

10 November 2011

Mr. Thomas Lubozynski, P.E.
Waste Program Administrator
Florida Department of Environmental Protection
Central District Office
3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767

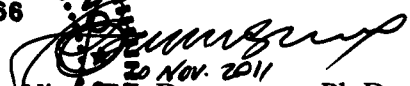
RECEIVED
NOV 14 2011
DEP. Central Dist.

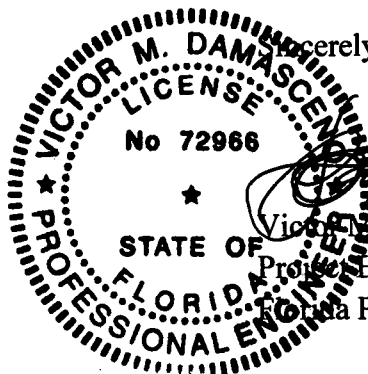
**Subject: Renewal Permit Application to Operate
Phases 1 through 4 at the
J.E.D. Solid Waste Management Facility (WACS #89544)
Osceola County, Florida**

Dear Mr. Lubozynski:

Transmitted herewith are four copies 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 Services, Inc. (WSI). The renewal permit application requests approval to continue operations at the J.E.D. Solid Waste Management Facility for a five-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,

20 Nov. 2011
Victor M. Damasceno, Ph.D., P.E.
Professional Engineer
Florida P.E. No. 72966



Copies to: Michael Kaiser, Waste Services Inc. (WSI)

Transmittal_JED 2011 Permit Renewal.doc

Prepared for:



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

RENEWAL PERMIT APPLICATION TO OPERATE PHASES 1 THROUGH 4 OF THE J.E.D. SOLID WASTE MANAGEMENT FACILITY

RECEIVED
NOV 14 2011
DEP Central Dist.

Prepared by:

Geosyntec
consultants

13101 Telecom Drive, Suite 120
Temple Terrace, Florida 33637

Project Number FL1962

November 2011

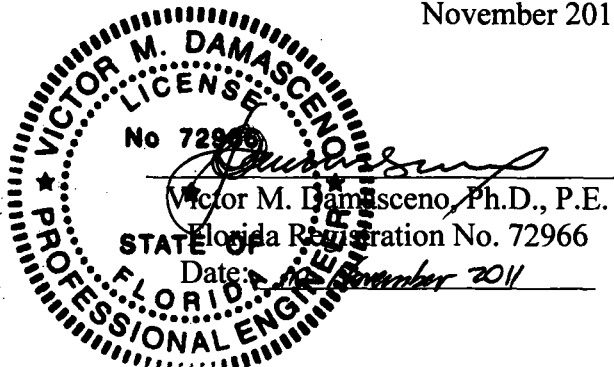


TABLE OF CONTENTS

1	INTRODUCTION.....	4
1.1	Terms of Reference.....	4
1.2	Previous Permit Applications	5
1.3	Purpose and Scope	6
1.4	Organization of the Permit Application.....	6
2	GENERAL INFORMATION	8
2.1	Overview.....	8
2.2	Location	8
2.3	Site Description.....	8
2.4	Prohibitions.....	8
2.5	Solid Waste Management Facility Permit Requirements	10
2.5.1	Overview.....	10
2.5.2	Operation Plan	10
2.5.3	Closure Plan.....	10
2.5.4	Renewal Permit Drawings	10
2.5.5	Compliance History	11
2.5.6	Public Notification.....	11
2.5.7	Airport Safety	11
2.5.8	Screening of Landfill from Public View	11
2.6	Landfill Permit Requirements.....	11
2.6.1	Overview.....	11
2.6.2	Renewal Permit Drawings	12
2.6.3	Estimated Population for the Service Area.....	12
2.6.4	Type, Source of Solid Waste, and Annual Quantity.....	13
2.6.5	Anticipated Life	13
2.7	General Criteria for Landfills	13
2.7.1	Floodplain.....	13
2.7.2	Horizontal Separation	14
2.8	Landfill Construction Requirements.....	14
3	HYDROGEOLOGICAL AND GEOTECHNICAL INVESTIGATION.....	15
3.1	Overview.....	15
3.2	Hydrogeological Investigation.....	15
3.3	Geotechnical Investigation	15
3.4	Vertical Expansion.....	15
4	OPERATION AND WATER QUALITY PLANS	16
4.1	Overview.....	16
4.2	Operation Plan	16
4.3	Water Quality Monitoring Plan	16
4.4	Leachate Monitoring Plan.....	16
4.5	Special Waste Handling Requirements.....	17

5	LANDFILL GAS MANAGEMENT SYSTEM.....	18
5.1	Overview.....	18
5.2	Background.....	18
6	LANDFILL CLOSURE.....	19
6.1	Overview.....	19
6.2	Closure Sequencing and Permitting.....	19
6.3	Final Cover System Design	19
6.4	Surface-Water Drainage System.....	20
7	LONG-TERM CARE AND FINANCIAL ASSURANCE	21
7.1	Overview.....	21
7.2	Long-Term Care and Closure Costs	21

APPENDICES

Appendix A	FDEP Form 62-701.900(1)
Appendix B	2011 Renewal Permit Drawings
Appendix C	Operation Plan
Appendix D	Compliance History
Appendix E	Water Quality Monitoring Plan

1 INTRODUCTION

1.1 Terms of Reference

Geosyntec Consultants (Geosyntec) has prepared this Renewal Permit Application (application) to operate Phases 1 through 4 of 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 Services, Inc. (WSI). This application is submitted to the Florida Department of Environmental Protection (FDEP) – Central District on behalf of Omni and has been prepared to comply with the requirements of Chapter 62-701 of the Florida Administrative Code (FAC). FDEP Form 62-701.900(1) – *Application for a Permit 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 construction and operation permits SC49-0199726-017 and SO49-0199726-005, respectively, issued in September 2011 and March 2007, respectively. The construction permit was recently renewed concurrently with the lateral expansion major permit modification for JED facility. The approved construction permit includes Phases 3 through 8 (Cells 8 through 23), while the approved operation permit includes Phases 1 through 3 which consist of Cells 1 through 10. Cells 1 through 7 have been constructed to date and disposal operations are currently ongoing in these units.

This application does not propose any design changes to the landfill and is being submitted to allow continued operations at the JED facility for a five-year operation period. Phase 1 consists of four cells (Cells 1 through 4) and has a footprint of approximately 53 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 47 acres. The combined footprint of Phases 1 through 4 is approximately 173 acres. The principal operational features of Phases 3 and 4 include construction of the respective landfill cells, expansion of the existing storm water management system and relocation of the interim leachate storage facility. The existing interim leachate storage facility is located in the footprint of Cell 9, which will be constructed as part of the Phase 3 development. As such, the existing interim leachate storage facility will be relocated to a permanent location adjacent to the future administrative area as indicated in the approved FDEP solid waste construction permit drawings titled *J.E.D. Solid Waste Management Facility, Lateral Expansion, Major Solid Waste Permit Modification*. Furthermore, Omni may choose to relocate the administrative area, scales, and scale house to the area indicated in the above mentioned drawings at a future date when Phases 5, 6, and 7 are constructed.

The drawing set entitled *J.E.D. Solid Waste Management Facility, Solid Waste Renewal Permit Drawings* (2011 Renewal Permit Drawings) is an integral part of this application and is provided in **Appendix B** of this renewal permit application. The 2011 Renewal Permit Drawings show plans, sections, and details of the proposed construction and operation of the JED facility. The 2011 Renewal Permit Drawings are intended to provide sufficient detail for permit approval. Additional detail will be provided in construction drawings that will be prepared for the construction of individual cells.

This application was prepared by Victor M. Damasceno, Ph.D., P.E. and reviewed by Juan D. Quiroz, Ph.D., P.E., both of Geosyntec.

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 entitled *Application for a Permit to Construct and Operate a Class I Landfill* (2002 Permit Application). A 50-sheet permit drawings set entitled *Oak Hammock Disposal, A Solid Waste Facility, Permit Drawings* (2002 Permit Drawings) was issued along with the 2002 Solid Waste Permit Application.

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 entitled *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 an application prepared and submitted by Geosyntec in September 2006 entitled *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 entitled *Oak Hammock Disposal Facility, Phases 2 and 3, Renewal Permit Drawings* (2006 Renewal Permit Drawings) was issued along with the 2006 Solid Waste 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 entitled *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 entitled *Major Modification Application for Vertical Expansion of the J.E.D. Solid Waste Management Facility (Phases 1 through 3) – 2007 Permit Application*. A permit drawing set entitled *J.E.D. Solid Waste Management Facility, Vertical Expansion Permit Drawings, Phases 1*

through 3 (2007 Permit Drawings) was issued along with the 2007 Vertical Expansion Permit 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 entitled *Major Modification of Environmental Resources Permit Applications for the Vertical Expansion of the J.E.D. Solid Waste Management Facility* (2007 ERP Application).

In February 2011 Geosyntec prepared and submitted a *Major Environmental Resources Permit Modification Application* (2011 ERP Application) along with the *Landfill Lateral Expansion – Application for a Major Permit Modification* (2011 Major Permit Modification).

The current solid waste construction permit (Permit No. SC49-0199726-017) was issued concurrently with and based on the 2011 Major Permit Modification, while the current solid waste operation permit (Permit No. SO49-0199726-005) was issued based on the 2007 Permit Application.

1.3 Purpose and Scope

The purpose of this application is to provide sufficient information to obtain a solid waste operation permit and continue operation of Phase 3 and future operation of Phase 4 of the existing Class I landfill over a five-year period. The footprint of Phases 3 and 4 of the JED landfill is shown in the 2011 Renewal Permit Drawings (**Appendix B**).

Furthermore, the intent of this application is to address all applicable parts of the FDEP Form 62-701.900(1). In addition to all general requirements, this permit application specifically discusses the following:

- Operation Plan [Part K of FDEP Form 62-701.900(1)]
- Water Quality Monitoring Plan [Part L of FDEP Form 62-701.900(1)]

Parts of FDEP Form 62-701.900(1), FAC marked as *no substantial change* (N/C) (i.e., those related to previous investigations, design, and/or analyses) have been previously submitted in the 2006 Renewal Permit Application, 2007 Permit Application, and 2011 Major Permit Modification. When applicable, Parts of FDEP Form 62-701.900(1), FAC, 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 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).

2 GENERAL INFORMATION

2.1 Overview

This section presents and addresses the general requirements in Chapter 62-701, FAC, not addressed in other sections or appendices of this permit 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 2011 Renewal Permit Drawings. The main entrance of the facility is located at latitude 28° 02' 57", longitude 81° 03' 10", on highway U.S. 441 while the center of the landfill footprint is located at latitude 28° 03' 32" and longitude 81° 05' 46".

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 landfill 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 are covered by the landfill footprint. The proposed footprint of Phases 3 and 4 of landfill development is approximately 84 acres.

2.4 Prohibitions

This section provides information required by Parts C.1 through C.10 of Form 62-701.900(1) that pertain to regulatory landfill prohibitions as described in Section 62-701.300, FAC. No changes are proposed to Part C of the FDEP Form 62-701.900(1) – the information presented herein is for informational purposes only.

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

- in an area where geological formations or other subsurface features will not provide adequate support (refer to Section 3 of this permit application)
- within 500 feet of any existing or approved potable water well (Note: a well survey was provided in the Hydrological Investigation Report found in Appendix C of the 2011 Major Permit Modification.)

- in dewatered pits (see the 2011 Renewal Permit Drawings)
- in a natural or artificial body of water
- within 200 feet 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
- on the right of way of any public highway, road, or alley (refer to 2011 Renewal Permit Drawings)

Note that, as show in the 2011 Renewal Permit Drawings, the potable water well located in the existing administrative area will be relocated adjacent to the future location of the administrative area prior to placement of waste in Cell 19 such that a minimum 500-ft offset is maintained from the waste.

The exemptions stated in Sections 62-701.300(12) through (18), FAC, 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
- 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
- no prohibited commingled used oil will be accepted for disposal

The JED facility is not located within 3,000 feet 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.

Specific information associated with some of the prohibitions presented herein is further discussed in the Operation Plan (**Section 4.2**).

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 copy of the Operation Plan is included as **Appendix C** of this application. Note that the contingency plan, operator and spotter training requirements, and special criteria for the facility are provided as a part of the Operation Plan provided herein. Refer to **Section 4** of this application for additional information.

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, FAC, prior to the final closure construction activities. Details of the final cover system design (including erosion control and storm water management features) are submitted with this permit application to outline the conceptual closure design for the facility. 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).

In March 2011 Geosyntec prepared and submitted a “*Partial Landfill Closure – Application for an Intermediate Permit Modification*” (2011 Partial Closure Application). Appendix E of the 2011 Partial Closure Application contained the updated Closure Plan for the JED Facility. Therefore, the closure plan and closure report required by Sections 62-701.320(7)(e)1 and 62-701.600(3) and (4), FAC, are not submitted at this time.

2.5.4 Renewal Permit Drawings

Appendix B contains the 2011 Renewal Permit Drawings for the JED facility including all information set forth in Section 62-701.320(7)f, FAC. These drawings specifically provide the layout and design for Phases 3 and 4 of landfill development at the JED facility. It is noted that the 2011 Permit Renewal Drawings (and associated renewal permit application) do not propose any substantial changes to the currently approved FDEP solid waste construction permit for the JED facility.

2.5.5 Compliance History

As required by Section 62-701.320(7), FAC, a history of the solid waste management facility enforcement actions against Omni or parent company WSI in the State of Florida is presented in **Appendix D** of this application.

2.5.6 Public Notification

This permit renewal application does not propose to modify the currently approved FDEP solid waste construction permit. As such, in accordance with the requirements of Rule 62-701.320(8)(a), FAC., a Notice of Application is not required.

2.5.7 Airport Safety

Information required by Section 62-701.320(13), FAC, is addressed in this section. As part of the 2007 solid waste vertical expansion permit 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 (NGVD) for the JED facility would not be a hazard to air navigation. The most recent FAA "Determination of No Hazard to Air Navigation" issued in February 2010 was provided as Appendix B-2 of the 2011 Major Permit Modification.

The JED facility satisfies the siting requirements for airport safety and notification. The closest licensed and operating airport runway is Tedford Ranch Airport (FAA ID 31FL), located approximately 3.9 miles east of the landfill, which exceeds the minimum 10,000-foot FDEP separation requirement as shown in Appendix B-3 of the 2011 Major Modification Application. Because the JED facility is located within a six mile radius of the Tedford Ranch Airport, it was necessary to notify the airport, the Federal Aviation Administration (FAA), and the Florida Department of Transportation. Proof of notification was provided in Appendix B-4 of the 2011 Major Permit Modification 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 Section 62-701.330(3)(a) through (h), FAC, [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. Because no change is proposed to the JED facility, the documentation on file with FDEP is still valid and is not re-submitted in this application.

2.6.2 Renewal Permit Drawings

Even though this application does not propose changes to the existing information on file with the FDEP, the 2011 Renewal Permit Drawings, presented in **Appendix B** of this application, have been prepared in an attempt to be “all-inclusive.” Note that these drawings do not propose any substantial changes to the layout of the JED facility and are provided for completeness purposes only.

The 2006 Renewal Permit Drawings was comprised of 40 sheets while the 2011 Renewal Permit Drawings contains a total of 45 sheets. The following is a list of changes (i.e., additions and deletions) that have been made to the 2011 Renewal Permit Drawings compared to the 2006 Renewal Permit Drawings.

The drawing sheets from the 2006 Renewal Permit Drawings not included in the 2011 Renewal Permit Drawings are as follows:

- Sheet 2: Parcel Survey and Legal Description
- Sheet 3: General Site and Surrounding Area Information
- Sheet 4: Miscellaneous Site Information

Sheets contained in the 2011 Renewal Permit Drawings, not submitted in the 2006 Renewal Permit Drawings include:

- Sheet 32: Conceptual Layout of Horizontal Gas Collectors
- Sheet 37: Landfill Gas Pipeline Details
- Sheet 45: Storm Water Drainage Structure Details

Note that the number and level of details and cross-sections (e.g., landfill cross sections, gas management details) contained in the 2011 Renewal Permit Drawings is greater than those provided in the 2006 Renewal Permit Drawings as it also incorporates portions of the 2007 Permit Drawings and the 2011 Major Permit Modification.

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 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 figures available from the Florida Association of Counties, the population of Osceola County in 2010 was 268,685 and the estimated population of all the counties (from which JED facility may accept waste) in 2010 was 5,866,359.

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 average 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 permit limits the annual acceptance rate in Phases 1-3 to 2,631,200 tons/year. The existing operations plus the proposed development for Phases 3 and 4 of the JED facility yield approximately 21,314,934 yd³ of additional airspace. At an estimated in-place unit weight of approximately 1,600 lb/yd³ (including daily cover), the expected life including Phases 3 and 4 under build-out conditions is equal to approximately 6.5 years.

No change is proposed to the final design height of the JED facility; the maximum height of the facility during its operation is provided in the 2011 Renewal Permit Drawings.

2.7 General Criteria for Landfills

2.7.1 Floodplain

As presented in the 2011 Major Permit Modification Drawings, the landfill expansion area is partially located within the 100-year flood plain, which has been identified on Osceola County maps received from the Osceola County GIS Department. However, as documented in the 2011 ERP Application, the landfill footprint and storm water management system features (including swales, dry retention basins, and wet retention basins) are a net contributor to the 100-year flood waters (prior to development) rather than a receptor of flood waters. Since the landfill storm water management system was designed to retain all runoff from the 100-year storm event, more water has been taken out of the 100-year floodplain than the infringed floodplain was able to store. Therefore, compensating water storage capacity is provided and the net storage capacity of the floodplain outside of the JED

facility has increased. In summary, the JED facility will not restrict the flow of the 100-year storm event and will provide excess compensating storage.

The landfill is designed to prevent washout of solid waste in an extreme storm event. The storm water management system berms defining the retention basins at the perimeter of the landfill have been constructed to an elevation more than four feet higher than the 100-year flood elevation indicated by the Osceola County maps. Additionally, the landfill cells are and will be constructed within a perimeter berm that is approximately 16 feet above existing site grades. Finally, the landfill liner system perimeter anchor trench is designed to be approximately 15 feet higher than the 100-year flood elevation.

The documentation required by Section 62-701.340(3)(b), FAC, with respect to the 100-year flood plain has been previously submitted in the 2011 Major Permit Modification and 2011 ERP Application. Since no change is proposed to the final footprint of the JED facility, the documentation previously submitted is still valid and is not re-submitted in this application.

2.7.2 Horizontal Separation

The 2011 Renewal Permit Drawings include 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 shown on these drawings, the minimum horizontal separation between waste placed in the proposed landfill and the landfill property boundary exceeds the 100-foot setback requirement of Section 62-701.340(3)(c), FAC.

2.8 Landfill Construction Requirements

The information referenced in Part G of FDEP Form 62-701.900(1) has been previously submitted to FDEP in the 2006 Renewal Permit Application, 2007 Permit Application, 2011 Major Permit Modification and 2011 ERP Application. Because this application does not propose any changes to the previously submitted documentation, the information on file with FDEP is still valid and not re-submitted herein. More so, as previously stated, the purpose of this application is to pursue an operation permit to allow continued operations of Phases 1 and 2, and future operations of Phases 3 and 4 at the JED facility. Items in Part G of the FDEP Form 62-701.900(1), and Section 62-701.400, FAC, are deemed not applicable and/or not necessary for approval of an operation permit.

3 HYDROGEOLOGICAL AND GEOTECHNICAL INVESTIGATION

3.1 Overview

This section presents and addresses the hydrogeological and geotechnical investigation requirements in Chapter 62-701, FAC, not addressed in other sections or appendices of this permit 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 Hydrogeological Investigation

As part of the 2002 Permit Application, Kubal-Furr & Associates (KFA) prepared a Hydrogeological Investigation Report for the site. For the 2011 Major Permit Modification, Geosyntec performed an additional Hydrogeological Investigation, a report for which is provided in Appendix C of the 2011 Major Permit Modification. Since no changes are proposed to the design and/or footprint of the JED facility, the previously submitted information is still valid and is not re-submitted in this application.

3.3 Geotechnical Investigation

In conjunction with the additional hydrogeologic investigation performed in support of the 2011 Major Permit Modification, Geosyntec also prepared an updated Geotechnical Investigation Report, provided in Appendix D of the 2011 Major Permit Modification. The geotechnical investigation was conducted to characterize the underlying soils and to define the engineering properties of the soils for landfill settlement and slope stability analyses. Information provided by both the hydrogeological investigation and the geotechnical investigation was used in performing the geotechnical design for the JED landfill. Since no changes are proposed to the design and/or footprint of the JED facility, the previously submitted information is still valid and as such, is not re-submitted in this application.

3.4 Vertical Expansion

This application does not propose a vertical expansion, as such the information required by Part J of the FDEP Form 62-701.900(1) does not apply.

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 Chapters 62-701.500 and 62-701.510, FAC. More so, this section presents and addresses the general requirements in Chapter 62-701, FAC, not addressed in other sections or appendices of this permit 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

A landfill operation plan on file with the FDEP was previously submitted along with the 2007 Permit Application. The operation plan was later revised, updated, and submitted to FDEP on June 2010 (2010 Operation Plan). No substantial changes are proposed for the 2010 Operation Plan. Nonetheless, the previously submitted operation plan has been revised and is provided in **Appendix C** of this application for completeness purposes.

4.3 Water Quality Monitoring Plan

The original water quality monitoring plan for the JED facility was discussed in Section 5 of the *Hydrogeologic Investigation Report and Water Quality Monitoring Plan* authored by Kubal-Furr & Associates (KFA), included as Appendix E of the 2002 Solid Waste 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. The *Fourth Biennial Technical Report on Water Quality* will be submitted under separate cover as part of this permit renewal application.

The previously approved water quality monitoring plan has been revised and updated to include Phases 3 and 4. The water quality monitoring plan update is provided in **Appendix E** of this application.

4.4 Leachate Monitoring Plan

The Leachate Monitoring Plan for the JED facility was presented in Appendix N of the 2002 Permit Application. There are no changes to the Leachate Monitoring Plan for the JED facility. As a result, the Leachate Monitoring Plan presented in Appendix N of the 2002 Permit Application is still applicable and is not re-submitted with this application.

4.5 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.

5 LANDFILL GAS MANAGEMENT SYSTEM

5.1 Overview

This section presents and addresses the landfill gas system requirements in Chapter 62-701, FAC, not addressed in other sections or appendices of this permit 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, FAC. 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 flare located at the northwest corner of Cell 1.

The layout of future LFG extraction wells and associated piping were modified in the 2011 Major Permit Modification to account for the landfill lateral expansion and resulting increased footprint. The GMS was also modified to include a perimeter gas header pipe (i.e. LFG pipeline) to convey collected gas to a central location for flaring or for use in a future gas to energy system. The GMS design, supporting calculations, and layout were previously submitted as part of Appendices H and I in the 2011 Major Permit Modification. The GMS design includes: (i) estimation of LFG generation rates for the facility; (ii) selection of design radius of influence for perimeter and interior wells; (iii) sizing of the lateral and header pipes needed for LFG conveyance; (iv) assessing the vacuum and flow requirements for the flare and blower to handle the flow rates of LFG generated from the facility; and (v) estimation of the condensate generation rate to size the condensate management system.

This application does not propose any changes to the existing GMS design. Therefore, the previously submitted documentation on file with the FDEP is valid and is not re-submitted herein.

6 LANDFILL CLOSURE

6.1 Overview

This section presents and addresses the landfill closure requirements in Chapter 62-701, FAC, 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 will remain identical to that presented in the 2007 Permit Application and 2011 Major Permit Modification. The following sections provide a brief summary of the landfill closure procedure.

6.2 Closure Sequencing and Permitting

Although a final cover system design is included in the 2011 Renewal Permit Drawings, this application is not for closure. A separate permit application for closure will be submitted to FDEP in accordance with applicable sections of Chapter 62-701, FAC, prior to initiating final closure construction activities. Details of the final cover system design (including erosion control and storm water management features) are submitted with this permit application to outline the conceptual closure design for the facility.

Each portion of the proposed landfill will be closed as it reaches the maximum design height on a close-as-you-go basis. The ongoing, partial closure of the landfill (i.e., close as you go) is proposed to minimize leachate generation in the landfill. Partial closure will be accomplished concurrent with waste placement in the landfill. Areas that have reached final elevations will receive the final cover system within 180 days of reaching the final elevation, or a 12-inch thick intermediate cover will be placed over the area.

A closure report will be prepared at the time a closure permit from the FDEP is requested. A closure permit application, in the form of a Minor Permit Modification Application, will be submitted to FDEP a minimum of 180 days prior to the initiation of closure construction.

6.3 Final Cover System Design

The general design of the final cover system is the same as that presented in the 2007 Permit Application and 2011 Major Permit Modification. Namely, 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 top slopes graded at 5 percent.

The final cover system performance evaluation provided in Appendix H of the 2007 Permit Application remains valid because no change is proposed for the configuration of the side slopes. The final cover system performance evaluation included analysis of head on the geomembrane in the final cover system, veneer stability, and soil erosion resistance.

6.4 Surface-Water Drainage System

Diversion berms and drainage swales are incorporated in the final cover system on the top and on the side slopes of the landfill as indicated in the 2011 Renewal Permit Drawings. The diversion berms and drainage swales convey water to the downdrains which convey the storm water runoff to the storm water detention 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. Design calculations confirming the adequacy of the drainage swales and the downdrains to convey the storm water runoff were presented in the 2011 ERP Application.

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, FAC, not addressed in other sections or appendices of this permit 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

As currently approved by FDEP, the JED facility is operating under a phased financial assurance whereby closure and long-term care financial assurance is provided only for those cells that have been constructed. At present, Cells 1 through 7 have been constructed. A corresponding financial assurance mechanism of \$5,950,241.32 (for closure) and \$7,404,650.74 (for long-term care) was approved by FDEP in November 2010 for closure and long term care for Cells 1 through 7.

Each time a new cell is constructed, a minor modification permit application is submitted to FDEP to increase the financial assurance costs and update the funding mechanism accordingly. Conversely, when a portion of the landfill is closed, a minor modification permit application is submitted to reduce the financial assurance closure costs and associated funding mechanism.

Because this application does not include modifications to the footprint of the currently constructed cells, adjustments to the currently approved financial assurance costs and funding mechanism are not provided herein. Nonetheless a minor modification permit application – to include the construction of Cell 8 – has been prepared and submitted on 29 October 2011.

To comply with the requirements of Rule 62-701.630(4), FAC, Omni will submit to FDEP annual adjustments of the cost estimates for the closure and long-term care of the landfill.

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: January 6, 2010

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

Northwest District
160 Governmental Center
Pensacola, FL 32502-5794
850-595-8380

Northeast District
7825 Baymeadows Way, Ste. B200
Jacksonville, FL 32256-7590
904-807-3300

Central District
3319 Maguire Blvd., Ste. 232
Orlando, FL 32803-3767
407-894-7555

Southwest District
13051 N. Telecom Pkwy
Temple Terrace, FL 33637
813-632-7600

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33901-3881
239-332-6975

Southeast District
400 North Congress Ave.
West Palm Beach, FL 33401
561-681-6600

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 minimum of four copies of the application shall be submitted to the Department's District 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

✓ 101933713

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 | ☐ Ash Mc |
| ☐ Class III Landfill | ☐ Asbestc |
| ☐ Industrial Solid Waste | |
| ☐ Other Describe: | |

I Have What I Need

NOTE: Waste Processing Facilities should apply on Form 62-701.901
Land Clearing Disposal Facilities should notify on Form 62-701.901(10), FAC
Compost Facilities should apply on Form 62-701.900(10), FAC
C&D Disposal Facilities should apply on Form 62-701.900(6), F

2. Type of application:

- ☐ Construction
☒ Operation
☐ Construction/Operation
☐ Closure
☐ Long-term Care Only

3. Classification of application:

- | | |
|---|--|
| ☐ New | ☐ Substantial Modification |
| ☒ Renewal | ☐ 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: Michael Kaiser Telephone: (904) 673-0446
- Title: Regional Engineer
- MKaiser@wasteservicesinc.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: Victor M. Damasceno, Ph.D., P.E. Telephone: (813) 558-0990
- Title: Engineer
- vdamasceno@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: 5,866,359 (approx.) Five-Year Projection: 6,239,688 (approx.)
13. Date site will be ready to be inspected for completion: Spring 2012 (for Cell 8 construction)
14. Expected life of the facility: 23 years
15. Estimated costs: (Estimated costs correspond to construction of Cells 8 through 13 and closure of Phases 1 through 4 - excluding 24-acre partially closed area)
Total Construction: \$ 25,200,000 Closing Costs: \$ 6,938,953.1
16. Anticipated construction starting and completion dates:
From: 10/1/2011 To: 10/1/2034
17. Expected volume or weight of waste to be received:
_____ yds³/day 6,000 tons/day _____ gallons/day

PART B.

DISPOSAL FACILITY GENERAL INFORMATION

- [illegible]

- ☐ Air treatment sludge ☒ Industrial sludge
☐ Agricultural ☒ Domestic sludge
☒ Asbestos ☒ Other Describe:
Waste tires, auto shredder waste, and industrial 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:

13. Days of operation: Monday thru Sunday

14. Hours of operation: Mon-Fri: 5am 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 ☐ Double geomembrane
☐ Single clay liner ☒ Geomembrane & composite (Cells 5 thru 23)
☐ Single geomembrane ☒ Double composite (Cells 1 thru 4)
☐ Single composite ☐ None
☐ Slurry wall ☐ 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	☒ Sand layer
☒ Geonets (geocomposite)	☐ Gravel layer
☐ Well points	☐ Interceptor trench
☐ Perimeter ditch	☐ None
☐ Other Describe:	

22. Leachate storage method:

☐ Tanks	☒ Surface impoundments with flexible storage containers
☐ Other Describe:	

23. Leachate treatment method:

☒ Oxidation	☐ Chemical treatment
☐ Secondary	☐ Settling
☐ Advanced	☐ None
☒ Other	

Oxidation performed through aeration in the uncovered Cell 2 of the leachate storage area. Cells 1, 3, and 4 are covered with no oxidation activity.

24. Leachate disposal method:

☒ Recirculated	☐ Pumped to WWTP
☒ Transported to WWTP	☐ Discharged to surface water/wetland
☐ Injection well	☐ Percolation ponds
☐ Evaporation	☐ Spray Irrigation
☐ Other	

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), and ERP-49-0199752-005(006)-EI (Conceptual).

PART C. PROHIBITIONS (62-701.300, FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
☐	_____	☐	☒	1. Provide documentation that each of the siting criteria will be satisfied for the facility; (62-701.300(2), FAC)
☐	_____	☒	☐	2. If the facility qualifies for any of the exemptions contained in Rules 62-701.300(12) through (18), FAC, then document this qualification(s).
☐	_____	☐	☒	3. Provide documentation that the facility will be in compliance with the burning restrictions; (62-701.300(3), FAC)
☐	_____	☐	☒	4. Provide documentation that the facility will be in compliance with the hazardous waste restrictions; (62-701.300(4), FAC)
☐	_____	☐	☒	5. Provide documentation that the facility will be in compliance with the PCB disposal restrictions; (62-701.300(5), FAC)
☐	_____	☐	☒	6. Provide documentation that the facility will be in compliance with the biomedical waste restrictions; (62-701.300(6), FAC)
☐	_____	☐	☒	7. Provide documentation that the facility will be in compliance with the Class I surface water restrictions; (62-701.300(7), FAC)
☐	_____	☐	☒	8. Provide documentation that the facility will be in compliance with the special waste for landfills restrictions; (62-701.300(8), FAC)
☐	_____	☐	☒	9. Provide documentation that the facility will be in compliance with the liquid restrictions; (62-701.300(10), FAC)
☐	_____	☐	☒	10. Provide documentation that the facility will be in compliance with the used oil and oily waste restrictions; (62-701.300(11), FAC)

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

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
☒	Attached _____	☐	☐	1. Four copies, at minimum, of the completed application form, all supporting data and reports; (62-701.320(5)(a), FAC)

☐	Attached: Report/Appendices	☐	☐	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)
☒	Attached Letter	☐	☐	3. A letter of transmittal to the Department; (62-701.320(7)(a),FAC)
☒	Engineering Report Appendix A	☐	☐	4. A completed application form dated and signed by the applicant; (62-701.320(7)(b),FAC)
☒	Attached	☐	☐	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)
☐	Attached	☐	☐	6. An engineering report addressing the requirements of this rule and with the following format: a cover sheet, text printed on 8 1/2 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)
☐	Engineering Report Section 4/Appendix D	☐	☐	7. Operation Plan and Closure Plan; (62-701.320(7)(e)1,FAC)
☐	Engineering Report Section 4/Appendix D	☐	☐	8. Contingency Plan; (62-701.320(7)(e)2,FAC)
☐		☐	☒	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)
☐		☐	☒	a. A regional map or plan with the project location in relation to major roadways and population centers;
☐		☐	☒	b. A vicinity map or aerial photograph no more than 1 year old showing the facility site and relevant surface features located within 1000 feet of the facility;
☐		☐	☒	c. A site plan showing all property boundaries certified by a Florida Licensed Professional Surveyor and Mapper; and
☐		☐	☒	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.

S **LOCATION** **N/A** **N/C**

PART D CONTINUED

- | | | | | |
|-------------------------------------|--|-------------------------------------|-------------------------------------|---|
| ☒ | _____ | ☐ | ☒ | 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) |
| ☐ | _____ | ☒ | ☐ | 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) |
| ☒ | Engineering Report
Section 2.5.5/Appendix B | ☐ | ☐ | 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 this state; (62-701.320(7)(i),FAC) |
| ☒ | Engineering Report
Section 2.5.6 | ☐ | ☐ | 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; (62-702.320(8),FAC) |
| ☐ | _____ | ☐ | ☒ | 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) |
| ☐ | _____ | ☐ | ☒ | 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)

S **LOCATION** **N/A** **N/C**

- | | | | | |
|--------------------------|-------|--------------------------|-------------------------------------|--|
| ☐ | _____ | ☐ | ☒ | 1. Regional map or aerial photograph no more than 5 years old showing all airports that are located within five miles of the proposed landfill; (62-701.330(3)(a),FAC) |
| ☐ | _____ | ☐ | ☒ | 2. Plot plan with a scale not greater than 200 feet to the inch showing; (62-701.330(3)(b),FAC) |
| ☐ | _____ | ☐ | ☒ | a. Dimensions; |
| ☐ | _____ | ☐ | ☒ | b. Locations of proposed and existing water quality monitoring wells; |
| ☐ | _____ | ☐ | ☒ | c. Locations of soil borings; |

S **LOCATION** **N/A** **N/C**

PART E CONTINUED

d. Proposed plan of trenching or disposal areas;

e. Cross sections showing original elevations and proposed final contours which shall be included either on the plot plan or on separate sheets;

f. Any previously filled waste disposal areas;

g. Fencing or other measures to restrict access.

3. Topographic maps with a scale not greater than 200 feet to the inch with 5-foot contour intervals showing; (62-701.330(3)(c),FAC):

a. Proposed fill areas;

b. Borrow areas;

c. Access roads;

d. Grades required for proper drainage;

e. Cross sections of lifts;

f. Special drainage devices if necessary;

g. Fencing;

h. Equipment facilities.

4. A report on the landfill describing the following; (62-701.330(3)(d),FAC)

a. The current and projected population and area to be served by the proposed site;

b. The anticipated type, annual quantity, and source of solid waste, expressed in tons;

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 **LOCATION** **N/A** **N/C**

PART E CONTINUED

- | | | | | |
|--------------------------|-------|--------------------------|-------------------------------------|---|
| ☐ | _____ | ☐ | ☒ | d. The source and type of cover material used for the landfill. |
| ☐ | _____ | ☐ | ☒ | 5. Provide evidence that an approved laboratory shall conduct water quality monitoring for the facility in accordance with Chapter 62-160, FAC; (62-701.330(3)(g), FAC) |
| ☐ | _____ | ☐ | ☒ | 6. Provide a statement of how the applicant will demonstrate financial responsibility for the closing and long-term care of the landfill; (62-701.330(3)(h), FAC) |

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

S **LOCATION** **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) |
| ☐ | _____ | ☐ | ☒ | 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)

S **LOCATION** **N/A** **N/C**

- | | | | | |
|--------------------------|-------|--------------------------|-------------------------------------|--|
| ☐ | _____ | ☐ | ☒ | 1. Describe how the landfill shall be designed so that solid waste disposal units will be constructed and closed at planned intervals throughout the design period of the landfill and shall be designed to achieve a minimum factor of safety of 1.5 using peak strength values to prevent failures of side slopes and deep-seated failures; (62-701.400(2), FAC) |
| ☐ | _____ | ☐ | ☒ | 2. Landfill liner requirements; (62-701.400(3), FAC) |
| ☐ | _____ | ☐ | ☒ | a. General construction requirements; (62-701.400(3)(a), FAC): |
| ☐ | _____ | ☐ | ☒ | (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 **LOCATION** **N/A** **N/C**

PART G CONTINUED

- | | | | | |
|--------------------------|-------|-------------------------------------|-------------------------------------|---|
| ☐ | _____ | ☐ | ☒ | (2) Document foundation is adequate to prevent liner failure; |
| ☐ | _____ | ☐ | ☒ | (3) Constructed so bottom liner will not be adversely impacted by fluctuations of the ground water; |
| ☐ | _____ | ☐ | ☒ | (4) Designed to resist hydrostatic uplift if bottom liner located below seasonal high ground water table; |
| ☐ | _____ | ☐ | ☒ | (5) Installed to cover all surrounding earth which could come into contact with the waste or leachate. |
| ☐ | _____ | ☐ | ☒ | b. Composite liners; (62-701.400(3)(b),FAC) |
| ☐ | _____ | ☐ | ☒ | (1) Upper geomembrane thickness and properties; |
| ☐ | _____ | ☐ | ☒ | (2) Design leachate head for primary LCRS including leachate recirculation if appropriate; |
| ☐ | _____ | ☒ | ☐ | (3) Design thickness in accordance with Table A and number of lifts planned for lower soil component. |
| ☐ | _____ | ☐ | ☒ | c. Double liners; (62-701.400(3)(c),FAC) |
| ☐ | _____ | ☐ | ☒ | (1) Upper and lower geomembrane thicknesses and properties; |
| ☐ | _____ | ☐ | ☒ | (2) Design leachate head for primary LCRS to limit the head to one foot above the liner; |
| ☐ | _____ | ☐ | ☒ | (3) Lower geomembrane sub-base design; |
| ☐ | _____ | ☐ | ☒ | (4) Leak detection and secondary leachate collection system minimum design criteria ($k \geq 10$ cm/sec, head on lower liner ≤ 1 inch, head not to exceed thickness of drainage layer); |
| ☐ | _____ | ☐ | ☒ | d. Standards for geosynthetic components; (62-701.400(3)(d),FAC) |

S **LOCATION** **N/A** **N/C**

PART G CONTINUED

- | | | | | | |
|-------------------------------------|--|-------------------------------------|-------------------------------------|--|--|
| ☒ | _____ | ☐ | ☒ | (1) | Factory and field seam test methods to ensure all geomembrane seams achieve the minimum specifications; |
| ☐ | _____ | ☐ | ☒ | (2) | Geomembranes to be used shall pass a continuous spark test by the manufacturer; |
| ☐ | _____ | ☐ | ☒ | (3) | Design of 24-inch-thick protective layer above upper geomembrane liner; |
| ☐ | _____ | ☐ | ☒ | (4) | Describe operational plans to protect the liner and leachate collection system when placing the first layer of waste above 24-inch-thick protective layer. |
| ☐ | _____ | ☐ | ☒ | (5) | HDPE geomembranes, if used, meet the specifications in GRI GM13 and LLDPE geomembranes, if used, meet the specifications in GRI GM17; |
| ☐ | Engineering Report
Section 2.8
_____ | ☒ | ☐ | (6) | PVC geomembranes, if used, meet the specifications in PGI 1104; |
| ☐ | _____ | ☐ | ☒ | (7) | Interface shear strength testing results of the actual components which will be used in the liner system; |
| ☐ | _____ | ☐ | ☒ | (8) | Transmissivity testing results of geonets if they are used in the liner system; |
| ☐ | _____ | ☐ | ☒ | (9) | Hydraulic conductivity testing results of geosynthetic clay liners if they are used in the liner system; |
| ☐ | _____ | ☐ | ☒ | e. Geosynthetic specification requirements; (62-701.400(3)(e),FAC) | |
| ☐ | _____ | ☐ | ☒ | (1) | Definition and qualifications of the designer, manufacturer, installer, QA consultant and laboratory, and QA program; |
| ☐ | _____ | ☐ | ☒ | (2) | Material specifications for geomembranes, geocomposites, geotextiles, geogrids, and geonets; |

S **LOCATION** **N/A** **N/C**

PART G CONTINUED

- | | | | | |
|-------------------------------------|-----------------------------------|-------------------------------------|-------------------------------------|--|
| ☒ | _____ | ☐ | ☒ | (3) Manufacturing and fabrication specifications including geomembrane raw material and roll QA, fabrication personnel qualifications, seaming equipment and procedures, overlaps, trial seams, destructive and nondestructive seam testing, seam testing location, frequency, procedure, sample size and geomembrane repairs; |
| ☐ | _____ | ☐ | ☒ | (4) Geomembrane installation specifications including earthwork, conformance testing, geomembrane placement, installation personnel qualifications, field seaming and testing, overlapping and repairs, materials in contact with geomembrane and procedures for lining system acceptance; |
| ☐ | _____ | ☐ | ☒ | (5) Geotextile and geogrid specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil materials and any overlying materials; |
| ☐ | _____ | ☐ | ☒ | (6) Geonet and geocomposite specifications including handling and placement, conformance testing, stacking and joining, repair, and placement of soil materials and any overlying materials; |
| ☐ | _____ | ☐ | ☒ | (7) Geosynthetic clay liner specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil material and any overlying materials; |
| ☐ | _____ | ☐ | ☒ | f. Standards for soil liner components (62-710.400(3)(f),FAC): |
| ☐ | _____ | ☐ | ☒ | (1) Description of construction procedures including overexcavation and backfilling to preclude structural inconsistencies and procedures for placing and compacting soil component in layers; |
| ☐ | Engineering Report
Section 2.8 | ☒ | ☐ | (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; |
| ☐ | Engineering Report
Section 2.8 | ☒ | ☐ | (3) Procedures for testing in-situ soils to demonstrate they meet the specifications for soil liners; |

S **LOCATION** **N/A** **N/C**

PART G CONTINUED

☒	Engineering Report Section 2.8	☒	☐	(4) Specifications for soil component of liner including at a minimum:
☐	Engineering Report Section 2.8	☒	☐	(a) Allowable particle size distribution, Atterberg limits, shrinkage limit;
☐	Engineering Report Section 2.8	☒	☐	(b) Placement moisture and dry density criteria;
☐	Engineering Report Section 2.8	☒	☐	(c) Maximum laboratory-determined saturated hydraulic conductivity using simulated leachate;
☐	Engineering Report Section 2.8	☒	☐	(d) Minimum thickness of soil liner;
☐	Engineering Report Section 2.8	☒	☐	(e) Lift thickness;
☐	Engineering Report Section 2.8	☒	☐	(f) Surface preparation (scarification);
☐	Engineering Report Section 2.8	☒	☐	(g) Type and percentage of clay mineral within the soil component;
☐	Engineering Report Section 2.8	☒	☐	(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.
☐	Engineering Report Section 2.8	☒	☐	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.
☐	_____	☐	☒	3. Leachate collection and removal system (LCRS); (62-701.400(4),FAC)
☐	_____	☐	☒	a. The primary and secondary LCRS requirements; (62-701.400(4)(a),FAC)
☐	_____	☐	☒	(1) Constructed of materials chemically resistant to the waste and leachate;
☐	_____	☐	☒	(2) Have sufficient mechanical properties to prevent collapse under pressure;

S **LOCATION** **N/A** **N/C**

PART G CONTINUED

- | | | | | |
|-------------------------------------|-------|--------------------------|-------------------------------------|--|
| ☒ | _____ | ☐ | ☒ | (3) Have granular material or synthetic geotextile to prevent clogging; |
| ☐ | _____ | ☐ | ☒ | (4) Have method for testing and cleaning clogged pipes or contingent designs for rerouting leachate around failed areas; |
| ☐ | _____ | ☐ | ☒ | b. Other LCRS requirements; (62-701.400(4)(b) and (c),FAC) |
| ☐ | _____ | ☐ | ☒ | (1) Bottom 12 inches having hydraulic conductivity $\geq 1 \times 10^{-3}$ cm/sec; |
| ☐ | _____ | ☐ | ☒ | (2) Total thickness of 24 inches of material chemically resistant to the waste and leachate; |
| ☐ | _____ | ☐ | ☒ | (3) Bottom slope design to accommodate for predicted settlement and still meet minimum slope requirements; |
| ☐ | _____ | ☐ | ☒ | (4) Demonstration that synthetic drainage material, if used, is equivalent or better than granular material in chemical compatibility, flow under load and protection of geomembrane liner. |
| ☐ | _____ | ☐ | ☒ | 4. Leachate recirculation; (62-701.400(5),FAC) |
| ☐ | _____ | ☐ | ☒ | a. Describe general procedures for recirculating leachate; |
| ☐ | _____ | ☐ | ☒ | b. Describe procedures for controlling leachate runoff and minimizing mixing of leachate runoff with storm water; |
| ☐ | _____ | ☐ | ☒ | c. Describe procedures for preventing perched water conditions and gas buildup; |
| ☐ | _____ | ☐ | ☒ | d. Describe alternate methods for leachate management when it cannot be recirculated due to weather or runoff conditions, surface seeps, wind-blown spray, or elevated levels of leachate head on the liner; |
| ☐ | _____ | ☐ | ☒ | e. Describe methods of gas management in accordance with Rule 62-701.530, FAC; |

S **LOCATION** **N/A** **N/C**

PART G CONTINUED

f. If leachate irrigation is proposed, describe treatment methods and standards for leachate treatment prior to irrigation over final cover and provide documentation that irrigation does not contribute significantly to leachate generation.

5. Leachate storage tanks and leachate surface impoundments; (62-701.400(6), FAC)

a. Surface impoundment requirements; (62-701.400(6)(b), FAC)

(1) Documentation that the design of the bottom liner will not be adversely impacted by fluctuations of the ground water;

(2) Designed in segments to allow for inspection and repair as needed without interruption of service;

(3) General design requirements;

(a) Double liner system consisting of an upper and lower 60-mil minimum thickness geomembrane;

(b) Leak detection and collection system with hydraulic conductivity ≥ 1 cm/sec;

(c) Lower geomembrane placed on subbase ≥ 6 inches thick with $k \leq 1 \times 10^{-5}$ cm/sec or on an approved geosynthetic clay liner with $k \leq 1 \times 10^{-7}$ cm/sec;

(d) Design calculation to predict potential leakage through the upper liner;

(e) Daily inspection requirements and notification and corrective action requirements if leakage rates exceed that predicted by design calculations;

(4) Description of procedures to prevent uplift, if applicable;

(5) Design calculations to demonstrate minimum two feet of freeboard will be maintained;

(6) Procedures for controlling vectors and off-site odors.

PART G CONTINUED

S **LOCATION** **N/A** **N/C**

☐ _____ ☒ ☐

b. Above-ground leachate storage tanks; (62-701.400(6)(c),FAC)

☐ _____ ☒ ☐

(1) Describe tank materials of construction and ensure foundation is sufficient to support tank;

☐ _____ ☒ ☐

(2) Describe procedures for cathodic protection if needed for the tank;

☐ _____ ☒ ☐

(3) Describe exterior painting and interior lining of the tank to protect it from the weather and the leachate stored;

☐ _____ ☒ ☐

(4) Describe secondary containment design to ensure adequate capacity will be provided and compatibility of materials of construction;

☐ _____ ☒ ☐

(5) Describe design to remove and dispose of stormwater from the secondary containment system;

☐ _____ ☒ ☐

(6) Describe an overfill prevention system such as level sensors, gauges, alarms and shutoff controls to prevent overfilling;

☐ _____ ☐ ☒

(7) Inspections, corrective action and reporting requirements;

☐ _____ ☐ ☒

(a) Overfill prevention system weekly;

☐ _____ ☐ ☒

(b) Exposed tank exteriors weekly;

☐ _____ ☐ ☒

(c) Tank interiors when tank is drained or at least every three years;

☐ _____ ☐ ☒

(d) Procedures for immediate corrective action if failures detected;

☐ _____ ☐ ☒

(e) Inspection reports available for department review.

☐ _____ ☒ ☐

c. Underground leachate storage tanks; (62-701.400(6)(d),FAC)

S **LOCATION** **N/A** **N/C**

PART G CONTINUED

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

S**LOCATION****N/A****N/C****PART G CONTINUED**

- | | | | | |
|--------------------------|-------|-------------------------------------|-------------------------------------|--|
| ☐ | _____ | ☐ | ☒ | (5) State qualifications of CQA professional engineer and support personnel; |
| ☐ | _____ | ☐ | ☒ | (6) Description of CQA reporting forms and documents; |
| ☐ | _____ | ☐ | ☒ | b. An independent laboratory experienced in the testing of geosynthetics to perform required testing; |
| ☐ | _____ | ☐ | ☒ | 7. Soil Liner CQA (62-701.400(8)FAC) |
| ☐ | _____ | ☐ | ☒ | a. Documentation that an adequate borrow source has been located with test results or description of the field exploration and laboratory testing program to define a suitable borrow source; |
| ☐ | _____ | ☐ | ☒ | b. Description of field test section construction and test methods to be implemented prior to liner installation; |
| ☐ | _____ | ☐ | ☒ | c. Description of field test methods including rejection criteria and corrective measures to insure proper liner installation. |
| ☐ | _____ | ☐ | ☒ | 8. Surface water management systems; (62-701.400(9),FAC) |
| ☐ | _____ | ☐ | ☒ | a. Provide a copy of a Department permit for stormwater control or documentation that no such permit is required; |
| ☐ | _____ | ☐ | ☒ | b. Design of surface water management system to isolate surface water from waste filled areas and to control stormwater run-off; |
| ☐ | _____ | ☐ | ☒ | c. Details of stormwater control design including retention ponds, detention ponds, and drainage ways; |
| ☐ | _____ | ☐ | ☒ | 9. Gas control systems; (62-701.400(10),FAC) |
| ☐ | _____ | ☐ | ☒ | 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; |
| ☐ | _____ | ☒ | ☐ | 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(1), FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
☐	_____	☐	☒	1. Submit a hydrogeological investigation and site report including at least the following information:
☐	_____	☐	☒	a. Regional and site specific geology and hydrogeology;
☐	_____	☐	☒	b. Direction and rate of ground water and surface water flow including seasonal variations;
☐	_____	☐	☒	c. Background quality of ground water and surface water;
☐	_____	☐	☒	d. Any on-site hydraulic connections between aquifers;
☐	_____	☐	☒	e. Site stratigraphy and aquifer characteristics for confining layers, semi-confining layers, and all aquifers below the landfill site that may be affected by the landfill;
☐	_____	☐	☒	f. Description of topography, soil types and surface water drainage systems;
☐	_____	☐	☒	g. Inventory of all public and private water wells within a one-mile radius of the landfill 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;
☐	_____	☐	☒	h. Identify and locate any existing contaminated areas on the site;
☐	_____	☐	☒	i. Include a map showing the locations of all potable wells within 500 feet of the waste storage and disposal areas;
☐	_____	☐	☒	2. Report signed, sealed and dated by PE and/or PG.

PART I. GEOTECHNICAL INVESTIGATION REQUIREMENTS (62-701.410(2),FAC)

S	LOCATION	N/A	N/C	
☐	_____	☐	☒	1. Submit a geotechnical site investigation report defining the engineering properties of the site including at least the following:
☐	_____	☐	☒	a. Description of subsurface conditions including soil stratigraphy and ground water table conditions;
☐	_____	☐	☒	b. Investigate for the presence of muck, previously filled areas, soft ground, lineaments and sink holes;
☐	_____	☐	☒	c. Estimates of average and maximum high water table across the site;
☐	_____	☐	☒	d. Foundation analysis including:
☐	_____	☐	☒	(1) Foundation bearing capacity analysis;
☐	_____	☐	☒	(2) Total and differential subgrade settlement analysis;
☐	_____	☐	☒	(3) Slope stability analysis;
☐	_____	☐	☒	e. Description of methods used in the investigation and includes soil boring logs, laboratory results, analytical calculations, cross sections, interpretations and conclusions;
☐	_____	☐	☒	f. An evaluation of fault areas, seismic impact zones, and unstable areas as described in 40 CFR 258.13, 40 CFR 258.14 and 40 CFR 258.15.
☐	_____	☐	☒	2. Report signed, sealed and dated by PE and/or PG.

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

S	LOCATION	N/A	N/C
☐	_____	☒	☐ 1. Describe how the vertical expansion shall not cause or contribute to leachate leakage from the existing landfill, shall not cause objectionable odors, or adversely affect the closure design of the existing landfill;
☐	_____	☒	☐ 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;
☐	_____	☒	☐ 3. Provide foundation and settlement analysis for the vertical expansion;
☐	_____	☒	☐ 4. Provide total settlement calculations demonstrating that the final elevations of the lining system, that gravity drainage, and that no other component of the design will be adversely affected;
☐	_____	☒	☐ 5. Minimum stability safety factor of 1.5 for the lining system component interface stability and deep stability;
☐	_____	☒	☐ 6. Provide documentation to show the surface water management system will not be adversely affected by the vertical expansion;
☐	_____	☒	☐ 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)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
☐	_____	☐	☒	1. Provide documentation that 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)
☐	_____	☐	☒	2. Provide a landfill operation plan including procedures for: (62-701.500(2), FAC)
☐	_____	☐	☒	a. Designating responsible operating and maintenance personnel;
☐	_____	☐	☒	b. Emergency preparedness and response, as required in subsection 62-701.320(16), FAC;
☐	_____	☐	☒	c. Controlling types of waste received at the landfill;
☐	_____	☐	☒	d. Weighing incoming waste;
☐	_____	☐	☒	e. Vehicle traffic control and unloading;
☐	_____	☐	☒	f. Method and sequence of filling waste;
☐	_____	☐	☒	g. Waste compaction and application of cover;
☐	_____	☐	☒	h. Operations of gas, leachate, and stormwater controls;
☒	_____	☐	☐	i. Water quality monitoring.
☐	_____	☐	☒	j. Maintaining and cleaning the leachate collection system;
☐	_____	☐	☒	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. FDEP permit, engineering drawings, water quality records, etc.) (62-701.500(3),FAC)
☐	_____	☐	☒	4. Describe the waste records that will be compiled monthly and provided to the Department annually; (62-701.500(4),FAC)
☐	_____	☐	☒	5. Describe methods of access control; (62-701.500(5),FAC)

S **LOCATION** **N/A** **N/C**

PART K CONTINUED

- | | | | | |
|--------------------------|-------|--------------------------|-------------------------------------|--|
| ☐ | _____ | ☐ | ☒ | 6. Describe load checking program to be implemented at the landfill to discourage disposal of unauthorized wastes at the landfill; (62-701.500(6),FAC) |
| ☐ | _____ | ☐ | ☒ | 7. Describe procedures for spreading and compacting waste at the landfill that include: (62-701.500(7),FAC) |
| ☐ | _____ | ☐ | ☒ | a. Waste layer thickness and compaction frequencies; |
| ☐ | _____ | ☐ | ☒ | b. Special considerations for first layer of waste placed above liner and leachate collection system; |
| ☐ | _____ | ☐ | ☒ | c. Slopes of cell working face and side grades above land surface, planned lift depths during operation; |
| ☐ | _____ | ☐ | ☒ | d. Maximum width of working face; |
| ☐ | _____ | ☐ | ☒ | e. Description of type of initial cover to be used at the facility that controls: |
| ☐ | _____ | ☐ | ☒ | (1) Vector breeding/animal attraction |
| ☐ | _____ | ☐ | ☒ | (2) Fires |
| ☐ | _____ | ☐ | ☒ | (3) Odors |
| ☐ | _____ | ☐ | ☒ | (4) Blowing litter |
| ☐ | _____ | ☐ | ☒ | (5) Moisture infiltration |
| ☐ | _____ | ☐ | ☒ | f. Procedures for applying initial cover including minimum cover frequencies; |
| ☐ | _____ | ☐ | ☒ | g. Procedures for applying intermediate cover; |
| ☐ | _____ | ☐ | ☒ | h. Time frames for applying final cover; |
| ☐ | _____ | ☐ | ☒ | i. Procedures for controlling scavenging and salvaging. |

PART K CONTINUED

S **LOCATION** **N/A** **N/C**

☐ _____ ☐ ☒

j. Description of litter policing methods;

☐ _____ ☐ ☒

k. Erosion control procedures.

☐ _____ ☐ ☒

8. Describe operational procedures for leachate management including;
(62-701.500(8),FAC)

☐ _____ ☐ ☒

a. Leachate level monitoring, sampling, analysis and data results submitted to the Department;

☐ _____ ☐ ☒

b. Operation and maintenance of leachate collection and removal system, and treatment as required;

☐ _____ ☐ ☒

c. Procedures for managing leachate if it becomes regulated as a hazardous waste;

☐ _____ ☐ ☒

d. Identification of treatment or disposal facilities that may be used for off-site discharge and treatment of leachate;

☐ _____ ☐ ☒

e. Contingency plan for managing leachate during emergencies or equipment problems;

☐ _____ ☐ ☒

f. Procedures for recording quantities of leachate generated in gal/day and including this in the operating record;

☐ _____ ☐ ☒

g. Procedures for comparing precipitation experienced at the landfill with leachate generation rates and including this information in the operating record;

☐ _____ ☐ ☒

h. Procedures for water pressure cleaning or video inspecting leachate collection systems.

☐ _____ ☐ ☒

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)

☐ _____ ☐ ☒

10. Describe procedures for operating and maintaining the landfill stormwater management system to comply with the requirements of Rule 62-701.400(9); (62-701.500(10),FAC)

S **LOCATION** **N/A** **N/C**

PART K CONTINUED

☒	_____	☐	☒	11. Equipment and operation feature requirements; (62-701.500(11),FAC)
☐	_____	☐	☒	a. Sufficient equipment for excavating, spreading, compacting and covering waste;
☐	_____	☐	☒	b. Reserve equipment or arrangements to obtain additional equipment within 24 hours of breakdown;
☐	_____	☐	☒	c. Communications equipment;
☐	_____	☐	☒	d. Dust control methods;
☐	_____	☐	☒	e. Fire protection capabilities and procedures for notifying local fire department authorities in emergencies;
☐	_____	☐	☒	f. Litter control devices;
☐	_____	☐	☒	g. Signs indicating operating authority, traffic flow, hours of operation, disposal restrictions.
☐	_____	☐	☒	12. Provide a description of all-weather access road, inside perimeter road and other roads necessary for access which shall be provided at the landfill; (62-701.500(12),FAC)
☐	_____	☐	☒	13. Additional record keeping and reporting requirements; (62-701.500(13),FAC)
☐	_____	☐	☒	a. Records used for developing permit applications and supplemental information maintained for the design period of the landfill;
☐	_____	☐	☒	b. Monitoring information, calibration and maintenance records, copies of reports required by permit maintained for at least 10 years;
☐	_____	☐	☒	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;
☐	_____	☐	☒	d. Procedures for archiving and retrieving records which are more than five year old.

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

<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
☐ _____	☐	☒	1. Water quality and leachate monitoring plan shall be submitted describing the proposed ground water, surface water and leachate monitoring systems and shall meet at least the following requirements;
☐ _____	☐	☒	a. Based on the information obtained in the hydrogeological investigation and signed, dated and sealed by the PG or PE who prepared it; (62-701.510(2)(a),FAC)
☐ _____	☐	☒	b. All sampling and analysis performed in accordance with Chapter 62-160, FAC; (62-701.510(2)(b),FAC)
☐ _____	☐	☒	c. Ground water monitoring requirements; (62-701.510(3),FAC)
☒ Engineering Report Section 4.3/Appendix E	☐	☐	(1) Detection wells located downgradient from and within 50 feet of disposal units;
☒ Engineering Report Section 4.3/Appendix E	☐	☐	(2) Downgradient compliance wells as required;
☐ _____	☐	☒	(3) Background wells screened in all aquifers below the landfill that may be affected by the landfill;
☒ Engineering Report Section 4.3/Appendix E	☐	☐	(4) Location information for each monitoring well;
☐ _____	☐	☒	(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;
☒ Engineering Report Section 4.3/Appendix E	☐	☐	(6) Well screen locations properly selected;
☒ Engineering Report Section 4.3/Appendix E	☐	☐	(7) Monitoring wells constructed to provide representative ground water samples;
☒ Engineering Report Section 4.3/Appendix E	☐	☐	(8) Procedures for properly abandoning monitoring wells;
☐ _____	☐	☒	(9) Detailed description of detection sensors if proposed;
☐ _____	☐	☒	d. Surface water monitoring requirements; (62-701.510(4),FAC)

S **LOCATION** **N/A** **N/C**

PART L CONTINUED

- | | | | | |
|--------------------------|-------|--------------------------|-------------------------------------|---|
| ☐ | _____ | ☐ | ☒ | (1) Location of and justification for all proposed surface water monitoring points; |
| ☐ | _____ | ☐ | ☒ | (2) Each monitoring location to be marked and its position determined by a registered Florida land surveyor; |
| ☐ | _____ | ☐ | ☒ | e. Leachate sampling locations proposed; (62-701.510(5),FAC) |
| ☐ | _____ | ☐ | ☒ | f. Initial and routine sampling frequency and requirements; (62-701.510(6),FAC) |
| ☐ | _____ | ☐ | ☒ | (1) Initial background ground water and surface water sampling and analysis requirements; |
| ☐ | _____ | ☐ | ☒ | (2) Routine leachate sampling and analysis requirements; |
| ☐ | _____ | ☐ | ☒ | (3) Routine monitoring well sampling and analysis requirements; |
| ☐ | _____ | ☐ | ☒ | (4) Routine surface water sampling and analysis requirements. |
| ☐ | _____ | ☐ | ☒ | g. Describe procedures for implementing evaluation monitoring, prevention measures and corrective action as required; (62-701.510(7),FAC) |
| ☐ | _____ | ☐ | ☒ | h. Water quality monitoring report requirements;(62-701.510(9),FAC) |
| ☐ | _____ | ☐ | ☒ | (1) Semi-annual report requirements (see paragraphs 62 701.510(6)(c),(d)and (e) for sampling frequencies); |
| ☐ | _____ | ☐ | ☒ | (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. |
| ☐ | _____ | ☐ | ☒ | (3) Two and one-half year report requirements, or every five years if in long-term care, signed, dated and sealed by PG or PE. |

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

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

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

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
☐	_____	☐	☒	1. Provide the design for a gas management system that will (62-701.530(1), FAC):
☐	_____	☐	☒	a. Be designed to prevent concentrations of combustible gases from exceeding 25% the LEL in structures and 100% the LEL at the property boundary;
☐	_____	☐	☒	b. Be designed for site-specific conditions;
☐	_____	☐	☒	c. Be designed to reduce gas pressure in the interior of the landfill;
☐	_____	☐	☒	d. Be designed to not interfere with the liner, leachate control system or final cover.
☐	_____	☐	☒	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):
☐	_____	☐	☒	3. Provide documentation describing how the gas remediation plan and odor remediation plan will be implemented; (62-701.530(3), FAC):
☐	_____	☐	☒	4. Landfill gas recovery facilities; (62-701.530(5), FAC):

PART N CONTINUED

S **LOCATION** **N/A** **N/C**

☐ _____ ☐ ☒

a. Information required in Rules 62-701.320(7) and 62-701.330(3), FAC supplied;

☐ Engineering Report
Section 5 ☒ ☐

b. Information required in Rule 62-701.600(4), FAC supplied where relevant and practical;

☐ _____ ☐ ☒

c. Estimate of current and expected gas generation rates and description of condensate disposal methods provided;

☐ _____ ☐ ☒

d. Description of procedures for condensate sampling, analyzing and data reporting provided;

☐ _____ ☒ ☐

e. Closure plan provided describing methods to control gas after recovery facility ceases operation and any other requirements contained in Rule 62-701.400(10), FAC;

☐ _____ ☒ ☐

f. Performance bond provided to cover closure costs if not already included in other landfill closure costs.

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

S **LOCATION** **N/A** **N/C**

☐ _____ ☒ ☐

1. Closure permit requirements; (62-701.600(2),FAC)

☐ _____ ☒ ☐

a. Application submitted to Department at least 90 days prior to final receipt of wastes;

☐ _____ ☒ ☐

b. Closure plan shall include the following:

☐ _____ ☒ ☐

(1) Closure design plan;

☐ _____ ☒ ☐

(2) Closure operation plan;

☐ _____ ☒ ☐

(3) Plan for long-term care;

☐ _____ ☒ ☐

(4) A demonstration that proof of financial responsibility for long-term care will be provided.

S**LOCATION****N/A****N/C****PART O CONTINUED**

☐	_____	☒	☐	2. Closure design plan including the following requirements: (62-701.600(3),FAC)
☐	_____	☒	☐	a. Plan sheet showing phases of site closing;
☐	_____	☒	☐	b. Drawings showing existing topography and proposed final grades;
☐	_____	☒	☐	c. Provisions to close units when they reach approved design dimensions;
☐	_____	☒	☐	d. Final elevations before settlement;
☐	_____	☒	☐	e. Side slope design including benches, terraces, down slope drainage ways, energy dissipaters and discussion of expected precipitation effects;
☐	_____	☒	☐	f. Final cover installation plans including:
☐	_____	☒	☐	(1) CQA plan for installing and testing final cover;
☐	_____	☒	☐	(2) Schedule for installing final cover after final receipt of waste;
☐	_____	☒	☐	(3) Description of drought-resistant species to be used in the vegetative cover;
☐	_____	☒	☐	(4) Top gradient design to maximize runoff and minimize erosion;
☐	_____	☒	☐	(5) Provisions for cover material to be used for final cover maintenance.
☐	_____	☐	☒	g. Final cover design requirements:
☐	_____	☐	☒	(1) Protective soil layer design;
☐	_____	☒	☐	(2) Barrier soil layer design;

S**LOCATION****N/A****N/C****PART O CONTINUED**

- | | | | | |
|--------------------------|-------|-------------------------------------|-------------------------------------|--|
| ☐ | _____ | ☐ | ☒ | (3) Erosion control vegetation; |
| ☐ | _____ | ☐ | ☒ | (4) Geomembrane barrier layer design; |
| ☐ | _____ | ☒ | ☐ | (5) Geosynthetic clay liner design if used; |
| ☐ | _____ | ☐ | ☒ | (6) Stability analysis of the cover system and the disposed waste. |
| ☐ | _____ | ☐ | ☒ | h. Proposed method of stormwater control; |
| ☐ | _____ | ☐ | ☒ | i. Proposed method of access control; |
| ☐ | _____ | ☐ | ☒ | j. Description of the proposed or existing gas management system which complies with Rule 62-701.530, FAC. |
| ☐ | _____ | ☒ | ☐ | 3. Closure operation plan shall include: (62-701.600(4), FAC) |
| ☐ | _____ | ☒ | ☐ | a. Detailed description of actions which will be taken to close the landfill; |
| ☐ | _____ | ☒ | ☐ | b. Time schedule for completion of closing and long-term care; |
| ☐ | _____ | ☒ | ☐ | c. Describe proposed method for demonstrating financial assurance for long-term care; |
| ☐ | _____ | ☒ | ☐ | d. Operation of the water quality monitoring plan required in Rule 62-701.510, FAC. |
| ☐ | _____ | ☒ | ☐ | e. Development and implementation of gas management system required in Rule 62-701.530, FAC. |
| ☐ | _____ | ☒ | ☐ | 4. Certification of closure construction completion including: (62-701.600(6), FAC) |
| ☐ | _____ | ☒ | ☐ | a. Survey monuments; (62-701.600(6)(a), FAC) |
| ☐ | _____ | ☒ | ☐ | b. Final survey report; (62-701.600(6)(b), FAC) |

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

☐	_____	☒	☐	5. Declaration to the public; (62-701.600(7),FAC)
--------------------------	-------	-------------------------------------	--------------------------	---

☐	_____	☒	☐	6. Official date of closing; (62-701.600(8),FAC)
--------------------------	-------	-------------------------------------	--------------------------	--

☐	_____	☒	☐	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)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
-----------------	------------------------	-------------------	-------------------

☐	_____	☒	☐	1. Describe how the requirements for use of closed solid waste disposal areas will be achieved;(62-701.610(1),FAC)
--------------------------	-------	-------------------------------------	--------------------------	--

☐	_____	☒	☐	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)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
-----------------	------------------------	-------------------	-------------------

☐	_____	☒	☐	1. Maintaining the gas collection and monitoring system; (62-701.620(5), FAC)
--------------------------	-------	-------------------------------------	--------------------------	---

☐	_____	☒	☐	2. Stabilization report requirements; (62-701.620(6),FAC)
--------------------------	-------	-------------------------------------	--------------------------	---

☐	_____	☒	☐	3. Right of access;(62-701.620(7),FAC)
--------------------------	-------	-------------------------------------	--------------------------	--

☐	_____	☒	☐	4. Requirements for replacement of monitoring devices; (62-701.620(8),FAC)
--------------------------	-------	-------------------------------------	--------------------------	--

☐	_____	☒	☐	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)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
☐	_____	☐	☒	1. Provide cost estimates for closing, long-term care, and corrective action costs estimated by a PE for a third party performing the work, on a per unit basis, with the source of estimates indicated; (62-701.630(3)&(7), FAC).
☐	_____	☐	☒	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).
☐	_____	☐	☒	3. Describe funding mechanisms for providing proof of financial assurance and include appropriate financial assurance forms; (62-701.630(5),(6),&(9), FAC).
☐	_____	☐	☒	4. Provide documentation and the appropriate forms for delaying submitting proof of financial assurance for solid waste disposal units that qualify; (62-701.630(2)(c), FAC).



2893 Executive Park Drive, Suite 305, Weston, Florida 33331

January 24, 2011

RE: Omni Waste of Osceola County, LLC

To Whom It May Concern:

This is to confirm that Michael Kaiser is an authorized signatory of Omni Waste of Osceola County, LLC (the "Corporation"), with authority to execute and deliver all documents and instruments required in connection with environmental matters for the Corporation, including without limitation, permit applications, modifications and financial assurances for permits issued to the Corporation.

Omni Waste of Osceola County, LLC

A handwritten signature in black ink, appearing to read "William P. Hulligan", is written over a horizontal line.

William P. Hulligan
Manager

Waste Services, Inc.

A handwritten signature in black ink, appearing to read "William P. Hulligan", is written over a horizontal line.

William P. Hulligan
Executive Vice President, U.S. Operations

Appendix B
2011 Renewal Permit Drawings
(PROVIDED UNDER SEPARATE COVER)

Sealed Large Format

Drawings

Scanned Separately

Appendix C
Operation Plan

Prepared for:



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

Project Number FL1962

10 November 2011

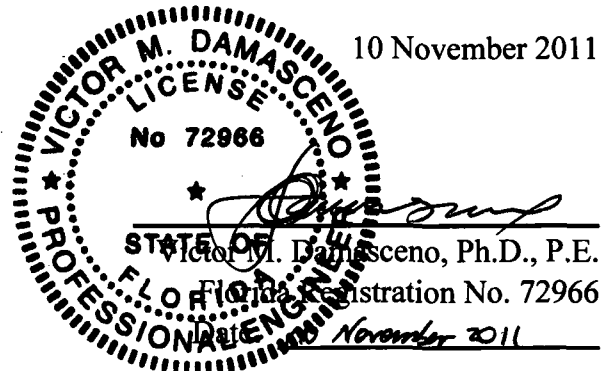


TABLE OF CONTENTS

1	INTRODUCTION	1
1.1	Terms of Reference	1
1.2	Purpose and Scope of the Operation Plan	1
1.3	Operation Plan Organization	1
2	LANDFILL PERSONNEL AND FACILITIES	2
2.1	Personnel Requirements	2
2.1.1	Numbers and Types	2
2.1.2	Employee Training	2
2.2	Landfill Entrance Procedures	3
2.2.1	Hours and Days of Operation	3
2.2.2	Processing Customers	4
2.2.3	Public Use	5
2.2.4	Vehicle Inspection	5
2.3	Traffic Routing	5
2.3.1	Access Points/Signs	5
2.3.2	On-Site Traffic Flow	5
2.4	On-Site Structures	6
2.5	Communication Facilities	6
3	LANDFILL OPERATIONS	7
3.1	Basic Landfilling Procedures	7
3.1.1	Method of Operations	7
3.1.2	Working Face Practices	8
3.1.2.1	Start-Up and First Lift	8
3.1.2.2	Subsequent Lifts	8
3.1.3	Filling Procedures	9
3.1.3.1	Width of Working Face	9
3.1.3.2	Unloading	10
3.1.3.3	Pushing, Spreading, and Compacting	10
3.1.3.4	Daily Clean-Up	10
3.1.4	Cover	11
3.1.4.1	Stockpiling	11
3.1.4.2	Application and Phasing of Cover Materials	11
3.2	Equipment	11
3.2.1	Primary Equipment	11

3.2.2	Back-Up Equipment.....	12
3.2.3	Support Equipment	12
3.2.4	Equipment Care.....	12
3.3	Roads.....	13
3.3.1	Road Construction.....	13
3.3.2	Maintenance of Roads.....	13
3.3.2.1	Filling of Potholes.....	13
3.3.2.2	Grading.....	13
3.3.2.3	Restoring Settlement.....	13
3.3.2.4	Cleaning of Public Access Roads	13
3.3.2.5	Removal of Materials from Landfill Roadways.....	14
3.3.2.6	Maintenance of Drainage Swales.....	14
3.4	Drainage Features.....	14
3.5	Salvaging/Recycling.....	14
4	ENVIRONMENTAL CONTROLS	16
4.1	Environmental Control Systems.....	16
4.1.1	Leachate Containment and Control.....	16
4.1.2	Surface Water Controls.....	16
4.2	Facility Inspection Plan.....	17
4.2.1	Leachate Collection System (LCS).....	17
4.2.2	Leachate Storage Facility	17
4.2.3	Surface Water Control System.....	17
4.2.4	Landfill Cover System	18
4.2.5	Facility Inspection Schedule	18
4.3	Facility Maintenance Plan.....	18
4.3.1	Leachate Collection System	19
4.3.2	Surface-Water Control System	19
4.3.3	Final Cover Maintenance	19
4.4	Water Quality Monitoring Plan.....	20
4.5	Landfill Gas Monitoring Plan	20
4.5.1	Monitoring of On-Site Buildings	20
4.5.2	Monitoring for Landfill Gas Along Property Boundary	20
4.5.3	Monitoring for Objectionable Odors at the Property Boundary	21
4.5.4	Detecting Exceedances of the Regulations	21
4.6	Landfill Active Area Controls.....	21
4.6.1	Litter Control.....	22
4.6.1.1	Prevention of Litter on the Working Face.....	22

4.6.1.2	Control of Litter with Litter Fences	22
4.6.2	Buffer Maintenance.....	22
4.6.3	Dust Control	23
4.6.4	Vector Control.....	23
4.6.5	Noise Control	23
4.6.6	Recordkeeping	23
5	EMERGENCY CONTINGENCY PLAN	25
5.1	Introduction	25
5.2	Fire Control Plan	26
5.2.1	When Fire Occurs	26
5.2.2	"Hot Load" Procedures	26
5.2.3	Fire Extinguishers and First Aid Kits.....	27
5.3	Accident or Injury	27
5.3.1	When an Injury Occurs	27
5.3.2	Procedures After an Accident	28
5.4	Release of Contamination to Environment (Remedial Response).....	29
5.4.1	Response	29
5.4.2	Follow-Up	29
5.5	Hazardous or Other Unauthorized Materials	30
5.5.1	The Observer.....	30
5.5.1.1	Known or Suspected Hazardous Material.....	30
5.5.1.2	Other Unauthorized Material	30
5.5.2	Landfill Site Manager	31
5.5.3	Non-Discharged Load	31
5.6	Uncooperative Customers	31
5.7	Inclement Weather	32
5.7.1	Operation in Wet Weather	32
5.7.2	Preparation for Inclement Weather	32
5.7.3	Preparation for Severe Weather or Hurricanes	33
5.8	Problems Affecting the Leachate Collection and Removal Systems	34
5.8.1	Interruption of Power Service to the Landfill	34
5.8.2	Interruption of Flow to Leachate Storage Facility	34
5.8.3	Primary Leachate Sump Alarm Level Switch.....	34
5.8.4	Managing Hazardous Leachate	35
6	SAFETY PLAN	36
6.1	Emergency Procedures.....	36

6.2	General Safety Practices.....	36
6.3	Safety Equipment	37
6.4	Site User Rules	37
7	FINAL CLOSURE	39
7.1	Introduction	39
7.2	Final Cover System Components	39
7.3	Seeding and Planting.....	39
7.4	Erosion Minimization.....	40
7.5	Drainage	40
8	BORROW AREA OPERATIONS	41
8.1	Overview	41
8.2	Wet Excavation	41
8.3	Dry Excavation.....	42

LIST OF TABLES

Table 1	Personnel Requirements.....	43
Table 2	Heavy Equipment Requirements ⁽¹⁾	44
Table 3	Heavy Equipment Rental Companies.....	45
Table 4	Operator Protective Equipment.....	46

APPENDICES

APPENDIX A: TRAINING PLAN

APPENDIX B: WASTE INSPECTION PLAN

APPENDIX C: EMERGENCY RESPONSE AGENCIES

APPENDIX D: OPERATION AND MAINTENANCE PLAN FOR LEACHATE
RECIRCULATION

APPENDIX E: WASTE SOLIDIFICATION OPERATION PLAN

APPENDIX F: AUTO SHREDDER RESIDUAL RECYCLING PLAN

APPENDIX G: WASTE TIRE STORAGE AND PROCESSING PLAN

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 of the Florida Administrative Code (FAC).

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 Sections 62-701.320(7)(e)(1,2), and 62-701.500 of the FAC. 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;
- 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 Section 62-701.320(15) of the FAC, and other Omni on-the-job training in the safe and environmentally secure operation of the landfill. In accordance with Section 62-701.320(15)(b)1 of the FAC, 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 Section 62-701.320(15)(c) of the FAC, 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 FDEP-approved, qualified, independent third party in accordance with Section 403.716, 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 Appendix 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: 5:00 am to 5:00 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 and the following holidays:

Thanksgiving

Christmas

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 Appendix B. 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 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 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, yard 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 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 Appendix B. This plan will be implemented by the Landfill Site Manager or designee to prevent the on-site disposal of unauthorized wastes.

The Landfill Site Manager 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, waste tire storage and processing, and auto shredder residual recycling. 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, waste tire storage, and auto shredder residual recycling 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 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 will be applied to the landfill during the next construction season and vegetated during the customary planting season.

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.

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. Initial and intermediate 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 Rule 62-701.500(7)(c) of the FAC. 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 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. (150 mm) 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. (300-mm) 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.

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. 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. 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, the roads will be surfaced with construction/demolition waste or other acceptable waste.

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. 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 (0.4 km) 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, and debris removed as required.

3.4 Drainage Features

- Routine Inspections: Inspection procedures are 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. Recycling of auto shredder residual will be performed in the active lined disposal footprint as described in the Auto Shredder Residual Recycling Plan provided in Appendix F. Waste tires will be accepted, stored and processed at the waste tires storage and processing area. The processed tires will 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 Appendix G. If the volume of other recyclable goods is sufficient, as determined by the Landfill Site Manager, those items may be separated from the waste which is to be disposed.

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, 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) for disposal or recirculated back into the lined landfill area in accordance with the procedures described in the Operation and Maintenance Plan for Leachate Recirculation provided in Appendix D. 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 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. 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 twenty-five year 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.

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 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. 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 Solid Waste 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 Section 62-701.530(1) FAC. 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 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 the Department 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 Section 62-70.530(1) 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 Landfill Active Area Controls

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 Auto Shredder Residual Recycling Plan (Appendix F) and Waste Tire Storage and Processing Plan (Appendix G). 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.

Appendix C 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, the Florida Department of Environmental Protection (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 Appendix C. 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 Appendix G.

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 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);
- 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;
- 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 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 will make a determination as to the cause(s) of the accident.
- Filing of Reports - The Landfill Site Manager 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 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 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 and implement safety and emergency response procedures;
- 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 Appendix C.

5.4.2 Follow-Up

Unless the occurrence of a contaminant release is clearly due to very unusual circumstances, the Landfill Site Manager 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 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 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.

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

The Landfill Site Manager 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 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 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 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 will contact the Sheriff.

5.7 **Inclement Weather**

5.7.1 **Operation in Wet Weather**

<u>Problem</u>	<u>Solution</u>
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.

72 hours prior to event

- Pick up any loose 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 of the FAC.

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'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 Appendix C of this plan) will be posted in the Landfill Site Manager'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 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

7.1 Introduction

The JED facility will be closed as sections of the landfill reach final design elevations. The final cover system components are described in Section 7.2. Seeding and planting requirements are described in Section 7.3. Erosion minimization activities are described in Section 7.4. The final cover drainage system is described in Section 7.5.

7.2 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.

7.3 Seeding and Planting

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:

* 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
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.

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

APPENDIX A
TRAINING PLAN

Florida's Solid Waste Operators & Spotters

University of Florida

[Home](#) | [Tracks](#) | [Courses](#) | [Providers](#) | [Participants](#) | [Reports](#) | [Login](#)

Participant Information

Castro, Mr. Joao M

Title: Equipment Operator

Company: Waste Services, Inc.

Address: 1501 Omni Way
St. Cloud, FL 34773

Phone: (407) 891-3720 ext. 226

Tracks

Track	Status*	Current Period		Training Hours		Has met requirements to rollover to next 3-year period?		Transcript
		Start	Stop	Taken	FDEP Required	Yes/No	Rollover Date	
<u>Class I, II Landfill Operator</u>	Current	11/17/2009	11/16/2012	8	16	False	11/17/2012	<u>Transcript</u>
<u>Construction and Demolition Debris Landfill Operator</u>	Current	11/17/2009	11/16/2012	8	16	False	11/17/2012	<u>Transcript</u>
<u>Spotter / Waste Screener</u>	Current	01/07/2009	01/06/2012	11	4	True	01/07/2012	<u>Transcript</u>

* If Expired, click on transcript link to see the training course history.

[UF Home](#) | [DCE Home](#) | [TREEO Home](#) | [Home](#)
 Copyright © 2011, Division of Continuing Education, University of Florida
 3900 SW 63rd Blvd. tel: (352) 392-9570 train@treeo.ufl.edu
 Gainesville, FL 32608 fax: (352) 392-6910

UF | Division of Continuing Education
 UNIVERSITY of FLORIDA

Florida's Solid Waste Operators & Spotters

University of Florida

[Home](#) | [Tracks](#) | [Courses](#) | [Providers](#) | [Participants](#) | [Reports](#) | [Login](#)

Participant Information

Collins, David G

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

Tracks

Track	Status*	Current Period		Training Hours		Has met requirements to rollover to next 3-year period?		Transcript
		Start	Stop	Taken	FDEP Required	Yes/No	Rollover Date	
Class I, III Landfill Operator	Current	08/15/2011	08/14/2014	0	16	False	08/15/2014	Transcript
Construction and Demolition Debris Landfill Operator	Current	08/15/2011	08/14/2014	0	16	False	08/15/2014	Transcript
Spotter / Waste Screener	Current	01/07/2009	01/06/2012	4	4	True	01/07/2012	Transcript

* If Expired, click on transcript link to see the training course history.

[UF Home](#) | [DCE Home](#) | [TREEO Home](#) | [Home](#)
 Copyright © 2011, Division of Continuing Education, University of Florida
 3900 SW 83rd Blvd. tel: (352) 392-9570 train@treeo.ufl.edu
 Gainesville, FL 32608 fax: (352) 392-6910

UF | Division of Continuing Education
 UNIVERSITY of FLORIDA

Florida's Solid Waste Operators & Spotters


[Home](#)[Tracks](#)[Courses](#)[Providers](#)[Participants](#)[Reports](#)[Login](#)

Participant Information

Ellerbee, Randall W., Jr.

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

Tracks

Track	Status*	Current Period		Training Hours		Has met requirements to rollover to next 3-year period?		Transcript
		Start	Stop	Taken	FDEP Required	Yes/No	Rollover Date	
<u>Class I, III Landfill Operator</u>	Current	08/15/2011	08/14/2014	0	16	False	08/15/2014	<u>Transcript</u>
<u>Construction and Demolition Debris Landfill Operator</u>	Current	08/15/2011	08/14/2014	0	16	False	08/15/2014	<u>Transcript</u>
<u>Spotter / Waste Screener</u>	Current	01/06/2009	01/05/2012	5	4	True	01/06/2012	<u>Transcript</u>

* If Expired, click on transcript link to see the training course history.

[UF Home](#) | [DCE Home](#) | [TREEO Home](#) | [Home](#)
 Copyright © 2011, Division of Continuing Education, University of Florida
 3900 SW 63rd Blvd. tel: (352) 392-9570 train@treeo.ufl.edu
 Gainesville, FL 32608 fax: (352) 392-6910


 Division of Continuing Education
 UNIVERSITY of FLORIDA

Florida's Solid Waste Operators & Spotters

University of Florida

[Home](#)[Tracks](#)[Courses](#)[Providers](#)[Participants](#)[Reports](#)[Login](#)

Participant Information

Freeman, Mr. Brian

Title: Operator
Company: Waste Management Okeechobee Landfill
Address: 10800 NE 128th Ave Okeechobee, FL 34972
Phone: (863) 467-0499 ext: 225

Tracks

Track	Status*	Current Period		Training Hours		Has met requirements to rollover to next 3-year period?		Transcript
		Start	Stop	Taken	FDEP Required	Yes/No	Rollover Date	
Class I, III Landfill Operator	Current	06/14/2009	06/13/2012	0	16	False	06/14/2012	Transcript
Spotter / Waste Screener	Current	05/17/2009	05/16/2012	0	4	False	05/17/2012	Transcript

* If Expired, click on transcript link to see the training course history.

[UF Home](#) | [DCE Home](#) | [TREEO Home](#) | [Home](#)
 Copyright © 2011, Division of Continuing Education, University of Florida
 3900 SW 63rd Blvd. tel: (352) 392-9570 train@treeo.ufl.edu
 Gainesville, FL 32608 fax: (352) 392-6910

UF | Division of Continuing Education
 UNIVERSITY of FLORIDA

Florida's Solid Waste Operators & Spotters

University of Florida

[Home](#) | [Tracks](#) | [Courses](#) | [Providers](#) | [Participants](#) | [Reports](#) | [Login](#)

Participant Information

McKenna, Travis R., Sr.

Title:
Company: Waste Services, Inc
Address: 1501 Omni Way St. Cloud, FL 34773
Phone:

Tracks

Track	Status*	Current Period		Training Hours		Has met requirements to rollover to next 3-year period?		Transcript
		Start	Stop	Taken	FDEP Required	Yes/No	Rollover Date	
Class I, III Landfill Operator	Current	10/07/2010	10/06/2013	0	16	False	10/07/2013	Transcript
Construction and Demolition Debris Landfill Operator	Current	10/07/2010	10/06/2013	0	16	False	10/07/2013	Transcript
Spotter / Waste Screener	Current	01/07/2009	01/06/2012	4	4	True	01/07/2012	Transcript

* If Expired, click on transcript link to see the training course history.

[UF Home](#) | [DCE Home](#) | [TREEO Home](#) | [Home](#)
 Copyright © 2011, Division of Continuing Education, University of Florida
 3900 SW 63rd Blvd. tel: (352) 392-9570 train@treeo.ufl.edu
 Gainesville, FL 32608 fax: (352) 392-6910

UF Division of Continuing Education
 UNIVERSITY of FLORIDA

Florida's Solid Waste Operators & Spotters

University of Florida

[Home](#)[Tracks](#)[Courses](#)[Providers](#)[Participants](#)[Reports](#)[Login](#)

Participant Information

Mullis, Ginnifer

Title:

Company: Waste Services, Inc

Address: 1501 Omni Way
St. Cloud, FL 34773

Phone:

Tracks

Track	Status*	Current Period		Training Hours		Has met requirements to rollover to next 3-year period?		Transcript
		Start	Stop	Taken	FDEP Required	Yes/No	Rollover Date	
Class I, III Landfill Operator	Current	10/07/2010	10/06/2013	0	16	False	10/07/2013	Transcript
Construction and Demolition Debris Landfill Operator	Current	10/07/2010	10/06/2013	0	16	False	10/07/2013	Transcript
Spotter / Waste Screener	Current	08/27/2010	08/26/2013	4	4	True	08/27/2013	Transcript

* If Expired, click on transcript link to see the training course history.

[UF Home](#) | [DCE Home](#) | [TREEO Home](#) | [Home](#)

Copyright © 2011, Division of Continuing Education, University of Florida

3900 SW 63rd Blvd.
Gainesville, FL 32608tel: (352) 392-9570
fax: (352) 392-6910train@treeo.ufl.eduDivision of Continuing Education
UNIVERSITY of FLORIDA

Florida's Solid Waste Operators & Spotters

University of Florida

[Home](#) | [Tracks](#) | [Courses](#) | [Providers](#) | [Participants](#) | [Reports](#) | [Login](#)

Participant Information

Orr, Mr. Matthew

Title:
Company: Waste Services, Inc
Address: 1501 Omni Way St. Cloud, FL 34773
Phone: (407) 891-3720

Tracks

Track	Status*	Current Period		Training Hours		Has met requirements to rollover to next 3-year period?		Transcript
		Start	Stop	Taken	FDEP Required	Yes/No	Rollover Date	
Class I, III Landfill Operator	Current	09/03/2009	09/02/2012	0	16	False	09/03/2012	Transcript
Construction and Demolition Debris Landfill Operator	Current	09/03/2009	09/02/2012	0	16	False	09/03/2012	Transcript
Transfer Station Operator	Current	07/28/2009	07/27/2012	0	8	False	07/28/2012	Transcript
Material Recovery Facility Operator	Current	07/28/2009	07/27/2012	0	8	False	07/28/2012	Transcript
Spotter / Waste Screener	Current	01/06/2009	01/05/2012	7	4	True	01/06/2012	Transcript

* If Expired, click on transcript link to see the training course history.

[UF Home](#) | [DCE Home](#) | [TREEO Home](#) | [Home](#)
 Copyright © 2011, Division of Continuing Education, University of Florida
 3900 SW 63rd Blvd. tel: (352) 392-9570 train@treeo.ufl.edu
 Gainesville, FL 32608 fax: (352) 392-6910

UF Division of Continuing Education
 UNIVERSITY of FLORIDA

Florida's Solid Waste Operators & Spotters

University of Florida

[Home](#) | [Tracks](#) | [Courses](#) | [Providers](#) | [Participants](#) | [Reports](#) | [Login](#)

Participant Information

Robbins, Brad

Title:
Company:
Address: 1501 Omni Way Saint Cloud, FL 34773
Phone:

Tracks

Track	Status*	Current Period		Training Hours		Has met requirements to rollover to next 3-year period?		Transcript
		Start	Stop	Taken	FDEP Required	Yes/No	Rollover Date	
Class I, III Landfill Operator	Current	08/29/2010	08/28/2013	0	16	False	08/29/2013	Transcript
Construction and Demolition Debris Landfill Operator	Current	08/29/2010	08/28/2013	0	16	False	08/29/2013	Transcript

* If Expired, click on transcript link to see the training course history.

[UF Home](#) | [DCE Home](#) | [TREEO Home](#) | [Home](#)
 Copyright © 2011, Division of Continuing Education, University of Florida
 3900 SW 63rd Blvd. tel: (352) 392-9570 train@treeo.ufl.edu
 Gainesville, FL 32608 fax: (352) 392-6910

UF | Division of Continuing Education
 UNIVERSITY of FLORIDA

Florida's Solid Waste Operators & Spotters

University of Florida

[Home](#)[Tracks](#)[Courses](#)[Providers](#)[Participants](#)[Reports](#)[Login](#)

Participant Information

Wilkerson, Bodie

Title:	
Company:	
Address:	1501 Omni Way Saint Cloud, FL 34773
Phone:	

Tracks

Track	Status*	Current Period		Training Hours		Has met requirements to rollover to next 3-year period?		Transcript
		Start	Stop	Taken	FDEP Required	Yes/No	Rollover Date	
Class I, III Landfill Operator	Current	08/29/2010	08/28/2013	0	16	False	08/29/2013	Transcript
Construction and Demolition Debris Landfill Operator	Current	08/29/2010	08/28/2013	0	16	False	08/29/2013	Transcript

* If Expired, click on transcript link to see the training course history.

[UF Home](#) | [DCE Home](#) | [TREEO Home](#) | [Home](#)

Copyright © 2011, Division of Continuing Education, University of Florida

3900 SW 63rd Blvd.
Gainesville, FL 32608tel: (352) 392-9570
fax: (352) 392-6910train@treeo.ufl.eduDivision of Continuing Education
UNIVERSITY of FLORIDA

Florida's Solid Waste Operators & Spotters

University of Florida

[Home](#) | [Tracks](#) | [Courses](#) | [Providers](#) | [Participants](#) | [Reports](#) | [Login](#)

Participant Information

Winstead, David T.**Title:****Company:** Waste Services, Inc**Address:** 1501 Omni Way
St. Cloud, FL 34773**Phone:**

Tracks

Track	Status*	Current Period		Training Hours		Has met requirements to rollover to next 3-year period?		Transcript
		Start	Stop	Taken	FDEP Required	Yes/No	Rollover Date	
Class I, III Landfill Operator	Current	10/07/2010	10/06/2013	0	16	False	10/07/2013	Transcript
Construction and Demolition Debris Landfill Operator	Current	10/07/2010	10/06/2013	0	16	False	10/07/2013	Transcript
Spotter / Waste Screener	Current	01/07/2009	01/06/2012	4	4	True	01/07/2012	Transcript

* If Expired, click on transcript link to see the training course history.

[UF Home](#) | [DCE Home](#) | [TREEO Home](#) | [Home](#)
 Copyright © 2011, Division of Continuing Education, University of Florida
 3900 SW 63rd Blvd. tel: (352) 392-9570 train@treeo.ufl.edu
 Gainesville, FL 32608 fax: (352) 392-6910

UF Division of Continuing Education
 UNIVERSITY of FLORIDA

APPENDIX 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 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 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 will assure the cleanup, transportation, and disposal of the waste at a permitted hazardous waste management facility.

HAZARDOUS WASTE TRAINING

The Landfill Site Manager, 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 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.

APPENDIX C
EMERGENCY RESPONSE AGENCIES

EMERGENCY RESPONSE COORDINATOR(S)

(Landfill Site Manager will be responsible for implementation of the Emergency Contingency Plan at the facility. Below are names of the contacts.)

- | | |
|----------------------------------|-------------------------------------|
| 1) Matt Orr | (407) 891 – 3720 (Office) |
| 1501 Omni Way | (863) 634 – 7177 (Mobile) |
| St. Cloud, Florida 34773 | morrr@wasteservicesinc.com (E-mail) |
| 2) Mike Kaiser | (904) 673 – 0446 (Mobile) |
| 1099 Miller Drive | mkaiser@wsii.us (E-mail) |
| Altamonte Springs, Florida 32701 | |
| 3) Dennis Pantano | (407) 261-5032 (Office) |
| 1099 Miller Drive | (917) 359-5174 (Mobile) |
| Altamonte Springs, Florida 32701 | dpantano@wsii.us (E-mail) |

EMERGENCY RESPONSE TELEPHONE NUMBERS

Fire Department 911
(407) 343 – 7000 Non-Emergency

Sheriff's Office 911
(407) 348 – 2222 Non-Emergency

Rescue Squad 911
(407) 343 – 7000 Non-Emergency

Hospital (Florida Hospital) (407) 846 – 4343

County Manager (407) 343 – 2380

Florida "Hot Line" (904) 488-1320

Florida Department of Environmental Protection Business Hours (407) 894-3328
Central District After Hours (407) 894-7555
Gloria Depradine e-mail: Gloria.depradine@floridadep.net

APPENDIX D

**OPERATION AND MAINTENANCE PLAN FOR
LEACHATE RECIRCULATION**

OPERATION AND
MAINTENANCE PLAN
FOR LEACHATE
RECIRCULATION
AT THE JED SOLID WASTE
MANAGEMENT FACILITY

Prepared for
Omni Waste of Osceola County, LLC

**OPERATION AND MAINTENANCE PLAN
FOR LEACHATE RECIRCULATION AT THE JED
SOLID WASTE MANAGEMENT FACILITY**

Prepared for
Omni Waste for Osceola County, LLC
June 25, 2008

BROWN AND CALDWELL

850 Trafalgar Court, Suite 300
Maitland, FL 32751

TABLE OF CONTENTS

1. OPERATION.....	1-1
1.1 LEACHATE RECIRCULATION METHODS.....	1-1
1.1.1 Surface Leachate Application	1-1
1.1.2 Leachate Recirculation in Trenches.....	1-2
1.1.3 Horizontal Leachate Injection Pipelines	1-3
1.2 ENVIRONMENTAL CONTROLS	1-3
1.3 REPORTING REQUIREMENTS.....	1-6
1.4 RESPONSIBILITIES AND TRAINING	1-6
2. MAINTENANCE	2-1
2.1 MAINTENANCE AND REPAIR OF PUMPS	2-1
2.2 MAINTENANCE AND REPAIR OF LEACHATE LINES.....	2-1
3. CONTINGENCY.....	3-1
3.1 SEVERE WEATHER CONDITIONS.....	3-1
3.2 FIRE OR EXPLOSION	3-1
3.3 EMERGENCY CONTACTS.....	3-1
4. LIMITATIONS	4-1
Report Limitations	4-1
ATTACHMENT A	A
Figure 1 Cells 1 through 4 leachate recirculation layout.....	A
ATTACHMENT B	B
Data Collection and Inspection Form	B
ATTACHMENT C	C
Moisture Balance Calculations	C

Hala A. Sfeir, PhD, P.E.

FL P.E. No. 54083

Date 06/24/2008

OPERATION AND MAINTENANCE PLAN FOR LEACHATE RECIRCULATION AT THE JED SOLID WASTE MANAGEMENT FACILITY

1. OPERATION

The objective of the leachate recirculation system is to increase the moisture content of the waste mass in as much of the landfill as possible. Areas currently being proposed for recirculation include active Cells 1 through 5 and future Cells 6 through 21. Leachate recirculation in these areas will accelerate waste decomposition, resulting in quicker settlement of the landfill and increased airspace. Additionally, gas production will be accelerated within the landfill, resulting in more gas that can be used beneficially.

Leachate recirculation must be performed in a safe and environmentally sound manner. The operation of the leachate recirculation system is the responsibility of operation staff at the JED Solid Waste Management Facility. The person responsible for coordinating operational activities is the Landfill Site Manager. Trained JED Solid Waste Management Facility personnel will be responsible for performing leachate recirculation operations under the Landfill Site Manager's direction. Leachate recirculation will be applied by surface application at the active working face with or without daily cover, by trenching at the surface of inactive cells where intermediate cover has been applied, and by subsurface injection in horizontal pipelines installed in the waste mass at various waste elevations.

1.1 LEACHATE RECIRCULATION METHODS

For the purposes of this operations plan, leachate recirculation refers to the addition of leachate into the landfill.

Three leachate recirculation methods may be used at the JED Solid Waste Management Facility, as described below:

1. Surface leachate application, by spraying, at the active working face with or without daily cover;
2. Leachate distribution in trenches; and
3. Horizontal leachate injection lines.

The data gathered during the startup of these systems will be used to establish operating criteria and guidelines to be applied during routine operations. Each method of leachate recirculation is described in more detail in the following sections.

1.1.1 Surface Leachate Application

The purpose of applying leachate at the working face is to raise the moisture content of the waste prior to compaction. This method contrasts with typical recirculation methods which add moisture to the waste after it has been compacted. By applying leachate at the working face, it is possible to increase compaction of the waste at the time of placement, resulting in better utilization of airspace within the landfill. Studies suggest that a 5 to 20 percent increase in density is achievable when leachate is applied at the working face of the landfill. Furthermore, moisture added at the working face will reduce the potential for blowing debris.

Surface application of leachate may also be applied on waste surfaces that have daily cover but area least 50 feet away from side slopes/and stormwater structures and drainage pathways.

Operational Procedures and Guidelines

The application of leachate to the working face will be performed in a responsible manner so as 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 three to four feet 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 conflict 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 through the use of temporary operational containment berms if necessary, 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.

Leachate Application Rate

The operating area will be closely observed by the Landfill Site Manager during the beginning of leachate application. The leachate application rate will initially be four gallons per ton of waste (see calculations in Attachment C). 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. Since these areas may be less permeable than areas with exposed waste an evaluation of rate of leachate application will be determined through field monitoring and testing. Leachate will be applied only to areas 50 feet or greater from side slopes and will be applied so as not to drain to exterior stormwater management systems.

1.1.2 Leachate Recirculation in Trenches

Initial trenches will be located at the vertical expansion of Cells 1 through 4 as illustrated in Figure 1 in Attachment A. Trenches are excavated to a depth of approximately one and a half foot or up to six inches above the waste with a width of approximately four feet and at least fifty feet from edge of slope. Daily cover may be placed over the trench in the event of the trench reaching the top of the waste.

The leachate distribution area for Cells 1 through 4 is divided into three zones with each zone containing six horizontal trenches. The horizontal trenches will be approximately 500 foot long and at approximately 50-foot intervals. Trenches can be backfilled with six to twelve inches of any onsite available permeable drainage media (e.g., gravel, shredded tires, or crushed glass) for further leachate recirculation applications.

Operational Procedures and Guidelines

Leachate recirculation in trenches for existing Cells 1 through 4 will be applied to all three zones outlined in Figure 1. Daily applications of leachate will be applied per zone for the duration of one to two weeks. Estimated quantity and rate of leachate to be recirculated in each trench will be determined once the capacity and permeability of the waste in the trench has been determined. Initial recirculation rate in trenches is discussed in the following section.

It should be noted that once an active gas collection system is installed leachate recirculation in trenches with permeable drainage media may not be a viable option due to air intrusion.

Leachate Application Rate

Based on the volume of waste in place in Cells 1 through 4 at 90 ft waste elevation and taking into consideration that leachate recirculation will not be applied 50 ft from top of slope the total leachate that will be recirculated to reach 23% moisture content by weight for each trench will be approximately 347,750 gallons/trench for a total of 6,259,500 gallons for all 18 trenches outlined in Figure 1.

The daily leachate application rate in each trench will be dependant on the available time prior to the vertical expansion of the waste fill.

1.1.3 Horizontal Leachate Injection Pipelines

The recirculation system may also include horizontal injection pipelines buried in the waste. Initially, recirculation tests utilizing horizontal pipelines will characterize the leachate recirculation capacity of the injection trenches. The location of the initial trenches and injection pipelines to be installed initially in Cells 1 through 4 are illustrated in Figure 1. The installation of the horizontal injection pipelines will be based on factors such as the depth to the existing pipelines, the total future height of the waste, and the area that is being filled.

It should be noted that the area in which recirculation can take place changes as the elevation of the operational area changes.

Operational Procedures and Guidelines

The landfill operator will construct the horizontal injection pipelines as waste is deposited. During injection pipeline installation, waste filling operations will be moved to a part of the landfill away from the construction activity. Horizontal injection pipelines are constructed by excavating trenches from one slope to the other at approximately 50-foot intervals into recently placed waste on a landfill. Trenches are excavated to a depth of approximately three feet and a width of four feet. A permeable drainage media (e.g., gravel, recycled concrete, shredded tires, or crushed glass) 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. An example of a leachate injection pipeline configuration is illustrated in Figure 1. Trenches will be backfilled with waste once the pipe and bedding 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 pipelines, the actual location (elevation and horizontal location) will be documented using GPS equipment.

Leachate Application Rate

The daily leachate application rate in each injection line will be dependant on the amount of waste in place at the time of application.

1.2 ENVIRONMENTAL CONTROLS

Prevention of Leachate Run-off

It has been demonstrated at landfill sites where leachate is recirculated that controlling the site conditions, and the rate and location of leachate application, are essential for successful operation. This section outlines the surface application procedures to be followed for the leachate recirculation system. Additionally, the following controls will be implemented to protect human health, safety, and the environment:

- Leachate will not be applied to the working face if it is raining sufficiently to result in run-off from the landfill. Regardless of the run-off, the application of leachate will be postponed if rainfall exceeds a drizzle (in excess of 0.2 inches per day of rainfall).
- Leachate will not be applied at a rate that creates run off from the operating area that could potentially reach exterior stormwater management systems, regardless of weather.
- Leachate will not be applied within 50 feet of the exterior slopes of the landfill or operational slope. This will eliminate the possibility for run-off of leachate down slopes in the event of an equipment malfunction.

- Temporary operational stormwater control diversion berms and proper grading of areas to receive recirculation will be utilized to form containment within the application area.

Prevention of Leachate Contact with Operators

Leachate recirculation at the surface will be applied using a site water truck or tanker 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 personnel will be in contact with the leachate.
- No personnel will be allowed outside of the operational vehicles 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.
- Leachate will be applied at the working face, but in areas away from the active disposal area, when possible. This limitation will provide adequate protection for dump truck drivers and compactor operators, who are also required to stay in the vehicles.

Prevention of Leachate Ponding and Instability of the Waste Mass

Leachate recirculation will be limited by the JED Solid Waste Management Facility operational plan to an amount that will result in less than 100 percent saturation of the waste. Initially, the application rate will not exceed 4 gallons/ton of waste placed within the recirculated area, as computed on a weekly average. The quantity of leachate applied may be adjusted based on the measurements conducted during the recirculation program indicating that more or less leachate can be applied without exceeding the operating parameters. The leachate application rate will be adjusted as necessary to achieve an average waste moisture content of approximately 23 percent by weight or design waste density of 70 lb/yd³.

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/ton (a daily average of approximately 22,000 gallons/day) 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. In addition to applying leachate over a sufficiently large area, the sections with previously applied leachate will be covered with incoming, unsaturated waste incrementally to minimize ponding and control odors.

Moisture content will be evaluated monthly or other determined frequency basis using moisture mass balance. A copy of an example of the moisture mass balance is available as Attachment C.

Monitoring and Inspection Requirements

The Landfill operators are primarily responsible for monitoring the leachate recirculation system. Daily inspections shall be performed to ensure that the system is functioning properly and to identify any problems, such as surface seeps. An example of a typical inspection form is presented in Attachment B.

System Components

Throughout preliminary and routine operations, the leachate recirculation system components such as valves, flow meters, connections, and pumps shall be inspected weekly for leaks, damage and wear. The results of these inspections will be recorded on the inspection forms.

Leachate Monitoring

Overall procedures for leachate level monitoring, sampling, analysis, and reporting are included in the existing JED Solid Waste Management Facility Operation Plan. Monitoring of the leachate recirculation program will 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. An example form for use in recording this data is included as Attachment B.

Surface Seeps

- During preliminary and routine operation, the landfill surface must be examined daily for leachate seeps caused by short circuiting leachate. The results of these inspections will be recorded on the daily inspection forms.
- During seep inspection, 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 pipelines 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.
- Preliminary Operation – The operator must do a thorough walkthrough of the appropriate side slopes once per day.
- When surface seeps are encountered, the operator will attempt to identify the source of the seep. Leachate recirculation 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.

Gas and Odors

One of the goals of leachate recirculation is to increase the rate of stabilization of the waste. With the increased rate of decomposition comes an associated increase in gas generation and possibly odors. During seep inspections, odor intensity around the landfill will also be documented on the inspection form. Additionally, a record of any odor complaints related to gas production will be maintained at the landfill administrative office.

When landfill gas odors are detected at an unreasonable level, or public complaints are made, the Landfill Site Manager shall immediately initiate an investigation to determine the source of the odor problem. Once the source of the odors is discovered, appropriate corrective actions shall be taken to reduce or eliminate it.

If odors become a chronic problem at the landfill, operation of the leachate recirculation will be re-evaluated. Additionally, the operation of the gas collection system will also be re-evaluated. Possible means of dealing with odors may include the following:

- Reducing the rate of leachate recirculation, particularly at the landfill working face;
- Installation of additional active gas extraction wells;
- Installation of an impermeable cover over landfill side slopes that have reached final permitted elevation and areas of the landfill where active gas extraction wells have not been installed.
- Use of the horizontal injection pipelines as active gas extraction collectors.

Prior to implementing any remedial system, Waste Services Inc. will discuss the system with the Florida Department of Environmental Protection (FDEP) and obtain the required approval prior to implementation.

Waste Stability

The surface of the landfill will be visually inspected on a daily basis for any indications of unstable slope conditions. The presence of any such indicators shall be recorded on the inspection forms. Slope inclinometers will be installed in any areas identified during the inspection above. Inclinometers will be monitored on a daily basis. If the inclinometer indicates an increase in slope for three consecutive days, leachate recirculation will be immediately halted, and the Engineer of Record for the facility will be brought in to assess the situation before resumption of recirculation activities.

1.3 REPORTING REQUIREMENTS

Operators' daily responsibilities include the following:

- Completing daily operation reports and inspection forms (Attachment B).
- Recording locations of leachate recirculation, leachate recirculation rates, leachate production rates, and pressure readings, if available.
- Inspection results for the leachate recirculation system, leachate collection wet well and pumps, and landfill cover for seepage or damage.
- Maintenance of the system as required.

Operators' weekly responsibilities include the following:

- Attending weekly operation meetings for leachate recirculation planning.
- Completing weekly operations summaries.

1.4 RESPONSIBILITIES AND TRAINING

The health and safety of workers associated with operation and maintenance of the leachate recirculation system is important. Training for operators of the recirculation system will be conducted by the Landfill Site Manager, or a person designated by the Landfill Site Manager. Operators will be given four hours of apprenticeship training before being allowed to operate any portion of the system. The apprenticeship training includes the following:

- Objectives of the leachate recirculation system.
- Operation of the leachate collection system
- Daily, weekly, monthly, and quarterly inspections including monitoring, data collection, and maintenance.
- 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.
- Emergency contacts.
- Emergency shut-down procedures.

OPERATION AND MAINTENANCE PLAN FOR LEACHATE RECIRCULATION AT THE JED SOLID WASTE MANAGEMENT FACILITY

2. MAINTENANCE

To monitor the proper operation of the system components and the system in general, the operator shall perform periodic inspections of all equipment and connections. Maintenance of the leachate recirculation system components (i.e., pumps, piping system, pressure gauges, and valves) is performed during daily and other routine inspections as necessary to keep the system operating properly. Maintenance performed is recorded on the daily inspection form (Attachment B).

2.1 MAINTENANCE AND REPAIR OF PUMPS

The leachate recirculation pumps will be visually inspected by the JED Solid Waste Management Facility operations staff on a daily basis for proper operation. Preventive maintenance will be performed according to the recommendations in the pump manufacturer's operation and maintenance manual. Since two pumps may be installed, one pump can be taken out of service while maintenance is performed on the other pump, and the system can still be fully operational.

2.2 MAINTENANCE AND REPAIR OF LEACHATE LINES

Once installed and brought on-line, the leachate injection pipelines require little maintenance, but will be inspected periodically for damage. A leachate injection pipeline is deemed to be "functioning properly" if there are no sudden increases or decreases in back pressure readings. Monitoring and controlling the pressure in the leachate injection pipelines assures even leachate distribution throughout the horizontal injection pipeline without jeopardizing the slope stability of the landfill. A high backpressure reading could indicate that a valve was accidentally closed or malfunctioning, a horizontal leachate injection pipeline has become clogged, or that the waste around the horizontal injection line was at a saturated state and thus not capable of accepting more leachate. Should the pressure reading increase above daily average recorded pressure, the pipeline should be shut down for a period of one week. If the pressure remains high after one week, the line should be shut down until the cause of the high pressure is identified and corrected. If the problem is not identified, the pipeline will be shut down permanently. The valve controlling the flow to the inoperative pipeline should be shut, the flexible hose from the header to the injection line itself should be removed, and the horizontal injection pipeline should be capped.

If there is a substantial decrease in back pressure reading, it could indicate that a pipeline has been cracked or broken and that leachate is not being evenly distributed throughout the length of the pipeline. This could result in an increased application of leachate in the area immediately around the broken pipe, channeling of liquid through the waste mass and other potential adverse impacts. If there is suspicion that a pipeline may be broken, it should be taken out of service as described above.

OPERATION AND MAINTENANCE PLAN FOR LEACHATE RECIRCULATION AT THE JED SOLID WASTE MANAGEMENT FACILITY

3. CONTINGENCY

Contingency plans with regards to leachate recirculation include operational procedures to be followed during severe weather events, fire or explosions, and power outages.

3.1 SEVERE WEATHER CONDITIONS

If severe weather conditions, such as hurricanes, are imminent, the operator shall cease leachate recirculation operations.

Following the severe weather event, the operator shall perform the following procedures:

- Inspect the leachate recirculation system and complete the inspection form.
- 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 alternative facility, as necessary, until repairs can be completed.

3.2 FIRE OR EXPLOSION

In the event of a fire or explosion at the landfill, the leachate recirculation operations shall be shut down until the fire has been successfully extinguished or it has been verified that there is no further danger of explosion.

3.3 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 Site Manager:	(407) 891-3720
Florida "Hot Line"	(904) 488-1320
Florida Department Environmental Protection (FDEP)	(407) 894-7555
FDEP Solid Waste Division	(407) 893-3328

PERSONNEL AVAILABILITY

No recirculation operations should be conducted unless staff is available to correctly perform the activities and daily inspections, as described in this Operations Plan. "Paste Special Unformatted" instead of "Paste" to avoid bringing in unwanted or corrupt styles.

OPERATION AND MAINTENANCE PLAN FOR LEACHATE RECIRCULATION AT THE JED SOLID WASTE MANAGEMENT FACILITY

4. LIMITATIONS

Report Limitations

This document was prepared solely for Waste Services, Inc. in accordance with professional standards at the time the services were performed and in accordance with the contract between Waste Services, Inc. and Brown and Caldwell dated March 28th 2008. This document is governed by the specific scope of work authorized by Waste Services, Inc.; it is not intended to be relied upon by any other party except for regulatory authorities contemplated by the scope of work. We have relied on information or instructions provided by Waste Services, Inc. and other parties and, unless otherwise expressly indicated, have made no independent investigation as to the validity, completeness, or accuracy of such information.

ATTACHMENT A

Figure 1 Cells 1 through 4 leachate recirculation layout

BROWN AND CALDWELL

A

ATTACHMENT B

Data Collection and Inspection Form

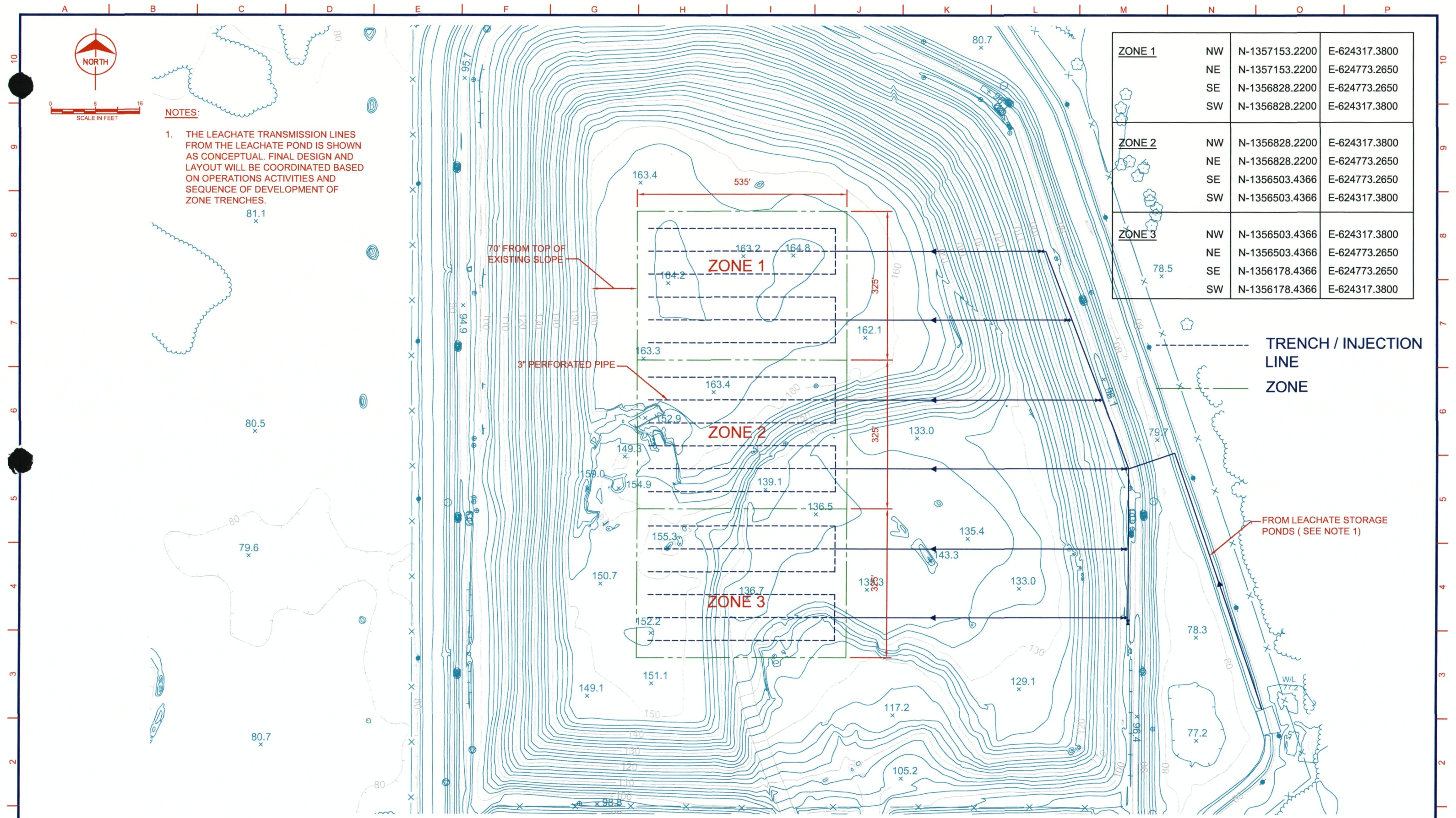
BROWN AND CALDWELL

ATTACHMENT C

Moisture Balance Calculations

BROWN AND CALDWELL

C



ZONE 1	NW	N-1357153.2200	E-624317.3800
	NE	N-1357153.2200	E-624773.2650
	SE	N-1356828.2200	E-624773.2650
	SW	N-1356828.2200	E-624317.3800
ZONE 2	NW	N-1356828.2200	E-624317.3800
	NE	N-1356828.2200	E-624773.2650
	SE	N-1356503.4366	E-624773.2650
	SW	N-1356503.4366	E-624317.3800
ZONE 3	NW	N-1356503.4366	E-624317.3800
	NE	N-1356503.4366	E-624773.2650
	SE	N-1356178.4366	E-624773.2650
	SW	N-1356178.4366	E-624317.3800

CROWN AND CALDWELL
Environmental Engineering and Consulting
850 Trafalgar Court, Suite 300, Maitland, Florida 32751, 407-861-9500 FBPE CA 2602

SUBMITTED: PROJECT MANAGER

DATE:

APPROVED: BROWN AND CALDWELL

DATE:

APPROVED:

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)

DESIGNED: H. SFEIR

DRAWN:

CHECKED: J. NISSEN

CHECKED:

APPROVED:

EXTERNAL REFERENCES

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

JED LANDFILL
ST. CLOUD, FLORIDA

CELLS 1 THROUGH 4

LEACHATE RECIRCULATION SYSTEM

(ELEV 170 FEET)

FILENAME FIGURE 1 BC PROJECT NUMBER
SCALE 1/16" = 1'-0" DRAWING NUMBER
SHEET NUMBER OF

Leachate Recirculation Weekly Inspection Form

		Leachate Quantity Recirculated , gallons				
		Zone 1	Zone 2	Zone 3	Cell 5	
Day	Rainfall, inches					Inspection Comments
Monday						
Tuesday						
Wednesday						
Thursday						
Friday						
Saturday						
Sunday						
Weekly Total						

Date Checked	Checked By	Job Number	By	Date	Calc No.	Sheet No.
5/19/2007	Jim Nissen	135146	H. Sfeir	5/19/2008	J1-020	1
Project			Subject			
JED Landfill Leachate Recirculation Operation Plan			Determine Quantity of Leachate Recirculation			

Objective

Determine quantity of leachate recirculation to reach in place waste density of 70 lbs/ft³ for in place waste from 2004 through 2007 at the JED landfill.

Assumptions

1. Equipment and technique used for waste compaction to remain unchanged.
2. Based on recent capacity reports submitted to FDEP, average density of waste and daily cover at the JED Landfill is 1750 lb/yd³ (65 lb/ft³).
3. Assuming second lift of waste is in place after 5 acres of waste placement.
4. Initial moisture content is assumed to be for Class I waste 20%, sludge 70%, soil 5% and C&D 5%. As a result of long term settlement and leachate recirculation, assume the moisture content of the waste will reach field capacity listed in Table 1 for each component of the waste stream.

Results

The composite density for leachate recirculation was calculated for various percentage of soil in the waste mass.

Table 1- Average tons of moisture addition to reach field capacity

Waste Composition, from 2004 through 2007	Percent Average Waste Composition by weight from 2004 through 2007	In place waste weight, tons	Average Initial Percent Moisture by Weight	Dry Waste Weight, tons	Conditions at field capacity, tons
Auto Fluff	7.20%	317,186	1%	314,014	348,904
C&D	5.37%	236,720	5%	224,884	249,871
Cont. Soil	26.59%	1,171,392	5%	1,112,822	1,236,469
ICI waste	6.53%	287,757	20%	230,206	328,865
Mulch	1.53%	67,179	10%	60,461	67,179
MSW	39.04%	1,719,772	20%	1,375,818	2,116,642
Sludge	7.26%	319,862	70%	95,959	137,084
Special Waste	6.39%	281,530	10%	253,377	281,530
Miscellaneous	0.04%	3,322	10%	2,989	3,322
Total	100%	4,404,720	17%*	3,670,530	4,769,868

* weighted average initial moisture content

Moisture increase to reach field capacity:

$$4,769,868 - 4,404,720 = 365,147 \text{ tons of liquid}$$

Adjusting for available moisture from sludge

$$365,147 - (319,862 - 137,084) = 182,369 \text{ tons of liquid}$$

Total gallons of moisture required to reach field capacity

$$(182,369 \text{ tons} \times 2000 \text{ lbs/ton} \times 7.48 \text{ gallons/ft}^3) / 62.4 \text{ lbs/ft}^3 = 43,721,799 \text{ gallons}$$

Date Checked	Checked By	Job Number	By	Date	Calc No.	Sheet No.
5/19/2007	Jim Nissen	135146	H. Sfeir	5/19/2008	J1-020	2
Project			Subject			
JED Landfill Leachate Recirculation Operation Plan			Determine Quantity of Leachate Recirculation			

Table 2 Initial and final estimated moisture content for leachate recirculation

	Percent by weight	lbs/yd ³	lb/ft ³
Initial Overall Moisture Content of in place waste	17%	1750	65
Final Moisture Content after leachate recirculation	23%	1895	70

To adjust for precipitation based on 55 inches/year and at 40% infiltration for the duration of 4 years and 3 days to fill one acre lift::

Volume of liquid that can be added to reach 70 lbs/ft³:

$$= 43,721,799 \text{ gallons} - 40\%(((55/365)/12)\text{ft} \times 43560 \text{ ft}^2/\text{acre} \times 286 \text{ working days/yr} \times 4 \text{ yrs} \times 3\text{days/acre-lift} \times 5 \text{ acres}) \times 7.48 \text{ gallon/ft}^3)$$

$$= 15,638,034 \text{ gallons for } 4,404,720 \text{ tons of in place waste}$$

$$= 3.6 \text{ gallons/ton of waste}$$

$$\sim 4 \text{ gallons/ton of waste}$$

APPENDIX E

WASTE SOLIDIFICATION OPERATION PLAN



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:



15450 New Barn Road - Suite 304
Miami Lakes, FL 33014
Phone: (305) 728-7400

September 2008
Revised October 2008

Brenda Ann Smith & Co.
29 October 2008

TABLE OF CONTENTS

- 1. Introduction**
- 2. Liquid and Semi-Liquid Waste Receipt**
 - 2.1 Processing Customers**
 - 2.2 Types of Wastes**
- 3. Waste Solidification Operating Area and Processing Procedures**
 - 3.1 Waste Solidification Operating Area**
 - 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 include 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.

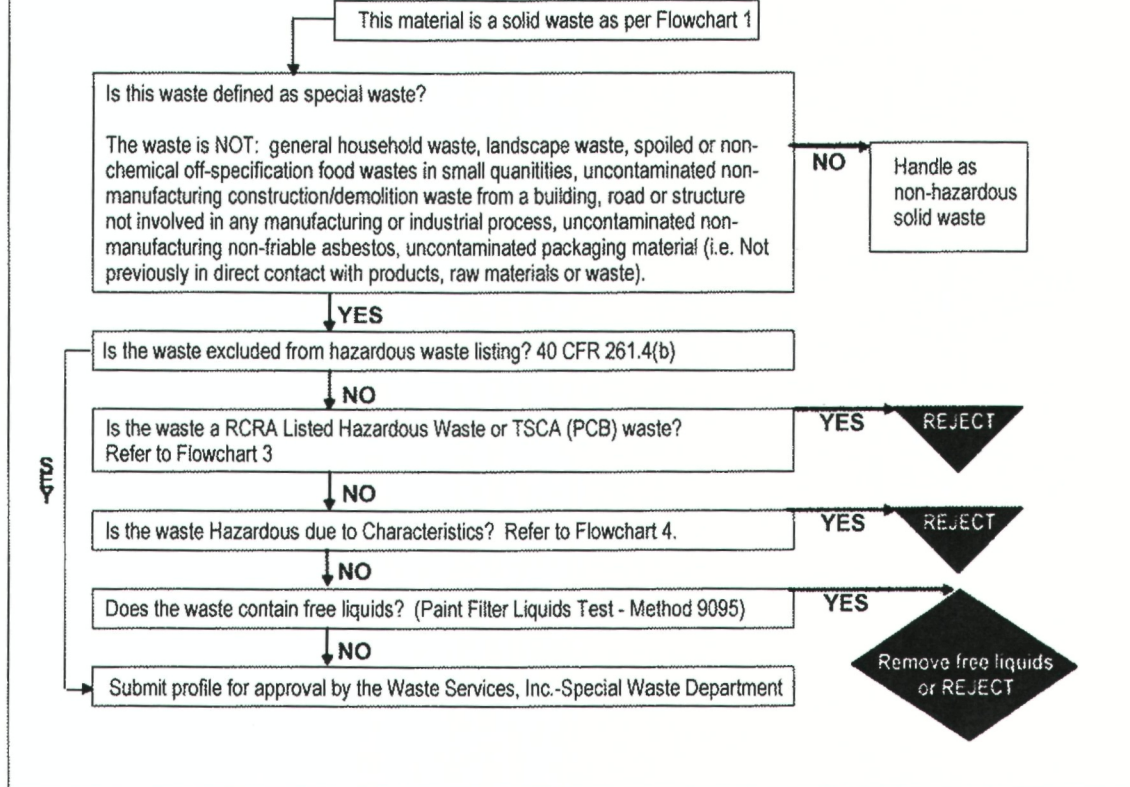
RCRA HAZARDOUS WASTE

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:

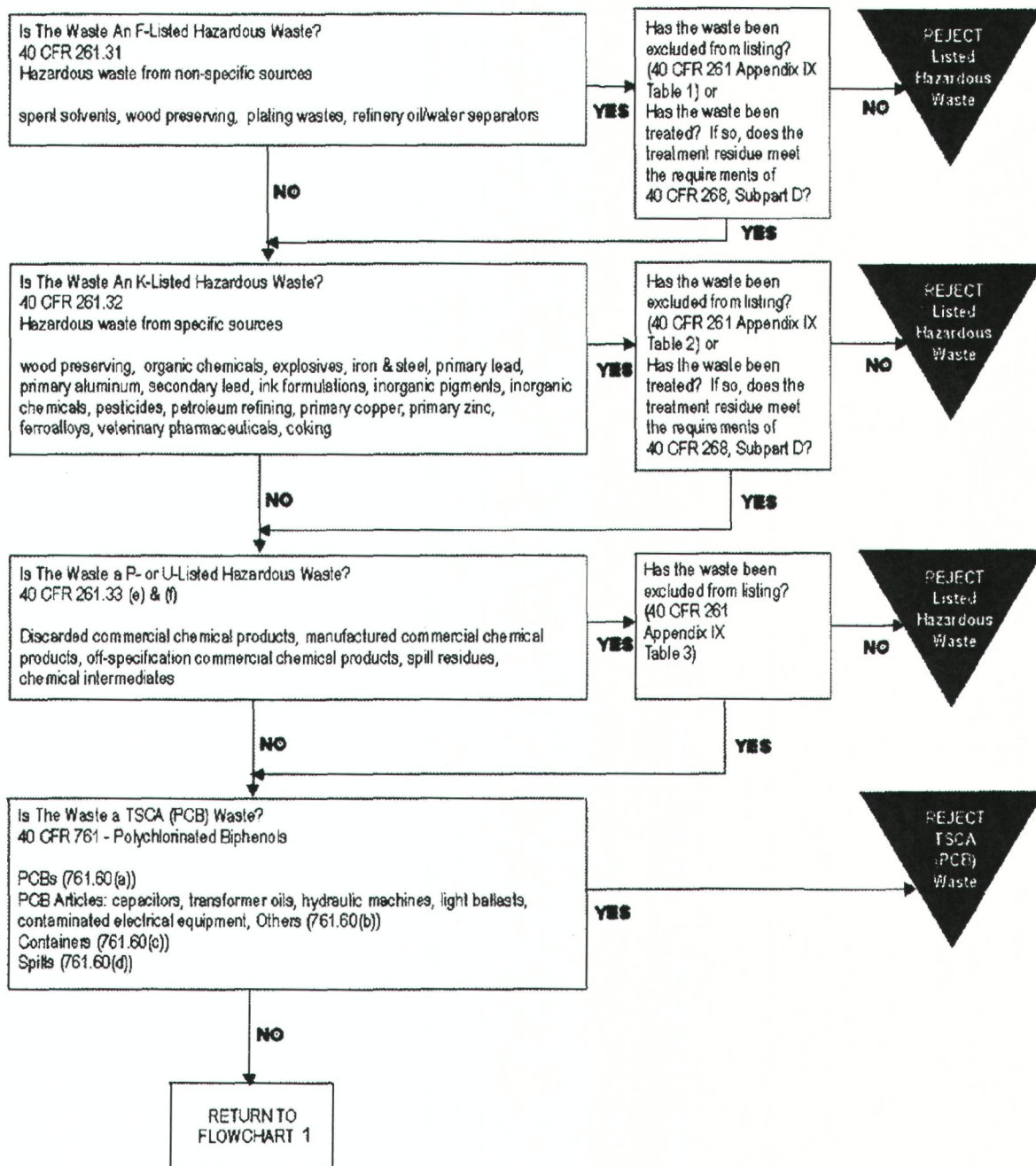
1. It exhibits the characteristics of a hazardous waste; or is a "*characteristically hazardous waste*".
2. It is listed by the EPA as a hazardous waste either by process or as a pure product, termed a "*listed hazardous waste*".

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".

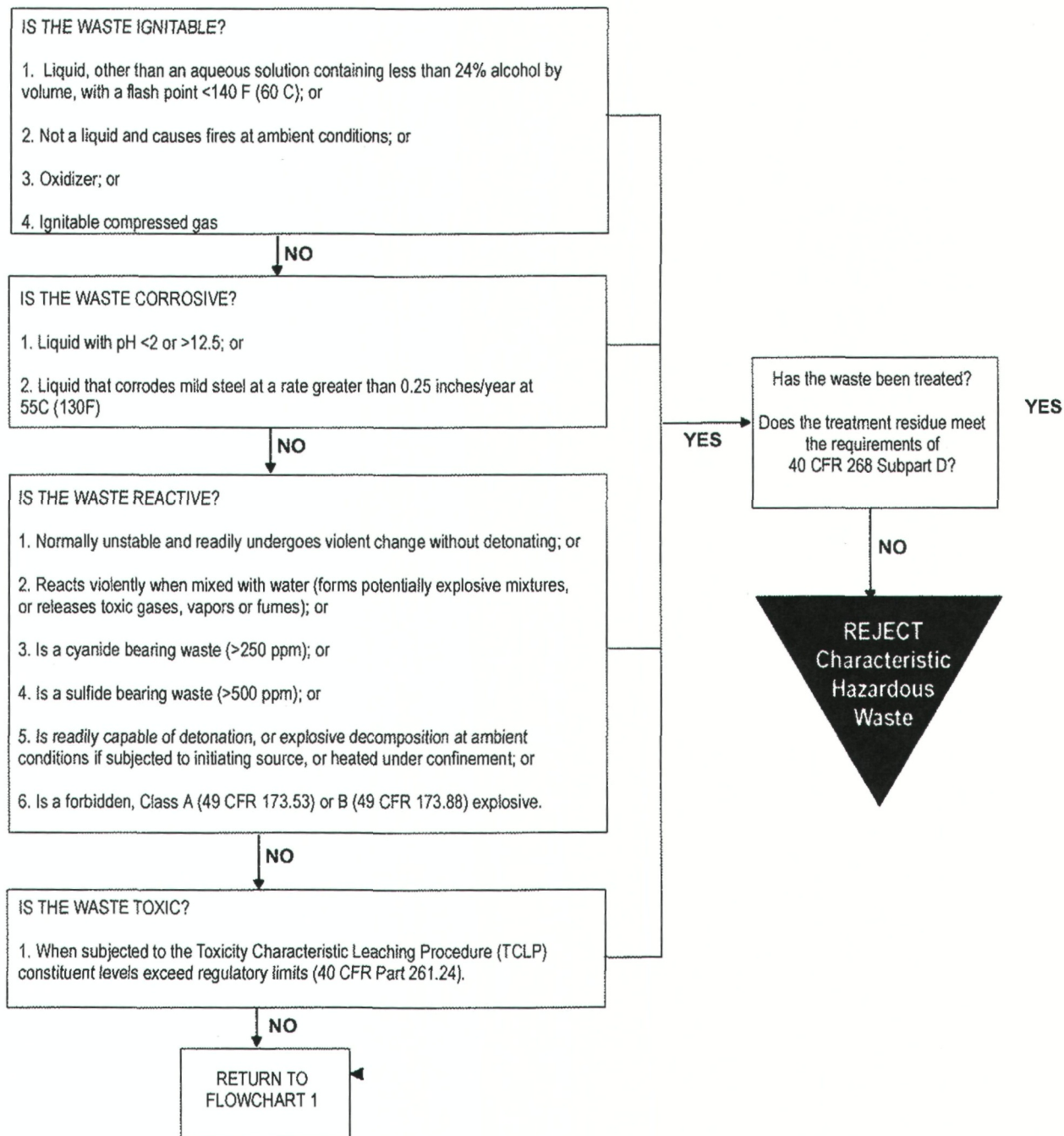
**FLOWCHART 1
CAN IT BE SUBMITTED AS A SPECIAL WASTE?**



**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 §§300-399).

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.

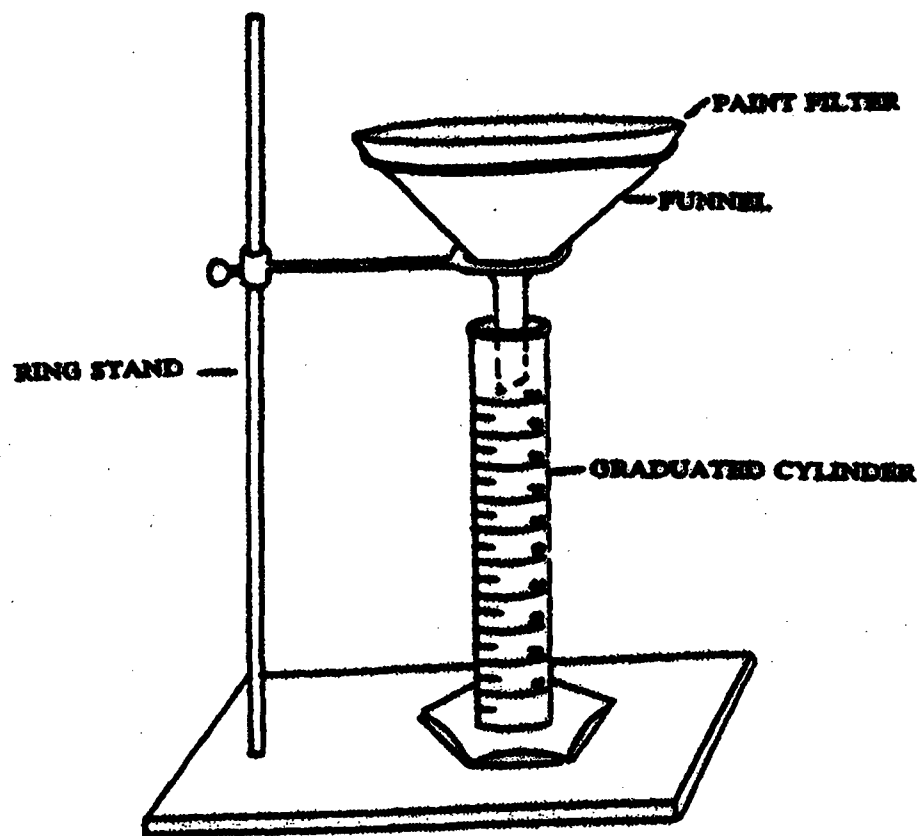
9.0 METHOD PERFORMANCE

9.1 No data provided.

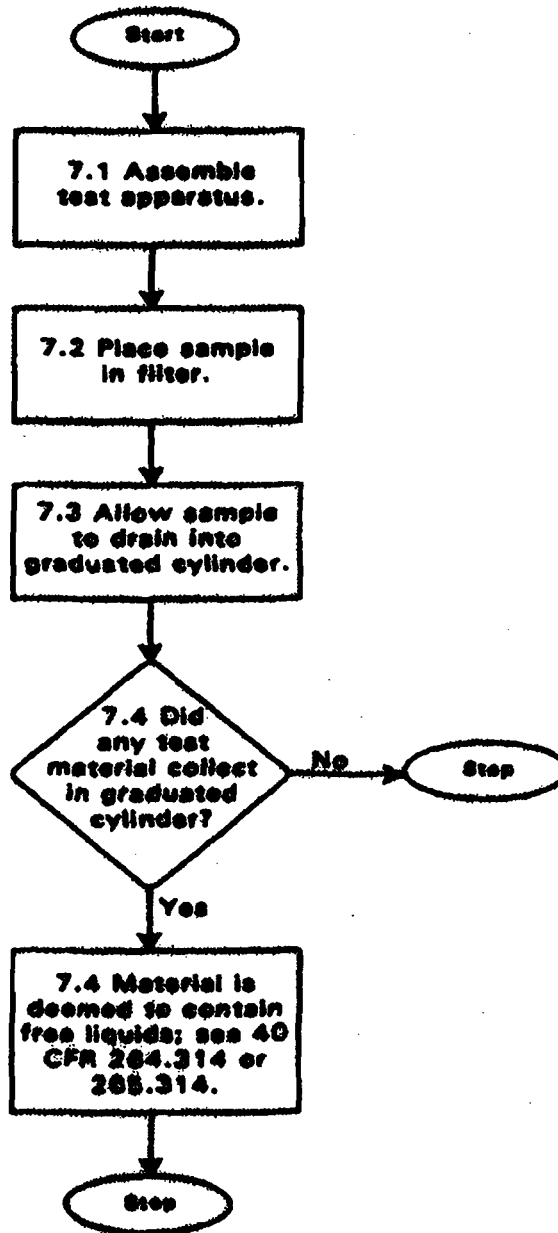
10.0 REFERENCES

10.1 None provided.

FIGURE 1
PAINT FILTER TEST APPARATUS



METHOD 9095B
PAINT FILTER LIQUIDS TEST



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

APPENDIX F

**AUTO SHREDDER RESIDUAL RECYCLING
PLAN**



AUTO SHREDDER RESIDUAL RECYCLING PLAN

J.E.D. SOLID WASTE MANAGEMENT FACILITY

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

Prepared by:



15450 New Barn Road - Suite 304
Miami Lakes, FL 33014
Phone: (305) 728-7400

February 18, 2009

TABLE OF CONTENTS

- 1. Introduction**
- 2. Acceptance and Processing Operations**
 - 2.1 Overview**
 - 2.2 Waste Acceptance Procedures**
 - 2.3 Waste Quantity**
 - 2.4 Description of Technology/Processing Equipment**
 - 2.5 Final Material Management**
- 3. Environmental Controls**
- 4. Nuisance Controls**
- 5. Litter and Dust Control**
- 6. Emergency Contingency Plan**
- 7. Employee Training**
- 8. Closure**

Sheet 1: Site Plan for Auto Shredder Residual Recycling Operations

Sheet 2: Auto Shredder Residual Recycling Operations - Details

1. INTRODUCTION

HDR Engineering, Inc. (HDR) has prepared this Auto Shredder Residual Recycling Plan (ASR Recycling Plan) to describe the processing operations of Auto Shredder Residual (ASR) recycling that will be performed at the J.E.D. Solid Waste Management Facility (Facility). Information included in this ASR Recycling Plan will be incorporated as Appendix F to the current approved Operation Plan prepared by Geosyntec Consultants dated September 14, 2007. The Facility is owned and operated by Omni Waste of Osceola County, LLC (Omni), a subsidiary company of Waste Services, Inc. (WSI). This Plan has been prepared in accordance with the requirements of Chapter 62-701, Solid Waste Management Facilities, of the Florida Administrative Code (FAC). The Facility is currently operating in accordance with Florida Department of Environmental Protection (FDEP) Permits Numbered SC49-0199726-004 and SO49-0199726-005, dated March 22, 2007, and subsequent permit modifications.

As authorized under the above Facility permits, Omni presently accepts ASR for direct disposal, use as daily cover, and use as a solidification material in the liquid waste solidification operations. Omni intends to further process a portion or all of the ASR material accepted at the Facility to recover remaining ferrous and non-ferrous metals, and wire components found within the waste material. The various metals will be recovered and segregated throughout the recycling process by size and chemistry/commodity type and then shipped to appropriate industrial customers as feed stock. A more detailed description of the ASR recycling operations is provided in the following sections.

2. ACCEPTANCE AND PROCESSING OPERATIONS

2.1 Overview

As noted in the previous section, ASR generated at off-site third party auto shredder facilities/operations is accepted at the Facility for direct disposal, use as daily cover, and use as a solidification material in the liquid waste solidification operations. Omni will subcontract operation of the ASR recycling operations to a 3rd party operator - Resource Reclamation, LLC (Resource Reclamation). Resource Reclamation operates several ASR and other material recovery operations throughout the northeast area.

The ASR recycling operations at the JED Facility will occur outdoors and will be performed within the lined limits of the Class I disposal area. Shown on attached Sheets 1 and 2 is a typical layout of the processing equipment required to perform the ASR recycling operations. Generally, the equipment consists of material transfer equipment, material sizing equipment, magnetic separation equipment, density separation equipment and mobile support equipment. An approximate 150 foot by 250 foot area will be established near the active disposal area and within the lined footprint. The initial location is planned in Cell 6 as shown on Sheets 1 and 2. Resource Reclamation will mobilize, assemble, and operate the necessary equipment to perform

the ASR recycling operations. The equipment will be relocated within the lined disposal area as necessary based on Facility disposal operations.

2.2 Waste Acceptance Procedures

ASR will continue to be accepted at the Facility as authorized under current permits and waste acceptance procedures described in the Facility's FDEP approved Operation Plan. Upon entering the Facility, ASR customers will be required to stop at the weigh scales and be weighed. 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 ASR has been received and will direct the driver to the ASR processing area to be received by a spotter. The spotter will direct the customer to the specific offloading location and will monitor offloading activities.

2.3 Waste Quantity

Historically, the Facility has received an average of 165 tons/day of ASR beginning in 2004 and 655 tons/day in 2008 (based on 5 days/week). The quantity of ASR that will be processed at the Facility is based on the quality of ASR received, production capacity of the processing equipment, and commodity market conditions. It is anticipated a percentage of the ARS received at the Facility will be of lower quality (containing insufficient recyclables to warrant processing). ASR that meets the lower quality classification will not be processed and will continue to be disposed or used at the Facility as currently permitted. The production capacity of the processing equipment as shown on Sheets 1 and 2 is approximately 50 tons/hour (as reported by Resource Reclamation). Based on the current Facility operating hours (waste acceptance), 5:00 am to 4:00 pm, Monday through Friday, and 6:00 am to 2:00 pm on Saturday, approximately 550 tons of ASR could be processed on a daily basis. This daily processing capacity is expected to be sufficient to meet the daily intake of ASR that warrants processing. However, ASR recycling operations may be performed outside waste acceptance hours and on weekends if needed to meet future market demands.

2.4 Description of Technology/Processing Equipment

As previously noted and shown on Sheets 1 and 2, the ASR processing operation will be performed within the lined footprint of the landfill. The following is a description of the processing operations based on the equipment layout shown on Sheets 1 and 2.

ASR selected for processing will be offloaded and stockpiled near the in-feed hopper. A loader or crane type equipment will be used to load the ASR into the in-feed hopper. ASR material discharges from the hopper onto a conveyor that feeds a trommel screen. Cross over magnet equipment will be positioned over the conveyor to begin separation of ferrous metals from the ASR. The trommel screen will separate the ASR into two sized products. Larger sized material

will be discharged onto a picking conveyor where further manual separation of recyclables will occur. Material discharged at the end of the picking conveyor is considered non-recyclable and will be hauled to the active disposal area. Smaller sized material produced at the trommel screen will be discharged onto a conveyor that will feed a platform type vibrating equipment for further screening. Smaller sized material produced from the additional screening process will be discharged onto a conveyor that feeds an eddy current separator designed for smaller sized material. Larger sized material will be discharged onto a conveyor that feeds an eddy current separator designed for larger sized material. The eddy current separators use magnetic polarity to separate various ferrous and non-ferrous components. The eddy current separator used for the smaller sized material will be the final processing for that material. The eddy current separator used to process larger sized material will discharge non-ferrous metals to a conveyor that discharges to a process end location. Ferrous and other material from the eddy current separator will discharge onto a conveyor that feeds cascade and recovery type sensor equipment for final processing of the ASR. The cascade and recovery sensors utilize density/specific gravity sensors to separate various material types.

2.5 Final Material Management

ASR processing will result in the recovery of ferrous and non-ferrous metals, and other wire components. The manner in which recyclable and non-recyclable material (ASR waste) will be stockpiled at the end of each process conveyor will be dependent on the amount of material processed each day and quality. Typically, larger sized metal will be discharged/stockpiled on the ground surface at the process conveyor end locations. A loader will be used as needed to transfer the materials to roll-off type containers located in the processed material staging area. Smaller hoppers or front-end type loading bins may also be used at the end process locations for smaller material. ASR waste material will be stockpiled on the ground surface at the end locations and loaded onto heavy haul trucks for transport to the active disposal area as needed. Material management will be an important activity of the processing operation to maintain optimum operational efficiency. It is expected stockpiles of ASR waste will be removed from the processing area by the end of each day or prior to start-up of operations the following day.

The amount of recyclable material stored in the material staging area will also depend on the amount of material processed each day and quality. For each type of recyclable material, it is anticipated only a few 40 cubic yard roll-off or similar sized containers will be maintained in the staging area at any one time before being shipped off to the end user. All recyclable materials will be weighed and recorded for reporting purposes before being transported off-site.

3. Environmental Controls

ASR delivered to the Facility is characterized as non-hazardous, therefore recyclable materials produced during processing will also be classified as non-hazardous. ASR processing will occur within the lined landfill, over an area where waste disposal has occurred. Liquids that come in

contact with the ASR will be collected in the leachate collection system. Surface water runoff in the vicinity of the ASR recycling area will be managed in accordance with current permitted storm water management practices for active disposal areas, thereby preventing impacts to the surface water. Air quality permitting will be addressed with the Florida Department of Environmental, Air Resource Management Group.

4. Nuisance Controls

It is not anticipated the ASR recycling operations will produce additional vector, animal and insect nuisances beyond those existing for the current Class I disposal operations. The ASR is an inert material and is not expected to attract scavenging animals or pests. If needed, measures described in Section 4.6.4 of the Operation Plan will be implemented at the processing area.

5. Litter and Dust Control

If necessary, dust control will be provided at the processing equipment using water mist or spray systems installed in select locations on the equipment. Additionally, dust control practices described in Section 4.6.3 of the Operation Plan will be implemented at the processing areas. Litter control will be maintained in accordance Section 4.6.1 of the Operation Plan.

6. Emergency Contingency Plan

The ASR recycling operations are not expected to add any possible emergency situations above and beyond those described in Section 5 of the Operation Plan. Standard first aid and fire suppression equipment will be maintained at the area, including fire extinguishers within all heavy equipment. Employees of the subcontracted operator will be provided with proper communication equipment in order to respond to an emergency situation and will be trained in the response procedures outlined in the Operation Plan.

7. Employee Training

The supervisor of the ASR recycling operations will complete initial and refresher training for a Solid Waste Management Facility Operator as described in Section 2.1.2 of the Operation Plan. Spotters and equipment operator at the ASR recycling operations will also receive training described in section 2.1.2. Additional safety and emergency response training will be provided in accordance with the Operation Plan and company guidelines.

8. Closure

Closure of the ASR Recycling Area will be performed together with closure of the landfill or prior to that time if operations are no longer performed at the Facility. In closing the ASR Recycling Area, the following activities will be performed:

- Notice will be posted at the Facility weigh scales 30 days prior to closing indicating that the ASR Recycling Area will be closing and the date of closure. Notice of the closing will also be provided to the Florida Department of Environmental Protection (FDEP);
- Customers with ASR loads will be directed to the active disposal area or directed to another facility if the entire Facility is closed;
- Resource Reclamation will remove all processing equipment, support equipment, and marketable materials from the Facility; and
- Remaining ASR waste materials will be disposed in the active disposal area.

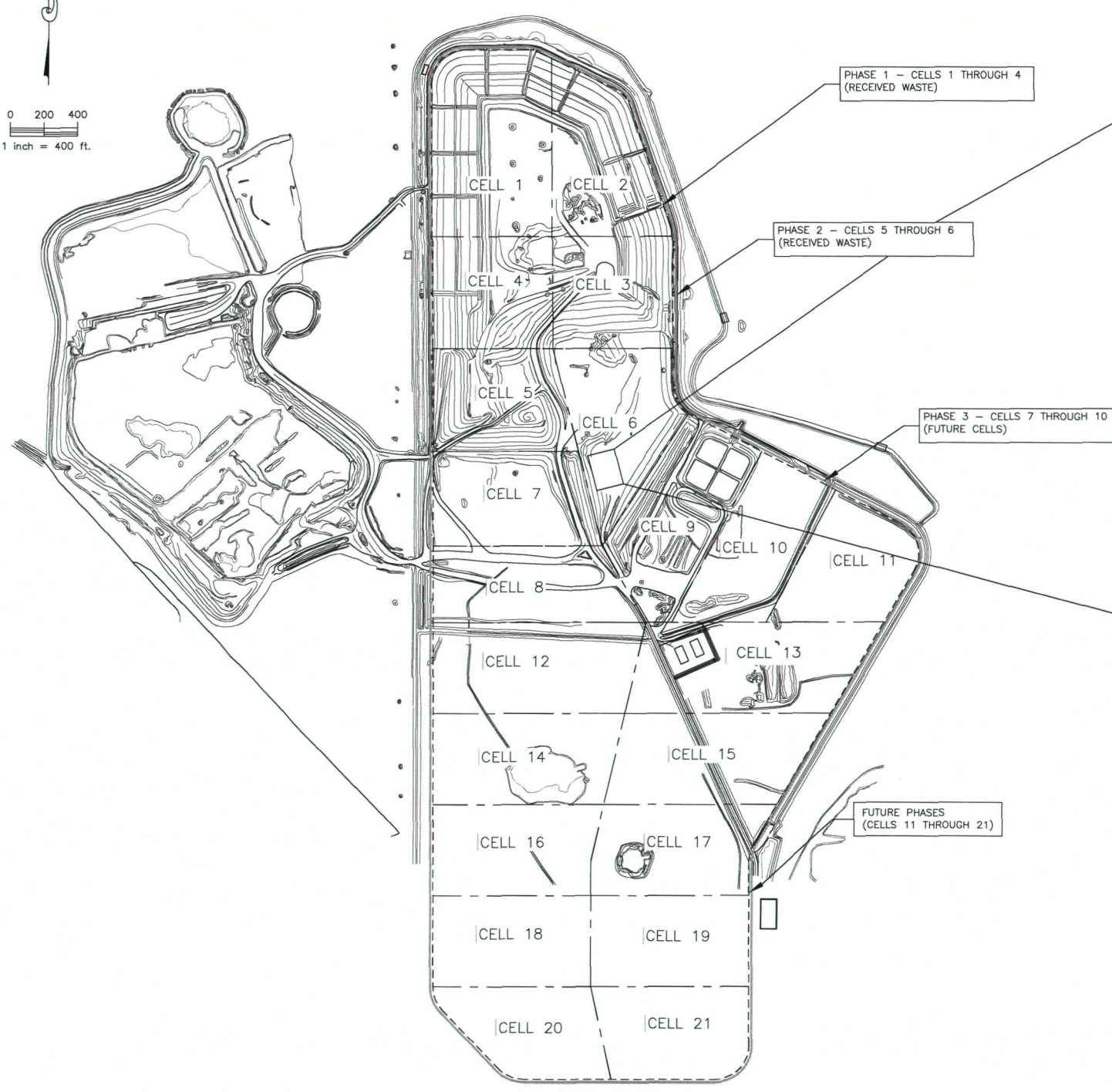
If the entire Facility is being closed, remaining closure procedures will be following as outlined in Section 7 of the Operation Plan.

C:\Documents and Settings\aclayton\My Documents\HJH-Projects\U4-Waste Services\U1-Minor Permit Mod (ASR)\U1-CAD\U00C-002-Site Layout.dwg, U0C-002, 4/2/2010 9:04:4 / AM, aclayton

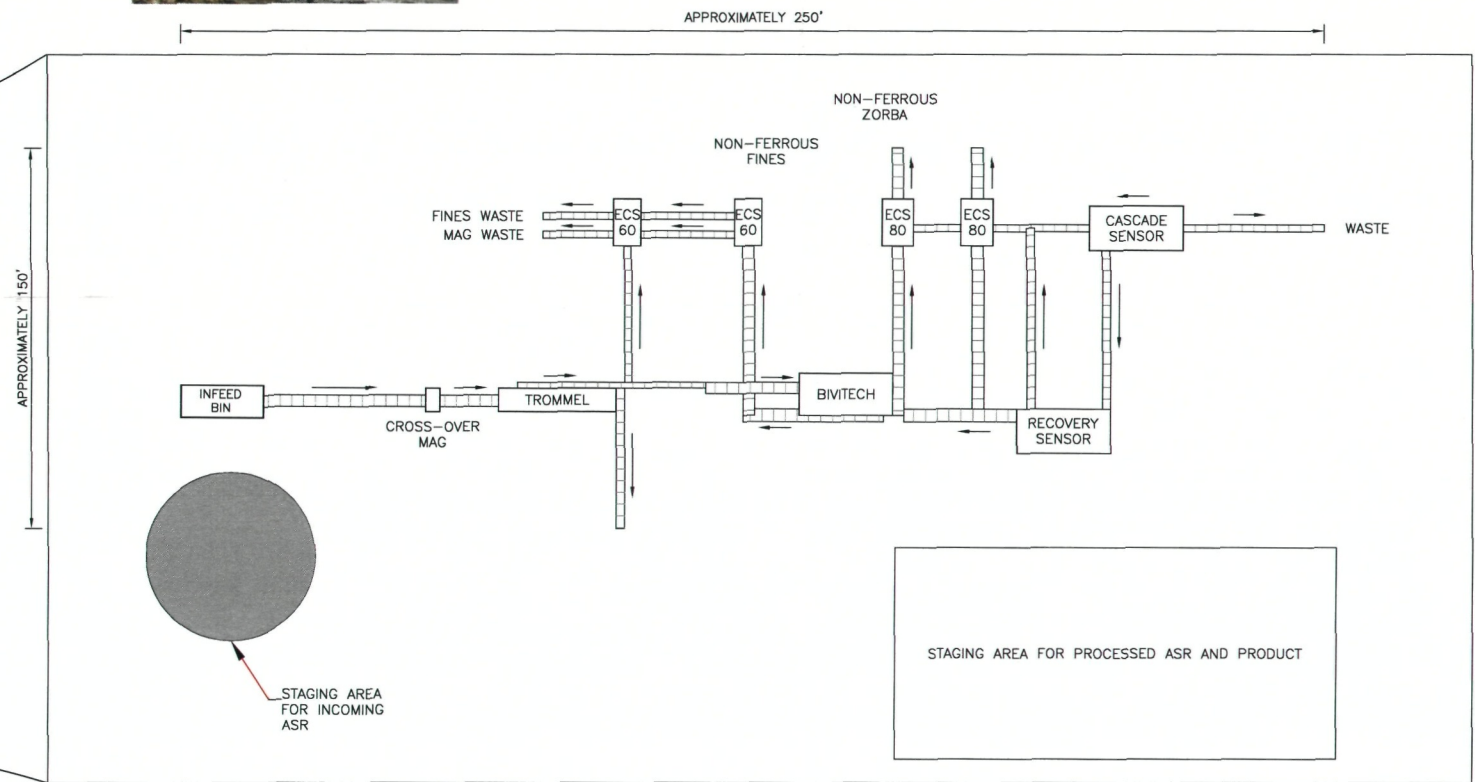


0 200 400
1 inch = 400 ft.

EXISTING TOPOGRAPHIC PLAN



AUTO SHREDDER RESIDUAL RECYCLING OPERATIONS
(TYPICAL EQUIPMENT LAYOUT, FOR DETAIL SEE SHEET 2A)



DESCRIPTION OF ABBREVIATIONS:

- 1. ASR - AUTO SHREDDER RESIDUAL
- 2. CROSS-OVER MAG - MAGNET POSITIONED OVER UNDERLYING CONVEYOR BELT TO REMOVE FERROUS STEEL FROM BELTS.
- 3. TROMMEL - LARGE TUMBLER WITH VARYING SIZED SCREENING HOLES FOR MATERIAL SEPARATION.
- 4. BIVITECH - EQUIPMENT UTILIZING VIBRATION FOR MATERIAL SEPARATION.
- 5. ECS - EDDY CURRENT SEPARATOR. EQUIPMENT UTILIZING MAGNETIC POLARITY TO SEPARATE FERROUS/NON-FERROUS MATERIALS.
- 6. SENSOR UNIT - EQUIPMENT UTILIZING DENSITY/SPECIFIC GRAVITY TO SEPARATE VARIOUS CONSTITUENTS.
- 7. RECOVERY AND CASCADE SENSORS - SENSOR UNIT USED IN A SPECIFIC CONFIGURATION OR LOCATION TO ACHIEVE CERTAIN RESULTS (I.E. CASCADE SENSORS ARE A SERIES OF SENSORS, ONE CASCADING ONTO THE NEXT).
- 8. ZORBA - TERM USED IN THE SCRAP INDUSTRY TO REFER TO A BLEND OF METALS, PRIMARILY COMPOSED OF ALUMINUM (APPROXIMATELY 77%) AND THE REMAINING CONSISTING OF STAINLESS STEEL, ZINC, BRASS AND COPPER.

*NOTES:

- 1. AUTO SHREDDER RESIDUAL RECYCLING OPERATIONS WILL BE RELOCATED AS NECESSARY WITHIN PERMITTED AND LINED WASTE DISPOSAL AREA BASED ON WASTE DISPOSAL ACTIVITIES.
- 2. THE AREA WILL BE GRADED TO DIRECT STORMWATER AWAY FROM THE AUTO SHREDDER RESIDUAL AREA AND MANAGED IN ACCORDANCE WITH STORMWATER CONTROL PROCEDURES FOR THE ACTIVE DISPOSAL AREA AND OVERALL FACILITY. LIQUID THAT INFILTRATES THROUGH THE WASTE WILL BE COLLECTED IN THE LEACHATE COLLECTION SYSTEM.
- 3. TOPOGRAPHIC INFORMATION OBTAINED FROM DRAWING PREPARED BY BASE MAPPING DATED JULY 25, 2009.
- 4. THE EQUIPMENT LAYOUT AND DIMENSIONS PROVIDED IN THIS DRAWING ARE TYPICAL. THE EQUIPMENT USED AT THE JED FACILITY MAY VARY BASED ON AVAILABILITY, INCOMING ASR VOLUME, AND ABILITY TO RECOVER RECYCLABLE CONTENT.



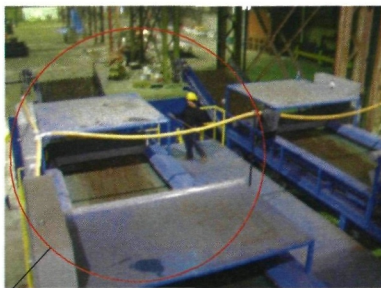
1	16 FEB 2010	RAI #1
ISSUE	DATE	DESCRIPTION

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

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

SITE PLAN FOR AUTO SHREDDER RESIDUAL RECYCLING OPERATIONS		
FILENAME	00C-02.DWG	SHEET
SCALE		1

C:\Documents and Settings\aclayton\My Documents\HJH-Projects\04-Waste Services\01-Minor Permit Mod (ASH)\01-CAD\00C-002-Site Layout.dwg, 00C-002A, 4/2/2010 9:06:14 AM, aclayton



NOTE:
THE EQUIPMENT LAYOUT AND DIMENSIONS PROVIDED IN
THIS DRAWING ARE TYPICAL. THE EQUIPMENT USED AT
THE JED FACILITY MAY VARY BASED ON AVAILABILITY,
INCOMING ASR VOLUME, AND ABILITY TO RECOVER
RECYCLABLE CONTENT.

ASR PROCESS EQUIPMENT WITH DIMENSIONS
PROCESS EQUIPMENT (TYPICAL)

INFEED HOPPER	14' LX 5' H X 5.5' W
X-BELT MAG	3' LX 5' W X 2' H
TROMMEL	25' LX 5' DIAMETER
BIVITECH	20' LX 9' W X 7' H
CASCADE/RECOVERY SHAKERS	20' LX 9.5' W X 6' H
ECS 80 SHAKER TRAY	6' LX 4' W X 2' H
ECS 80 DECK 1	10' LX 6.8' W X 3.8' H
ECS 80 DECK 2	12' LX 6.8' W X 4.5' H
ECS 60 SHAKER TRAY	6' LX 4' W X 2' H
ECS 60 DECK 1	10' LX 5.8' W X 3.8' H
ECS 60 DECK 2/OPTIONAL	12' LX 5.8' W X 4.5' H

ASR PROCESS CONVEYORS WITH DIMENSIONS
ASR SYSTEM CONVEYORS (TYPICAL)

①	TROMMEL INFEED	50'
②	BIVITECH INFEED	80'
③	ECS 60 FEED CONVEYOR	40'
④	CASCADE SENSOR FEED CONVEYOR	30'
⑤	CASCADE WASTE CONVEYOR	40'
⑥	BIVITECH RETURN CONVEYOR	30'
⑦	TROMMEL PICKING CONVEYOR	30'
⑧	ECS 80 FEED CONVEYOR	50'
⑨	FINES WASTE CONVEYOR	40'
⑩	FINES NON-FERROUS CONVEYOR	40'
⑪	ECS 80 METALS CONVEYOR	40'
⑫	RECOVERY SENSOR FEED CONVEYOR	40'
⑬	RECOVERY SENSOR WASTE RE-RUN CONVEYOR	40'
⑭	RECOVERY SENSOR METALS CONVEYOR	30'

STAGING AREA FOR PROCESSED ASR AND PRODUCT

AUTO SHREDDER RESIDUAL (ASR) RECYCLING OPERATIONS
(TYPICAL EQUIPMENT LAYOUT)



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

ISSUE	DATE	DESCRIPTION
1	16 FEB 2010	RAI #1

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

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

AUTO SHREDDER RESIDUAL
RECYCLING OPERATIONS
DETAILS

FILENAME	00C-02A.DWG	SHEET
SCALE		2

APPENDIX G

**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**

Prepared by:



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

**December 16, 2009
18 February 2010**

TABLE OF CONTENTS

- 1. Overview**
- 2. Waste Tire Receipt**
- 3. Maximum Waste Tire Storage Volumes**
- 4. Maximum Tire Processing Equipment**
- 5. Tire Storage**
 - 5.1 Whole Waste Tires**
 - 5.2 Processed Waste Tires**
 - 5.3 Waste Tire Storage Requirements and Prohibitions**
- 6. Fire Prevention**
- 7. Vector Control**
- 8. Transportation of Waste and Processed Tire**
- 9. Record Keeping and Reporting**
- 10. Closure**

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

1. OVERVIEW

Waste tires will be accepted, 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 will 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. 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 or less and 100 percent of the waste tire material is 32 square inches 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 is shown on the attached Sheet 1.

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:

- (a) 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
- (b) 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 X 10'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 annual 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.

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 processed when the pile reaches the maximum storage volume or sooner. 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 tires may also 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 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 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 of the Operation Plan:

1. A list of names and numbers of persons to be contacted in the event of a fire, flood, or other emergency

2. 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
3. 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 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 is within the future disposal footprint boundary as shown on Sheet 1 (attached). This location is not within 200 feet of any natural or artificial body of water, including wetlands within the jurisdiction of the Department.

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, or 10 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)

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 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)]; and
- **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)],
 - within 200 feet of a any natural or artificial body of water [Rule 62-701.300(2)(f)],
 - on the right of way of any public highway, road, or alley [Rule 62-701.300(2)(g)], and
 - 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 facility.

6. FIRE PREVENTION

The following fire prevention measures will be implemented for the tire storage and processing operations:

- 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 3rd party pest control company if deemed necessary.

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 the Florida Department of Environmental Protection (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 the Florida Department of Environmental Protection (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.

LARGE FORMAT DRAWING

SCANNED SEPARATELY

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:

- (a) 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
- (b) 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 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:

$$(22.5 \text{ lbs/passenger tire} \times 27,800 \text{ tires}) / 2,000 \text{ lbs/ton} = 313 \text{ tons}$$

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

$$(110 \text{ lbs/ heavy truck tire} \times 2000 \text{ tires}) / 2,000 \text{ lbs/ton} + (22.5 \text{ lbs/passenger tire} \times 18,045 \text{ tires}) / 2,000 \text{ lbs/ton} = 110 \text{ tons} + 203 \text{ tons} = 313 \text{ tons}$$

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.

$$(313 \text{ tons} \times 2000 \text{ lbs/ton}) / 600 \text{ lbs/cy} = 1,043 \text{ cy}$$

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



GRANUTECH-SATURN SYSTEMS CORPORATION

201 East Shady Grove Road

Grand Prairie, Texas 75050

PHONE: 972/790-7800

FAX: 972/790-8733

e-mail: sales@granutech.com

SATURN Model 72-44BGHT-300HP SHREDDER

Data Sheet

The Saturn shredder features twin counter-rotating shafts operating at slow speed and very high torque to reduce material by means of shearing and tearing. Slight shaft speed differential contributes to the cutting action while reducing particle sizing. The Saturn shredder is driven by a high displacement hydraulic motor, which in turn is powered by Saturn's proprietary open loop hydraulic drive system. Automatic overload detection initiates cutter shaft reversal to eliminate damage to the shredder components.

SPECIFICATIONS:

- Shredder Inlet Opening 72" x 44"
- Shredder Outside Dimensions 152" x 73" x 43"
- Power Unit Dimensions 144" x 90" x 69"
- Shredder Weight 28,000 pounds
- Power Unit Weight 11,000 lbs. (dry)

DETAILS:

Shredder

- Cutter Shaft Torque: Fast – 48,915 ft./lb.
Torque: Slow – 48,915 ft./lb.
- Cutter Speed Fast Shaft – 24 RPM
Slow Shaft – 21.4 RPM
- Cutter Force Fast: 52,176 lbs.
Slow: 52,176 lbs.
- Shaft Diameter 8" hexagon (across flats)
- Cutter Diameter 22.50" @ hooks

Power Unit – Open Loop, Skid Mounted

- Electrical Power 300 HP (3 x 100)
- Hydraulic Flow 238.5 GPM
- Rated Pressure 3000 PSI

GRANUTECH CORPORATION SYSTEMS

GRANUTECH-SATURN SYSTEMS CORPORATION
201 East Shady Grove Road
Grand Prairie, Texas 75050
PHONE: 972/790-7800
FAX: 972/790-8733
e-mail: sales@granutech.com

ELECTRICAL:

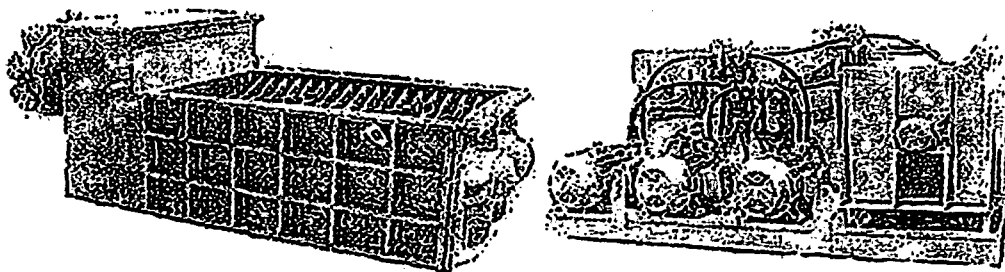
Operator initiated pushbutton controls, featuring Allen Bradley PLC. Motor controls include primary disconnect with short circuit protection, full load contactors, and electronic overload detection. Control power derived from a single-phase transformer. All components assembled and wired in a NEMA enclosure.

OPTIONAL:

- Mounting and wiring of control and motor starter panels on hydraulic power unit
- Shredder infeed hopper
- Shredder support stand
- Infeed and discharge conveyors

APPLICATIONS:

- Tires -- up to 20 T/HR
- MSW - up to 30 T/HR
- Non-Ferrous Metals -- up to 12 T/HR
- Plastic -- up to 12 T/HR



REV	REVISION	DATE	EDN	BY	APP
1	REVISED	01/10/64	1	MAC	MAC

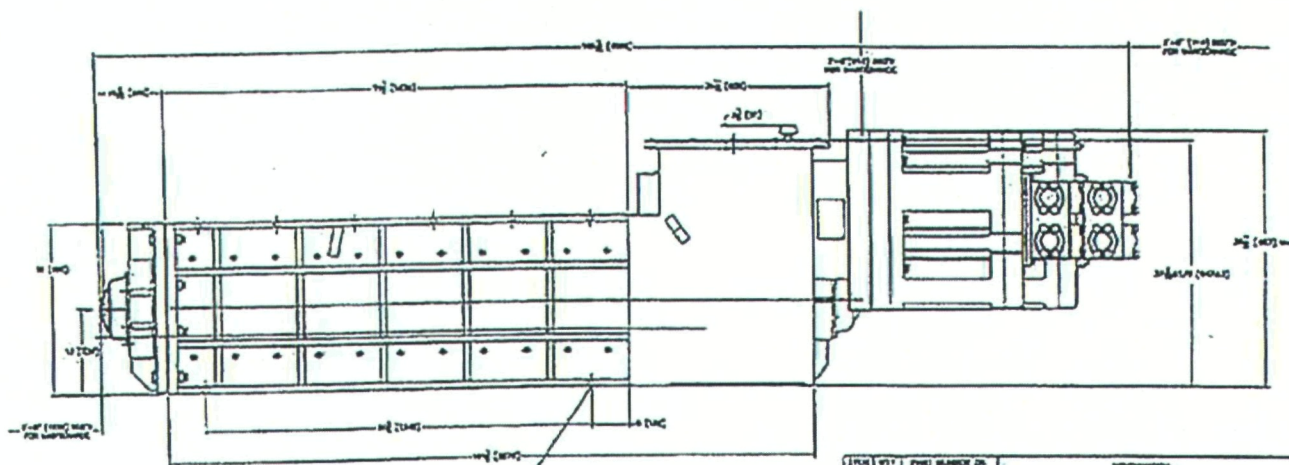
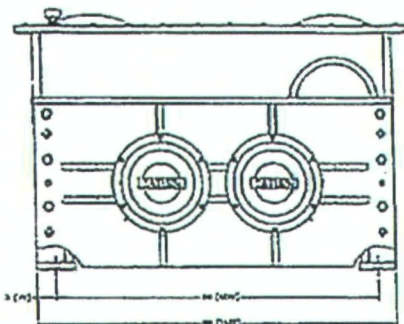
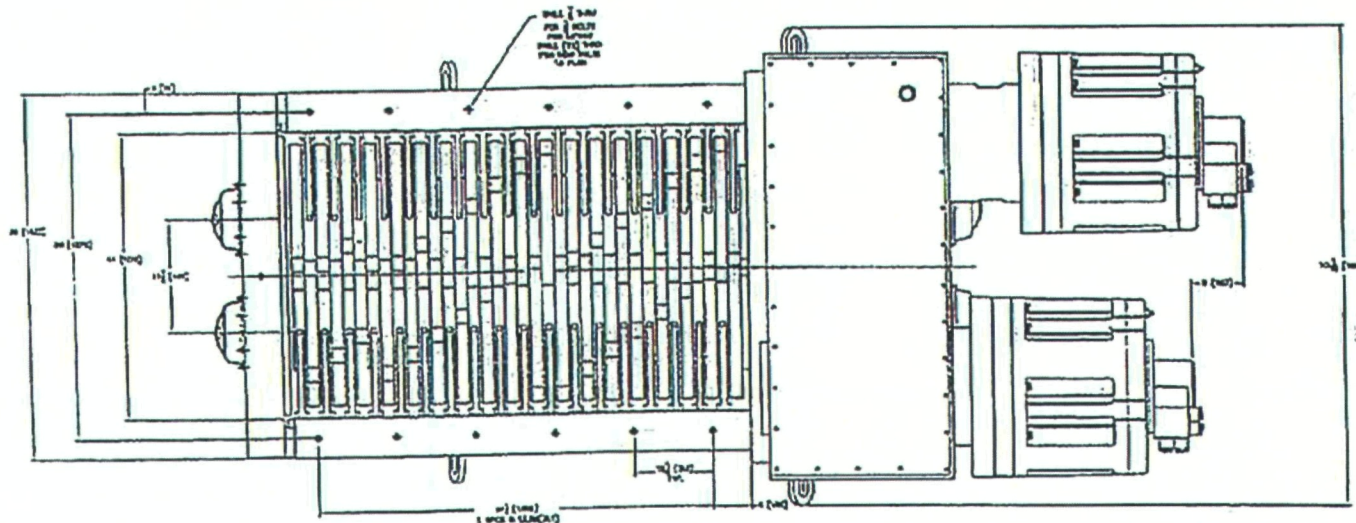
SPECIFICATIONS
SATURATOR
MODEL 72-44000 200 HP

SHAFT SPECIFICATIONS
 SHAFT IN FLAT = 1.500 IN
 SHAFT IN FLAT = 1.500 IN
 SHAFT IN FLAT = 1.500 IN
 SHAFT IN FLAT = 1.500 IN

THROAT
 SHAFT IN FLAT = 1.500 IN
 SHAFT IN FLAT = 1.500 IN
 SHAFT IN FLAT = 1.500 IN

SHAFT SPECIFICATIONS
 SHAFT IN FLAT = 1.500 IN
 SHAFT IN FLAT = 1.500 IN
 SHAFT IN FLAT = 1.500 IN

SHAFT SPECIFICATIONS
 SHAFT IN FLAT = 1.500 IN
 SHAFT IN FLAT = 1.500 IN
 SHAFT IN FLAT = 1.500 IN



THIS DRAWING IS THE PROPERTY OF MAC CORPORATION
 AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS
 WITHOUT THE WRITTEN PERMISSION OF MAC CORPORATION

DESIGNED BY [] AND []

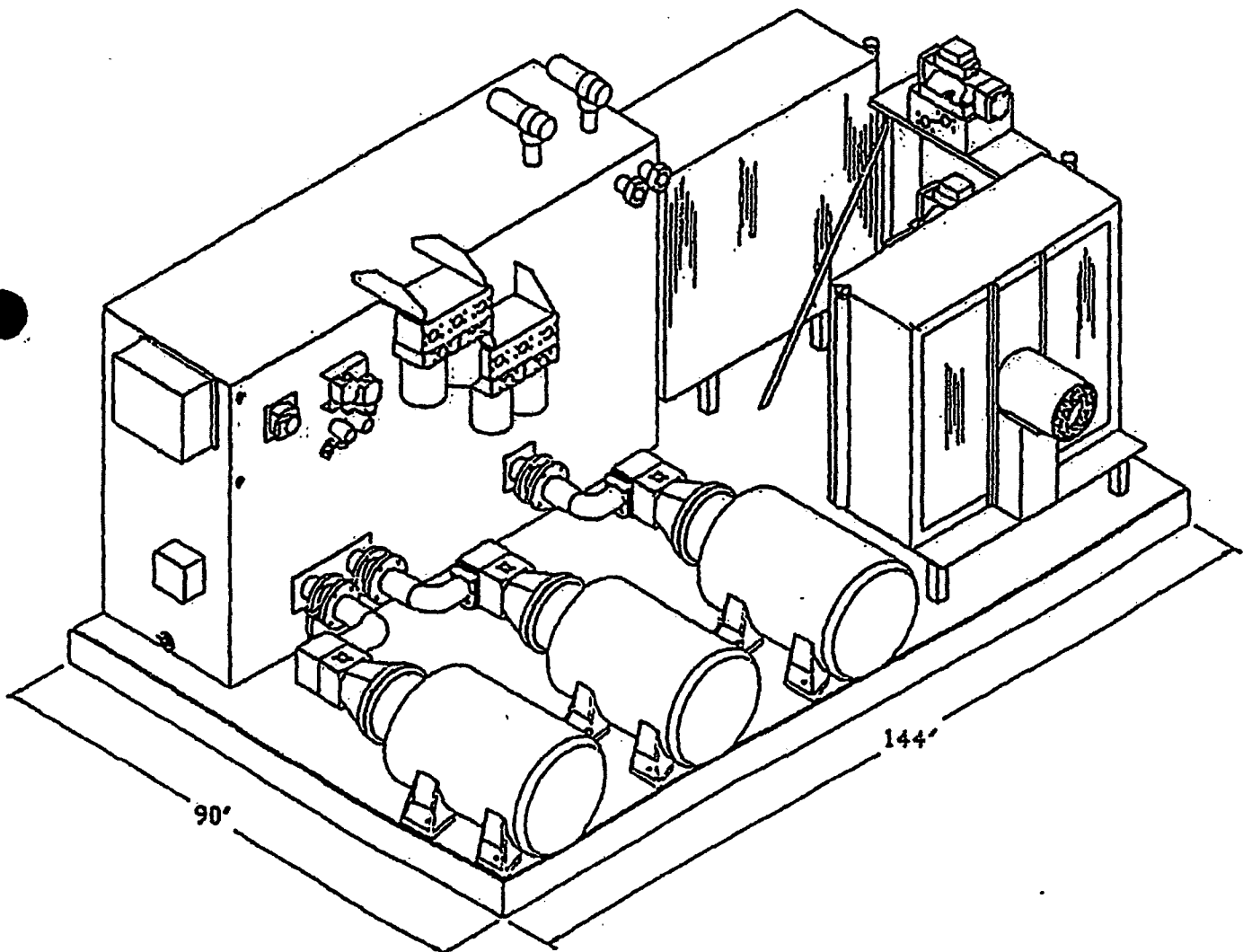
PLATE 1-44-00

ITEM	QTY	DESCRIPTION	REVISION
1	1	SHAFT 1.500 IN	
2	1	SHAFT 1.500 IN	
3	1	SHAFT 1.500 IN	
4	1	SHAFT 1.500 IN	
5	1	SHAFT 1.500 IN	
6	1	SHAFT 1.500 IN	
7	1	SHAFT 1.500 IN	
8	1	SHAFT 1.500 IN	
9	1	SHAFT 1.500 IN	
10	1	SHAFT 1.500 IN	
11	1	SHAFT 1.500 IN	
12	1	SHAFT 1.500 IN	
13	1	SHAFT 1.500 IN	
14	1	SHAFT 1.500 IN	
15	1	SHAFT 1.500 IN	
16	1	SHAFT 1.500 IN	
17	1	SHAFT 1.500 IN	
18	1	SHAFT 1.500 IN	
19	1	SHAFT 1.500 IN	
20	1	SHAFT 1.500 IN	
21	1	SHAFT 1.500 IN	
22	1	SHAFT 1.500 IN	
23	1	SHAFT 1.500 IN	
24	1	SHAFT 1.500 IN	
25	1	SHAFT 1.500 IN	
26	1	SHAFT 1.500 IN	
27	1	SHAFT 1.500 IN	
28	1	SHAFT 1.500 IN	
29	1	SHAFT 1.500 IN	
30	1	SHAFT 1.500 IN	
31	1	SHAFT 1.500 IN	
32	1	SHAFT 1.500 IN	
33	1	SHAFT 1.500 IN	
34	1	SHAFT 1.500 IN	
35	1	SHAFT 1.500 IN	
36	1	SHAFT 1.500 IN	
37	1	SHAFT 1.500 IN	
38	1	SHAFT 1.500 IN	
39	1	SHAFT 1.500 IN	
40	1	SHAFT 1.500 IN	
41	1	SHAFT 1.500 IN	
42	1	SHAFT 1.500 IN	
43	1	SHAFT 1.500 IN	
44	1	SHAFT 1.500 IN	
45	1	SHAFT 1.500 IN	
46	1	SHAFT 1.500 IN	
47	1	SHAFT 1.500 IN	
48	1	SHAFT 1.500 IN	
49	1	SHAFT 1.500 IN	
50	1	SHAFT 1.500 IN	
51	1	SHAFT 1.500 IN	
52	1	SHAFT 1.500 IN	
53	1	SHAFT 1.500 IN	
54	1	SHAFT 1.500 IN	
55	1	SHAFT 1.500 IN	
56	1	SHAFT 1.500 IN	
57	1	SHAFT 1.500 IN	
58	1	SHAFT 1.500 IN	
59	1	SHAFT 1.500 IN	
60	1	SHAFT 1.500 IN	
61	1	SHAFT 1.500 IN	
62	1	SHAFT 1.500 IN	
63	1	SHAFT 1.500 IN	
64	1	SHAFT 1.500 IN	
65	1	SHAFT 1.500 IN	
66	1	SHAFT 1.500 IN	
67	1	SHAFT 1.500 IN	
68	1	SHAFT 1.500 IN	
69	1	SHAFT 1.500 IN	
70	1	SHAFT 1.500 IN	
71	1	SHAFT 1.500 IN	
72	1	SHAFT 1.500 IN	
73	1	SHAFT 1.500 IN	
74	1	SHAFT 1.500 IN	
75	1	SHAFT 1.500 IN	
76	1	SHAFT 1.500 IN	
77	1	SHAFT 1.500 IN	
78	1	SHAFT 1.500 IN	
79	1	SHAFT 1.500 IN	
80	1	SHAFT 1.500 IN	
81	1	SHAFT 1.500 IN	
82	1	SHAFT 1.500 IN	
83	1	SHAFT 1.500 IN	
84	1	SHAFT 1.500 IN	
85	1	SHAFT 1.500 IN	
86	1	SHAFT 1.500 IN	
87	1	SHAFT 1.500 IN	
88	1	SHAFT 1.500 IN	
89	1	SHAFT 1.500 IN	
90	1	SHAFT 1.500 IN	
91	1	SHAFT 1.500 IN	
92	1	SHAFT 1.500 IN	
93	1	SHAFT 1.500 IN	
94	1	SHAFT 1.500 IN	
95	1	SHAFT 1.500 IN	
96	1	SHAFT 1.500 IN	
97	1	SHAFT 1.500 IN	
98	1	SHAFT 1.500 IN	
99	1	SHAFT 1.500 IN	
100	1	SHAFT 1.500 IN	

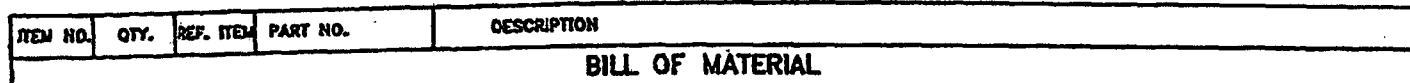


Granutech-Saturn Systems Corporation
201 East Shady Grove Road ♦ Grand Prairie, Texas 75050
Phone: (972) 790-7800 ♦ Fax: (972) 790-8733
email: sales@granutech.com

300 H.P. HYDRAULIC POWER UNIT



REVISIONS				
REV	DESCRIPTION	DATE	BY	APPROVED



FORM NO: EF-A-1000-H

©202 GRANUTECH SATURN SYSTEMS CORP. PRECAUTIONARY NOTICE. NO PUBLICATION INTENDED.

SATURN MOBILE TIRE SHREDDERS

Saturn has designed and built mobile shredders in the past. We are now manufacturing a new completely self-contained portable tire shredding system.

Saturn's new design features:

- ♦ Self-stowing discharge conveyor
- ♦ Infeed conveyor that will attach and feed from either side of mobile unit
- ♦ Infeed conveyor that rests atop shredder when in travel mode
- ♦ Easy dismantling and reassembly as stationary system

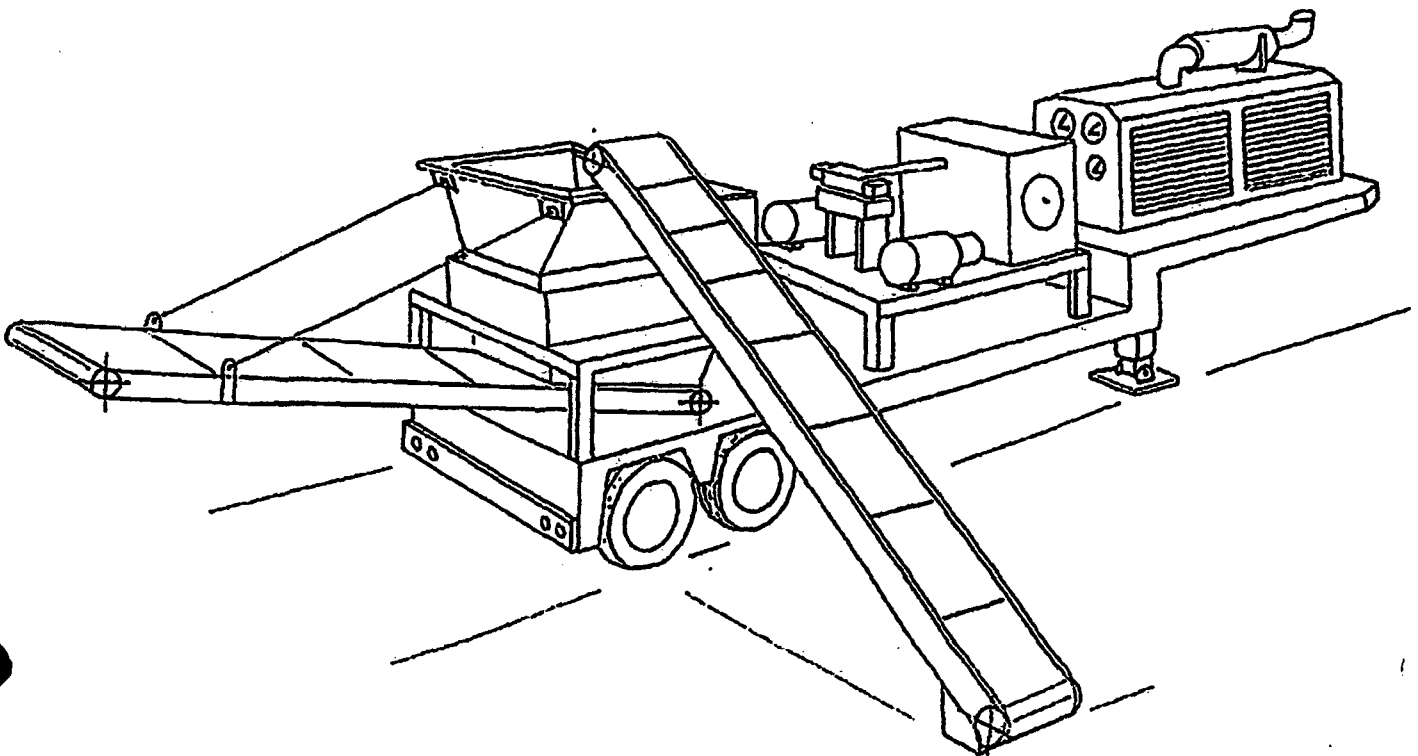
This state-of-the-art system can be the answer to your needs if legislation has closed your landfill to the burial of whole tires. Several states have set their policies, others are sure to follow. Take the time to look at the new Saturn Mobile System.

SATURN SHREDDERS, Division of MAC CORPORATION

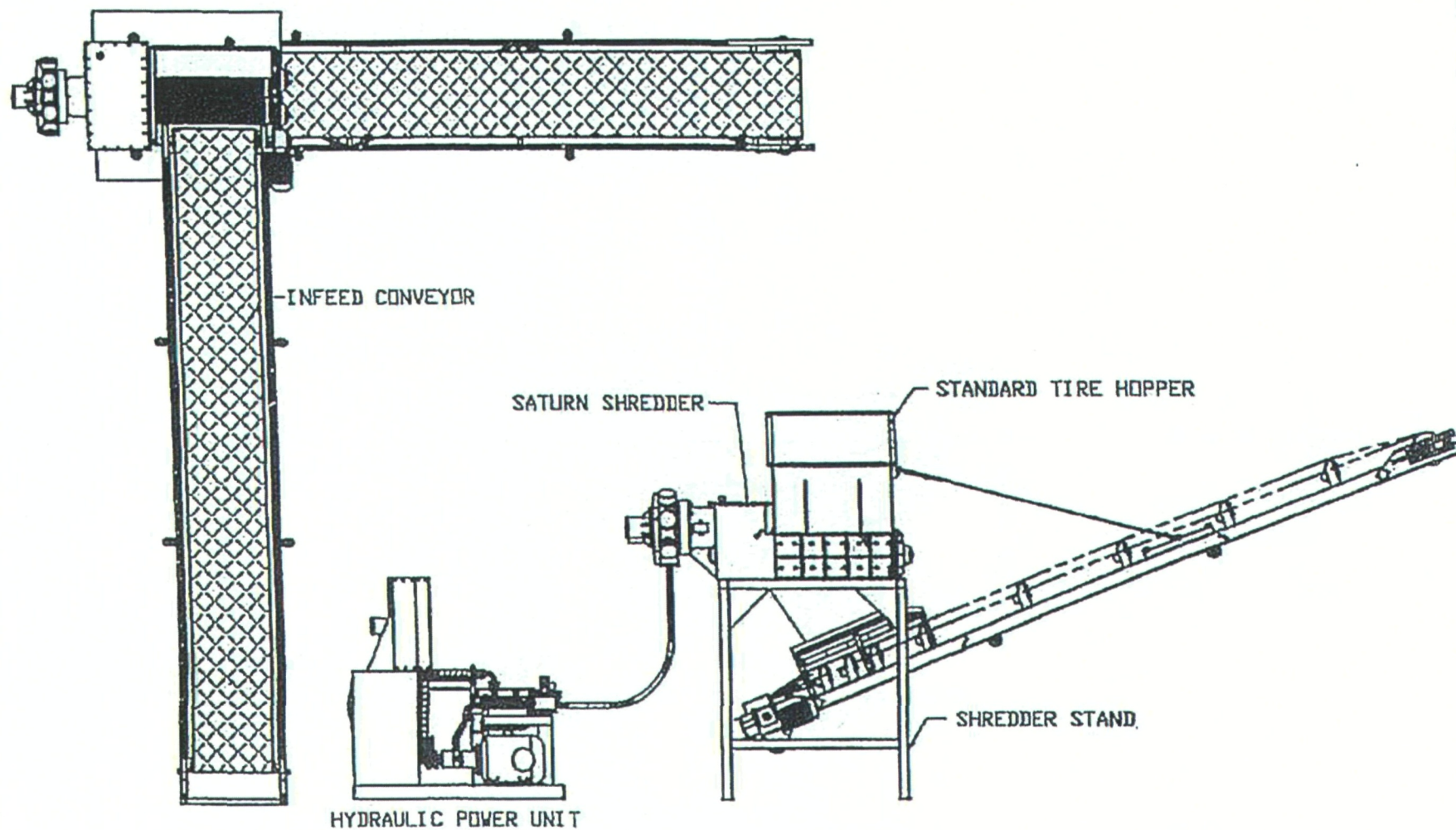
201 East Shady Grove Road

Grand Prairie, Texas 75050

(972) 790-7800



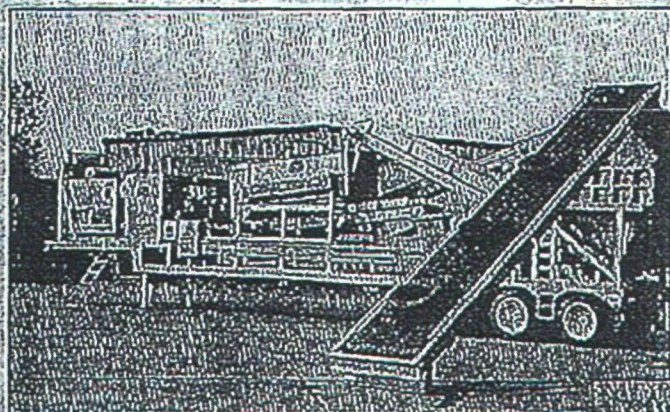
091390



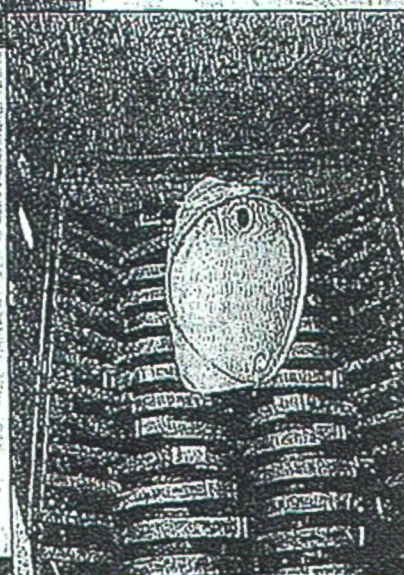
ITEM NO	QTY REQD	PART NUMBER OR DRAWING NUMBER	DESCRIPTION
LIST OF MATERIALS			
TOLERANCES (UNLESS NOTED OTHERWISE)			DATE
.X ± .02			DRAWN
.XX ± .010			CHECK
.XXX ± .005			ENGR
FRACTIONAL ≥ 1/16			VT
ANGULAR ≥ 1/2°			SHT
SURFACE FINISH REMOVE ALL BURS, SHARP EDGES			REV
NEXT ASSEMBLY			DWG. NO.
DO NOT SCALE			
MAC CORPORATION GRAND PRAIRIE, TEXAS			
DESCRIPTION			
PRODUCT			

SATURN SOLUTE We've got

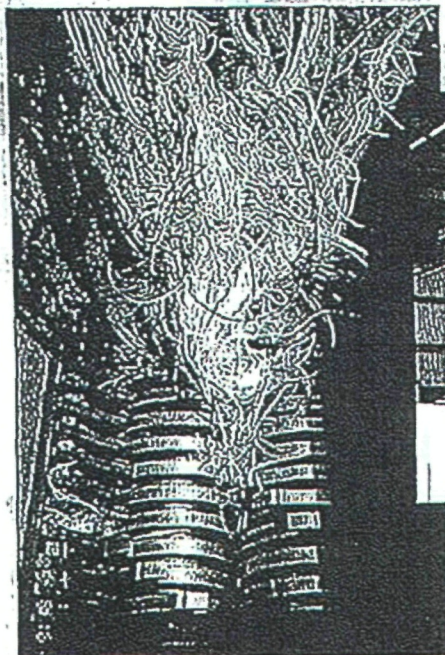
Someone else may have coined the phrase "nobody does it better," introduction more than three decades ago. Saturn Shredders have application possible. Their durability and versatility, coupled with applications ranging from shredding of paper to processing nuclear processing design and installation can also benefit from Granutech from concept through installation and beyond.



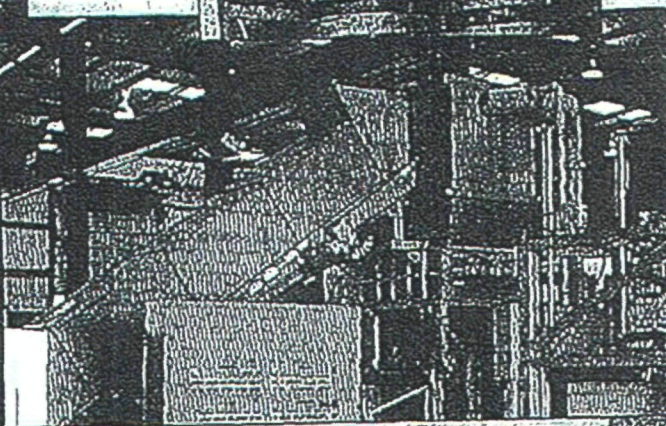
MOBILE TIRE SHREDDING



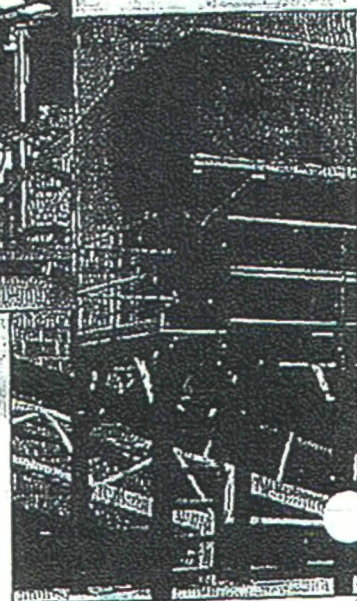
DRUM SHREDDING



CABLE & WIRE PROCESSING



LOW RAD WASTE PROCESSING



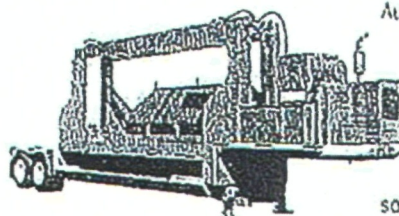
GRANUTECH-SATURN SYSTEMS THE WHOLE STORY

Granutech-Saturn Systems Corporation, offering equipment and peripherals under the Granutech, Saturn Shredders and MAC names, is one of the world's largest manufacturers of equipment and systems for size reduction and material recycling. Since 1965, the Grand Prairie, Texas-based company has demonstrated an unwavering commitment to quality equipment and world-class service for the various industries it serves, both in the U.S. and abroad. Shown here are Granutech-Saturn Systems' primary product lines.

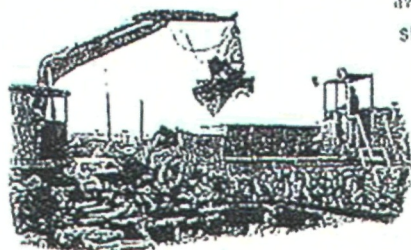
MAC
MATERIALS
HANDLING

GRANUTECH
SATURN
SYSTEMS

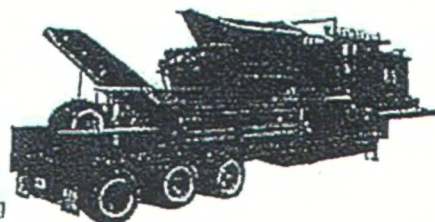
SATURN
SHREDDERS



Automobile recyclers and other ferrous/non-ferrous recycling operations have long relied upon MAC flatteners and balers for solid performance and minimal downtime. A full range of product offerings is available from the industry standard "Big MAC" flattener, to modified flattener designs for specialized processing demands.

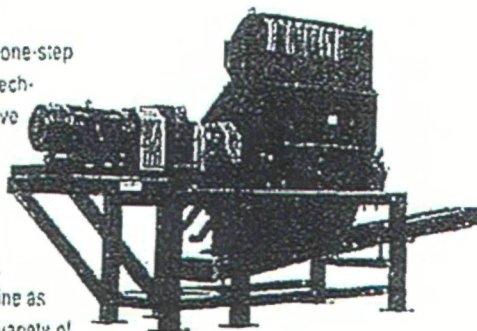
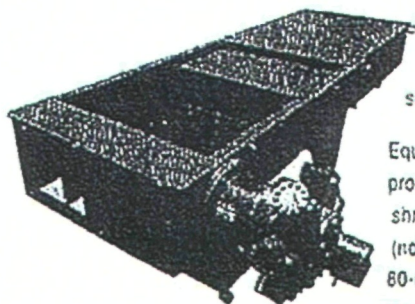


As shown in the previous pages, Saturn Shredders have been providing quality solutions to shredding problems for more than two decades. Today shredders bearing the Saturn name offer the broadest range of choices possible for use in a wide range of applications and industries.



When size reduction needs call for secondary processing, one-step reduction and sizing or granulation and powderization, Granutech-Saturn Systems Corporation leads the way with solid, effective solutions.

Equipment offered by Granutech-Saturn Systems includes: the Grizzly processor (shown at right); Roto-Grind single rotor shred/sizing units (shown at left); and the Granutech G-3 granulator, (not shown) which, with available options, can produce material as fine as 60-mesh. All Granutech-Saturn Systems equipment is offered in a variety of models and sizes to suit your processing needs.



The bottom line? We do size reduction and we do it very, very well. If one-stop shopping is too trite a concept, then think of it as the most comprehensive source available for solutions to your recycling needs. No matter how you choose to look at it, we can provide the equipment — and the answers — you need.

Waste Services Inc. - U.S. (Florida) Compliance History

Date	Facility	Location	Permit Number	Issuing Agency	Type of Action	Nature of Violation	Disposition	Fine or Penalty
11/29/05	Sarasota Transfer Station	Sarasota, FL	126776-003-SO	FDEP	NOV / Consent Order	Tipping floor not adequately draining and modified from permitted design.	Consent Order. Closed - Settlement fee was paid, permit modification submitted and constructed.	\$9,500
02/27/07	Pro Disposal - Alico (WSI - Alico)	Fort Myers, FL	0199986-001-SO	FDEP	NOV / Consent Order	Storage of materials, Records, Ventilation, Yard Trash Registration	Consent Order. Closed - Settlement fee was paid, permit modification submitted and approved. Note that the FDEP acknowledged in the closure letter that the violations causing the issuance occurred prior to WSI ownership.	\$2,250
06/29/07	Sarasota Transfer Station	Sarasota, FL	126776-002-SO	FDEP	NOV / Consent Order	Leachate Ponding on Floor, Ventilation, Tarping of Loads, Records	Consent Order. Closed - Settlement fee was paid.	\$12,000
10/31/07	Clearwater Material Transfer Station	Clearwater, FL	142414-004-SO	FDEP	NOV / Consent Order	Sediment in leachate drain, sweeping of floor, unacceptable waste in C&D waste, barrier wall missing	Consent Order. Closed - Settlement fee was paid.	\$8,500
10/31/07	Tampa Material Transfer Station	Tampa, FL	34481-004-SO	FDEP	NOV / Consent Order	Tipping floor in need of maintenance, unpermitted modification of leachate collection system, unacceptable waste in Class III waste, unlabeled oil containers	Consent Order. Closed - Repairs made to floor & leachate collection system. Settlement fee was paid.	\$10,000
07/30/08	SCMM Landfill	Balm, FL	35438-004-SO	FDEP	NOV / Consent Order	Unacceptable waste in C&D landfill, inadequate number of spotters, insufficient select waste layer, slopes steeper than 3 to 1, fill sequencing and phased closure of old fill.	Consent Order. Closed - Settlement fee was paid.	\$18,097
08/27/08	JED Landfill	St. Cloud, FL	SC49-0199726-004 & 005	FDEP	NOV / Consent Order	Installation of Gas Collection System and reporting.	Consent Order. Closed - \$1,000 administrative fee paid and a Pollution Prevention (P2) program was accepted in-lieu of a \$60,200 fine.	\$1,000 + P2 Program
07/17/09	Sarasota Transfer Station	Sarasota, FL	126776-005-SO	FDEP	NOV / Consent Order	Leachate drain clogged, bulking paint, litter in tarping area.	Consent Order - Closed. Proposed fine of \$5,000 was reduced to \$1,500.	\$1,500
07/23/09	SCMM Landfill	Balm, FL	35438-004-SO	FDEP	Warning Letter / NOV	Unacceptable items in the working face of the facility.	Consent Order. Closed - Settlement fee was paid.	\$5,000
07/23/09	Clearwater Material Transfer Station	Clearwater, FL	142414-004-SO	FDEP	Warning Letter / NOV	Unacceptable items in the accumulated waste in the C&D & Class III tipping areas.	Consent Order - Closed. Proposed fine of \$5,000 was reduced to \$3,500.	\$3,500

Note:

As of 10/01/2011 and subsequent to all facilities permit transfer to Waste Services.

List includes only those violations which have been issued fines or consent orders for facilities in Florida.

For Sun Country Landfill, a Consent Order #04-1939 was issued to the prior Owner which still exists for the Corrective Action to a Contaminated Site, which is still on-going. No fine was issued.

Appendix E
Water Quality Monitoring Plan

WATER QUALITY MONITORING PLAN UPDATE

This Water Quality Monitoring Plan Update (Plan) has been prepared as part of the Florida Department of Environmental Protection (FDEP) solid waste operations permit renewal for Phases 3 and 4 at the J.E.D Solid Waste Management Facility. The purpose of this Plan is to update the original Water Quality Monitoring Plan for Phase 1 development approved in October 2003 and Water Quality Monitoring Plan Revision for Phases 2 and 3 development approved in March 2007. The Monitoring Plan and Implementation Schedule (MPIS) for the facility was modified following the 2007 Plan revision and revised in April 2009 (2009 MPIS). The 2009 MPIS reduced the sampling frequency of the intermediate and deep surficial aquifer groundwater monitoring wells from semi-annually to annually.

A Landfill Lateral Expansion Application for a Major Permit Modification was prepared and submitted by Geosyntec in February 2011 (2011 Major Permit Modification). A permit for the 2011 Major Permit Modification was issued by FDEP in September 2011. The 2011 Major Permit Modification expanded the waste footprint from 264 acres and 21 landfill cells to 363 acres with 23 landfill cells.

This Plan is being submitted as part of the solid waste operations permit renewal and incorporates the minor changes to the landfill cell configuration (resulting from the 2011 Major Permit Modification) and provides a proposed water quality monitoring program for development of the facility for Phases 3 and 4. The Plan addresses the requirements of Rule 62-701.510 of the Florida Administrative Code (FAC) and provides the specified information required by FDEP form 62-701.900(1).

Groundwater Monitoring

The existing groundwater monitoring network at the facility consists of 69 wells in 23 clusters (MW-1 through MW-23). The 23 clusters are located around the footprint of Phases 1 through 3 of the landfill. Each cluster consists of 3 monitoring wells and are intended to monitor the shallow, intermediate and deep portions of the surficial aquifer. Wells designated with an "A" are installed across the water table to monitor the upper surficial aquifer A-zone; wells designated with a "C" are installed in the upper surficial aquifer C-zone above the intermediate clay layer; and wells designated with a "B" are installed at a position intermediate to the A-zone and C-zone wells. The rationale for the selection of the monitoring well locations and the monitoring well interval selection is provided in the original Groundwater Monitoring Plan.

The existing groundwater monitoring network will be modified for the proposed expansion of the facility into Phases 3 and 4. As indicated on Sheet 25 of the 2011 Renewal Permit Drawings, eight (8) additional clusters (MW-24 through MW-31) will be installed along the

perimeter of Phase 4. The installation schedule of the monitoring well clusters is outlined in the following sections.

Phase 3 Construction

The lateral expansion and associated minor landfill cell realignment will necessitate the abandonment of the MW-18 and MW-19 interim monitoring well clusters. The inter-cell berm where monitoring well clusters MW-18 and MW-19 are currently installed will be removed prior to the construction of Cell 9 and must be abandoned. The monitoring well abandonment procedure will include: (i) removing the existing protective casing and concrete pad; (ii) cutting off the existing well or piezometer casing below the ground surface; (iii) backfilling the full length of the well or piezometer casing with cement grout; and (iv) backfilling with soil in the vicinity of the well. Monitoring well abandonment will be performed in accordance with procedures outlined in Rule 62-532.500(4), FAC. Note that, pursuant to Sheet 26 of the 2011 Renewal Permit Drawings, the Phase 3 inter-cell berm where monitoring well clusters MW-18 and MW-19 are currently installed on will be removed after construction of the Phase 4 storm water management system, described next.

Phase 4 Construction

For the construction of Phase 4, MW-20, and MW-21 interim monitoring well clusters will be abandoned and eight (8) clusters (MW-24 through MW-31) will be installed – as indicated on Sheet 25 of the 2011 Renewal Permit Drawings. Of the eight (8) monitoring well clusters, three (3) (MW-29, MW-30, and MW-31) will be permanent monitoring locations and five (5) (MW-24, MW-25, MW-26, MW-27, and MW-28) will be interim monitoring locations. The permanent monitoring well clusters, MW-29, MW-30, and MW-31 on the east perimeter of Phase 4 of the landfill (downgradient with respect to groundwater flow direction) will be spaced no more than 500 feet apart and no more than 50 feet from the edge of waste to comply with the requirements of Chapter 62-701.510(3)(d)3, FAC. The interim monitoring wells on the south side of Phase 4 of the landfill (cross gradient with respect to groundwater flow direction) will be spaced no more than 664 feet apart and installed within the temporary stormwater berm.

Monitoring well abandonment will be performed in accordance with procedures outlined in Rule 62-532.500(4), FAC. Interim and permanent monitoring well clusters will be installed according to stipulations outlined in Rule 62-701.510(3), FAC. The construction details of the monitoring well clusters will remain consistent with the currently installed monitoring wells as indicated on Sheet 26 of the 2011 Renewal Permit Drawings based upon the uniform subsurface geology encountered during the initial and lateral expansion hydrogeological investigations. The proposed monitoring wells for Phase 4 of landfill development will be installed and sampled for the parameters in Rule 62-701-510(8)(a) and (d), FAC prior to placement of waste in landfill cell 10.

Groundwater Evaluation Monitoring

If one of the groundwater monitoring indicator parameters is found in the detection wells at concentrations significantly above background concentrations, above concentrations indicated in the MPIS, or at concentrations above the FDEP water quality standards or criteria specified in Chapter 62-520, FAC, the respective wells may be re-sampled within 30 days of receipt of data to confirm the laboratory results. Upon receipt of the confirmation re-sampling results, or if the wells are not re-sampled, FDEP will be notified within 14 days. The site may demonstrate that a source other than the landfill unit caused the increase above background or exceedance of the groundwater FDEP criteria. This demonstration will be submitted within 90 days of receiving the verification sample results. If an alternate source demonstration is not performed, then an evaluation monitoring will be initiated upon notification by the Department in accordance with Chapter 62-701.510(7), FAC.

The evaluation monitoring will include: (i) continuation of routine sampling and analyses for all monitoring wells and surface water monitoring locations; (ii) within 90 days of initiating evaluation monitoring, a representative background sample and all affected detection wells shall be analyzed for constituents listed in Rule 62-701.510(8)(d), FAC; (iii) inclusion of new parameters confirmed in affected downgradient wells into routine monitoring; (iv) within 90 days of initiating evaluation monitoring, installation of compliance monitoring wells located at the compliance line of the zone of discharge, downgradient of the affected detection wells, and sampling and analysis on a quarterly basis for the parameters listed in Rules 62-701.510(8)(a) and (d), FAC; and (v) within 180 days of initiating evaluation monitoring, submittal of a contamination evaluation plan, in accordance with Rule 62-701.510(7)(a)4, FAC, to FDEP. The contamination evaluation plan will be implemented upon FDEP approval of the plan.

Actions to be taken subsequently will depend on the results obtained from evaluation monitoring activities. Authorization from FDEP will be obtained prior to returning to routine monitoring. In accordance with Rule 62-701.510(7)(b)1, FAC, if the contamination evaluation report indicated that water quality standards are likely to be violated outside the zone of discharge, a remedial action plan will be submitted to the FDEP for review within 90 days. The remedial action plan will be implemented upon approval of the plan by FDEP.

Updates to Rule 62-701.510, FAC, which include changes to the Evaluation and Corrective Action requirements are incorporated by reference.

Surface Water Monitoring

No changes are proposed to the surface water monitoring section of the current MPIS.

Leachate Quality Monitoring

No changes are proposed to the leachate quality section of the current MPIS with the exception of the addition of samples from newly completed landfill cells.

Reporting Requirements

No changes are proposed to the reporting requirements section of the current MPIS.