



TEL (352) 672-6867

FAX (352) 692-5930

4140 NW 37th Place, Suite A,

Gainesville, FL 32606

www.locklearconsulting.com

December 6, 2016

Mr. Steven Morgan, Air & Solid Waste Permitting Manager  
Permitting & Waste Cleanup Program  
Florida Department of Environmental Protection  
13051 North Telecom Parkway  
Temple Terrace, FL 33637-0926

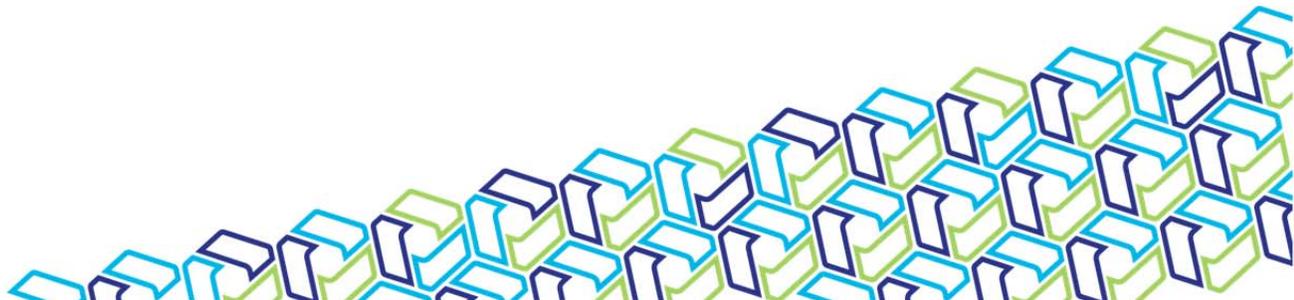
**RE: Response to Second Request for Additional Information (RAI)**  
**Facility Name: Enterprise Road Class III Recycling and Disposal**  
**Facility Site ID: 87895**  
**DEP Application No.: 177982-023-SC/T3 and 177982-024-SO/T3**

Dear Mr. Morgan:

Thank you for your review of the additional information submitted on July 31, 2016 and August 3, 2016 for the above referenced application. The following information is provided in response to the Department's Second Request for Additional Information (RAI) letter dated August 31, 2016. In addition to the specific RAI responses below, we have included a discussion of design and operations revisions based on the approach agreed upon during our October 19, 2016 meeting with the Department. Information is provided in the order requested in the referenced correspondence. In each case, the Department's request is stated in italics with the response immediately following in **bold**.

#### Design and Operations Revisions

The Cell 16 design included in the initial March 31, 2016 application and the July 31, 2016 RAI #1 Response generally involved a permeable berm on the northern and eastern perimeter of the cell which would allow leachate to flow directly into Pond 3 (which is being permitted through the Industrial Wastewater (IW) group). Based on modeling performed in support of the IW permit, this design allowed water in Pond 3 to stage to an elevation above the bottom of waste during 25-year, 24-hour storm event. During our October 19, 2016 meeting with the Department, it was agreed that the Cell 16 design would be revised to address this issue. Specifically, the revised Cell 16 design includes: (1) converting the permeable berm to a low permeability clay berm; (2) adding a toe drain along the northern cell perimeter; (3) adding a manhole to the northeast of Cell 16 to serve as the sump for pumping leachate collected by the



toe drain to Pond 3; (4) re-grading the clay layer to slope to the toe drain; and (5) adding a temporary stormwater diversion swale on the southern perimeter of Cell 16 to drain leachate from the existing cells into the temporary stormwater pond. Design changes are detailed in the revised Plan Set and Engineering Report provided in Attachments 1 and 2, respectively. As we agreed at the October 29<sup>th</sup>, 2016 meeting, collected leachate in Cell 16 would be pumped into Pond 3 and regulated in accordance with the requirements of the anticipated IW permit. Once Cell 16 (and any future cells that would connect to the leachate collection system) have been filled to the final design grades and closed, the pumping of leachate into Cell 16 would cease and the IW permit for Pond 3 would no longer be required

In addition to these design changes, revisions to the operations plan have been made, including: (1) adding procedures for monitoring leachate levels and pumping from the new manhole into Pond 3; and (2) changing the fill sequence for the initial lift. Operational changes are detailed in the revised Operations Plan provided in Appendix 3-A of the Engineering Report provided in Attachment 2.

SECTION 2 - APPLICATION FORM #62-701.900(1), [Rule 62-701.320 (7), F.A.C.]:

1. *Part D.13.: Please publish the attached Notice of Application and provide proof of publication to the Department.*

**Response to Comment 1: The proof of publication is provided in Attachment 3.**

SECTION 3 - ENGINEERING REPORT, Rule 62-701.320(7)(d), F.A.C.

2. *In many cases, the narrative in the engineering report is also utilized in the operation plan. The operation plan narrative should be revised where appropriate to address comments regarding the engineering report.*

**Response to Comment 2: Comment is acknowledged.**

3. *§3.10.1.2: This section was revised to refer to new Table 3.10.1.2 that provided the elevations of the top and bottom of the perforated section of replacement gas probes GP-6R, GP-7R and GP-8R. Please submit revisions to Table 3.10.1.2 to also provide construction details for proposed replacement gas probes GP-11R and GP-14R. Please also provide a site map (no larger than 11 x 17 inches) that shows the existing and proposed gas probes and identification numbers for use as a permit attachment.*

**Response to Comment 3: Table 3.10.1.2 has been revised as requested. The revised Engineering Report is provided in Attachment 2. A site map showing the existing and proposed gas probes and identification numbers is provided in Attachment 4.**

4. §3.10.2.:

a. Please provide documentation that the facility has received an Industrial Wastewater permit to direct leachate into Pond 3.

**Response to Comment 4a:** A copy of the Industrial Wastewater permit for Pond 3 will be provided under separate cover.

b. Please revise Drawing C0.04 of the plan set to identify where the 6-foot will be located and an appropriate plan sheet to provide a cross-section detail of the berm. Please note that the berm will need to be located within Cell 6 in order for the leachate to flow through the permeable side berm into Pond 3.

**Response to Comment 4b:** This design feature has been modified as part of the design changes discussed at the beginning of this letter. Section 3.10.2 of the Engineering Report (provided in Attachment 2) has been revised to reflect these changes. The revised design is shown in the Plan Set provided in Attachment 1.

Appendix 3-A - Operations Plan (Rule 62-701.500(9), F.A.C.):

5. §5.8: Although a copy of the facility's SSOP registration was provided in Attachment 7 of the Operation Plan, this section does not appear to have been revised to reference the SSOP registration as indicated in your response. Please verify and revise the section, as appropriate.

**Response to Comment 5:** Section 5.8 of the Operations Plan has been revised to reference the SSOP registration. The revised Operations Plan is provided in Appendix 3-A of the Engineering Report provided in Attachment 2.

SECTION 4 – 2016 PLAN SET (Rule 62-701.320(7)(f), F.A.C.)

6. Drawing C0.03: Drawing C1.10 includes the detail titled "Proposed North Berm Detail Cell 16" that shows the 3-foot thick compacted clay layer extending beyond the limits of Cell 16 to the bank of Pond 3. Based on the locations of existing wells MW-4/MW-4B and MW-6/MW-6B as shown on Figure 1 of the Groundwater Monitoring Plan (Section 5 of the application), it appears these wells are located in the area where the clay layer extends beyond the disposal limits of Cell 16. Please submit revisions to the appropriate section of the Engineering Report to describe how the 3-foot thick compacted clay layer will be installed around these existing wells.

**Response to Comment 6:** Based on the design changes discussed herein, the 3-foot thick

**compacted clay layer will no longer extend beyond the limits of Cell 16.**

*SECTION 5 – GROUNDWATER MONITORING PLAN (Rule 62-701.510, F.A.C.)*

7. §1.: *This section refers to the ground water monitoring network described in Table 1 and Figure 1. Please submit revisions to address the following:*

a. Table 1: *New Figure 4 indicates there is a lateral distance of 11 feet between existing wells MW-4/MW-4B and the edge of Pond 3 in the downgradient direction; new Figure 4 indicates there is a lateral distance of 25 feet between existing wells MW-6/MW-6B and the edge of Pond 3 in the downgradient direction. Based on this information there is sufficient space in the downgradient direction to install compliance wells, if needed, and the current designation as detection wells is appropriate. As Figure 4 indicates replacement wells MW-5AR/MW-5BR will be installed within 1 foot of the edge of Pond 3, it is appropriate to designate them as compliance wells. Please submit revisions to Table 1 to designate replacement wells MW-5AR/MW-5BR as compliance wells.*

**Response to Comment 7a: Table 1 has been revised accordingly and is provided in the revised Groundwater Monitoring Plan in Attachment 5. Table 1 has been revised to reflect the MMW-18B, -19B and -20B well installations.**

8. §1.d.: *The revisions to this section, to Figure 2 (Proposed Surficial Aquifer Monitor Well Detail), and to Figure 3 (Proposed Floridan Aquifer Monitor Well Detail) that base the construction details for future monitor wells on the lithology and water levels reported for existing adjacent wells are noted. Please also review the lithology reported for boring logs previously completed at locations in proximity to the future monitor wells as presented in the document titled “Construction and Operation Permit Application, Sid Larkin & Sons, Inc., Enterprise Class III Landfill,” prepared by Hartman and Associates, Inc. This document can be accessed in OCULUS at the following link:*

[http://depdms.dep.state.fl.us:80/Oculus/servlet/shell?command=getEntity&\[quid=8.209703.1\]&\[profile=Permitting\\_Authorization\]](http://depdms.dep.state.fl.us:80/Oculus/servlet/shell?command=getEntity&[quid=8.209703.1]&[profile=Permitting_Authorization])

*MW-18A/MW-18B is characterized by borings DCL01-2 and DCL01-3; MW-19A/MW-19B is characterized by boring B-17; MW-20A/MW-20B is characterized by B-12 and DCL01-5. Figures 4, 5, 6, 6.1 and 6.2 presented in Section 5 of this document should be reviewed.*

*The proposed surficial aquifer wells should be constructed so the screened interval brackets the water table surface. Additionally, all permeable zones of the unconsolidated sediments above the confining unit need to be investigated to determine whether a surficial aquifer is present at the proposed well locations. Furthermore, all due care needs to be taken so the screened interval and sand pack are not installed across the confining unit. For example, the construction for proposed well MW-5AR places the bottom of the well screen (59 ft. NGVD) one foot below the anticipated top of the limestone sediments (60 ft. NGVD). This configuration appears to*

*provide a hydraulic connection across the confining unit.*

*The proposed Floridan aquifer wells should be constructed so the screened interval is set near the top of the water-bearing limestone sediments below the confining unit. For example, the construction for proposed well MW-18B places the top of the well screen (65 ft. NGVD) one foot below the low ground water elevation reported for existing well MW-15B (water elevations have ranged from 66.1 to 74.76 ft. NGVD during sampling events conducted between March 2012 and February 2016). This configuration does not appear to provide a conservative monitoring point at the top of the Floridan aquifer.*

*Please review the construction details for the proposed wells listed in Figures 2 and 3 and submit revisions as appropriate. As previously indicated, please submit revisions to this section to indicate that the ground surface elevation shall be established at each proposed monitor well location prior to the initiation of well installation.*

**Response to Comment 8: Monitoring wells MW-18B, MW-19B and MW-20B have been installed as previously permitted for Cell 7. Copies of the well completion reports and initial groundwater sampling data will be provided under separate cover.**

*SECTION 7 – CLOSURE AND RECLAMATION PLAN (Rule 62-701.600, F.A.C.)*

9. *Appendix 7-A*

*a. The closure and long-term care estimates provided in Appendix 7-A (total for closing \$3,340,321.98 and long-term care \$92,812.28/year x 30 years = \$2,784,368.40) are approved. The approved cost estimates are for closing and long-term care of 22 acres (Cells 1-7, 15, & 16).*

*b. Long-Term Care – Groundwater Monitoring: The Department agrees that the maximum number of monitoring wells to be sampled under long-term care monitoring is 26. Based on this assumption, which differs from the 16 wells assumed in the currently approved cost estimate for closure and long-term care of Cells 1-7 and 15, revised cost estimates for Cells 1-7 and 15 shall be submitted to and approved by the Department and proof of adequate funding submitted to the Department prior to operation in Cell 7. This comment is provided for informational purposes only and does not require a response other than acknowledgement of the comment.*

**Response to Comment 9: Comment acknowledged.**

*APPENDIX G - OPERATIONS PLAN (Rule 62-701.500(9), F.A.C.):*

10. §5.8: *Although a copy of the facility's SSOP registration was provided in Attachment 7 of the Operation Plan, this section does not appear to have been revised to reference the SSOP registration as indicated in your response. Please verify and revise the section, as appropriate.*

**Response to Comment 10: Section 5.8 of the Operations Plan has been revised to reference the SSOP registration. The revised Operations Plan is provided in Attachment 3.**

Please feel free to call me or John Locklear at (352) 672-6867 with any questions regarding this submittal.

Sincerely,

Lisa J. Baker, P.E.  
Engineering Division Director  
Locklear & Associates

cc: John Arnold, Angelo's Recycled Materials  
John Locklear, Locklear & Associates  
Annemarie Hammond, Water Facilities Permitting, FDEP

Attachments

Attachment 1:	Revised Plan Set
Attachment 2:	Revised Engineering Report and Operations Plan
Attachment 3:	Proof of Publication
Attachment 4:	Site Map
Attachment 5:	Revised Groundwater Monitoring Plan

# **Attachment 1**

## **Revised Plan Set**

## **Attachment 2**

### **Revised Engineering Report and Operations Plan**

**ENTERPRISE ROAD CLASS III RECYCLING AND DISPOSAL FACILITY  
MAJOR PERMIT MODIFICATION  
ENGINEERING REPORT**

*Prepared for:*

**ANGELO'S AGGREGATE MATERIALS, LTD**  
855 28<sup>th</sup> Street South  
St. Petersburg, Florida 33712

*Prepared by:*

**LOCKLEAR & ASSOCIATES, INC.**  
4140 NW 37<sup>th</sup> Place, Suite A  
Gainesville, Florida 32606

~~Revised July 2016 (RAI 1 Response)~~  
Revised December 2016 (RAI 2 Response)

Performed Under the  
Supervision of

---

Lisa J. Baker, P.E.  
Florida PE #74652

**ENTERPRISE RECYCLING AND DISPOSAL FACILITY  
ENGINEERING REPORT  
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APPENDIX 3-D	WELL ABANDONMENT DOCUMENTATION

## SECTION 3 ENGINEERING REPORT

### 3.1 GENERAL

This Engineering Report is part of a comprehensive Florida Department of Environmental Protection (FDEP or Department) permit modification application for the Enterprise Road Class III Recycling and Disposal Facility (Facility) submitted by Locklear & Associates, Inc. (L&A) in March 2016 and revised in July and December, 2016 on behalf of Angelo's Aggregate Materials, Ltd. (Applicant). The Engineering Report is designed to meet the requirements of Rule 62-701, F.A.C. and Pasco County's Land Development Code (LDC) and includes the following major components (and their respective location within this Engineering Report):

- Plan Set dated ~~March~~ December 2016, titled 2016 Plan Set, by Locklear & Associates, Inc. (Section 4);
- Figures (Appendix 3-C);
- An evaluation of the applicability of bottom liner and leachate collection system requirements (Section 2, Part G, G-1);
- Updated report evaluating geotechnical site conditions (Section 2, Part I, I-1);
- Updated Groundwater Monitoring Plan (Section 5);
- An analysis of slope stability (Section 2, Part I, I-2);
- Updated Closure and Reclamation Plan (Section 7);
- Updated financial assurance cost estimates (Section 7 Appendix 7-A);
- Updated Operations Plan (Section 3 Appendix 3-A);
- Updated Contingency Plan (Section 3 Appendix 3-B).

### 3.2 SITE LOCATION AND DESCRIPTION

The facility receives approximately 550 tons per day of Class III waste, which includes Construction and Demolition debris, from Pasco County and other surrounding Counties (including Pinellas, Hernando, Hillsborough and Polk). The Facility was originally permitted by the Department on October 5, 2001.

The subject site is located in Sections 5 and 8, Township 25 South, Range 22 East, in Pasco County, Florida, as shown on the United States Geological Survey (USGS) quadrangle map presented in Figure 3-1 in Appendix 3-C. More specifically, the Facility is located at the northwest corner of the intersection of Enterprise Road and Auton Road, southeast of Dade City, Florida (Figure 3-1 in Appendix 3-C ). The site occupies approximately 160 acres of land on the

north side of Enterprise Road. The square property is approximately 2,640 feet on a side and is located in the southwest quarter of Section 5 and the northwest quarter of Section 8.

There are no airports within 5 miles of the site, see Figure S-4 (Appendix 3-C).

### 3.2.1 Prohibition Compliance

In order to comply with Rule 62-701.300, F.A.C., the Facility will abide by the following:

- The Facility will not dispose of solid waste at the proposed site until proper permitting is obtained.
- Disposal of solid waste will not occur in areas that are: unable to provide support for the waste; geological formation or subsurface features that would allow unimpeded discharge to surface water on groundwater; are within 500 feet of an existing potable water well (Figure S-1 in Appendix 3-C); are within a dewatered pit; are in a frequently flooded area; are in a body of water; are within 200 feet of a surface water body that discharges offsite (Figure S-2 in Appendix 3-C); are on a right of way; are within 1,000 feet of an existing community potable water; or are within 3,000 ft. of Class I surface waters (Figure S-3 in Appendix 3-C).
- Open burning will not occur on the site unless the burning takes place in a permitted air curtain incinerator.
- Hazardous wastes, PCB's, biohazardous wastes, special wastes, liquids, and oily wastes will not be disposed of at the Facility. Random load checks and the use of spotters at the working face will ensure that these wastes are not placed for disposal at the Facility.

### 3.3 SURROUNDING LAND USES AND ZONING

Figure 3-2A in Appendix 3-C presents an aerial photograph map depicting the surrounding land uses and designated FDOT FLUCCS codes in the site vicinity. Open land, pastureland, row crop, tree crop, and upland hardwood forest land uses surround the site. A few scattered residences also surround the site. All adjoining properties are zoned AC. To the north is the East Pasco County Class I Sanitary Landfill, which is closed. To the east is an old borrow pit and agricultural land. South of the site is agricultural land and orange groves, and to the west are orange groves. Figure 3-2A in Appendix 3-C presents an aerial photograph map with future land use classifications.

Current site zoning designation, AC with a conditional use, is consistent with the Class III Landfill use. Revised Figure 5 depicts the locations of five (5) water wells proximate to the landfill limit. The well north of Cell 13 has been abandoned. The on-site non-potable Supply Well is operated and maintained by the facility and only utilized to flush on-site toilets. The well approximately 1000' south of the southeast corner of the facility is identified as "irrigation" by SWFWMD. The 500-foot setback from the approved landfill footprint to potable wells complies with the setback requirements of Rule 62-701.300(2)(C), F.A.C.

### 3.4 TOPOGRAPHY

The USGS 7.5 minute quadrangle map shown in Figure 3-1 in Appendix 3-C shows the land surface of the subject site has elevations ranging from 85 feet to 175 feet National Geodetic Vertical Datum (NGVD). Natural land surface generally slopes to the northeast on the northern half of the property and southeast on the southern half of the site. A 2013 site-specific topographic survey is shown on Sheets 1 and 2 of the 2016 Plan Set provided in Section 4.

#### 3.4.1 100-Year Flood Prone Areas

Figure S-5 of the 2013 permit renewal application (which refers to the July 2006 Enterprise Recycling and Disposal Class III Landfill Response to 2nd Request for Additional Information, dated July 5, 2006 prepared by Jones Edmunds), depicts a 100-year flood prone area map from the U.S. Federal Emergency Management Administration for the subject vicinity. As shown, the site is not within and would not be impacted by an estimated 100-year storm flood.

### 3.5 SOILS

According to the Soil Survey of Pasco County, Florida, published by the U.S. Department of Agriculture Soil Conservation Services (USDA-SCS), the majority of the subject site and surrounding areas are covered by fine sands. A copy of the USDA-SCS Soils Survey Map showing the mapped areas of the major soil types at the subject site and its vicinity is presented in Figure 3-5 Soil Survey Map, as referred to in the 2013 permit renewal application as submitted as part of the 2005 Enterprise Recycling and Disposal Facility Class III Landfill Permit Renewal Application, Pasco County, dated August 2005, prepared by Tetra-Tech HAI (TTHAI).

USDA-SCS soil type 12- Astatula fine sands encompass a small portion in the northeast portion of the site. Astatula sands are nearly level to gently sloping, and excessively drained mainly in the sandhills. Seasonal high water table (SHWT) is typically at a depth of 72 inches in Astatula

soil. The permeability is very rapid throughout the soil. Both the available water capacity and natural fertility of the Astatula soil are low.

USDA soil type 32 - Lake fine sands comprise the majority of the soils found on the property. These soils are nearly level to gently sloping and excessively well drained. They occur along ridgetops and on low hillsides in the uplands. Permeability is rapid throughout the soil and the water table is below a depth of 120 inches. The available water capacity is very low in all layers and the natural fertility and organic matter content are both low.

USDA soil type 72 - Orlando fine sands are found in a small area in the northeast portion of the property. These soils are nearly level to gently sloping and well drained. The water table is typically at a depth greater than 72 inches with permeability of the soil rapid throughout. The available water capacity is low in the surface layer and very low in the other layers.

### 3.6 LANDFILL SITE IMPROVEMENTS

Portions of the 160-acre landfill site are also currently being operated as orange groves. The following site improvements have been installed to meet landfill operational requirements.

#### 3.6.1 Entrance Facilities

An office trailer (gatehouse) is located onsite for the gate attendant. This trailer has hand washing and toilet facilities. Potable bottled water is supplied to the trailer. Electric and telephone services are available to the trailer office. Site entrance improvements also include an all-weather entrance roadway, scales and perimeter road as shown in Sheet C0.02 of the 2016 Plan Set provided in Section 4.

#### 3.6.2 Roads

The primary haul route servicing the Facility is Enterprise Road. Enterprise Road is serviced by Clinton Avenue and C.R. 35A.

Enterprise Road has been improved to an all-weather access roadway from C.R. 35A to the entrance of the Facility. All on-site roads are maintained by the Applicant to allow for all weather access. Access roads to the working face are constructed from on-site soils and/or recovered materials such as concrete and asphalt. This is done on an as needed basis

#### 3.6.3 Effective Barrier

A 6-foot high security fence has been constructed along the south and east boundaries. The

security fence consists of a 6-foot high-galvanized chain link fence, hereafter referred to as the "security fence." A five-foot wire fence runs along the north and west property boundaries. The chain link fence has been installed in accordance with the permit issued October 2001. Three (3) foot square "NO TRESPASSING" signs with 5-inch letters have been installed at no less than 500-foot spacing and at all corners to notice unauthorized access. The only point of access into the facility will be through the gate at the entrance. This gate will be locked during closed hours.

An 8-foot high landscape berm has been constructed along the site's frontage to Enterprise and Auton Roads, see Sheet C0.02 of the 2016 Plan Set provided in Section 4.

#### 3.6.4 Weighing or Measuring Incoming Waste

A scale system is used to keep records of materials received at the Facility. The scales are calibrated every six (6) months. Vehicles are weighed when they enter the Facility, and based upon the tare weight of the vehicle, the waste tonnage will be determined. Prior to unloading debris, the tonnage or volume of waste materials received will be determined and the appropriate fee assessed.

#### 3.6.5 Vehicle Traffic Control and Unloading

Generally, truck traffic will be controlled on a first-in, first-out basis, as directed by the spotter at the working face. There is adequate space for truck staging at the site's entrance gate (7-8 trucks) to mitigate any queuing onto Enterprise Road. The Facility will discourage any truck staging prior to landfill opening. Signs will be posted at the entrance gate and on interior roads to guide truck traffic.

### 3.7 EXCAVATION OPERATIONS AND CELL CONSTRUCTION

On-site soils will be excavated according to the Pasco County Class I Mining Permit. The soils will be excavated and removed for various uses, including construction, roadways, and in landfilling operations. The County permit allows an excavation up to within a 200-foot setback from the property boundary and an excavation slope of 6H:1V. The Class I Mine will be "reclaimed" as a Class III landfill. The 6H:1V excavation slopes are associated with the mining of the existing soil. Once the landfill is ready to accept waste, the mine side slopes will be excavated to 2H:1V side slopes (cell slopes). Waste will be placed against this excavated slope and then built above existing grade. Drawing Sheets C1.00 and C1.10 of the 2016 Plan Set (Section 4) show the phasing of the cell construction and filling operation at the Facility.

Excavation slopes will not exceed 6H:1V pursuant to the Pasco County permit; however, once an excavation phase is complete and construction commences on a new cell, the slopes will be

excavated to 2H:1V. A portion of the excavated soils from the mining operation will be used as landfill construction material. Excavated soils will be reserved to provide adequate cover material for the landfill operation. Cell construction will follow the sequence described in Section 3.8.

As new cells are excavated and constructed, the cells will be overexcavated to approximately three-feet below the approved excavation base grade to allow for the construction of a 3' clay layer. If limerock is encountered during construction, the following actions will be taken:  
**Where limerock is encountered at or below the elevation of the cell clay layer:**

- In the event that limerock is encountered during clay layer excavation or construction activities, the excavation / construction activities shall cease and the Department shall be notified by email within 24 hours of discovery.
- Excavation / construction activities related to determining location, elevation, and extent of limestone or to remediation in accordance with these procedures will resume no sooner than 24 hours after notice, unless otherwise directed by the Department
- Written notification will be submitted within 7 days of discovery.
- The written notification shall include the location, elevation, and extent of limestone noted on a plan sheet, a description of the materials encountered, and a description of the completion of excavation / clay backfill in the identified area or the anticipated timeframe for completion of these activities.
- The limerock will be over-excavated (5-feet laterally beyond limerock boundary and 3-feet vertically below the bottom of the compacted clay layer) and the area backfilled with clay meeting the specifications in the FDEP Operation/Construction permit and Engineering Report.
- Excavation / construction activities will resume no sooner than 24 hours after notice, unless otherwise directed by the Department

**Where limerock is encountered during mining operations at elevations above the elevation of the cell clay layer and do not extend into the clay layer:**

- Document on the limerock observation log the location, elevation, and extent of limestone noted on a plan sheet, and a description of the materials encountered
- Submit limerock observation log to FDEP within 7 days of discovery
- Where limerock is encountered within 10-feet of the design elevation of the top of compacted clay layer, in addition to the procedures noted above, overexcavate 1-foot vertically and laterally around the exposed limerock and backfill with compacted clay to temporarily prevent infiltration during mining operations.

If limerock encountered during mining operations at elevations above the cell clay layer extends to or below the elevation of the cell clay layer, the procedures identified above under the heading “*Where limerock is encountered at or below the elevation of the cell clay layer*” shall be followed.

Stockpiled clay, obtained from on-site excavation, will be sampled for laboratory proctor testing for use as cell floor and cell side slope material to construct a three-foot thick clay barrier layer. Material with acceptable permeability and proctor test results will be placed onto the constructed cell floor in lifts, and compacted by multiple passes with a 40,000 lb, D-6 Dozer, or equivalent.

A three-foot thick clay layer will also be placed on the 2H:1V side slopes of the exterior excavation side slopes of each cell to complete the continuous clay barrier layer. Due to the steepness of the slope, clay placement and compaction will require an iterative process consisting of several horizontal lifts, stepped up progressively until the base elevation of the landfill is reached. In order to achieve the required compaction and hydraulic conductivity, as well as to achieve a constant three feet of clay along the slope, each lift along the cell wall will need to exceed three feet wide and be wide enough for the compacting equipment. Construction of the clay side slopes is shown on Drawing C3.00 of the 2016 Plan Set provided in Section 4. Soil in excess of three feet wide on the slopes may be removed after compaction and compliance testing have been approved. Acceptable test results means the results of the laboratory proctor and permeability tests indicate that the permeability of the material meets the requirements of the construction permit ( $1 \times 10^{-7}$  cm/s), and the optimum moisture content is not too high for the equipment to manage. Optimum moisture content for the on-site stockpiles has been approximately 13 to 20 percent.

The dozer will compact the material in the bottom of the excavation and up the side slopes into the dozer track marks. After each lift is compacted with the dozer, a 12-ton, 84-inch vibratory sheeps-foot roller, or equivalent, will be used to roll the material. The daily activities will be recorded, including any tie-in locations, thickness of each compacted lift, verification of the compaction and moisture content testing, verification of equipment used for compaction, and verification of dozer tracks at the tie-in surfaces (no smooth surfaces). Field logs and photographs documenting the field work will be provided to the Department. A topographic survey will confirm the top of excavation and top of clay grades.

Excavation will be such that 2H:1V slopes will only be encountered on the outer edge boundaries of each cell. A 3H:1V working face slope, beginning at the 2H:1V slope face, will be used for landfilling the waste.

A berm will be constructed along the northern outer edge boundaries of Cells 6B and 7 to account for mining excavation in this area. Stockpiled clay obtained from on-site excavation to

be utilized for berm construction shall be sampled consistent with the procedures described for the clay barrier layer and demonstrate acceptable test results, as described above. A detail of the berm and tie-in is provided on sheet C-5 of the 2012 permit modification Plan Set provided by Kelner Engineering and on sheet C1.00 of the 2016 Plan Set in Section 4.

A temporary stormwater and leachate diversion swale will be constructed immediately north of Cell 15. The swale will extend east to west the full width of Cell 16 and slope to the west to the temporary stormwater pond in the future Cell 14 area. Leachate generated in existing cells 1-7 and 15 will move to the remaining temporary stormwater pond in the future Cell 14 area. Once Cell 16 construction is complete, the swale will remain in place while the initial lift of waste is placed across the entire floor of Cell 16. Once Cell 16 is “floored out”, the swale will be removed for the remainder of operations. Leachate generated in existing cells 1-7 and 15 will then move to a temporary stormwater pond in the future Cell 14 area as it did prior to removal of the swales. The remainder of the leachate generated in cells 1-7, 15 and all leachate generated in Cell 16 will move to a toe drain extending east to west along the northern perimeter of Cell 16. The toe drain will slope west to east and terminate in a manhole located between Cell 16 and Pond 3. The toe drain will “daylight” approximately 3 feet above the bottom of the manhole. Staff will observe the level of leachate in the manhole every morning the facility is open. When leachate levels are observed to be equal to the invert of the toe drain, a pump will be used to drain the manhole into Pond 3. Leachate levels in the manhole will be periodically inspected throughout the day and pumping will be performed as needed

### 3.8 METHOD OF CELL SEQUENCE

Angelo’s Aggregate Materials is currently (as of ~~March~~ November 2016) filling in Cells 1 – 6 and 15 of the Class III Landfill, while construction of Cell 7 is being completed. The cell construction and filling sequence operations will be as follows:

Phasing Sequence 1	As shown in Drawing Sheets C1.00 and C1.01 Continue filling Cells 1, 2, 3, 4, 5, 6, 6B, 7 and 15 in 10 – 12 foot lifts to waste elevation of 172’ Maximum slope is 3H:1V from base grade to waste elevation 122’; 4H:1V from waste elevation 122’ to 167’; 1% to 2% grade from waste elevation 167’ to 172’ 10-ft wide stormwater benches are to be constructed at waste elevations 122’ and 147’ Sideslope berms and stormwater appurtenances are to be constructed at final closure. Construct Cell 16 in accordance with permitted design
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## Phasing Sequence 2

As shown in Drawing Sheets C1.10 and C1.11

Begin filling Cell 16 with 4 – 6 feet lift north of the temporary ~~berm~~ stormwater and leachate diversion swale until cell is flooded out. Remove temporary ~~berm~~ swale and fill with 4 – 6 feet lift.

Continue filling Cell 16 in 10 – 12 foot lifts from base grade to waste elevation 147', including filling over Cell 15. Maximum slope is 3H:1V from base grade to waste elevation 122'; 4H:1V from waste elevation 122' to 147'.

A 10-ft wide stormwater bench is to be constructed at elevation 122'.

Sideslope berms and stormwater appurtenances are to be constructed at final closure.

## Phasing Sequence 3

As shown in Drawing Sheets C2.00 and C2.10

Construct final closure cover system over Cells 1, 2, 3, 4, 5, 6, 6B, 7, 15 and 16 in accordance with the permitted closure design.

Construct sideslope berms and stormwater appurtenances.

Construct landfill gas vents.

Lift height includes cover material. Due to the landfill bottom elevation, some lifts may not be a full 10 feet in height.

As each sequence is active, the following procedures will be followed.

- The access road to the working face will be constructed and graded as necessary.
- Waste will be compacted as it is placed. General lift height will be 10 feet and will come within three (3) feet of the final elevation to provide for final cover.
- The working face will remain approximately 100 feet in length.
- Avoid channelizing stormwater flows
- Use mulch, grass, and maintain intermediate covers
- Weekly cover of six (6) inches of soil will be placed on the working face.
- Intermediate cover of 12 inches of soil will be placed in areas that will not receive waste within 180 days. The cover may be removed immediately prior to placement of new waste.

- Stormwater runoff from the interior of the excavation and filling area will be diverted to the onsite temporary storage pond using a temporary interior swale and 6-foot berm. Perimeter berms will direct stormwater away from excavation and filling areas. The temporary stormwater pond will receive runoff until Pond 3 is developed.

### 3.8.1 Vertical Expansion / Conceptual Closure

The landfill is permitted to be completed to a maximum height of 175 feet, NGVD. The final grading plan is shown on Drawing C2.00 of the 2016 Plan Set provided in Section 4. The Conceptual Closure Plan includes permitted Cells 1-7 and 15, and proposed Cell 16.

The Conceptual Closure Plan includes construction of berms on the stormwater benches that will direct stormwater to drop inlets and downcomer pipes spaced approximately every 400 – 500 feet along the benches. The downcomer pipes will discharge through an energy dissipater to the existing stormwater system. The facility's overall stormwater management system is governed by the mining operations and ERP Permits. Grades and elevation vary based on ongoing mining operations and topography. A detailed design that will tie the conceptual closure plan into the facility's stormwater management system will be submitted at the time of closure.

The top (1% to 2% grade) and side slope (4H:1V and 3H:1V) designs provide for proper drainage and minimize rainfall infiltration into the landfill surface.

### 3.8.2 Erosion Control

The following engineering controls will be used to minimize erosion at the working face:

- Regrade a maximum of 100 linear feet of the outer edge slopes at a time to 2H:1V. The purpose of this recommendation is that a relatively small area will be subjected to surface erosion at any given time.
- Construct a berm along the top of the slope during the regrading to redirect any rainfall runoff away from the face of the slope. The area along the berm should be graded so as to allow rapid runoff along the top of the slope. Ponding of water near the top of the slope should not be allowed, since seepage through the slope may initiate slope erosion.
- As soon as possible following the construction of the clay layer, begin to fill against the Cell 7 2H:1V slope with the landfill material.
- For Cell 16 construction, filling shall begin immediately north of the east-west trending

berm to be located near the southern boundary of Cell 16. The fill sequencing of Cell 16 is described in Section 3.8.

- Avoid channelizing stormwater flows
- Use mulch, grass, and maintain intermediate covers

### 3.8.3 Life Expectancy

The cell capacity and lifespan estimates for Cells 1 – 7, 15 and 16 have been estimated using the November 2013 topographic survey performed by Pickett and Associates (Sheets 1 and 2 of Section 4); and recent and projected tonnages.

Using the November 2013 topographic survey as a base, a three-dimensional AutoCAD model of Cells 1 – 7, 15 and 16 at closure was generated, using the following assumptions:

- For all cells except Cell 16, 3H:1V side slopes from base grade to waste elevation 122'; 4H:1V from waste elevation 122' to 167'; 1% to 2% grade from waste elevation 167' to 172'
- For Cell 16, 3H:1V from base grade to waste elevation 122'; 4H:1V from waste elevation 122' to 147'.
- 10-foot inset for benches at waste elevations 122-ft and 147-ft NGVD
- 36 inches of cover over the 67.0 acre 2D surface was subtracted from the maximum volume

The airspace volume remaining as of July 2016 was calculated to be approximately 2,535,047 yd<sup>3</sup> after accounting for the final cover volume of 322,829 yd<sup>3</sup>.

The following design parameters were used to compute landfill design life remaining:

- **Density:** An in-place density of 1,350 lb/yd<sup>3</sup> (0.675 tons/ yd<sup>3</sup>) was used for the design life estimate and is a typical density for Class III waste.
- **Waste acceptance rate:** a waste acceptance rate of 550 tons per day was used based on facility records.

The remaining life in Cells 1 – 7, 15 and 16 was calculated to be 13 years from the survey date, or 2026.

### 3.9 WASTE COMPACTION AND APPLICATION OF COVER

Waste received will be segregated based on compactibility. Bulky, incompressible items, such as concrete, asphalt, and tree debris, will be separated and stockpiled for future processing. Tree debris may be separated from the waste and periodically mulched on-site. The remaining debris is disposed of in designated cells using onsite equipment to place the debris and a Caterpillar 826 Compactor, or equivalent, to weekly compact the waste. Initial cover material is planned to be excavated from onsite areas and placed weekly in approximately 6-inch layers on the compacted lifts to control vectors, reduce rain infiltration and provide a more stable working face area. An intermediate cover of one (1) foot of compacted soil will be applied if final cover or an additional lift is not to be applied within 180 days of cell completion. Cell closure will occur when all permitted cells are filled. For final buildout grade and closure detail, see Drawing Sheets C2.00 and C2.10 of the 2016 Plan Set provided in Section 4, respectively. The Conceptual Closure Plan includes permitted Cells 1-7 and 15, and proposed Cell 16. Fill grades shall be such that final cover elevations are not exceeded on all slopes.

Final cover consisting of 18 inches of compacted soil barrier layer and 18 inches of soil that will sustain vegetative growth, as specified in the Closure and Reclamation Plan provided in Section 7. Cell closure shall generally conform to the lines and maximum grades specified on Drawing Sheet C2.00 (2016 Plan Set provided in Section 4 and the requirements of Rule 62-701.600 F.A.C., Rule 62-701.400 (7), F.A.C., and Rule 62-701.400(8),F.A.C.. Pesticides when deemed necessary to control rodents, insects and other vectors shall be used as specified by the Florida Department of Agriculture and Consumer Services. Uncontrolled and unauthorized scavenging shall not be permitted at the landfill site. Controlled recycling may be permitted by the Landfill Manager. Temporary storage of soil fill or recycling materials may occur within the inactive, or closed cell areas.

### 3.10 DESIGN OF GAS, LEACHATE AND STORMWATER CONTROLS

#### 3.10.1 Gas Monitoring and Control

The type of materials to be disposed of in the Class III Landfill are not expected to generate significant amounts of methane or other gases since the landfill's design prevents groundwater contact. Therefore, no active gas control systems or venting is proposed. However, because some biodegradable waste may be accepted, a passive gas control system is proposed, see Section 3.10.1.5. The Landfill Manager will conduct daily and weekly inspections of the landfill and will check for objectionable odors or gas around the perimeter of the site. The Manager will notify the FDEP of any exceedances and immediately take corrective actions. Corrective actions will include placement of additional cover material or mulch, or lime containing materials such as crushed concrete that is documented to abate the odors. Quarterly gas point monitoring is

currently conducted. The facility only accepts Class III debris for disposal and accepts no putrescible household wastes. Surface water and groundwater contact with the Class III wastes will be prevented by the approved facility design. Other best management practices to prevent odors include: 1) closure of each cell as it is completed; 2) weekly soil cover application; and, 3) immediate corrective actions to abate any detected onsite odors.

### 3.10.1.1 Gas Probe Locations

Gas monitoring points are spaced approximately 600 linear feet apart surrounding the landfill. Sheet C0.03 of the 2016 Plan Set provided in Section 4 presents these locations of the gas probes surrounding the landfill. Gas Probes (GP) 6 through 15 are existing, GP 1 through 5 and 16 are proposed and will be installed as part of future cell construction completion certification at closure. The remaining gas probes are to be installed in accordance with the following schedule in Table 3.10:

Gas Probe	Cell Construction Completion
GP-1	Future Cell 10 or closure
GP-2	Future Cell 11 or closure
GP-3	Future Cell 12 or closure
GP-4	Future Cell 13 or closure
GP-5	Future Cell 14 or closure
GP-16	Future Cell 9 or closure

Several existing gas probes on the southern and eastern portion of the property are currently located immediately adjacent to the disposal area rather than at the property boundary as required by Rule. Probes GP-6, -7, -8, -11, and -14 will be relocated to the property boundary as part of the construction activities for Cell 16. Probes GP-12 and -13 were abandoned and replaced with GP-12R and -13R along the property boundary in 2013.

### 3.10.1.2 Gas Probe Design

Figure 3-14 (provided in Appendix 3-C of the 2012 permit renewal application submitted by Kelner Engineering) presents the gas probe design for the subject landfill site. These gas probes are designed to be surface sealed and to provide a greater permeability than the surrounding sediments to act as collector points for any methane gas, if present. Based on the landfill design, all of the gas probes are designed to be approximately 20-foot in depth with an 18-foot open screen for the monitoring point, or to depth of adjacent waste. Table 3.10.1.2 presents supplemental information related to the anticipated total depths of gas monitoring probes GP-6R, GP-7R and GP-8R and GP-11R and GP-14R. These depths will allow the screened interval

to intercept the full cross-section of the landfilled waste that could potentially generate methane.

Table 3.10.1.2

Well	Elevation of the Bottom of Waste in the Adjacent Disposal Cell (ft., NGVD)	Elevation at Surface (ft., NGVD)	Total Depth (ft.)	Top of Perforated Section (ft., NGVD)	Bottom of Perforated Section (ft., NGVD)
GP-6R	78	90	20	88	70
GP-7R	78	90	20	88	70
GP-8R	78	90	20	88	70
GP-11R	<u>82</u>	<u>120</u>	<u>40</u>	<u>118</u>	<u>80</u>
GP-14R	<u>86</u>	<u>115</u>	<u>30</u>	<u>113</u>	<u>85</u>

The groundwater table may be encountered at depths of approximately 50-foot, or more below land surface (bls) across most of the site. Accordingly, gas probes are not designed to intercept the groundwater table. The gas probes are constructed of Schedule-40 polyvinyl chloride plastic pipe (PVC). The PVC casing and screen will be flush-threaded and have a screen slot size large enough to accommodate easy methane extraction from the monitoring point. The sand/bentonite slurry proposed for a surface seal will be a blend of 4 parts of sand to one part of granular bentonite. The sand and the bentonite will be mixed dry and hydrated immediately prior to placing it in the annular space of the borehole. The gas probe points are proposed to be installed by hollow-stem auger to construct an eight-inch borehole to be filled with pea gravel. The pea gravel will meet the requirements of FDOT standard size No. 10 aggregate washed pea gravel. Each gas probe will be protected by a surface mounted well protector and locked for security purposes. Each gas probe will terminate at the surface with a PVC ball valve to accommodate easy monitoring of methane levels, with a portable meter. The ball valve will remain closed between monitoring events and pre-purge measurements will be recorded. In the event of a positive gas measurement, the post-purge measurement will also be recorded.

### 3.10.1.3 Methane Gas Measurement

In accordance with the requirements of the current FDEP permits, methane gas levels are monitored at each of the active gas monitoring points quarterly, with results submitted to the FDEP. A lower explosive limit (LEL) meter will be used to measure methane levels from each of the gas probes. LEL meters, such as the MSA Model 260 or GEM 500 or equivalent, will be used to conduct this monitoring. These meters are capable of measuring percent volume of methane in air and the percent LEL level of the methane by volume. The meter will be calibrated in accordance with manufacturer's specifications prior to each methane monitoring event. Attachment 4 of the Operations Plan provided in Appendix H presents the proposed gas monitoring probe survey form to be used to conduct the quarterly monitoring at the subject

site. This form will document at the time of each gas probe reading, air temperature in degrees Fahrenheit, methane levels in percent volume in air and percent LEL. The reporting action level for methane in air will be considered 5 percent by volume in air as measured by the lower explosive limit. The reporting action limit for methane in structures is 25% of the LEL, or 1.25% methane by volume. The results of each quarterly gas probe survey will be submitted to the Department on the presented form within two weeks of each monitoring event. These events are planned to be coordinated with the semi-annual groundwater monitoring at the subject site.

#### 3.10.1.4 Gas Contingency Plan

The following Contingency Plan will be implemented if any of the measured gas monitoring points methane levels are detected above the 100% LEL of greater than 5 percent methane in air, or if 25% of the LEL or higher is measured in a structure. If this level of methane or greater is detected in any of the probes, the Facility operator will institute measurement of methane in nearby, at, or below grade structures, i.e., stormwater collection points, or any maintenance or office buildings within 100 feet of the subject gas probe on a weekly basis until these levels go below the 100% LEL at the subject probe. If methane levels measured in any on-site building exceed 25% of the LEL, building windows and/or doors will be opened for ventilation and all personnel evacuated until methane readings are maintained below 25% of the LEL for methane. The monitoring report for any event that detects methane above the LEL will also report methane levels from nearby structures, as indicated above, until the levels go below the methane LEL level or until corrective actions are conducted to reduce methane levels. The FDEP will be notified within seven days of any gas monitoring levels that exceed the reporting action levels.

#### 3.10.1.5 Passive Gas Vents

Within 90 days of closure of each landfill cell, a passive landfill gas vent will be installed at the highest point of the cell to prevent explosions, fires and damages to vegetation from methane gas buildup. Sheet C2.00 shows the location of the 10 gas vents and Figure 3-16 (provided in Appendix 3-C of the 2012 permit renewal application submitted by Kelner Engineering) presents the design of a typical vent. The facility's gas emissions are expected to be far below the threshold of a Title V or an NSPS permit.

#### 3.10.2 Leachate Control

Any leachate that may be produced at the landfill will be controlled with the use of a continuous 3-foot thick clay layer ( $1 \times 10^{-7}$  cm/s) that will be placed on the bottom of the cells. The clay layer beneath each individual cell will form a continuous barrier layer that will be graded to direct leachate to the remaining portion of the temporary stormwater pond in future Cell 14 and/or a

toe drain extending east to west along the northern perimeter of Cell 16. The toe drain will slope from west to east and terminate in a manhole between Cell 16 and Pond 3. The toe drain will “daylight” approximately 3 feet above the bottom of the manhole. A pump will be used to transfer leachate from the manhole to Pond 3 as needed ~~Pond 3.~~ During Cell 7 construction, leachate will continue to flow along the continuous bottom barrier layer towards the northern landfill boundary, and into the existing stormwater pond in future Cell 14 and proposed Cell 16. During excavation of proposed Cell 16, a ~~6-foot berm~~ temporary stormwater and leachate diversion swale shall be constructed along the ~~Cells 1-5 and~~ perimeter of Cell 16 boundary to divert leachate generated in Cells 1-7 and 15 to flow west to the temporary stormwater pond east through the permeable side berm and into the proposed stormwater Pond 3. ~~In the occurrence of a heavy storm event, a pump will be kept onsite to prevent any overtopping of the berm. The remaining portion of the stormwater pond in future Cell 14 shall continue to collect the leachate currently flowing towards the northern boundary.~~

The controlled method of screening waste also supplements the leachate control. Because the Applicant privately owns the Enterprise Class III Landfill facility, most of the haulers, waste generators, and sources of waste are known to Angelo’s and the scale house attendants. For those haulers that are unfamiliar to the Applicant, the scale house attendants question the haulers more intensely to determine the contents of their loads. The spotters and operators add additional monitoring at the active disposal location. The addition of video surveillance to the monitoring process of incoming wastes helps to identify fires or smoking loads. Combined methods of screening waste is an effective method to reduce any possible threat to public health or the environment.

### 3.10.3 Stormwater Controls

The approved Stormwater Management Plan for the landfill consists of berms, swales, and ponds constructed within the 200-foot landscape buffer zone to divert, collect and contain stormwater runoff from the completed site. These stormwater facilities are designated to retain the 100-year, 24-hour storm volume as required by Pasco County and the FDEP. During excavation, construction and waste disposal, stormwater will be controlled by a series of berms that direct stormwater to the temporary stormwater pond located in the northeast corner of the site. A 6-foot berm adjacent to active and filled cells retains stormwater from the filling area and diverts stormwater from the excavation area to the temporary stormwater pond. A portion of the temporary stormwater pond will be filled as part of the construction of Cell 16. A new stormwater Pond 3 is being proposed and submitted to be permitted as an Industrial Wastewater Pond through FDEP. Additional details concerning the stormwater management system are provided in Drawing Sheets C1.00, C1.10, C2.00 and C2.10.

### 3.11 EROSION CONTROL

The perimeter swales and ponds surrounding the landfill prevent stormwater from leaving the property. The series of berms described in Section 3.10.3 above will help prevent erosion.

Additionally, landfill side slopes will be constructed at 3H:1V from base grade to elevation 125' NGVD and 4H:1V from 125' to 170' NGVD and will receive intermediate cover to be maintained until final landfill closure that will occur when all existing and proposed cells are filled. See the Reclamation and Closure Plan provided in Section 7 for further details.

### 3.12 FINAL GRADE PLAN

The filling sequence of the landfill is shown on Sheets C1.00 through C2.10 of the 2016 Plan Set provided in Section 4. The excavated areas will be certified to the approved bottom grades prior to accepting any waste material. The finished elevation after all fill material has been placed and final cover provided is designed to reclaim excavated areas.

### 3.13 SETBACKS AND VISUAL BUFFERS

The following setbacks (buffers) shall be used:

1. Minimum of 200 feet from the property boundary to landfill footprint.
2. Minimum of 500 feet setback from surrounding potable residential wells to landfill footprint.

Buffer areas maintain visual screening of the landfill by the following methods.

1. 8-foot high berms along the frontage of Enterprise and Auton roads.
2. Landscaping and trees to provide visual buffers within setback areas
3. Existing trees within the setbacks will be maintained.

### 3.14 FOUNDATION ANALYSIS

A Geotechnical analysis was conducted on the landfill site to evaluate if the base and geologic setting are capable of providing structural support. Universal Engineering Sciences, Inc. completed the Geotechnical Report included as Section 4 to the September 2005 Enterprise Recycling and Disposal Facility Class III Landfill Permit Renewal Application, prepared by

TetraTech HAI, and updated as the January 25, 2006. Universal Engineering Sciences *Geotechnical Exploration – Update*, provided as an appendix to the February 2006 letter from Jennifer Diehl, P.E. to Mr. Steve Morgan Subject: Angelo’s Aggregate Materials, Ltd. Enterprise Recycling and Disposal Class III Landfill Pending Permit Nos.: 177982-007-SC and 177982-008-SO Pasco County. The report concludes that the landfill base will adequately support the Class III landfill wastes without excessive settlement. It also states that the potential for sinkhole development on the site is low. In the event a sinkhole is discovered on-site, or within 500-feet of the site, the Department will be notified within 24 hours. A reclamation plan of action will be submitted to the Department within seven days. Please see Appendix G-1, Attachment 1 for Universal Engineering Sciences’ Geotechnical Services / Documentation Review dated May 31, 2016\_for a signed and sealed review and evaluation of historical site related geotechnical records which includes a recent site reconnaissance visit.

An updated foundation bearing capacity analysis was performed by Civil Design Services, Inc. and is provided in Section 2, Part I, I-2. The analysis demonstrates that the proposed Cell 16 has sufficient additional bearing capacity to accommodate the proposed design.

### 3.15 CERTIFICATION

Laboratory testing and observation of cell floor conditions during cell construction completion shall consist of the following:

- In-place density testing for each 12-inch thick soil lift, based on laboratory proctor test results for the construction material, will be recorded by a properly trained technician. These are to be conducted at the location of each permeability test.
- Thickness testing of each lift will be recorded at a minimum frequency of two tests per acre, per lift.
- Confirmation hydraulic conductivity testing of Shelby tube or drive cylinder samples of the compacted cell floor material will be performed at a minimum frequency of one test per lift, per acre.
- Observance for unstable areas such as limestone, sink holes and soft ground will be performed for each cell.

If the test data from a cell floor section does not meet the requirements of the anticipated conditions of the hydrogeological and geotechnical reports and the requirements of the facility construction permit, additional random samples may be tested from that cell section. If the additional testing demonstrates that the hydraulic conductivity meets the requirements, the cell

will be considered acceptable. If not, that cell will be reworked or reconstructed so that it will meet these requirements.

Upon completion of construction of any cell within the disposal facility, the certification of construction completion will be provided to the FDEP on form 62-701.900(2), F.A.C.. The applicant will provide the completed form to the FDEP, along with the quality assurance test results described above, and arrange for an inspection prior to acceptance of Class III wastes into the constructed disposal area.

### 3.16 OPERATIONS PLAN

The Landfill's Operations Plan is included as Appendix 3-A.

### 3.17 CONTINGENCY PLAN

The Landfill's Contingency Plan is included as Appendix 3-B.

**ENTERPRISE ROAD CLASS III RECYCLING AND DISPOSAL FACILITY  
MAJOR PERMIT MODIFICATION  
LANDFILL OPERATIONS PLAN**

*Prepared for:*

**ANGELO'S AGGREGATE MATERIALS, LTD**  
855 28<sup>th</sup> Street South  
St. Petersburg, Florida 33712

*Prepared by:*

**LOCKLEAR & ASSOCIATES, INC.**  
4140 NW 37<sup>th</sup> Place, Suite a  
Gainesville, Florida 32606

~~Revised July 2016 (RAI 1 Response)~~  
Revised December 2016 (RAI 2 Response)

Performed Under the  
Supervision of

---

Lisa J. Baker, P.E.  
Florida PE #74652

**ENTERPRISE RECYCLING AND DISPOSAL FACILITY  
OPERATIONS PLAN  
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- ATTACHMENT 2 RANDOM LOAD INSPECTION FORM
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- ATTACHMENT 5 LIST OF APPROVED COURSES
- ATTACHMENT 6 TRAINING CERTIFICATES
- ATTACHMENT 7 SOURCE-SEPARATED ORGANICS PROCESSING  
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## 1.0 DESIGNATION OF RESPONSIBLE PERSON(S) AND REFERENCES

Mr. John Arnold, P.E. is designated by Angelo's Aggregate Materials, LTD. (Applicant) as the individual responsible for operation and maintenance of the Enterprise Road Class III Recycling and Disposal Facility (Facility) in accordance with Rule 62-701.500, F.A.C. All correspondence and inquiries concerning the Facility permits and operation should be addressed to him at:

Mr. John Arnold, P.E.  
Angelo's Aggregate Materials, LTD.  
855 28<sup>th</sup> Street South  
St. Petersburg, Florida 33712  
Telephone: (813) 477-1719

Updated plan sheets and figures are provided in Sections 4 and 3 respectively of the March 2016 permit modification application RAI 1 response dated July 2016.

## 2.0 LANDFILL SITE IMPROVEMENTS

The 160 acre landfill site is also permitted by Pasco County to be a Class I mine (Pasco County Petition #CU04-26, approved 9/23/2004). The following site improvements have been installed to continue operation of the Class III Landfill.

### 2.1 Facilities

An office trailer (gate house) is located onsite for the gate attendant. This trailer has hand washing and toilet facilities. Bottled potable water is used to provide drinking water for the trailer. Electric and telephone services are available to the trailer office. Site entrance improvements also include an all-weather entrance roadway, scales and perimeter road as shown on the Sheet C0.02 of the 2016 Plan Set provided in Section 4 of the March 2016 permit modification application RAI 1 response dated July 2016.

### 2.2 Primary Haul Routes

The primary haul routes used to reach the Facility are U.S. 301, S.R. 52, C.R. 35A, U.S. 98, and Clinton Avenue. These routes lead to Enterprise Road, which is used to access the facility.

Enterprise Road was improved by the Applicant to an all-weather, paved access roadway from C.R. 35A to Auton Road. Enterprise Road is a Pasco county owned roadway that is maintained by the county. The Facility has an all-weather, paved access roadway that will be maintained by the Applicant to provide adequate access at all times.

### 2.3 Effective Barrier

The existing Facility property previously had a five-foot high wire fence along the perimeter of the site. A 6-foot security fence has been constructed along the south and east boundaries. The security fence consists of a 6-foot high galvanized chain link fence, hereafter referred to as the “security fence.” The five-foot wire fence still exists along the north and west property boundaries. The chain link fence has been installed in accordance with permit issuance in October, 2001. Three (3) foot square “NO TRESPASSING” signs with five-inch letters has been installed at no less than 500-foot spacing and at all corners to notice unauthorized access. The only point of access into the landfill site will be through the ticket gate at the entrance. This gate will be locked during closed hours.

An 8-foot high landscape berm has been constructed along the frontages of Enterprise and Auton roads as a visual and noise buffer.

### 3.0 OPERATING HOURS

The landfill will have the following operating hours:

Day	Hours of Operation
Monday through Friday	7:00 am to 6:00 pm
Saturday	7:00 am to 2:00 pm

Operational hours may be extended periodically to meet special requests of customers, but at no time will normal operating hours extend beyond 7:00 A.M. to 7:00 P.M. Monday through Saturday. Waste will not be accepted during non-daylight hours.

### 4.0 CONTINGENCY OPERATIONS

If a natural disaster occurs at the facility rendering it unusable, the waste accepted at the Facility would be rerouted to another permitted landfill. If a storm occurs within the surrounding community, storm debris waste will also be accepted at the facility, providing additional staff if required. In terms of equipment breakdown, there will be two operating pieces of equipment for all stages of landfill operation. Currently, Angelo's has on-site two compactors [Cat 826 (2)], two loaders (Cat 950, Cat 980), two dozers (Cat D5, Cat D8), four excavators [John Deere 450 (2), Komatsu PC1100, Komatsu PC300], and two articulated dump trucks (Volvo). If both should breakdown, replacements can be rented or substituted from onsite or offsite within 24 hours.

The site access roads will be constructed to allow passage of vehicles under all expected weather conditions. See Appendix 3-A for the Contingency Plan.

## 5.0 WASTE STREAM QUALITY CONTROL PLAN

### 5.1 Visual Inspection

An estimated 550 tons of Class III waste material is currently received at the facility daily. Materials brought onto the Enterprise Road Class III RDF site will be inspected three times. The first inspection takes place at the site entrance. The site will only accept Class III debris (which includes construction and demolition debris by definition); therefore, any vehicles hauling unacceptable waste can be turned away by the attendant at the ticket gate. The gate attendant will question all waste carriers as to the character and origination of their wastes. A mirror is installed overhead and angled to allow gate inspection of all loads after they are untarped. A video camera has been installed over the scale location that allows the gate attendant to visually screen all carrier loads prior to disposal, mainly to identify fire or smoking loads. For loads that are not accepted, a Rejected Load Form will be completed.

The second inspection is a visual inspection that will occur at the working face by a certified, trained spotter. The spotter stationed at the working face will be responsible for spotting trucks bringing in disposal loads. The spotter will show the drivers where to unload, and will also inspect the trucks to make sure unacceptable materials are not unloaded. The spotter will have the authority to ensure that unacceptable materials are reloaded on the truck the material was brought in on.

The third inspection will occur as the waste is spread by the equipment operator. Any unacceptable wastes observed will be placed in the appropriate container located at the working face. The equipment operator may also serve as the spotter and will perform both visual inspections - as the waste is unloaded and as the waste is spread.

The facility will deploy and use spotters based on the volume of waste disposed at the working face. No more than two loads will be allowed to dump simultaneously per spotter at the working face.

### 5.2 Documentation of Waste Received

Documentation includes recording the name of the company disposing of the waste, driver's signature/information, all vehicle identification numbers, quantity of waste (tons), and type of waste (to meet FDEP and Pasco County's requirements). All vehicles entering the landfill will be weighed. The type of material and location from which the waste was generated will be

recorded. This provides a record for tracing ownership of individual loads. See Landfill Operating Records, Section 19.2 for more details.

### 5.3 Contingency for Unacceptable Materials

If unacceptable waste materials are delivered to the landfill, the truck will be refused entry after inspection at the gate. If the unacceptable waste materials are observed by a spotter while unloading, they will be reloaded onto the delivery vehicle. Should the vehicle leave before the unacceptable waste has been discovered, Enterprise Road Class III RDF personnel will place the unacceptable material into an appropriate container located at the working face. A maximum of 20 cubic yards of covered dumpster storage for Class I waste will be provided near the active face of the landfill, as shown on Drawing C0.03 of the 2016 Plan Set provided in Section 4 of the March 2016 permit modification application RAI 1 response dated July 2016. These containers are transported by Central Carting Disposal (or other qualified vendor) to a disposal facility permitted to accept Class I material. The covered storage containers will control vectors and odors and Class I waste will be removed within 30 days of discovery. If the storage containers cannot be secured to control vectors and odors, the putrescible waste will be stored no longer than 48-hours.

Unacceptable nonputrescible, non-hazardous wastes, such as batteries, paint, chemicals or similar items that are inadvertently accepted will be removed when observed and stored in a roll-off container or pile at the working face and removed daily to a lockable storage unit. A maximum of 40 cubic yards of stored unacceptable, nonputrescible, non-hazardous wastes may be provided near the active face of the landfill, as shown on Drawing C0.03 of the 2016 Plan Set provided in Section 4 of the March 2016 permit modification application RAI 1 response dated July 2016. These materials will be removed from the site at least every 30 days (sooner if required) by City Environmental (or other qualified vendor) and taken to their facility for processing and proper disposal. This plan should meet the inspection needs for the site to prevent disposal of unacceptable wastes.

If suspect regulated hazardous wastes are identified by operators or spotters by random load inspection or discovered deposited at the landfill, the FDEP will be notified promptly, as well as the hauler and generator of the wastes, if known. The area where the hazardous wastes are stored will immediately be secured from public access. If the generator or hauler cannot be identified, Enterprise Road Class III RDF will assume the cleanup, transportation and disposal of the waste at a permitted hazardous waste management facility.

### 5.4 Acceptable and Unacceptable Class III Landfill Waste Materials

The Enterprise Road Class III RDF will accept only those solid wastes as defined in Rule 62-701.200 (14), F.A.C. as Class III wastes, except as allowed otherwise by permit.

Acceptable Class III waste materials include the following:

- Land clearing debris
- Demolition debris
- Glass
- Carpet
- Cardboard
- Asbestos
- Plastic
- Automobiles and parts without visible contamination from petroleum products or other chemicals
- Construction debris
- Non-Treated Wood Pallets
- Unpainted, painted and untreated wood scraps from manufacturing
- Waste Tires (Processed)\*
- Paper
- Furniture other than appliances
- Yard trash

\* Processed waste tires are acceptable for disposal in the Class III Landfill provided that they have been cut into sufficiently small parts. The processed waste tire parts may be disposed of or used as initial cover at a permitted landfill. For use as initial cover, a sufficiently small part means that 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. Any processed tire which is disposed of in a landfill and which does not meet the size requirement of subsection (a) above must receive initial cover, as defined in subsection 62-701.200(53), F.A.C., once every week.

The following is a compilation of unacceptable Class III waste materials:

- Putrescible Household Waste
- Paint (liquid)
- Any toxic or hazardous Materials (i.e., batteries, solvents, oils, etc.)
- Contaminated soils
- Electronics
- Refrigerators, freezers, air conditioners (white goods)
- Biomedical waste
- Automobiles or parts that are contaminated with petroleum products or other chemicals.
- Septic tanks and pumping
- Whole waste tires (except at the waste tire processing facility)
- CCA Treated wood

The site has a visible sign at the site entrance on Enterprise Road as provided in Attachment 1. The sign identifies the accepted wastes, hours of operation, landfill classification, and site's 24-hour emergency contact and telephone number. Industrial or excavated waste will be considered for acceptance on a case by case basis, only with prior consent of the Department.

#### 5.5 Random Load Inspection

In accordance with Rule 62-701.500(6)a., F.A.C., the owner or operator will implement a load-checking program to detect and discourage attempts to dispose of unauthorized wastes at the landfill. The load checking program will consist of the following minimum requirements:

1. The landfill operator will examine at least three random loads of solid waste delivered to the landfill per week. The waste collection vehicle drivers selected by the inspector will be directed to discharge their loads at a designated location in the landfill. A detailed inspection of the discharged material will be made for any unauthorized wastes. The landfill operator will assure the random inspections will be distributed between both loads originating from the transfer facility and other private waste haulers delivering waste to the landfill.
2. If unauthorized wastes are found, the facility will contact the generator, hauler, or other party responsible for shipping the waste to the landfill to determine the identity of the waste sources.

The following procedures will be followed when inspecting the load:

- A. The load will be "broken apart" by both the spotter and equipment operator to allow for a thorough inspection.
- B. The inspectors will be searching and removing de minimis amounts of unauthorized waste contained in the load.
- C. If the load contains more than de minimis amounts of unauthorized materials, they will immediately be reloaded onto the customer's vehicle for removal from the site. In the event that the transporter will not remove the unacceptable materials, the materials will be loaded into an appropriate container and removed from the site. The customer/generator will be contacted and notified of the site policies as well as charged for the off-site disposal services.

- D. In all cases, if more than minimal unacceptable wastes are found during the inspection, the customer will be notified to assure the prevention of future occurrences.

All inspection will be documented on the site's "Random Load Inspection Form," signed by the inspector, and kept in a current Log Book, see Attachment 2. Log books will be maintained at the landfill for at least 3 years. Inspections will be performed by trained site personnel.

#### 5.6 Asbestos Waste Disposal

Asbestos-containing materials (ACM's) will be accepted for disposal in accordance with 40 CFR Part 61.154. Arrangements for disposal of ACM's between the Facility and the waste generator/hauler will be recorded in the operations record as to the quantity and date of shipment to the landfill. The loads are accepted at pre-arranged times during operational hours.

To ensure that all waste deposited at the Facility meets state and local requirements, all facility personnel will receive training from their supervisor on the identification of unacceptable materials, which is any waste other than properly labeled and bagged ACM. Unregulated, non-friable asbestos containing materials are not required to be bagged, but all other requirements are unchanged.

Each load of ACM arriving at the facility must be accompanied by a completed Waste Shipment Record (WSR) in accordance with 40 CFR 61.150. Each load will be inspected to insure that it is properly bagged, that bags are intact and properly sealed, and that the required warning labels and generator labels are affixed. Bags will not be opened prior to disposal.

ACM arriving at the Facility for disposal will be visually screened by facility personnel a minimum of two times. The first screening will be at the scales, controlling access to the Facility, where the truck drivers will be questioned as to the contents of the load and the shipping documents will be reviewed. The gate attendant will direct the drivers to the appropriate disposal area.

The second screening will be at the working face where a trained inspector/spotter will again question the driver and make a visual examination of the load prior to dumping and as it is dumped. This examination will insure the ACM is properly bagged, the bags are intact and properly sealed, and that the warning labels and generator labels are affixed.

Facility personnel will direct the waste hauler to the designated ACM disposal location in each cell, to be determined by the Operator. The ACM will be covered with 6-inches of soil at the end of any day that ACM is accepted. This designated ACM location will be recorded and updated by the annual topographic survey in accordance with 40 CFR 61.154. ACM disposal records will

be maintained for the life of the landfill and disposal locations documented in the Closure Report.

### 5.7 Incidental Recycling Operations

The Class III landfill does have a separate, dedicated materials recycling area. However, if recyclable wastes are incidentally received, such as metals, concrete rubble, asphalt, and wood wastes, the facility will separate them in stockpiles or in roll-off containers. Concrete and asphalt will be periodically transported to an appropriate location for crushing. Yard and wood wastes may be chipped for use onsite or be placed in roll-off containers for shipment to a wood recycler. These materials will be removed from the site approximately every 6 months. However, if the storage capacity is exceeded, the materials will be removed sooner. Incidental recyclable materials that are identified at the disposal area will be placed in containers located near the working face, as follows and as shown on Drawing C0.03 of the 2016 Plan Set provided in Section 4 of the March 2016 permit modification application RAI 1 response dated July 2016.

TYPE	MAX. QTY	STORAGE
Ferrous Metal	500 CY	Roll-off or pile
Aluminum	300 CY	Roll-off or pile
Stainless Steel	300 CY	Roll-off or pile
Copper	25 CY	Trash pail, roll-off or pile
Asphalt	300 CY	Roll-off or pile
Concrete / Rubble	300 CY	Roll-off or pile
Recyclable electronics	8 CY	Covered dumpster

Trucks identified at the entrance as carrying primarily recyclable products, (i.e., concrete, metal, wood, paper) will be refused entrance into the landfill.

#### 5.7.1 Reports

A Recovered Materials report will be submitted by type of waste recovered and tonnage to the FDEP and Pasco County Solid Waste Department. These reports will also be compiled into an annual report to the FDEP.

### 5.8 Wood Acceptance Area

The facility is a registered Source-Separated Organics Processing Facility and in compliance with the requirements specified in Rule 62-709.320 and Rule 62-709.330. Initial inspection will be performed at the scalehouse by the attendant. Wood wastes are stockpiled until processing takes place every 180 days. Personnel trained to identify and remove any unacceptable wastes

will be present during processing. Unacceptable wastes, if found, will be removed prior to wood processing.

## 5.9 CCA Treated Wood Management Plan

The following serves as the CCA-treated wood management plan required by 62-701.730(20), F.A.C. Employees will be trained in the proper management of CCA-treated wood. CCA-treated (chromate-copper arsenate) wood must be stored in the temporary storage container for waste destined to go to a lined facility. CCA-treated wood is not allowed to be disposed of in the Enterprise Class III Recycling and Disposal Facility.

The following is strictly prohibited:

- Disposal of CCA-treated wood in any unlined landfill or disposal facility
- Burning of CCA-treated wood in an open burn or an air curtain incinerator
- Mulching of CCA-treated wood or use of CCA-treated wood in other soil amendment products

There are several ways for employees to identify CCA-treated wood: 1) determining the place of origin, 2) identification by shape – typically large, dimensioned pieces of wood and 3) identification by color. CCA-treated wood has been used in a variety of applications including fencing, docks, outdoor decks and stairs, playground equipment and landscaping. The wood is typically large – dimensioned 4-inches or larger.

The most common method for visually identifying treated wood among lumber, timber and plywood is to look at the color of the wood. Untreated wood and borate-treated wood typically have a light yellow color. Wood treated with copper varies in color from a very light green to an intense green color depending on the degree of treatment. A higher degree of treatment is typical for marine applications and for structure with a high load-bearing support. Once the wood treated with copper has been in-service and has weathered, the green color is generally converted to a silver color. It still may be difficult to visually distinguish weathered treated wood from weathered untreated wood.

Employees are cautioned against handling CCA-treated wood. Workers handling wood preserved with CCA should be sure to wash their hands before eating or smoking. CCA-treated wood splinters in the hands and fingers of workers are reported to be very problematic and should be removed as soon as possible. It is important to make sure that the entire splinter is removed. Removal may require medical attention.

The most efficient way to minimize CCA-treated wood disposal in the facility is to communicate with landfill customers. Dedicated, separate suitable temporary container for CCA-treated wood at demolition and construction job sites can be used. At the scale house, personnel will question

transporters on the type of wood and direct customers to dispose CCA-treated wood at a Class I landfill. Personnel will also perform a visual inspection at the scale house if necessary especially for loads originating from the construction and demolition of fences and decks.

The facility shall incorporate CCA-treated wood into its spot-checking program. Spotters visually inspect and determine if any dimensioned wood is in the load, such as railroad ties and fence posts or building materials. If CCA-treated wood is found, the load will be diverted to a Class I landfill for disposal. Tipped loads will be spread and inspected for the presence of CCA-treated wood. CCA-treated wood will be adequately protected from rain to prevent leaching of contaminants.

## 6.0 WEIGHING OR MEASURING INCOMING WASTE

A scale system is used to weigh incoming waste. The scales will be calibrated every six (6) months. Vehicles will be weighed when they enter the disposal site, and based upon the tare weight of the vehicle, the waste tonnage will be determined. Prior to unloading debris, the tonnage or volume of the waste material disposed will be determined and the appropriate fee assessed. Weigh tickets will be kept on-site for a minimum of 5 years.

### 6.1 Fee Schedule

The fee schedule for disposal varies depending on the client, type of waste and volume received.

Waste Type	Unit	Fee per Unit
Class III	CY	Variable

This fee schedule will be periodically revised according to the prevailing market for waste disposal. The Operator will notify clients immediately in writing of all fee schedule changes.

## 7.0 VEHICLE TRAFFIC CONTROL AND UNLOADING

Generally, truck traffic will be controlled by first-in, first-out, as directed by the spotter located at the working. There will be adequate space for truck staging at the site's entrance (7-8 trucks) to mitigate any queuing onto Enterprise Road. Enterprise Road Class III RDF will discourage any truck staging prior to landfill opening. Signs will be posted at the entrance gate and on interior roads to guide mining truck traffic vs. landfill truck traffic to their appropriate areas of the site.

## 8.0 METHOD OF CELL SEQUENCE AND LIFE EXPECTANCY

## 8.1 Cell Sequence

Angelo's Aggregate Materials is currently (as of ~~March~~ November 2016) filling in Cells 1 – 6 and 15 of the Class III Landfill, while construction of Cell 7 is being completed. The cell construction and filling sequence operations will be as follows:

- Phasing Sequence 1                      As shown in Drawing Sheets C1.00 and C1.01  
Continue filling Cells 1, 2, 3, 4, 5, 6, 6B, 7 and 15 in 10 – 12 foot lifts to waste elevation of 172'  
Maximum slope is 3H:1V from base grade to waste elevation 122'; 4H:1V from waste elevation 122' to 167'; 1% to 2% grade from waste elevation 167' to 172'  
10-ft wide stormwater benches are to be constructed at waste elevations 122' and 147'  
Sideslope berms and stormwater appurtenances are to be constructed at final closure.  
Construct Cell 16 in accordance with permitted design
- Phasing Sequence 2                      As shown in Drawing Sheets C1.10 and C1.11  
Begin filling Cell 16 with 4 – 6 feet lift north of the temporary ~~berm~~ stormwater and leachate diversion swale until cell is flooded out. Remove temporary berm swale and fill with 4 – 6 feet lift.  
Continue filling Cell 16 in 10 – 12 foot lifts from base grade to waste elevation 147', including filling over Cell 15. Maximum slope is 3H:1V from base grade to waste elevation 122'; 4H:1V from waste elevation 122' to 147'.  
A 10-ft wide stormwater bench is to be constructed at elevation 122'.  
Sideslope berms and stormwater appurtenances are to be constructed at final closure.
- Phasing Sequence 3                      As shown in Drawing Sheets C2.00 and C2.10  
Construct final closure cover system over Cells 1, 2, 3, 4, 5, 6, 6B, 7, 15 and 16 in accordance with the permitted closure design.  
Construct sideslope berms and stormwater appurtenances.  
Construct landfill gas vents.

Lift height includes cover material. Due to the landfill bottom elevation, some lifts may not be a full 10 feet in height.

As each sequence is active, the following procedures will be followed

- The access road to the working face will be constructed and graded as necessary
- Waste will be compacted as it is placed. General lift height will be 10 feet and will come within three (3) feet of the final elevation to provide for final cover.
- The working face will remain approximately 100 feet in length
- Avoid channelizing stormwater flows
- Use mulch, grass, and maintain intermediate covers
- Weekly cover of six (6) inches of soil will be placed on the working face
- Intermediate cover of 12 inches of soil will be placed in areas that will not receive waste within 180 days. The cover may be removed immediately prior to placement of new waste

Stormwater runoff from the interior of the excavation and filling area will be diverted to the onsite temporary storage pond using a temporary interior swale and 6-foot berm. Perimeter berms will direct stormwater away from excavation and filling areas. The temporary stormwater pond will receive runoff until Pond 3 is developed.

## 8.2 Erosion Control

The following engineering controls will be used to minimize erosion at the working face:

- Regrade a maximum of 100 linear feet of the outer edge slopes at a time to 2H:1V. The purpose of this recommendation is that a relatively small area will be subjected to surface erosion at any given time.
- Construct a berm along the top of the slope during the regrading to redirect any rainfall runoff away from the face of the slope. The area along the berm should be graded so as to allow rapid runoff along the top of the slope. Ponding of water near the top of the slope should not be allowed, since seepage through the slope may initiate slope erosion.
- As soon as possible following the construction of the clay layer, begin to fill against the 2H:1V slope with the landfill material.
- Avoid channelizing stormwater flows

- Use mulch, grass, and maintain intermediate covers

### 8.3 Life Expectancy.

The capacity and lifespan estimates are provided in Section 3.8.3 of the Engineering Report.

## 9.0 WASTE COMPACTION AND APPLICATION OF COVER

Waste received will be segregated based on compatibility. Bulky, incompressible items, such as concrete and tree debris, will be separated and stockpiled for future processing. Tree debris is separated from the waste and periodically mulched for on-site uses. The remaining debris is disposed of in designated "cells" using a CAT 826G Compactor, or equivalent to place, spread the waste daily and compact the debris weekly. Initial cover material is planned to be excavated from onsite areas and placed weekly in approximately 6-inch layers on the compacted lifts to control vectors, reduce rain infiltration and provide a more stable working face area. The facility may also use a 50/50 mixture of mulch and soil as cover in accordance with Policy Memo # SWM-05.4 dated April 25, 2001. An intermediate cover of one (1) foot of compacted soil will be applied if final cover or an additional lift is not to be applied within 180 days of cell completion. Cell closure will occur when all permitted cells are filled. For final buildout grade and closure details, see Drawing Sheets C2.00 and C2.10 of the 2016 Plan Set provided in Section 4 of the ~~March~~ December 2016 permit modification application RAI ~~1~~ 2 response dated July 2016. The Conceptual Closure Plan includes permitted Cells 1-7 and 15, and proposed Cell 16.

Cell closure will generally conform to the lines and grades specified in the Landfill Conceptual Closure Plan. The grading plan will conform to the rules and regulation specified in 62-701.600, as well as 62-701.400(7) and 62-701.400(8), Florida Administrative Code. Pesticides when deemed necessary to control rodents, insects and other vectors will be used as specified by the Florida Department of Agriculture and Consumer Services. Uncontrolled and unauthorized scavenging will not be permitted at the landfill site. Controlled recycling may be permitted by the Site Manager responsible for the operation of the landfill facility. Temporary storage of soil fill or recycling materials may occur in the closed cell areas.

## 10.0 OPERATION OF GAS, LEACHATE AND STORMWATER CONTROLS

### 10.1 Gas Monitoring and Control

The type of materials to be disposed in the Class III Landfill are not expected to generate significant amounts of methane or other toxic gases since the landfill's design prevents groundwater contact therefore, a passive gas control system is proposed. The Landfill Manager will conduct daily and weekly inspections of the landfill and will check for objectionable odors or gas by driving around the perimeter of the site, record the results, and notify the FDEP and County of any positive detection and immediately take corrective actions. Corrective actions will include placement of additional soil cover, or mulch, or lime containing materials such as crushed concrete that is documented to abate the odors. Quarterly gas monitoring is currently conducted.

Within 30 days of being notified by the Department that objectionable odors per Rule 62-701.200(77), F.A.C. have been confirmed off-site, the Facility will submit to the Department for approval an odor remediation plan. The plan will describe the nature and extent of the problem and the proposed long-term solution, which will be implemented within 30 days of approval. The plan will include procedures to implement a routine odor monitoring program to determine the timing and extent of objectionable odors and a means of evaluating the effectiveness of the remedy.

The facility only accepts Class III debris for disposal and accepts no putrescible household wastes. Surface water and groundwater contact with the Class III wastes will be prevented by the approved facility design thus preventing possible odor operation. Other best management practices to prevent odors include: 1) closure of each cell as it is completed; 2) weekly soil cover application; and, 3) immediate corrective actions to abate odors.

A system of passive gas vents will be installed to manage landfill gas. The location of the gas vents is shown on Sheet C2.00 of the 2016 Plan Set provided in Section 4 of the ~~March~~ December 2016 permit modification application RAI 1 2 response dated July 2016. The construction details of the vents are shown on Figure 3-14 (provided in Appendix 3-C of the 2012 permit renewal application submitted by Kelner Engineering). The vents will be installed during the final closure and installation of the final cover over each landfill cell.

A system of 16 gas monitoring points will be installed to monitor gas at the site, see Sheet C0.03 of the 2016 Plan Set provided in Section 4 of the March 2016 permit modification application RAI 1 response dated July 2016. The construction details of a typical gas probe are shown on Figure 3-14 (provided in Appendix 3-C of the 2012 permit renewal application submitted by Kelner Engineering).

#### 10.1.1 Methane Gas Measurement

In accordance with the requirements of the current FDEP permits, methane gas levels are

monitored at each of the active gas monitoring points quarterly, with results submitted to the FDEP. A lower explosive limit (LEL) meter will be used to measure methane levels from each of the gas probes. LEL meters, such as the MSA Model 260 or GEM 500 or equivalent, will be used to conduct this monitoring. These meters are capable of measuring percent volume of methane in air and the percent LEL level of the methane by volume. The meter shall be calibrated in accordance with manufacturer's specifications prior to each methane monitoring event. Attachment 4 of the Operations Plan provided in Appendix 3A of the Engineering Report presents the proposed gas monitoring probe survey form to be used to conduct the quarterly monitoring at the subject site. This form will document at the time of each gas probe reading, air temperature in degrees Fahrenheit, methane levels in percent volume in air and percent LEL. The reporting action level for methane in air will be considered 5 percent by volume in air as measured by the lower explosive limit. The reporting action limit for methane in structures is 25% of the LEL, or 1.25% methane by volume. The results of each quarterly gas probe survey will be submitted to the Department on the presented form within two weeks of each monitoring event. These events are planned to be coordinated with the semi-annual groundwater monitoring at the subject site.

#### 10.1.2 Gas Contingency Plan

The following Contingency Plan will be implemented if any of the measured gas monitoring points methane levels are detected above the 100% LEL of greater than 5 percent methane in air, or if 25% of the LEL or higher is measured in a structure. If this level of methane or greater is detected in any of the probes, the Facility operator will institute measurement of methane in nearby, at, or below grade structures, i.e., stormwater collection points, or any maintenance or office buildings within 100 feet of the subject gas probe on a weekly basis until these levels go below the 100% LEL at the subject probe. If methane levels measured in any on-site building exceed 25% of the LEL, building windows and/or doors will be opened for ventilation and all personnel evacuated until methane readings are maintained below 25% of the LEL for methane. The monitoring report for any event that detects methane above the LEL will also report methane levels from nearby structures, as indicated above, until the levels go below the methane LEL level or until corrective actions are conducted to reduce methane levels. The FDEP will be notified within seven days of any gas monitoring levels that exceed the reporting action levels.

#### 10.2 Leachate Control

Any leachate that may be produced at the landfill will be controlled with the use of a continuous 3-foot thick clay layer ( $1 \times 10^{-7}$  cm/s) that will be placed on the bottom of the cells. The clay layer beneath each individual cell will form a continuous barrier layer that will be graded to direct leachate to the remaining portion of the temporary stormwater pond in future Cell 14 and/or the proposed stormwater Pond 3. During Cell 7 construction, leachate will continue to flow along the continuous bottom barrier layer towards the northern landfill boundary, and into the existing

stormwater pond in future Cell 14 and proposed Cell 16. Prior to starting construction in Cell 16, a ~~berm~~ temporary stormwater and leachate diversion swale will be constructed immediately north of Cell 15. The ~~berm~~ swale will extend east to west the full width of Cell 16 and slope to the west to the temporary stormwater pond in the future Cell 14 area. ~~A portion of the Leachate generated in existing cells 1-7 and 15 will move to the remaining temporary stormwater pond in the future Cell 14 area. The remainder of the leachate generated in existing cells 1-7 and 15 will move to Pond 3 via the berm located immediately north of Cell 15.~~ Once Cell 16 construction is complete, the ~~berm~~ swale will remain in place while the initial lift of waste is placed across the entire floor of Cell 16. Once Cell 16 is “flooded out”, the ~~berm~~ swale will be removed for the remainder of operations. Leachate generated in existing cells 1-7 and 15 will then move to temporary stormwater pond in the future Cell 14 area as it did prior to removal of the ~~berms~~ swales. The remainder of the leachate generated in cells 1-7, 15 and all leachate generated in Cell 16 will move to ~~Pond 3 via the clay barrier layer beneath Cell 16~~ a toe drain extending east to west along the northern perimeter of Cell 16. The toe drain will slope west to east and terminate in a manhole located between Cell 16 and Pond 3. The toe drain will “daylight” approximately 3 feet above the bottom of the manhole. Staff will observe the level of leachate in the manhole every morning the facility is open. When leachate levels are observed to be equal to the invert of the toe drain, a pump will be used to drain the manhole into Pond 3. Leachate levels in the manhole will be periodically inspected throughout the day and pumping will be performed as needed. Under no circumstances will waste be placed in water. In the event that water is present above the clay barrier layer at the time waste is to be placed, the operator will utilize pumps to remove the water to Pond 3. Once Cell 16 and any future Cells that would connect to the leachate collection system have been filled to their final design grades and closed, the pumping of leachate into Pond 3 will be vacated.

The controlled method of screening waste also supplements the leachate control. Because the Applicant privately owns the Enterprise Class III Landfill facility, most of the haulers, waste generators, and sources of waste are known to Angelo’s and the scale house attendants. For those haulers that are unfamiliar to the Applicant, the scale house attendants question the haulers more intensely to determine the contents of their loads. The spotters and operators add additional monitoring at the active disposal location. The addition of video surveillance to the monitoring process of incoming wastes helps to identify fires or smoking loads. Combined methods of screening waste is an effective method to reduce any possible threat to public health or the environment.

### 10.3 Stormwater Control

The approved Stormwater Management Plan for the landfill consists of berms, swales, and ponds constructed within the 200-foot landscape buffer zone to divert, collect and contain stormwater runoff from the completed site. These stormwater facilities are designated to retain the 100-year, 24-hour storm volume as required by Pasco County and the FDEP. During excavation, construction and waste disposal, stormwater will be controlled by a series of berms that direct stormwater to the temporary stormwater pond located in the northeast corner of the site. A 6-foot berm adjacent to active and filled cells retains stormwater from the filling area and

diverts stormwater from the excavation area to the temporary stormwater pond. A new stormwater Pond 3 is being proposed and submitted to be permitted as an Industrial Wastewater Pond through FDEP. Additional details concerning the stormwater management system are provided in Drawing Sheets C1.00, C1.10, C2.00 and C2.10.

The site manager will perform weekly inspections of the storm water management system. Any areas in need of maintenance will be repaired within seven days.

## 11.0 SIGNS

Signs will be posted at the entrance to the Facility site which will list the following information:

- The operating entity;
- Hours of operation;
- No scavenging allowed;
- No hazardous waste accepted;
- List of acceptable and unacceptable waste; and,
- 24-hour phone number of emergency contact.

The scalehouse attendant will direct each driver to the area appropriate to unload wastes. Signs will also be posted to direct trucks to either the borrow pit or the landfill working face.

## 12.0 DUST ABATEMENT PLAN

The Facility will provide a water tanker to water the landfill access roads if and when dust becomes a problem. This will also be done whenever the County receives complaints about dust or when a dust problem is observed during a County or State inspection.

## 13.0 DUST, LITTER, AND VECTOR CONTROL PLAN

The nature of the waste to be disposed in the landfill does not typically create litter and vector problems. Daily placement of waste and/or compaction will be the primary means utilized to control litter and vectors. The facility personnel will perform daily inspections of the facility and the access road to assure litter is controlled. As needed, laborers will pick up blowing debris and dispose of it in appropriate containers and/or on site. Temporary fencing to contain litter at the working face of the landfill may be used as needed. These litter controls will also be implemented whenever the County or State receives a complaint from adjacent landowners or a litter problem is observed during an inspection.

If vectors (rodents, insects, and domestic animals) become a nuisance at the Facility, the Operator may obtain the services of a licensed pest management company to review the operations and recommend control measures.

#### 14.0 FIRE PROTECTION AND FIRE FIGHTING FACILITIES

Fires that originate in landfills are primarily extinguished by soil application. Supplemental fire protection will be furnished by the Dade City Fire Department (Station No. 1). The Fire Department will be notified immediately of all landfill fires. An emergency contact list will be posted at the scalehouse with contact phone numbers.

During a fire, incoming trucks will be directed toward another area of the landfill so that a temporary active face can be established. Once the fire is extinguished, appropriate cover will be applied to the waste and operations will continue at the original active face. If the fire is extensive and a temporary active face cannot be established, incoming trucks will be redirected to another landfill.

Onsite fire prevention facilities will include:

- Fire extinguishers mounted in the cab of all heavy equipment and in the office/scalehouse;
- Telephones to notify personnel of a fire;
- Onsite equipment (dozer) and fill dirt to extinguish fires on working face; and
- Site water truck

Soil for firefighting purposes will be borrowed from the closest unexcavated area of the site to the fire. Details of all firefighting episodes will be recorded in the landfill operating record.

#### 14.1 Hot Loads and Spills

Any hot load (of authorized material) found will be dumped on an area at least 500 feet away from the active working face. The load will immediately be covered with soil if a fire is imminent. Once the fire is extinguished, the load will be pushed and spread using a dozer, allowing for the load to be inspected by a spotter. The waste will not be disposed of until it has cooled completely, and the fire hazard has been mitigated.

In the event of a fire at the working face, waste acceptance will cease until the fire has been completely extinguished and additional cover material compacted in the area of the fire. If the fire is located elsewhere in the landfill, waste acceptance operations may continue at the manager's discretion.

Since liquid disposal is prohibited in a Class III landfill, spills from waste vehicles are not anticipated. In the case of a fuel spill or leak, the contaminated soil will be collected to the extent possible, contained in a drum or roll off container, and taken offsite within thirty (30) days for proper disposal or treatment.

## 15.0 LANDFILL PERSONNEL

The scalehouse attendant and certified landfill operator will be onsite during all operating hours. In addition, there will be a minimum of one (1) other person (spotter) onsite, for a total of three (3). The state certified landfill operator will be assigned to manage the daily landfill operations. The personnel will be stationed at the landfill ticket gate and active disposal face. Additional personnel will be assigned to the landfill operation as the demand necessitates. Two spotters are generally located at the working face at all times that waste is accepted. However, there are up to eight spotter-trained or in-house trained spotter employees on-site each day and therefore; additional trained employees can be relocated to the working face as necessary to inspect the incoming waste. Certificates for current trained personnel are attached as Attachment 6 to this plan.

At least one (1) spotter will be at the working face at all times the facility is accepting waste. The spotter will direct vehicle traffic around the working face and will direct drivers where to empty their vehicles. The loads will be inspected as described in Section 5.0. If the load is acceptable, the waste will be spread and compacted as necessary. If the load is unacceptable, the spotter will direct the driver to reload the waste into the vehicle, if possible. If the driver is unable to reload the material, on-site personnel will reload the material for the driver using onsite equipment. The spotter will also discourage scavenging by the public.

The equipment operator spreading waste at the working face may also act as a spotter in accordance with the following:

1. The heavy equipment operator must be trained as a spotter;
2. When unauthorized waste is discovered, the heavy equipment operator must either move the unauthorized waste away from the active area for later removal and proper management, or must stop operation and notify another person on the ground or on other equipment who will come to the active area and remove the unauthorized waste before operations are resumed;

3. Each load of waste must be visually inspected for unauthorized waste prior to being compacted or loaded into a transfer vehicle.

A typical work schedule is as follows:

Day	Operating Hours	Scalehouse Attendant	Certified Operator	Spotter(s)	Equipment Operator*
M-F	7 am – 6 pm	1 (7 am – 6 pm)	1 (7 am – 6 pm)	Min. 1 (7 am – 6 pm) For 2 or more (7 am – 4 pm), (12 pm – 6 pm)	Min. 1 (7 am – 6 pm)
S	7 am – 2 pm	1 (7 am – 3pm)	1 (7 am – 3 pm)		Min. 1 (7 am – 2 pm)

\* - Equipment Operator may also serve as a spotter

### 15.1 Training Plan

The Facility will implement an employee training plan to properly train their landfill operators and spotters to operate the landfill in accordance with this Operations Plan, state and local regulations, and accepted disposal practices and to properly manage any hazardous or prohibited materials which are received at the landfill.

A trained operator will be at the site during all times that the landfill receives waste. All facility operators will be trained at an approved FDEP training course. Each operator will submit proof of training and documentation to the FDEP upon receipt of their certificates.

Landfill operators must have at least one year of work experience in landfill operation and a high school diploma; or have at least two (2) years' experience at a Class I, II, or III landfill. Each operator will complete at least 24 hours of initial training in an FDEP-approved training course, and will pass an examination as part of that training. Sixteen (16) hours of continuing training will be completed within three (3) years of each operator's initial training from an approved course documented by the form in Attachment 3. A list of FDEP approved training courses for operators and spotters are included in Attachment 5.

The Facility spotters will complete an initial eight (8) hour FDEP-approved course and four (4) hours of continuing training every three (3) years. Records documenting each employee's training course completion and schedule will be maintained and kept at the landfill office at all times.

Interim operators must become trained operators within one year of employment as an interim operator and interim spotters must become trained spotters within 3 months of employment as an interim spotter

## 16.0 COMMUNICATIONS FACILITIES

The landfill scalehouse will have both telephone and facsimile facilities. In addition, all landfill operating areas (gate house, working face etc.) will have radio communication or cell phones with the base station at the gate house.

## 17.0 EQUIPMENT INVENTORY

Equipment currently planned for use at the landfill site includes:

- A. D-8 Caterpillar bulldozer, CAT 826 G Compactor; two 2.5 cud loaders, water truck, 590 John Deere backhoe, or equivalent are sufficient for adequate operation of the facility. A wood chipper/grinding machine (Hogzilla), or equivalent, will be moved to the site periodically (approximately once every six months) to process wood wastes as needed. Additional equipment, such as a grader may be rented as needed.
- B. Arrangements will be made to provide alternate equipment within 24 hours following an equipment breakdown.

Equipment rental companies that may be used to obtain reserve equipment include the following:

Ring Power - Brooksville, Florida  
Contact: 352-796-4978

Flagler Equipment - Tampa, Florida  
Contact: 813-630-0077

- C. There will be safety devices present on equipment to shield and protect the operators from potential hazards during operation.

### 17.1 Equipment Maintenance

The Facility will conduct routine heavy equipment and vehicle maintenance onsite. Maintenance includes fueling of heavy equipment with diesel fuel, lubrication, oil changes and, antifreeze changes. Tire repairs will be handled by an outside service company.

A permanent equipment fueling facility will be installed and registered in accordance with F.A.C. 62-761. Pasco County will be copied on the registration.

Oil and antifreeze changes will be contained by large drip pans to catch the waste oils. These wastes will then be transferred either to a 250-gallon waste oil skid tank or to a 55-gallon drum for waste antifreeze, which will be located in a containment area. The containment area is a covered metal storage shed. Enterprise RDF plans to enter into contracts with licensed recyclers to periodically pick up the waste oil and antifreeze. Records of these pickups will be maintained by Enterprise RDF. All virgin lubricants will be stored undercover within the gate house building or suitable enclosure.

## 18.0 SAFETY DEVICES

All operating equipment which will be utilized at the landfill site will be fitted with rollover protection and fire extinguishers. All landfill personnel will be required to wear safety helmets, safety shoes, eye protective glasses, gloves, and safety vests. The onsite heavy equipment will meet OSHA safety requirements. First aid equipment will be kept in the office trailer and in the operating equipment.

## 19.0 RECORDS, PERMITS AND REPORTS

A copy of any Florida Department of Environmental Protection (FDEP) and Pasco County approved engineering drawings, permits and supporting information will be kept at the facility for reference and inspections. Permits will be posted at site per ordinance. A waste type and quantity intake (in tons) log will be kept daily, compiled monthly and a report will be submitted annually to Pasco County and the FDEP.

An annual estimate of the remaining life and capacity in cubic yards of the landfill will be reported annually to the FDEP.

### 19.1 Water Quality Monitoring

The Facility will conduct the required initial and semi-annual groundwater monitoring at the sites' monitoring wells as described in the Facility's Groundwater Monitoring Plan. Semi-annual reports of this monitoring will be submitted to Pasco County and FDEP in accordance with this plan. Quarterly monitoring will also be conducted and reported at specific wells per Pasco County conditions.

## 19.2 Landfill Operating Records

The operating record for the landfill will document daily as a minimum the following activities:

- Self-inspections of landfill conditions, safety equipment and unacceptable waste received, any odor detected;
- Records used to develop permit applications;
- Change in construction, operation or closure permits and supporting designs;
- Water quality sampling events, analytical reports, well installation or repair;
- Employee training;
- Random load checks;
- Facility construction, major maintenance, or demolition;
- Other activities that significantly affect facility operations.

Self-inspections of the landfill conditions are conducted daily, and more extensive inspections are included weekly. Daily inspections include general inspection of site access, site security, and conditions of intermediate cover. Weekly inspections include more detailed inspections of the conditions of the surface water and stormwater management systems and groundwater monitoring wells.

The Operating Record will be kept at the landfill and be accessible to the landfill operators to maintain and for FDEP or Pasco County inspection at reasonable times.

Operational records will be maintained for the design life of the landfill, with the exception of weigh tickets which will be kept at least 5 years. Water quality monitoring information, maintenance records, and permit reports will be maintained for a minimum of 10 years. Background water quality records will be maintained for the design period of the landfill.

## 20.0 EROSION CONTROL

The site's inherent design as an excavation pit will prevent stormwater from leaving the property. Stabilization by seeding and mulching of the final fill areas will occur as the fill operations progress from cell to cell.

## 21.0 FINAL GRADE PLAN

Interim grades of the cells are shown on the plans (Drawings C1.00 and C2.00 of the 2016 Plan Set provided in Section 4 of the March 2016 permit modification application RAI + 2 response dated ~~July~~ December 2016) and in the cross-sections (Drawings C1.10 and C2.10). Permitted mining activities will continue in accordance with the site's Class I mining permit. The final elevations after construction of future cells is planned to reclaim excavated areas back to the grade which existed prior to the site being opened as a mine with allowance for positive drainage. The Landfill Conceptual Closure Plan is provided in Drawing C2.00 (Section 4 of the March 2016 permit modification application RAI + 2 response dated ~~July~~ December 2016).

## 22.0 CLOSURE AND LONG TERM CARE

The site's Reclamation and Closure Plan details the procedures to properly close and maintain the landfill during the 30-year post-closure period. A Closure Report will be prepared for the landfill that details the site-specific limitations for land use based on geotechnical stability (settlement), potential gas migration, and site access. Long-term maintenance of erosion controls, storm water controls and monitoring devices is discussed in the Closure Plan (Section 7 of the March 2016 permit modification application RAI + 2 response dated ~~July~~ December 2016).

## 23.0 CERTIFICATION

Laboratory testing and observation of cell floor conditions during cell construction completion will consist of the following:

- In-place density testing for each 12-inch thick soil lift, based on laboratory proctor test results for the construction material, will be recorded by a properly trained technician. These tests will be conducted in the location of each permeability test.
- Thickness testing of each lift will be recorded at a minimum frequency of two tests per acre, per lift.
- Confirmation hydraulic conductivity testing of Shelby tube or drive cylinder samples of the compacted cell floor material will be performed at a minimum frequency of one test per lift, per acre.
- Observance for unstable areas such as limestone, sinkholes and soft ground will be performed for each cell.

If the test data from a cell floor section does not meet the requirements of the anticipated conditions of the hydrogeological and geotechnical reports and the requirements of the facility construction permit, additional random samples may be tested from that cell section. If the additional testing demonstrates that the hydraulic conductivity meets the requirements, the cell will be considered acceptable. If not, that cell will be reworked or reconstructed so that it will meet these requirements.

Upon completion of construction of any cell (or cell increment) within the disposal facility, the Applicant will provide the FDEP with the necessary reports, documents, and form 62-701.900(2), F.A.C. demonstrating that the approved construction is complete and in accordance with the submitted plans. The operator will provide the completed form to the FDEP in accordance with Rule 62-701.320(9)a., F.A.C., along with the quality assurance test results described above.

#### 24.0 HISTORY OF ENFORCEMENT ACTION

In 2000, OGC Case No. 00-0009 was opened against the applicant for the Frontier Recycling facility (now Angelo's Recycling Facility) in Largo, Florida. A model consent order was used to resolve the issues of the case. The DEP's database did not include information regarding the subject of the enforcement.

In 2004, OGC Case No. 04-0887 (solid waste) and No. 04-0426 (stormwater) were opened against the applicant for Angelo's Recycling facility in Largo, Florida. ARM requested a minor permit modification to resolve the solid waste enforcement case. Formal enforcement was not taken to resolve the stormwater case. Instead, it was handled through submittal of a new permit application.

In 2006, OGC Case No. 06-0783 was opened against the applicant for the Enterprise Class III Landfill and Recycling Facility in Pasco County, Florida. ARM performed the corrective actions that were required to bring the facility into compliance and the assessed civil penalties were paid.

In 2007, OGC Case No. 07-1985 was opened against the applicant for the Angelo's C&D Recycling Waste Processing Facility in Apopka, Florida. ARM performed the corrective actions that were required to bring the facility into compliance and the assessed civil penalties were paid.

In 2007, Warning Letter #WL07-0019SW51SWD was issued to Angelo's Aggregate Materials, Ltd. for the Enterprise Class III Landfill. The Warning Letter was settled June 5, 2008 for total fines of \$18,397. In the "Proposed Settlement of Warning Letter WL07-0019SW51SWD", the Department acknowledged that Angelo's would not be considered "irresponsible" under FDEP Rule 62-701.320, FAC, as a result of the enforcement action.

In 2007, Warning Letter # WL07-0008SW52SWD was issued to Angelo's Aggregate Materials, Ltd. for the Recycling Waste Processing Facility in Largo, FL. The Warning Letter was settled April, 2009 for total fines of \$24,986. In the "Proposed Settlement of Amended Warning Letter WL07-0008SW52SWD", the Department acknowledged that Angelo's would not be considered "irresponsible" under FDEP Rule 62-701.320, FAC, as a result of the enforcement action.

ATTACHMENT 1  
FACILITY ENTRANCE SIGN

ATTACHMENT 2  
RANDOM LOAD INSPECTION FORM

ATTACHMENT 3  
FACILITY TRAINING LOG

ATTACHMENT 4  
GAS MONITORING SURVEY FORM

ATTACHMENT 5  
LIST OF APPROVED COURSES

ATTACHMENT 6  
TRAINING CERTIFICATES

ATTACHMENT 7  
SOURCE-SEPARATED ORGANICS PROCESSING  
FACILITY REGISTRATION

## **Attachment 3**

### **Proof of Publication**



Ad Proof

**-Receipt-**

**Date:** 08/24/16  
**Account #:** 124406  
**Company Name:** LOCKLEAR & ASSOCIATES  
**Contact:**  
**Address:** 4140 NW 37TH PLACE, SUITE A  
 C/O WALKER WRENN  
**City:** GAINESVILLE  
**State:** FL  
**Zip:** 32606  
**Telephone:** (352) 672-6867

**Publications:**

Tampa Bay Times,  
TampaBay.com

**Ad ID:** 347077  
**Run Dates:** 08/26/16 to 08/26/16  
**Ad Class:** Legal  
**Columns wide:** 1  
**Billed of Lines:** 25.0  
**Total Cost:** \$32.00  
**Account Rep:** Jill Harrison  
**Phone #**  
**Email:** jharrison@tampabay.com

**State of Florida  
Department of Environmental  
Protection Notice of Application**

The Department announces receipt of applications for construction and operation permit modifications from Angelo's Aggregate Materials, Ltd. for lateral expansion of a Class III landfill, subject to Department rules, at the Enterprise Class III Recycling and Disposal Facility, located at 41111 Enterprise Road, Dade City, Pasco County, Florida.

This application is being processed and is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the Department of Environmental Protection, Southwest District Office, 13051 North Telecom Parkway, Temple Terrace, Florida 33637 0926. (347077) 8/26/2016

**Payments:**

Method	Card Type	Name on Card	Last 4 Digits	Expire Date	Check Number	Amount Paid
	CC	VISA		6473		\$32.00

**Gross:** \$32.00  
**Paid Amount:** - \$32.00  
**Amount Due:** \$0.00

**Tampa Bay Times**  
Published Daily

STATE OF FLORIDA } ss  
COUNTY OF Pasco County

Before the undersigned authority personally appeared **Jill Harrison** who on oath says that he/she is **Legal Clerk** of the **Tampa Bay Times** a daily newspaper printed in St. Petersburg, in Pinellas County, Florida; that the attached copy of advertisement, being a Legal Notice in the matter **RE: Enterprise Class III** was published in **Tampa Bay Times: 8/26/16**, in said newspaper in the issues of **Baylink Pasco**

Affiant further says the said **Tampa Bay Times** is a newspaper published in Pasco County, Florida and that the said newspaper has heretofore been continuously published in said Pasco County, Florida, each day and has been entered as a second class mail matter at the post office in said Pasco County, Florida for a period of one year next preceding the first publication of the attached copy of advertisement, and affiant further says that he/she neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper

  
Signature of Affiant  
Sworn to and subscribed before me this 08/26/2016.

  
Signature of Notary Public

Personally known   X   or produced identification  
Type of identification produced \_\_\_\_\_



**State of Florida**  
**Department of Environmental**  
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(347077) 8/26/2016

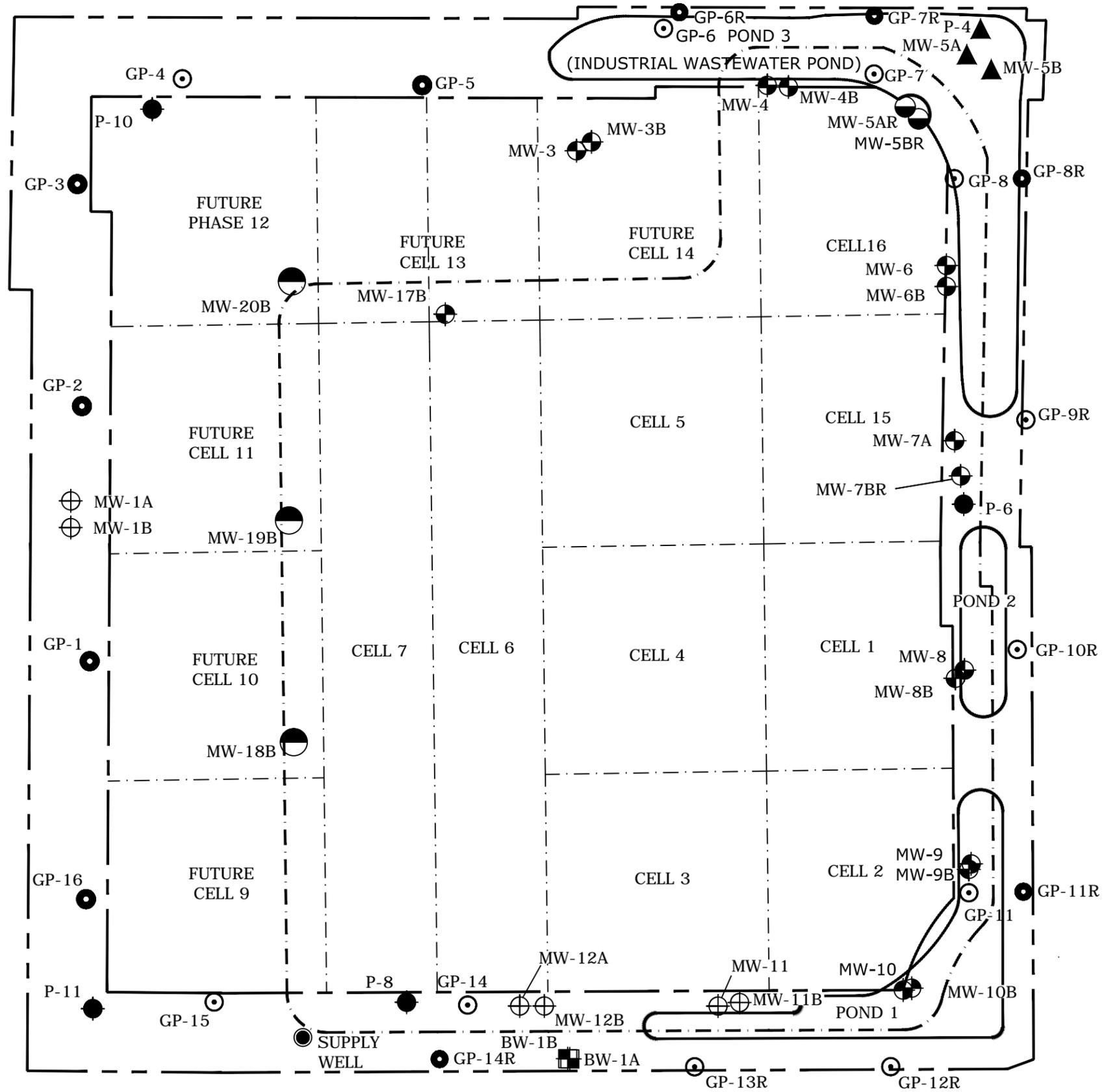
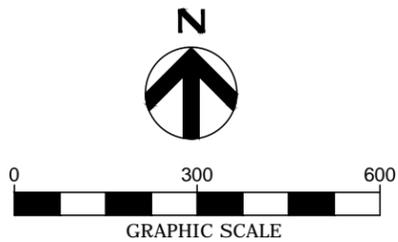
## **Attachment 4**

### **Site Map**

Z:\Civil 3D Projects\02000-144-14-14\_MONITORING WELLS\CADD\Site\Fig\_01\_GROUNDWATER MONITORING PLAN NETWORK\_03.dwg PLOT DATE: 12/27/2016 2:40 PM BY: LIB

# LEGEND

-  BW-1B BACKGROUND MONITORING WELL LOCATION
-  MW-3 DETECTION MONITORING WELL LOCATION
-  SUPPLY WELL LOCATION
-  P-11 SOLID WASTE PIEZOMETER WELL LOCATION
-  MW-5AR PROPOSED COMPLIANCE MONITORING WELL LOCATION
-  MW-12A WATER LEVEL ONLY WELL LOCATION
-  MW-5B PROPOSED TO BE ABANDONED
-  MW-19B COMPLIANCE MONITORING WELL LOCATION
-  GP-1 GAS PROBE LOCATION
-  GP-8R FUTURE GAS PROBE LOCATION
-  PROPERTY BOUNDARY
-  LANDFILL LIMITS
-  CELL BOUNDARY
-  ZONE OF DISCHARGE



NO.	DATE	REVISION DESCRIPTION	BY



4140 NW 37th Place, Suite A  
Gainesville, Florida 32606  
Phone: 352.672.6867 Fax: 352.692.5390  
Certificate of Authorization No. 30066

PROJECT TITLE:  
**ENTERPRISE ROAD CLASS III  
RECYCLING AND DISPOSAL FACILITY  
DADE CITY, FLORIDA**

LISA J. BAKER	DESIGNED BY	LIB
	DRAWN BY	LIB
	CHECKED BY	JDL
FL PE NO. 74652	APPROVED BY	LIB

SHEET TITLE:  
**SITE MONITORING NETWORK**

PROJECT NO.:	02000-144-14
SCALE:	AS SHOWN
DATE:	SEPTEMBER 2016
DRAWING:	<b>FIGURE 1</b>

## **Attachment 5**

### **Revised Groundwater Monitoring Plan**

# **Enterprise Class III Landfill Groundwater Monitoring Plan**

Revised ~~July~~ December 2016 (RAI ~~1~~ 2 Response)

Prepared for:

**ANGELO'S RECYCLED MATERIALS, LTD.**  
41111 Enterprise Road  
Dade City, Florida 33525

Prepared by:

**LOCKLEAR & ASSOCIATES, INC.**  
4140 NW 37<sup>th</sup> Place, Suite A  
Gainesville, FL 32606

John Locklear  
FL PG 2467

This Groundwater Monitoring Plan (GWMP) has been prepared in accordance with the provisions of Rule 62-701.510, F.A.C., and any non-conflicting provisions of Chapter 62-520, F.A.C. The GWMP was developed based upon an extensive evaluation of site data provided in the March 2012 (Revised March 2013) Water Quality Monitoring Plan Evaluation Report prepared by Locklear & Associates, Inc. The Water Quality Monitoring Plan Evaluation Report is provided in Section 6 of the March 2012 Operations Permit Renewal Application. Analytical data tables and graphs as well as groundwater contour maps updated since 2012 were recently provided to the Department in the December 2015 Groundwater Technical Report (formerly referred to as a Biennial Report).

1. Water Quality Monitoring Plan

The groundwater monitoring network is shown in Table 1 and in Figure 1.

- a. All groundwater monitoring well installations and abandonments shall be performed in accordance with ASTM D 5092-04, Rule 62-532.500(5), F.A.C. and the rules of Southwest Florida Water Management District.

- b. Sign and Seal

The reports shall be signed and sealed in accordance with Chapter 471, Florida Statutes and Chapter 61G15, FAC for engineers or with Chapter 492 for professional geologists.

- c. Sampling and Analysis

All sampling and analysis shall be performed in accordance with Chapter 62-160, FAC; 62-701.510(2)(b), FAC; the DEP Standard Operating Procedures for Field Activities (DEP-SOP-001/01); and the DEP Standard Operating Procedures for Laboratory Activities (DEP-SOP-002/01).

- d. Groundwater Monitoring Requirements

The groundwater monitoring network consists of detection monitoring wells located downgradient from and within 50 feet of the disposal units. The detection wells are located no more than 500 feet apart. The network also includes background monitoring wells BW-1A and BW-1B screened within the surficial and Floridan aquifers, respectively. Downgradient compliance monitoring wells will be installed if warranted based on the results of detection monitoring results and Evaluation Monitoring as discussed in

Section 1.h. Compliance wells will be located at or immediately adjacent to the compliance line of the zone of discharge.

Monitoring wells shall be constructed to provide representative groundwater samples from the surficial aquifer, where present, and the Floridan aquifer system. Well screen placement will be determined from lithologic information collected at the time of well installation and historic water level elevations as discussed below.

Surficial waters were not encountered during the well installation of monitoring wells MW-18B, -19B and -20B, and therefore, monitoring wells MW-18A, -19A and -20A were not constructed. The absence of surficial waters in the western portion of the site is consistent with historical findings. The top and bottom of the screen elevations for proposed surficial aquifer monitoring wells MW-18A, -19A and -20A are based on the top of clay confining unit elevations encountered during the installation of adjacent monitoring wells MW-15B, -16B and -17B. The clay confining layer was encountered at the surface during the installation of these wells, and therefore, we do not anticipate water bearing soils above the clay confining layer at the locations of the proposed surficial aquifer monitoring wells MW-18A, -19A and -20A. However, the lithology will be assessed at the location of each new well and surficial aquifer wells will be installed if water bearing soils exist above the clay confining layer. The historic range of surficial aquifer water elevations in this area is not available. The top and bottom of the screen elevations for proposed surficial aquifer well MW-5AR are based on the characteristics of existing surficial aquifer well MW-5A. The historical range of surficial aquifer water elevations in MW-5A is 78.45 to 68.99 ft. NGVD (previous ten sampling events). Proposed top and bottom screen elevations for MW-5AR are 79 82 ft. and 64 62 ft. NGVD, respectively.

Monitoring wells MW-18B, -19B and -20B were installed as required by the Cell 7 construction permit, and sampled per Table 2, below. The well completion reports with initial sampling results for monitoring wells MW-18B, -19B and -20B will be submitted under a separate cover when available. The top and bottom of the screen elevations for proposed Floridan aquifer monitoring wells MW-18B, -19B and -20B are based on the top of limestone elevations encountered during the installation of adjacent monitoring wells MW-15B, -16B and -17B. The top of limestone elevation encountered during the installation of MW-15B was observed at 119 ft. NGVD, however the limestone in this boring was dry down to an elevation of 83 ft. NGVD. Moisture was not described below this elevation. The historical range of Floridan aquifer water elevations in MW-15B is 66.1 to 74.17 ft. NGVD

~~(previous ten sampling events). Proposed top and bottom screen elevations for MW-18B are 65 ft. and 45 ft. NGVD, respectively. The bottom of the clay confining layer elevations encountered during the installation of MW-16B and -17B were observed at 64.5 ft. and 43.5 ft. NGVD, respectively. The historical range of Floridan aquifer water elevations in MW-16B and -17B is 66.2 to 74.3 ft. NGVD (previous ten sampling events), indicating the clay confining layer in these locations is creating artesian conditions. Proposed top and bottom screen elevations for MW-19B are 58 ft. and 38 ft. NGVD, respectively. Proposed top and bottom screen elevations for MW-20B are 35 ft. and 15 ft. NGVD, respectively. The top of limestone elevation encountered during the installation of MW-5B was observed at 60 ft. NGVD. The historical range of Floridan aquifer water elevations in MW-5B is 74.66 to 66.01 ft. NGVD (previous ten sampling events), indicating the clay confining layer in these locations is creating artesian conditions. Proposed top and bottom screen elevations for MW-5BR are 55 ft. and 35 ft. NGVD, respectively. Screen elevations for all proposed Floridan aquifer wells will be placed to encounter the upper-most saturated limestone layer beneath the bottom of the clay confining layer. Screen elevations will be determined based on field findings during well installation.~~

Figure 4 presents sections through Cell 16, the three sets of monitoring well pairs (MW-4/-4B, -5/AR/-5BR and -6/-6B), and Pond 3. The sections include the lateral distance from the edge of waste in Cell 16 to the monitoring well pairs and the lateral distance from the monitoring well pairs to the top of the bank of Pond 3.

Wells shall be constructed in accordance with the details provided in REV Figures 2 and 3. Documentation of well construction shall be submitted within 30 days of installation using Department Form #62-701.900(30).

Wells scheduled to be abandoned during construction of Cell 16 and Pond 3, (MW-5A, MW-5B and P-4), and wells which become damaged, shall be plugged and abandoned in accordance with Rule 62-532.500(5), F.A.C. and the rules of the Southwest Florida Water Management District. Documentation of abandonment shall be submitted to the Department within 30 days of abandonment.

Replacement wells associated with those abandoned as part of construction of Cell 16 and Pond 3 (MW-5AR and MW-5BR) will be constructed in accordance with the details provided in Figures 2 and 3.

The location(s) of all new or replacement monitoring wells, in degrees, minutes and seconds of latitude and longitude, and the elevation of the top of

the well casing to the nearest 0.01 foot, using a consistent, nationally recognized datum, shall be determined by a Florida Licensed Professional Surveyor and Mapper. Wells will be marked with their identification label in the field.

e. Surface Water Monitoring Requirements

Ponds 1, 2 and 3 do not have off-site discharge associated with the 100-year flood event. Therefore, surface water sampling is not required as part of the solid waste operating permit. In the unexpected event of a surface water discharge event, surface water monitoring will occur per Appendix 3, Para. 8.a. and Para. 8.b. of #177982-020-SO/T3. However, surface water in Pond 3 will be sampled in accordance with the Industrial Wastewater pond permit being applied for concurrent with the solid waste permit modification application.

f. Leachate Monitoring Requirements

(1) Leachate monitoring is not applicable to this facility.

g. Sampling Frequency and Requirements

(1) Water samples from all newly installed monitoring wells (including replacement wells associated with those abandoned as part of construction of Cell 16 and Pond 3) will be collected to determine background groundwater quality. Groundwater samples from the initial sampling of any new wells will be analyzed for parameters listed in Rule 62-701.510(7)(a) and (7)(c), F.A.C. (Table 2).

Table 2 Initial Groundwater Sampling Parameters	
Field Parameters	Laboratory Parameters
Static Water Levels	Total Ammonia – N
Specific Conductivity	Chlorides
pH	Iron
Dissolved Oxygen	Mercury
Turbidity	Nitrate
Temperature	Sodium
Colors and Sheens	Total Dissolved Solids (TDS)
	Those Parameters listed in 40 CFR Part 258, Appendices I and II

- (2) Groundwater samples from all monitoring wells (background and detection) and the on-site supply well shall be sampled and analyzed semiannually for the parameters listed in Table 3. A semiannual sampling frequency is adequate to detect potential groundwater quality standard exceedances based upon the flow velocities provided in Section III of the 2012 WQMPE. Maximum groundwater flow velocities were less than 50 feet per six months within both the surficial and Floridan aquifers. The first semiannual sampling event shall be performed between January 1 and June 30. The second semiannual sampling event shall be performed between July 1 and December 31.

Table 3 Routine Groundwater Sampling Parameters	
Field Parameters	Laboratory Parameters
Static Water Level	Total Ammonia – N
Specific Conductivity	Chlorides
pH	Iron
Dissolved Oxygen	Mercury
Turbidity	Nitrate
Temperature	Sodium
Colors, Sheens	Total Dissolved Solids (TDS)
	Those Parameters listed in 40 CFR Part 258, Appendix I

- (3) Surface water sampling shall be conducted at Pond 3 in accordance with the requirements of the separate Industrial Wastewater pond permit.
- (4) Leachate sampling is not applicable to this facility.
- h. Evaluation Monitoring, Prevention Measures, and Corrective Action

If parameters are detected in detection wells at concentrations that are significantly above background water quality, or that are at concentrations above the FDEP’s water quality standards or criteria specified in 62-520, F.A.C., the well will be resampled within 30 days after the initial analytical data are received to confirm the data. If the data are confirmed or the well is

not resampled, the FDEP will be notified in writing within 14 days of detection. Evaluation monitoring shall be initiated as follows:

- Routine monitoring of all monitoring wells will continue according to the GWMP.
- Within 90 days of initiating evaluation monitoring and annually thereafter, the background wells and all affected detection wells will be sampled for the parameters listed in 62-701.510(7)(c), F.A.C. Any new parameter detected and confirmed in the downgradient wells will be added to the routine groundwater monitoring parameter list.
- Within 90 days of initiating evaluation monitoring compliance monitoring wells will be installed at the compliance line of the zone of discharge and downgradient of the affected detection wells. The compliance wells will be installed in accordance with 62-701.510(3)(d), F.A.C. Compliance wells and affected detection wells shall be sampled quarterly for analysis of the parameters listed in Rule 62-701.510(7)(a), F.A.C. and any other parameters detected in the affected detection and downgradient wells sampled in accordance with Rule 62-701.510(6)(a)2, F.A.C. Compliance wells and affected detection wells shall be sampled annually for analysis of the parameters listed in Rule 62-701.510(7)(c), F.A.C.
- Within 180 days of initiating evaluation monitoring, a contamination evaluation plan will be submitted to the FDEP. The contamination evaluation plan will be designed to delineate the extent and cause contamination and to predict the probability that FDEP water quality standards are not violated outside the zone of discharge and to evaluate methods to prevent any violations. Upon agreement with the FDEP that the plan is so designed, the plan shall be implemented and a contamination evaluation report will be submitted to the FDEP. All reasonable efforts will be made to prevent further degradation of water quality from the landfill activities.
- If the contamination evaluation report indicates that water quality standards or criteria are likely to be violated outside the zone of discharge, a prevention measures plan shall be submitted to the Department. Upon approval, the prevention measures shall be initiated.

- Evaluation monitoring shall not be discontinued until authorization to return to routine monitoring only is received from the Department.

i. Water Quality Monitoring Report Requirements

- (1) All representative water quality monitoring results shall be reported to the Department within 60 days from completion of laboratory analyses. In accordance with subsections 62-160.240(3) and 62-160.340(4), F.A.C., water quality data contained in the report shall be provided to the Department in an electronic format consistent with requirements for importing into Department databases.

At a minimum the semiannual report shall include the following:

- The facility name and identification number, sample collection dates, and analysis dates;
  - All analytical results, including all peaks even if below maximum contaminant levels;
  - Identification number and designation of all groundwater monitoring points;
  - Applicable water quality standards;
  - Quality assurance, quality control notations;
  - Method detection limits;
  - STORET code numbers for all parameters;
  - Water levels recorded prior to evaluating wells or sample collection. Elevation reference shall include the top of well casing and the land surface at each well site at a precision of plus or minus 0.01 foot, National Geodetic Vertical Datum (NGVD);
  - Department Form 62-701.900(31);
  - An updated groundwater table contour map signed and sealed by a professional geologist or professional engineer with experience in hydrogeologic investigations, with contours at no greater than one-foot intervals unless site-specific conditions dictate otherwise, which indicates groundwater elevations and flow directions; and
  - A summary of any water quality standards or criteria that are exceeded.
- (2) A technical report will be submitted every two and one-half years summarizing and interpreting the water quality monitoring results and water level measurements collected during that period. The report will be in accordance with Rule 62-701.510(8)(b) and signed

and sealed by Florida licensed Professional Geologist or Professional Engineer. The report shall contain, at a minimum, the following:

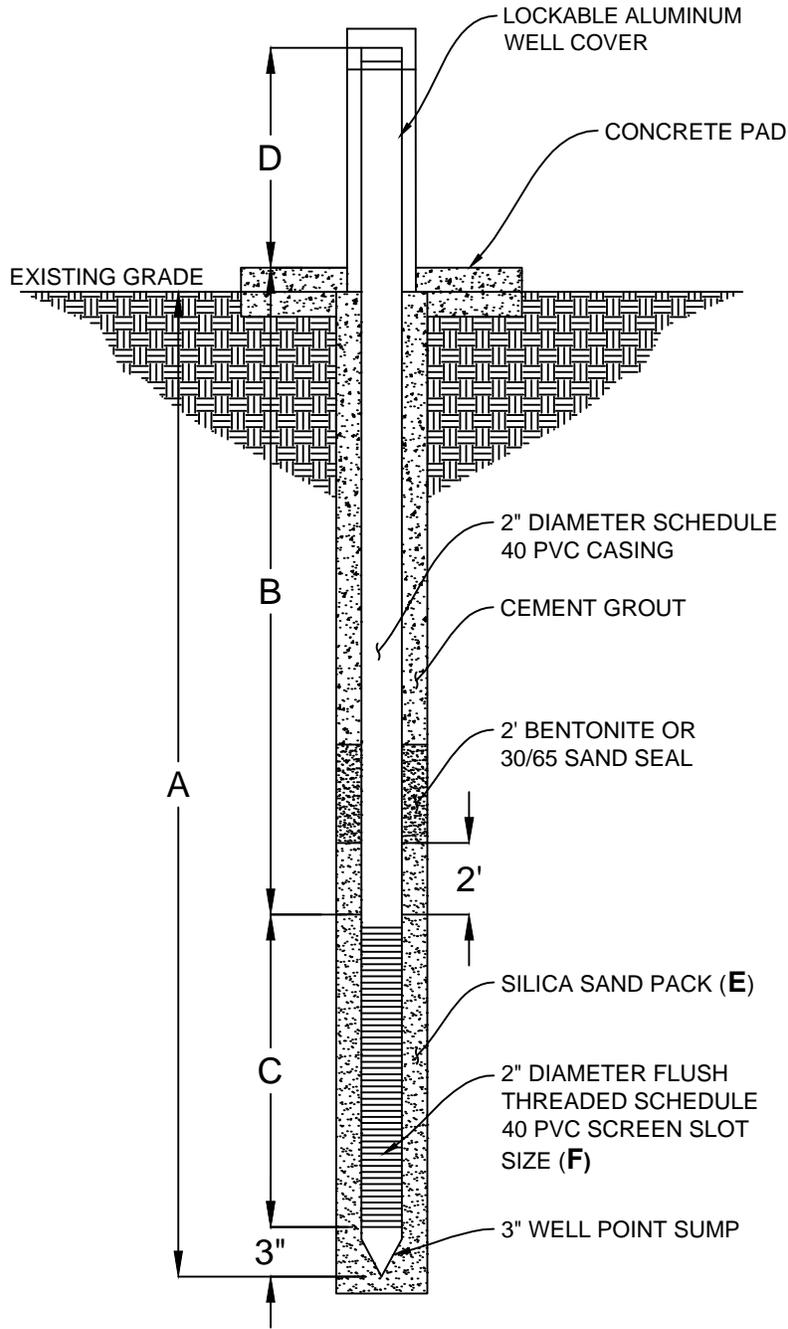
- Tabular displays of any data which shows that a monitoring parameter has been detected, and graphical displays of any leachate key indicator parameters detected (such as pH, specific conductance, TDS, TOC, sulfate, chloride, sodium and iron), including hydrographs for all monitoring wells;
- Trend analyses of any monitoring parameters consistently detected;
- Comparison among shallow, middle, and deep zone wells;
- Comparisons between background water quality and the water quality in detection and compliance wells;
- Correlations between related parameters such as total dissolved solids and specific conductance;
- Discussion of erratic and/or poorly correlated data;
- An interpretation of the groundwater contour maps, including an evaluation of groundwater flow rates; and
- An evaluation of the adequacy of the water quality monitoring frequency and sampling locations based on site conditions.

**TABLE 1**

<b>Well ID</b>	<b>Well Type</b>	<b>Aquifer</b>	<b>Existing or Future</b>	<b>Notes</b>
BW-1A	Background	Surficial	Existing	
BW-1B	Background	Floridan	Existing	
MW-1A	Water Level	Surficial	Existing	
MW-1B	Water Level	Floridan	Existing	
MW-3	Detection	Surficial	Existing	
MW-3B	Detection	Floridan	Existing	
MW-4	Detection	Surficial	Existing	
MW-4B	Detection	Floridan	Existing	
MW-5A	Detection	Surficial	Existing	To be abandoned 60 days prior to placement of waste in Cell 16
MW-5AR	<u>Detection-Compliance</u>	Surficial	Future	To be installed 60 days prior to placement of waste in Cell 16
MW-5B	Detection	Floridan	Existing	To be abandoned 60 days prior to placement of waste in Cell 16
MW-5BR	<u>Detection-Compliance</u>	Floridan	Future	To be installed 60 days prior to placement of waste in Cell 16
MW-6	Detection	Surficial	Existing	
MW-6B	Detection	Floridan	Existing	
MW-7A	Detection	Surficial	Existing	
MW-7BR	Detection	Floridan	Existing	
MW-8	Detection	Surficial	Existing	
MW-8B	Detection	Floridan	Existing	
MW-9	Detection	Surficial	Existing	
MW-9B	Detection	Floridan	Existing	
MW-10	Detection	Surficial	Existing	
MW-10B	Detection	Floridan	Existing	
MW-11	Water Level	Surficial	Existing	
MW-11B	Water Level	Floridan	Existing	
MW-12A	Water Level	Surficial	Existing	
MW-12B	Water Level	Floridan	Existing	
MW-15B	Detection	Floridan	Existing	Abandoned in conjunction with Cell 7 construction
MW-16B	Detection	Floridan	Existing	Abandoned in conjunction with Cell 7 construction
MW-17B	Detection	Floridan	Existing	
Water Supply	Supply	Floridan	Existing	
MW-18A*	Detection	Surficial	Future	Not installed due lack of water bearing unit
MW-18B	Detection	Floridan	Future	Installed in conjunction with Cell 7 construction
MW-19A*	Detection	Surficial	Future	Not installed due lack of water bearing unit
MW-19B	Detection	Floridan	Future	Installed in conjunction with Cell 7 construction
MW-20A*	Detection	Surficial	Future	Not installed due lack of water bearing unit
MW-20B	Detection	Floridan	Future	Installed in conjunction with Cell 7 construction
P-4	Piezometer	Surficial	Existing	To be abandoned within 60 days of permit modification issuance
P-6	Piezometer	Surficial	Existing	
P-8	Piezometer	Floridan	Existing	
P-10	Piezometer	Floridan	Existing	
P-11	Piezometer	Surficial	Existing	

\* To be installed only if water bearing sediments are encountered above the clay units confining the Floridan aquifer system.

FIGURE NOT TO SCALE



WELL	A	B	C	D	E	F	TOP OF WELL SCREEN ELEVATION FT, NGVD	BOTTOM OF WELL SCREEN ELEVATION FT, NGVD	ASSUMED GROUND SURFACE ELEVATION FT, NGVD	ASSUMED LIMESTONE SURFACE ELEVATION FT, NGVD
MW-18A (1)	25'	5'	20'	3"	20/30	0.010"	143' (8)	123' (8)	148' (2)	<del>80' 116'</del> 80' 116' (2)
MW-19A (1)	<del>42' 25'</del>	<del>22' 5'</del>	20'	3"	20/30	0.010"	<del>128' 139'</del> 128' 139' (8)	<del>108' 119'</del> 108' 119' (8)	<del>150' 136'</del> 150' 136' (3)	<del>80' 64'</del> 80' 64' (3)
MW-20A (1)	<del>40' 25'</del>	<del>20' 5'</del>	20'	3"	20/30	0.010"	<del>115' 62'</del> 115' 62' (8)	<del>95' 62'</del> 95' 62' (8)	<del>135' 67'</del> 135' 67' (4)	<del>70' 34'</del> 70' 34' (4)
MW-5AR	<del>23' 28'</del>	8'	<del>15' 20'</del>	3"	20/30	0.010"	79' (8)	<del>64' 59'</del> 64' 59' (8)	87' (6)	60' (7)

NOTES:

- (1) Wells MW-18A, -19A and -20A were not installed due to the absence of water bearing sediments above the Floridan aquifer confining layer encountered during MW-18B, -19B and -20B installation.
- (2) From DCL01-2 & -3 (HAI), ~~MW-15B~~ elevation and lithology.
- (3) From B-17 (HAI), ~~MW-16B~~ elevation and lithology.
- (4) From B-12 (HAI), ~~MW-17B~~ elevation and lithology.
- (5) From Cell 6 well lithologies
- (6) From MW-5A elevation
- (7) From MW-5A lithology
- (8) Based on site-specific lithology and water level. Subject to change per field findings during well installation.

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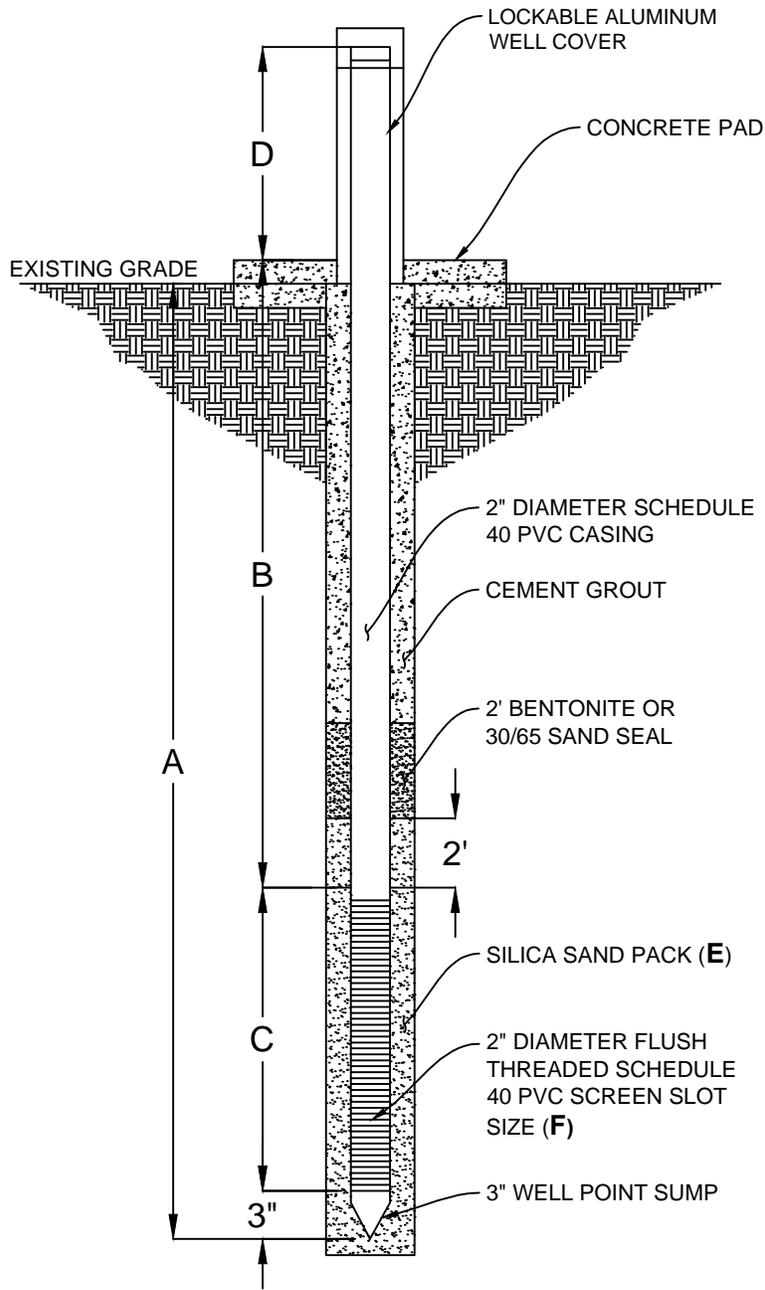


ENTERPRISE ROAD RECYCLING  
AND DISPOSAL FACILITY  
DADE CITY, FLORIDA

PROPOSED  
SURFICIAL AQUIFER  
MONITOR WELL DETAIL

REV FIGURE  
**2**

FIGURE NOT TO SCALE



WELL	A	B	C	D	E	F	TOP OF SCREEN ELEVATION FT, NGVD	BOTTOM OF SCREEN ELEVATION FT, NGVD	ASSUMED GROUND SURFACE ELEVATION FT, NGVD	ASSUMED LIMESTONE SURFACE ELEVATION FT, NGVD
MW-18B*	40'	89'	20'	3'	20/30	0.010"	65' (9)	45' (9)	140' (1)	110' (5)
MW-19B*	40'	80'	20'	3'	20/30	0.010"	50' (9)	30' (9)	130' (2)	60' (6)
MW-20B*	72'	52'	20'	3'	20/30	0.010"	35' (9)	15' (9)	67' (3)	32' (7)
MW-5BR	52'	32'	20'	3"	20/30	0.010"	55' (9)	35' (9)	87' (4)	60' (8)

NOTES:

- (1) From DCL01-2 & -3 (HAI) MW-15B ground elevation
  - (2) From B-17 (HAI) MW-16B ground elevation
  - (3) From B-12 (HAI) MW-17B ground elevation
  - (4) From MW-5B ground elevation
  - (5) From DCL01-2 & -3 (HAI) MW-15B lithology
  - (6) From B-17 (HAI) MW-16B lithology
  - (7) From B-12 (HAI) MW-17B lithology
  - (8) From MW-5B lithology
  - (9) Based on site-specific lithology and water level data. Subject to change per field findings during well installation.
- \* Monitoring wells MW-18B, -19B and -20B were installed as the Cell 7 construction permit and will be submitted under a separate cover.

REVISED DECEMBER 2016



ENTERPRISE ROAD RECYCLING AND DISPOSAL FACILITY  
DADE CITY, FLORIDA

PROPOSED  
FLORIDAN AQUIFER  
MONITOR WELL DETAIL

REV FIGURE  
**3**