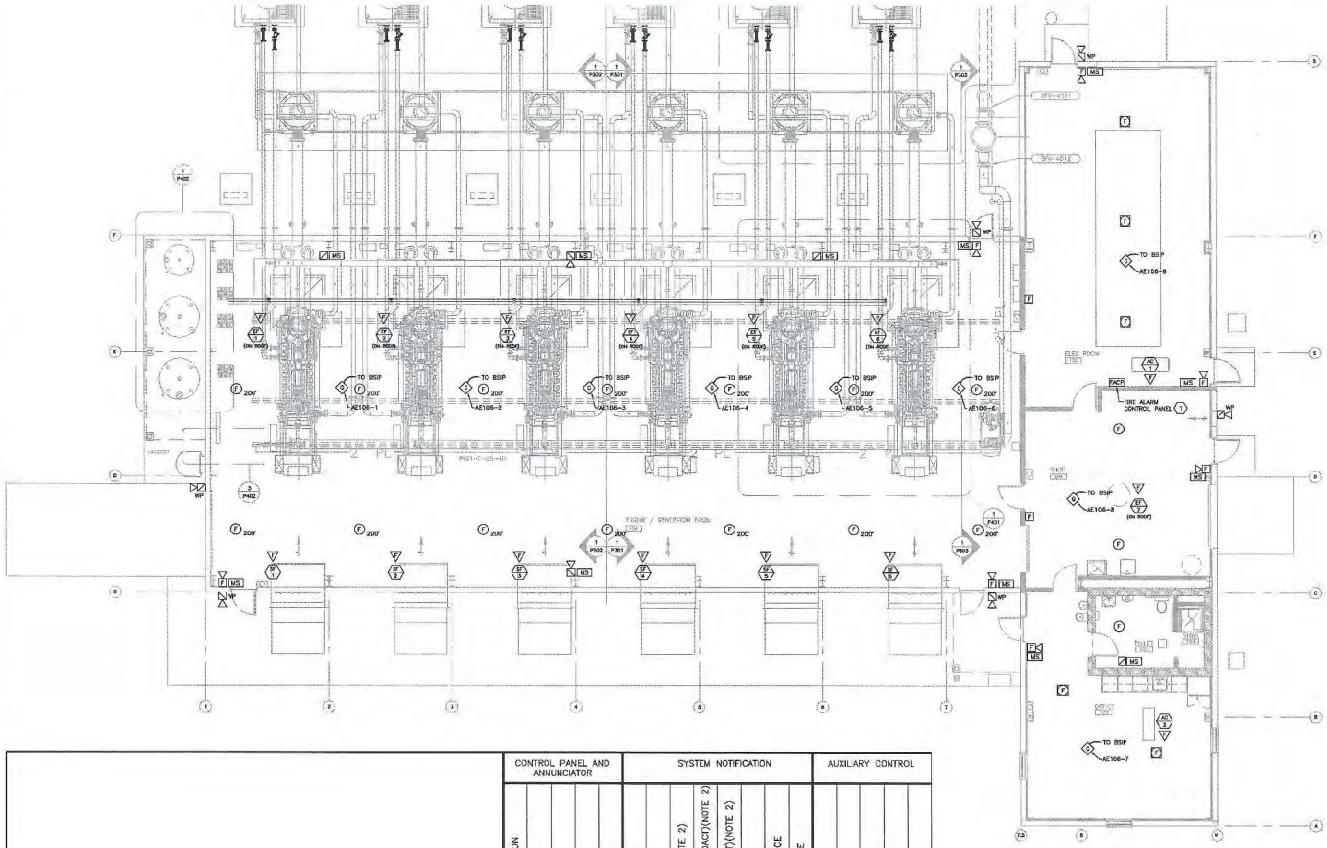
CB&I ENVIRONMENTAL AND INFRASTRUCTURE
ST. CLOUD, FLORIDA
ARCHITECTURAL
LIFE SAFETY PLAN

BAR IS ONE INCH ON OFFICIAL DRAWINGS
0 1"
IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY

DRAWN BY: JWK
APPROVED: RSA
JOB DATE: 2014
JOB NO: 20130028

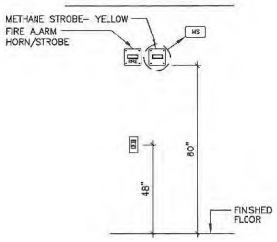
DRAWING
A002



1 FIRE ALARM PLAN
SCALE: 1/8" = 1'-0"

GENERAL FIRE ALARM NOTES:

1. SEE DRAWING E001 FOR SYMBOL LEGEND.
2. CONTRACTOR SHALL PROVIDE AND INSTALL CONDUIT AND WIRING AS NEEDED FOR FIRE ALARM SYSTEM IN ACCORDANCE WITH SECTION 26 31 1'.
3. LOCATE SMOKE DETECTORS ON SUSPENDED CEILING IN OFFICE AND TOILET.
4. PROVIDE FLUSH MOUNTED WALL OUTLET BOXES FOR MANUAL PULL STATIONS AND A/V SIGNALS FOR IN OFFICE AND TOILET.
5. CONCEAL FIRE ALARM CONDUITS IN OFFICE AND TOILET.
6. FIRE ALARM WORK SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72.
7. SEE DRAWING E001 FOR FIRE ALARM SYSTEM LEGEND.
8. G GAS METHANE DETECTION SENSOR (SUPPLIED BY OSE) INSTALLED BY ELECTRICAL CONTRACTOR.



2 FIRE ALARM COMPONENT PLACEMENT
SCALE: NONE

FIRE ALARM CONTROL MATRIX

	CONTROL PANEL AND ANNUNCIATOR					SYSTEM NOTIFICATION							AUXILIARY CONTROL				
	AUDIBLE AND VISUAL ALARM INDICATION	SUPERVISORY ALARM INDICATION	TROUBLE INDICATION			FIRE – AUDIBLE ALARM SEQUENCE	FIRE – VISUAL ALARM SEQUENCE	TRANSMIT ALARM SIGNAL (DACT) (NOTE 2)	TRANSMIT TROUBLE ALARM SIGNAL (DACT)(NOTE 2)	TRANSMIT SUPERVISORY ALARM (DACT)(NOTE 2)		METHANE – AUDIBLE ALARM SEQUENCE	METHANE – VISUAL ALARM SEQUENCE	HVAC FAN SHUTDOWN		SWITCHGEAR PLC EMERGENCY TRIP		
MANUAL STATIONS	X					X	X	X						X		X		
SMOKE DETECTORS	X					X	X	X						X		X		
HEAT DETECTORS	X					X	X	X						X		X		
METHANE 1ST ALARM (HIGH)		X								X		X	X					
METHANE 2ND ALARM (HIGH HIGH)		X								X		X	X					
METHANE TROUBLE ALARM			X						X									
FIRE ALARM AC POWER FAILURE			X						X									
FIRE ALARM LOW BATTERY			X						X									
FIRE ALARM GROUND FAULT, OPEN CIRCUIT, SHORT CIRCUIT			X						X									

NO. DATE BY REVISION DESCRIPTION

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HRGreen Environmental & Infrastructure

JED SWMF RENEWABLE LANDFILL GAS TO ENERGY FACILITY
CB&I ENVIRONMENTAL AND INFRASTRUCTURE
ST. CLOUD, FLORIDA
FIRE ALARM
FIRE ALARM SYSTEM PLAN

BAR IS ONE INCH ON OFFICIAL DRAWINGS
0 1"
IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY

DRAWN BY: JLH
APPROVED: CJH
JOB DATE: 2014
JOB NO: 20130028

DRAWING
FA101

ROBERT J. FRAYER LICENSE No 75690 STATE OF FLORIDA PROFESSIONAL ENGINEER

Robert J. Frayer 10/2/14

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10/1/2014 10:24:55 AM 0:\20130023\CAD\Dwgs\FA\FA101.dwg

ATTACHMENT E

OPERATION PLAN FOR LEACHATE RECIRCULATION

Prepared for:

WASTE CONNECTIONS, INC.

Omni Waste of Osceola County, LLC
1501 Omni Way
St. Cloud, Florida 34773

OPERATION PLAN FOR LEACHATE RECIRCULATION

J.E.D. SOLID WASTE MANAGEMENT FACILITY

Prepared by:

Geosyntec consultants

13101 Telecom Drive
Suite 120
Temple Terrace, FL 33637

Project No. FL2987

May 2017

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FIGURE

Figure 1 – Conceptual Leachate Recirculation Layout

1. OPERATIONS

1.1 Terms of Reference

This Operation Plan for Leachate Recirculation (LRO Plan) has been prepared by Geosyntec Consultants (Geosyntec) on behalf of Omni Waste of Osceola County, LLC (Omni) for a Class I landfill known as the J.E.D. Solid Waste Management (JED) facility. The LRO Plan for the JED facility has been prepared based on the Brown and Caldwell (B&C) *Operation and Maintenance Plan for Leachate Recirculation at the JED Solid Waste Management Facility, dated* June 2008 (2008 O&M Plan).

The LRO Plan proposes various methods for the reintroduction of leachate into the landfill. Areas proposed for recirculation include active cells and future cells recognized by the existing permits through the entirety of the JED Class I landfill build-out.

The operation of the leachate recirculation system is the responsibility of Omni. The person responsible for coordinating operational activities is Landfill Site Management. Trained personnel will be responsible for performing leachate recirculation operations under the direction of the Landfill Site Management.

1.2 Leachate Recirculation Methods

Proposed leachate recirculation methods at the JED facility include the following:

- surface leachate application, by spraying, at the active working face with or without daily cover;
- leachate distribution in trenches; and
- horizontal leachate injection lines.

Each method of leachate recirculation is described in more detail in the following sections.

1.2.1 Surface Leachate Applications

Leachate may be applied at the working face to increase the moisture content of the waste prior to compaction to facilitate the compaction effort of the waste at the time of placement, resulting in the potential for an increase of airspace within the landfill. Furthermore, moisture added at the working face may provide engineering controls for dust and blowing debris.

Surface application of leachate may also be applied on waste surfaces that have daily cover, though, a distance of 50 feet (ft) from side slopes/and stormwater structures and drainage pathways must be maintained when working in close proximity to these features.

1.2.1.1 Operational Procedures and Guidelines

The application of leachate to the working face will be performed utilizing methods to minimize any adverse impact to human health, safety, and the environment. Application of leachate at the working face will be by tanker truck equipped with coarse spray nozzles, located approximately 3 to 4 ft from the surface of the waste, and directed downward to limit airborne liquids. Leachate will be applied in areas of the working face that do not interfere with active disposal operations. Ponding of leachate will be minimized by increasing the size of the application area relative to the rate of application. Leachate runoff will be controlled utilizing temporary operational containment berms and close monitoring of application rates and volumes. Odors will be controlled by regular mixing of the leachate into the waste mass using landfill compaction equipment and through the application of daily cover soil.

1.2.1.2 Leachate Application Rate

The operating area will be observed by trained personnel at the start of leachate application. Previous leachate application rate estimates presented in the 2008 O&M Plan are 4 gallons per ton of waste. The amount of leachate applied can be increased or decreased as field conditions allow. Since the leachate will be applied to waste that is not fully compacted, it is expected that the liquid will flow directly into the waste mass and be absorbed. Leachate will also be sprayed onto areas that have received daily cover soil. As these areas may be less permeable than areas with exposed waste, an evaluation of an appropriate leachate application rate may be performed through field observations. Leachate will be applied only to areas 50 ft or greater from side slopes and will be applied so as not to drain to exterior stormwater conveyance systems.

1.2.2 Leachate Recirculation in Trenches

A conceptual leachate recirculation trench layout is presented in **Figure 1**. Trenches are excavated to a depth of approximately 0.5 to 1.5-ft into the waste surface with a width of approximately 4 ft.

Proposed horizontal trenches will vary in length and spacing depending on final landfill dimensions. The conceptual trench layout presented in **Figure 1** illustrates 500 to 600-ft long trenches spaced at approximately 50 to 100-ft intervals. Trenches can be backfilled with 6 to 12 inches (in) of permeable drainage media (e.g., gravel, aggregate, processed tires, etc.) if further leachate recirculation applications are anticipated.

1.2.2.1 Operational Procedures and Guidelines

Leachate recirculation in trenches may be applied in a layout as presented conceptually in **Figure 1**. Daily applications of leachate will be applied for the duration of one to two weeks.

Estimated quantity and rate of leachate to be recirculated in each trench will be evaluated once the capacity and permeability of the waste in the trench has been evaluated. Initial recirculation rate in trenches is discussed in the following section.

When implemented near areas of the active landfill gas collection system, leachate recirculation in trenches with permeable drainage media may not be a viable option due to air intrusion.

1.2.2.2 Leachate Application Rate

Based on estimates provided in the 2008 O&M Plan, the volume of waste in place at the 90 ft waste elevation, and taking into consideration that leachate recirculation will not be applied within 50 ft from the top crest of slope, the total leachate that will be recirculated to reach a moisture content of 23 percent by weight for each trench is approximately 347,750 gallons per 500-ft long trench (as presented in the 2008 O&M Plan) or approximately 69,550 gallons per 100-ft of trench.

The daily leachate application rate in each trench will be dependent on the availability prior to the vertical expansion of the waste fill.

1.2.3 Horizontal Leachate Injection Pipelines

The leachate recirculation system may also include horizontal injection pipes buried in the waste. Initially, recirculation tests utilizing horizontal pipes will characterize the leachate recirculation capacity of the injection trenches. A conceptual layout of the leachate recirculation trenches and injection pipe are presented in **Figure 1**. The installation of the horizontal injection pipes will be based on factors such as the depth to the existing pipes, the total future height of the waste, and the area that is being filled.

1.2.3.1 Operational Procedures and Guidelines

The horizontal leachate injection pipes will be constructed as waste is deposited. During installation activities, waste filling operations will be diverted to an area of the landfill away from the construction activity. Horizontal injection pipes are constructed by excavating trenches at a minimum 50-ft intervals into recently placed waste on a landfill. Trenches are excavated to a depth of approximately 3-ft and a width of 4-ft. A permeable drainage media (e.g., gravel, aggregate, processed tires, etc.) is placed in the bottom of the trench and in some cases on top of the pipe. Some injection trenches may be constructed without drainage media and/or without pipe. Trenches will be backfilled with waste once the pipe and bedding materials are installed. Efforts will be made during backfilling to cover the trench in the same manner as the waste surrounding the trench to avoid later channeling through the cover soil layer around the trench. Following installation of the pipes, the actual location (elevation and horizontal location) will be documented using GPS equipment.

1.2.3.2 Leachate Application Rate

The daily leachate application rate in each injection line will be dependent on the amount of waste in place at the time of application.

1.3 Environmental Controls

1.3.1 Prevention of Leachate Runoff

This section outlines the surface application procedures to be followed for the leachate recirculation system. Also, engineering controls will be implemented to protect human health, safety, and the environment and include the following:

- Leachate will not be applied to the working face if it is raining sufficiently to result in runoff from the landfill. The application of leachate will be postponed if rainfall exceeds 0.2-in of rainfall per 24-hour period.
- Leachate will not be applied at a rate that creates runoff from the operating area that could potentially reach exterior stormwater management systems.
- Leachate will not be applied within 50 ft of the exterior slopes of the landfill or operational slope.
- Temporary operational stormwater control diversion berms and proper grading of areas that receive recirculation will be utilized to provide containment within the application area.

1.3.2 Prevention of Leachate Contact with Operators

Leachate recirculation at the surface will be applied using a facility water truck with side bar discharge or spray nozzle with directional and volume controls located inside the cab of the truck. The following guidelines will be used:

- No facility personnel will be in contact with the leachate.
- No facility personnel, outside of the operational vehicles, will be allowed in the vicinity of the application area at the time of the application of leachate.
- The discharge nozzles will be non-atomizing and can be adjusted so that a steady stream of leachate can be applied at a controlled rate.
- Leachate will not be applied to the working face in winds exceeding 20 miles per hour (mph).
- Leachate will be applied at the working face, but in areas away from the active disposal area, when possible, to provide additional protection for dump truck drivers and other facility operators.

1.3.3 Prevention of Leachate Ponding and Instability of the Waste Mass

Leachate recirculation will be limited to an amount that will result in less than 100 percent saturation of the waste. Initially, the application rate will not exceed 4 gallons per ton of waste placed within the recirculated area, as estimated on a weekly average. The quantity of leachate applied may be adjusted based on field conditions.

The leachate application rate will be adjusted as necessary to achieve an average waste moisture content of approximately 23 percent by weight (2008 O&M Plan).

Leachate will be applied in an area of the working face large enough to prevent localized ponding of leachate. Initially, an application rate of 4 gallons per ton from the leachate tanker truck will be used. The size of the application area will be determined through observations of the performance of the recirculation system. Also, the sections with previously applied leachate will be covered with incoming, unsaturated waste incrementally to minimize ponding and to control odors.

Moisture content will be evaluated monthly or other determined frequency basis using moisture mass balance.

1.3.4 Leachate Monitoring

Monitoring activities for the leachate recirculation program may include recording the quantity of leachate applied to the different zones of the landfill (either at the surface or by subsurface injection pipeline) and the quantity of leachate pumped out of the leachate collection system each day.

1.3.5 Surface Seeps

- During preliminary and routine operation, the landfill surface must be examined daily for leachate seeps due to leachate that has short circuited. The results of these inspections will be recorded on a facility inspection form.
- During seep inspection events, the operator is to examine the side slopes of the landfill at the elevation of the active recirculation lines and below.
- The operator will physically examine the surface of the landfill in the vicinity of the leachate injection pipes and look for signs of seepage including excessive moisture on the surface, discoloration, and/or leachate odors.
- The operator will look for signs of leachate seepage on the perimeter berm or on the access road that may have been a result of a subsurface seep.
- When surface seeps are encountered, the operator will attempt to identify the source of the seep. Leachate recirculation activities in the area of the seep will cease until

the extent of the problem and possible corrective measures have been evaluated. Corrective measures include eliminating or reducing the leachate recirculation rates to certain areas of the landfill where seeps occur, or increasing the amount of cover material in areas of seeps.

1.4 Reporting Requirements

The daily reporting responsibilities of facility personnel include the following:

- Completing operation reports and inspection forms in accordance with the facility Operation Plan.
- Recording locations of leachate recirculation, leachate recirculation rates, leachate production rates, and pressure readings, as necessary.

1.5 Responsibilities and Training

Training for operators of the recirculation system will be conducted by the Landfill Site Management or a person designated by the Landfill Site Management. Training topics may include the following discussions:

- objectives of the leachate recirculation system;
- operation of the leachate collection system;
- spray application of leachate at the working face;
- trench excavation and leachate application;
- installation, operation and maintenance of horizontal injection lines and pumping equipment;
- contingency operations;
- review of emergency contacts; and
- emergency shut-down procedures.

2. CONTINGENCY

This section discusses the operational procedures to be followed during severe weather events, fire or explosions at the JED facility as they relate to the leachate recirculation system.

2.1 Severe Weather Conditions

If severe weather conditions, such as hurricanes, are imminent, the facility personnel shall cease leachate recirculation operations.

Following the severe weather event, the operator shall perform the following procedures:

- Upon confirming that the system is in operable condition, proceed with leachate recirculation operations by opening the valves to allow flow to the injection pipelines and for surface applications proceed with leachate spraying. For leachate injection pipelines, the system is deemed to be in operable condition if a visual inspection of the system does not reveal any broken or damaged pumps, piping, valves, or fittings. Once the system is restarted, the system should be visually inspected again to ensure that there is no leakage due to unseen damage.
- If the inspection of the leachate recirculation system indicates damage that could impact proper leachate recirculation operation, the leachate shall be trucked to an approved disposal facility, as necessary, until repairs can be completed.

2.2 Fire or Explosion

In the event of a fire or explosion at the landfill, the leachate recirculation operations shall be stopped until the fire has been successfully extinguished or it has been verified that there is no further danger of explosion.

2.3 Emergency Contacts

In the event of an emergency, the list of contacts includes the following:

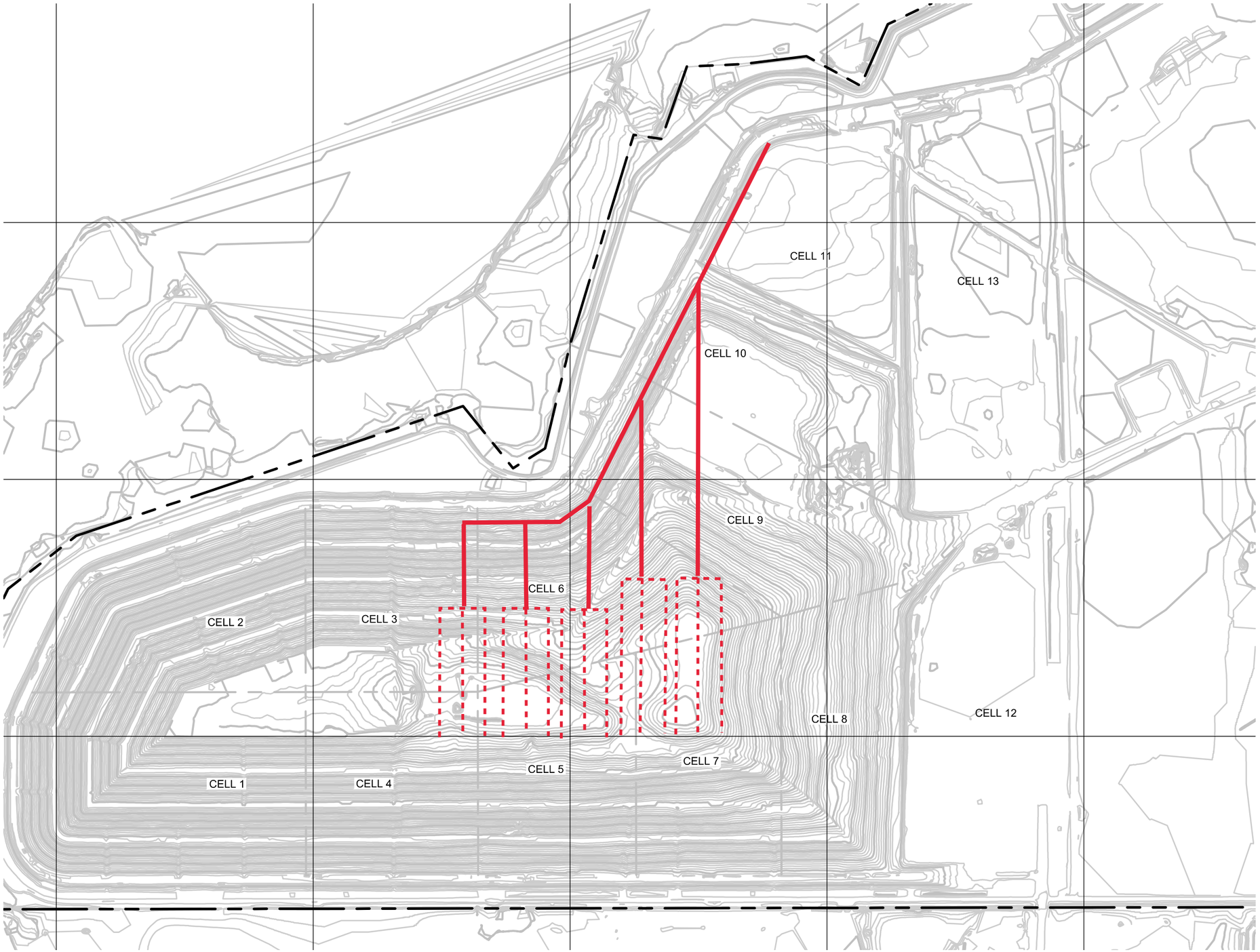
Emergencies:	911
Fire Services	(407) 348-2222
Rescue Squad	(407) 343-7000
Hospital	(407) 846-4343
JED Solid Waste Management Facility	(407) 891-3720
Florida “Hot Line”	(904) 488-1320
Florida Department Environmental	(407) 897-4100
FDEP Solid Waste Division	(407) 897-4304

2.3.1 Personnel Availability

No recirculation operations should be conducted unless trained facility personnel are available to properly perform the activities as described in this LRO Plan.

FIGURE 1

Conceptual Leachate Recirculation Layout



N

0 400'

SCALE IN FEET

LEGEND

TRENCH/INJECTION LINE

LEACHATE TRANSMISSION LINE

JED SOLID WASTE MANAGEMENT FACILITY
ST.CLOUD, OSCEOLA COUNTY, FLORIDA

CONCEPTUAL LEACHATE RECIRCULATION LAYOUT

Geosyntec consultants

FIGURE 1

PROJECT NO: FL2987.01

MAY 2017

I:_CADD (PROJECTS)\J\JED LANDFILL\FIGURE\FL2987.01\FL2987.01F02

ATTACHMENT F

WASTE SOLIDIFICATION OPERATION PLAN

Omni Waste

of Osceola County, LLC
1501 Omni Way
St. Cloud, Florida 34773

REQUEST FOR PERMIT MODIFICATION

OPERATION PERMIT

FDEP Operation Permit SO49-0199726-005
DEP ID Number: 89544 (WACS)

J.E.D. SOLID WASTE MANAGEMENT FACILITY

Prepared by:

HDR | ONE COMPANY *Many Solutions*

15450 New Barn Road - Suite 304
Miami Lakes, FL 33014
Phone: (305) 728-7400

September 2008
Revised October 2008

Brenda Anntwith Clark
29 October 2008

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   2.2 Types of Wastes

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   3.2 Daily Incoming Volume
   3.3 Waste Processing
   3.4 Operator Training
   3.5 Equipment Cleaning

4. Testing and Record Keeping

   4.1 Overview
   4.2 Testing
   4.3 Record Keeping

Figures

Figure 1: Hazardous and Non-Hazardous Waste Screening Flow Diagram
Figure 2: General Layout of Waste Solidification Area

Attachments

Attachment A: Special Waste Reference Guide
Attachment B: Training Documentation
Attachment C: Paint Filter Test Method
Attachment D: Liquid Waste Processing Record

1. INTRODUCTION

HDR Engineering, Inc. (HDR) has prepared this Waste Solidification Operation Plan (WSO Plan) to describe waste solidification operations that will be performed at the J.E.D. Solid Waste Management Facility (JED Facility). The JED Facility is owned and operated by Omni Waste of Osceola County, LLC (Omni), a subsidiary company of Waste Services, Inc. (WSI). This WSO Plan has been prepared in accordance with the requirements of Rule 62-701 of the Florida Administrative Code (FAC) and serves as an addendum (Appendix E) to the permitted Operation Plan prepared by Geosyntec Consultants and dated 14 September 2007. The information included in this WSO Plan is not replacing information in the permitted Operation Plan. The J.E.D. Facility is currently operating in accordance with FDEP Permits Numbered SC49-0199726-004 and SO49-0199726-005, dated March 22, 2007, and subsequent permit modifications.

The intent of the WSO Plan is to describe activities and procedures that will be implemented by site operations personnel in performing waste solidification activities at the JED Facility. Omni intends to accept non-hazardous liquid and semi-liquid wastes at the JED Facility and solidify the wastes using solid waste materials presently accepted for disposal. Solid waste materials used to solidify the liquid and semi-liquid wastes will be those types that characteristically have higher moisture absorptive characteristics (i.e., auto shredder fluff, contaminated and clean soils, cement, lime and ash based wastes, and recovered screen materials (RSM)). Waste solidification operations will be performed within the lined limits of the Class I disposal area and solidified wastes will be transported and disposed at the active landfilling area.

2. LIQUID AND SEMI-LIQUID WASTE RECEIPT

2.1 Processing Customers

The transporter/generator of a liquid or semi-liquid waste to the JED Facility will be approved by Omni prior to delivery and acceptance. Liquid and semi-liquid waste streams will be screened in accordance with Omni's special waste acceptance policy to confirm the wastes are non-hazardous in accordance with State and Federal regulations. A copy of the Special Waste Reference Guide is presented in Attachment A. A typical hazardous and non-hazardous waste screening flow diagram is shown on Figure 1. As part of Omni's special waste acceptance policy, Omni requires a non-hazardous waste manifest be generated for all special waste streams. This requirement will include liquid and semi-liquid wastes accepted for solidification. Generally, non-hazardous waste manifests must be received at the JED Facility 24-hours prior to delivery to allow review and approval by Omni site personnel or a 3rd party consultant contracted by Omni.

Upon entering the site, the transporter/generator of the liquid or semi-liquid waste will be required to stop at the weigh scales. The transporter/generator will be required to provide the scale house attendant a copy of an Omni approved non-hazardous waste manifest. All waste will be weighed upon entering the site. The weigh scale attendant will record the weight, type of waste, and transporter/generator information. The weigh scale attendant will then contact appropriate site personnel to notify them that a load of liquid or semi-liquid waste has been received and will direct the driver to the waste solidification area to be received by a spotter. The spotter will direct the customer to the specific offloading location and will monitor offloading activities.

2.2 Types of Wastes

As previously noted, wastes accepted for solidification will be liquid and semi-liquid wastes that are classified as non-hazardous according to State and Federal regulations. Typical wastes may included pumpings from maintenance and cleaning of septic systems, oil/water separators, drainage inlets, and other types of collection systems. Other wastes may include by-products and waste waters generated from industrial manufacturing activities, drilling fluids, bilge waters, and groundwater/soil contamination remediation activities.

3. WASTE SOLIDIFICATION OPERATING AREA AND PROCESSING PROCEDURES

3.1 Waste Solidification Operating Area

The waste solidification operating area will be clearly designated with visible signs at the site. Signage for the incoming traffic will be provided to direct them to the waste solidification operating area. The GPS co-ordinates of the solidified waste disposal locations within the Cell footprint will be recorded. This data will be maintained at the site and be readily available during Department inspections.

Liquid and semi-liquid wastes will be discharged only at the area designated for solidification operations. The designated area will be located within the limits of a lined disposal area which has been approved by the FDEP for Class I landfilling operations. The designated area will be relocated as necessary as landfilling operations progress. An ideal location will be an easily accessible flat area separate from the daily active landfilling operations. A typical layout of the waste solidification operating area is shown on Figure 2. As shown on Figure 2, the area will include water-tight solidification containers (i.e., 20-40 cubic yard roll-off or similar containers) for solidification of the liquid and semi-liquid wastes. Additionally, sufficient area surrounding the solidification containers will be provided to stockpile solid waste materials that will be used for the absorptive media and sufficient area for staging of equipment used to mix the waste streams and load out for transport to the active landfilling area. The dimensions and number of solidification containers shown on Figure 2 are approximate and will be adjusted as necessary based on the incoming quantities of liquid and semi-liquid wastes and other operating needs.

The landfill grades surrounding the waste solidification area will be graded to provide stormwater drainage away from the area. All weather access roads will be constructed to the area and maintained for safe access by customers. Grading and base material will be provided in areas adjacent to the solidification containers as needed to provide a firm stable working area for heavy equipment used in the waste solidification operations. The water tight containers will be slightly raised above the surrounding waste elevation to further prevent surface water run-off into the containers. Raised containers will also help prevent spillage of the liquid waste onto the surrounding landfill surface.

In accordance with the requirements of Rule 62-701.500(1) of the FAC, at least one trained spotter will be on duty in this area during discharge of the liquid waste.

3.2 Daily Incoming Volume

Daily incoming volumes of liquid and semi-liquid wastes accepted for solidification will depend on the following factors: 1) Market availability of liquid and semi-liquid wastes; 2) The number of solidification containers stationed at the area for processing of incoming wastes; 3) Available volumes of solid waste solidification materials for use as the absorptive media; 4) The time necessary to solidify the wastes and complete testing; and 5) Weather conditions. It is anticipated that the site will have an approximately five 20-40 cubic yard solidification containers available for processing liquid and semi-liquid wastes and any one time. If necessary, Omni may station portable water-tight Frac storage tanks near the solidification area to temporarily store liquid and semi-liquid

wastes if volumes are expected to exceed the daily solidification capabilities on a short term basis. Solidification operations will not occur during extreme wet weather conditions.

3.3 Waste Processing

Following initial processing at the weigh scale, the liquid or semi-liquid waste will be discharged into the solidification containers under a controlled flow rate to reduce splashing and overspill. Discharge operations will be monitored by the spotter to ensure liquid waste is discharged into the containers and not onto the surrounding landfill area, and to confirm the waste matches the description on the non-hazardous waste manifest. The spotter will notify the site Operator (trained and responsible for solidification operations) that a load has been received and is ready to be processed. The site Operator will complete solidification operations as described below by the end of that working day. There will be no overnight storage of liquid or semi-liquid wastes in the water tight containers.

A sufficient quantity of solid waste solidification material will be stockpiled in the area near the solidification containers. The types of materials that may be used for solidification include, but will not necessarily be limited to, auto shredder fluff, contaminated and clean soils, cement, lime and ash based waste streams, recovered screen materials (RSM), and other moisture absorptive materials received at the site for disposal.

Equipment used for processing will typically include an excavator or backhoe to place and mix the solid waste solidification materials in the water tight containers, and heavy earthmoving trucks to transport solid waste solidification materials to the solidification area and haul solidified waste to the active disposal area. These types of equipment are currently available at the JED Facility and will be used as needed to support solidification operations. Additional equipment will be purchased or rented if necessary to support operations.

The liquid or semi-liquid waste solidification process will consist of the following steps:

- Estimating the amount of liquid or semi-liquid waste and solid waste solidification material that can be added to the water tight container to avoid overfill. This estimate will be based on field practice as the site Operator becomes familiar with the absorptive characteristics of various solid waste types;
- Understanding the characteristics of the liquid or semi-liquid waste to be placed in the containers to ensure potentially incompatible wastes are not placed in the solidification containers at the same time;
- Placing the appropriate amount of liquid or semi-liquid waste in the water tight containers;
- Adding and mixing solid waste solidification materials to the liquid or semi-liquid waste;
- Allowing time for curing or absorbing of the wastes, and remixing if necessary;

- Testing of the solidified wastes to determine if acceptable for disposal at the active landfilling area;
- Adding and mixing of additional solid waste solidification materials if testing fails; and
- Retesting of remixed and solidified waste.

As noted above, once the liquid or semi-liquid waste is stabilized, the waste will be tested as described in the following Section. If testing confirms the solidified waste meets the minimum standards for classification as a solid waste, the waste will be loaded onto heavy earthmoving trucks and hauled to the active landfilling area for disposal in accordance with the permitted Operation Plan.

3.4 Operator Training

Employees that perform the mixing of the liquid wastes with the stabilizing materials will be required to go through a training program. The program will include training on the following: (i) discharge of liquid waste to the waste solidification containers; (ii) placement of the stabilizing materials in the waste solidification containers; (iii) mixing of the liquid waste and stabilizing materials; (iv) testing of stabilized wastes; (v) procedures when materials are not properly stabilized; (vi) removal of stabilized waste from the waste solidification containers; (vii) disposal of stabilized waste at the active waste disposal area; (viii) proper maintenance of the waste solidification area; and (ix) proper usage of all equipment involved in the operations. Training documentation is presented in Attachment B. The documentation will be maintained at the site.

3.5 Equipment Cleaning

It is not anticipated that cleaning of the containers used for the waste solidification operation will be required. Any liquid materials placed in the containers will be solidified. All solidified materials will be removed from the container.

Should cleaning of the equipment used for the waste solidification operation be required, it may be performed with water. The cleaning can be performed such that the equipment is suspended over the waste solidification containers and sprayed with water. The water will collect in the container and be mixed with incoming liquid wastes and solidification materials.

4. TESTING AND RECORD KEEPING

4.1 Overview

Upon completion of the mixing of the liquid or semi-liquid waste with the solid waste solidification materials, the waste will be allowed to cure, if necessary. The length of the curing period will be dependent upon the type of liquid or semi-liquid waste and the solid waste solidification material used. In some instances, a curing period may not be required. The site Operator will visually monitor the wastes during mixing and curing period to confirm the processed wastes are relatively consistent prior to retrieving a sample for testing.

4.2 Testing

A trained site employee will perform testing of solidified wastes as described below. The site Operator will use the excavator or backhoe to scoop loads of solidified waste from the solidification container. A composite sample will be obtained by collecting three approximately 100-milliliter (mL) samples from different areas of the processed waste. The three samples will be mixed together and approximately 100 mL of the composite sample will be tested according to United State Environmental Protection Agency Paint Filter Liquids Test Method 9095B. A copy of this test method is included in Attachment C. A schematic of the test apparatus is also included in Attachment C.

The test procedure consists of the following:

- Assemble ring, ring stand, funnel, conical paint filter (mesh number 60, or fine mesh), and receiving graduated cylinder or beaker;
- Deposit 100 mL, or 100 milligrams, of the composite waste sample in the filter;
- Allow the sample to drain for at least 5 minutes, recording start and finish times;
- Check graduated cylinder or beaker below funnel to determine if liquid passed through the filter; and
- Record test result of liquid passing through filter and into graduated cylinder or breaker.

If no liquid passes through the paint filter and drips into the receiving graduated cylinder or beaker, the processed waste is defined as containing no free liquids. A processed waste that is determined to contain no free liquids will be removed from the liquid waste processing area and transported to the active landfilling area and disposed in accordance with the procedure outlined in the Operation Plan. If any liquid drips from the funnel into the receiving graduated cylinder or beaker, the waste is defined as containing free liquids and must be reprocessed and retested until it contains no free liquids.

Training for employees performing the paint filter testing will be performed by a third party consulting or testing company. Subsequent training of new employees will also be performed by a third party.

4.3 Recordkeeping

Information regarding the receipt and processing of each shipment of liquid waste will be recorded on the sample form included as Attachment D. All completed forms, including non-hazardous manifests, and training records will be filed and maintained at the JED Facility administration office. The records shall be maintained for the design period of the landfill.

ATTACHMENT A

SPECIAL WASTE REFERENCE GUIDE

SPECIAL WASTE
REFERENCE GUIDE

A. OVERVIEW

The federal government agency responsible for dealing with air, water, and soil pollution is the Environmental Protection Agency (EPA). It headquarters in Washington, D.C. and is divided into ten regional offices, each of which is headed by a Regional Administrator. The following are individual pieces of federal legislation addressing the management of solid and hazardous waste.

Resource Conservation and Recovery Act (RCRA)

The Solid Waste Disposal Act (SWDA), enacted in 1965, was the first federal legislation that addressed the nation's solid waste management practices. RCRA was enacted in 1976, as an amendment to the SWDA, but it completely rewrote the earlier act. In 1984, the Hazardous and Solid Waste Amendments (HSWA) amended RCRA by adding restrictions on the land disposal of certain wastes, corrective action requirements and underground storage tank (UST) regulations. These three acts, SWDA, RCRA and HSWA, are commonly referred to as RCRA.

The purpose of RCRA was to regulate the disposal of waste on the land. The Act required that the EPA promulgate regulations that were designed to protect human health and the environment with respect to the land disposal of waste.

The regulations promulgated under RCRA can be found in the Code of Federal Regulations, Title 40, (40 CFR) in Parts 247 through 280. The act is divided into sections called subtitles, and hazardous wastes are regulated under the *Subtitle C* program, from generation through use and disposal. Municipal Solid Waste and Industrial Solid Waste are managed under the *Subtitle D* program, and leaking underground storage tanks are addressed in the *Subtitle I program.* Key sections pertaining to the identification of hazardous waste are listed below:

PART NO.	SUBJECT
260	Definitions associated with solid and hazardous waste
261	Identification and listing of hazardous waste
268	Land Disposal Restrictions
280	Underground Storage Tank (UST) – Technical Standards and Corrective Action Requirements

RCRA Subtitle D Rule

The EPA promulgated regulations addressing Municipal Solid Waste Landfill criteria in October 1991. These regulations were promulgated under Subtitle D of the Resource Conservation and Recovery Act or (RCRA) and are commonly referred to as the "Subtitle D Rules." The regulations are found in the Code of Federal Regulations, Title 40, Part 258 (40 CFR §§258).

The regulations apply to owners and operators of all municipal solid waste landfills that receive waste after October 9, 1993. Landfills that stopped accepting waste before October 9, 1991, are not affected by these regulations.

The regulations apply to landfills that accept municipal solid waste. They do not apply to units (including landfills, surface impoundments, waste piles, and land applications units) that accept only industrial non-hazardous waste.

The regulations establish comprehensive, protective standards for managing solid waste by specifying:

- location provisions (defining areas where landfills are prohibited)
- design standards (liners & leachate collection systems)
- operating requirements (random hazardous waste inspection procedures, daily cover requirements, record keeping, water management)
- closure and post-closure requirement (designed cover systems, financial assurance for 30 years)

RCRA Solid and Hazardous Waste
The Resource Conservation and Recovery Act (RCRA) and regulations promulgated in accordance with the Act (code of Federal Regulations, Title 40, Part 260-261), define both solid and hazardous waste.

The regulations in 40 CFR §261 set forth the procedures for evaluation of each waste material to determine if the waste is a hazardous waste.

RCRA SOLID WASTE
Solid waste is not a scientific term but a regulatory one. In fact, solid waste may not be in the solid state at all. For instance, a liquid waste in a 55-gallon drum is a solid waste. So is a bulk liquid waste stored in a tank. A gaseous waste which is stored in a compressed gas cylinder is a solid waste. The definition of solid waste found in RCRA.

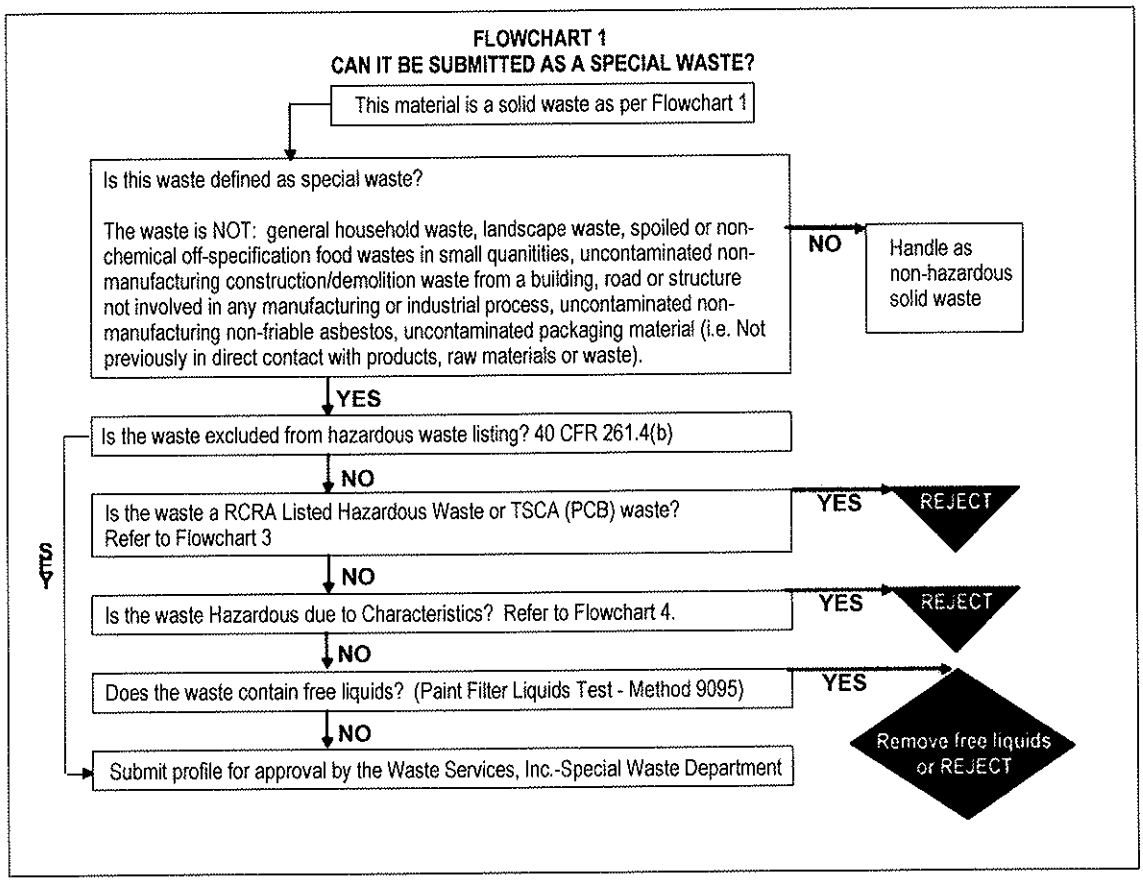
Each generator of solid waste has the responsibility of characterizing their waste streams. To do that they must consider many things. What processes do they come from? What raw materials or other chemicals go into them? What chemical reactions, if any, have taken place? How many pounds or tons or gallons per hour are generated? What characteristics do they exhibit? Is it a listed chemical or process?

The first step in evaluating a material for management is to determine if the material is a solid waste as set forth in 40 CFR 260-261. Flowchart 1, entitled "Solid Waste Decision Tree" outlines this first step. Once the waste is characterized as a solid waste, Flowchart 2 – Special Waste Acceptance Decision Tree is used to complete the waste classification process.

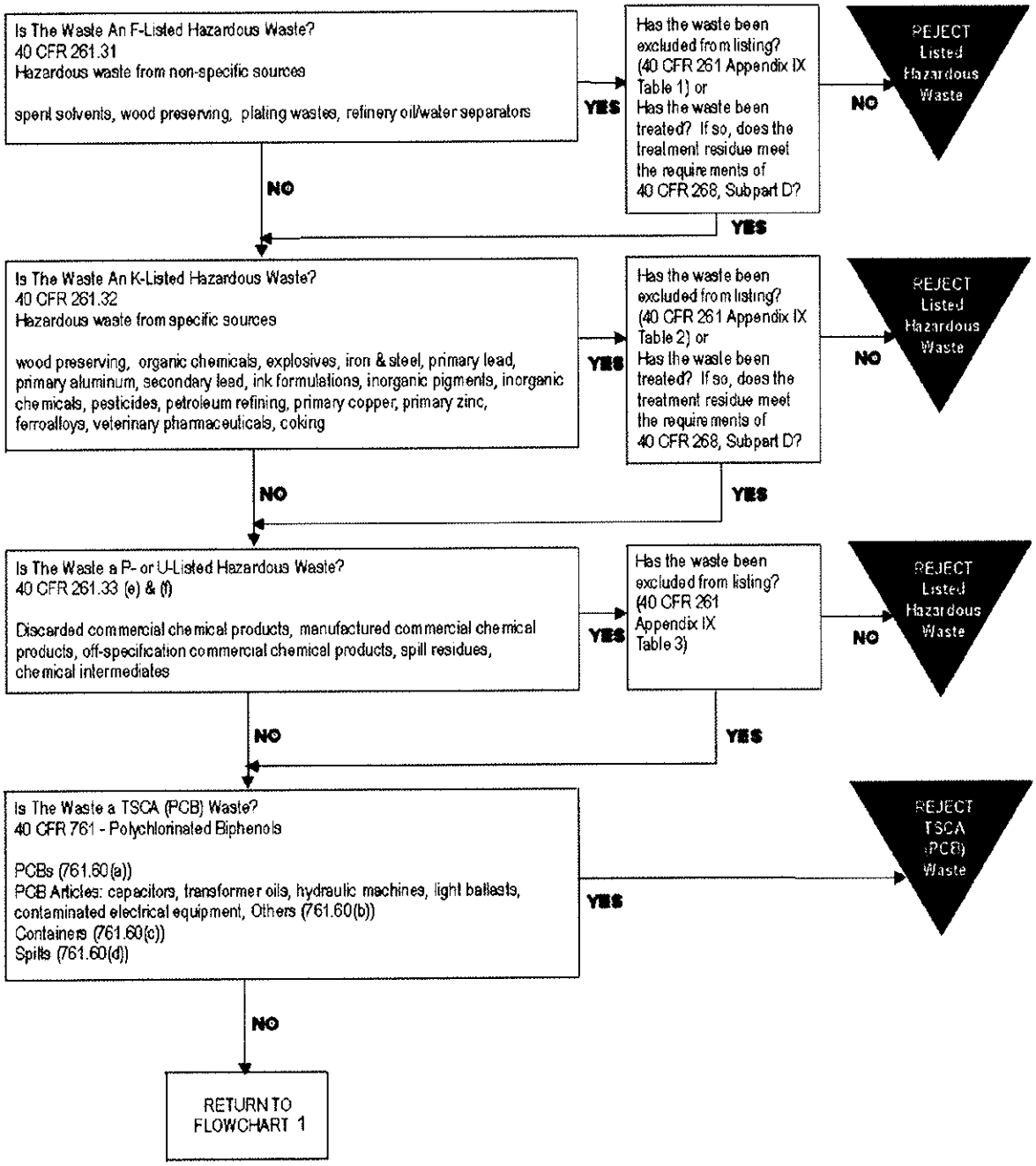
RCRA HAZARDOUS WASTE
Determining whether a waste is a RCRA hazardous waste is perhaps one of the most complex steps within the RCRA regulations. The regulations found in 40 CFR Part 261 use a step-by-step identification process. A solid waste is characterized as a hazardous waste in one of two ways:

1. It exhibits the characteristics of a hazardous waste; or is a "*characteristically hazardous waste*".
2. It is listed by the EPA as a hazardous waste either by process or as a pure product, termed a "*listed hazardous waste*".

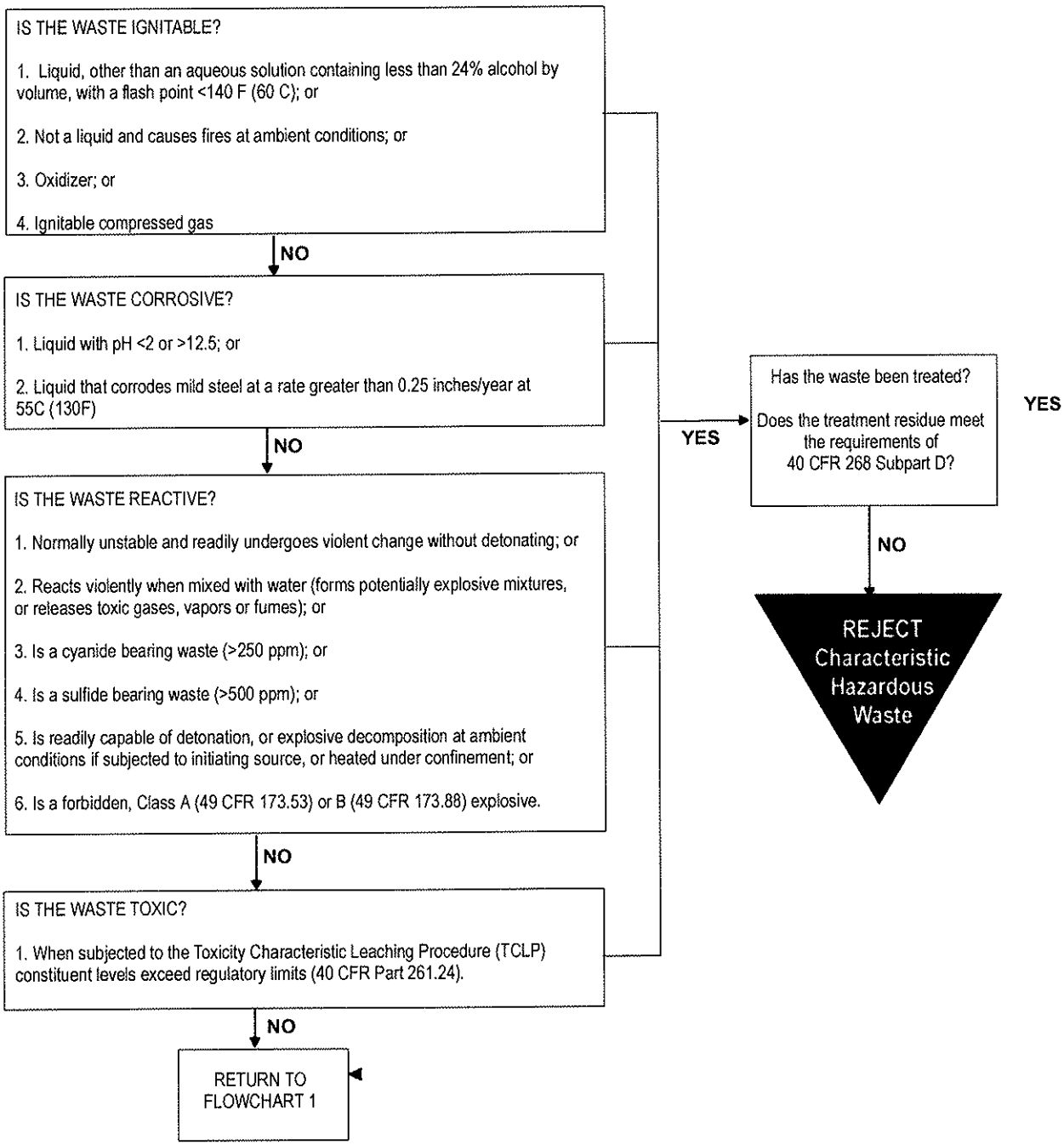
The process used to evaluate a waste for characteristics and listings is outlined in Flowcharts 2 and 3 entitled "Hazardous Waste Determination – Listings" and "Hazardous Waste Determination – Characteristics".


FLOWCHART 1
CAN IT BE SUBMITTED AS A SPECIAL WASTE?
This material is a solid waste as per Flowchart 1
Is this waste defined as special waste?
The waste is NOT: general household waste, landscape waste, spoiled or non-chemical off-specification food wastes in small quanitities, uncontaminated non-manufacturing construction/demolition waste from a building, road or structure not involved in any manufacturing or industrial process, uncontaminated non-manufacturing non-friable asbestos, uncontaminated packaging material (i.e. Not previously in direct contact with products, raw materials or waste).
NO
Handle as non-hazardous solid waste
YES
Is the waste excluded from hazardous waste listing? 40 CFR 261.4(b)
NO
Is the waste a RCRA Listed Hazardous Waste or TSCA (PCB) waste? Refer to Flowchart 3
YES
REJECT
NO
Is the waste Hazardous due to Characteristics? Refer to Flowchart 4.
YES
REJECT
NO
Does the waste contain free liquids? (Paint Filter Liquids Test - Method 9095)
YES
Remove free liquids or REJECT
NO
Submit profile for approval by the Waste Services, Inc.-Special Waste Department
YES

FLOWCHART 2
HAZARDOUS WASTE DETERMINATION
LISTINGS



FLOWCHART 3
HAZARDOUS WASTE DETERMINATION
CHARACTERISTICS



Toxic Substances Control Act (TSCA)
The Toxic Substances Control Act (TSCA) was passed in 1976 to ensure the protection of human health and the environment from toxic chemical substances. The regulations promulgated under TSCA are found in the Code of Federal Regulations, Title 40, Parts 700 to the end. TSCA applies to pure chemical substances, impurities and contaminants found in chemicals and incidental reaction products formed when a compound is manufactured or when it is used. The most common toxic constituent evaluated with regard to WSI's special waste, are polychlorinated biphenyls (PCBs), regulated under TSCA at 40 CFR Part 761.

Clean Water Act (CWA)
The Federal Water Pollution Control Act (FWPCA) amended by the Clean Water Act Amendments of 1977, establishes the standards and requirements for the protection of the nation's waters. One of the key components under Section 402 of the Act is the requirement to have the EPA administer a national permit program for the regulation of discharge of pollutants into waters of the United States. The national permitting program established by the EPA is known as the National Pollutant Discharge Elimination System (NPDES). Regulations promulgated in response to the requirements of the CWA are found in the Code of Federal Regulations, Title 40, Parts 100-149 and 400-699 (40 CFR §§100-149; §§400-699).

Although the regulations promulgated under the CWA do not directly effect WSI's special waste acceptance criteria, the regulations set standards and requirements for our business partners. Major components of CWA regulations include:

PART NO.	SUBJECT
117	Wetlands
122	Discharge Permits
403	Pretreatment Regulations for Publicly Owned Treatment Works (POTWs)
323	Dredge and Fill Operations
131	Water Quality Standards
---	Wastewater Treatment Plant Sludge Management (Section 503)
---	Oil and Hazardous Substance Discharges

Superfund
The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) are commonly referred to as SUPERFUND.

CERCLA, passed in 1980, established the policies to clean up hazardous waste sites used for the improper disposal of hazardous waste. A 1979 survey estimated between 30-50 thousand sites existed. The intent of CERCLA was to accomplish the following:

- Development of a national inventory of inactive hazardous waste sites (National Priorities List – NPL).
- Definition of requirements to protect human health environmental response actions and the environment (National Contingency Plan).

- Establishment of a fund to finance the clean-up of sites.
- Establishment of a payback system for costs by liable parties (Potentially Responsible Parties (PRPs).

Regulations promulgated in response to CERCLA are found in the Code of Federal Regulations, Title 40, Parts 300-399 (40 CFR §§330-399).

SARA, passed in 1986, amended CERCLA by providing the following:

- Additional funding for cleanups.
- Scheduling of EPA cleanup activities.
- Establishment of national cleanup standards for Superfund sites.
- Cleanup of sites owned by the federal government.
- Requirements for research and training on hazardous substances.
- Authority for EPA to enter into settlements with responsible parties.
- Citizen's rights to participate in cleanup decisions.
- Enhancement to EPA response and enforcement authority.
- Strength to the role of the Toxic Substance and Disease Registry Agency.
- Establishment of standards for the cleanup of leaking USTs in which responsible parties are unknown.

Regulations promulgated under SARA amend CERCLA regulations found at 40 CFR §§300-399.

"Corrective Action Soils" – Petroleum Contaminated Soils
As a result of significant press and public attention in the 1980s, regarding the "unaddressed source of groundwater contamination," leaking underground petroleum storage tanks, EPA developed regulations for underground storage tanks (USTs) to prevent, detect and correct releases.

The UST regulations are found in the Code of Federal Regulations, Title 40, Part 280. In summary, the regulations set standards from installation to closure for owners and operators of certain USTs. The standards include:

- Tank design, construction, installation and notification requirements.
- General operating requirements.
- Release detection.
- Release reporting, investigation, and confirmation.
- Release response and corrective action requirements.
- Closure requirements.
- Financial responsibility requirements.

The soils resulting from corrective action typically are the petroleum contaminated soils generated from corrective action requirements initiated under 40 CFR 280.

ATTACHMENT B

TRAINING DOCUMENTATION

TRAINING DOCUMENTATION

My signature below indicates that I participated in the waste solidification training program at the J.E.D. Solid Waste Management Facility. As part of this program, I have been trained to perform the following activities (indicate by placing initials next to items for which you have received training):

_____ Liquid waste discharge to waste solidification tank

_____ Placement of stabilizing materials in the waste solidification tank

_____ Mixing of liquid waste and stabilizing materials

_____ Testing of solidified wastes

_____ Procedures to follow when waste solidification is not complete

_____ Removal of solidified waste from the solidification containers

_____ Disposal of solidified waste at the active waste disposal area

_____ Proper maintenance of the waste solidification area

_____ Proper operation of all required equipment

_____ _____

Employee Signature Date

_____ _____

Supervisor Signature Date

ATTACHMENT C

PAINT FILTER TEST METHOD

METHOD 9095B

PAINT FILTER LIQUIDS TEST

1.0 SCOPE AND APPLICATION

1.1 This method is used to determine the presence of free liquids in a representative sample of waste.

1.2 The method is used to determine compliance with 40 CFR 264.314 and 265.314.

2.0 SUMMARY OF METHOD

2.1 A predetermined amount of material is placed in a paint filter. If any portion of the material passes through and drops from the filter within the 5-min test period, the material is deemed to contain free liquids.

3.0 INTERFERENCES

3.1 Filter media were observed to separate from the filter cone on exposure to alkaline materials. This development causes no problem if the sample is not disturbed.

3.2 Temperature can affect the test results if the test is performed below the freezing point of any liquid in the sample. Tests must be performed above the freezing point and can, but are not required to, exceed room temperature of 25 °C.

4.0 APPARATUS AND MATERIALS

4.1 Conical paint filter -- Mesh number 60 +/- 5% (fine meshed size). Available at local paint stores such as Sherwin-Williams and Glidden.

4.2 Glass funnel -- If the paint filter, with the waste, cannot sustain its weight on the ring stand, then a fluted glass funnel or glass funnel with a mouth large enough to allow at least 1 in. of the filter mesh to protrude should be used to support the filter. The funnel should be fluted or have a large open mouth in order to support the paint filter yet not interfere with the movement, to the graduated cylinder, of the liquid that passes through the filter mesh.

4.3 Ring stand and ring, or tripod.

4.4 Graduated cylinder or beaker -- 100-mL.

5.0 REAGENTS

5.1 None.

6.0 SAMPLE COLLECTION, PRESERVATION, AND HANDLING

A 100-mL or 100-g representative sample is required for the test. If it is not possible to obtain a sample of 100 mL or 100 g that is sufficiently representative of the waste, the analyst may use larger size samples in multiples of 100 mL or 100 g, i.e., 200, 300, 400 mL or g. However, when larger samples are used, analysts shall divide the sample into 100-mL or 100-g portions and test each portion separately. If any portion contains free liquids, the entire sample is considered to have free liquids. If the sample is measured volumetrically, then it should lack major air spaces or voids.

7.0 PROCEDURE

7.1 Assemble test apparatus as shown in Figure 1.

7.2 Place sample in the filter. A funnel may be used to provide support for the paint filter. If the sample is of such light bulk density that it overflows the filter, then the sides of the filter can be extended upward by taping filter paper to the inside of the filter and above the mesh. Settling the sample into the paint filter may be facilitated by lightly tapping the side of the filter as it is being filled.

7.3 In order to assure uniformity and standardization of the test, material such as sorbent pads or pillows which do not conform to the shape of the paint filter should be cut into small pieces and poured into the filter. Sample size reduction may be accomplished by cutting the sorbent material with scissors, shears, a knife, or other such device so as to preserve as much of the original integrity of the sorbent fabric as possible. Sorbents enclosed in a fabric should be mixed with the resultant fabric pieces. The particles to be tested should be reduced smaller than 1 cm (i.e., should be capable of passing through a 9.5 mm (0.375 inch) standard sieve). Grinding sorbent materials should be avoided as this may destroy the integrity of the sorbent and produce many "fine particles" which would normally not be present.

7.4 For brittle materials larger than 1 cm that do not conform to the filter, light crushing to reduce oversize particles is acceptable if it is not practical to cut the material. Materials such as clay, silica gel, and some polymers may fall into this category.

7.5 Allow sample to drain for 5 min into the graduated cylinder.

7.6 If any portion of the test material collects in the graduated cylinder in the 5-min period, then the material is deemed to contain free liquids for purposes of 40 CFR 264.314 and 265.314.

8.0 QUALITY CONTROL

8.1 Duplicate samples should be analyzed on a routine basis.

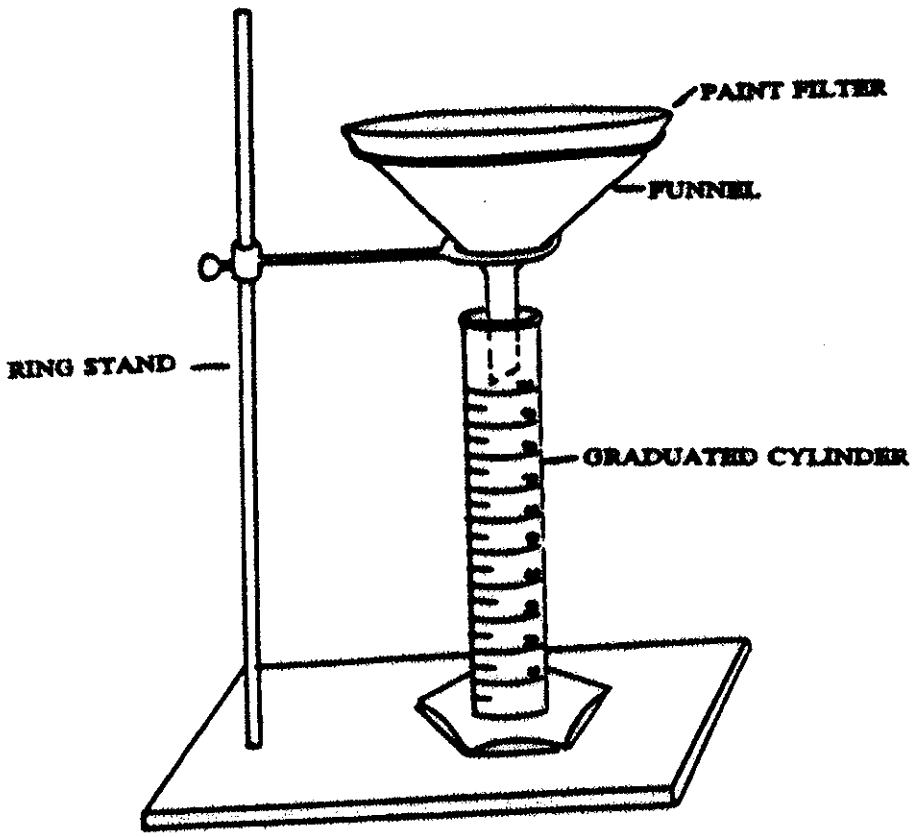
9.0 METHOD PERFORMANCE

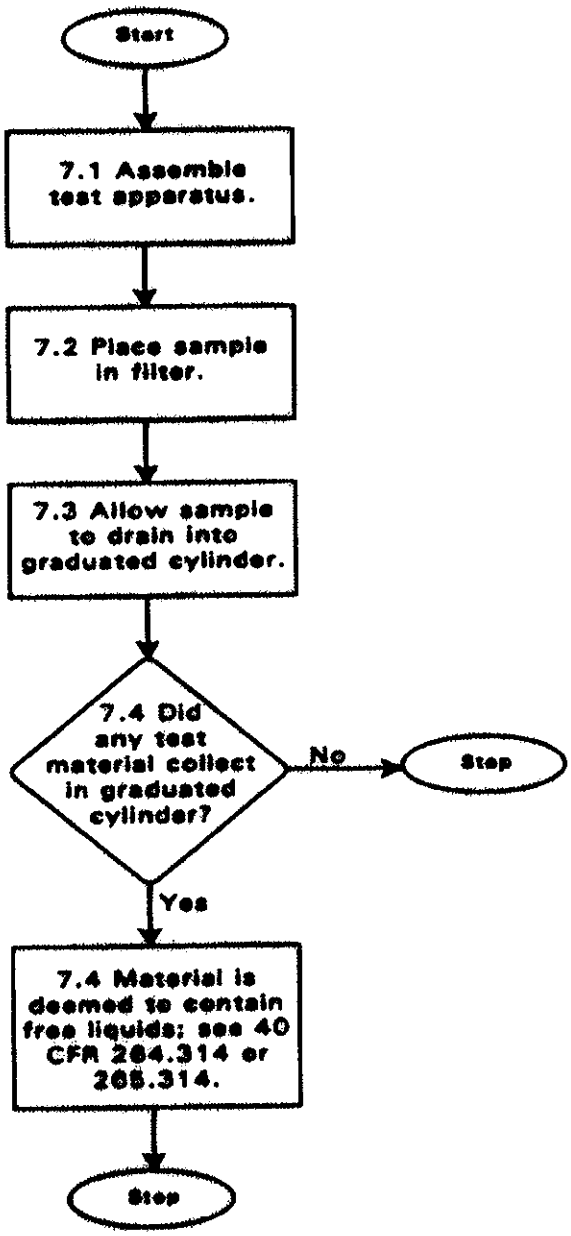
9.1 No data provided.

10.0 REFERENCES

10.1 None provided.

FIGURE 1
PAINT FILTER TEST APPARATUS




Start
7.1 Assemble test apparatus.
7.2 Place sample in filter.
7.3 Allow sample to drain into graduated cylinder.
7.4 Did any test material collect in graduated cylinder?
No
Stop
Yes
7.4 Material is deemed to contain free liquids; see 40 CFR 264.314 or 265.314.
Stop

ATTACHMENT D

LIQUID WASTE PROCESSING RECORD

J.E.D. Solid Waste Management Facility

LIQUID WASTE PROCESSING RECORD

Date: _____ Received by: _____

WASTE TRANSPORTER

Company: _____
Driver's Name: _____
Truck ID Number or License Number: _____
Waste Quantity: _____
Waste Type: (check all that apply)
sludge: _____ grit trap: _____
grease trap: _____ other:

Explain Other: _____

WASTE PROCESSING

Date: _____
Bulking/Stabilizing Agents: _____
Approximate Volume of Liquid Waste: _____
Approximate Volume of Bulking/Stabilizing Agent: _____
Approximate Time to Stabilize: _____

PAINT FILTER LIQUIDS TEST

Test run by: _____
Test start time: _____
Test end time: _____
Length of test: _____ minutes (Note: Test must run at least 5 minutes)

Any liquid observed in graduated cylinder or beaker below funnel?
_____ No PASS - Processing complete, compact and cover waste.
_____ Yes FAIL - Waste must be retested after additional processing/curing time.

DUPLICATE SAMPLE TESTING

(One duplicate test for every five regular tests)

Test run by: _____
Test start time: _____
Test end time: _____
Length of test: _____ minutes (Note: Test must run at least 5 minutes)

Any liquid observed in graduated cylinder or beaker below funnel?
_____ No
_____ Yes

ATTACHMENT G

EMERGENCY RESPONSE AGENCIES

EMERGENCY CONTACT LIST
FOR ALL IMMEDIATE EMERGENCIES CALL 911

JED Landfill
1501 Omni Way
St Cloud, Florida 34773
Main Phone: (407) 891-3720

REPORTING CHAIN OF COMMAND

Benjamin Gray	District Manager	(407) 932-8672
Shannon Hunter	Operations Manager	(561) 325-3051
Brad Robbins	Gas Supervisor	(321) 354-4597
Karen Smith	Administrative Assistant	(407) 891-3720

Damian Ribar	Division Manager	917) 837-0751
Chris Thomas	District Manager	(360) 903-7354
Hurricane Satellite		(254) 543-4513

ENVIRONMENTAL SPILLS, i.e. Petroleum and hazardous substances notify:

FECC, Inc.	1 (800) 771-1050
Roger Pragle	1 (800) 519-9559

National Response Center	1 (800) 424-8802
Florida State Warning Point	1 (800) 320-0519
FDEP	(407) 893-3337
US Coast	(904) 247-7318

Other Agencies

FEMA	1 (800) 621-3362
Red Cross	(407) 894-4141
Fire Alarm	1 (800) 877-3634
Police (Local St Cloud)	(407) 891-6700
Fire (Local St Cloud)	(407) 742-6790

Appendix D
Compliance History

Progressive Waste Solutions of FL, Inc. Compliance History

Date	Facility	Location	Permit Number	Issuing Agency	Type of Action	Nature of Violation	Disposition	Fine or Penalty
09/06/13	Opa Locka Recycling and Transfer Station	Opa Locka, FL	0075972-013-SO/SW-1087	FDEP/ DERM	NOV	Acceptance of unacceptable material	Closed. $500 fee paid.	$500
12/22/14	Opa Locka Recycling and Transfer Station	Opa Locka, FL	0075972-013-SO/SW-1087	City of Opa Locka	NOV	Nuisance Dust Conditions	Closed. $500 fee paid	$500
07/26/16	SLD Landfill	Punta Gorda, FL	0246176-007-SO/22	FDEP	CO	Off Site Objectionable Odors	Implemented Odor Remediation Plan. $3,000 fee paid	$3,000

Note:
As of 4/24/2017 and subsequent to all Solid Waste facility permit transfers to Progressive Waste Solutions of FL, Inc.
List above includes only those violations which have been issued fines or consent orders for solid waste management facilities in Florida within the last five (5) years.
The following NOVs were issued by DERM under County juristictions not related to solid waste management facilities, but have been provided since a fine was paid.

09/25/15	Miami Hauling	Miami, FL	NA	DERM	UCVN	Sanitary Nuisance (leachate leaking from haul truck)	Closed. $500 fee paid	$500
03/14/16	Miami Hauling	Miami, FL	NA	DERM	NOV	Failure to Comply with Warning Notice (truck wash in use)	Closed. $100 fee paid	$100

Appendix E
Financial Assurance

Geosyntec consultants

COMPUTATION COVER SHEET

Client: **Omni Waste of Osceola County, LLC** Project: **Class I Landfill Ops. Permit Renewal** Project No.: **FL2987**

Phase No.: **01**

Title of Computations **FINANCIAL ASSURANCE COST ESTIMATE**

Computations by:	Signature		24-March-2017
	Printed Name	Alex Rivera, P.E.	Date
	Title	Engineer	
Assumptions and Procedures Checked by: (peer reviewer)	Signature		4-April-2017
	Printed Name	Craig Browne, P.E.	Date
	Title	Senior Engineer	
Computations Checked by:	Signature		4-April-2017
	Printed Name	Craig Browne, P.E.	Date
	Title	Senior Engineer	
Computations Backchecked by: (originator)	Signature		14-April-2017
	Printed Name	Alex Rivera, P.E.	Date
	Title	Engineer	
Approved by: (pm or designate)	Signature		2-May-2017
	Printed Name	Craig Browne, P.E.	Date
	Title	Senior Engineer	

Approval notes:

Revisions (number and initial all revisions)

No.	Sheet	Date	By	Checked by	Approval

FINANCIAL ASSURANCE COST ESTIMATE
J.E.D. SOLID WASTE MANAGEMENT FACILITY
ST. CLOUD, OSCEOLA COUNTY, FLORIDA

On behalf of Omni Waste of Osceola County, LLC. (Omni), Geosyntec Consultants (Geosyntec) has prepared the financial assurance cost estimate (Estimate) in support of the operation permit renewal for the Class I Landfill at the J.E.D. Solid Waste Management Facility (JED facility) in St. Cloud, Osceola County, Florida. This narrative discusses the methods and assumptions used to estimate the cost for the items listed on the Florida Department Environmental Protection (FDEP) Form 62-701.900(28), Florida Administrative Code (F.A.C.), hereafter referred to as FDEP form. The items listed below were derived from item/unit pricing from contractors and Geosyntec's experience with similar projects. For engineering and professional time, current Geosyntec labor rates and/or State and federal guidelines were used. The unit costs/labor rates were then used to prepare the costs presented in the FDEP form. All estimated costs are for all construction and laboratory analytical testing to be performed by a third party. The item numbers noted below correspond to the item numbers on the FDEP form.

I. General Information

This Estimate covers the closure costs and long-term care costs for cells that have been constructed (including Phase 1 (Cells 1 through 4), Phase 2 (Cells 5 through 7), Phase 3 (Cells 8 through 10), and Phase 4 (Cells 11 and 13). The total two-dimensional (2D) area of these cells is approximately 153.5 acres. Of this total area, 43.8 acres has been closed as of March 2017, which leaves 109.7 acres remaining to be closed. The closure cost estimate (for 109.7 acres) and long-term care cost estimate (for 153.5 acres) are included on the FDEP form in **Attachment 1**.

For the purposes of closure construction cost estimating, three-dimensional (3D) areas were calculated to account for the additional area attributed to the 5 percent grade of the top deck and the 3 horizontal to 1 vertical (3H:1V) side slopes. As such, the top deck and side slope 2D areas are multiplied by 1.001 and 1.054, respectively, to calculate corresponding 3D areas.

II. Type of Financial Assurance Document

Omni maintains an insurance certificate to meet the financial assurance obligations of the JED facility.

III. Estimate Adjustment

This financial assurance cost estimate represents a recalculated cost estimate as required for solid waste permit renewals.

IV. Estimated Closing Cost (Recalculated Cost Estimate)

1. Proposed Monitoring Wells

A groundwater monitoring well system for the JED facility is already in place and additional monitoring wells will be installed as part of construction certification of proposed cells. Therefore, no additional cost for monitoring well installation is included as part of this Estimate.

2. Slope and Fill (bedding layer between waste and barrier layer)

During closure, an intermediate layer of cover soil, approximately 12 inch (in.) thick, will be used for grading the surface of the waste. For the approximately 109.7-acre disposal area that needs to be closed, approximately 3.0 acres cover the top deck area and approximately 106.7 acres cover the side slope area as presented in **Figure 1**. Utilizing the slope correction factors, the estimated cubic yardage for the intermediate layer of cover soil is 186,284 cubic yards (CY) (i.e., 3.0 acres × 1.001 × 1 foot (ft) + 106.7 acres × 1.054 × 1 ft). This material will be obtained from an on-site borrow source at a unit cost of approximately $3.75/CY, which includes handling, placement/spreading, and compaction. The cost estimate was obtained from Comanco Environmental Corporation (Comanco) of Plant City, Florida (see **Attachment 2**).

The total cost for material handling, placement, spreading, and compaction is:

186,284 CY @ $3.75/CY = **$698,565.00**

3. Cover Material (Barrier Layer)

The barrier layer of the final cover system consists of a 40-mil textured polyethylene (PE) geomembrane on the top deck and side slopes and a geocomposite drainage layer (i.e., geonet with geotextile on both sides) on the 3H:1V side slopes only. For the 109.7-acre closure area, approximately 558,850 square yards (SY) (i.e., 3.0 acres × 1.001 + 106.7 acres × 1.054) of 40-mil thick textured PE geomembrane will be needed. Also, approximately 106.7 acres of the closure area consists of side slopes that will require 544,316 SY (i.e., 106.7 acres × 1.054) of geocomposite drainage layer in the final cover system. The material and delivery costs for the geomembrane and geocomposite are $0.22 per square foot (SF) or $1.98/SY and $0.32/SF or $2.88/SY, respectively, as obtained from Agru America, Inc. (Agru) of Georgetown, South Carolina (see **Attachment 2**). Installation costs are approximately $0.10/SF or $0.90/SY for both geomembrane and geocomposite as provided in the 2016 Comanco proposal for the Cell 13 construction (see **Attachment 2**).

Therefore, the estimated cost for construction of the barrier layer is:

558,850 SY of 40-mil textured PE geomembrane @ $2.88/SY = $1,609,488.00

544,316 SY of geocomposite drainage layer @ $3.78/SY = $2,057,514.48

Total cost = **$3,667,002.48**

4. <u>Top Soil Cover (includes vegetative soil layer)</u>

The cover protective layer consists of 24-in. thick vegetative soil layer over the entire final cover, resulting in an estimated volume of 372,567 CY (i.e., 3.0 acres × 1.001 × 2 ft + 106.7 acres × 1.054 × 2 ft) for the 109.7-acre closure area. The material will be obtained from an on-site borrow source, with a unit cost of $4.50/CY which includes handling, placement/spreading, and compaction as provided by Comanco in **Attachment 2**. The total cost for the top soil cover is:

372,567 CY of on-site soil material @ $4.50/CY = **$1,676,551.50**

5. <u>Vegetative Layer</u>

Approximately 558,850 SY of sod (i.e., 3.0 acres × 1.001 plus 106.7 acres × 1.054) will be required for the final cover system of the closure area. The material will be obtained at a unit cost of approximately $2.70/SY. This cost estimate was provided by Comanco (see **Attachment 2**).

The total cost for sodding the final cover system is:

558,850 SY @ $2.70/SY **= $1,508,895.00**

6. <u>Stormwater Control System</u>

The perimeter and site stormwater controls are either already in place or will be constructed as part of cell construction activities and are therefore not included as part of this Estimate. Stormwater control components for the closure will include top deck berms, seepage header piping, corrugated HDPE pipe downdrains, and concrete structures.

The earthwork required to construct the sideslope drainage swales (calculated based on the typical cross-section detail for the drainage swale from the 2016 Construction Permit Renewal drawings and using the average depth of the swale = 20.6 SF per linear foot [LF] of swale) and final cover system at downchutes will require approximately 31,090 CY of earthwork (23,884 CY + 7,206 CY = 31,090 CY). Based on the projected geometry presented in **Figure 1**, it is assumed that top deck berms would not be required. The price includes earthwork and placement of the material at a unit cost of $3.00/CY, and is based on cost information provided by Comanco (**Attachment 2**).

Based on the proposed closure design there is approximately 11,800 LF of 24-in. diameter of corrugated HDPE piping/downdrains to drain the closure area slopes. Lengths of the 24-in. diameter pipe represent plan dimensions with 10 percent slope and bench correction applied (i.e., 10,725 LF × 1.10). The price to install the 24-in. diameter pipe is $35.00 per ft, respectively, as provided by Comanco (**Attachment 2**). Also, approximately 8,540 LF of 4-in. diameter HDPE corrugated drainage pipe will be installed as part of the final cover system. The material and installation cost of the piping, including a 3-ft wide strip of geomembrane used to wrap the 4-in. diameter drainage pipe, is $20.00 per LF as provided by Comanco (**Attachment 2**).

Two concrete pads and grates will be installed with each "wye" connection – which joins the bench swale pipes to the main side slope downchute – to hold the piping in place and reduce erosion. A total of 84 pairs of concrete pads (168 total) will be installed as part of closure activities. Each concrete pad will be 6-in. thick with dimensions of approximately 7.5-ft x 7.5-ft and fitted with a galvanized grate. The cost to install all fittings, concrete, and grates is $1,250.00 per "wye" connection, as provided by Comanco (**Attachment 2**).

All concrete drainage inlets and outfall piping at the perimeter road are installed during cell construction and therefore are not included as part of this Estimate.

Concrete thrust blocks will be installed within each downdrain pipe at side slope benches and at the landfill toe. The unit price of $1,750.00 each was provided by Comanco (**Attachment 2**).

The cost for construction of the storm water control components of the final cover system is:

Earthwork: 31,090 CY @ $3.00/CY = $93,270.00

Piping/Downdrains: 24-in. diameter HDPE – 11,800 LF @ $35.00/LF = $413,000.00

4-in. diameter HDPE – 8,540 LF @ $20.00/LF = $170,800.00

"Wye" Connections: 168 @ $1,250.00 each = $210,000.00

Concrete thrust blocks: 179 @ $1,750.00 each = $313,250.00

Total cost = **$1,200,320.00**

7. Passive Gas Control

Passive gas control systems are not a part of the design of the Class I landfill. Therefore, there is no cost for this item.

8. Active Gas Extraction Control

The existing gas collection and control system (GCCS), consisting of a perimeter header, vertical well network, blowers, and flare will be expanded as part of the closure. The blower, flare, and the main header system have already been installed as part of landfill operations. As

provided by Comanco and QED Environmental Systems, Inc. (QED) of Dexter, Michigan in **Attachment 2**, the cost of installation of the remaining components can be estimated as follows:

- $81.65 per linear foot of well (includes drilling, well casing, gravel backfill and seal);
- $478.36 per wellhead;
- $19.90 per linear foot of lateral pipe (8 in. diameter);
- $27.84 per linear foot of header pipe (12 in. diameter); and
- $39.59 per linear foot of perimeter header pipe (18 in. diameter).

The final components of the GCCS will include:

- 120 wells – 68 shallow wells (average depth of 60 ft), 46 intermediate wells (average depth of 120 ft), and 6 deep wells (average depth of 180 ft). Total well depth = 10,680 ft or an average of 89 ft per well;
- approximately 21,680 ft of 8-in. diameter SDR-17 HDPE lateral pipe (increased by 10 percent to allow for a 3H:1V slope correction factor and additional length required for vertical risers to connect to the adjacent extraction well or 19,710 ft × 1.10 = 21,680 ft);
- approximately 8,690 ft of 12-in. diameter SDR-17 HDPE header pipe (increased by 10 percent to allow for a 3H:1V slope correction factor and additional length required for vertical risers to connect to the adjacent extraction well or 7,900 ft × 1.10 = 8,690 ft); and
- approximately 8,320 ft of 18-in. diameter SDR-17 HDPE perimeter header pipe.

The cost of the active gas extraction control system at closure is therefore:

120 wells @ 89 ft/well x $81.65/ft = $7,266.85 per well = $872,022.00

120 wellheads @ $478.36/wellhead = $57,403.20

21,680 ft of lateral pipe @ $19.90/ft = $431,432.00

8,690 ft of header pipe @ $27.84/ft = $241,929.60

8,320 ft of perimeter header pipe @ $39.59/ft = $329,388.80

Total active gas extraction control system cost= **$1,932,175.60**

9. <u>Security System</u>

The security systems, consisting of perimeter fencing, gates and signs, for the JED facility are already in place and are thus not included as part of the closing costs. Additional fencing and

signs are included in the long-term maintenance section of this cost estimate for upkeep purposes.

10. Engineering

Because a final cover plan, including stormwater management system has already been designed, the costs of engineering services related to closure of the site is estimated to be 2 percent of the construction cost (sum of items 1 through 9 above).

The total cost for closure-related engineering services is:

$10,683,510.58 × 0.02 = **$213,670.21**

11. Professional Services

These costs are based on Geosyntec estimates and labor rates. It is estimated that approximately 3 percent of construction cost will be needed for contract/construction management, which equates to 0.03 × $10,683,510.58 = $320,505.32.

It is estimated that approximately 5 percent of construction cost will be needed for construction quality assurance (CQA), which equates to 0.05 × $10,683,510.58 = $534,175.53.

It is assumed that CQA testing cost is included in the 5 percent estimate above.

12. Contingency

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

13. Site Specific Costs

a. Mobilization

Contractor mobilization costs as provided by Comanco in **Attachment 2**, excluding the costs for professional services, are $75,000.00.

V. Annual Cost for Long-Term Care

1. Ground Water Monitoring

Sampling of the projected 56 monitoring wells will be conducted on a semi-annual basis. The estimate for laboratory analytical testing and labor for the sampling of the projected 56 monitoring wells is $271 per well with approximately $107 of labor per sample point as provided in the estimate by Environmental Conservation Laboratories, Inc. (ENCO) of Orlando, Florida (**Attachment 2**).

It is assumed that the total cost for monitoring the 56 wells projected to be in use for monitoring Cells 1 through 11 and Cell 13 (does not include Cell 12) at the JED facility is:

56 wells @ $378 analytical/well/event = $21,168/event X 2 events = **$42,336/year**

2. Surface Water Monitoring

Surface water monitoring will be conducted at existing monitoring locations SW-3 and SW-4 (if flow at Bull Creek is observed) on a semi-annual basis; no new monitoring points will be added. Sampling of the 2 monitoring points associated with the Class I sampling event is estimated to cost $455 per event with approximately $107 of labor per sample point as provided in the estimate by ENCO (**Attachment 2**).

Therefore, the assumed total cost for surface water monitoring at the JED facility is:

2 samples @ $455 analytical/location/event = $910/event X 2 events = **$1,820/year**

3. Landfill Gas Monitoring

The landfill gas monitoring probes will be monitored quarterly for concentrations of combustible gases. The long-term care cost associated with the landfill gas monitoring shown below are based on Geosyntec labor rates for a senior engineering technician ($75.00/hour) and assumed 10 hours to perform the monitoring at the estimated 23 gas probe locations.

The cost to perform the monitoring includes field and travel time.

- 10-hrs × $75.00/hr = $750.00
- Monitoring equipment rental and travel costs = $250.00/event
- Time to prepare report - 1 hr @ $75.00/hr = $75.00

Total cost per monitoring event equals $750.00 + $250.00 + $75.00 = **$1,075.00/quarter**

4. Leachate Monitoring

Because leachate monitoring is no longer required by Rule 62.701, F.A.C., the cost for leachate monitoring is not included.

5. Leachate Collection/Treatment System Maintenance

For the long-term care, assume the following maintenance activities:

Pump Maintenance and Replacement: Assumed that pumps require annual maintenance and Cells 1 through 11 and 13 will require one primary and one secondary replacement pump once during the 30-year monitoring period:

- Annual maintenance = $250/year and
- Leachate pump replacement cost = $11,766.00 (total for primary and secondary pumps, provided by Diamond Scientific of Cocoa, Florida and presented in **Attachment 2**) ÷ 30 years = $392.20/year

Therefore, the total estimated annual cost for pumps is **$642.20**/year.

Leachate Collection Pipe Cleaning: It is assumed that approximately 29,170 LF of pipe will require cleaning every 10 years within the 30-year monitoring period (total of 3 cleanings). The associated cost is estimated to be 29,170 ft × $0.58/ft = ($16,918.60/event x 3 events) ÷ 30 years = **$1,691.86/year**. The leachate pipe cleaning unit rate is based on a proposal for jet cleaning services by Florida Jetclean of Odessa, Florida (**Attachment 2**).

Leachate Storage Containers: Long term care for the leachate storage ponds assumes that each of the four bladder liners will require replacement once over the 30-year monitoring period. Replacement cost has been assumed to be $14,500.00 per flexible bladder as estimated below.

Approximately 22,500 SF or 2,500 SY of geomembrane required for each bladder (150 ft by 150 ft unit). Installation and purchase cost for 40-mil textured PE geomembrane equals $5.40/SY (based on Comanco's estimate for material and installation costs for 40-mil textured PE geomembrane). Assume $1,000/bladder to clean and remove existing bladder. The unit cost for each bladder replacement equals 2,500 SY × $5.40/SY + $1,000.00 = $14,500.00/bladder.

Total long-term care cost for the four bladder replacements based on a square yard and cost per year for the FDEP form is as follows:

4 bladders × $14,500.00/bladder = $58,000.00 ÷ 30 years = **$1,933.33/year**.

Leachate Aeration: Assume **$250.00/year** to maintain the leachate aeration system piping, pumps and electrical controls.

Leachate Disposal: The long-term average leachate production rate was calculated as part of the 2011 permit renewal for the JED facility (refer to response to RAI 2 documents, dated January 2012) to be approximately 8,394.53 gallons per acre per year. The total leachate production is therefore:

8,394.53 gallons/acre/year × 153.5 acres = 1,288,561 gallons per year

1,288.6 thousand gallons/year × $40.00/thousand gallons = **$51,544/year** or $4,296/mo.

6. Maintenance of Groundwater Monitoring Wells

It is assumed that up to 5 groundwater monitoring wells will be replaced over the 30-year monitoring period.

The estimated average cost associated with replacement of a groundwater monitoring wells is approximately $3,400.00/well. Therefore,

5 wells @ $3,400.00/well/30 years = **$567.00/year**

7. Gas System Maintenance

Approximately 177 gas wells would be installed within the footprint of Cells 1 through 11 and 13. Based on previous experience, it is estimated that an additional $55.00 per well/year will be needed for maintenance ($55.00 × 177 wells = **$9,735**). It is assumed 50 ft of lateral or header piping will require replacement or repair at an average cost of $55.00/ft ($55/ft x 50 ft = **$2,750**). It is assumed that **$2,500/year** will be required for general maintenance of both skid mounted flare station (includes blowers, meters, valves and flame arrestors).

8. Landscape Maintenance

It is estimated that the 153.5 acres of the Class I landfill will require mowing at an annual cost of $122.72 per acre. The estimate is based on the recent invoice received from RCS Excavation, Inc. (RCS) of Lake Placid, Florida (see **Attachment 2**). It is assumed that mowing activities would be performed twice a year. Therefore, total yearly cost associated with landscape maintenance is:

Mowing (annually): $122.72/acre × 153.5 acres/event × 2 events/year = $**37,675.04/year**

9. Erosion Control and Cover Maintenance

The long-term care cost for erosion control and cover maintenance assumes that a 0.25-acre (1,210 SY) area will require maintenance (i.e., sodding) per year. As such, 1,210 SY @ $2.70/SY = $3,267.00/year. The lump sum cost for material and equipment mobilization costs to perform maintenance and general grading of the protective liner for re-sodding is estimated @ $2,500/year. The total cost associated with the erosion control and cover maintenance, per year, is equal to **$5,767.00/year**. This estimate is based on Geosyntec's experience with similar facilities.

10. Storm Water Management System Maintenance

Maintenance is estimated to occur on an annual basis. For the long-term care cost, a lump-sum cost of **$2,500** has been assumed based on Geosyntec's experience on similar sites and includes

mobilization of a rubber tire mounted excavator and operator to clean and clear storm water ditches.

11. Security System Maintenance

An estimate of 100 LF of fencing per year, one (1) gate, and six (6) signs have been assumed to require replacement over the course of the 30-year monitoring period. The cost to replace fencing is $4.00/LF; replace a gate is $800.00; and replace a total of six (6) signs is $200/sign as provided in the estimate by RCS (**Attachment 2**).

12. Utilities

The annual utility cost is based on recent invoices from Duke Energy to Omni. The estimated yearly lump sum amount is indicated on the FDEP cost estimate form.

13. Leachate Collection/Treatment Systems Operation

Leachate collection/treatment system operation cost estimates are based on weekly monitoring by a technician for total of 3 hours/week × 52 weeks/year @ $65/hour = **$10,140/year.** Additional material maintenance costs for the pumps and aeration system at the storage holding ponds is assumed as **$500.00/year**.

14. Administrative

The administrative long-term cost estimates that 10 hours per month will be expended towards administrative/overhead activities @ $40.00/hour (i.e., $4,800/year). In addition, one 3rd party engineer (@$120.00/hr) and one technician (@$65.00/hr) are expected to perform a yearly site inspection under the oversight of a P.E. Supervisor (@150.00/hr). The yearly site inspection is estimated to require 8 hours from each on-site personnel and supervisor. Therefore, the total yearly administrative cost for the facility is equal to **$7,480.00**.

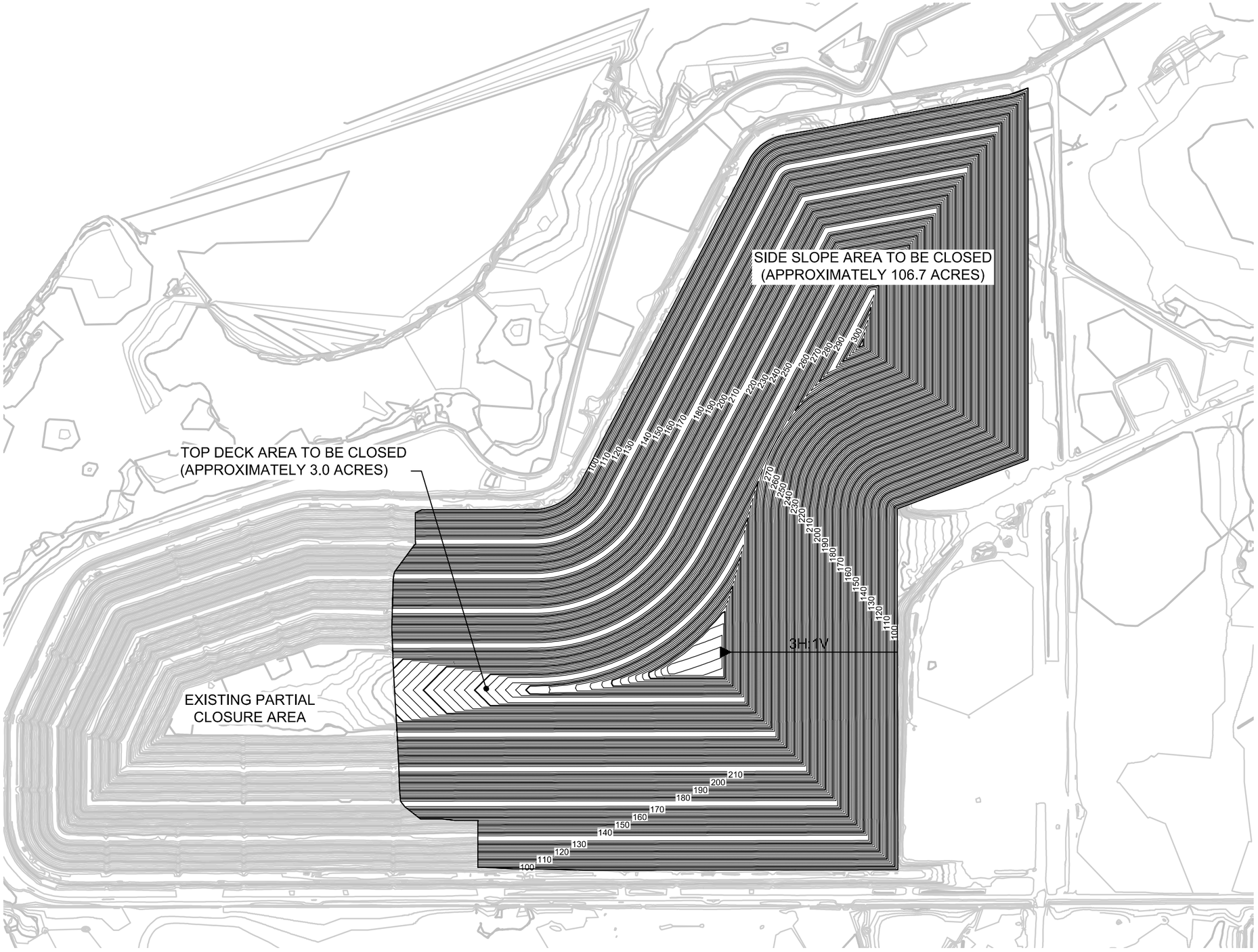
15. Contingency

A contingency of 10 percent of the total long term care costs has been included in the cost estimate.

16. Site Specific Costs

No additional site specific costs are estimated.

FIGURE



JED SOLID WASTE MANAGEMENT FACILITY
ST.CLOUD, OSCEOLA COUNTY, FLORIDA

Geosyntec consultants

FIGURE 1

PROJECT NO: FL2987.01 | MARCH 2017

I:_CADD (PROJECTS)\J\JED LANDFILL\FIGURE\FL2987.01\FL2987.01F01

ATTACHMENT 1

FDEP CLOSURE COST ESTIMATING FORM

Print Form | Reset Form

Florida Department of Environmental Protection

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

DEP Form # 62-701.900(28), F.A.C.

Form Title: Closure Cost Estimating Form For Solid Waste Facilities

Effective Date: January 6, 2010

Incorporated in Rule 62-701.630(3), F.A.C.

CLOSURE COST ESTIMATING FORM FOR SOLID WASTE FACILITIES

Date of DEP Approval: _____

I. GENERAL INFORMATION:

Facility Name: J.E.D. Solid Waste Management Facility WACS ID: 89544

Permit Application or Consent Order No.: SO49-019972-022 Expiration Date: 07/03/2017

Facility Address: 1501 Omni Way, St. Cloud, Florida 34773

Permittee or Owner/Operator: Omni Waste of Osceola County, LLC

Mailing Address: 1501 Omni Way, St. Cloud, Florida 34773

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

Coordinate Method: DGPS Datum: WGS84

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

Solid Waste Disposal Units Included in Estimate:

Phase / Cell	Acres	Date Unit Began Accepting Waste	Active Life of Unit From Date of Initial Receipt of Waste	If active: Remaining life of unit	If closed: Date last waste received	If closed: Official date of closing
Cell 13	17.6	Oct 2016				
Cells 5-11	84.1	Mar 2009				
Cells 3-4 (active)	8.0	Jan 2004				
Cells 1-4 (part. clos. event 2)	19.4	Jan 2004				10/2012
Cells 1-4 (part. clos.)	24.4	Jan 2004				02/2009

Total disposal unit acreage included in this estimate: Closure: 109.7 Long-Term Care: 153.5

Facility type: (Check all that apply)
- ☒ Class I
- ☐ Class III
- ☐ C&D Debris Disposal
- ☐ Other: _____

II. TYPE OF FINANCIAL ASSURANCE DOCUMENT (Check type)

- ☐ Letter of Credit*
- ☒ Insurance Certificate
- ☐ Escrow Account
- ☐ Performance Bond*
- ☐ Financial Test
- ☐ Form 29 (FA Deferral)
- ☐ Guarantee Bond*
- ☐ Trust Fund Agreement

* - Indicates mechanisms that require the use of a Standby Trust Fund Agreement

III. ESTIMATE ADJUSTMENT

40 CFR Part 264 Subpart H as adopted by reference in Rule 62-701.630, Florida Administrative Code, (F.A.C.) sets forth the method of annual cost estimate adjustment. Cost estimates may be adjusted by using an inflation factor or by recalculating the maximum costs of closure in current dollars. Select one of the methods of cost estimate ajustment below.

☐ **(a) Inflation Factor Adjustment** ☒ **(b) Recalculated or New Cost Estimates**

Inflation adjustment using an inflation factor may only be made when a Department approved closure cost estimate exists and no changes have occurred in the facility operation which would necessitate modification to the closure plan. The inflation factor is derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its survey of Current Business. The inflation factor is the result of dividing the latest published annual Deflatory by the Deflator for the previous year. The inflation factor may also be obtained from the Solid Waste website www.dep.state.fl.us/waste/categories/swfr or call the Financial Coordinator at (850) 245-8706.

This adjustment is based on the Department approved closing cost estimate dated: _____

Latest Department Approved **Closing Cost** Estimate:		Current Year Inflation Factor, ***e.g. 1.02***		Inflation Adjusted Closing Cost Estimate:
_____	×	_____	=	_____

This adjustment is based on the Department approved long-term care cost estimate dated: _____

Latest Department Approved Annual **Long-Term Care** Cost Estimate:		Current Year Inflation Factor, ***e.g. 1.02***		Inflation Adjusted Annual Long-Term Care Cost Estimate:
_____	×	_____	=	_____

Number of Years of Long Term Care Remaining: × _____

Inflation Adjusted Long-Term Care Cost Estimate: = _____

Signature by: ☐ **Owner/Operator** ☒ **Engineer** (check what applies)

Signature	Address
Name & Title	City, State, Zip Code
Date	E-Mail Address
Telephone Number	

IV. ESTIMATED CLOSING COST (check what applies)

☒ **Recalculated Cost Estimate** ☐ **New Facility Cost Estimate**

Notes: 1. Cost estimates for the time period when the extent and manner of landfill operation makes closing most exp
2. Cost estimate must be certified by a professional engineer.
3. Cost estimates based on third party suppliers of material, equipment and labor at fair market value.
4. In some cases, a price quote in support of individual item estimates may be required.

Description	Unit	Number of Units	Cost / Unit	Total Cost
1. Proposed Monitoring Wells (Do not include wells already in existence.)				
	EA	0		
			Subtotal Proposed Monitoring Wells:	
2. Slope and Fill (bedding layer between waste and barrier layer):				
Excavation	CY			
Placement and Spreading	CY			
Compaction	CY			
Off-Site Material	CY	186,284	$3.75	$698,565.00
Delivery	CY			
			Subtotal Slope and Fill:	$698,565.00
3. Cover Material (Barrier Layer):				
Off-Site Clay	CY			
Synthetics - 40 mil	SY	558,850	$2.88	$1,609,488.00
Synthetics - GCL	SY			
Synthetics - Geonet	SY	544,316	$3.78	$2,057,514.48
Synthetics - Other (explain)				
			Subtotal Cover Material:	$3,667,002.48
4. Top Soil Cover:				
Off-Site Material	CY	372,567	$4.50	$1,676,551.50
Delivery	CY			
Spread	CY			
			Subtotal Top Soil Cover:	$1,676,551.50
5. Vegetative Layer				
Sodding	SY	558,850	$2.70	$1,508,895.00
Hydroseeding	AC			
Fertilizer	AC			
Mulch	AC			
Other (explain)				
			Subtotal Vegetative Layer:	$1,508,895.00
6. Stormwater Control System:				
Earthwork	CY	31,090	$3.00	$93,270.00
Grading	SY	8,540	$20.00	$170,800.00
Piping	LF	11,800	$35.00	$413,000.00
Ditches	LF	0	$0.00	
Berms	LF	179	$1,750.00	$313,250.00
Control Structures	EA	0	$0.00	
Other (explain) "wye" connection;	EA	168	$1,250.00	$210,000.00
			Subtotal Stormwater Control System:	$1,200,320.00

Description	Unit	Number of Units	Cost / Unit	Total Cost
7. Passive Gas Control:				
Wells	EA			
Pipe and Fittings	LF			
Monitoring Probes	EA			
NSPS/Title V requirements	LS	1		
			Subtotal Passive Gas Control:	
8. Active Gas Extraction Control:				
Traps	EA			
Sumps	EA			
Flare Assembly	EA			
Flame Arrestor	EA			
Mist Eliminator	EA			
Flow Meter	EA			
Blowers	EA			
Collection System	LF			
Other (explain)		1	$1,932,175.60	$1,932,175.60
itemized in narrative			Subtotal Active Gas Extraction Control:	$1,932,175.60
9. Security System:				
Fencing	LF			
Gate(s)	EA			
Sign(s)	EA			
			Subtotal Security System:	
10. Engineering:				
Closure Plan Report	LS	1		
Certified Engineering Drawings	LS	1		
NSPS/Title V Air Permit	LS	1		
Final Survey	LS	1		
Certification of Closure	LS	1		
Other (explain)		1	$213,670.21	$213,670.21
2% of Construction Cost			Subtotal Engineering:	$213,670.21

Description	Hours	Cost / Hour	Hours	Cost / Hour	Total Cost
11. Professional Services					
	Contract Management		Quality Assurance		
P.E. Supervisor					
On-Site Engineer					
Office Engineer					
On-Site Technician			1	$320,5(	$320,505.00
Other (explain)	1	$534,17			$534,176.00
3% and 5% of cons. Co					

Description	Unit	Number of Units	Cost / Unit	Total Cost
Quality Assurance Testing	LS	1		
			Subtotal Professional Services:	$854,681.00

Subtotal of 1-11 Above:	$11,751,860.79

12. Contingency 10 % of Subtotal of 1-11 Above $1,175,186.08

Subtotal Contingency: $1,175,186.08

Estimated Closing Cost Subtotal: $12,927,046.87

Description	Total Cost
13. Site Specific Costs	
Mobilization	$75,000.00
Waste Tire Facility	
Materials Recovery Facility	
Special Wastes	
Leachate Management System Modification	
Other (explain)	
Subtotal Site Specific Costs:	$75,000.00

TOTAL ESTIMATED CLOSING COSTS ($): $13,002,046.87

V. ANNUAL COST FOR LONG-TERM CARE

See 62-701.600(1)a.1., 62-701.620(1), 62-701.630(3)a. and 62-701.730(11)b. F.A.C. for required term length. For landfills certified closed and Department accepted, enter the remaining long-term care length as "Other" and provide years remaining.

(Check Term Length) ☐ 5 Years ☐ 20 Years ☒ 30 Years ☐ Other, ___ Years

Notes: 1. Cost estimates must be certified by a professional engineer.

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

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

All items must be addressed. Attach a detailed explanation for all entries left blank.

Description	Sampling Frequency (Events / Year)	Number of Wells	(Cost / Well) / Event	Annual Cost
1. Groundwater Monitoring [62-701.510(6), and (8)(a)]				
Monthly	12			
Quarterly	4			
Semi-Annually	2	56	$378.00	$42,336.00
Annually	1			
			Subtotal Groundwater Monitoring:	$42,336.00
2. Surface Water Monitoring [62-701.510(4), and (8)(b)]				
Monthly	12			
Quarterly	4			
Semi-Annually	2	2	$455.00	$1,820.00
Annually	1			
			Subtotal Surface Water Monitoring:	$1,820.00
3. Gas Monitoring [62-701.400(10)]				
Monthly	12			
Quarterly	4	1	$1,075.00	$4,300.00
Semi-Annually	2			
Annually	1	1		
			Subtotal Gas Monitoring:	$4,300.00
4. Leachate Monitoring [62-701.510(5), (6)(b) and 62-701.510(8)c]				
Monthly	12			
Quarterly	4			
Semi-Annually	2			
Annually	1	0		
Other (explain) _____	_____			
			Subtotal Leachate Monitoring:	

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
5. Leachate Collection/Treatment Systems Maintenance				
Maintenance				
Collection Pipes	LF	2,917	$0.58	$1,691.86
Sumps, Traps	EA	1	$642.20	$642.20
Lift Stations	EA			
Cleaning	LS	1		
Tanks	EA			

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
5. (continued)				
Impoundments				
Liner Repair	SY	10,000	$0.19	$1,933.33
Sludge Removal	CY			
Aeration Systems				
Floating Aerators	EA	1	$250.00	$250.00
Spray Aerators	EA			
Disposal				
Off-site (Includes transportation and disposal)	1000 gallon	1,288.6	$40.00	$51,544.00
			Subtotal Leachate Collection / Treatment Systems Maintenance:	$56,061.39
6. Groundwater Monitoring Well Maintenance				
Monitoring Wells	LF	5	$113.40	$567.00
Replacement	EA			
Abandonment	EA			
			Subtotal Groundwater Monitoring Well Maintenance:	$567.00
7. Gas System Maintenance				
Piping, Vents	LF	177	$55.00	$9,735.00
Blowers	EA	50	$55.00	$2,750.00
Flaring Units	EA	1	$2,500.00	$2,500.00
Meters, Valves	EA			
Compressors	EA			
Flame Arrestors	EA			
Operation	LS	1		
			Subtotal Gas System Maintenance:	$14,985.00
8. Landscape Maintenance				
Mowing	AC	307	$122.72	$37,675.04
Fertilizer	AC			
			Subtotal Landscape Maintenance:	$37,675.04
9. Erosion Control and Cover Maintenance				
Sodding	SY	1,210	$2.70	$3,267.00
Regrading	AC	1	$2,500.00	$2,500.00
Liner Repair	SY			
Clay	CY			
			Subtotal Erosion Control and Cover Maintenance:	$5,767.00
10. Storm Water Management System Maintenance				
Conveyance Maintenance	LS	1	$2,500.00	$2,500.00
			Subtotal Storm Water Management System Maintenance:	$2,500.00
11. Security System Maintenance				
Fences	LF	1	$400.00	$400.00
Gate(s)	EA	1	$26.67	$26.67
Sign(s)	EA	1	$40.00	$40.00
			Subtotal Security System Maintenance:	$466.67

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
12. Utilities	LS	1	$4,756.74	$4,756.74
			Subtotal Utilities:	$4,756.74
13. Leachate Collection/Treatment Systems Operation				
Operation				
P.E. Supervisor	HR			
On-Site Engineer	HR			
Office Engineer	HR			
OnSite Technician	HR	156	$65.00	$10,140.00
Materials	LS	1	$500.00	$500.00
	Subtotal Leachate Collection/Treatment Systems Operation:			$10,640.00
14. Administrative				
P.E. Supervisor	HR	8	$150.00	$1,200.00
On-Site Engineer	HR	8	$120.00	$960.00
Office Engineer	HR			
OnSite Technician	HR	8	$65.00	$520.00
Other clerical	HR	120	$40.00	$4,800.00
			Subtotal Administrative:	$7,480.00
			Subtotal of 1-14 Above:	$189,354.84
15. Contingency	10	% of Subtotal of 1-14 Above		$18,935.48
			Subtotal Contingency:	$18,935.48

Description	Unit	Number of Units / Year	Cost / Unit	Annual Cost
16. Site Specific Costs				
			Subtotal Site Specific Costs:	
			ANNUAL LONG-TERM CARE COST ($ / YEAR):	$208,290.32
			Number of Years of Long-Term Care:	30
			TOTAL LONG-TERM CARE COST ($):	$6,248,709.72

VI. CERTIFICATION BY ENGINEER

This is to certify that the Cost Estimates pertaining to the engineering features of this solid waste management facility have been examined by me and found to conform to engineering principles applicable to such facilities. In my professional judgment, the Cost Estimates are a true, correct and complete representation of the financial liabilities for closing and/or long-term care of the facility and comply with the requirements of Rule 62-701.630 F.A.C. and all other Department of Environmental Protection rules, and statutes of the State of Florida. It is understood that the Cost Estimates shall be submitted to the Department annually, revised or adjusted as required by Rule 62-701.630(4), F.A.C.

Signature	13101 Telecom Dr., Suite 120 Mailing Address
Alex Rivera, P.E., Engineer Name and Title (please type)	Temple Terrace, FL, 33637 City, State, Zip Code
5/2/2017 Date	arivera@Geosyntec.com E-Mail address (if available)
78210 Florida Registration Number (please affix seal)	813-558-0990 Telephone Number

ALEXANDER RIVERA
LICENSED
No. 78210
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

VII. SIGNATURE BY OWNER/OPERATOR

Signature of Applicant	5135 Madison Avenue Mailing Address
Kirk Wills, South Region Engineer Name and Title (please type)	Tampa, FL 33619 City, State, Zip Code
kirk.wills@wasteconnections.com E-Mail address (if available)	813-388-1026 Telephone Number

ATTACHMENT 2

COST ESTIMATES FROM CONTRACTORS/VENDORS

FINANCIAL ASSURANCE SUMMARY TABLE

J.E.D. Solid Waste Management Facility

1501 Omni Way, St. Cloud, FL 34773

FA Form Item No.[1]	Work Description	Units	Estimated Quantity	Unit Price	Amount
1	Proposed Monitoring Wells	N/A	-	-	-
2	Slope and Fill (bedding layer between waste and barrier layer) Onsite Matl	CY	186,284	$3.75	$698,565
3	Cover Material (barrier layer)				
	a. 40-mil textured PE geomembrane	SY	558,850	$5.40	$3,017,790
	b. geocomposite drainage layer	SY	544,316	$6.75	$3,674,133
4	Topsoil Cover (includes vegetative soil layer) Onsite Matl	CY	372,567	$4.50	$1,676,552
5	Vegetative Layer @ 6" Thickness Onsiet Matl	SY	558,850	$2.70	$1,508,895
6	Stormwater Control System				
	a. earthwork Cut/Fill	CY	31,090	$3.00	$93,270
	b. piping - 24" diameter corrugated HDPE pipe	LF	11,800	$35.00	$413,000
	c. piping - 4" diameter corrugated HDPE pipe	LF	8,540	$20.00	$170,800
	d. Wye Connections	Each	168	$1,250.00	$210,000
	e. 5'Lx2'Wx4'H concrete thrust block	Each	179	$1,750.00	$313,250
	f.	CY		$0.00	$0
7	Passive Gas Control	N/A	-	-	-
8	Active Gas Extraction Control				
	a. well - 8" diameter Sched. 80 PVC	LF	10,680	$130.00	$1,388,400
	b. wellhead	Each	120	$900.00	$108,000
	c. lateral pipe - 8" diameter SDR 17	LF	21,680	$28.00	$607,040
	d. header pipe - 12" diameter SDR 17	LF	8,690	$39.00	$338,910
	f. perimeter header pipe - 18" SDR 17	LF	8,320	$68.00	$565,760
9	Security System	N/A	-	-	-
10	Engineering	N/A	-	-	-
11	Professional Services	N/A	-	-	-
12	Contingency	%	-	-	-
13	Site Specific Costs				
	a. contractor mobilization costs	LS	1	$75,000.00	$75,000

Notes: 1. FDEP form 62-701.900(28)

From: John Jacobs
To: Alex Rivera
Cc: Nick Bridges
Subject: RE: Request for Estimate
Date: Friday, March 31, 2017 1:31:48 PM
Attachments: image002.png
image003.png
image004.png
image008.png
image010.png
image012.png

Alex,

Those still look like good budget numbers for the work.

Best Regards,

John Jacobs

John Jacobs | Senior Estimator
COMANCO Environmental Corporation
4301 Sterling Commerce Dr. | Plant City, FL 33566
Office: 813-988-8829 | Fax: 813-386-7385 | Cell: 813-714-2253
email: jjacobs@comanco.com | web: www.comanco.com

From: Alex Rivera [mailto:ARivera@Geosyntec.com]
Sent: Tuesday, March 28, 2017 3:59 PM
To: John Jacobs
Cc: Nick Bridges
Subject: RE: Request for Estimate

Gentlemen,

Last June 2016 you assisted with a cost estimate that we included in a permit application for the JED facility in St. Cloud, FL. I've attached the file that you provided along with this email chain reflecting additional unit rates.

We are now assisting Omni's JED facility with renewing their operations permit and would once again want to include your estimates with the application.

Would you mind running through the numbers and confirming that we may still use these rates you provided in June 2016?

The quantities for this 2017 permit are slightly reduced as the footprint we are evaluating is generally smaller.

Please take a look and let me know if this is something you would be able to help with.

Thank you,

Alex Rivera

From: Alex Rivera
Sent: Friday, June 3, 2016 3:34 PM
To: John Jacobs <JJacobs@comanco.com>
Cc: Nick Bridges <nbridges@comanco.com>
Subject: RE: Request for Estimate

Great,

Thank you John

From: John Jacobs [mailto:JJacobs@comanco.com]
Sent: Friday, June 3, 2016 3:28 PM
To: Alex Rivera <ARivera@Geosyntec.com>
Cc: Nick Bridges <nbridges@comanco.com>
Subject: RE: Request for Estimate

Alex,

If it is sod that you're looking for, that should be in the area of $0.30 per SF ($2.70 per SY).

John

From: Alexander Rivera [mailto:ARivera@Geosyntec.com]
Sent: Friday, June 03, 2016 3:05 PM
To: John Jacobs
Cc: Nick Bridges
Subject: RE: Request for Estimate

Hi John,

Just wanted to confirm your cost for line item #5 (vegetative layer) on your initial assessment. This line item is for sod, and you have a note stating on-site material. This line item is for sod (not to be confused with topsoil which includes the vegetative soil layer).

Thanks,

Alex

From: John Jacobs [mailto:JJacobs@comanco.com]
Sent: Friday, May 27, 2016 1:24 PM
To: Alex Rivera <ARivera@Geosyntec.com>
Cc: Nick Bridges <nbridges@comanco.com>
Subject: RE: Request for Estimate

Alexander,

Here is our best initial assessment of the budget pricing numbers for your project.

Thanks,

John

John Jacobs | Senior Estimator
COMANCO Environmental Corporation
4301 Sterling Commerce Dr. | Plant City, FL 33566
Office: 813-988-8829 | Fax: 813-386-7385 | Cell: 813-714-2253
email: jjacobs@comanco.com | web: www.comanco.com

From: Alexander Rivera [mailto:ARivera@Geosyntec.com]
Sent: Wednesday, May 25, 2016 9:18 AM
To: John Jacobs
Cc: Nick Bridges
Subject: Request for Estimate

Good morning John,

We are currently assisting Mike Kaiser of Progressive Waste with a renewal permit through Phase 5 (Cell 15) of the JED Class I Landfill in St. Cloud, FL. The attached proposal was forwarded to my office by Mike as a reference. We are asking for your assistance with providing an estimate for cell closure based on estimated quantities in the attached Excel table.

Please take a look and let me know if this is something you would be able to help with. We have a short turnaround on this and your response would be greatly appreciated.

Thank you,

Alex Rivera, P.E.
Engineer

13101 Telecom Drive Ste 120
Temple Terrace, FL 33637
Phone: 813.558.0990
Fax: 813.558.9726
Mobile: 813-777-2914
www.geosyntec.com

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From: John Jacobs
To: Alex Rivera
Cc: Nick Bridges
Subject: RE: Request for Estimate
Date: Friday, June 3, 2016 3:10:05 PM
Attachments: image002.png
image003.png
image004.png

Alex,

For budgetary purposes, let's call it 68.00/LF supplied and installed.

Best Regards,

John

John Jacobs | Senior Estimator
COMANCO Environmental Corporation
4301 Sterling Commerce Dr. | Plant City, FL 33566
Office: 813-988-8829 | Fax: 813-386-7385 | Cell: 813-714-2253
email: jjacobs@comanco.com | web: www.comanco.com

From: Alexander Rivera [mailto:ARivera@Geosyntec.com]
Sent: Friday, June 03, 2016 1:02 PM
To: John Jacobs
Cc: Nick Bridges
Subject: RE: Request for Estimate

Good afternoon John,

Just following up with regards to the unit cost of the pipe below.

Thanks,

Alex

From: Alex Rivera
Sent: Friday, May 27, 2016 5:42 PM
To: 'John Jacobs' <JJacobs@comanco.com>
Cc: Nick Bridges <nbridges@comanco.com>
Subject: RE: Request for Estimate

I inadvertently left out approximately 4,550 LF of 18-in diameter SDR 17 perimeter header pipe.

Could you provide an estimate for this line item.

Thank you,

Alex

From: John Jacobs [mailto:JJacobs@comanco.com]
Sent: Friday, May 27, 2016 1:24 PM
To: Alex Rivera <ARivera@Geosyntec.com>
Cc: Nick Bridges <nbridges@comanco.com>
Subject: RE: Request for Estimate

Alexander,

Here is our best initial assessment of the budget pricing numbers for your project.

Thanks,

John

John Jacobs | Senior Estimator
COMANCO Environmental Corporation
4301 Sterling Commerce Dr. | Plant City, FL 33566
Office: 813-988-8829 | Fax: 813-386-7385 | Cell: 813-714-2253
email: jjacobs@comanco.com | web: www.comanco.com

From: Alexander Rivera [mailto:ARivera@Geosyntec.com]
Sent: Wednesday, May 25, 2016 9:18 AM
To: John Jacobs
Cc: Nick Bridges
Subject: Request for Estimate

Good morning John,

We are currently assisting Mike Kaiser of Progressive Waste with a renewal permit through Phase 5 (Cell 15) of the JED Class I Landfill in St. Cloud, FL. The attached proposal was forwarded to my office by Mike as a reference. We are asking for your assistance with providing an estimate for cell closure based on estimated quantities in the attached Excel table.

Please take a look and let me know if this is something you would be able to help with. We have a short turnaround on this and your response would be greatly appreciated.

Thank you,

Alex Rivera, P.E.
Engineer

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From: John Jacobs
To: Alex Rivera
Cc: Nick Bridges
Subject: RE: Request for Estimate
Date: Thursday, April 13, 2017 1:32:09 PM
Attachments: image002.png
image003.png
image004.png
image007.png
image008.png
image009.png
image012.png
image013.png
image014.png

Alex,

That is a valid point. Not sure why we priced the thrust blocks up so high for this budget, especially given the quantity. Go ahead and consider them to be $1,750 each, for the sake of this budget. As always, much will depend upon the final design, access to the site, etc.

Best Regards,

John

John Jacobs | Senior Estimator
COMANCO Environmental Corporation
4301 Sterling Commerce Dr. | Plant City, FL 33566
Office: 813-988-8829 | Fax: 813-386-7385 | Cell: 813-714-2253
email: jjacobs@comanco.com | web: www.comanco.com

From: Alex Rivera [mailto:ARivera@Geosyntec.com]
Sent: Wednesday, April 12, 2017 3:06 PM
To: John Jacobs
Cc: Nick Bridges
Subject: RE: Request for Estimate

Good afternoon John,

I just wanted to confirm the estimate for the concrete thrust blocks on the attached file. The thrust blocks have app. 1.4 CY of concrete compared to the 1.0 CY of concrete used in the concrete pad of the "wye" connection. The cost comparison is $2,800 for the concrete block vs. the $1,250 for the wye connection.

I went back and looked at Comanco's bid on the Sun Country partial closure in 2014 and saw that the estimate for concrete blocks on that project were $1,250/ea.

Thanks,

Alex

From: John Jacobs [mailto:JJacobs@comanco.com]
Sent: Tuesday, April 4, 2017 10:49 AM
To: Alex Rivera <ARivera@Geosyntec.com>
Cc: Nick Bridges <nbridges@comanco.com>
Subject: RE: Request for Estimate

Alex,

- I'm thinking that the 4" corrugated HDPE pipe with geomembrane (including weld to cover geomembrane) should be in the neighborhood of $20 per LF. This does not include the geocomposite, which is assumed to be a separate item.

- The 24" wye connections with concrete pad and grate would be around $1,250 each.

As always, these are budgetary prices and represent industry standard pricing for such work. Any final pricing would depend on final design, total scope, and construction timeline.

Best Regards,

John

John Jacobs | Senior Estimator
COMANCO Environmental Corporation
4301 Sterling Commerce Dr. | Plant City, FL 33566
Office: 813-988-8829 | Fax: 813-386-7385 | Cell: 813-714-2253
email: jjacobs@comanco.com | web: www.comanco.com

From: Alex Rivera [mailto:ARivera@Geosyntec.com]
Sent: Monday, April 03, 2017 11:06 AM
To: John Jacobs
Cc: Nick Bridges
Subject: RE: Request for Estimate

John,

Could you provide a unit cost for two items that were inadvertently overlooked the last time:

- 8,540 LF of 4-in. diameter HDPE corrugated drainage pipe (including a 3-ft wide strip of geomembrane used to wrap the 4-in. diameter drainage pipe); and
- 79 "wye" connections with concrete pad and grates (which joins the bench swale pipes to the main side slope downchute)

I've attached the permit drawings showing these details.

Much appreciated,

Alex

From: Alex Rivera
Sent: Friday, March 31, 2017 1:34 PM
To: 'John Jacobs' <JJacobs@comanco.com>
Cc: Nick Bridges <nbridges@comanco.com>
Subject: RE: Request for Estimate

Thank you John,

Alex

From: John Jacobs [mailto:JJacobs@comanco.com]
Sent: Friday, March 31, 2017 1:31 PM
To: Alex Rivera <ARivera@Geosyntec.com>
Cc: Nick Bridges <nbridges@comanco.com>
Subject: RE: Request for Estimate

Alex,

Those still look like good budget numbers for the work.

Best Regards,

John Jacobs

John Jacobs | Senior Estimator
COMANCO Environmental Corporation
4301 Sterling Commerce Dr. | Plant City, FL 33566
Office: 813-988-8829 | Fax: 813-386-7385 | Cell: 813-714-2253
email: jjacobs@comanco.com | web: www.comanco.com

From: Alex Rivera [mailto:ARivera@Geosyntec.com]
Sent: Tuesday, March 28, 2017 3:59 PM
To: John Jacobs
Cc: Nick Bridges
Subject: RE: Request for Estimate

Gentlemen,

Last June 2016 you assisted with a cost estimate that we included in a permit application for the JED facility in St. Cloud, FL. I've attached the file that you provided along with this email chain reflecting additional unit rates.

We are now assisting Omni's JED facility with renewing their operations permit and would once again want to include your estimates with the application.

Would you mind running through the numbers and confirming that we may still use these rates you provided in June 2016?

The quantities for this 2017 permit are slightly reduced as the footprint we are evaluating is generally smaller.

Please take a look and let me know if this is something you would be able to help with.

Thank you,

Alex Rivera

From: Alex Rivera
Sent: Friday, June 3, 2016 3:34 PM
To: John Jacobs <JJacobs@comanco.com>
Cc: Nick Bridges <nbridges@comanco.com>
Subject: RE: Request for Estimate

Great,

Thank you John

From: John Jacobs [mailto:JJacobs@comanco.com]
Sent: Friday, June 3, 2016 3:28 PM
To: Alex Rivera <ARivera@Geosyntec.com>
Cc: Nick Bridges <nbridges@comanco.com>
Subject: RE: Request for Estimate

Alex,

If it is sod that you're looking for, that should be in the area of $0.30 per SF ($2.70 per SY).

John

From: Alexander Rivera [mailto:ARivera@Geosyntec.com]
Sent: Friday, June 03, 2016 3:05 PM
To: John Jacobs
Cc: Nick Bridges
Subject: RE: Request for Estimate

Hi John,

Just wanted to confirm your cost for line item #5 (vegetative layer) on your initial assessment. This line item is for sod, and you have a note stating on-site material. This line item is for sod (not to be confused with topsoil which includes the vegetative soil layer).

Thanks,

Alex

From: John Jacobs [mailto:JJacobs@comanco.com]
Sent: Friday, May 27, 2016 1:24 PM
To: Alex Rivera <ARivera@Geosyntec.com>
Cc: Nick Bridges <nbridges@comanco.com>
Subject: RE: Request for Estimate

Alexander,

Here is our best initial assessment of the budget pricing numbers for your project.

Thanks,

John

John Jacobs | Senior Estimator
COMANCO Environmental Corporation
4301 Sterling Commerce Dr. | Plant City, FL 33566
Office: 813-988-8829 | Fax: 813-386-7385 | Cell: 813-714-2253
email: jjacobs@comanco.com | web: www.comanco.com

From: Alexander Rivera [mailto:ARivera@Geosyntec.com]
Sent: Wednesday, May 25, 2016 9:18 AM
To: John Jacobs
Cc: Nick Bridges
Subject: Request for Estimate

Good morning John,

We are currently assisting Mike Kaiser of Progressive Waste with a renewal permit through Phase 5 (Cell 15) of the JED Class I Landfill in St. Cloud, FL. The attached proposal was forwarded to my office by Mike as a reference. We are asking for your assistance with providing an estimate for cell closure based on estimated quantities in the attached Excel table.

Please take a look and let me know if this is something you would be able to help with. We have a short turnaround on this and your response would be greatly appreciated.

Thank you,

Alex Rivera, P.E.
Engineer

13101 Telecom Drive Ste 120
Temple Terrace, FL 33637
Phone: 813.558.0990
Fax: 813.558.9726
Mobile: 813-777-2914
www.geosyntec.com

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QUOTATION

Progressive Waste Services
Kirk Wills
1786 Salcman Road
Waterloo, NY 13165

kirk.wills@progressivewaste.com
Terms: Net 60

Quote Date **4/26/2017**

Project Number: **170426281**
Project Name Sun Country C&D Disposal
Location: Riverview FL
Application: MISC

PRODUCT	QUANTITY (SF)	ROLL SIZE	F.O.B.	UNIT PRICE ($/SF)	TOTAL PRICE	WARRANTY
40 mil HDPE DS MicroSpike-GRI	86,250 5 Rolls	23 x 750 12 rolls/truck	Georgetown, SC Flatbed	$0.2136	$ 18,423.00	1 Year
Composite 250 mil, DS 6 oz.	81,200 28 Rolls	14.5 x 200 27 rolls/truck	Georgetown, SC Flatbed	$0.2979	$ 24,189.48	1 Year
Composite, 200 mil, DS 6 oz.	16,675 5 Rolls	14.5 x 230 27 rolls/truck	Georgetown, SC Flatbed	$0.2858	$ 4,765.72	1 Year
Agrutex 8.0 oz. Marv	9,000 1 Rolls	15 x 600 45 rolls/truck	Georgetown, SC Flatbed	$0.0750	$ 675.00	1 Year

# of flatbeds from Georgetown	2	
Est Cost/Truck from Georgetown	$ 1,733.10	$ 3,466.20

Freight price is an estimate.

Total Freight Cost	(Estimated)	$ 3,466.20
Material Cost		$ 48,053.20
Project Cost		$ 51,519.40

Exceptions/Clarifications and Special Requirements: Agru Standard

Comments:

- Unless otherwise specified, Agru America standard material specification values and testing will apply for this quotation and the Customer agrees that Agru America standard values will be acceptable according to this quote.
- Material prices are valid for 30 days.
- Agru America Standard Warranty shall apply.
- Agru America General Terms and Conditions will apply.
- If the material quantity changes from the above square footage, a revised quotation must be issued.
- Agru America reserves the right to pass along any verifiable resin increases from the resin supplier up to time of material shipment.
- Shipping dates are estimates only and Agru America will not be held liable for any delays due to shipping.
- Any costs associated with third party testing will be the responsibility of the customer.
- Interest will accrue on unpaid balances at 1 ½% per month and Purchaser is responsible for collection costs and attorney fees.

Customer Acknowledgment

P. O. No.:_____ Signature:_____

Date:_____ Title:_____

Date Required: _____ **Please return to:**

Phone:
Email:

Quality from the ground up.

40-mil HDPE Textured Geomembrane
Liner rolls = 17,250 SF = 1,917 SY
Total liner required = 558,850 SY
# of liner rolls = 558,850/1,917 = 292 rolls
Each truck can haul 12 liner rolls, therefore # of trucks = 292/12 = 24.3 = 25 truckloads
Total Cost for trucking = 25 x $1,733.10 = $43,327.50
Trucking Cost per SF = $43,327.50/(558,850 SY*9 SF/SY) = $0.0086/SF + $0.2136 (mtl Cost) = $0.22 SF Delivered

250-mil DS Geocomposite
Geocomposite rolls = 2,900 SF = 322.2 SY
Total geocomposite required = 544,316 SY
# of geocomposite rolls = 544,316/322.2 = 1,689.4 = 1,690 rolls
Each truck can haul 27 geocomposite rolls, therefore # of trucks = 1,690/27 = 62.6 = 63 truckloads
Total Cost for trucking = 63 x $1,733.10 = $109,185.30
Trucking Cost per SF = $109,185.30/(544,316 SY*9 SF/SY) = $0.0222/SF + $0.2979 (mtl Cost) = $0.32 SF Delivered

2.1 BID WORKSHEET:

J.E.D Solid Waste Management Facility (JED Landfill) - Cell 13 Construction

M/P Item	Description	Unit	Bid Estimate Install Quantity	Install Unit Price	Install Sub-Total	Bid Estimate Material Supply Quantity	Material Unit Price	Material Sub-Total	Total
1	Mobilization and Demobilization	LS	1	$5,000	$5,000.00				$5,000.00
2	Extrusion Tie-In Welds for Connection to Existing	LF	3,084	$4.00	$12,336.00				$12,336.00
3	GCL	SF	777,726	$0.080	$62,218.08	843,750			$62,218.08
4	60-Mil HDPE Geomembrane	SF	1,563,821	$0.095	$148,563.00	1,719,020			$148,563.00
5	Weld Primary Liner to Secondary in Anchor Trench	LF	2,526	$4.000	$10,104.00				$10,104.00
6	6" & 8" Pipe Boots	EA	5	$275.000	$1,375.00				$1,375.00
7	24" Pipe Boots	EA	4	$450.000	$1,800.00				$1,800.00
8	Geocomposite (Primary & Secondary)	SF	1,531,510	$0.085	$130,178.35	1,715,700			$130,178.35
9	40-Mil HDPE Geomembrane Flap (Extrusion Weld)	LF	2,506	$4.00	$10,024.00	2,680			$10,024.00
					$381,598.43				**$381,598.43**

WSI Notes:

1. Install and Material Supply quantities are provided for bid estimate purposes. Install pay quantities will be based on actual square footage verified by 3rd party survey (including anchor trench). Material Supply quantities shall be based on Installers take-off estimate, approved by Owner. Supply quantities shall include waste, slope, anchor trench, overlap, and any other adjustment factors necessary to supply all material to complete the work.
2. Unit rate for tie-in welds and connections must include all geosynthetic types (geocomposite, GCL and geomembrane). Payment will be made based on group installation at the unit rate provided.
3. Earthwork Contractor will offload and stage geosynthetics materials delivered to the site. Material Supplier will furnish spreader bars or other specialized off loading equipment with the first load of material for use by the Earthworks Contractor.
4. Geosynthetics installation is scheduled for approximately 60 working days.

Bidder Notes:

Item # 4 supply is based on the 40 mil material being provided already cut to width of 7.5'. 2,680 LF x 7.5' =20,100 SF

Bid Worksheet
JED Solid Waste Management Facility
GCCS 2016 Phase 3 - Cells 3 through 9 New/Replacement Vertical LFG Wells and Piping

Rev #3 November 7, 2016

Item/Description	Unit	Quantity	Unit Cost	Subtotal Cost
General				
Mobilization/Demobilization (Drilling Contractor)	LS	1	$19,100.00	$19,100.00
HDPE Header Piping and Tie-ins				
Connections to Existing Header, cut and electrofusion coupling Cells 3 & 9	EA	2	$2,500.00	$5,000.00
Install 18" HDPE New Header Pipe Cells 3, 6, & 9.	LF	1,200	$18.00	$21,600.00
Install 4" HDPE Condensate Forcemain in Common Trench	LF	1,200	$3.00	$3,600.00
Install 2" HDPE Airline in Common Trench	LF	1,200	$1.00	$1,200.00
Connections to Existing Laterals	EA	2	$2,500.00	$5,000.00
Abandonment with HDPE Butt Cap (12" and 16")	EA	2	$400.00	$800.00
HDPE Crossover Header Piping and Tie-ins				
Connections to Existing Header, cut and electrofusion coupling Cells 5 & 6	EA	2	$2,500.00	$5,000.00
Install 12" HDPE New Header Pipe Cells 5 & 6.	LF	650	$17.00	$11,050.00
Abandonment with HDPE Butt Cap	EA	2	$400.00	$800.00
HDPE Lateral Piping and Tie-ins				
Connections to header/crossover header/laterals in Cells 3, 4, 5, 6, 7, & 9	EA	17	$150.00	$2,550.00
Install 8" HDPE New Lateral Pipe Cells 3, 4, 5, 6, 7, & 9.	LF	3,530	$15.00	$52,950.00
Connections to Existing Laterals via Existing Blind Flanges/RiserS	EA	2	$400.00	$800.00
Connection to Downslope Wells	EA	4	$1,100.00	$4,400.00
Abandonment with HDPE Butt Cap	EA	13	$70.00	$910.00
Valves and Other Components				
18" Butterfly Valve with Valve Extension (Install Only)	EA	2	$850.00	$1,700.00
12" Butterfly Valve with Valve Extension (Install Only)	EA	1	$220.00	$220.00
Install 2" HDPE Forcemain/2" HDPE Airline in common trench	LF	3,130	$2.00	$6,260.00
HDPE Fittings, Gaskets, Bolt Kits and Other Miscellaneous Material Allowance	LS	1	$25,000.00	$25,000.00
New LFG Extraction Wells - Cells 3, 4, 5, & 6				
8" Sch 80 PVC Perforated Gas Extraction Well Section	LF	1,009	$42.00	$42,378.00
8" Sch 80 PVC Solid Gas Extraction Well Section	LF	135	$44.00	$5,940.00
Vertical Well Boring Drilling (36-inch diameter)	LF	1,153	$28.00	$32,284.00
2" QED Precision Quick Change Well Heads w/Pump Capability (Install Only)	EA	9	$100.00	$900.00
Construct and Remove Drill Rig Access/Pad on Sideslope Areas	EA	9	$400.00	$3,600.00
Replacement LFG Extraction Wells - Cells 3 & 6				
8" Sch 80 PVC Perforated Gas Extraction Well Section	LF	415	$42.00	$17,430.00
8" Sch 80 PVC Solid Gas Extraction Well Section	LF	60	$44.00	$2,640.00
Vertical Well Boring Drilling (36-inch diameter)	LF	479	$28.00	$13,412.00
Remove Wellhead from Existing Well and Install on Replacement Well	EA	4	$175.00	$700.00
Abandon Existing Well (cut and cap)	EA	4	$350.00	$1,400.00
Construct and Remove Drill Rig Access/Pad on Sideslope Areas	EA	4	$400.00	$1,600.00
Option 1 (as excercised at Omni's discretion)				
8" Sch 80 PVC Perforated Gas Extraction Well Section	LF	80	$42.00	$3,360.00
8" Sch 80 PVC Solid Gas Extraction Well Section	LF	45	$44.00	$1,980.00
Vertical Well Boring Drilling (36-inch diameter)	LF	128	$28.00	$3,584.00
Install 8" HDPE New Lateral Pipe Cell 8	LF	200	$15.00	$3,000.00
2" QED Precision Quick Change Well Heads w/Pump Capability (Install Only)	EA	3	$100.00	$300.00
Connection to Downslope Wells	EA	2	$1,100.00	$2,200.00
Construct and Remove Drill Rig Access/Pad on Sideslope Areas	EA	3	$400.00	$1,200.00
Option 2 (as excercised at Omni's discretion)				
Removal of Abandoned Header Pipe	LS	1	$12,147.00	$12,147.00
Performance Bond				
Performance Bond (Required)	LS	1	$3,575.00	$3,575.00
TOTAL CONSTRUCTION COSTS				**$321,570.00**

Notes:

1. Quantities shall be used and bid as provided. Refer to the GCCS Phase 3 Disposal Area Drawings, Golder Associates, September 2012 and GCCS Phase 4 Disposal Area Drawings, Cornerstone, June 2016

2. Assume 9 new wells in Cells 3, 4, 5, & 6; 1 mid tier wells GW-82 (80' average borehole depth), and 8-upper tier wells GW-84, GW-91, GW-96, GW-111, GW-114, GW-115, GW-116, and GW-117 (135' average borehole depth). Solid PVC section for upper and mid tier wells shall be 15' below existing grades. Stick-up shall be 3' above existing grade with new QED wellhead and QED well cap.

3. Assume 3 replacement wells in Cells 3 & 6; 1 mid tier wells GW-83R1 (90' average borehole depth), and 8-upper tier wells GW-84, GW-91, GW-96, GW-111, GW-114, GW-115, GW-116, and GW-117 (130' average borehole depth). Solid PVC section for upper and mid tier wells shall be 15' below existing grades. Stick-up shall be 3' above existing grade with new QED wellhead and QED well cap.

4. Wells may be located on a sodded closure cap. Access to the well location by the drill rig must be from the perimeter access up to the new well location. Contractor shall furnish a track type loader to transport materials to the well location and remove waste. No articulating trucks or excavators shall be on the closed slope at any time due to stability concerns. Contractor must repair and regrade to existing conditions all damaged areas of the closure cap and benches caused by their work.

5. Refuse shall be transported by the Contractor to the active disposal area.

6. Owner will provide a contractor to abandon old wells and connect replacement wells to the existing laterals in the closure cap area.

7. Omni will supply Schedule 80 PVC perforated and solid pipe, couplings, and caps for the well casings, HDPE header, lateral, forcemain and air pipe, butterfly valves and QED wellheads. Contractor to furnish all HDPE fittings, bolt kits, back-up rings, gaskets, and fernco fittings to complete the work. Pipe markers and tape, joint wrapping, tools, banding, and other consumables etc. are not reimbursable under the bid allowance and shall be included in the approriate bid item. Costs will be reimbursed to the Contractor at cost plus 10% under the allowance bid item. In advance of material purchase, the Contractor shall review existing inventory of HDPE fittings available onsite and use available fittings before purchase of new fittings. Drilling contractor to furnish bentonite, isolation ring and well rock.

8. Unit rate for solid gas extraction well section shall include bentonite plugs, isolation rings, and soil backfill.

9. Unit rate for perforated gas extraction well section shall include rock backfill media.

10. Contractor shall regrade any disturbed areas and prep for sodding by Omni.

11. Omni will provide for abandonment of the existing well and repair of the geosynthetic lined cap.

Quote No: R-15937, Dec 02, 2016

Site Reference: ORP215

Prepared For:

Brad Robbins
321.354.4597
Brad.robbins@wasteconnections.com

WASTE CONNECTIONS
JED SOLID WASTE MANAGEMENT FACILITY
1501 OMNI WAY
ST CLOUD, FL 34773
USA

Represented By:

Ken Still, Regional Sales Mgr
770-856-7845
kstill@qedenv.com

Prepared By:
Robyn Wooley
734-995-2547 ext 81-355
rwooley@qedenv.com

QTY	PART NO.	DESCRIPTION	UM	UNIT PRICE	EXTENSION
13	ORP215	Quick change orifice plate LFG wellhead assembly, 2" Vertical. Quick orifice plate change function for optimizing flow measurement. PVC construction. Includes Model CV2000 Fine Tune Control Valve, and 4 Easy Port fittings (threaded nylon barb, cap with tether): 3 pressure/sampling, 1 temperature. Requires orifice plates.	EA	392.00	5,096.00
13	40770	Orifice plate set for ORP215 wellhead. 6 molded nylon plates with individual color for each size for easy identification. Plate sizes include: 0.40, 0.50, 0.75, 1.0, 1.25 and 1.40"	EA	26.00	338.00
13	40647	2" Sch 80 PVC pipe, 12-1/4" long.	EA	8.86	115.18
13	40979	Banding Kit for 2.38" Solarguard (TM) Flex Hose. Includes two (2) all stainless steel Solarguard band clamps, and two (2) banding coils.	EA	18.50	240.50
1	40947	Solarguard (TM) Flex Hose, 2.38" ID x 5 ft long. PVC construction with yellow pigment and UV inhibitors for extended service life. Commonly used in landfill gas collection systems. Requires QED banding coil for use with band clamp.	EA	33.00	33.00
				SUBTOTAL	**5,822.68**
				DISCOUNT	**-582.32**
				TOTAL	**5,240.36**

TERMS & CONDITIONS: Payment Terms: NET 30

Estimated shipping time 5-10 working days after receipt of Purchase Order, transit time not included. Pricing valid for 30 days. Final delivery date will be determined at time of order. All prices are in U. S. dollars, FOB SHIPPING POINT, USA. A copy of your purchase order, or signed quote, is required at time of order.

Payment terms (shown above) are calculated from invoice date, subject to credit approval. A service charge of 1% per month will be applied to all past due invoices.

Unless shown as separate line item(s), total price shown DOES NOT include applicable sales tax or shipping & handling charges. Applicable sales taxes, shipping and handling charges will be added to the invoice. Estimates available upon request.

After acceptance of an order, no order can be returned without QED approval. Standard equipment, not custom in nature, can generally be returned for credit within 30 days of purchase. The equipment must be unused and in its original packaging and is subject to a 15% restocking fee. Custom equipment or tubing cut to a requested length cannot be returned for credit. All products will be returned freight prepaid to sellers facility.

Invoice To: _____ Ship To: _____

_____ _____

_____ _____

_____ Attn: _____

REQUESTED DELIVERY DATE: ____ / ____ / 2016 Amount Approved: $ _____

Accepted by: _____ PO Number: _____

Print Name: _____ Company: _____

Title: _____ Date: _____

[__] Check box if this order is necessary to your (or another contractors) contract with the federal government.

To place your order, complete the above section and email to: info@qedenv.com (or fax to: 734-995-1170).
(Please note that a hard copy of your PO may be required before shipment.)

When placing orders, please make paperwork out to: QED Environmental Systems, Inc.

Mailing Address:
PO Box 3726
Ann Arbor, MI, 48106

Remit To Address:
PO Box 935668
Atlanta, GA 31193-5668

TOTAL BEING APPROVED $5,240.36

Environmental Conservation Laboratories, Inc.

10775 Central Port Drive	4810 Executive Park Ct, Suite 111	102-A Woodwinds Industrial Court
Orlando, Florida 32824	Jacksonville, FL 32216-6069	Cary, NC 27511
(407) 826-5314 phone	(904) 296-3007 phone	(919) 467-3090 phone
(407) 850-6945 fax	(904) 296-6210 fax	(919) 467-3515 fax
NELAP #E83182	NELAP #E82277	NELAP #E87610

www.encolabs.com

March 29, 2017

Geosyntec Consultants
13101 Telecom Dr.
Suite 120
Temple Terrace, FL 33637

Re: **St. Cloud Area Landfill – 28 Wells & 2 SW's for App. I Paramaters w/ Extras**

Attention: Alex Rivera

Environmental Conservation Laboratories, Inc. is pleased to submit the following quotation for analytical services.

Sampling Supplies/Shipping Requirements

Shipping containers and bottles will be supplied by Environmental Conservation Laboratories, Inc. Samples must be iced from time of collection until received at the laboratory. Some analyses require special sample handling – please contact your Project Manager at the laboratory if you have any questions upon receipt of containers.

Quality Assurance

All of our facilities are accredited by NELAP and also maintain additional state certifications and approvals throughout the Southeast and Mid-Atlantic regions. Unit pricing includes adherence to and documentation of compliance with applicable Quality Assurance/ Quality Control protocols for each procedure performed. Our Quality Assurance/ Quality Control program ensures acceptable accuracy and precision for each analytical method. All published data is defensible, with quality control results provided with every report.

Analytical Requirements and Unit Pricing

Environmental Conservation Laboratories, Inc. anticipates receiving samples from Geosyntec Consultants from the proposed **St. Cloud Area Landfill – 28 Wells & 2 SW's for App. I Paramaters w/ Extras** project in the near future. These samples will be analyzed for the parameters listed in the Analytical Requirements and Unit Pricing section below.

Quantity	Matrix	Analytical Parameter or Test Group	Rate	Extended
		Surface Water Laboratory Paramaters;		
2	SW	Unionized ammonia - N (calc w/ NH3 + field measurements)	15.00	30.00
2	SW	Total Hardness	10.00	20.00
2	SW	Biochemical Oxygen demand, BOD 5	20.00	40.00
2	SW	Iron as Fe	9.00	18.00
2	SW	Mercury as Hg (standard GW processing limits 7470 or 245.1)	20.00	40.00
2	SW	Nitrate	10.00	20.00
2	SW	Chemical Oxygen Demand, COD	20.00	40.00
2	SW	Total Organic Carbon, TOC	18.00	36.00
2	SW	Total Dissolved Solids, TDS	10.00	20.00
2	SW	Fecal Coliform, MF (8 hour holding time)	35.00	70.00
2	SW	Total Phosphates as TP	18.00	36.00
2	SW	Chlorophyll A	45.00	90.00
2	SW	Total Nitrogen, TN (as TKN + NO2 + NO3)	35.00	70.00
2	SW	Total Suspended Solids, TSS	10.00	20.00
2	SW	Those parameters listed in 40 CFR Part 258 Appendix I as;	180.00	360.00
		Volatile Organic Compounds, SW846 8260		
		EDB and DBCP, 8011		
		15 Metals: Sb,As,Ba,Be,Cd,Cr,Co,Cu,Pb,Ni,Se,Ag,Tl,V,Zn		
		Cost per Surface Water Sample	**455.00**	
		Cost for two Surface Water Samples		**910.00**

Quantity	Matrix	Analytical Parameter or Test Group	Rate	Extended
		Appendix I "plus" Groundwater Laboratory Paramaters;		
28	GW	Total ammonia - N	15.00	420.00
28	GW	Bicarbonate	10.00	280.00
28	GW	Chlorides	10.00	280.00
28	GW	Iron as Fe	9.00	252.00
28	GW	Mercury as Hg	18.00	504.00
28	GW	Nitrate	10.00	280.00
28	GW	Sodium as Na	9.00	252.00
28	GW	Total Dissolved Solids, TDS	10.00	280.00
28	GW	Those parameters listed in 40 CFR Part 258 Appendix I as;	180.00	5040.00
		Volatile Organic Compounds, SW846 8260		
		EDB and DBCP, 8011		
		15 Metals: Sb,As,Ba,Be,Cd,Cr,Co,Cu,Pb,Ni,Se,Ag,Tl,V,Zn		
		Cost per Groundwater Water Sample	**271.00**	
		Cost for 28 Groundwater Samples		**7588.00**

Quantity	Matrix	Analytical Parameter or Test Group	Rate	Extended
1	Per Event	**Field Collection Services**	**3190.00**	**3190.00**
		Sample Collection of 28 MW's and 2 SW's		
		Water levels prior to purging		
		Field Parameters:		
		Specific Conductivity		
		pH		
		Dissolved Oxygen		
		Turbidity		
		Colors and sheens (by observation)		
		Incidentals (gloves, towels, tubing, reagents, ice, etc.)		
		Mobilization - Demobilization		
		Travel		

Comments/Special Considerations:

Reporting - ADaPT included
SW's - If you require Mercury to Class III Surfacewater Criteria a different method needs to be utilized at a unit cost of $ 115 ea.

Quote Expiration Date: March 29, 2017

This quote shall expire 120 days from the above date.

Terms and Conditions:

The information contained in this proposal is confidential and shall not be used or disclosed to any third party without prior written permission from Environmental Conservation Laboratories, Inc. In the absence of a written agreement, acceptance of samples is in accordance with Environmental Conservation Laboratories, Inc.'s attached Standard Terms and Conditions of Sale. All payment is due net thirty (30) days from invoicing date unless special arrangements have been requested and approved by ENCO.

This quotation does not include sales tax. Applicable sales tax will be added to invoices where required by law.

Reporting Format

A final report summarizing all data and Quality Assurance/Quality Control results will be forwarded no later than one (1) day following completion of analyses. Additionally, ***numerous electronic reporting options are available*** – contact your Project Manager for details.

ENCO's standard Hardcopy Report includes the following minimum information:

Date of Sample Collection/Receipt/Extraction/Analysis
Analytical Data
Matrix Spike/Matrix Spike Duplicate Recoveries
Laboratory Check Sample Recoveries
MS/MSD Relative Percent Differences
Laboratory Blank Data
Surrogate Recoveries
Original Chain-of-Custody

Sample Disposal/Invoicing

Samples will be disposed of thirty (30) days after the report date, unless prior arrangements have been made with the laboratory. Samples will be held longer, upon request, on a fee per month basis.

To ensure successful completion of your project, I urge you to communicate any changes in the scope of work (i.e., methods, project start up dates, numbers of samples, matrices, etc.) to either myself or the laboratory as soon as possible. Should you require further information, please do not hesitate to contact me at (407) 826-5314.

Sincerely,
ENVIRONMENTAL CONSERVATION LABORATORIES, INC.

Russell W. Erickson

QUOTE

Attention: Alex Rivera, P.E. Engineer
GeoSyntec
13101 Telecom Drive Ste 120
Temple Terrace, FL 33637

Date
30 March 2017

Quote Number
Q001169

Job Number
J001257

Diamond Systems LLC
PO Box 348
Mims, Florida 32754
www.DiamondSci.com
info@DiamondSci.com
Phone: 001-321-223-7500
Fax: 001-321-747-0316

JED

Costs	Quantity	Rate	Amount
EPG Model WSDPT 20-3 SurePump WPZ02003050E3064QX (PRIMARY SUMP PUMP) patented, stainless steel Wheeled Sump Drainer, size 6, with 5 HP, 460 V, 3Ø motor, 100' of jacketed 12-4 CP motor lead, 0-5 PSI level sensor with 100' poly lead, and 100' of 3/16" stainless steel suspension cable and clamps.	1.00	7,299.00	7,299.00
EPG Model WSDPT 7-5 SurePump WPZ00705015E3044OX (SECONDARY SUMP PUMP) patented, stainless steel Wheeled Sump Drainer, size 4, with 1.5 HP, 460 V, 3Ø motor, 100' of jacketed 14-4 CP motor lead, 0-5 PSI level sensor with 100' poly lead, and 100' of 1/8" stainless steel suspension cable and clamps. Includes 2" stainless steel discharge adapter.	1.00	4,467.00	4,467.00
		Subtotal	11,766.00
		Florida Sales Tax	0.00
		Total	**11,766.00**

Valid To: 27 April 2017

RCS EXCAVATION, INC.

PO Box 1787
Lake Placid, FL 33862

Invoice

Date	Invoice #
8/19/2016	83035

Bill To
Waste Connections Attn: Mr. Benjamin Gray

P.O.
6465-16-00551

Terms	Due Date	Project
Net 30	9/18/2016	2016 Closure Mowing JED Landfill

Description	Est Amt	Prior %	Qty	Rate	Curr %	Total %	Amount
2016 Closure Mowing of JED Landfill PO#6465-16-00551 Monthly tractor mowing and weed eating around Gas Wells within the Closure	5,400.00			5,400.00	100.00%	100.00%	5,400.00

Thank you for your business.

Total	$5,400.00
Balance Due	$5,400.00

PO Box 1787 ● Lake Placid, FL 33862
(P) 863-699-1727 ● (F) 863-582-9292

3/14/2017

To: Waste Connections, Inc.
Attn: Mr. Kirk Wills
5135 Madison Ave
Tampa, FL 33619

Proposal: Barb Wire Fencing

Project Location: JED Landfill, St. Cloud, FL

Item 1: Replace 100' of 4-strand barb wire fencing @ per LF cost= $4/LF
Item 2: Replace 2-20' 6-ft chain-link swing gates= $800

**Please note: Price is only guaranteed for 30 days.*

DUKE ENERGY.

STATEMENT OF ELECTRIC SERVICE

MARCH 2017
Duke Energy

ACCOUNT NUMBER
73736 31476

FOR CUSTOMER SERVICE OR PAYMENT LOCATIONS CALL:
1-877-372-8477

WEB SITE: www.duke-energy.com

TO REPORT A POWER OUTAGE:
1-800-228-8485

OMNI WASTE OF OSC CTY LLC

1501 OMNI WAY
SAINT CLOUD FL 34773

SERVICE ADDRESS
1501 OMNI WAY, CELL 13 PUMP
ST CLOUD FL 34773

DUE DATE	TOTAL AMOUNT DUE
MAR 23 2017	83.00
NEXT READ DATE ON OR ABOUT	DEPOSIT AMOUNT ON ACCOUNT
MAR 31 2017	Blanket Cash

PIN: 625482228

METER READINGS

METER NO.	008922540
PRESENT (ACTUAL)	002827
PREVIOUS (ACTUAL)	002733
DIFFERENCE	000094
PRESENT ONPEAK	000889
PREVIOUS ONPEAK	000863
DIFFERENCE ONPEAK	000026
TOTAL KWH	94
ON PEAK KWH	26
PRESENT KW (ACTUAL)	0003.44
PRESENT PEAK KW	0003.44
BASE KW	3
ON-PEAK KW	3
LOAD FACTOR	4.5%

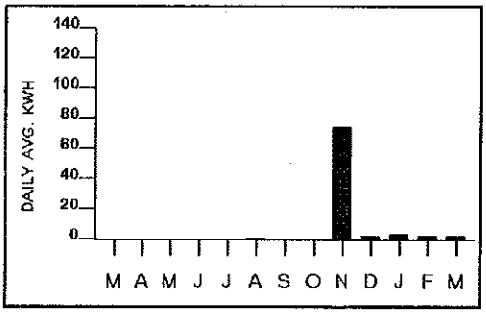
PAYMENTS RECEIVED AS OF FEB 01 2017 33.95 THANK YOU

GS-1 060 GENERAL SERVICE - NON DEMAND SEC
BILLING PERIOD..01-31-17 TO 03-01-17 29 DAYS

CUSTOMER CHARGE		11.59	
ENERGY CHARGE	94 KWH @ 6.97000¢	6.55	
FUEL CHARGE	94 KWH @ 3.66700¢	3.45	
ASSET SECURITIZATION CHARGE	94 KWH @ 0.18900¢	0.18	
*TOTAL ELECTRIC COST			21.77
GROSS RECEIPTS TAX			.56
COUNTY UTILITY TAX			1.56
STATE AND OTHER TAXES ON ELECTRIC			1.89
LATE PAYMENT CHARGE FOR PREVIOUS BILL.			5.00
TOTAL CURRENT BILL			30.78
AMOUNT PAST DUE			52.22
TOTAL DUE THIS STATEMENT			$83.00

Completed

25.78



Payment of your bill prior to the above due date will avoid a late payment charge of $5.00 or 1.5%, whichever is greater. Your account has a past due amount of $52.22 and electric service may be disconnected. Please pay immediately.

ENERGY USE

DAILY AVG. USE -	3 KWH/DAY
USE ONE YEAR AGO -	0 KWH/DAY
*DAILY AVG. ELECTRIC COST -	$.75

BF_BL_DEF_20170301_220626_3.CSV-1431-000000116

DETACH AND RETURN THIS SECTION MM 0005049 BILL # 12 OF 17 GRP 1142

DELINQUENT		CURRENT CHARGES	
AMOUNT	DUE DATE	AMOUNT	DUE DATE
52.22	PAST DUE	30.78	MAR 23 2017

ACCOUNT NUMBER - 73736 31476

001431 000000116

OMNI WASTE OF OSC CTY LLC
1501 OMNI WAY
SAINT CLOUD FL 34773-9177

P.O. BOX 1004
CHARLOTTE,
NC 28201-1004

TOTAL DUE
83.00

PLEASE ENTER AMOUNT PAID

7373631476100000008300600000005222500000003078301000000000009

DUKE ENERGY.

STATEMENT OF ELECTRIC SERVICE

MARCH 2017

2 5

ACCOUNT NUMBER
99882 87420

FOR CUSTOMER SERVICE OR PAYMENT LOCATIONS CALL:
1-877-372-8477

WEB SITE: www.duke-energy.com

TO REPORT A POWER OUTAGE:
1-800-228-8485

OMNI WASTE OF OSC CTY LLC

1501 OMNI WAY
SAINT CLOUD FL 34773

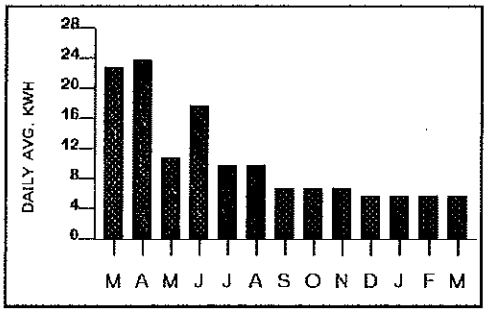
SERVICE ADDRESS
1501 OMNI WAY PUMP 1
ST CLOUD FL 34773

DUE DATE	TOTAL AMOUNT DUE
MAR 23 2017	87.58
NEXT READ DATE ON OR ABOUT	**DEPOSIT AMOUNT ON ACCOUNT**
MAR 31 2017	Blanket Cash

PIN: 625482228

METER READINGS

METER NO.	008921999
PRESENT (ACTUAL)	000313
PREVIOUS (ACTUAL)	000138
DIFFERENCE	000175
PRESENT ONPEAK	000049
PREVIOUS ONPEAK	000023
DIFFERENCE ONPEAK	000026
TOTAL KWH	175
ON PEAK KWH	26
PRESENT KW (ACTUAL)	0005.33
PRESENT PEAK KW	0004.81
BASE KW	5
ON-PEAK KW	5
LOAD FACTOR	5.0%



ENERGY USE

DAILY AVG. USE -	6 KWH/DAY
USE ONE YEAR AGO -	23 KWH/DAY
*DAILY AVG. ELECTRIC COST -	$1.05

PAYMENTS RECEIVED AS OF FEB 01 2017 37.80 THANK YOU

GS-1 060 GENERAL SERVICE - NON DEMAND SEC
BILLING PERIOD..01-31-17 TO 03-01-17 29 DAYS

CUSTOMER CHARGE		11.59	
ENERGY CHARGE	175 KWH @ 6.97000¢	12.20	
FUEL CHARGE	175 KWH @ 3.66700¢	6.42	
ASSET SECURITIZATION CHARGE	175 KWH @ 0.18900¢	0.33	
*TOTAL ELECTRIC COST			30.54
GROSS RECEIPTS TAX			.78
COUNTY UTILITY TAX			2.09
STATE AND OTHER TAXES ON ELECTRIC			2.65
LATE PAYMENT CHARGE FOR PREVIOUS BILL			5.00
TOTAL CURRENT BILL			41.06
BALANCE FORWARD			46.52
TOTAL DUE THIS STATEMENT			**$87.58**

completed

36.04

Payment of your bill prior to the above due date will avoid a late payment charge of $5.00 or 1.5%, whichever is greater. If your previous unpaid balance has been paid, please disregard.

BF_BL_DEF_20170301_220626_3.CSV-1447-000000112

DETACH AND RETURN THIS SECTION MM 0005054 BILL # 17 OF 17 GRP 1142

Make checks payable to: Duke Energy

ACCOUNT NUMBER - 99882 87420

001447 000000112

OMNI WASTE OF OSC CTY LLC
1501 OMNI WAY
SAINT CLOUD FL 34773-9177

P.O. BOX 1004
CHARLOTTE,
NC 28201-1004

DUE DATE
MAR 23 2017

TOTAL DUE
87.58

PLEASE ENTER AMOUNT PAID

998828742020000000875850000000465240000000410610100000000009

DUKE ENERGY.

STATEMENT OF ELECTRIC SERVICE

MARCH 2017

25

ACCOUNT NUMBER
11757 94261

FOR CUSTOMER SERVICE OR PAYMENT LOCATIONS CALL:
1-877-372-8477

WEB SITE: www.duke-energy.com

TO REPORT A POWER OUTAGE:
1-800-228-8485

OMNI WASTE OF OSC CTY LLC

1501 OMNI WAY
SAINT CLOUD FL 34773

SERVICE ADDRESS
1501 OMNI WAY,
CELL 4/PUMP AREA

DUE DATE	TOTAL AMOUNT DUE
MAR 23 2017	82.19
NEXT READ DATE ON OR ABOUT	DEPOSIT AMOUNT ON ACCOUNT
MAR 31 2017	Blanket Cash

PIN: 625482228

METER READINGS

METER NO.		006638806
PRESENT	(ACTUAL)	001790
PREVIOUS	(ACTUAL)	001681
DIFFERENCE		000109
TOTAL KWH		109

PAYMENTS RECEIVED AS OF FEB 01 2017 28.91 THANK YOU

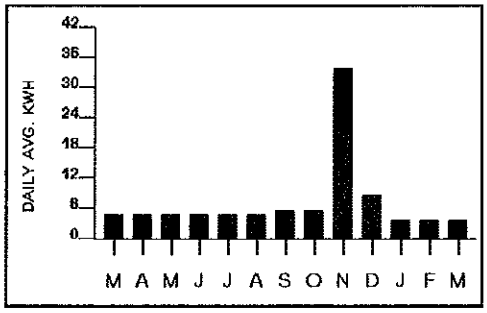
GS-1 060 GENERAL SERVICE - NON DEMAND SEC
BILLING PERIOD..01-31-17 TO 03-01-17 29 DAYS

CUSTOMER CHARGE			11.59
ENERGY CHARGE	109 KWH @	6.97000¢	7.60
FUEL CHARGE	109 KWH @	3.66700¢	4.00
ASSET SECURITIZATION CHARGE	109 KWH @	0.18900¢	0.21

completed

*TOTAL ELECTRIC COST	23.40
GROSS RECEIPTS TAX	.60
COUNTY UTILITY TAX	1.66
STATE AND OTHER TAXES ON ELECTRIC	2.03
LATE PAYMENT CHARGE FOR PREVIOUS BILL	5.00
TOTAL CURRENT BILL	32.69
BALANCE FORWARD	49.50
TOTAL DUE THIS STATEMENT	$82.19

27.69



Payment of your bill prior to the above due date will avoid a late payment charge of $5.00 or 1.5%, whichever is greater.
If your previous unpaid balance has been paid, please disregard.

ENERGY USE

DAILY AVG. USE -	4 KWH/DAY
USE ONE YEAR AGO -	5 KWH/DAY
*DAILY AVG. ELECTRIC COST -	$.81

BF_BL_DEF_20170301_220626_3.CSV-1432-000000115

DETACH AND RETURN THIS SECTION MM 0005039 BILL # 2 OF 17 GRP 1142

Make checks payable to: Duke Energy

ACCOUNT NUMBER - 11757 94261

001432 000000115

OMNI WASTE OF OSC CTY LLC
1501 OMNI WAY
SAINT CLOUD FL 34773-9177

P.O. BOX 1004
CHARLOTTE,
NC 28201-1004

DUE DATE
MAR 23 2017

TOTAL DUE
82.19

PLEASE ENTER AMOUNT PAID

1175794261900000008219800000004950200000003269801000000000009

DUKE ENERGY.

STATEMENT OF ELECTRIC SERVICE

MARCH 2017
Duke Energy

ACCOUNT NUMBER
75594 97574

FOR CUSTOMER SERVICE OR PAYMENT LOCATIONS CALL:
1-877-372-8477

WEB SITE: www.duke-energy.com

TO REPORT A POWER OUTAGE:
1-800-228-8485

OMNI WASTE OF OSC CTY LLC

1501 OMNI WAY
SAINT CLOUD FL 34773

SERVICE ADDRESS
1501 OMNI WAY,
CELL 3/PUMP AREA

DUE DATE	TOTAL AMOUNT DUE
MAR 23 2017	132.62
NEXT READ DATE ON OR ABOUT	**DEPOSIT AMOUNT ON ACCOUNT**
MAR 31 2017	Blanket Cash

PIN: 625482228

METER READINGS

METER NO.		002663582
PRESENT	(ACTUAL)	028236
PREVIOUS	(ACTUAL)	028138
DIFFERENCE		000098
TOTAL KWH		98
PRESENT KW	(ACTUAL)	0002.62
BASE KW		3
LOAD FACTOR		4.7%

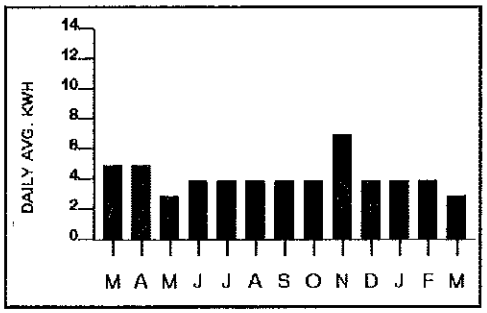
PAYMENTS RECEIVED AS OF FEB 01 2017 27.65 THANK YOU

GS-1 060 GENERAL SERVICE - NON DEMAND SEC
BILLING PERIOD..01-31-17 TO 03-01-17 29 DAYS

CUSTOMER CHARGE		11.59	
ENERGY CHARGE	98 KWH @ 6.97000¢	6.83	
FUEL CHARGE	98 KWH @ 3.66700¢	3.59	
ASSET SECURITIZATION CHARGE	98 KWH @ 0.18900¢	0.19	
*TOTAL ELECTRIC COST			22.20
GROSS RECEIPTS TAX			.57
COUNTY UTILITY TAX			1.59
STATE AND OTHER TAXES ON ELECTRIC			1.93
LATE PAYMENT CHARGE FOR PREVIOUS BILL			5.00
TOTAL CURRENT BILL			31.29
AMOUNT PAST DUE			101.33
TOTAL DUE THIS STATEMENT			$132.62

completed

26.29



Payment of your bill prior to the above due date will avoid a late payment charge of $5.00 or 1.5%, whichever is greater. Your account has a past due amount of $101.33 and electric service may be disconnected. Please pay immediately.

ENERGY USE

DAILY AVG. USE -	3 KWH/DAY
USE ONE YEAR AGO -	5 KWH/DAY
*DAILY AVG. ELECTRIC COST -	$.77

BF_BL_DEF_20170301_220626_3.CSV-1444-000000112

DETACH AND RETURN THIS SECTION MM 0005050 BILL # 13 OF 17 GRP 1142

DELINQUENT		CURRENT CHARGES	
AMOUNT	DUE DATE	AMOUNT	DUE DATE
101.33	PAST DUE	31.29	MAR 23 2017

ACCOUNT NUMBER - 75594 97574

001444 000000112

OMNI WASTE OF OSC CTY LLC
1501 OMNI WAY
SAINT CLOUD FL 34773-9177

P.O. BOX 1004
CHARLOTTE,
NC 28201-1004

TOTAL DUE
132.62

PLEASE ENTER AMOUNT PAID

75594975744000000132621000000101337000000031294010000000009

DUKE ENERGY.

STATEMENT OF ELECTRIC SERVICE

MARCH 2017
Duke Energy

ACCOUNT NUMBER
72938 86199

FOR CUSTOMER SERVICE OR PAYMENT LOCATIONS CALL:
1-877-372-8477

WEB SITE: www.duke-energy.com

TO REPORT A POWER OUTAGE:
1-800-228-8485

OMNI WASTE OF OSC CTY LLC

1501 OMNI WAY
SAINT CLOUD FL 34773

SERVICE ADDRESS
1501 OMNI WAY,
CELL 5/PUMP AREA

DUE DATE	TOTAL AMOUNT DUE
MAR 23 2017	106.75
NEXT READ DATE ON OR ABOUT	DEPOSIT AMOUNT ON ACCOUNT
MAR 31 2017	Blanket Cash

PIN: 625482228

METER READINGS

METER NO.		002667927
PRESENT	(ACTUAL)	020975
PREVIOUS	(ACTUAL)	020783
DIFFERENCE		000192
TOTAL KWH		192
PRESENT KW	(ACTUAL)	0005.55
BASE KW		6
LOAD FACTOR		4.6%

PAYMENTS RECEIVED AS OF FEB 01 2017 41.31 THANK YOU

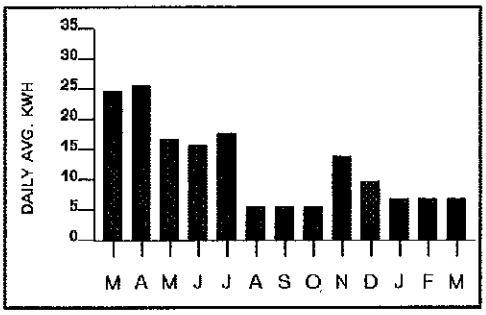
GS-1 060 GENERAL SERVICE - NON DEMAND SEC
BILLING PERIOD..01-31-17 TO 03-01-17 29 DAYS

CUSTOMER CHARGE		11.59	
ENERGY CHARGE	192 KWH @ 6.97000¢	13.38	
FUEL CHARGE	192 KWH @ 3.66700¢	7.04	
ASSET SECURITIZATION CHARGE	192 KWH @ 0.18900¢	0.36	
*TOTAL ELECTRIC COST			32.37
GROSS RECEIPTS TAX			.83
COUNTY UTILITY TAX			2.20
STATE AND OTHER TAXES ON ELECTRIC			2.81
LATE PAYMENT CHARGE FOR PREVIOUS BILL			5.00
TOTAL CURRENT BILL			43.21
AMOUNT PAST DUE			63.54
TOTAL DUE THIS STATEMENT			$106.75

38.21

completed

Payment of your bill prior to the above due date will avoid a late payment charge of $5.00 or 1.5%, whichever is greater. Your account has a past due amount of $63.54 and electric service may be disconnected. Please pay immediately.



ENERGY USE

DAILY AVG. USE -	7 KWH/DAY
USE ONE YEAR AGO -	25 KWH/DAY
*DAILY AVG. ELECTRIC COST -	$1.12

BF_BL_DEF_20170301_220626_3.CSV-1430-000000116

DETACH AND RETURN THIS SECTION MM 0005048 BILL # 11 OF 17 GRP 1142

DELINQUENT		CURRENT CHARGES	
AMOUNT	DUE DATE	AMOUNT	DUE DATE
63.54	PAST DUE	43.21	MAR 23 2017

ACCOUNT NUMBER - 72938 86199

001430 000000116

OMNI WASTE OF OSC CTY LLC
1501 OMNI WAY
SAINT CLOUD FL 34773-9177

P.O. BOX 1004
CHARLOTTE,
NC 28201-1004

TOTAL DUE
106.75

PLEASE ENTER AMOUNT PAID

7293886199400000010675700000006354500000004321601000000000009

DUKE ENERGY.

STATEMENT OF ELECTRIC SERVICE

MARCH 2017

25

ACCOUNT NUMBER
13961 72312

FOR CUSTOMER SERVICE OR PAYMENT LOCATIONS CALL:
1-877-372-8477

WEB SITE: www.duke-energy.com

TO REPORT A POWER OUTAGE:
1-800-228-8485

OMNI WASTE OF OSC CTY LLC

1501 OMNI WAY
SAINT CLOUD FL 34773

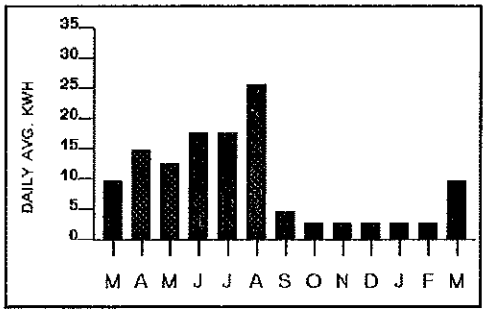
SERVICE ADDRESS
1501 OMNI WAY,
CELL 6/PUMP AREA

DUE DATE	TOTAL AMOUNT DUE
MAR 23 2017	66.27
NEXT READ DATE ON OR ABOUT	DEPOSIT AMOUNT ON ACCOUNT
MAR 31 2017	Blanket Cash

PIN: 625482228

METER READINGS

METER NO.	008922983
PRESENT (ACTUAL)	003368
PREVIOUS (ACTUAL)	003071
DIFFERENCE	000297
PRESENT ONPEAK	000987
PREVIOUS ONPEAK	000906
DIFFERENCE ONPEAK	000081
TOTAL KWH	297
ON PEAK KWH	81
PRESENT KW (ACTUAL)	0008.84
PRESENT PEAK KW	0005.59
BASE KW	9
ON-PEAK KW	6
LOAD FACTOR	4.7%



ENERGY USE

DAILY AVG. USE -	10 KWH/DAY
USE ONE YEAR AGO -	10 KWH/DAY
*DAILY AVG. ELECTRIC COST -	$1.51

GS-1 060 GENERAL SERVICE - NON DEMAND SEC
BILLING PERIOD..01-31-17 TO 03-01-17 29 DAYS

CUSTOMER CHARGE		11.59	
ENERGY CHARGE	297 KWH @ 6.97000¢	20.70	
FUEL CHARGE	297 KWH @ 3.66700¢	10.89	
ASSET SECURITIZATION CHARGE	297 KWH @ 0.18900¢	0.56	
*TOTAL ELECTRIC COST			43.74
GROSS RECEIPTS TAX			1.12
COUNTY UTILITY TAX			2.88
STATE AND OTHER TAXES ON ELECTRIC			3.79
TOTAL CURRENT BILL			51.53
BALANCE FORWARD			14.74
TOTAL DUE THIS STATEMENT			$66.27

completed

Payment of your bill prior to the above due date will avoid a late payment charge of $5.00 or 1.5%, whichever is greater. If your previous unpaid balance has been paid, please disregard.

BF_BL_DEF_20170301_220626_3.CSV-1433-000000115

DETACH AND RETURN THIS SECTION MM 0005040 BILL # 3 OF 17 GRP 1142

Make checks payable to: Duke Energy

ACCOUNT NUMBER - 13961 72312

001433 000000115

OMNI WASTE OF OSC CTY LLC
1501 OMNI WAY
SAINT CLOUD FL 34773-9177

P.O. BOX 1004
CHARLOTTE,
NC 28201-1004

DUE DATE
MAR 23 2017

TOTAL DUE
66.27

PLEASE ENTER AMOUNT PAID

1396172312000000006627400000001474600000005153201000000000009

DUKE ENERGY.

STATEMENT OF ELECTRIC SERVICE

MARCH 2017
Duke Energy

ACCOUNT NUMBER
49354 75320

FOR CUSTOMER SERVICE OR PAYMENT LOCATIONS CALL:
1-877-372-8477

WEB SITE: www.duke-energy.com

TO REPORT A POWER OUTAGE:
1-800-228-8485

OMNI WASTE OF OSC CTY LLC

1501 OMNI WAY
SAINT CLOUD FL 34773

SERVICE ADDRESS
1501 OMNI WAY PUMP 7
ST CLOUD FL 34773

DUE DATE	TOTAL AMOUNT DUE
MAR 23 2017	150.98
NEXT READ DATE ON OR ABOUT	DEPOSIT AMOUNT ON ACCOUNT
MAR 31 2017	Blanket Cash

PIN: 625482228

METER READINGS

METER NO.		006652561
PRESENT	(ACTUAL)	001580
PREVIOUS	(ACTUAL)	001258
DIFFERENCE		000322
TOTAL KWH		322

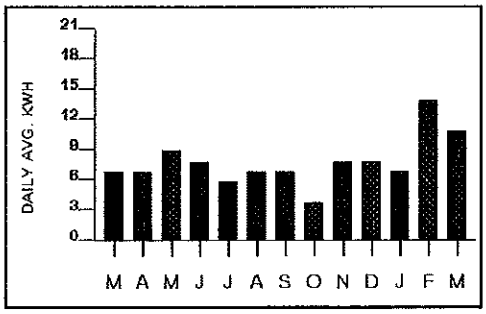
PAYMENTS RECEIVED AS OF FEB 01 2017 41.34 THANK YOU

GS-1 060 GENERAL SERVICE - NON DEMAND SEC
BILLING PERIOD..01-31-17 TO 03-01-17 29 DAYS

CUSTOMER CHARGE		11.59	
ENERGY CHARGE	322 KWH @ 6.97000¢	22.44	
FUEL CHARGE	322 KWH @ 3.66700¢	11.81	
ASSET SECURITIZATION CHARGE	322 KWH @ 0.18900¢	0.61	
*TOTAL ELECTRIC COST			46.45
GROSS RECEIPTS TAX			1.19
COUNTY UTILITY TAX			3.05
STATE AND OTHER TAXES ON ELECTRIC			4.03
LATE PAYMENT CHARGE FOR PREVIOUS BILL			5.00
TOTAL CURRENT BILL			59.72
AMOUNT PAST DUE			91.26
TOTAL DUE THIS STATEMENT			$150.98

completed

54.72



Payment of your bill prior to the above due date will avoid a late payment charge of $5.00 or 1.5%, whichever is greater. Your account has a past due amount of $91.26 and electric service may be disconnected. Please pay immediately.

ENERGY USE

DAILY AVG. USE -	11 KWH/DAY
USE ONE YEAR AGO -	7 KWH/DAY
*DAILY AVG. ELECTRIC COST -	$1.60

BF_BL_DEF_20170301_220626_3.CSV-1429-000000116

DETACH AND RETURN THIS SECTION MM 0005047 BILL # 10 OF 17 GRP 1142

DELINQUENT		CURRENT CHARGES	
AMOUNT	DUE DATE	AMOUNT	DUE DATE
91.26	PAST DUE	59.72	MAR 23 2017

ACCOUNT NUMBER - 49354 75320

001429 000000116

OMNI WASTE OF OSC CTY LLC
1501 OMNI WAY
SAINT CLOUD FL 34773-9177

P.O. BOX 1004
CHARLOTTE,
NC 28201-1004

TOTAL DUE
150.98

PLEASE ENTER AMOUNT PAID

4935475320900000015098700000009126400000005972501000000000009

DUKE ENERGY.

STATEMENT OF ELECTRIC SERVICE

MARCH 2017
Duke Energy

ACCOUNT NUMBER
35953 09071

FOR CUSTOMER SERVICE OR PAYMENT LOCATIONS CALL:
1-877-372-8477

WEB SITE: www.duke-energy.com

TO REPORT A POWER OUTAGE:
1-800-228-8485

OMNI WASTE OF OSC CTY LLC

1501 OMNI WAY
SAINT CLOUD FL 34773

SERVICE ADDRESS
1501 OMNI WAY, CELL 8
ST CLOUD FL 34773

DUE DATE	TOTAL AMOUNT DUE
MAR 23 2017	138.77
NEXT READ DATE ON OR ABOUT	DEPOSIT AMOUNT ON ACCOUNT
MAR 31 2017	Blanket Cash

PIN: 625482228

METER READINGS

METER NO.		006654970
PRESENT	(ACTUAL)	006780
PREVIOUS	(ACTUAL)	006469
DIFFERENCE		000311
TOTAL KWH		311

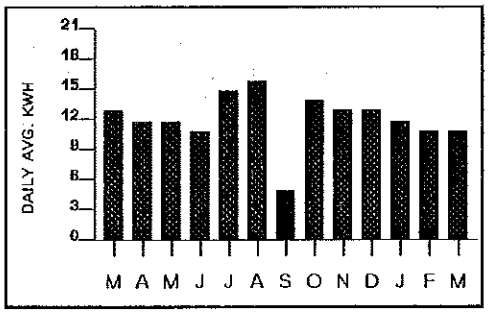
PAYMENTS RECEIVED AS OF FEB 01 2017 58.51 THANK YOU

GS-1 060 GENERAL SERVICE - NON DEMAND SEC
BILLING PERIOD..01-31-17 TO 03-01-17 29 DAYS

CUSTOMER CHARGE		11.59	
ENERGY CHARGE	311 KWH @ 6.97000¢	21.68	
FUEL CHARGE	311 KWH @ 3.66700¢	11.40	
ASSET SECURITIZATION CHARGE	311 KWH @ 0.18900¢	0.59	
*TOTAL ELECTRIC COST			45.26
GROSS RECEIPTS TAX			1.16
COUNTY UTILITY TAX			2.98
STATE AND OTHER TAXES ON ELECTRIC			3.93
LATE PAYMENT CHARGE FOR PREVIOUS BILL			5.00
TOTAL CURRENT BILL			58.33
AMOUNT PAST DUE			80.44
TOTAL DUE THIS STATEMENT			$138.77

53.33

completed



Payment of your bill prior to the above due date will avoid a late payment charge of $5.00 or 1.5%, whichever is greater. Your account has a past due amount of $80.44 and electric service may be disconnected. Please pay immediately.

ENERGY USE

DAILY AVG. USE -	11 KWH/DAY
USE ONE YEAR AGO -	13 KWH/DAY
*DAILY AVG. ELECTRIC COST -	$1.56

BF_BL_DEF_20170301_220626_3.CSV-1427-000000116

DETACH AND RETURN THIS SECTION MM 0005045 BILL # 8 OF 17 GRP 1142

DELINQUENT		CURRENT CHARGES	
AMOUNT	DUE DATE	AMOUNT	DUE DATE
80.44	PAST DUE	58.33	MAR 23 2017

ACCOUNT NUMBER - 35953 09071

001427 000000116

OMNI WASTE OF OSC CTY LLC
1501 OMNI WAY
SAINT CLOUD FL 34773-9177

P.O. BOX 1004
CHARLOTTE,
NC 28201-1004

TOTAL DUE
138.77

PLEASE ENTER AMOUNT PAID

3595309071400000013877600000008044000000005833901000000000009

DUKE ENERGY.

STATEMENT OF ELECTRIC SERVICE

MARCH 2017
Duke Energy

25

ACCOUNT NUMBER
80684 27063

FOR CUSTOMER SERVICE OR PAYMENT LOCATIONS CALL:
1-877-372-8477

WEB SITE: www.duke-energy.com

TO REPORT A POWER OUTAGE:
1-800-228-8485

OMNI WASTE OF OSC CTY LLC

1501 OMNI WAY
SAINT CLOUD FL 34773

SERVICE ADDRESS
1501 OMNI WAY, CELL 9
ST CLOUD FL 34773

DUE DATE	TOTAL AMOUNT DUE
MAR 23 2017	85.69
NEXT READ DATE ON OR ABOUT	DEPOSIT AMOUNT ON ACCOUNT
MAR 31 2017	Blanket Cash

PIN: 625482228

METER READINGS

METER NO.		002654529
PRESENT	(ACTUAL)	007203
PREVIOUS	(ACTUAL)	007075
DIFFERENCE		000128
TOTAL KWH		128
PRESENT KW	(ACTUAL)	0003.43
BASE KW		3
LOAD FACTOR		6.1%

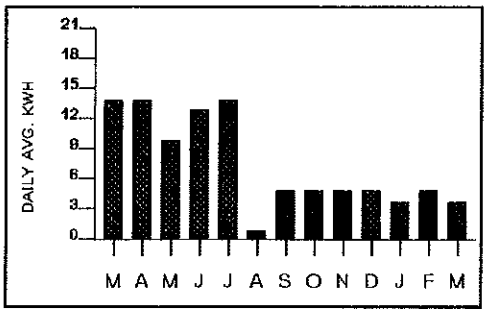
PAYMENTS RECEIVED AS OF FEB 01 2017 29.91 THANK YOU

GS-1 060 GENERAL SERVICE - NON DEMAND SEC
BILLING PERIOD..01-31-17 TO 03-01-17 29 DAYS

CUSTOMER CHARGE		11.59	
ENERGY CHARGE	128 KWH @ 6.97000¢	8.92	
FUEL CHARGE	128 KWH @ 3.66700¢	4.69	
ASSET SECURITIZATION CHARGE	128 KWH @ 0.18900¢	0.24	
*TOTAL ELECTRIC COST			25.44
GROSS RECEIPTS TAX			.65
COUNTY UTILITY TAX			1.78
STATE AND OTHER TAXES ON ELECTRIC			2.20
LATE PAYMENT CHARGE FOR PREVIOUS BILL			5.00
TOTAL CURRENT BILL			35.07
AMOUNT PAST DUE			50.62
TOTAL DUE THIS STATEMENT			$85.69

30.07

completed



Payment of your bill prior to the above due date will avoid a late payment charge of $5.00 or 1.5%, whichever is greater. Your account has a past due amount of $50.62 and electric service may be disconnected. Please pay immediately.

ENERGY USE

DAILY AVG. USE -	4 KWH/DAY
USE ONE YEAR AGO -	14 KWH/DAY
*DAILY AVG. ELECTRIC COST -	$.88

BF_BL_DEF_20170301_220626_3.CSV-1445-000000112

DETACH AND RETURN THIS SECTION MM 0005051 BILL # 14 OF 17 GRP 1142

DELINQUENT		CURRENT CHARGES	
AMOUNT	DUE DATE	AMOUNT	DUE DATE
50.62	PAST DUE	35.07	MAR 23 2017

ACCOUNT NUMBER - 80684 27063

001445 000000112

OMNI WASTE OF OSC CTY LLC
1501 OMNI WAY
SAINT CLOUD FL 34773-9177

P.O. BOX 1004
CHARLOTTE,
NC 28201-1004

TOTAL DUE
85.69

PLEASE ENTER AMOUNT PAID

80684270631000000085696000000050625000000035071010000000009

DUKE ENERGY.

STATEMENT OF ELECTRIC SERVICE

MARCH 2017

25

ACCOUNT NUMBER
24257 63348

FOR CUSTOMER SERVICE OR PAYMENT LOCATIONS CALL:
1-877-372-8477

WEB SITE: www.duke-energy.com

TO REPORT A POWER OUTAGE:
1-800-228-8485

OMNI WASTE OF OSC CTY LLC

1501 OMNI WAY
SAINT CLOUD FL 34773

SERVICE ADDRESS
1501 OMNI WAY, CELL 10
ST CLOUD FL 34773

DUE DATE	TOTAL AMOUNT DUE
MAR 23 2017	78.77
NEXT READ DATE ON OR ABOUT	DEPOSIT AMOUNT ON ACCOUNT
MAR 31 2017	Blanket Cash

PIN: 625482228

METER READINGS

METER NO.		006650637
PRESENT	(ACTUAL)	000856
PREVIOUS	(ACTUAL)	000757
DIFFERENCE		000099
TOTAL KWH		99

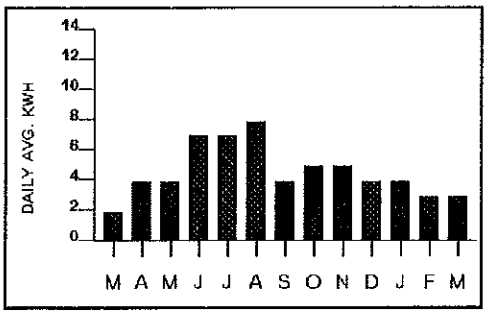
PAYMENTS RECEIVED AS OF FEB 01 2017 28.42 THANK YOU

GS-1 060 GENERAL SERVICE - NON DEMAND SEC
BILLING PERIOD..01-31-17 TO 03-01-17 29 DAYS

CUSTOMER CHARGE		11.59	
ENERGY CHARGE	99 KWH @ 6.97000¢	6.90	
FUEL CHARGE	99 KWH @ 3.66700¢	3.63	
ASSET SECURITIZATION CHARGE	99 KWH @ 0.18900¢	0.19	
*TOTAL ELECTRIC COST			22.31
GROSS RECEIPTS TAX			.57
COUNTY UTILITY TAX			1.60
STATE AND OTHER TAXES ON ELECTRIC			1.94
LATE PAYMENT CHARGE FOR PREVIOUS BILL			5.00
TOTAL CURRENT BILL			31.42
BALANCE FORWARD			47.35
TOTAL DUE THIS STATEMENT			$78.77

26.42

completed



ENERGY USE

DAILY AVG. USE -	3 KWH/DAY
USE ONE YEAR AGO -	2 KWH/DAY
*DAILY AVG. ELECTRIC COST -	$.77

Payment of your bill prior to the above due date will avoid a late payment charge of $5.00 or 1.5%, whichever is greater. If your previous unpaid balance has been paid, please disregard.

BF_BL_DEF_20170301_220626_3.CSV-1435-000000115

DETACH AND RETURN THIS SECTION MM 0005043 BILL # 6 OF 17 GRP 1142

Make checks payable to: Duke Energy

ACCOUNT NUMBER - 24257 63348

001435 000000115

OMNI WASTE OF OSC CTY LLC
1501 OMNI WAY
SAINT CLOUD FL 34773-9177

P.O. BOX 1004
CHARLOTTE,
NC 28201-1004

DUE DATE
MAR 23 2017

TOTAL DUE
78.77

PLEASE ENTER AMOUNT PAID

2425763348700000007877400000004735700000003142701000000000009

DUKE ENERGY.

STATEMENT OF ELECTRIC SERVICE

MARCH 2017
Duke Energy

ACCOUNT NUMBER
07424 95209

FOR CUSTOMER SERVICE OR PAYMENT LOCATIONS CALL:
1-877-372-8477

WEB SITE: www.duke-energy.com

TO REPORT A POWER OUTAGE:
1-800-228-8485

OMNI WASTE OF OSC CTY LLC

1501 OMNI WAY
SAINT CLOUD FL 34773

SERVICE ADDRESS
1501 OMNI WAY,
CELL 11/PUMP AREA

DUE DATE	TOTAL AMOUNT DUE
MAR 23 2017	134.82
NEXT READ DATE ON OR ABOUT	DEPOSIT AMOUNT ON ACCOUNT
MAR 31 2017	Blanket Cash

PIN: 625482228

METER READINGS

METER NO.	008922634
PRESENT (ACTUAL)	005775
PREVIOUS (ACTUAL)	005478
DIFFERENCE	000297
PRESENT ONPEAK	001437
PREVIOUS ONPEAK	001365
DIFFERENCE ONPEAK	000072
TOTAL KWH	297
ON PEAK KWH	72
PRESENT KW (ACTUAL)	0001.95
PRESENT PEAK KW	0001.95
BASE KW	2
ON-PEAK KW	2
LOAD FACTOR	21.3%

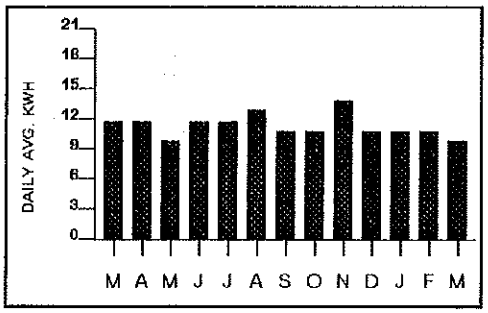
PAYMENTS RECEIVED AS OF FEB 01 2017 55.52 THANK YOU

GS-1 060 GENERAL SERVICE - NON DEMAND SEC
BILLING PERIOD..01-31-17 TO 03-01-17 29 DAYS

CUSTOMER CHARGE		11.59	
ENERGY CHARGE	297 KWH @ 6.97000¢	20.70	
FUEL CHARGE	297 KWH @ 3.66700¢	10.89	
ASSET SECURITIZATION CHARGE	297 KWH @ 0.18900¢	0.56	
*TOTAL ELECTRIC COST			43.74
GROSS RECEIPTS TAX			1.12
COUNTY UTILITY TAX			2.88
STATE AND OTHER TAXES ON ELECTRIC			3.79
LATE PAYMENT CHARGE FOR PREVIOUS BILL			5.00
TOTAL CURRENT BILL			56.53
AMOUNT PAST DUE			78.29
TOTAL DUE THIS STATEMENT			$134.82

51.53

completed



Payment of your bill prior to the above due date will avoid a late payment charge of $5.00 or 1.5%, whichever is greater. Your account has a past due amount of $78.29 and electric service may be disconnected. Please pay immediately.

ENERGY USE

DAILY AVG. USE -	10 KWH/DAY
USE ONE YEAR AGO -	12 KWH/DAY
*DAILY AVG. ELECTRIC COST -	$1.51

BF_BL_DEF_20170301_220626_3.CSV-1437-000000114

DETACH AND RETURN THIS SECTION MM 0005038 BILL # 1 OF 17 GRP 1142

DELINQUENT		CURRENT CHARGES	
AMOUNT	DUE DATE	AMOUNT	DUE DATE
78.29	PAST DUE	56.53	MAR 23 2017

ACCOUNT NUMBER - 07424 95209

001437 000000114

OMNI WASTE OF OSC CTY LLC
1501 OMNI WAY
SAINT CLOUD FL 34773-9177

P.O. BOX 1004
CHARLOTTE,
NC 28201-1004

TOTAL DUE
134.82

PLEASE ENTER AMOUNT PAID

0742495209400000013482500000007829500000005653101000000000009

DUKE ENERGY.

STATEMENT OF ELECTRIC SERVICE

MARCH 2017
Duke Energy

25

ACCOUNT NUMBER
49100 99422

FOR CUSTOMER SERVICE OR PAYMENT LOCATIONS CALL:
1-877-372-8477

WEB SITE: www.duke-energy.com

TO REPORT A POWER OUTAGE:
1-800-228-8485

OMNI WASTE OF OSC CTY LLC

1501 OMNI WAY
SAINT CLOUD FL 34773

SERVICE ADDRESS
1401 OMNI WAY,
METHANE GAS STATION

DUE DATE	TOTAL AMOUNT DUE
MAR 23 2017	10,177.56
NEXT READ DATE ON OR ABOUT	DEPOSIT AMOUNT ON ACCOUNT
MAR 31 2017	Blanket Cash

PIN: 625482228

METER READINGS

METER NO.	002827472
PRESENT (ACTUAL)	008499
PREVIOUS (ACTUAL)	008027
DIFFERENCE	000472
PRESENT ONPEAK	002115
PREVIOUS ONPEAK	001999
DIFFERENCE ONPEAK	000116
CONSTANT APPLIED	100
TOTAL KWH	47200
ON PEAK KWH	11600
PRESENT KW (ACTUAL)	0001.00
PRESENT PEAK KW	0000.93
BASE KW	100
ON-PEAK KW	93
LOAD FACTOR	67.8%

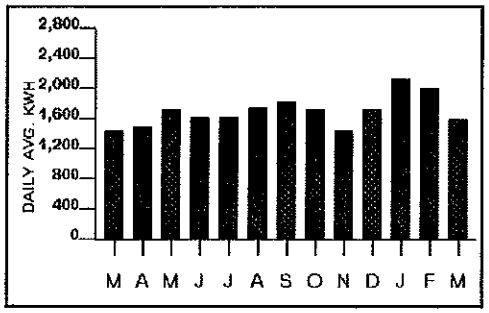
PAYMENTS RECEIVED AS OF FEB 08 2017 5,647.02 THANK YOU

GSDT-1 053 GENERAL SERVICE DEM TOU SEC
BILLING PERIOD..01-31-17 TO 03-01-17 29 DAYS

CUSTOMER CHARGE		19.01	
ENERGY CHARGE (ON-PEAK)	11600 KWH @ 5.19400¢	602.50	
ENERGY CHARGE(OFF-PEAK)	35600 KWH @ 0.99100¢	352.80	
FUEL CHARGE (ON-PEAK)	11600 KWH @ 4.57300¢	530.47	
FUEL CHARGE (OFF-PEAK)	35600 KWH @ 3.24500¢	1,155.22	
DEMAND CHARGE (BASE)	100 KW @ $5.93000	593.00	
DEMAND CHARGE (ON-PEAK)	93 KW @ $3.87000	359.91	
ASSET SECURITIZATION CHARGE	47200 KWH @ 0.17200¢	81.18	
*TOTAL ELECTRIC COST			3,694.09
GROSS RECEIPTS TAX			94.72
COUNTY UTILITY TAX			194.64
STATE AND OTHER TAXES ON ELECTRIC			320.16
LATE PAYMENT CHARGE FOR PREVIOUS BILL			86.81
TOTAL CURRENT BILL			4,390.42
AMOUNT PAST DUE			5,787.14
TOTAL DUE THIS STATEMENT			$10,177.56

4303.61

completed



Payment of your bill prior to the above due date will avoid a late payment charge of $5.00 or 1.5%, whichever is greater. Your account has a past due amount of $5,787.14 and electric service may be disconnected. Please pay immediately.

ENERGY USE

DAILY AVG. USE -	1628 KWH/DAY
USE ONE YEAR AGO -	1453 KWH/DAY
*DAILY AVG. ELECTRIC COST -	$127.38

BF_BL_DEF_20170301_220626_3.CSV-1428-000000116

DETACH AND RETURN THIS SECTION MM 0005046 BILL # 9 OF 17 GRP 1142

DELINQUENT		CURRENT CHARGES	
AMOUNT	DUE DATE	AMOUNT	DUE DATE
5,787.14	PAST DUE	4,390.42	MAR 23 2017

ACCOUNT NUMBER - 49100 99422

001428 000000116

OMNI WASTE OF OSC CTY LLC
1501 OMNI WAY
SAINT CLOUD FL 34773-9177

P.O. BOX 1004
CHARLOTTE,
NC 28201-1004

TOTAL DUE
10,177.56

PLEASE ENTER AMOUNT PAID	

4910099422300001017756600000578714800000439042301000000000009

DUKE ENERGY.

STATEMENT OF ELECTRIC SERVICE

MARCH 2017

25

ACCOUNT NUMBER
16261 25416

FOR CUSTOMER SERVICE OR PAYMENT LOCATIONS CALL:
1-877-372-8477

WEB SITE: www.duke-energy.com

TO REPORT A POWER OUTAGE:
1-800-228-8485

OMNI WASTE OF OSC CTY LLC

1501 OMNI WAY
SAINT CLOUD FL 34773

SERVICE ADDRESS
1501 OMNI WAY,
CELL 2/PUMP AREA

DUE DATE	TOTAL AMOUNT DUE
MAR 23 2017	.00
NEXT READ DATE ON OR ABOUT	**DEPOSIT AMOUNT ON ACCOUNT**
MAR 31 2017	Blanket Cash

PIN: 625482228

METER READINGS

METER NO.	008921464
PRESENT (ESTIMATE)	012348
PREVIOUS (ESTIMATE)	012348
DIFFERENCE	000000
PRESENT ONPEAK	002985
PREVIOUS ONPEAK	002985
DIFFERENCE ONPEAK	000000
TOTAL KWH	0
ON PEAK KWH	0

METER NO.	008921464
PRESENT (ACTUAL)	000139
PREVIOUS (ACTUAL)	000000
DIFFERENCE	000139
PRESENT ONPEAK	000037

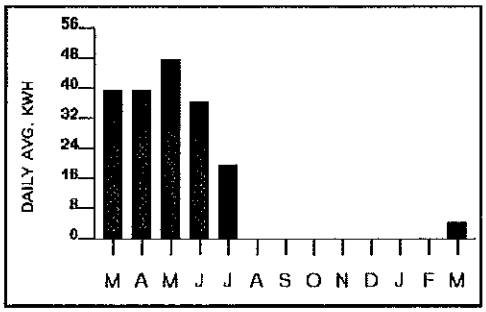
GS-1 060 GENERAL SERVICE - NON DEMAND SEC
BILLING PERIOD..02-01-17 TO 03-01-17 28 DAYS

CUSTOMER CHARGE		11.59	
ENERGY CHARGE	139 KWH @ 6.97000¢	9.69	
FUEL CHARGE	139 KWH @ 3.66700¢	5.10	
ASSET SECURITIZATION CHARGE	139 KWH @ 0.18900¢	0.26	
*TOTAL ELECTRIC COST			26.64
GROSS RECEIPTS TAX			.68
COUNTY UTILITY TAX			1.86
STATE AND OTHER TAXES ON ELECTRIC			2.32
TOTAL CURRENT BILL			31.50
CREDIT BALANCE			247.83CR

TOTAL DUE THIS STATEMENT NONE
CREDIT BALANCE TO BE APPLIED TO FUTURE BILLINGS $216.33

completed

no po # Ø$ owed



ENERGY USE

DAILY AVG. USE -	5 KWH/DAY
USE ONE YEAR AGO -	40 KWH/DAY
*DAILY AVG. ELECTRIC COST -	$.95

BF_BL_DEF_20170301_220626_3.CSV-1438-000000114

DETACH AND RETURN THIS SECTION MM 0005041 BILL # 4 OF 17 GRP 1142 PAGE 1 OF 2

Make checks payable to: Duke Energy

ACCOUNT NUMBER - 16261 25416

001438 000000114

OMNI WASTE OF OSC CTY LLC
1501 OMNI WAY
SAINT CLOUD FL 34773-9177

P.O. BOX 1004
CHARLOTTE,
NC 28201-1004

DUE DATE
MAR 23 2017

TOTAL DUE
0.00

PLEASE ENTER AMOUNT PAID

1626125416500000000000000000000000000000000000000000000100000000009

DUKE ENERGY.

STATEMENT OF ELECTRIC SERVICE

MARCH 2017

25

ACCOUNT NUMBER
16261 25416

FOR CUSTOMER SERVICE OR PAYMENT LOCATIONS CALL:
1-877-372-8477

WEB SITE: www.duke-energy.com

TO REPORT A POWER OUTAGE:
1-800-228-8485

OMNI WASTE OF OSC CTY LLC

1501 OMNI WAY
SAINT CLOUD FL 34773

SERVICE ADDRESS
1501 OMNI WAY,
CELL 2/PUMP AREA

DUE DATE	TOTAL AMOUNT DUE
MAR 23 2017	.00
NEXT READ DATE ON OR ABOUT	**DEPOSIT AMOUNT ON ACCOUNT**
MAR 31 2017	Blanket Cash

METER READINGS

PREVIOUS ONPEAK	000000
DIFFERENCE ONPEAK	000037
TOTAL KWH	139
ON PEAK KWH	37
PRESENT KW (ACTUAL)	0003.74
PRESENT PEAK KW	0003.74
BASE KW	4
ON-PEAK KW	4
LOAD FACTOR	5.2%

BF_BL_DEF_20170301_220626_3.CSV-1439-000000114

Appendix F

Leachate Pipe Cleaning Reports

FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING
PIPELINE VIDEO INSPECTION (EX)
VACUUM TRUCK SERVICES
LASER PROFILING / NO DIG REPAIRS

7538 DUNBRIDGE DR., ODESSA, FL 33556
TEL: 800-226-8013 / FAX: 813-926-4616
WEB: WWW.FLORIDAJETCLEAN.COM
EMAIL: FLORIDAJETCLEAN@YAHOO.COM

RCS Excavation
JED Landfill - Cell 9 Expansion
New HDPE Leachate Pipe
Cleaning & Inspection

Work Performed
September 2013

Conducted By:
Florida Jetclean
800-226-8013

FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING
PIPELINE VIDEO INSPECTION (EX)
VACUUM TRUCK SERVICES
LASER PROFILING / NO DIG REPAIRS

7538 DUNBRIDGE DR., ODESSA, FL 33556
TEL: 800-226-8013 / FAX: 813-926-4616
WEB: WWW.FLORIDAJETCLEAN.COM
EMAIL: FLORIDAJETCLEAN@YAHOO.COM

DATE : 10/8/2013
TO : Mike Rowley – RCS Excavation
FROM : Ralph Calistri (floridajetclean@yahoo.com)
SUBJECT : JED Landfill Cell 9 Expansion

Florida Jetclean completed the high-pressure water-jetting and explosion-proof video-inspection of the new Cell 9 leachate piping on 9/30/2013.

High-pressure Water-jetting:
As the below jetting log indicates, the new Cell 9 leachate piping was jetcleaned in its entirety via high-pressure water-jetting nozzle and were blockage free upon completion.

JED LANDFILL – CELL 9 EXPANSION
LEACHATE SYSTEM JETTING LOG
JETTING PERFORMED BY FLORIDA JETCLEAN
SEPTEMBER 2013

LOCATION	ACHIEVED DISTANCE (ft)	COMMENTS
Cell 9 Collection	1,198.0'	Entire pipe jetcleaned.
Cell 9 Detection	1,127.0'	Entire pipe jetcleaned.
Cell 9 Sump	70.6'	Entire pipe jetcleaned.

Explosion-proof Video-inspection:
After jetcleaning was completed the Cell 9 leachate piping was video-inspected in entirety using explosion-proof video-inspection equipment. All areas of the new piping viewed with the inspection-camera were in good condition, with no defects noted. Please see included CCTV Survey List, Pipe Graphic Reports, and DVD's for complete details.

Please call us with questions or concerns.

Regards,
Ralph Calistri
Ralph Calistri - Florida Jetclean - 800-226-8013

CCTV Surveys List for RCS EXCAVATING

Number of surveys in this list is 2 as of Friday, September 27, 2013

Unit of measure: ft

Setup	Date	Street	Start MH	Finish MH	Dir	Size inch	Pre Clean	Vid Cassette	Scheduled Length	Surveyed Length
1	9/19/2013	JED CELL 9 SECONDARY	SSCO	NSCO	D	4		1	1,197.0	1127.0
2	9/19/2013	JED CELL 9 SECONDARY	NSCO	SUMP	D	4		1	70.6	70.6
								Total Scheduled Length	1,267.6	
								Total Length Surveyed		1,197.6

Pipe Graphic Report of PLR SSCO B **for** RCS EXCAVATING

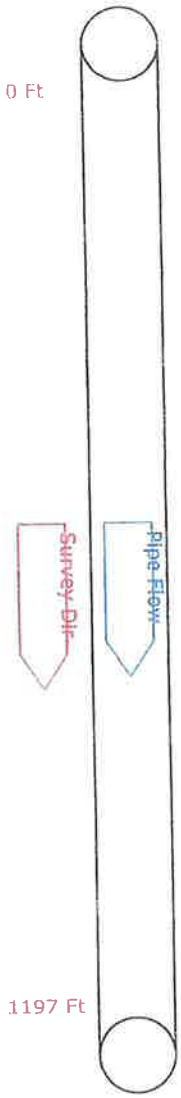
Work Order		**Contract**		**Video** 1	**Setup** 1
Facility		**Operator** BMN		**Van Ref** 4	**Surveyed On** 09/19/2013
Street Name	JED CELL 9 SECONDARY	**City**	JED LANDFILL		
Location type	Berm				
Surface					
Survey purpose	Other (state in comments)			**Weather** Dry	

Pipe Use	**Schedule length** 1197.0 Ft	**From** SSCO **Depth** Ft
Shape Circular	**Size** 4 **by** ins	**To** NSCO **Depth** Ft
Material Other (state in comments)	**Joint spacing** Ft	**Direction** Downstream
Lining	**Year laid**	**Pre-clean** **Last cleaned** 9/19/2013

General note HDPE LEACHATE SECONDARY

Location note CELL 9 1127 FEET SUMP VIDEO IN REVERSE

Structural Service Constructional Hydraulic



0 Ft

0.0 Ft Start of Survey
Manhole/Node [SSCO]
Water level 99

1,088.5 Ft Camera Submerged Begin

1197 Ft

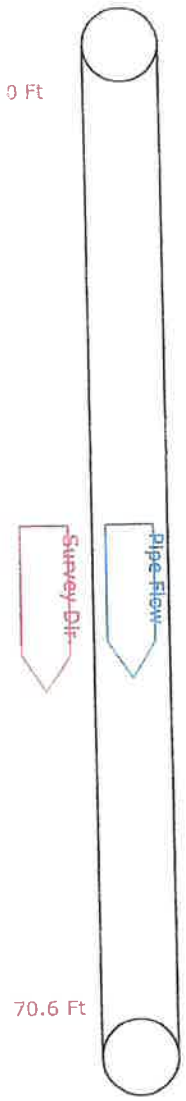
1,127.0 Ft Survey abandoned [SUMP]

PiPE INC

FLORIDA JETCLEAN
Phone: 800-226-8013

Pipe Graphic Report of PLR NSCO C **for** RCS EXCAVATING

Work Order		**Contract**		**Video** 1	**Setup** 2
Facility		**Operator** BMN		**Van Ref** 4	**Surveyed On** 09/19/2013
Street Name	JED CELL 9 SECONDARY	**City**	JED LANDFILL		
Location type	Berm				
Surface				**Weather** Dry	
Survey purpose	Other (state in comments)				
Pipe Use		**Schedule length**	70.6 Ft	**From** NSCO	**Depth** Ft
Shape	Circular	**Size** 4	**by** ins	**To** SUMP	**Depth** Ft
Material	Other (state in comments)	**Joint spacing**	Ft	**Direction** Downstream	
Lining		**Year laid**		**Pre-clean**	**Last cleaned** 9/19/2013
General note	HDPE LEACHATE SECONDARY			Structural	Service Constructional
Location note	CELL 9			Miscellaneous	Hydraulic



	Start of Survey
0.0 Ft	Manhole/Node [NSCO]
	Water level 0
60.7 Ft	Camera Submerged Begin
70.6 Ft	Manhole/Node [SUMP/SUBMERGED]
	Finish of Surveys [SUBMERGED/SUMP]

CCTV Surveys List for R C S

Number of surveys in this list is 1 **as of** Wednesday, October 02, 2013 **Unit of measure:** ft

Setup	Date	Street	Start MH	Finish MH	Dir	Size inch	Pre Clean	Vid Cassette	Scheduled Length	Surveyed Length
1		CELL.9 PRIMARY	SP.CO	NP.CO	D	6	Y	DVD.2		1198.0
								Total Scheduled Length	0.0	
								Total Length Surveyed		1,198.0

Pipe Graphic Report of PLR SP.CO X **for** R C S

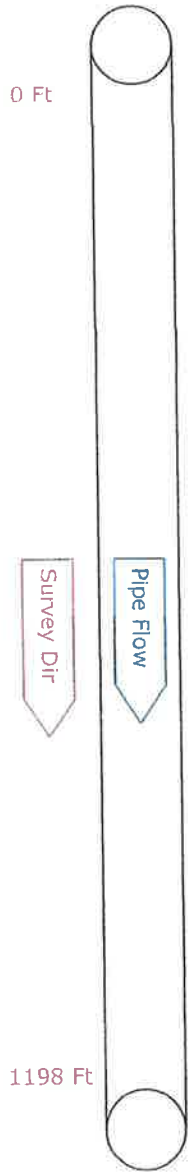
Work Order	CELL.9	**Contract**		**Video**	DVD.2	**Setup**	1
Facility		**Operator**	Supervisor	**Van Ref**	3	**Surveyed On**	

Street Name	CELL.9 PRIMARY	**City**	JED LF CELL.9
Location type	LANDFILL		
Surface			
Survey purpose	Pre-acceptance - normally new sewers for adoption or private line	**Weather**	Dry

Pipe Use	LEACHATE	**Schedule length**	Ft	**From**	SP.CO	**Depth**	Ft
Shape	Circular	**Size** 6	**by** ins	**To**	NP.CO	**Depth**	Ft
Material	Polyethylene - High density	**Joint spacing**	Ft	**Direction**	Downstream		
Lining		**Year laid**	2013	**Pre-clean**	Y	**Last cleaned**	

General note HDPE LEACHATE PRIMARY COLLECTION

Location note CELL 9 1198 FEET VIDEO ALSO IN REVERSE



0.0 Ft Start of Survey
Manhole/Node [SP.CO]
Water level 0

1,119.0 Ft Camera under water

1,138.0 Ft Camera Submerged End

1,198.0 Ft Manhole/Node [NP.CO]
Finish of Surveys

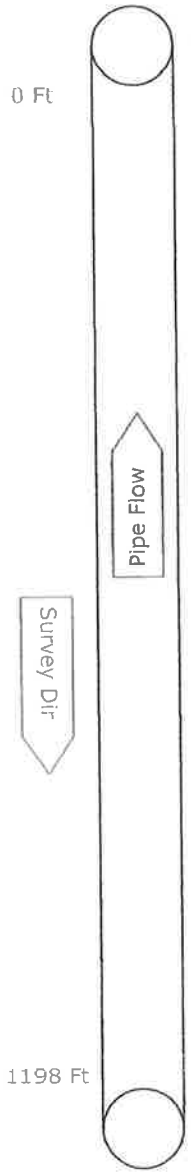
Pipe Graphic Report of PLR SP.CO A **for** R C S

Work Order	CELL.9	**Contract**		**Video**	DVD.2	**Setup**	2
Facility		**Operator**	Supervisor	**Van Ref**	3	**Surveyed On**	10/01/2013

Street Name	CELL.9 PRIMARY	**City**	JED LF CELL.9
Location type	LANDFILL		
Surface			
Survey purpose	Pre-acceptance - normally new sewers for adoption or private line	**Weather**	Dry

Pipe Use	LEACHATE	**Schedule length**	Ft	**From**	NP.CO	**Depth**	Ft
Shape	Circular	**Size** 6	**by** ins	**To**	SP.CO	**Depth**	Ft
Material	Polyethylene - High density	**Joint spacing**	Ft	**Direction**	Upstream		
Lining		**Year laid**	2013	**Pre-clean**	Y	**Last cleaned**	

General note	HDPE LEACHATE PRIMARY
Location note	CELL 9 1198 FEET VIDEO IN REVERSE



0.0 Ft Manhole/Node [NP.CO]
Water level 0
Finish of Surveys

1,117.0 Ft Camera Submerged End

1,134.0 Ft Camera under water

1,198.0 Ft Start of Survey [FROM NORTH TO SOUTH]

FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING
PIPELINE VIDEO INSPECTION (EX)
VACUUM TRUCK SERVICES
LASER PROFILING / NO DIG REPAIRS

7538 DUNBRIDGE DR., ODESSA, FL 33556
TEL: 800-226-8013 / FAX: 813-926-4616
WEB: WWW.FLORIDAJETCLEAN.COM
EMAIL: FLORIDAJETCLEAN@YAHOO.COM

RCS Excavation, Inc.
JED Landfill Cell 10
Jetcleaning & Video-Inspection

Work Performed
May 2014

Conducted By:
Florida Jetclean
800-226-8013

FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING
PIPELINE VIDEO INSPECTION (EX)
VACUUM TRUCK SERVICES
LASER PROFILING / NO DIG REPAIRS

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TEL: 800-226-8013 / FAX: 813-926-4616
WEB: WWW.FLORIDAJETCLEAN.COM
EMAIL: FLORIDAJETCLEAN@YAHOO.COM

DATE : 6/6/2014
TO : Mike Rowley – RCS Excavation, Inc.
FROM : Ralph Calistri (floridajetclean@yahoo.com)
SUBJECT : JED Landfill Cell 10

Florida Jetclean completed the high-pressure water-jetting and explosion-proof video-inspection of the new Cell 10 leachate piping on 5/29/2014.

High-pressure Water-jetting:
As the below jetting log indicates, the new Cell 10 leachate piping was jetcleaned in its entirety via high-pressure water-jetting nozzle and was blockage free upon completion.

JED LANDFILL CELL 10
LEACHATE SYSTEM JETTING LOG
JETTING PERFORMED BY FLORIDA JETCLEAN
MAY 2014

LOCATION	ACHIEVED DISTANCE (ft)	COMMENTS
Cell 10 Collection	980.4'	Entire pipe jetcleaned.
Cell 10 Detection	981.0'	Entire pipe jetcleaned.

Explosion-proof Video-inspection:
After jetcleaning was completed the Cell 10 leachate piping was video-inspected using explosion-proof video-inspection equipment. The 6" (~5.3" ID) LCS piping was inspected in entirety, and the 4" (~3.5" ID) LDS piping was inspected as far as possible from both ends until the camera system could not be pulled through the pipe any further. All areas of the new piping viewed with the inspection-camera were in good condition, with no defects noted. Please see included CCTV Survey List, Pipe Graphic Reports, and DVD's for complete details.

Please call us with questions or concerns.

Regards,
Ralph Calistri
Ralph Calistri - Florida Jetclean - 800-226-8013

CCTV Surveys List for RCS EXCAVATING

Number of surveys in this list is 3 **as of** Thursday, June 05, 2014 **Unit of measure:** ft

Setup	Date	Street	Start MH	Finish MH	Dir	Size inch	Pre Clean	Vid Cassette	Scheduled Length	Surveyed Length
1	5/29/2014	JED CELL 10	DCO1	DSUMP	D	4	Y	1		393.1
2	5/29/2014	JED CELL 10	CCO1	CSUMP	D	6	Y	1		980.4
3	5/29/2014	JED CELL 10	DSUMP	DCO1	U	4	Y	1		304.0

Total Scheduled Length 0.0

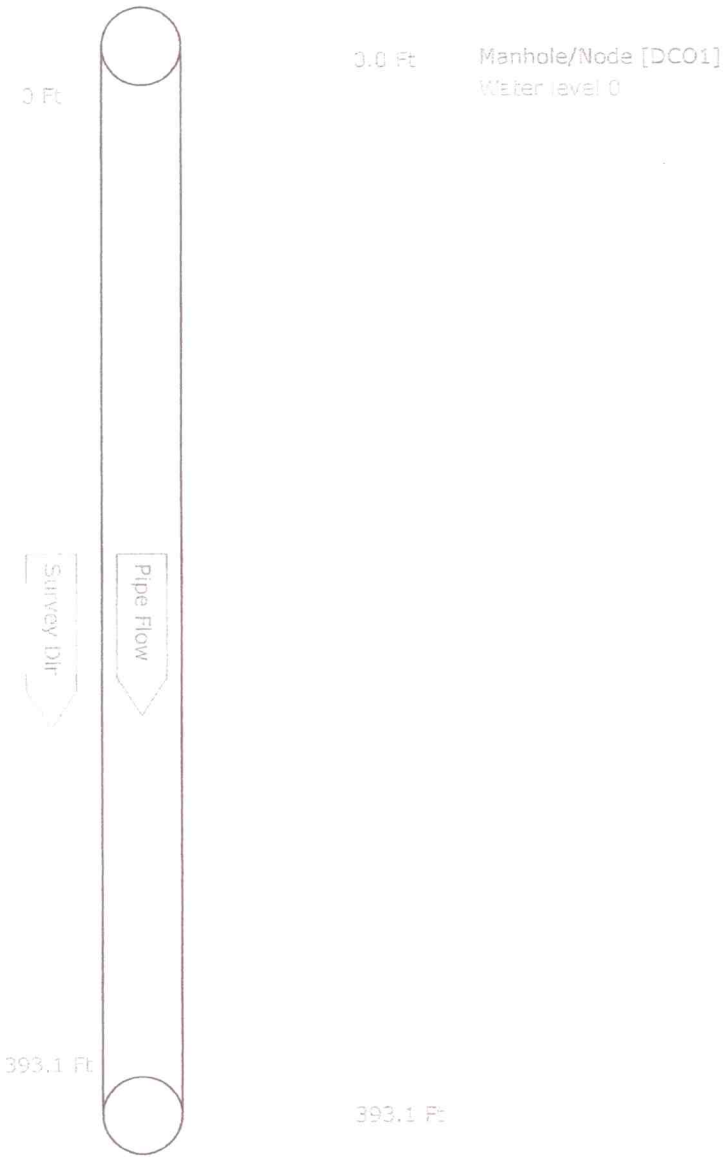
Total Length Surveyed 1,677.5

Pipe Graphic Report of PLR DCO1 A **for** RCS EXCAVATING

Work Order		**Contract**		**Video**	1	**Setup**	1
Facility		**Operator**	BMN	**Van Ref**	4	**Surveyed On**	05/29/2014
Street Name	JED CELL 10	**City**	JED LANDFILL				
Location type	Berm						
Surface							
Survey purpose	Other (state in comments)			**Weather**	Dry		

Pipe Use	Other (state in comments)	**Schedule length**	Ft	**From**	DCO1	**Depth**	Feet
Shape	Circular	**Size** 4 **by**	ins	**To**	DSUMP	**Depth**	
Material	Other (state in comments)	**Joint spacing**	Ft	**Direction**	Downstream		
Lining		**Year laid**		**Pre-clean**	Y	**Last cleaned**	5/29/2014

General note	Structural	Service	Constructional
Location note		Hydralic	

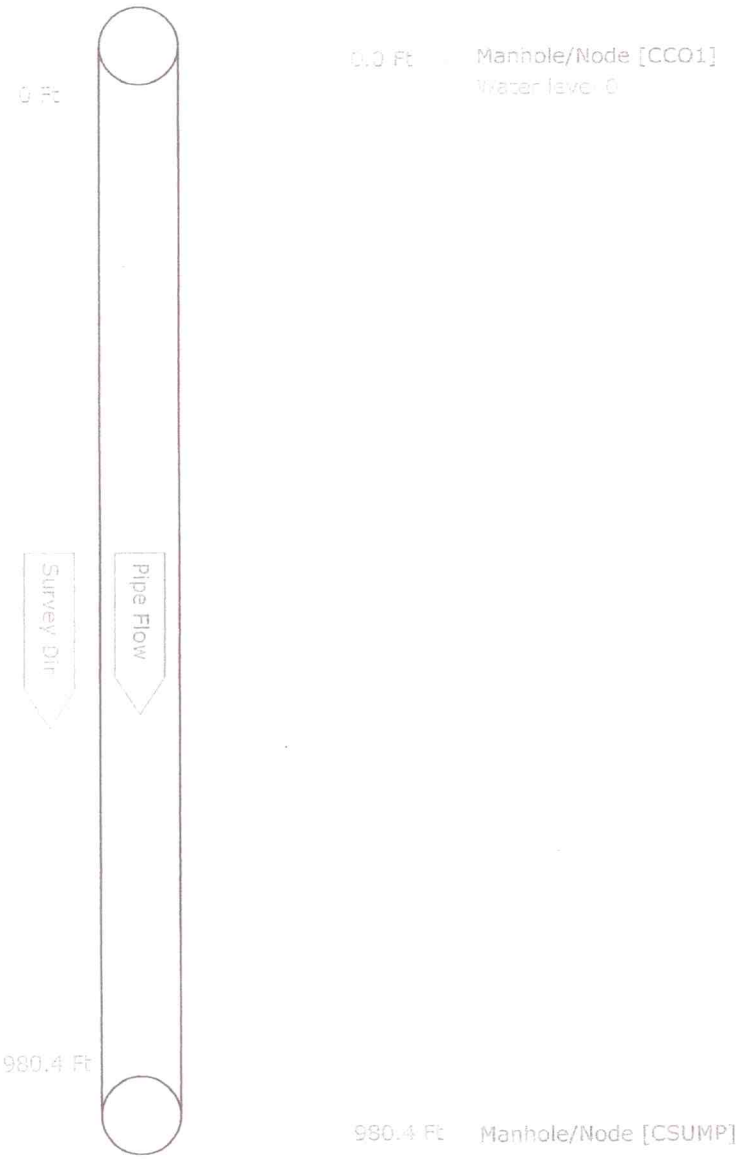


Pipe Graphic Report of PLR CCO1 B **for** RCS EXCAVATING

Work Order		**Contract**		**Video**	1	**Setup**	2
Facility		**Operator**	BMN	**Van Ref**	4	**Surveyed On**	05/29/2014
Street Name	JED CELL 10			**City**	JED LANDFILL		
Location type	Berm						
Surface							
Survey purpose	Other (state in comments)			**Weather**	Dry		

Pipe Use	Other (state in comments)	**Schedule length**	Ft	**From**	CCO1	**Depth**	Ft
Shape	Circular	**Size** 6 **by**	ins	**To**	CSUMP	**Depth**	Ft
Material	Other (state in comments)	**Joint spacing**	Ft	**Direction**	Downstream		
Lining		**Year laid**		**Pre-clean**	Y	**Last cleaned**	5/29/2014

General note	Structural	Service	Constructional
Location note		Hydralic	



PIPE INC

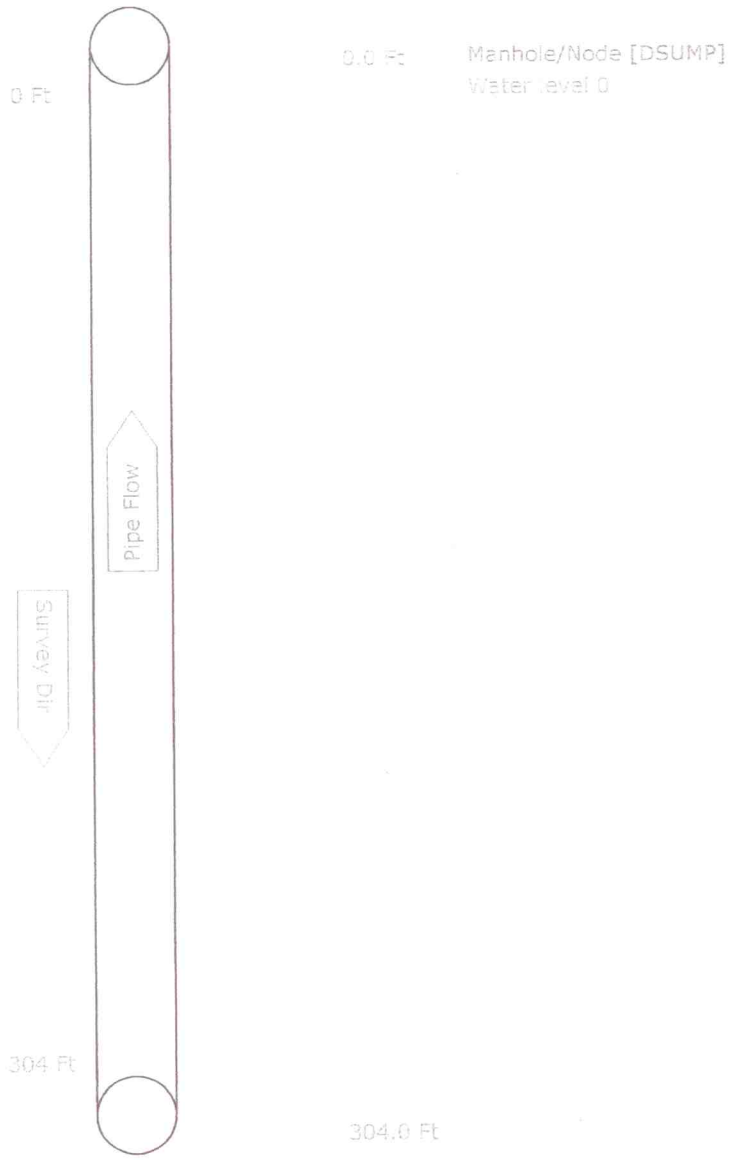
FLORIDA JETCLEAN
Phone: 800-226-8013

Pipe Graphic Report of PLR DCO1 C for RCS EXCAVATING

Work Order		**Contract**		**Video**	1	**Setup**	3
Facility		**Operator**	BMN	**Van Ref**	4	**Surveyed On**	05/29/2014
Street Name	JED CELL 10	**City**	JED LANDFILL				
Location type	Berm						
Surface							
Survey purpose	Other (state in comments)			**Weather**	Dry		

Pipe Use	Other (state in comments)	**Schedule length**	Ft	**From**	DSUMP	**Depth**	Ft
Shape	Circular	**Size** 4 **by**	ins	**To**	DCO1	**Depth**	Ft
Material	Other (state in comments)	**Joint spacing**	Ft	**Direction**	Upstream		
Lining		**Year laid**		**Pre-clean**	Y	**Last cleaned**	5/29/2014

General note	Structural	Service	Constructional
Location note		**Hydralic**	



FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING
EXPLOSION PROOF VIDEO INSPECTION
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RCS Excavation, Inc.
JED Landfill Cell 11
New LCS Pipe Jetcleaning

Work Performed
August 2015

Conducted By:
Florida Jetclean
800-226-8013

FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING
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REPORT

DATE : 8/13/2015
TO : Mike Rowley – RCS Excavation, Inc.
FROM : Ralph Calistri (floridajetclean@yahoo.com)
SUBJECT : JED Landfill Cell 11

Florida Jetclean completed the high-pressure water-jetting of the new Cell 11 leachate piping on 8/13/2015.

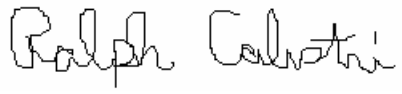
High-pressure Water-jetting:
As the below jetting log indicates, the new Cell 11 leachate piping was jetcleaned in its entirety via high-pressure water-jetting nozzle and was blockage free upon completion.

JED LANDFILL CELL 11
LEACHATE SYSTEM JETTING LOG
JETTING PERFORMED BY FLORIDA JETCLEAN
AUGUST 2015

LOCATION	ACHIEVED DISTANCE (ft)	COMMENTS
Cell 11 Collection 1	700.0'	Entire pipe jetcleaned.
Cell 11 Detection 1	700.0'	Entire pipe jetcleaned.
Cell 11 Collection 2	637.0'	Entire pipe jetcleaned.
Cell 11 Detection 2	637.0’	Entire pipe jetcleaned.

Please call us with questions or concerns.

Regards,



Ralph Calistri – Florida Jetclean - 800-226-8013

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RCS Excavation, Inc.
JED Landfill Cell 13
New LCS Pipe Jetcleaning

Work Performed
May 2016

Conducted By:
Florida Jetclean
800-226-8013

FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING
EXPLOSION PROOF VIDEO INSPECTION
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FLORIDAJETCLEAN@YAHOO.COM

REPORT

DATE : 5/26/2016
TO : Mike Rowley – RCS Excavation, Inc.
FROM : Ralph Calistri (floridajetclean@yahoo.com)
SUBJECT : JED Landfill Cell 13

Florida Jetclean completed the high-pressure water-jetting of the new Cell 13 leachate piping on 5/26/2016.

High-pressure Water-jetting:
As the below jetting log indicates, the new Cell 13 leachate piping was jetcleaned in its entirety via high-pressure water-jetting nozzle and was blockage free upon completion.

JED LANDFILL CELL 13
LEACHATE SYSTEM JETTING LOG
JETTING PERFORMED BY FLORIDA JETCLEAN
MAY 2016

LOCATION	ACHIEVED DISTANCE (ft)	COMMENTS
Cell 13 Collection	1,490.0'	Entire pipe jetcleaned.
Cell 13 Detection	1,490.0'	Entire pipe jetcleaned.

Please call us with questions or concerns.

Regards,

Ralph Calistri – Florida Jetclean - 800-226-8013